



खादी ग्रामोद्योग आयोग  
KHADI AND VILLAGE  
INDUSTRIES COMMISSION

सूक्ष्म लघु और मध्यम उद्यम मंत्रालय, भारत सरकार  
Ministry of Micro, Small & Medium Enterprises, Govt. of India,

सुधार कार्यान्वयन प्रभाग  
REFORM IMPLEMENTATION DIVISION

No. RID/KRDP/3<sup>rd</sup> Tranche conditions /2017-18/

Date: 01.11.2017

Under Secretary,  
Govt. of India,  
Ministry of MSME,  
Udyog Bhavan,  
New Delhi – 110 011.

**Sub :** Compliance of 3<sup>rd</sup> tranche conditions under KRDP for implementation of capacity building plan in the identified VI clusters - regarding

Sir,

Kindly refer to the 3<sup>rd</sup> Tranche restructured conditions under KRDP which requires to be compiled as per the timeline of ADB.

In this regard, it is to inform that the 17<sup>th</sup> tranche condition states that "KVIC shall have ensured the implementation of the comprehensive capacity building plan in the identified clusters" have been fulfilled by KVIC. The status is as follows :

Finalised restructured tranche condition	Evidence	Status as on 1 <sup>st</sup> Nov 2017
KVIC shall have ensured the implementation of the comprehensive capacity building plan in the identified clusters.	Progress Report on implementation of capacity building plan in the VI clusters	Completed. Progress report on capacity building plan in identified VI clusters prepared

The Progress Report as evidences of compliance is enclosed.

It is, therefore, requested to kindly forward the documents to ADB for further needful action.

Yours faithfully,

Dy. Chief Executive Officer (RID)

Encl: As above

**Copy to :**

- 1) The JS, MSME, New Delhi.
- 2) The Senior Project Officer (Urban) ADB, New Delhi.
- 3) Shri Vivek Mathur, Senior Officer, MSME, New Delhi



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# Khadi Reform and Development Programme

## Progress Report

**KVIC shall have ensured the implementation  
of the comprehensive capacity building plan  
in the identified clusters**

October 2017



**Khadi and Village Industry Commission**

**Ministry of Micro Small and Medium Enterprises,  
Government of India**



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## 1. Background

Village Industries (VIs) in India have emerged as an effective medium for generating sustainable livelihoods especially in rural and tribal areas. A large diversity is evident in VIs depending on the local resources, skill sets, culture and geographical variation, products and services. These range from a variety of edible products to unique traditional handicrafts. In the recent times, development of VI is undertaken in more organised manner through cluster<sup>1</sup> approach. This is helping the VIs to gain foothold as commercial enterprises ensuring maximum benefits to the persons involved in the entire value chain from procuring raw material to export at global level. The cluster based development approach in any skill based sector is increasingly, being recognized as one of the strategies for cost-effective, inclusive, sustainable and integrated method the world over.

Undertaking VI activities in cluster development mode can help these industries gain a strong foothold as commercial enterprises, create a niche for their products in the market and benefit maximum people involved in the entire value chain. Considering the significance of VI in the sector, cluster development has been integrated in KRDP.

The Khadi Reform Development Programme (KDRP) initiated in September 2010 by Asian Development Bank (ADB) with support of Ministry of Micro, Small and Medium Enterprises (MoMSME), Government of India envisages leveraging the strength and mechanism of clusters for generating sustainable employment in rural non-farm sector.

### 1.1. Village Industry Cluster Development under KRDP

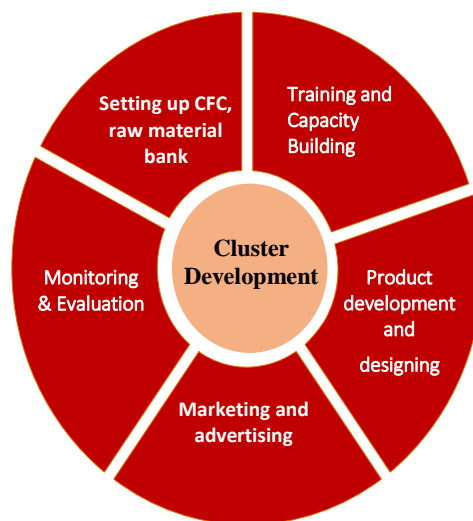
The overarching objective of VI cluster development is to realise synergies between VI and Khadi Sector. The VI component of the KRDP aims to generate and enhance sustainable livelihoods in rural non-farm sector through cluster development. Need based support to the selected clusters is mandated through the Cluster development component of KRDP. This involves budgetary support upto INR 10 million to 50 million to the cluster. The budget is to be utilised for the following:

- Upgrading infrastructure (CFC, upgrading equipment's, setting up raw material bank, refurbishing worksheds)
- Product designing and enhancing packaging
- Strengthen marketing, advertising and publicity
- Training and capacity building of the Implementing Partner (IP) and the beneficiaries
- Technical support for computerization, developing MIS, monitoring and evaluation

Implementation of various activities will be undertaken by the Implementing Agency itself. The technical assistance for cluster development will be provided by the Technical Agency (TA) identified by KVIC, while implementation support and one-time funding through KRDP will be facilitated by the KVIC. The activities undertaken by the implementing partner will be jointly monitored by State Directorates, KVIC VI Directorates and Consultants.

As a part of Tranche 3 conditions of KRDP, one of the tranche conditions is 'KVIC shall have ensured the implementation of the comprehensive capacity building plan in the identified clusters'. KVIC has established 7 clusters in 5 Traditional Village Industries under KRDP. The cluster

Components Cluster Development



<sup>1</sup> A 'cluster' is defined as the agglomeration of small and micro enterprises producing same/similar products/services or engaged in the same line of manufacturing activities or services, located within an identifiable and, as far as practicable, contiguous area.

development activities are sanctioned to be carried out over a period of 3 years. Capacity building activities are part of cluster development activities in the identified cluster. This report further elaborates progress under the tranche condition.

## 1.2. Established Village Industry Clusters

Based on the adopted Cluster Development Strategy under KRDP the shortlisted clusters were identified and approached by the respective Directorates through the State Offices and TA's for establishment of clusters. The process of identifying and establishing clusters was followed and based on the appraisal of clusters by TA and feasibility report of SOs clusters were sanctioned for implementation.

The following clusters were identified and established under the five traditional Village Industries.

**Table 2: Village industry clusters established under KRDP**

Sn	Village Industry	Established Cluster
1.	Beekeeping (Forest based Industry)	Sundarban, West Bengal
2.		Balasore, Odisha
3.		Thrissur, Kerala
4.	Agro-based Food Processing Industry	Pratapgarh, Uttar Pradesh
5.	Polymer and Chemical Based Industry	Jalandhar, Punjab
6.	Herbal Products (Medicinal Plants Industry)	Gadchiroli, Maharashtra
7.	Handmade Paper and Fiber Industry	Kalpi, Uttar Pradesh

The cluster development activities are sanctioned for the period of 3 years. The broad components to be implemented in the cluster given below.

- Construction of Common Facility Centre
- Market promotion
- Product development and design interventions
- Capacity building activities
- Need based activities based on the specific requirements of the individual cluster

## 2. Capacity Building activities under VI

One of the activities to be conducted for development of the clusters involve both hard and soft interventions. Capacity building is one of the important soft intervention for the development of a cluster, through skills development to provide assistance in development of clusters that are based on farm and other local products.

The capacity building requirements of the cluster were identified by the Technical Agency and included in the Diagnostic Study Report (DSR) prepared by them. The activities covered under capacity building as per the funding guidelines of the scheme include:

- Need based training programme to the cluster stakeholders. Training such as skill development, credit related issues, formation of Self-Help- Groups, Advance Trade and Technology Training, etc.
- Providing advanced tools and equipment's.
- Exposure visit, study tour,
- Awareness programme, trust building activities etc.

The cost component of the capacity building activities depend purely as per DPR of the individual cluster. Cluster-wise capacity building activities and there progress is given below:

## 2.1. Beekeeping

### 2.1.1. Sundarban cluster

Sundarban cluster was one of the first VI clusters to be established under KRDP on 15 April, 2015. The cluster development activities are implemented by the Implementation Partner (IP), Vivekanand Institute of Bio-Technology with the support of CBRTI, Pune the Technical Agency (TA). Wherever required Technical Experts are consulted in extending training.

There is tremendous scope for promoting the collection of honey from wild honeybee coupled with beekeeping activity in Sundarban. The cluster is located in virgin territory of Sundarban mangroves forest. Where wild honey collection is one of the sustenance but unorganized activities of the population present there. The objective of establishing a cluster there was to channelized the activities and bring it into an organized scheme of things to provide honey collectors and beekeepers a sustainable employment opportunity. The proposed inputs of the scheme to the project is expected to create lasting impact on the targeted beneficiaries in terms of gainful employment, increased income, social benefits, changes/standardization of practice, etc. The cluster was selected and sanctioned because of availability of the raw honey, conducive climate and varieties of plants, flora and fauna, artisan's traditional skills, low capital investment, favorable enabling environment, marketing opportunities and scope for self-employment.

The role of women in processing of wild honey, it's testing, and storage including maintenance of apiary has ensured additional contribution to the cluster, which is empowering women. Forming Self-help Groups, based on activities has been found beneficial for growth of cluster. IP took lead to enforce the participation of women and formation of groups and finally into Co-operative society.



Achieving so, the scheme is a right step to regenerate traditional industry in terms of changes in practices, employment and increase in income generation and a large number of honey hunters families/ beekeepers get the benefits. Given the enhanced skill trainings, credit support, improved user friendly machineries/technologies, common facility centers (CFC), capacity development trainings, networking with important stakeholders, convergence of resources from other departments and many other structural management the project has created a positive impact in the sector in terms of economic and social gains for the poor and

needy honey hunters.

#### **Artisan empowerment through capacity building, SHGs and formation of co-operative:**

- 26 Awareness generation programme have been conducted covering 1159 prospective beekeepers.
- Apart from this, skill up gradation training for beekeeping practice has been provided to 739 Beekeepers for diversified activities such as setting up and maintenance of bee nurseries and queen bee rearing etc.
- 15 SHGs (8 women beekeepers SHGs, 7 SHGs of Honey collectors) have been formed.
- 476 sets of toolkits have been distributed worth INR. 1.5 million along with operational training to use the toolkits.



Training to operate Honey Processing Plant at Sundarban

- Apart from beekeeping activities, solar domes have been installed in the homes of 126 beneficiaries which has helped lighting the homes of 126 beneficiaries.



The impact of Institutional strengthening and capacity building activities in Sundarban has shown some great results. The key findings from the cluster are given below.

With setting up of Honey processing plant and training to operate the plant to the staff on the plant, which are mainly tribals from the cluster, has helped in improving the quality of product through processing.

Training related to marketing has helped, IP to float its own brand which is registered as 'VIBek Honey' for the honey produced under the cluster. All the products are Agmark certified and barcoded. An Agmark testing lab is also under construction on site in the workshed.

The following table shows the number of capacity building programs conducted and participants trained under the cluster

**Table 3: Capacity building activities completed under Sundarban cluster**

Sn	Trainings	Number	Number of participants
1	Trust building activity (Medical Camp & ID Card & Bank account opening)	61	2190
3	Awareness camps	26	1159
4	Skill up gradation trainings	21	739 (including 118 women)
5	New entrants trainings (Micro solar dome installation)	12	126

### Proposed activities

- Website promoting the activities implemented under the cluster as well as an e-market place for its products is being developed.
- Honey Hut, an innovative sales outlet cum restaurant is under construction, where various delicacies made from honey would be served.

Detailed plan proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

### 2.1.2. Balasore cluster

Balasore Beekeeping cluster was established under KRDP on 7 March, 2015. The cluster development activities are implemented by the Implementing Partner (IP) Balasore Beekeeping Industrial Cooperative Society Ltd. with the support of CBRTI, Pune the Technical Agency (TA). Wherever required Technical Experts are consulted in extending training. It is one of the largest clusters being implemented under KRPD benefiting 591 artisans.

The cluster was selected based on the availability of the conducive climate and varieties of plants, flora and fauna, artisan's traditional skills, most of them poorly



Implementation of capacity building plan

equipped farmers with few colonies. However, with the vast expanse of the cluster and the honey collectors lacking knowledge and information on proper bee management, production, breeding of colonies. Awareness of beekeepers, processors and training to the beekeepers on scientific beekeeping was one of the prerequisite of the cluster. The demand for honey and market potential was found to be abundant during the assessment. The beneficiaries in the cluster lacked of scientific knowledge in apiary management, with lack availability of basic beekeeping equipment's, lack of training on preservation of honey with unavailability of modern honey processing and bottling facilities.

The capacity building of beneficiaries in the cluster were planned in such a way that the activities envisaged under the cluster would help the traditional industry in terms of changes in practices so that the scope of employment and income generation increase and large number of beekeepers and bee hunters get benefit. Given the enhanced skill training, credit support, improved user friendly machineries/technologies, common facility centre, capacity development training, networking with important stakeholders, convergence of resources from other departments and many other structural management inputs it is expected that the project would create a positive impact in the sector in terms of economic and social gains for the poor and needy beekeepers and bee hunters.

**Awareness generation camps:** Awareness camps were conducted not only for identifying prospective bee-keepers but also for general public besides farmers. This helped in involvement of increased number of beekeepers and bee colonies. This will further help the cluster in higher honey yield and increase in crop productivity. Total 20 number of awareness generation completed so far.



**Table 4: Capacity building activities completed under Balasore cluster**

Sn	Trainings	Number of programs conducted	Number of participants
1	Trust building activity	1	154
2	Master Bee-keepers training	1	20
3	Awareness camps	20	1230
4	Skill up gradation trainings	12	300
5	New entrants trainings	2	50

Detailed plan of activities is proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

### 2.1.3. Thrissur cluster

Implementation of capacity building plan



The Thrissur Beekeeping cluster is unique in its geographic location, as the cluster is situated in the foothills of Western Ghats, where rock honey collection is a years old activity. The activities under the cluster are implemented by Kerala Khadi and Village Industries Association, a registered organization with KVIC, engaged in production and sales of Khadi and Village Industries products. The Technical Agency associated with the cluster is CBRTI, Pune a research and training unit of KVIC associated with beekeeping activities.



Beginners training at Thrissur

The cluster was sanctioned funds under KRDP on 7 March, 2015 to expand its coverage and automate its processing under one roof, which was done manually till then. Under the soft intervention, capacity building of honey collectors, Apiary management and tools distribution were planned while preparing the DPR for the cluster, which were sanctioned by KVIC.

Major activities planned under the cluster are:

- Construction of common facility center
- Replacement/additional requirement of tools
- Design and development for marketing
- Improved processing and packaging
- Diversification of product line, product catalogue
- Quality and product standardization
- Construction of Honey Hut

### Capacity building

To address the weakness and achieve major actions planned under the cluster extensive capacity activities were one of the important components of the DPR. The major capacity building intervention areas planned under the cluster were mainly achieve the target of 35% increase in profits, 35% wage benefit due to employment in trade and to provide regular employment and income to the artisans involved.

An extensive survey was carried out in the cluster target area to identify potential beekeepers and honey collectors. 383 beekeeper and 114 bee hunters were identified and shortlisted to provide training in Apiary management and allied activities.



Hygienic honey collection training at Thrissur

Capacity building activities completed under the cluster

- 5 Awareness generation camps have been conducted so far with 400 participants.
- 4 New entrants trainings for the beneficiaries new to beekeeping and apiary management have been conducted so far training 80 participants.
- 70 participants have been trained in Hygienic Honey collection in 2 different batches.
- 75 participants which were already engaged beekeeping activities have been trained in 3 skill up gradation trainings to make them aware about the by-products for value addition and bee colony multiplication.

The following table shows the number of capacity building programs conducted and participants trained under the cluster

**Table 5: Capacity building activities completed under Thrissur cluster**

Sn	Trainings	Number of programs conducted	Number of participants
1	Awareness camps	5	400
2	New entrants trainings	4	80
3	Hygienic Honey collection	2	70
4	Skill up gradation trainings	3	75

## Proposed Activities

Special trainings of honey testing and usage of testing kits for quality control as per Agmark as well as use of Honey processing plants are scheduled for month of November, 2017. Post training the production targets for the cluster for the year 2018-19 is to reach 55 tonne while the sale is targeted to reach 30 tonne for the same period.

Detailed plan proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

## 2.2. Agro-based Food Processing Industry

### 2.2.1. Pratapgarh Food Processing cluster

Pratapgarh cluster was sanctioned on 31 March, 2016. The cluster development activities started in the month of July 2016 due to initial administrative delays.

Pratapgarh is situated in a traditional fruits producing region of Eastern Uttar Pradesh, especially Awla. The selection of the cluster was done based on the availability of abundant raw material as well as ever increasing demand for vitamin C rich food product throughout the country and abroad. Some micro units are engaged in traditional processing of awla other food processing activities in the region. Since the production of raw material and the related processing activities are seasonal, need for cluster based approach was identified. This would provide storage and processing facilities as well as employment and income opportunities to the beneficiaries throughout the year. The cluster development activities are implemented by Abhishek Gramodyog Sewa Sansthan while the Technical agency is EDI, Ahmedabad.



Artisans training at Pratapgarh cluster

Major activities planned under the cluster are:

- Technology up-gradation
- Training for diversification & product development
- Developing Business Development Services
- Establishment of Common Facilities Center
- Capacity Building of existing and new network
- Access to new market areas in the country and abroad

## Capacity building

The following capacity building activities are completed under the cluster till September 2017

**Table 6: Capacity building activities completed under Pratapgarh cluster**

Sn	Trainings	Number of	Number of
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		programs conducted	participants
1	Artisan (modern cultivation awareness, quality control, bio-fertilizer awareness, roping plantations)	7	200
2	Skills development (food processing)	11	329
3	Product packaging	12	329
4	Marketing	2	30
5	Managerial level (Audit, Accounts, Budget, Finance and etc.)	1	10

## Proposed activities

Though the construction of CFC and procurement & installation of machinery is completed, but given the seasonal availability of raw material the production is only targeted to start in the month of November 2017. The IP plans to register for Geographic Indication, sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

Detailed plan proposed in the DSR approved by Standing Finance Committee is given in the Annexure.

## 2.3. Forest Based Industry

### 2.3.1. Gadchiroli Herbal cluster

Gadchiroli cluster was sanctioned on 27 March, 2017, but the funds could only be released in the month of June due to delay in availability of funds. The cluster development activities are implemented by Association for Social Health & Awareness (ASHA), Gadchiroli and the Technical Agency associated with clusters is CORDS, Sindhudurg, Maharashtra. After the administrative activities such as signing of MoU between the IP and KVIC, opening of ESCROW accounts etc. the implementation activities have started. The Technical Agency and IP have chalked out an action plan for implementation of the cluster, which is under review with the State office. The cluster development activities are being monitored by KVIC State Office, Maharashtra.

Cluster Development Executive is appointed and attached to the cluster by the State Office, the CDE would be the liasioning officer between various stakeholders in the target cluster.

Major activities planned under the cluster are:

- Building the capacity of IP and SPV
- To increase the confidence level of stakeholders
- Development of Common Facility Center
- Arrangement of working capital required, by IP and SPV members
- R&D for product development and Marketing
- Empowering in production and marketing
- CSR and Health related activities

## Capacity building

Since the implementation of cluster development activities have started only since June 2017, 3 awareness generation programs have been completed with the participation of 213 beneficiaries.



Implementation of capacity building plan

Awareness generation training at Gadchiroli

## Proposed activities

Following capacity building activities have been proposed under the cluster over 3 years. Detailed plan proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

**Table 7: Capacity building activities proposed under Gadchiroli cluster**

Sn	Activity proposed	Number	Number of participants
1	General Awareness, Counseling, Motivation and Trust Building	20	180
2	Skill Development and Capacity Building	15	180
3	Exposure Visits, Website development and Registration for Quality standards	As per requirement	60
4	Training on Sales and Marketing	3	15
5	Quality control training	1	2
6	Farmers-Artisans meet	3	100
7	Health camps	150 families	

## 2.4. Polymer and Chemical Based Industry

### 2.4.1. Jalandhar Leather cluster

Jalandhar cluster was sanctioned on 27 March, 2017, but the funds could only be released in the month of June due to delay in availability of funds. The cluster is implemented by IP, Marigold International Educational Society, Jalandhar and the Technical Agency attached with the cluster is CLRI, Chennai. After the administrative activities such as signing of MoU between the IP and KVIC, opening of ESCROW accounts etc. the implementation activities have started. The Technical Agency and IP are in process of chalking out an action plan for implementation of the cluster.

Jalandhar cluster is one of the unique clusters where the activities are mainly focused on production of leather sports goods. The entire region is well known for production of leather products. The products are high in demand not only in ever growing domestic market but also in International market. The footballs used during the FIFA World Cup in Brazil and the ongoing Under 17 World Cup in India are both being supplied from the units in this region and the demand from world over for footballs as well as other sports goods made in the region is ever increasing. Therefore the need for maintaining the quality of sports goods is essential.

Major activities planned under the cluster are:

- Development of Common Facility Center
- Design & Product Development
- Productivity & Quality Enhancement
- Micro-enterprise development
- Market Intelligence and linkages
- Enterprise Development
- Socio-economic development of artisans

### Capacity building

Actual implementation of activities under the cluster started in the month of June post the funds for cluster were released.

Implementation of capacity building plan



Awareness generation program at Jalandhar

The need for a capacity building with adequate technology inputs was felt by the Jalandhar cluster with the widening of the gap of the demand and supply for skilled human resources for soft protectives of leather sports goods such as cricket ball and boxing gloves. The demand for large supplies within a short time frame in the export market also needs use of technology in the form of better stitching machine, templates fixtures etc. to improve productivity and also standardize the component in the process to assure uniform product quality. Another element that brought urgency in introduction of technology in the industry was the rigorous standards like CE mark stipulated by the developed countries for protective gears.

The need for developing a technology oriented training program for soft protective was felt, due to the above reasons. The IP in association with Regional Centre for Extension and Development of Central Leather Research Institute (RCED) would be conducting the trainings locally. RCED is already engaged conducting training program on leather garment and the equipment and the expertise available is adequate for the planned interventions.

The proposed training plan has been identified on the following basis:

- i. The need of the local sports goods cluster for skilled manpower for making soft protective items
- ii. The healthy growth rate in export and domestic market demand for sports goods
- iii. The requirement of developed countries for quality protective items which will conform to rigorous safety standards like CE mark.

Impact of post-training follow-up and monitoring of programs to be undertaken for its efficacy. As the participants of the training program are expected to be immediately absorbed by the industry, follow up will be required to link them with suitable placement/entrepreneurship. Regular feedback on their performance will be done by setting up a monitoring team comprising of Sports Goods Manufacturers stake holders and KVIC.

The IP has initiated the capacity building activities with an awareness program to make the stakeholders aware of the activities to be undertaken by the cluster. The program was jointly conducted by IP and Technical Agency and attended by 55 participants.

### Proposed activities

Following capacity building activities have been proposed under the cluster over 3 years. Detailed plan proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

**Table 8: Capacity building activities proposed under Jalandhar cluster**

Sn	Activity proposed	Number	Number of participants
1	General Awareness, Counseling, Motivation and Trust Building	20	
2	Skill Development and Capacity Building	15	300 (100 each year)
3	Exposure Visits, Website development and Registration for Quality standards	As per requirement	
4	Health camps	For 180 families	

## 2.5. Handmade Paper and Fiber Industry

### 2.5.1. Kalpi Handmade Paper cluster

A cluster at Kalpi, Uttar Pradesh was selected after an extensive search for IP in the region. The cluster could only be sanctioned in September, 2017 due to delay in identifying an experienced Implementation Partner. Shri Bhagwan Das Gramadyog Sewa Sansthan, Kalpi is the IP and Technology and Action for Rural Advancement TARA, New Delhi is the Technical Agency attached with the cluster.

After the administrative activities such as signing of MoU between the IP and KVIC, opening of ESCROW accounts etc. the implementation activities have started. The Technical Agency and IP are have chalked out an action plan for implementation of the cluster which is under finalization with the State Office.

Major activities planned under the cluster are:

- Development of Common Facility Center
- Product Diversification
- Productivity & Quality Enhancement
- Market Intelligence and linkages
- Improvement in skills of artisans for sustainable livelihood
- Socio-economic development of artisans

### Capacity building

Under soft interventions, skill up gradation programs on handmade paper will be conducted for the local artisans at regular intervals by the IP. This will include capacity building on improved processes for handmade paper and paper products manufacturing leading to better quality products and introduction of diverse varieties of handmade paper production in the cluster. Once the artisans are technically equipped enough, they will also be provided information on market demand and conditions and various marketing strategies via development of sustainable market linkages, strengthened self-governance mechanisms, and development of strong monitoring & evaluation mechanisms for long term sustainability of interventions.



Awareness generation program at Kalpi

An Awareness generation program was conducted on 9 October, 2017 attended by 75 participants.

### Proposed activities

Following capacity building activities have been proposed under the cluster over 3 years. Detailed plan proposed in the Detailed Project Report (DPR) approved by Standing Finance Committee is given in the Annexure.

**Table 9: Capacity building activities proposed under Kalpi cluster**

Sn	Activity proposed	Number	Number of participants
1	General Awareness, Counseling, Motivation and Trust Building	8	200
2	Skill Development and Capacity Building	8	200
3	Exposure Visits	3	60
4	Buyer seller meet	3	--

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### **3. Way forward**

It is evident from the success of the Sundarban beekeeping cluster that the focused interventions in the areas of technology, skill development, marketing and product development can bring about significant progress in the cluster operations. If coupled with measures for empowerment of artisans, the impact of interventions and the cluster itself can be self-sustainable over a period.

- Continuous handholding during the nascent stages of implementation of activities by the Technical Agency, Implementing Partner, KVIC Officials in capacity building as well as to establish backward and forward linkages.
- Continuous monitoring and reporting by State Offices of KVIC along with regular visits to the cluster to verify the progress of proposed activities would help in providing support for mid-course correction for cluster development activities, if required.
- KVIC would also explore possibilities to support the cluster through other schemes which could be related to the cluster activities such as training, marketing, export etc.

**DETAILED PROJECT REPORT (DPR)**

**On**

# **BALASORE BEEKEEPING CLUSTER**

***(Apis cerana cluster in Odisha)***

**UNDER FINANCE-KRDP OF ADB IN VILLAGE INDUSTRY CATEGORY**

**MAJOR CLUSTER**

**Implementing agency**

***Balasore Beekeeping Industrial Co-operative Society Ltd.***

**P.O Alupure, Balasore Pin: 756 001**

**Technical Agency**

**CENTRAL BEE RESEARCH AND TRAINING INSTITUTE**

**PUNE 410 016**

**Nodal Agency**

**Office for Commissioner Khadi and Village Industries**

**MMSME**



## Executive summery

•	<b>Name of the Cluster</b>	<b>Balasore Beekeeping cluster</b>
•	<b>Title of the study</b>	Detailed project report on the formation of cluster of <i>Apis cerana</i> beekeepers in Balasore, Orissa
•	<b>Objectives</b>	<ul style="list-style-type: none"> <li>• To generate rural employment to the poor and below poverty people in Balasore and Bhadrak district including tribal area.</li> <li>• To organize the beekeepers in group</li> <li>• To develop the cluster for manufacturing the bee hives</li> <li>• To impart skill development training in beekeeping</li> <li>• To organize the honey collection and testing of the quality</li> <li>• To organize the honey processing to increase shelf life</li> <li>• To market honey and other hive products under a brand</li> <li>• To utilize floral resources through apicultural activities for a better livelihood of beekeepers</li> </ul>
•	<b>Location</b>	The beekeepers are spread out in different blocks namely Baliapal (20 villages), Bahanaga (46 villages), Soro (37 villages) and Bhogarai (5 villages) in the coastal belt. In the central belt the blocks are Remuna ( 9 villages), Balasore (13 villages), Oupada (1 village), Basta (5 villages), while in the forest the blocks are Niagiri (40 villages) and Khira (1 village). The beekeepers are engaged in all the blocks in unorganized sector. Tribal population also collects honey from wild honey bees.
•	<b>Existence of the cluster</b>	The cluster was established in the 1974 and engaged in beekeeping development. The undivided Balasore and Bhadrak districts have immense potential from agricultural and horticultural flora besides forest.
•	<b>Product</b>	Apiary extracted honey, Cerana bee colonies, honey from dorsata and bees wax
•	<b>No. of units in the</b>	700 beekeepers are present in both the districts

	<b>cluster</b>	391 beekeepers are included in the survey
•	<b>Features of the cluster</b>	Cluster is dominated by weaker category SC, ST, and below poverty line category. 30% SHG Women.
•	<b>Production capacity</b>	17 tons honey and 2,000 bee colonies per annum
•	<b>Annual turnover</b>	60.62 Lakhs
•	<b>Average income of the artisan</b>	Rs. 25,000 per annum
•	<b>Cluster vision</b>	<ul style="list-style-type: none"> <li>♦ Self employment to Below Poverty Line unemployed youth.</li> <li>♦ Additional income to farmers.</li> <li>♦ Strengthening the existing apiaries and establishment of new apiaries.</li> <li>♦ Social up-liftment of the beekeepers.</li> <li>♦ Establishment of the honey collection centres with testing facilities.</li> <li>♦ Increasing of crop productivity both agricultural and horticultural crops</li> <li>♦ Establishment of carpentry unit to make available of standard bee hives (BIS specifications) to local beekeepers.</li> <li>♦ Promotion of community business.</li> <li>♦ Establishment of common facility centre for processing the honey.</li> </ul>
<b>1.</b>	<b>Major strength</b>	<ul style="list-style-type: none"> <li>• Availability of natural resources (flora) vibrant green fields and forests</li> <li>• Availability of natural <i>Apis cerana</i> bee colonies</li> <li>• Experienced beekeepers and most of them are farmers.</li> <li>• Scope to produce organic honey with medicinal properties(jamun, baheda, Arjun)</li> <li>• Good marketing potential (As important pilgrim places in and around Puri, Konark, Chilka lake and Chandipur beach)</li> </ul>
<b>2.</b>	<b>Major problems</b>	<ul style="list-style-type: none"> <li>• Poorly equipped traditional beekeepers with few colonies.</li> <li>• Lack of scientific knowledge in apiary management.</li> <li>• Lack of availability of beekeeping equipments like hives and other tools.</li> <li>• Lack of concept of commercial beekeeping.</li> </ul>

		<ul style="list-style-type: none"> <li>• Seasonal activity besides farming</li> <li>• Lack of training on collection and preservation of honey.</li> <li>• Lack of modern honey processing and bottling facilities</li> </ul>
<b>3.</b>	<b>Action Plan</b>	<ul style="list-style-type: none"> <li>• Identification of progressive beekeepers</li> <li>• Workshop on awareness and training in commercial Apiary maintenance and nursery development.</li> <li>• Establishment of the carpentry unit for manufacturing the standard bee hives</li> <li>• Capturing of <i>Apis cerana</i> natural bee colonies, those sustained to the local conditions.</li> <li>• Selection of the higher honey yield and disease resistant bee colonies.</li> <li>• Establishment of bee nurseries for multiplication of the good breed.</li> <li>• Training in Scientific approach to beekeeping for higher honey yield.</li> <li>• Development of beekeeping Entrepreneurs. Supply of <i>Apis cerana</i> bee hives with bees colonies to the entrepreneur.</li> <li>• Establishment of the honey collection centres and common facility centre.</li> <li>• Establishment of honey processing &amp; bottling unit</li> <li>• Development of brand image.</li> <li>• Setting up direct marketing out let.</li> <li>• Designing and promoting hive products.</li> </ul>
<b>4.</b>	<b>Programme Duration</b>	3 years (From 2015-16 to 2017-18)
<b>5.</b>	<b>Proposed budget</b>	Rs. 1. 9225 crore

## **2. PROJECT DETAILS**

### **2.1 Introduction**

#### **Background**

The vast agriculture, horticulture and forest cover of India coupled with over dominance of its majority of rural population on agriculture and allied occupations make beekeeping one of the most important potential village industry. Because of the low level of mechanization involved, the beekeeping industry offers direct employment to lakhs of people especially hill dwellers, tribals. Sustainability of this industry is therefore vital to the country's economic well being and development.

It is a proven fact that beekeeping improves the economic condition of the beekeepers / farmers restrict the migration of rural youth to urban areas and helps in holistic development of rural society. It is the only enterprise which did not create any problem to the nature, does not require more capital investment and skilled labour. This profession can be successfully adopted by well to do as well as small/marginal farmers, farm-women, landless labourers, rural unemployed youth and retired or in-service personals. This enterprise has minimum land and structural requirement. Initial cost to start this profession is also very nominal and recurring cost in negligible.

Beekeeping is the most suitable component for upliftment and development and has ample scope in India to develop as a prime agri-horticulture and forest based rural industry. It can be used in rural development programmes designed to increase the income of individuals as well as of the group and thus have great potential in raising the economic and social status of rural communities. The peculiarity of this agro based rural industry is that it does not compete with any branch of animal husbandry.

As a village industry, it is of considerable importance as it can provide opportunity for employment and extra income to unemployed youth and the farmers, respectively. It can be started by anyone who is skilled or unskilled, man or woman, old or young, working or retired, children and even physically handicapped because of the light nature of the work. The landless cultivators in particular can add extra income to their principal source of income. It can be adopted at any level i.e. side line, important subsidiary, semi commercial or commercial enterprise depending upon the availability of local resources and other social and cultural factors.

## **2.2 Project Objectives**

- Provide situation analysis of beekeeping activities in selected clusters
- Identify issues in beekeeping and solutions
- Identify market potential of beekeeping activities
- Assess potential of cluster to be covered under cluster development interventions.
- To ensure fair wages to beekeepers for their product.
- To ensure quality and to maximize the collection of produce.

## **2.3 Expected out comes**

- a. There is potentiality of bee flora and bee colonies are easily available, thus beekeeping can be undertaken very successfully.
- b. The marketing of the produced honey, honey products and bee colonies are sure to succeed. The viability of the cluster is satisfactory.
- c. The infrastructure of the society is to be augmented for storage of honey, beehives, bottles and training hall.

- d. If training facilities and exposure visit can be provided the bee keeping programmes will be highly successful.
- e. The processing of honey should be made by processing plant.
- f. The testing laboratory of the society is to be upgraded to Agmark laboratory.
- g. Up gradation of the design & level of packing is to be made more attractive.
- h. Beekeepers are required to be imparted training in Bee management, Queen rearing, bee breeding and quality control of honey.
- i. Steps are required be taken to provide latest techniques for collection of pollen, royal jelly and bee venom to upgrade the economic condition of the beekeepers of the region.
- j. There is viability for best beekeeping in this cluster and it is recommended that this cluster is to be given to priority for the successful implementation of the cluster programme.

### **3. Approach and Methodology**

#### **Section II: Methodology**

Common methodology was followed for conducting survey in the selected clusters. Orientation was given to the co-coordinators from KVIC and staff concerned with the survey regarding the methodology before initiation of the survey.

#### **Selection of cluster**

#### **The clusters were selected on the basis of following criteria:**

- Consistent and active involvement in beekeeping under KVIC.
- Concentration of persons undertaking beekeeping activities.
- Potential for cluster development under KRDP.

### **Selection of respondents for primary data**

Respondents for the survey included beekeepers, bee box manufacturers and honey traders.

### **Tools for survey**

Semi-structured Questionnaire was used for primary data collection. The questionnaire was piloted and finalized

### **Method and process of data collection**

#### **i) Sample survey:**

- a) The staff of beekeeping VI of KVIC themselves conducted the survey with the help of questionnaire.
- b) KVIC officials visited Balasore Beekeeping industrial Co-operative Society and meet the officials.
- c) Obtained the list of Beekeepers in and around cluster.
- d) Visited their apiary sites and recorded the available data as per questionnaire.

#### **e) Focus Group Discussions (FGD)**

FGDs were conducted in each clusters involving stakeholders, i.e. Beekeepers, Traders, NGO, farmers etc.

Focus Group discussion of the beekeepers was held on 14.4.11 in the premises of Balasore Beekeeping Society with hon'ble delegates of the Dy. Director of Horticulture Balasore and eminent learned persons. After discussion about different aspects of beekeeping the following proposals were recommended for best beekeeping.

- i. Sufficient bee flora is available in Balasore and there is a lot of scope for beekeeping, but only 15-20% bee flora is utilized. So steps are to be taken by the K.V.I.C. by its cluster programme for

full utilization of the bee flora. More persons are to be involved in beekeeping.

- ii. Natural be colonies are available in nature, providing bee boxes and bee equipments to beekeepers to increase beekeeping activity.
- iii. Beekeeping training in following aspects is highly essential to increase the production of honey and scientific beekeeping.
  - a. Seasonal bee management and skill up-gradation training.
  - b. Queen rearing and Bee breeding training.
  - c. Collection and processing of Honey and bees wax.
  - d. Honey testing and Quality control.
- iv. Exposure visits are to be arranged to outside and inside the state of the successful beekeepers for beekeepers to learn and exchange their experience and knowledge with them.
- v. Awareness camp and Group meeting discussion about different problems of beekeepers is highly essential.
- vi. The processing of honey is to be done scientifically by Honey Processing Plant instead of manual operation.
- vii. The testing Laboratory of the society is to be upgraded to Agmark standard Laboratory.
- viii. Infrastructure facilities are to be undertaken for storage of beehives, bee equipments, bottling materials, processing and training cum conference hall.
- ix. Mechanized carpentry unit is required to fulfil the demand of bee boxes.
- x. Bee plants propagation is essential to increase bee flora
- xi. Extensive use of pesticides results in decrease bee population. The farmers are to be educated by Agriculture Dept. for proper use of pesticide to increase pollination efficiency by reducing mortality of honey bees.



### **G. Preparation of Detailed Survey Report**

The data collected through the surveys was processed and analyses by SNDT College of Management. The draft reports were developed by the respective officials at CBRTI who had coordinated the surveys in the selected clusters.

#### **f) Supporting videos and photographs**

Primary data was supported with videos and photographs.

## **4. Market Potential**

### **Beekeeping**

Beekeeping play increasingly greater role in the farming and traditional lifestyle of millions of the tribal, land less, women and other rural poor. Tribal population and forest dwellers in several parts of India have honey collection from wild honey bee nests as their traditional profession. More than 80 per cent of forest dwellers depend on honey for basic necessities. The major regions for production of this honey are the forests and farms along the sub-Himalayan tracts and adjacent foothills, tropical forest and cultivated vegetation in Rajasthan, Uttar Pradesh, Madhya Pradesh, Maharashtra and Eastern Ghats in Orissa and Andhra Pradesh.

### **Process of beekeeping**

The raw materials for the beekeeping industry are mainly pollen and nectar that come from flowering plants. Both the natural and cultivated vegetation in India constitute an immense potential for development of beekeeping. About 500 flowering plant species, both wild and cultivated, are useful as major or minor sources of nectar and pollen. There are at least four species of true honey bees and

three species of the stingless bees. Several sub-species and races of these are known to exist. In recent years the exotic honey bee has been introduced. Together these represent a wide variety of bee fauna that can be utilized for the development of honey industry in the country.

Side by side with the development of apiculture using the indigenous bee, *Apis cerana*, apiculture using the European bee, *Apis mellifera*, gained popularity in Jammu & Kashmir, Punjab, Himachal Pradesh, Haryana, Uttar Pradesh, Bihar and West Bengal. Wild honey bee colonies of the giant honey bee and the oriental hive bee have also been exploited for collection of honey.

Beekeepers sell the honey to the co-operative society, if one exists in the area. In many parts of India, the beekeeper gets a much higher price if he sells it directly to the consumer.

### **Products of beekeeping**

**Honey:** Production of honey is the prime objective of any person engaged in beekeeping. A beekeeper generally gets 10-15 kg honey per colony from *A. mellifera* and 8-10 kg from *Apis cerana* but with migratory beekeeping, beekeepers in Himachal Pradesh, Punjab, Jammu and Kashmir and Bihar are obtaining 50-70 kg honey per colony of *A. mellifera*. The maximum honey yield from a single colony of *A. mellifera* from Himachal Pradesh has been reported

to be 110 kg. Honey has domestic, medicinal and industrial uses. There is a vast difference in price of raw honey and processed honey. Raw honey costs about Rs. 100 to Rs 150 per kg and processed honey @ Rs. 250 to Rs 300 per kg or more without any consideration of quality and packing. Raw white honey from 'Shain' (*Plectranthus*

rugosus) is valued at @ Rs 300 to Rs. 350 per kg in some parts of Himachal Pradesh.

**Pollen:** It is another product which can be easily collected by putting a pollen trap at hive entrance. During a good pollen flow season, it is possible to harvest 0.5 to 1.0 kg of pollen per day from one hive of *A. mellifera* and sold @ Rs. 100/kg. Maximum use of pollen is for feeding bees as pollen supplement during the dearth period. Farmers /children can also collect pollen from maize crop during its flowering which after sun drying can be kept in air tight containers and later sold to beekeepers at the time of pollen dearth period. Pollen is suitable for medical and prophylactic purposes. It is effective for treating hyper tension when mixed with honey (1:1). It can be used for complaints of nervous and endocrine systems. It is also used in various cosmetic preparations.

**Royal jelly:** It is produced by nurse bees to feed the queen bee throughout her larval and adult life, and also young worker and drone larvae. Royal jelly can be produced by dequeening a colony and harvesting the jelly from newly constructed queen cells. On an average, it requires 1000, 3-day old cells to produce 500gm of royal jelly and sold @ Rs 4000/kg. Royal jelly has a reputation as a panacea, aphrodisiac and rejuvenator. It is used to make medicines and nutritional supplements.

**Bee venom:** It can be commercially obtained by stimulating large number of bees by electric shock (8-12 volts) to sting through a sheet of nylon parchment taffeta above two sheets of thin polyethylene (0.025 mm thick), stretched over the collection board. Another method is to pass electric current through the sheet of gel or silicone and bees standing on this react by stinging in to it where it is deposited. About

50 mg venom can be obtained per colony and sold @ Rs 1000/g. It has been used to cure polyarthritis, infectious-polyarthritis, spondylosis deformans, neuralgia, rheumatism, certain eye diseases like iritis and iridocyclitis, skin diseases (tuberculosis of skin), inflammation of sciatic, facial and other nerves, hypertension etc. It is also known to lower down the cholesterol level.

**Propolis:** It has anti-microbial properties and is effective in healing wounds as a medicine for removing corns and good anesthetic in dental medicine. It is used as veterinary ointments for treating cuts, abscesses and wounds of animals. About 300g of propolis can be obtained from one colony per year and sold @ Rs 500/kg.

### **Apiculture technology**

Modern beekeeping is possible only with a proper management of bees, utilizing the local plant resources and adapting to the local climatic conditions. It makes heavy use of beekeeping equipment and honey processing plant. This results in high efficiency and also ensures the quality of the processed honey.

Apiary honey is produced in bee hives and is harvested by extraction in honey extractors. Other types of beekeeping equipment like queen excluder, smoker, hive tool, pollen trap, honey processing plant are also used.

There are several types of indigenous and traditional hives including logs, clay pots, wall niches, baskets and boxes of different sizes and shapes. In modern beekeeping, the combs are built on wooden frames that are moveable. This facilitates inspection and management of bee colonies. Three types of moveable frame hive are in common use : the Newton type along with its standardized version ISI Type A, the

Jeolikote Villager, and its counterpart ISI Type B, and the Langstroth type. Besides the hives, the beekeepers need equipment and implements like the hive stand, nucleus box and smoker. The industry also needs equipment and machinery for handling and processing of honey, beeswax, for manufacture of comb foundation sheets, and for other operations.

Apiary honey is usually processed at the producers level. This consists mainly of heating the honey and filtering. A few beekeepers or honey producers co-operative societies have better processing facilities that involve killing of honey fermenting yeasts. About 50 per cent of the apiary honey under the KVI sector is graded and marketed under AGMARK specifications. Earlier the consumption of honey was estimated to be about 8.4 g per capita, while in other countries this was 200 g. Presently this would be about 2.5 Kg.

### **Seasonal management of beekeeping**

Seasonal management of bee colonies varies in different parts of the country although the basic management methods are the same. Flow management, dearth management, provision of feeding, and control and cure of bee disorders, bee diseases, pests and enemies, are some of the routine measures to keep bee colonies healthy and strong. There are special management techniques like queen rearing, migration for honey production or for colony multiplication, which the beekeeper takes up after he gains sufficient knowledge and experience in handling bee colonies.

## **Beekeeping as industry**

### ***Global***

<b>Country</b>	<b>2008-09</b>		<b>2009-10</b>	
	<b>Qty (tons)</b>	<b>Value (million US \$)</b>	<b>Qty (tons)</b>	<b>Value (million US \$)</b>
United States	9,319.42	18.4	9,067.86	20.5
Germany	1,330.56	3.1	980.77	2.44
Belgium	956.95	2.41	825.23	2.31
United Kingdom	816.92	2.04	833.65	2.15
Saudi Arabia	1,518.74	3.18	517.98	1.16
United Arab Emirates	271.54	0.55	175.25	0.37
Morocco	329.4	0.65	231.99	0.36
Yemen Republic	180.83	0.33	139.5	0.29
Japan	15.02	0.05	29.27	0.16
Kuwait	76.72	0.14	71.03	0.15

Source: DGCIS,

### ***India***

About 70,000 tons of honey is produced in India. Out of this, 40,000 tons is forest honey and apiary honey produced under the KVI sector is estimated upto 30,000 tons in 2008-09. Forest honey is usually collected by tribals in forests and is procured by forest or tribal corporations as a minor forest produce. Quite a large quantity is also collected by groups or individuals on their own. Forest honey is usually thin, contains large quantity of pollen, bee juices and parts, wax and soil particles.

India has a potential to keep about 120 million bee colonies, that can provide self-employment to over 6 million rural and tribal families. In terms of production, these bee colonies can produce over 1.2 million tons of honey and about 15,000 tons of beeswax. Organized collection of forest honey and beeswax using improved methods can result in an additional production of at least 120,000 tons of honey and 10,000 tons of beeswax. This can generate income to about 5 million tribal families. This will need a provision of 6 million bee boxes with few spare ones creating an employment of 5000 persons in a year. Comb foundation sheets will also be needed to be manufactured for each hive. This can generate employment for 5000 more persons (projections for 2009 -10 based on recommendation of National Commission on Agriculture).

Much of the forest honey is sold to the pharmaceutical, confectionery and food industries, where it is processed and used in different formulations.

#### **4.2 Progress of beekeeping during last 5 years**

Year	Beekeepers (Lakh)	Bee colonies (Lakh)	Honey production (Lakh)	Sale value
1995-96	2.73	6.10	2743.04	3173.46
1996-97	2.56	7.96	3182.72	3807.82
1997-98	2.41	8.14	3257.80	3196.45
1998-99	2.41	8.21	3282.30	4253.62
1999-00	2.29	7.64	4584.22	4321.07

*Apiacta 4, 2002*

#### **4.3 Market share of Competitive brands**

Indian honey has a good export market. With the use of modern collection, storage, beekeeping equipment, honey processing plants and bottling technologies the potential export market can be tapped.

Apiary honeys are usually multifloral when marketed by state-level marketing organizations, because honeys from different sources are mixed while pooling, storage and processing. Several unifloral honeys are available in markets restricted to small areas within the state where it is produced. Honey from Rubber plants contributed to over 60 per cent of the total apiary honey production during 1990-91. One often finds a good demand for local honey like honey from Mahabaleshwar. People in Maharashtra have a strong liking for jamun, hirda or gela honeys which have acquired special individual medicinal significance. Similarly, kartiki honey in Kumaon, Uttar Pradesh is locally much favored. Some honeys have an essentially non-local market. Rubber tree honey can only be sold in non-local markets. Coorg honey with its characteristic flavour is well-known. Shain or sulah honey from Kashmir has been very popular. Presently litchi honey from Bihar and other northern states is in great demand. Karanj honey from Jharkhand also getting demand. The price structure is regulated by the market forces of supply and demand. Beekeepers in well-known hill stations and other places of tourist attraction take advantage of the popularity of honey and can market their produce at remunerative prices. Much of the forest honey is sold to the pharmaceutical, confectionery and food industries, where it is processed and used in different formulations.

#### **4.4 Industry growth**

The establishment of Khadi and Village Industries Commission to revitalize the traditional village industries, hastened the development of beekeeping. During the 1980s, an estimated one million bee hives had been functioning under various schemes of the Khadi and Village Industries Commission. Production of apiary honey in the country reached 10,000 tons, valued at about Rs. 300 million. The production in 2009-10 is estimated to be 30,000 tons from KVI alone.



Under KVIC, 194 registered institutions are mostly engaged in Khadi activities and some of them are involved in beekeeping programmes. Every state has a Beekeeping Association and one or two beekeeping institutions to facilitate the beekeeping activities in the state.

The Directorate of beekeeping has taken up marketing of honey as departmental activity since 1970's to help the beekeepers co-operatives in disposing of stock of honey. There are departmental marketing depots at Ernakulam (Kerala), Pune (Maharashtra) and Delhi to take care the marketing aspect of south, central and north India respectively. These depots purchased, processed, graded and marketed the honey. A floor price for honey is fixed on season to season and place to place basis, considering the local factors. The beekeepers can supply their excess honey at the floor price to the depots. This protects both the producer and the consumers from exploitation by private traders. Besides this, there is a chain of marketing, sales outlets throughout the country owned by KVIC departmental such as Major Bhavans (Seventeen) and Institutions/Cooperatives (Fifteen thousands). Some beekeepers co-operative societies as well as institutions are also marketing honey having established their own processing plants and Agmarking facilities. Besides this, the private limited such as, Dabar, Baidyanath, Charak, Zandu, etc. are also processing and marketing honey through their own marketing outlets. Honey processing plant developed by KVIC and installed by institutions has moisture reduction system to reduce percentage of moisture in the honey, which can facilitate for export of honey.

#### **Employment in beekeeping industry**

It is estimated that India has 50 million hectares under cross pollinated crops that are benefitted by Honey bees pollination 3 to 9

bee colonies depending of crop per hectare are generally required for adequate pollination. Even if a minimum of 3 colonies per hectare are considered essential, then about 150 million colonies would be needed for assured pollination of 50 million hectare crops. Against this requirement, only 1 million bee-colonies are available at present (Agrobios, 2011). It can generate self-employment for over 15 million rural and tribal families, and can produce annual income of over Rs. 4.5 billion by producing 1,50,000 tons of honey<sup>2</sup> alone,

**Fabrication and manufacturing activities:** With the development of beekeeping, a number of subsidiary industries will also develop which include fabrication of hives, nucleus hives and other bee equipments like honey extractors, comb foundation mills, bee veils, smokers, queen excluder sheets, hive tools, iron stands, swarm catching nets, uncapping knives, queen cages and gates, uncapping trays, hand gloves, ant proof bowls (ant wells), pollen traps and other allied tools. All these equipments and tools can be manufactured by rural artisans thus creating additional employment for them in carpentry, black smithy and tailoring, etc. It also includes the manufacture of honey processing plants and containers for packing honey and other hive products.

**Processing and marketing activities:** The marketing of honey, bees wax and other hive products explore the marketing services like processing, packing and transport packaging. This can open new vistas for unemployed and underemployed youth. Even honey from rock honeybee can be profitably utilized for value addition products.

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<sup>1</sup> <http://www.agrobiosindia.com/Viewdetails.aspx?ID=10159&From=1> accessed on 29<sup>th</sup> June 2011

<sup>2</sup> <http://www.techno-preneur.net/information-desk/sciencetech-magazine/2010/march10/honney%20bee.html> accessed on 29<sup>th</sup> June 2011

**Multiplication of colonies and queen bees:** Multiplication of colonies and their sale is another aspect of employment generation and a good source of income. A colony (excluding beehive) with 4-frames bee strength, queen right and with optimum amount of brood, pollen and nectar/honey is generally sold @ Rs 600/colony. About 25 per cent of the total colonies can be increased and sold. Similarly, queens produced in the colonies selected for economic traits like disease resistance, higher honey production, higher brood rearing, etc. can also be sold at nominal rate (say Rs 50/queen). Mass queen rearing is another area for employment generation. A beekeeper can produce about 200 queens per colony per annum and sell them to the needy beekeepers for replacing their unproductive queen bees.

**Employment through engagement in transportation activities:** It includes the transport of honey bee colonies for pollination purpose, migration of colonies from hills to plains to overcome winter and transport of produce and manufactured equipments.

Beekeeping is such an enterprise which can provide employment to people throughout the year. It can give employment to idle hands of rural masses during idle hours and help them to earn their livelihood or additional income for better living. It is, however, a high risk enterprise and depends upon favourable weather conditions for honey production. Therefore, beekeepers need financial support during seasons of bad honey harvest to sustain their colonies for the next season. To boost this industry, there is an urgent need of government

# Survey Data of Balasore Beekeeping cluster

## 5.1 Background of the cluster:

**Name of Reform Implementing Institution (RII)**

**Balasore Beekeeping Industrial Co-operative Society Ltd.**

**Address:** At. P.O Allupure / Balasore  
Balasore Dist, Oddisha, Pin : 756 001

### **Vision of the Cluster:**

Motivating the beekeeping community in Balasore, NGO (IA) primary SHGs to provide an interactive coupling between technology, economy, environment and society for speedy development of beekeeping industry to build up a substantial base for crop productivity, production of qualitative honey and other value added hive products for domestic and export market, providing. Subsequently, Promoting beekeeping in the cluster brings development in socioeconomic condition, generating employment and poverty elevation.

### **Objective:**

- To develop model cluster in selected area.
- To bring awareness regarding the benefits of bees and beekeeping among farmers /horticulturists and traditional beekeepers.
- Capacity building of traditional beekeepers by providing improved tools &equipments and techniques.
- Qualitative and Quantitative increase in hive products in the period of three years.
- Develop infrastructure facilities for storing, processing, bottling, packing transportation and marketing.

### **Strategy:**

- Creating awareness of the program block wise and formation of SHG.

- Inducting new generation of 200 beginners to the cluster & their skilled up gradation, training in beekeeping techniques and providing improved set of tools and equipments.
- Capacity building for existing beekeepers and tools supply.
- Establishing CFC for supply of improved equipments, bee breeds, storing processing facility, packing and marketing promotion.
- Developing infrastructure facilities for marketing of honey, hive products.

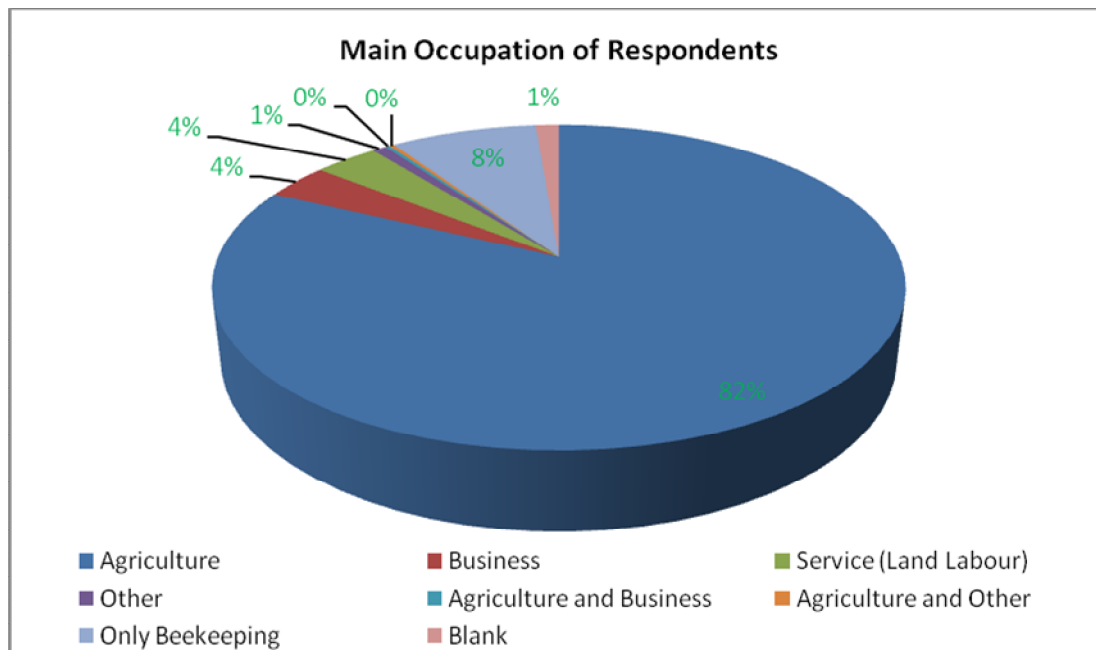
## **PROSPECTS**

District Balasore of Orissa is having high potential for development of beekeeping. The undivided Balasore and Bhadrak districts are blessed with abundance of bee foraging sources from oil seed crops like niger, mustard, sesame, sunflower and spices crop of Coriandrum. Horticultural plants like guva, citrus, mango, litchi, coconut, Forest plants like arjuna, soapnut, Behrda, karanj neem jamun Tamarind, Eucalyptus and other forest plants. The beekeepers of the Balasore can exploit the flora available in adjoining districts Mayurbhanj, Bhadrak, Koraput (Boipariguda) and also West Bengal. In addition districts in Orissa like Phulbani, Gajapati, Dhenkanal, Sambalpur, Keonjhar, Angul, Sonepur, Cuttak, Sakhigopal (block), Puri, Ganjam, Sundargarh also have immense potential for beekeeping throughout the year. In view of the abundant flora available in the state in the districts stated above, commercial beekeeping can be practiced and the beekeepers can develop this industry as enterprises in the state. The Balasore beekeeping cluster has got bright future prospect because of availability of the raw honey in the district, conducive climate and varieties of plants, flora and fauna, artisan's traditional skills, low capital investment, favourable enabling environment, marketing opportunities, scope for self employment. However, as it is the coastal area, cyclones and tornados may also be hurdles. Moreover, beekeeping industry as migratory in nature losses can be minimized. Further the insurance facilities can be availed.

## **5.2 Livelihood**

The livelihood and the prime occupation is Agriculture (90%) The secondary occupation of the beneficiaries is beekeeping. The tribal population also collects honey from the wild honey bees and sells it locally. They also work on daily wages on other farmland for their livelihood. Besides these Carpentry, Fishery, Weaving, Blacksmith are other occupations

**Agriculture is the main occupation of the beekeeper-respondents (82%),**



### 5.3 Beekeeping practices in the cluster

Beekeeping is the secondary occupation of the beneficiaries. The Key products of Beekeeping in Balasore Cluster are Honey and Bee Colonies. Honey production is the main activity. Beekeepers usual practice is placing the beehives in the adjacent cropping area to their villages and extracting the honey using G.I. extractors from the Apis cerana colonies during honey flow periods. Major honey flow season is February to April. Minor flow season starts from October and continues up to December. Secondary activity is multiplication of colonies. Since the natural cerana colonies are available in the cluster, capturing of colonies are also done by beekeepers. 49% beekeepers are multiplying the colonies besides honey production. There is lot of demand for the bee colonies, Bee colonies are sold to the needy @Rs. 600 per 4frames. The dearth period is July to September.

Beekeepers feed the colonies with sugar syrup. Selected breeding and grafting method are totally ignored. Comb Foundation fixed frames are used to build new combs, but Comb renewal is not practiced. The tribal population also collects honey from the wild honey bees and sells it locally. They also work on daily wages on other farmland for their livelihood.

#### 5.4 Present Status of Beekeeping

Balasore Beekeeping cluster is located in Alupur village in Balasore city covering 12 blocks in 2 subdivisions. Out of 12 blocks 10 were surveyed. The cluster has a radius of 40 km.

##### Villages and Blocks with no. of beekeepers & colonies surveyed in the cluster:

S. No.	Name of the Blocks	No. of villages	No. of beekeepers	No. of colonies
1.	Bahagana	42	116	689
2.	Soro	40	89	517
3.	Niagiri	39	102	355
4.	Remuna	09	13	227
5.	Baliapal	20	31	169
6.	Bhogarai	05	15	150
7.	Balasore	11	16	71
8.	Oupada	05	06	15
9.	Basta	02	02	14
10.	Khaira	01	01	02
	<b>Total</b>	<b>174 Villages</b>	<b>391 beekeepers</b>	<b>2264 colonies</b>

#### a) Products produced in the cluster

##### Bee colonies

- **Number of Honey Bee Colonies:**

The beekeepers are generally having the bee colonies in the range of 1-10 colonies (99%). 95% bee colonies are found to be strong. The following table shows the distribution of respondent beekeepers as per the initial number of bee colonies taken by them for the activity.

- **Source of Procurement of Bee Colonies:**

More than 92.9 % of the respondents have procured the bee colonies by capturing and / or naturally. The following table shows the different methods adopted by the beekeeper-respondents for procurement.

**Honey production:**

The annual collection of honey in the cluster is ranges between 6-15 Kg (average) - (86%). As per analysis report approx. 22 Tons. Of honey is produced in the Cluster annually calculated on the basis of 10 kg per colony production. About 16 tons of honey is sold annually in the Society. There are two honey flow seasons, minor flow season is from October to December from Agricultural crops. Major flow season starts from February and continues upto June from forest flora.

Sr. No.	Products	2011-12		2012-13		2014-15	
		Quantity	Value	Quantity	Value	Quantity	Value
1.	Honey	11.889	16.79	12.13	21.61	10.94	16.43
2.	Wax	--	--	--	--	--	--
3.	Bee Colonies in numbers	1500	12.00	2000	16.00	1200	9.60
4.	Bee Equipments		1.40		1.80		2.40
	Total		32.79		33.61		33.61

**b) Processing**

**As high as 95.7% of the respondent beekeepers do not process the honey collected. However, 14 of them are using traditional method of honey processing**

The Program may also be right step to in terms of changes in practices proposed, so that the scope of employment and income generation increases and a large number of farmers / beekeepers get the benefit. Given the enhanced skill trainings, credit support, improved user friendly machineries/technologies, common facility centre, capacity development trainings, networking with important stakeholders, convergence of resources from other departments, with all these structural management inputs, it is expected that the project would create a positive impact in the sector in terms of economic and social gains for the farmers / beekeepers in Balasore.



### **c) Marketing**

The existing products of Beekeeping in Balasore Cluster are Honey and Bee Colonies. The secondary occupation of the beneficiaries is beekeeping. The colonies and honey are sold locally. Few beekeepers sell their produce to the Society and to other needy people in the cluster and in the district. The tribal population also collects honey from the wild honey bees and sells it locally.

<b>Year</b>	<b>Honey</b>	<b>Bee boxes</b>	<b>Bee colonies</b>	<b>Equipments</b>
2011-12	14.61	7.81	10.18	1.40
2012-13	17.05	10.20	16.00	1.80
2013-14	10.94	8.64	8.00	1.20
2014-15	16.43	12.00	9.60	2.40

Honey produced in the cluster is sold to the traders in bulk. Traders are exploiting the beekeepers they are paying very low price depends on the stock availability on an average Rs. 100 to 120/- per kg. There is no cost structure for sale of raw honey. 92% of beekeepers feel the rate offered to honey by purchasers is low. Only 2% beekeepers are processing and packing for retail market. Processing is done crudely by conventional method without temperature control. Moisture reduction does not occur. Honey packed in low quality glass bottles.

## Details of Balasore Beekeeping Cluster in Odisha

**Name of the cluster: Balasore Beekeeping cluster**

**Name of the implementing agency;** Balasore Beekeeping Industrial  
Co-operative Society Ltd.

**Address:** Village : Alupure , At- P.O/ Balasore

District: Balasore, State Odessa

PIN: -756001

**Name of the Nodal agency :** State Office Odisha, Bhubaneswar

**Name of the Technical agency:**Central Bee Research and Training institute  
KVIC,1153, Ganeshkhind Road, Pune 411 016

### **Findings of the survey**

- a. Availability of Natural Apis cerana bee colonies
- b. Lack of Equipments like bee boxes and other tools
- c. Lack of scientific knowledge on apiary management
- d. Usage of liquer bottles for honey, Usage of GI. Extractors and stored in used oil tins
- e. Lack of processing equipment and tools
- f. Many Beekeepers with few colonies.
- g. Sufficient bee flora available.

**Location of the cluster:** Balasore

Survey conducted in 9 blocks and 176 villages

**No. Of beekeepers:** 391 beekeeper (within the surveyed area)

Male : 372 ; Female : 19

### **Present status**

- ♦ 99% of beekeepers are having the bee colonies in the range of 1-10 colonies
- ♦ Most of the beekeepers are small farmers or farm labour.
- ♦ 92% of bee colonies procured from capturing.
- ♦ Beekeeping is seasonal activity besides agriculture.

- ♦ Tribal honey hunters collect honey from wild bee colonies.
- ♦ Using very low quality bee boxes having deformities.
- ♦ Few beekeepers sell honey to the institution.
- ♦ Natural colonies are captured and sold.

**Type of the cluster:** Large and productive

**Products of the cluster:** Honey: 16,98,912 kg, Bees Wax: 1,150 kg

**Vision of the Cluster**

- ♦ Providing Self-employment to below poverty line tribes/farmers and unemployed youth.
- ♦ Increase of crop productivity both agricultural and horticultural crops. Uplifting social behavior in the cluster area. Strengthening the existing apiaries and establishment of new apiaries.
- ♦ Establishment of the honey collection centers with testing facilities. Establishment of carpentry unit to make available of standard bee hives (BIS specifications) to local beekeepers.
- ♦ Promotion of community business. Establishment of common facility centre for processing the honey.

**Mission of the Cluster:**

- ♦ Organizing and importing training to the beekeepers.
- ♦ Supplying of bee keeping equipments and bee colonies for beekeepers.
- ♦ Imparting dissemination technology for developing beekeeping activity.
- ♦ Conducting beekeeping seminar to bring awareness and transfer of the technology.
- ♦ Multiplication of bee colonies. Introducing migration system among the beekeepers.
- ♦ Organic honey production Hygienic honey collection. Processing of honey to increase shelf life.
- ♦ Up-gradation of Lab set up in the Institution to maintain the purity.
- ♦ Attractive package of honey and other value added products for better marketing avenues.

**Objectives:**

- ♦ To develop traditional artisan based sustainable cluster having the honey and wax as major products with other value added products
- ♦ To strengthen the local governance system of cluster with active participation of local stakeholders, so as to enable them to undertake development initiative and traditional skills, improve technologies, improved processing, marketing intelligence and self-sustainability.

**Available Infrastructure of IA. Land& Building,: 23 DC land is available**

Details of implements available with IA:

S. No.	Name of the item	Quantity	Value (in Lakhs)	Remarks
1.	Bee Boxes / hives (Apis cerana 8 frames)	1125	14.62	
2.	Nucleus hives	250	1.75	
3.	Honey extractors	200	1.60	
4.	Bee veil	480	0.38	
5.	Queen excluders	800	0.80	
6.	Queen gates	1400	0.14	
7.	Drone traps	100	0.10	
8.	S.S. Drums 300 Kg. capacity	02	0.24	
9.	Food grade plastic storing drums 250 Kg Capacity	30	0.36	
10.	Food grade plastic storing drums 50 Kg Capacity	32	0.112	
11.	Laboratory	--		Needs up gradation
	Total		20.102	

Details of the Manpower available in the cluster;

Beekeepers	Breeders	Carpenters	Others
490	Nil	03	05

**Floral Resources**

The coastal and central plains are covered with farm lands, while the forest cover in Nilagiri comprises of variety of forest tree species.

### i)AGRI-HORTICULTURAL CROPS:

Crops like Paddy, Wheat, Mustard, Maize, Ladyfinger, Onion, Beans, Chilli, Tomato, Pumpkins, Cucumber, etc. The horticultural crops like litchi, Jackfruit, bananas (*Musa species*), orange, lemon, Jamun (*Elegenia Jambolanum*), coconut (*Coccus nucifera*), papaya, guava (*Psidium guazava*), mango (*Mangifera indica*), cashew (*Anacardium occidiandale*), etc are also cultivated by the farmers cum beekeepers in their fields (Table ).

**Table 1:- List of Agri-horticultural crops that provide bee forage**

Common name	Botanical name	Flowering period	Source P / N
<b>Agricultural crops</b>			
Pea	<i>Pisum sativum</i>	Jan-Mar	P
Litchi	<i>Nephelium litchi</i>	Jan – Mar	P & N
Seasame	<i>Sesamum indicum</i>	Jan – May	P & N
Maize	<i>Zea mays</i>	Jan – May	P
Pumpkins	<i>Cucurbita maxima</i>	Jan- May, Sept-Nov	P
Cucumber	<i>Cucumis sativus</i>	April-May	P
Cucurbits (Lau)	<i>Cucurbita sp.</i>	July-Aug	P & N
Drum stick	<i>Moringa oleifera</i>	Sept-Mar	P & N
Mustard	<i>Brassica campestrics</i>	Nov – Feb	P & N
Coriander	<i>Coriandrum sativum</i>	Nov – Feb	P & N
Sunflower	<i>Helianthus annu</i>	Nov - April	P & N
Niger	<i>Guizotia abyssinica</i>	Nov-Jan	P & N
<b>Horticultural Crops</b>			
Cashew	<i>Anacardium occidentale</i>	Jan – Feb	N
Litchi	<i>Nephelium litchi</i>	Jan-Mar	P & N
Coconut	<i>Cocos nucifere</i>	Jan-Dec	P & N
Orange	<i>Citrus reticulata</i>	Feb-Mar &	N
Lemon (Nimboo)	<i>Citrus aurantifolia</i>	Sept-Nov	P&N
Jamun	<i>Syzygium cumini</i>	Mar-May	N
Mango	<i>Mangifera indica</i>	Dec-Feb	P & N
Guava (Pijuli)	<i>Psidium guajava</i>	Sept-Oct &	P & N

		April-May	
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## ii) FOREST FLORA:

Some of the forest bee flora available in the hilly area are the tree species like Palas (*Butea monosperma*), Beheda (), Jamun (*Syzigium cumin*), Karanja (*Pongamia pinnata*), Silk cotton (*Bombax ceiba*), India Redwood, Neem (*Azadirachta Indica*), Mahua (*Madhuca indica*), Arjun (*Terminalia Arjuna*), Tarmind (*Terminilia indica*), Babool (*Acacia sps.*), Wood apple, Sal, Ber, Soap nut, Eucalyptus (*Eucalyptus sp.*) and other shrubs, herbs, etc. The bee forage with the flowering period is given in table 2.

**Table 2:- List of forest plants that provide bee forage**

Common name	Botanical name	Flowering period	Source P / N
Bahada	<i>Terminalia belerica</i>	Jan-Feb	N
Sirisa	<i>Albezzia lebbek</i>	Jan-Feb	P & N
Khajuri	<i>Phoenix sp.</i>	Jan-Mar	P & N
Palasa	<i>Butea monosperma</i>	Feb-Mar	N
Silk cotton	<i>Bombax malabaricum</i>	Feb-Mar	P & N
India Redwood	<i>Dalberga sissoo</i>	Feb - Mar	P & N
Patali		Feb - Mar	N
Karanja	<i>Pongamia pinnata</i>	Mar - April	P & N
Neem	<i>Azadirachta Indica</i>	Mar - April	N
Mahua	<i>Madhuca indica</i>	Mar - April	N
Arjun	<i>Terminalia Arjuna</i>	April - May	N
Jammun	<i>Syzigium cumin</i>	April - May	N
Tarmind	<i>Terminilia indica</i>	May - July	P & N
Dhadanga	<i>Acacia nilocicea</i>	May - July	P & N
Babool	<i>Acacia Arabica</i>	May - July	N
Sal	<i>Shorea robusta</i>	June - Aug	P
Ber	<i>Zizyphus jujube</i>	Aug - Sept	P & N
Soap nut (Ritha)	<i>Sapindus emargintus</i>	Aug - Sept	P & N
Nilgiri	<i>Eucalyptus sp.</i>	Oct - Dec	N

## Floral Resources

The coastal and central plains are covered with farm lands, while the forest cover in Nilagiri comprises of variety of forest tree species. The plants usually start flowering from October to May before the onset of the monsoons. But in the forest belt there are two main flowering periods during the annual period, the first during October to December and the other during March to May when most of the plants / trees start blooming in succession. There is partial floral dearth during January to February, and total during the monsoon.

### i)AGRI-HORTICULTURAL CROPS:

Crops like Paddy, Wheat, Mustard, Maize, Ladyfinger, Onion, Beans, Chilli, Tomato, Pumpkins, Cucumber, etc. The horticultural crops like litchi, Jackfruit, bananas (*Musa species*), orange, lemon, Jamun (*Elegenia Jambolanum*), coconut (*Coccus nucifera*), papaya, guava (*Psidium guazava*), mango (*Mangifera indica*), cashew (*Anacardium occidiandale*), etc are also cultivated by the farmers cum beekeepers in their fields (Table ).

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Maize	<i>Zea mays</i>	Jan – May	P
Pumpkins	<i>Cucurbita maxima</i>	Jan- May, Sept- Nov	P
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Coconut	<i>Cocos nucifere</i>	Jan-Dec	P & N
Orange	<i>Citrus reticulata</i>	Feb-Mar &	N
Lemon (Nimboo)	<i>Citrus aurantifolia</i>	Sept-Nov	P&N
Jamun	<i>Syzygium cumini</i>	Mar-May	N
Mango	<i>Mangifera indica</i>	Dec-Feb	P & N
Guava (Pijuli)	<i>Psidium guajava</i>	Sept-Oct & April- May	P & N

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India Redwood	<i>Dalberga sissoo</i>	Feb - Mar	P &N
Patali		Feb - Mar	N
Karanja	<i>Pongamia pinnata</i>	Mar - April	P & N



Neem	<i>Azadirachta Indica</i>	Mar - April	N
Mahua	<i>Madhuca indica</i>	Mar - April	N
Arjun	<i>Terminalia Arjuna</i>	April - May	N
Jammun	<i>Syzigium cumin</i>	April - May	N
Tarmind	<i>Terminilia indica</i>	May - July	P & N
Dhadanga	<i>Acacia nilocicea</i>	May - July	P & N
Babool	<i>Acacia Arabica</i>	May - July	N
Sal	<i>Shorea robusta</i>	June -Aug	P
Ber	<i>Zizyphus jujube</i>	Aug - Sept	P &N
Soap nut (Ritha)	<i>Sapindus emargintus</i>	Aug - Sept	P & N
Nilgiri	<i>Eucalyptus sp.</i>	Oct - Dec	N

N- Nectar, P-Pollen

### **Potential for development of beekeeping:**

Beekeeping in Balasore holds a good prospects if taken up in a planned manner, could emerge as an important additional source of income to farmers. The concept is born out of the fact that the large area under cultivation crops , fruits and oilseeds could support forage requirement of honeybees in Balasore district. Considering one hectre under cultivation of bee flora base for two colonies as a reasonable assumption, Balsore region could support a total of 10,000 bee colonies as against estimated number of existing 4,000. The Program may also be right step to in terms of changes in practices proposed, so that the scope of employment and income generation increases and a large number of farmers / beekeepers get the benefit. Given the enhanced skill trainings, credit support, improved user friendly machineries/technologies, common facility centre, capacity development trainings, networking with important stakeholders, convergence of resources from other departments, with all these structural management inputs, it is expected that the project would create a positive impact in the sector in terms of economic and social gains for the farmers / beekeepers in Balasore. The very purpose of this beekeeping cluster under KRDP is to generate employment opportunities for the rural artisans as well as to enhance their income, so that their standard of living could be developed.

## **SWOT Analysis**

### **Strength:**

1. Abundant Bee flora including Agriculture, Horticulture and forest flora available, which provide both pollen and nectar to bees. Pollen and nectar are the raw material for the development of bee colonies and further lead to honey production.
2. Natural colonies of *Apis cerana* are available in the nature at Balesore district. The natural colonies are free from diseases and are more adaptable in the area. Hence the natural colonies are captured and multiplied for distribution to the entrepreneur
3. About 400 beekeepers are available, who has experience in bee management, but they have very limited colonies
4. Geographical conditions are very favourable for beekeeping. Rainy season is very short from middle of June to September. The cold season is very pleasant. The average temperature of the district varies between 22 to 32°C
5. Bee boxes manufactures are available. As per the BIS standards ISI A type B Type, C type boxes can be prepared locally and can be supplied. So there is no need to get the bee boxes and bee colonies from other district/states.
6. Prospective Institution taking initiation to develop beekeeping activities.
7. Growing demand for the honey based products in market.

### **Weakness:**

1. Beekeepers are maintaining the bee colonies in traditional methods due to Lack of scientific knowledge. Mostly beekeepers are learnt from their forefathers.
2. Low productivity due to lack of Scientific Knowledge.
3. Lack of the knowledge about storing and processing of honey.

4. Low quality equipments used due to lack of availability.
5. Lack of established market network.
6. Standard bee hives with supers are not maintained.
7. Lack of infrastructural development to strengthen the development activities.
8. Honey processing and quality control measures are not available in the cluster.

### **Opportunity:**

1. There is a lot scope to increase beekeepers and bee colonies
2. There is scope to produce organic honey from the vibrant green forests of the district.
3. Opportunity to promote employment to rural population by engaging people in natural colony capturing, hiving bees, honey venders, carpentry work in preparation bee hives. Metal works for honey extractors and other tools.
4. Possibility of refining honey demands to meet the market value
5. Demand of honey and other value added bee products
6. Migration of people to cities will reduce
7. Social status of people will improve
8. Increase in crop yield due to bee pollination.

### **Threat:**

- Natural calamities may affect in achieving the targets.
- Seasonal failures.
- Effect of wild animals

### **Marketing**

There is a lack of linkages for marketing with different organizations.

There is a low demand for inferior quality of honey and other products as well as bee colonies.

# Intervention Plan

## Needs of the Cluster according to Detail Survey Report

- a) **Awareness about bees and benefits of beekeeping:** Awareness camps may be organized for short listed applicants by KVIC/KVIB at Block level and List will be displayed in IA notice board, SBEC, State Office KVIC and also in KVIB. 20 awareness camps will be conducted in 10 blocks in two years.
- b) **Selection of higher honey yielding bee colonies, multiplication and supply to beekeepers:**
- Selection of higher honey yield colonies from the existing stock.
  - Queen rearing and bee breeding training to selected beekeepers.
  - Establishment of nurseries with standard equipment support.
  - Queen rearing, colony multiplication and supply of colonies to new entrepreneurs.
- c) **Capacity building of existing beekeepers:**
- Skill up-gradation training to 400 existing beekeepers in bee management.
  - Supply of standard 5 bee hives with colonies and tools to each trained beekeeper.
  - One month Master beekeeping training to 20 progressive beekeepers at CBRTI.
  - Formation of Beekeepers SHG.
  - Exposure visit to developed clusters.
  - Issue of Identity card for beekeepers.
  - Linkage of beekeepers with banks for micro credit support.
- d) **New entrepreneur development**
- Training to 200 unemployed youth and farmers in bee management.

- Supply of standard 5 bee hives with colonies and tools to each trained beekeeper.
- Interested beekeepers will be tied up with PMEGP for commercial beekeeping.

**e) Quantity and Quality improvement of the products (honey & wax).**

- i. Training in scientific harvesting of honey, Maintenance of standard hives with supers.
- ii. Quality control training to 50 beekeepers. 1 from each SHG.
- iii. Supply of one honey testing kits and honey extractor to each SHG.
- iv. Bee venom collection training to 50 progressive bee keepers.
- v. Supply of bee venom collection kit to the trainees.
- vi. Motivation of beekeepers for migration of bee colonies to rich bee forage areas.
- vii. Collection of bees wax from left-out combs of rock bee.
- viii. Providing C.F. Sheets and time to time Comb renewal

**f) Availability of improved standard equipments:**

- Establishment of carpentry unit.
- Tie-up with forest department for wood.
- Providing BSI specifications for A, B, C Type hives and other equipments.
- Replacement of G.I honey extractors with S.S extractors.

**g) Establishment of CFC:**

- Construction of work-shed for installation of Honey processing plant and accessories.
- Installation of Honey processing plant.
- Providing S.S storage tanks to store raw honey as well as processed honey.
- Up-gradation of quality control testing laboratory as per AGMARK specification.
- Installation of generator to meet out the electricity interruption.

- Establishment of hand-made C.F. mill to meet the demand of C.F. sheet.
- I.T system for global monitoring of the intervention.

#### **h) Promotion of Market and brand development**

- Conducting Buyer-seller meeting
- Creation of Website for facilitating e-marketing and maintain price lobby.
- Packing development regards to design of transparent bottle, attractive label and leak proof sealing.
- Brand image development. Proposed brand name is “Danadakaranya” honey/”Nilgiri” honey.
- AGMARK and bar-coding.
- Popularization of Brand.
- Opening of sales outlet in Tourist places like Chandipur beach, Puri, Konark, etc.
- Printing of market promotion booklets.
- Participation in exhibitions and trade fairs.

#### **i) Artisan Welfare measures**

- Issue of identity cards.
- Provide certificate for migration.
- Health insurance for bees and beekeepers.
- Beekeeper Credit cards.
- Children education and basic needs.
- Social and economical development.

## Proposed intervention

### A. Capacity Building

Particulars	2015-16	2016-17	2017-18	Total
20 awareness camps	10	10	--	20
Financial out lay (Rs. In Lakhs)	1.00	1.00	--	2.00

### B. Training

#### a. Physical Targets

Particulars	2015-16	2016-17	2017-18	Total
Skill up gradation for existing farmers / beekeepers with tools	200	100	100	400
Existing farmers / beekeepers for Master beekeepers program	20	--	--	20
New Entrants with tools	---	100	100	200
Quality control training	---	50	---	50
Bee venom extraction training	---	25	25	50
<b>Total</b>	<b>220</b>	<b>275</b>	<b>225</b>	<b>720</b>

#### b. Financial Out lay

Rs. In Lakhs

Particulars	2015-16	2016-17	2017-18	Total
<b>I. Skill up gradation</b> for existing farmers / beekeepers group formation	3.20	1.60	1.60	6.40
Cost of Tools supply: 5 hives @ Rs.1, 200/- (Rs. 6,000/-) six frame ISI "A" type 5 colonies @ Rs. 800/- colony (Rs. 4,000/-) Beekeeping tools @ 400/-	20.00	10.00	10.00	40.00
<b>Sub Total</b>	<b>23.20</b>	<b>11.60</b>	<b>11.60</b>	<b>46.40</b>
<b>II Master beekeepers Program</b> (For Existing beekeepers )	2.50	--	--	2.50

<b>III New Entrants Training cost</b>		0.80	0.80	1.60
Cost of Tools supply: 5 hives @ Rs. 1, 100/- (Rs. 5, 500/-) six frame ISI "A" type 5 colonies @ Rs. 800/- colony (Rs. 4,000/-) Beekeeping tools @ 500/-	-----	10.00	10.00	20.00
<b>Sub Total</b>	---	<b>10.80</b>	<b>10.80</b>	<b>21.60</b>
<b>IV Quality control training</b>	---	1.00	--	1.00
Honey testing kit @ Rs. 5,000/- 02 S.S. honey extractors @ Rs. 2,500/- 02 S.S. / Food Grade Plastic honey storing drums@ 750 (Total 10,000)		5.00	----	5.00
<b>Sub Total</b>	---	<b>6.00</b>		<b>6.00</b>
<b>V Bee venom collection training</b>		0.25	0.25	0.50
Bee venom collection unit @10,000 for 50 kits	---	0.25	0.25	0.50
<b>Subtotal</b>	---	<b>0.50</b>	<b>0.50</b>	<b>1.00</b>
Trust building activity	1.00	---	---	1.00
Exposure visit	--	1.25	1.25	2.50
<b>Total</b>	<b>26.70</b>	<b>24.15</b>	<b>24.15</b>	<b>81.00</b>

### C. Common facility centre

Rs. In Lakhs

<b>Particulars</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>Total</b>
Repairs, renovation and maintenance of building	5.00	--	--	<b>5.00</b>
Construction of processing shed	10.00	--	---	<b>10.00</b>
Generator	3.00	--	--	<b>3.00</b>
Carpentry unit	10.00	--	--	<b>10.00</b>
Wax melting unit with C.F. Mill	0.75	---	--	<b>0.75</b>
Honey Processing Plant, Storing	--	12.00	--	<b>12.00</b>
Raw Honey storage containers - 10 (SS 300 kg)	---	1.50	--	<b>1.50</b>
Process Honey storage containers -3 (SS 1000 kg)	--	1.50	--	<b>1.50</b>
Cap sealing machine	--	0.50	--	<b>0.50</b>
Apis cerana bee breeding centre (100 colonies)	--	7.00	--	<b>7.00</b>
Transportation	--	2.00	--	<b>2.00</b>
Laboratory up gradation	--	3.00	--	<b>3.00</b>



<b>Total</b>	<b>28.75</b>	<b>27.50</b>	--	<b>56.25</b>
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**D. Marketing promotion**

Rs. In Lakhs

<b>Particulars</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>Total</b>
Buyers sellers meeting	0.00	1.00	0.00	<b>1.00</b>
Participation in exhibitions	0.00	0.00	1.00	<b>1.00</b>
Website development	0.00	0.75	0.00	<b>0.75</b>
AGMARK and Bar coding	0.00	2.00	0.00	<b>2.00</b>
Honey hut / Honey Parlour	0.00	0.00	6.00	<b>6.00</b>
Advertisement /Booklet	0.00	0.00	0.25	<b>0.25</b>
<b>Total</b>	<b>0.00</b>	<b>3.75</b>	<b>7.25</b>	<b>11.00</b>

<b>Particulars</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>Total</b>
<b>E.PRODIP</b>	0.00	4.00	0.00	<b>4.00</b>
<b>F. Operational Exp./Working fund</b>	0.00	5.00	5.00	<b>10.00</b>
<b>G. Management grant to IA</b>	3.00	3.00	3.00	<b>9.00</b>
<b>H. Cluster development executive</b>	3.00	3.00	3.00	<b>9.00</b>
<b>I. Beekeepers welfare measures</b>	2.00	2.00	2.00	<b>6.00</b>
<b>J. Cost of T.A</b>	1.00	2.00	1.00	<b>4.00</b>
<b>Total= E+F+G+H+I+J</b>	<b>9.00</b>	<b>19.00</b>	<b>14.00</b>	<b>42.00</b>

**Total financial budget requirement: 191.25**  
**(A+B+C+D+E+F+G+H+I+J)**

## Justification for proposed intervention and out come

Head of Intervention	Justification	Outcome
<b>1. Capacity Building Measure</b>		
<b>Awareness</b>	Awareness is required in general public besides beekeepers and farmers	This will help in increase of beekeepers and bee colonies. Higher honey yield and increase in crop productivity
<b>Beekeepers skill up gradation training</b>	The traditional beekeepers will get scientific knowledge in management of bee colonies and modern honey extracting methods.	The extracted honey will be hygienic. There will be no harm to bees and larvae Productivity will be increased.
<b>Beekeeping training</b>	Unemployed youth and women will be trained in modern beekeeping techniques to establish new apiaries for sustainable beekeeping. Women can do beekeeping in the leisure time.  Farmers are also trained.	Productivity will be increased. Income improves the social and economic status of below poverty people. It will be additional income to farmers
<b>Quality control training</b>	Using honey testing kit quality of honey can be checked in the field itself. It facilitates to maintain the quality in procurement of honey.	Low moisture honey can be stored for long period. Adulterated honey can be rejected in the field itself
<b>Bee venom Training</b>	Bee venom collection training is given to the progressive beekeepers and Bee venom collection kit is supplied to the trained Beekeepers.	Bee venom is very costly product. It costs about Rs.10,000/gram. It will be additional income to beekeepers.
<b>Beekeepers exposure visit</b>	The outlook of the beekeepers needs to be changed. It is said "seeing is believes. Therefore they need exposure to similar clusters where good	This will bring confidence on the beekeepers and they will be motivated to adopt the practices and get associated with the project activities.

	practices are being adopted.	
<b>Identity cards for Beekeepers</b>	These are required during migration of bee colonies and for , Bank financing purpose	Beekeepers can migrate be colonies without any objection from Police or in forest check post.

<b>2. Common Facility Centre</b>		
<b>Carpentry unit</b>	<p>Presently 3 carpenters engaged in manufacturing of bee boxes with hand tools.</p> <p>During the intervention 10,000 bee boxes are required. To fulfil the demand mechanized carpentry unit is required</p>	The process honey will be sold in the market at higher price. In return the beekeepers will get more income return compared to what they are presently getting
<b>Honey Processing Plant</b>	<p>Presently raw honey is sold in the market. This is valued at very low price because of high moisture and turbidity.</p> <p>Modern honey Processing plant does moisture reduction and micro filtration without loss of the flavour and nutrition.</p> <p>Beekeepers also get process their honey in CFC centre at reasonable prices</p>	<p>The processed honey will be sold in the market at higher price. In return beekeepers will get more income compared with present scenario.</p> <p>No interfere of middle man exploitation</p>
<b>Wax melting unit with hand mill</b>	At present production of wax is meagre. Damaged wax combs can be collected and processed. Pure bees wax costs double the honey rate. There is demand in national and international market.	Processedwax converted in C.F Sheet and supplied to bee colonies for comb construction. Combs will be renewed at intervals to maintain the quality of honey. we can save time and energy of bees
<b>Participation in exhibition and trade fairs</b>	It is necessary to develop Brand image and Product intervention.	Enhanced knowledge and skills leading to professional business practices

<b>Entrepreneurship</b>	Beekeepers need to turn themselves into entrepreneur.  If they are tie-up with PMEGP their income will increase substantially.	Production will be increased.  Up-liftment of Socio Economic Status.
<b>Product Development</b>	New value added products need to be developed to get Aquitaine the market strategy.	More diversified products as per the customer's choice increase the consumption of honey.

<b>3. Market promotion</b>		
Sales outlet	This is required for regular sale of honey and honey and other value added products	There will be an assured source for marketing
Website	Website facilitating e-marketing and maintain price lobby	The market outreach will expand.
Product catalogue	Unfloral honey of different floral sources will be packed separately and priced as per the demand. Publicity of the medicinal value different honeys.	Orders will be generated as per the demand ultimately sale will be increased.
Buyer seller Meeting	Will bring together the artisans and the buyers	Business tie-ups will develop. Increase demand for products lead to more sales.
AGMARK and Bar coding	It is necessary to maintain the quality measures for customer satisfaction.	Sales increased

## **OPERATIONAL MECHANISOM OF THE CLUSTER**

Cluster Monitoring Committee (CMC) may be constituted under the control of State Director, KVIC, Bhubaneswar as Chairman. (monthly)

- Director, S.O., KVIC, Bhubaneswar – Chairman
- Lead Bank Manger - Member
- Representative of Odisha KVIB - Member
- Representative of T.A (CBRTI) - Member
- In charge, SBEC - Member
- Secretary of NGO (IA) - Convener

### **Role of the officials of CMC in cluster development**

#### **Director, S.O., KVIC, Bhubaneswar :**

He will play the role of Nodal Agency. Provide funding support, monitor and guide in the programme execution. Extended support services for the effective implementation of the programme.

#### **Implementing agency:**

Balasore beekeeping Industrial Co.op. Society Ltd. will be the implementing agency of the cluster development programme. The NGO is expected to play a key role in coordinating and implementing all proposed activities of the cluster as per the schedule.

#### **CBRTI, Pune:**

Investigator of cluster from CBRTI, Pune is the technical agency of the cluster development programme. T.A. is expected to provide technical support towards the effective functioning of the cluster. TA will monitor the programme implementation on a regular basis and guide the CDE and the IA for smooth implementation of the programme. TA will also guide the CDE and the IA in preparation of of action plans and their validation in the (CMC).

### **Cluster development Executive (CDE);**

CDE will be an employee of the NGO and work under the guidance of T.A, I.A. and the nodal Officer of KVIC. CDE is the key functionary of the project who will lead the entire project under the guidance of ISA/TA and NA. He is expected to implement programmes as per plan and co-ordinate with other stakeholders for their involvement in the programme execution process.

### **KVIB, Odisha:**

KVIB Odisha will be the overall catalyst agency who will help the beekeepers and honey hunter in terms of getting the programme benefits. They will also co ordinate with the IA for development and smooth execution of the programmes.

**Lead Bank Manager:** Expected to provide working capital support to the IA and other stakeholders for undertaking beekeeping on a commercial basis. He also help in execution of credit cards, micro financial credits and operation of bank accounts of IA and Beekeepers.

**State Beekeeping Extension Centre:** Technical know – how as well as help in skill-upgradation training etc.

### **Proposed operational Mechanism of Common facility Centre**

- Director, S.O., KVIC, Bhubaneswar – Chairman
- Secretary of NGO (IA) - Member
- Three leading beekeepers - Member
- In charge, SBEC - Member convener

The committee will meet fortnightly for smooth functioning of the cluster

- A CFC maintenance committee consisting of leading beekeepers needs to be formed to look after the effective day to day functioning of the CFC
- The IA would be the custodian of the CFC and the fostering agency for the development of the cluster

- The beekeepers may avail the machinery support at the CFC for processing and packaging of their honey
- The artisans will be provided with a honey testing kit and storing drums with bee colonies, medicines as proposed in the action plan.
- The IA would mobilize fund from Banks and other sources to run the honey production centre at the CFC.
- The primary producers through their SHGs would sale honey to the production centre / CFC and get the price immediately, instead of middle men exploitation and distribute of incentives from the profits to associated beekeepers.
- The procurement price would be mutually decided based on quality and market demand of honey in the general body meeting each year as per the prevailing market rate by the State Director, S.O., KVIC, Bhubaneswar.
- The IA would in turn sale processed honey in different markets through established networks and also supported with Honey Parlour provided though this program.
- The beekeepers will get adequate information from the CFC on marketing of product and would be provided with opportunities for participation in exhibitions, sales in local and district level markets, trade fair etc on their own or with the support of the IA.
- The artisans on a rotation basis would be given opportunity to work at the production centre and get income.
- Trainings and meetings, etc. would be conducted at the CFC and it would serve as a centre for beekeeper's development.
- In the long run after the project is completed, a nominal charges will be collected (service charge) from the beekeepers through their SHGs towards the maintenance cost of the machineries on being used by them.
- To carry out the business activity the artisan SHGs will be linked with the Bank for necessary credit support.
- The IA will engage suitable persons for the smooth management of the CFC

- The centre would be equipped with computer and other infrastructure facilities and machineries for processing and production of quality honey.
- A work shed along with other facilities should be established.
- The State Director, S.O., KVIC, Bhubaneswar may be made as nodal officer for the Balasore Beekeeping Cluster and technical officials of Forest Based Industry posted at Sub Office, KVIC, Sambalpur and S.O., KVIC, Bhubaneswar may be posted at Balasore on rotation basis for proper monitoring and day to day reporting.



### **Prospective Value Chain:**

- Primary honey collectors organized in the form of Beekeeping SHGs.
- Honey Supply to CFC Production Centre, processing, labelling, packaging etc.
- Primary honey collection centres
- Sales to Companies, exporters- bulk sales
- Retail sale in local sales outlets and sales in Khadi Bhawans/ sales outlets.
- Institutional Marketing – utilizing own contacts and contacts of associated stakeholders.

### **Marketing Channel of the Honey Product/Arrangements for forward linkage**

- Retails Sales through Bhavans /Bhandars
- Own Outlet
- Whole sales to bulk buyers
- Sales through exhibition
- Sales through honey festivals
- Own network/entrepreneur
- Export

### **Feasibility of establishing CFC:**

- Land already available which is owned by IA and will be given for establishing the CFC work shed.
- Availability of electricity.
- Availability of water facility.
- Central place to all periphery villages.
- Reasonable communication facilities to all cluster locations.
- Transportation facilities through bus, jeep etc.
- IA has agreed to provide the available infrastructure as contribution to the cluster.

- Cluster locations are well connected with rail route.

### Components of the scheme during intervention with share of IA and KVIC

Rs. In Lakhs

	<b>Contribution of IA (10%)</b>	<b>Contribution of KVIC (90%)</b>	<b>Total</b>
Capacity building	8.10	72.90	<b>81.00</b>
Common Facility Canter	5.625	50.625	<b>56.25</b>
Marketing & Promotion	0.00	11.00	<b>11.00</b>
PRODIP	0.40	3.60	<b>4.00</b>
Operational expenditure	1.00	9.00	<b>10.00</b>
Management Grant to IA (@ Rs.3.00 lakhs per year	0.00	9.00	<b>9.00</b>
Cluster Development Executive (CDE)	0.00	9.00	<b>9.00</b>
Beekeepers welfare measure found	0.00	6.00	<b>6.00</b>
Cost of T.A/ Project management services	0.00	4.00	<b>4.00</b>
<b>Total</b>	<b>15.125</b>	<b>177.125</b>	<b>192.25</b>

## **Activity Plan: 2015-16**

### **Capacity Building Measures**

- 10 Awareness camps may be organized for short listed applicants by KVIC/KVIB at Block level.
- Skill up-gradation training to 200 existing beekeepers in bee management.
- Supply of standard 5 bee hives with colonies and tools to each trained beekeeper.
- One month Master beekeeping training to 20 progressive beekeepers at CBRTI.
- Formation of Beekeepers SHG.
- Issue of Identity card for beekeepers.
- Linkage of beekeepers with banks for micro credit support.
- Health check up camps for the artisans.

### **Common Facility centre development**

- ♦ Appointment of CDE.
- ♦ Construction of work-shed for installation of Honey processing plant and accessories.
- ♦ Establishment of carpentry unit.
- ♦ Tie-up with forest department for wood.
- ♦ Providing BSI specifications for A, B, C Type hives and other equipments.
- ♦ Manufacturing of standard bee boxes
- ♦ Formation of CFC maintenance committee
- ♦ Installation of generator to meet out the electricity interruption.
- ♦ Establishment of hand-made C.F. mill to meet the demand of C.F. sheet.
- ♦ I.T system for global monitoring of the intervention.
- ♦ Organize procurement and supply of honey
- ♦ Selection of higher honey yield colonies from the existing stock.
- ♦ Queen rearing and bee breeding training to selected beekeepers.
- ♦ Establishment of nurseries with standard equipment support.
- ♦ Queen rearing, colony multiplication
- ♦ Supply of colonies to new entrepreneurs.

## **Activity Plan: 2016-17**

### **Capacity Building Measures**

- 10 Awareness camps may be organized for short listed applicants by KVIC/KVIB at Block level
- Skill up-gradation training to 100 existing beekeepers in bee management.
- Training to 100 unemployed youth and farmers in bee management.
- Supply of standard 5 bee hives with colonies and tools to each trained beekeeper.
- Interested beekeepers will be tied up with PMEGP for commercial beekeeping.
- Quality control training for 50 persons and Supply of Honey testing kits.
- Supply of SS Honey extractors and Honey Storage containers.
- Bee venom collection training and Supply of bee venom collection units.
- Formation of Beekeepers SHG.
- Issue of Identity card for beekeepers.
- Linkage of beekeepers with banks for micro credit support.
- Health check up camps for the beekeepers.

### **Common Facility centre development**

- ♦ Installation of Honey processing plant.
- ♦ Manufacturing of standard bee boxes
- ♦ Procurement S.S storage tanks to store raw honey as well as processed honey.
- ♦ Up-gradation of quality control testing laboratory as per AGMARK specification.
- ♦ Organize procurement and supply of honey
- ♦ Processing of honey and bottling
- ♦ Supply of colonies to new entrepreneurs.
- ♦ Supply of honey testing kit and ss. Honey extractor

### **Market Promotion**

- ♦ Conduct Byers sellers meeting.
- ♦ Participation in exhibitions.
- ♦ Web site development.
- ♦ AGMARK and Bar coding for the products.

## **Activity Plan: 2016-17**

### **Capacity Building Measures**

- Skill up-gradation training to 100 existing beekeepers in bee management.
- Training to 100 unemployed youth and farmers in bee management.
- Supply of standard 5 bee hives with colonies and tools to each trained beekeeper.
- Interested beekeepers will be tied up with PMEGP for commercial beekeeping.
- Formation of Beekeepers SHG.
- Issue of Identity card for beekeepers.
- Linkage of beekeepers with banks for micro credit support.
- Health check up camps for the beekeepers.
- Entrepreneurship development programme.
- Beekeepers exposure visit programme to successful clusters.

### **Common Facility centre development**

- ♦ Honey processing and bottling.
- ♦ Manufacturing of standard bee boxes
- ♦ Organize procurement and supply of honey
- ♦ Supply of colonies to new entrepreneurs.
- ♦ Service and maintenance of the Common infrastructure
- ♦ Convergence of resources from other departments

### **Market Promotion**

- ♦ Participation in exhibitions
- ♦ Development of Brand Image
- ♦ Establishment of honey hut/ Honey Parlor
- ♦ Printing of booklets on honey and other products

## Expected outcome after intervention

The present beekeeping management practices are not conducive to sustainable development of beekeeping resulting into unsustainable and destructive harvesting. While the beekeepers are made to suffer on account of non-remunerative returns to his products, the biodiversity is impacted due to unsustainable resource use. Sustainable Beekeeping management is an important intervention to sustain community interest in beekeeping protection which in turn, may help in achieving the long term goal of sustainable beekeeping management. In other words, the beekeeping management has to ensure social sustainability by ensuring beekeepers participation in decision making and benefit sharing, which may ultimately result into their economic well being and ultimately leading to sustainable beekeeping management (sustainability of local bee species).

After the intervention of the program 500 more beekeepers are expected to be benefited in the cluster as the farmers at present they are keeping very few number of bee colonies (average of 5) that to only *Apis cerana*. After the intervention each beekeepers will have 50 colonies. For maintenance of 50 colonies another helper is required so there is increase of employment is another 500 and 200 person employment increase in other activities like Honey traders, Bee box manufacturers, Daily labour for migration and honey harvesting. At present Beekeepers are producing mainly two products-Honey and Bee Colonies, after intervention besides Honey & bee colonies, bees wax and bee venom also will be collected.

The annual honey production of the Cluster is around 15 tons.

The Colony multiplication done by the beekeepers once in the year, about 2,000 bee colonies are sold. After intervention they are able to sale 6000 colonies per year. They supply the colonies in and outside the cluster. There is lot of demand of *Apis cerana* colonies in the adjacent states like, Bihar, West Bengal, Andhra Pradesh and Chhattisgarh, where the bee colonies are

lost by TSB disease in the past decade. It is expected to increase in the income five times whatever they earn today.

Particulars	Pre Intervention	Rate	Post Intervention	Rate	Percentage increase
<b>a) Production</b>					
1.honey---	14 tons	110	45 tons	180	300% 300 %
2.Wax-----	1.9 Quintals	150	5.7 Quintals	250	
<b>b) Colony multiplication</b>	3700	600	21150	800	572%
<b>c) Sales</b> (Rs. In lakhs)					
1.honey	40.90	250/kg	157.50	350/kg	386%
2. Wax	0.38	200/kg	1.71	300/kg	450%
3.. Bee Colony	12.00	800/col	160.00	1,000/colony	1333%
<b>d) Employment</b> (No. Of persons)	32	---	1300	---	4062%
<b>e) Beekeeper's</b> Average Earnings/year	Rs.1001 to 25000/-		Rs.45,000 to 1,20,000/		450%

**1. Target Beneficiaries proposed to be covered under the project:  
(No. Of persons)**

Sr.No	Year	No. of Beekeepers
1.	2015-16	200
2.	2016-17	200+200= 400
3.	2017-18	400+200 = 600

**2. Target Beneficiaries – categories – category –wise details:  
(no.of persons)**

Sr. No	Year	Scope for Total No. Of employment	Total No. Of employment will include				
			Women	SC	ST	OBC	Others
1	2015-16	200	60	30	40	40	30
2	2016-17	500	150	75	100	100	75
3	2017-18	600	180	90	120	120	90

The women of the area though continue to be out numbered compare with males. In fact women can entrust very good results in beekeeping. As they have patience and gentle handling moreover after completing their routine work they can inspect the colonies and do the management of bee colonies carefully. There is no need to leave their houses/village for work. Because of these plus points in this project the role of women in apiary activities is reserved for 30% to provide sufficient resources for women's development and for elimination of poverty. The intervention can educate them about the market value and also help them to organize and have bargaining power.



# DETAILED PROJECT REPORT

## Herbal Health and Cosmetics Cluster Gadchiroli

[February 2017]

Implementing Agency

**Association for Social and Health Awareness, Gadchiroli**

Nodal Agency

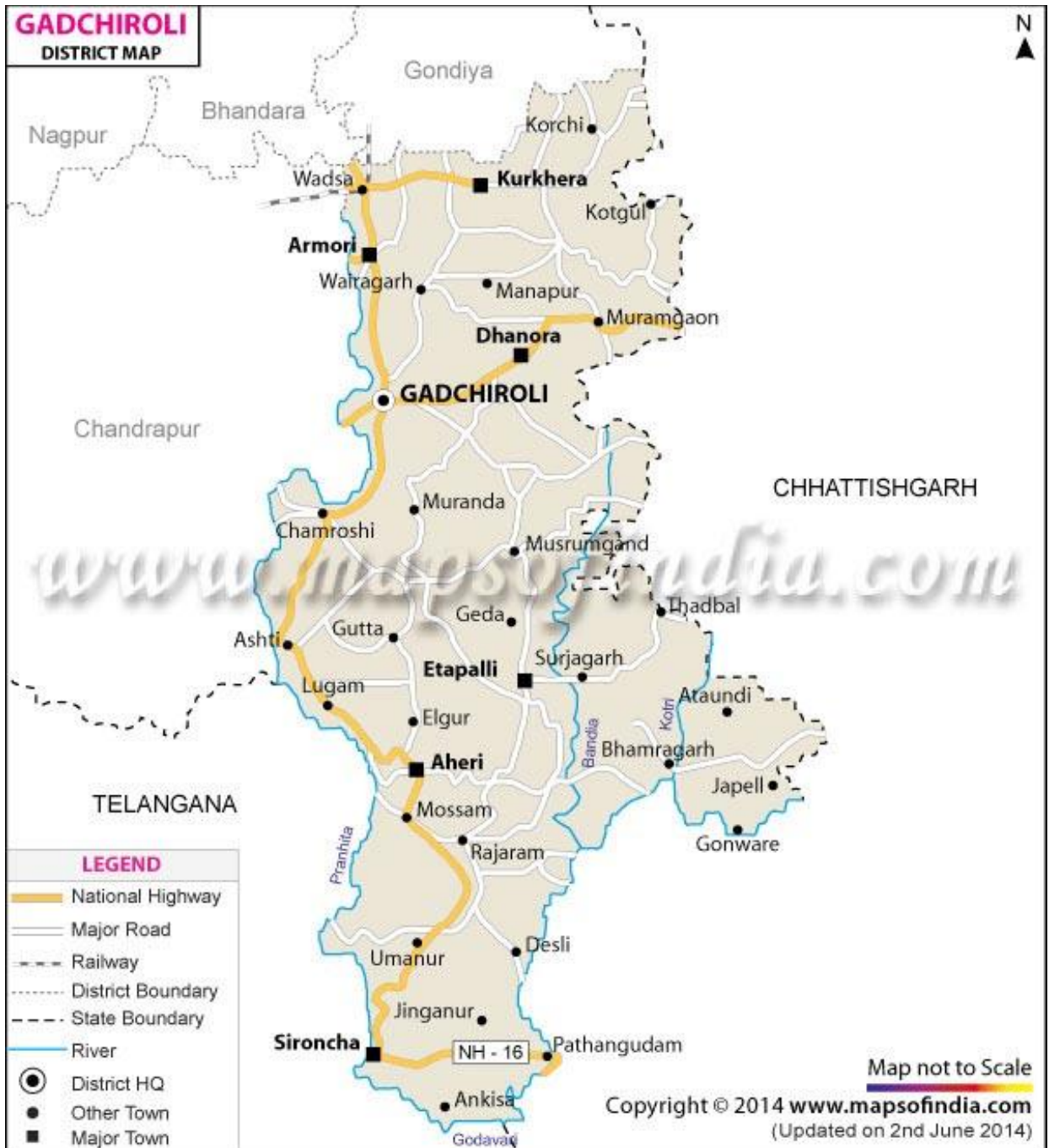
**Khadi & Village Industries Commission [KVIC]**



Prepared and Submitted by:

**CORDS, Sindhudurg**

## The District Map of Gadchiroli District



# The Detailed Project Report

## Herbal, Health and Cosmetics Cluster Gadchiroli

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# The Herbal, Health and Cosmetics Cluster Gadchiroli



## 1. Introduction :

Gadchiroli District is situated in the southeastern corner of Maharashtra, and is bounded by Chandrapur District to the west, Gondia District to the north, Chhattisgarh state to the east, and Telangana state to the south and southwest. According to the 2011 census Gadchiroli district has a population of 1,071,795, As of 2011 it is the second least populous district of Maharashtra after Sindhudurg.

Gadchiroli district is categorized as a tribal and undeveloped district and most of the land is covered with forest and hills. This district is famous for bamboo and Tendu leaves and its wealth of medicinal flora. The district is one such area where 60.4 percent of its geographical area is under forest cover and contributes 30 percent to the total revenue of the state generated from just three major forest products, namely timber, bamboo and fuel wood. Despite this, the district is one of the poorest in the State. There are various social and economic indicators on which the district stands the lowest. More than 55 percent of the population of the district is

below poverty line, with second highest BPL population in the state. This is 21 percent higher than the state average (34.55%) On the Human Development Index (HDI), the district stands last in the state. A major portion of the district population resides in rural areas and, the per capita GDP of the district is less than half of the state average. Gadchiroli district has Rs. 14,687 per capita GDP while that of the state is Rs. 36,423.

After a century of centralized forest management with commercial focus, forest policy in India made poverty alleviation as one of the twin objectives in 1988 by decentralizing forest management through participatory programs like Joint Forest Management. Stakes for the people were created not only in the conservation of the resource but in tangible benefits from the resource as well. Furthermore, decentralization in local governance in the early 1990's through the 73rd and 74th amendment to the Indian constitution and its extension to Scheduled Areas (PESA) also created scope for livelihood generation through minor forest produce. Even then many regions of India that are heavily forested such as Gadchiroli have remained poor.

Despite of this the district has got blessing of nature by abundant wealth of Herbal Medicine plant species. The local villagers, artisans & traditional health practitioners called "Vaidus" are involved in collection and part processing of herbs by collecting the same from forests. They have acquired the knowledge from their own experience & also consult to local patients based on their experience with the help of herbs available with them. Processors also get the Herbs & medicinal plants from the Joint forest management committee (JFMC).

There are few processors who manufacture products by processing the raw herbs & sell the end products in market, however at present the major activity of artisans is to provide raw material to the Herbs Processing units in the nearby markets.

The Herbals in the form of raw material is being sold in the market on per Kilo Gram & per Liter basis. The rates are on the basis on Minimum support Price (MSP). Apart from that few processors have also developed their own herbal products, which they are selling in local as well as sending in surrounding districts like Chandrapur, Nagpur and nearby states like Chattisgarh.

A Diagnostic study was carried out by an agency (CORDS) working in network development projects suggest that the Capacity building of these artisans, appropriate technical support and the common facilities for processing will help local tribal and weaker section population to enter in medicinal plant business. The industry and its products have tremendous demand worldwide with greater price. The business activity will provide employment and income source to upgrade their socio economic status.

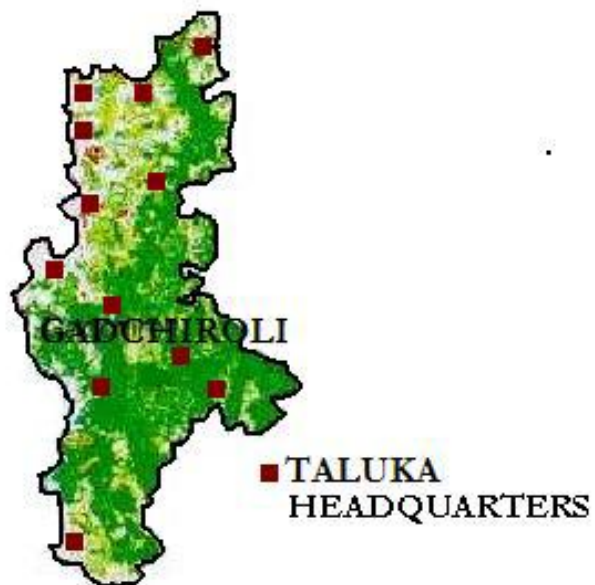
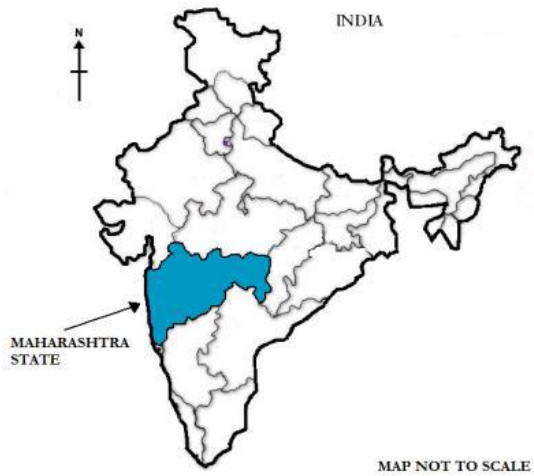
ASHA (Association for Social Health & Awareness) a NGO started awareness campaigns with these traditional healers. Since 2006 ASHA conducted 36 Rognidan , Nadichikitsa & Herbal training camps with help of forest department , MCED , ATMA and DIC. They aware and trained local poors for conservation, cultivation and utilization of various medicinal plants abundantly present in the forest.

The Khadi and Village Industry Commission (KVIC) through its FBI wing supporting the herbal Health and Cosmetic cluster of Gadchiroli under KRDP Project.

The ASHA team worked closely with the forest department and Chief Conservator of Forest, Gadchiroli. They worked with Joint Forest Management Committees (JFMC) & PESA Grampanchayats to develop herbal medicinal products. This resulted in promoting more than 200 artisans/Primary processors of medicinal plant parts. The NGO is working as a Implementing Agency (IA) for the development of Herbal health and cosmetic cluster in Gadchiroli.



## The Location of the cluster - MAP





## **2. Project in brief**

### **2.1 Name of the project**

Herbal and Health Cluster, Gadchiroli

### **2.2 Geographical spread of the cluster -**

Gadchiroli, Dhanora and Charmarli blocks Gadchiroli district of Maharashtra

### **2.3 Implementing Agency – (IA)**

Association for Social Health & Awareness (ASHA)

Registration number - MAH/35/2006      Dated - 04/03/2006

Regd. under Society Registration Act, 1860.

### **2.4 Proposed processing/Manufacturing/facilitating activity**

1. CFC level – facilitation of processing of medicinal plants.
2. Artisan or Village level - Cleaning , Grading and part processing of medicinal plant parts

### **2.5 Proposed developmental activity**

1. Capacity building, Market promotion, Technology upgradation
2. Research , Product development, Quality certification
3. Cluster specific activities like health, insurance

## 2.6 Budget of the cluster

### 1. The Soft and Hard Intervention -

Sr. No.	The Interventions	Percentage to project cost	Amount	IA contribution	Nodal Agency/ Grant
1	Common Facility Centre (CFC)	30.08%	40.00	4.00	36.00
2	Market Promotion	13.53%	18.00	-	18.00
3	Product Development & Design	10.53%	14.00	1.40	12.60
4	Capacity Building	13.98%	18.60	-	18.60
5	Need based activities	3.76%	5.00	-	5.00
6	TA Fees	11.28%	15.00	-	15.00
7	IA Management grant	11.28%	15.00	-	15.00
8	CDE Expenses	5.30%	7.40	-	7.40
		<b>100%</b>	<b>133.00</b>	<b>5.40</b>	<b>127.60</b>

## 2.7 Source of funds and share contribution

(Rs. in lakhs)

Intervention	GOI Grant	IA	Total
1. Soft Intervention	91.60	1.40	93.00
2. Hard Component	36.00	4.00	40.00
<b>Total</b>	<b>127.6</b>	<b>5.4</b>	<b>133</b>

## 2.8 Financial contribution of the CFC

Sr.no.	Agency	Building, Plant and machinery	Working Capital	Total
1	IA Share	4.00	10.00	14.00
2	GOI grant	36.00	0	36.00
3	Bank Borrowings	-	-	-
4	Others	-	-	-
	<b>Total</b>	<b>40.00</b>	<b>10.00</b>	<b>50.00</b>

### **3. Profile of the Cluster**

#### 3.1 Background of the cluster

'Association for Social Health & Awareness', ASHA, the organization work to the cause of income generation for the poor tribal and felt to facilitate and empower Medicinal plant aggregators and processors artisans to create a sustainable path for growth, income generation and better work environment.

ASHA has been identified as Implementing Agency (IA) of KRDP FBI cluster by KVIC the Nodal Agency (NA), to facilitate socio economic development of the artisans engaged in aggregation and processing of medicinal herbs in Gadchiroli district of Maharashtra State.

CORDS (Community Organized for Research Development and Services) will work as a Technical Agency (TA) for imparting all necessary technical guidance, mentoring as per KRDP Cluster guidelines and as per need of the identified cluster.

The diagnostic study was carried out by Team CORDS in month of February and it was observed that there is tremendous scope in medicinal plant processing business and most of the artisans are doing the same. But the business is of traditional type and is in unorganized manner. The need of networking of artisans, technological intervention, value addition and market promotion was identified. The support from KRDP cluster development program will be a perfect solution to fill the identified gaps. The objectives for implementation of the scheme are:

- 1) To aware motivate and consolidate the Medicinal Plant parts processing artisans in a network
- 2) To make the Medicinal Plant parts processors competitive with more market driven, productive, profitable and sustained employment for the artisans and tribal entrepreneurs.
- 3) To strengthen the local governance systems of industry cluster, with the active participation of the local stakeholders, so that they are able to undertake development initiatives by themselves
- 4) To build up innovated and traditional skills, improved techniques, advanced processes, market intelligence and new models of public private partnerships, so as to gradually replicate similar models of cluster based regenerated traditional industries.

### **3.2 Evolution of the cluster**

Population of Gadchiroli is primarily tribal consisting of Gond and Madia tribes. They have a strong faith in traditional healers and herbal medicines. The traditional healers of Gadchiroli use herbal medicines in raw form – root, dried leaves, stems etc. They also use them in the form of oils and raw pastes. Some of these had good results but there was effort to increase efficacy of treatment.

1988 by decentralizing forest management through participatory programs like Joint Forest Management. Stakes for the people were created not only in the conservation of the resource but in tangible benefits from the resource as well.

The JFM program allow the local population to collect the medicinal plant parts from forest to generate their own source of employment and income. The local villagers, artisans & traditional health practitioners called 'Vaidus' get involved in collection and part processing of herbs by collecting the same from forests. Few of them has started processing of the raw herbs & sell the end products in market, however the major activity of artisans was to provide raw material to the Herbs Processing units in the nearby markets.

Since year 2006, Dr. Bharne & Dr. Mhaske from ASHA NGO started awareness campaigns with these traditional healers. The team conducted 36 Herbal treatment, & Herbal processing training camps through Association for Social Health & Awareness with help of forest department, MCED , ATMA and DIC.

The ASHA team worked closely with the forest department Gadchiroli. They worked with Joint Forest Management Committees (JFMC) & PESA Grampanchayats to identify herbal medicinal products. This resulted in promoting a forest department initiative along with traditional healers called Gondvana Herbs. Gondwana Herbs now acts as a collection centre for herbal medicinal plants from the forest. As per the request and regular follow up from ASHA team KVIC-KRDP officers from Mumbai and Nagpur office repeatedly visited to the cluster and after thorough examination the cluster is asked to prepare DSR and DPR for the further implementation of the scheme.

## 4. Cluster at a glance

### 4.1 Name of the Cluster

Herbal and Health Cluster, Gadchiroli

### 4.2 Location

3 Blocks of Gadchiroli

### 4.3 The activity of the Cluster

Processing of medicinal plant parts

### 4.4 Raw material

Raw material availability of the Cluster – 1000 MT per year. The Average Raw Material collection in the cluster is 60% and processed only 5% of the available

### 4.5 About Cluster Stakeholders

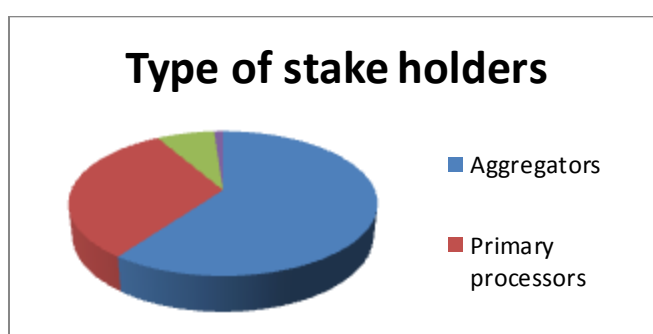
- 1) The principal cluster stakeholders - Cashew processing ME units,
- 2) Other Stakeholders - Government Institutes such as DIC, MSSIDC, MAIDC, NABARD, KVIB, and SISI along with Bankers and some NGOs

#### 4.5.1 Estimated Concentration of medicinal plant parts processing Units -

No.	Block	Aggregators	Artisans with processing	THPs (Vaidus)	Total
1.	Gadchiroli	41	6	9	56
2.	Dhanora	49	33	3	85
3.	Chamarli	1	37	1	39
	<b>Total</b>	<b>91</b>	<b>76</b>	<b>13</b>	<b>180</b>

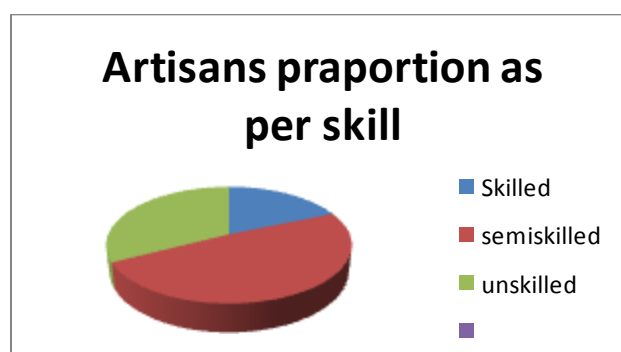
### 4.5.2 Artisan business type and Percentage

Sr. No.	Stakeholders	Numbers	Percentage
1	Aggregators of Medicinal plant parts	108	60
2	Primary processors	57	16.67
3	THPs ( Vaidus)	13	22.22
4	Medicine manufacturers	2	1.111
	Total	180	100



### 4.5.3 Details of Manpower employed in the cluster

No of Artisans in the cluster	Skilled	Semi skilled	Un-skilled	Total
1. SC /ST/NT	32	84	56	172
2. Women	20	31	28	79



#### 4.6 The supporting organizations in the cluster

No.	Name	Support
1.	Training Institutions	Skill development training, training in packaging and marketing, Management skill training Etc.
2.	Commercial and Co-operative banks	Loan for bridging the gaps of hard component, cash credit support, credit linkages for proposed expansion of artisans unit or finance to new unit
3.	Educational , Technology and Research institutes	R&D support in effective process flow, Value addition of products, new product development, market study, Health issues
4.	Trading and marketing agencies	For market support, buyer seller meets identification of new market Etc.
5.	<u>Govt./Semi Govt. organizations</u>	
a.	FDA	Licensing authorities, FDA Approval ,control
b.	DRDA	SHG training, Subsidy support for unit under NRLM scheme,
c.	DOA	Support for Medicinal plant cultivation, SDP Training, Subsidy support for unit under NMBA, ATMA, MACP
d.	KVIB, KVIC,	Training, subsidy support for unit PMEGP
e.	DIC	IA cluster, subsidy support for unit
6.	NGO	Training, CSR, SHG nurturing, cluster promotion, Organic farming (Ion exchange) certification Etc.



#### 4.6.1 Details and role of supporting organizations

##### a) Financial institutes

No.	Name of the agency	Role of the agency	Expected schedule
1.	Bank of India, Bank of Maharashtra Union Bank,	Financial support for Hard Component & Working Capital  R SETI Training for entrepreneurship development	Working capital for SPV through the project when required  Long term and short term loan for new entrepreneurs when required

##### b) Training institutes

No.	Name of the agency	Role of the agency	Expected schedule
1.	EDI , Ahmadabad	EDP training	March to April
2.	Gondwana university	Technical guidance	Project period
3.	CORDS , Sindhudurg	Training in medicinal and food processing	Throughout year
4.	NAFARI Pune	Testing, Certification	March to April
5.	Indian Institute of packaging, Mumbai	Packing and packaging of products	Nov to Jan
6.	SARATHI , Nagpur	Management skills	Troughout year

### **c) Research and Development institutes**

No.	Name of the agency	Role of the agency
1.	Gondvana university	Technical guidance
2.	Cords , Sindhudurg	To establish process flow in Processing
3.	Podar Ayurved Hospital	To Develop new techniques in processing
4.	CFTRI, Mysore	Value addition of medicinal herbs products
5.	Indian Institute of packaging, Mumbai	Development of Proper packaging of products

## **5. Vision of the cluster**

“Gadchiroli Herbal Health and Cosmetics cluster will enhance its processing capacity, especially from the current level of 30 percent to 80 percent for processing and create employment for minimum 1000 local poor, by the year 2020. The cluster will promote minimum ten value added products for national market and 30% export from total production; thereby empowering the artisans & ME units, landless tribal, and the farmers.

**At the end of the project we have to ensure that the following will be achieved:**

The income of cluster artisans/ stakeholders will increase by 100 %

The working days of Cluster artisans/stakeholders will increase up to 250

100 New artisans will join the cluster

20 artisans will start their own industry

30 Artisans able to access financial institution

10 units - Quality upgraded Product development with brand name

10 units avails Quality certification such as ISO 22000, GMP

10 New value added products will developed

## **6. Details of Herbal Plant Processing business**

### **6.1 Processing medicinal herbs**

Medicinal plant-parts processing can be divided in two stages

#### **1. Primary or Part processing**

- a) Drying, grading and storage.
- b) Packing in bags as per the grades and specifications.

Most of the Artisan and Collector in the Gadchiroli cluster are involved in this type of processing

#### **2. Medicine or Cosmetics processing**

- a) Processing of medicinal plant parts for manufacturing of herbal medicine such as Powder, Decoction, Awaleha, Oils, Ointments Etc.
- b) Processing of Medicinal plants parts for manufacturing of herbal cosmetics such as Shampoos, Powders Etc.
- c) Processing of Medicinal plants for Extraction of acting principles and oils by using Eg. Use of expeller for extraction of Karanj oil.

## 6.2 Process flow of the products

### 1. Flow charts of Processing Methods of Primary or Part processing

- 1) Collection, Drying and Grading of Medicinal plant parts
- 2) Peeling or Shredding, de-stoning and shelling

#### 1. PRIMARY OR PART PROCESSING

Collection of plant parts (leaves, fruits, flowers, bark, seeds, roots etc.)



Drying of collected plant parts



Grading / removing of adulterated material / unwanted parts



Removing of seeds in case of Harad, Behada, Awala,



Drying



Filling in bags

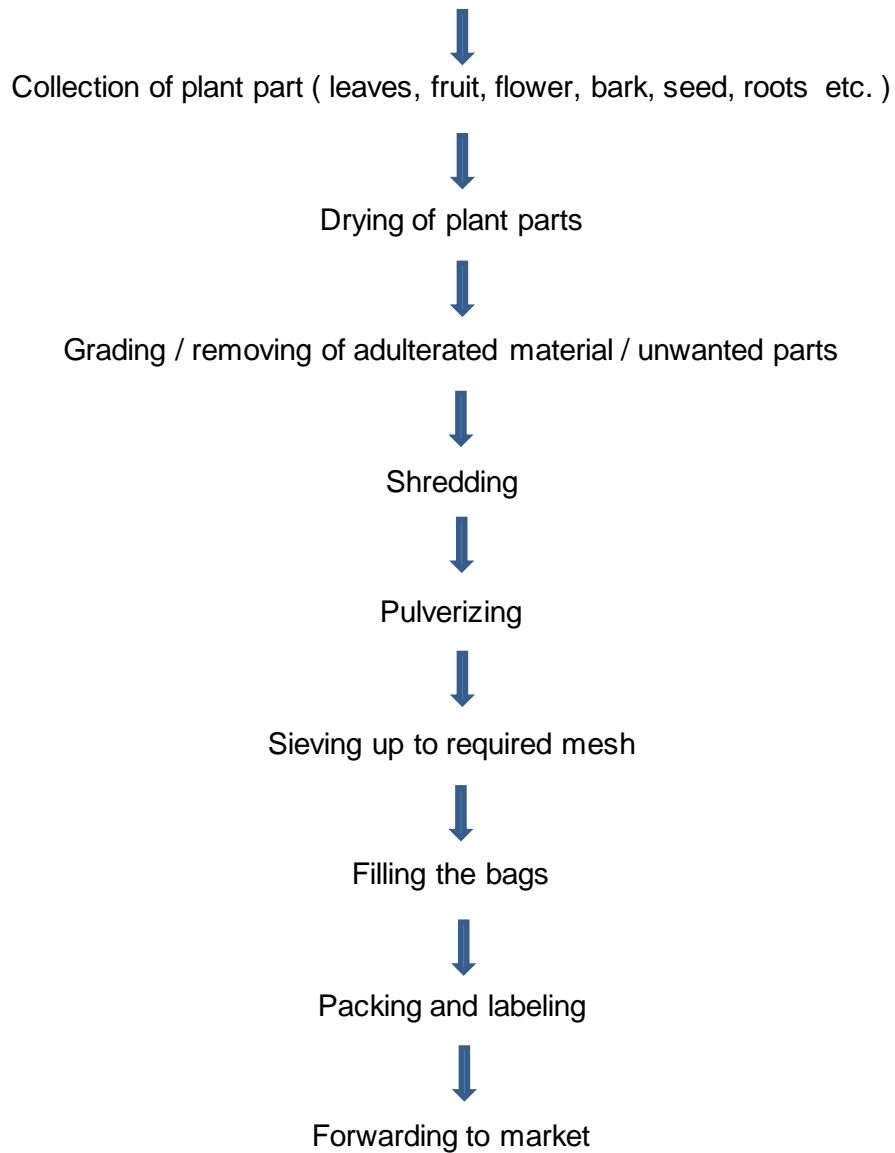


Labeling and marketing

## 2. Flow Charts Processing Methods of Medicine processing

### **POWDER (CHURNA)**

(Jamun, Guduchi, Awala, Vidang, Shatavari, Tulsi, Harada, Behada etc.)



### **3. Flow chart of Decoction process**

#### **KADHA (Decoction)**

Collection of plant part (leaves, fruit, flower, bark, seed, roots etc.)



Drying of plant parts



Grading / removing of adulterated material / unwanted parts



Shredding



Adding of water into the raw material



Boiling till total water remains  $\frac{1}{4}$



Filtering



Addition of required of sugar and preservatives



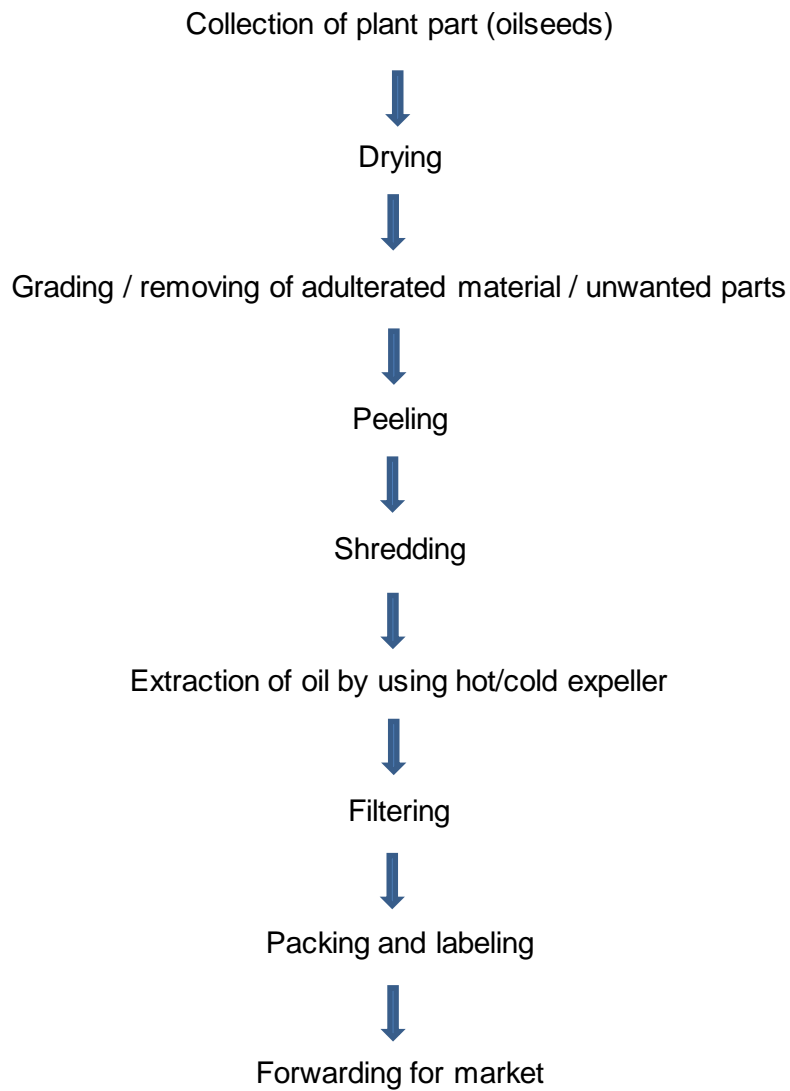
Filling the Bottles



Packing, labeling and forwarding to market

## 4. Flow chart of oil extraction process

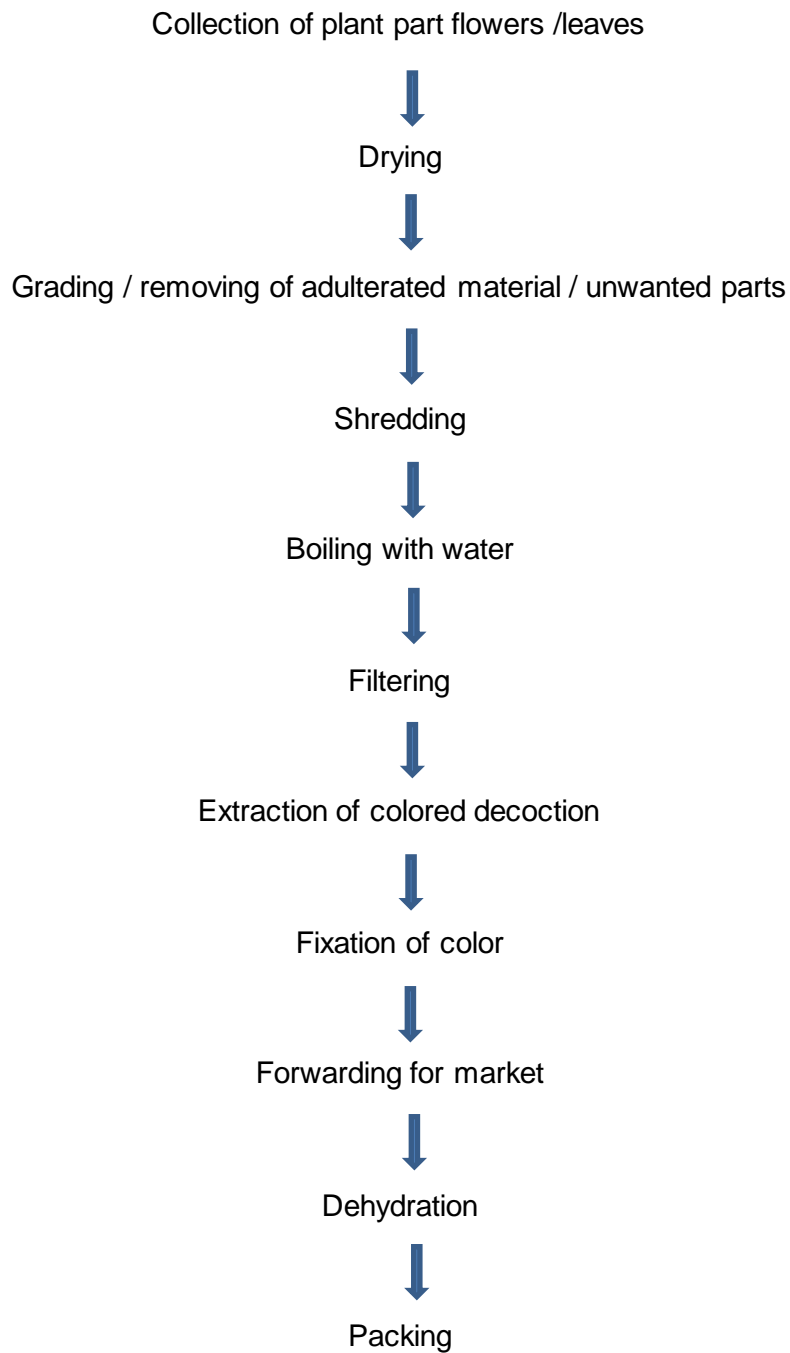
### **OILS (Extraction method seed oil Karanj, Tori )**





#### 4. Flow chart of Processing oil extraction process

#### **Natural Dye (Extraction method Dye from flower , fruits and leaves)**



### 6.3 Plant and machinery used in medicinal plant processing

(The machinery recommended for proposed CFC)

For powder Manufacturing



The Hammer type pulverizer

#### Hammer or cyclone type pulverizer

This Machine is used to pulverize or grind the medicinal plant parts in fine powder; the capacity of the machine is depend upon the capacity of motor attached. The grinded material is automatically lifted from the below the screen and carried out to the bag.



The conical blender

Conical blender / Double cone blender – the machine is used to mix dry powers, Blender is made up of stainless steel 304. The combinations, or mixed formulation of powders are made from the machine. The products are Triphala, Trikatu, Punarnavastak bharad etc.



Mechanical shifter

The Vibro shifter/ Mechanical shifter – The Machine is use full for sieving of the powders in different grades. The machine have 3 screen of different grads to separate the powder.

Oil extraction :

Oil extraction is done by using expellers. There is no solvent plant for extraction of oil or alkaloids. The advance techniques and technologies supported by new / modern machineries are badly required.



The oil Expellers

## **6.4 filling and Packing**

Most of the artisans are aggregators and primary processors and do not need any attractive or mandatory kind of packaging. They are using used gunny bags to store and sale of the product. No machinery or equipment is available for proper measuring and packing of the product in the cluster.



Powder filling Machine

## **6.5 Credit Support**

Very few artisans are supported by financial institute as the business is new for them and artisans has no assets for security against loan ,Most of the artisans are unable to fulfill the banks norms. 4 micro units are supported by bankers in medicine processing and more than 3 SHGs are partly supported.

## **6.6 Marketing**

Domestic market

The size of the domestic market is estimated at 2000 tones. 80 % material sold as crudely or primary processed. 20% products such as Powders, syrup, decoction, Asav, Aristta, and oils are sold in local markets and there is a growing demand in the surrounding districts. Most of the primary

processed material is demanded for manufacturing units in Mumbai, Pune, and Bangalore as Starting Material for medicine and cosmetics manufacturing.

### **6.7 Transportation**

The boxes of part processed or finished products are transported through tempo, railway or transport agent to Nagpur , Chattisgad and Pune and Mumbai . Even private vehicles are used for the transportation of finished products.

### **6.8 Scope in technology up gradation**

As mentioned previously most of the processors use traditional methods. Technology up gradation is required in almost every part of the business process. Fine mesh pulverizes with cold water flow are required. For liquid extraction steam jacketed vessels are required. The crude oil extraction methods should be replaced by solvent extraction plant. Filling and packaging area should be improved by pasteurization and aseptic plants. New advance methods should be adopted to retain active principle in the finished products.

### **6.9 Quality Certifications**

No unit has Food and Drug Adulteration license or FSSAI for Nutraceuticals products. None of the unit holder has GMP certifications, neither ISO. Most of them are registered under Schedule T.

## **6.10 Reason for industrial sickness**

All of the manufacturers are Micro Entrepreneurs and cannot afford advanced technologies individually. The production quality and quantity is poor due to lack of advance manufacturing technologies and infrastructure. No common effort was made to uplift the status of exist industries Lack of technical guidance, technology up gradation, no value addition or search for new products. Market is limited, no search for new market areas, Lack of common marketing,

## **6.11 The Process and the constraints of each process –**

There is a scope to improve the processing methods by introducing very rudimentary codes of practice e.g. drying the plant parts, flowers, seeds on plastic sheets/ Sun dryers to avoid adherence of sand.

Many processors have acquired the knowledge through the training program, they know how to process, but cannot address problems of quality and are also unable to understand the causes of spoilage. The units are less informed about basic principles for preservation. They have no proper measurement tools, which leads to an inconsistent quality in the product and poor shelf life.

### **a) Packaging**

The primary processed products are stored in used gunny or plastic bags. Subsequently as and when the demands increase, packaging is done and product is dispatched to the markets. All the operations are manual.

## **b) Storage -**

As mentioned early the proper storage facility for fresh and dried material is absent in the cluster. For the finished products cool and dry storage facility is required to prevent increase in moisture, mould attacks, and discoloration.

### **6.12 Quality Check**

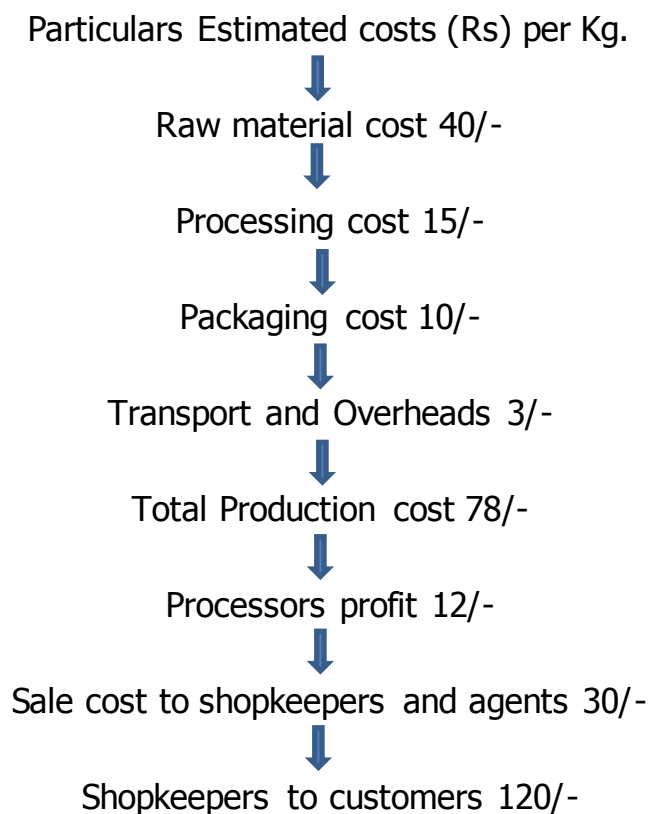
Many units lack confidence to approach large buyers due to lack of quality parameters. There is no testing laboratory in the district and few units have in-house quality-testing instruments. For quality check, most of them send their samples to Nagpur and Pune. High testing charges are a disincentive for regular quality checks. Confidence of using testing instruments is low as is the local knowledge on food laws. The packaging used by fruit processors is obsolete. Their quality is poor but a majority of the units are not aware of the available options. Linkages with specialized institutions such as IIP Mumbai, RTM Nagpur are missing in the cluster. As far as the labeling is concerned, in most cases there is no detailing such as instructions on how to consume or to store it.

## 7. Value Chain Analysis

### 7.1 Value Chain Analysis (study of Amala powder chain)

The value chain analysis of the products processed and marketed in the cluster is studied, some of them examples are as below

#### a) The existing Value chain of Awala powder



#### **From the value chains shown above it is observed**

Further value addition can be made by making the product more diversified by manufacturing fine herbal powders, Herbal combination such as Triphala powder, the production of oilseed in the cluster is very high and small expeller or oil extraction unit will help to increase the cost of the product in value chain.



## **7.2 Study of Value Chain of MAHUA**

Mahua season lasts from Last week of March to third week of April. One tree gives flowers for approximately 15 days. Initially the flowers obtained are large in number towards the end of the season the collections keep on decreasing. Currently the Mahua is being sold for Rs.25/- per kg. Mahua is collected traditionally and the processing of Mahua is done manually. After collecting the Mahua is dried and stored in bamboo containers covered with plastic sheets. If stored properly Mahua can be stored in these containers for over a period of one year. The secondary processing of Mahua leads to liquor and is used for domestic use.

Every family in the villages is into Mahua collection and most of the collection is used for domestic use. Each family stores 1-1.5 quintals of mahua in their house. This Mahua is used for barter or sold to meet the daily requirements as and when required. It has been observed that when the stock of Mahua gets over, people buy it from the kirana shops for as much as Rs.40/ kg.

Forest department gives a good price for the NTFP collected, but due to the limited buying capacity all the produce from the collectors cannot be bought due to lack of funds. Forest department has started buying Mahua and Charoli from the people for the past two years. It has been observed that since the entry of forest department in the market the prices of Mahua have increased significantly. The price of Mahua is decided by the CCF (chief conservator of Forest) and the collector of the district, based on the previous year's price and the current year's production.

Forest department in Gadchiroli district has taken important steps to market and process Mahua. Mahua jam and juice is being made in the Gadchiroli forest department processing unit. Currently Mahua products are

being sold in various exhibitions. Forest department is planning to expand the marketing of Mahua products and is also looking to partner with professional organizations to further promote and market Mahua products. The upcoming cluster will be a solution for the same.

### **7.3 Key challenges in Vale chain :**

1. As the collection season is in the summers, people face health risks such as heat stroke, dehydration.
2. Seasonal activity and nature dependent production
3. Most of the collection is transported to the big traders which are situated in Nagpur or Chattisgarh. There is no bulk transportation available for the villagers the small traders take the collection in small amounts and sell it to the middle and big traders.
4. Although the insurgency problem does not hinder the collection process but it is anticipated that it might cause a problem when concerned with access to market.
5. There is a big risk of large scale contamination and spoilage due to no proper handling knowledge of the produce. In some of the households we observed that the Mahua basket was kept on the ground. In cases when the Mahua basket is kept on the floor the chances of contamination increases and hence the Mahua should be stored on a raised platform.

#### **7.4 Some suggested steps for upgrading the present value chain may be summarized as follows.**

1. Part processing of herbs at artisan level by providing support of tools and small machinery at village level.
2. Processing of Herbal medicine, Cosmetics and Oil with more scientific manner and under supervision at CFC, which will increase the production quantity and improve quality of product and will be marketed with more incentives.
3. Having proper packaging to increase the self-life and look of the product, following of FDA and Packaging rules and norms the products will get good business in health and medicine market
4. High end and innovative product such as Natural Dye, Diabetic tumbler, Herbal detergent will provide good access in market at higher price.
5. Proper brand promotion can be created and developed for domestic as well as International market.

## 8. The plan of action for the cluster

### 8.1 The steps of action plan for the proposed cluster are as follows

1. Building the capacity of IA and SPV
2. To increase the confidence level of stakeholders
3. Development of Common facility Center
4. Arrangement of working capital required, by IA and SPV members
5. R&D for product development and Marketing
6. Empowering in production and marketing
7. CSR and Health related activities

### 8.2 Strategic activities and timeline to execute the plan

No.	Activity	Timeline Months	Remarks
1.	General Awareness, Counseling, Motivation and Trust Building	0 - 6	For 180 artisans in the cluster
2.	Formation of common implementing network / SPV	0 - 3	Preferably Producer company
3.	Establishment of CFC with all plant and Machinery for powder and oil processing	3 - 9	Processing facilitation Centre for artisans
4.	Skill Development and Capacity Building	6 -18	For 180 artisans in the cluster
5.	Exposure Visits	6 - 18	for 60 Artisans
6.	Design and development of the products	9 - 18	Minimum 10 products
7.	Market promotion Program – through participation in exhibition, Brand promotion and Linkages to steady marketing channels	9 - 36	for cluster products
8	Hand overing of CFC to SPV	36 onwards	SPV will run the project hereafter

Month 0 – April 2017

## 9. Details of Proposed activities in the cluster

For the operational purpose, the activities are divided into two major type

a) Soft interventions and b) Hard interventions. It may be further divided into Input level and output level.

### a) The Soft Component :

The soft intervention includes following activities

I. Capacity Building , the details of capacity building program are

<b>A General Awareness, Counseling, Motivation and Trust Building</b>			
	Intervention	Details	Beneficiary
1	Awareness and motivation	3 Camps per 3 blocks , each camp for 60 artisans for information dissemination about the KRDP HHC cluster project, to mobilize artisans for their active participation in project interventions	180 artisans
2	Consolidation of Artisans	Consolidation of Artisans in Interest group Formation of artisans groups Group of - 10 groups	180 Artisans
<b>B Skill Development and Capacity Building</b>			
1	Training of CDE and IA staff on Cluster DP	On appointment of CDE, along with 4 key staff of IA , will be provided training on Cluster Development by Technical Agency / Competent institute	CDE and 4 staff of IA
2	Skill Development	training- 5 program of 6 days for 30 members batch To provide basic skill development training for induction of new artisans as well as skill up-gradation of potential artisans.	150 Artisans
3	Skill Dev. training-60	3 training program of 20 members each for Secondary processing	60 artisans
4	Techno managerial training for	Techno-managerial training will be provided to create skilled manpower to handle field level production centers, marketing and artisans' engagement in the value chain. 30 days training for 10 youths.	10 selected youth
5	Quality Control training	Training on Quality control, FDA , GMP, FSSAI and certification	2 persons
6	Farmers/Artisans meet	Two days Artisan Meet will be organized one in each year for information dissemination and demonstration of products developed and produced by the cluster. This will create awareness about availability of new products and its market.	100 Artisans /event
7	Tool distribution	Distribution of tools or small machinery to Artisans at village level	
<b>C Exposure Visits</b>			
1	Exposure visits to Artisans	Exposure visit will be organized to the successful cluster for progressive cluster artisans, cluster skilled workers and SPV key members. ( 3 visits)	60 persons
2	Website Development	Cluster will develop its own website for reaching out to the national and international level customers and buyers	All Products
3	Availing Quality certification	Cluster will get its processes and plant certified from reputed certification or government agencies	Cluster

## II. Market promotion program

Sr. No.	Details on the proposed activity	Plan of implementation	Coverage	Schedule
1	Organization of and participation in domestic Exhibitions and Buyer Seller Meets (BSM)	Cluster SPV with Artisan will participate in various exhibitions organized by Government and other Leading private exhibitors. BSM will be organized for creating institutional tie-ups and new market linkages.	Cluster Artisans	5 program of 2 day each
2	Computerization including billing and bar-coding	To computerize all the transaction of CFCs with billing and barcoding to ensure financial prudence for creating MIS for better informed management decisions and planning	Cluster artisans	2 years
3	Training on Sales and Marketing	To provide Sales and Marketing training to selected artisans and cluster staff.	15 persons	One week 3 programs
4	Hiring of Business Development Services for market promotion	Hire competent Business Development consultant on contract	Cluster products	Minimum 100 working days
5	Brand Building and Promotion	Cluster will develop its own brand for registration and carry out its promotions activities.	Cluster products	6 months
6	E marketing	Marketing through electronic channels like advertisement on Herbal Medicine portals, Herbal medicine practitioners' networks etc. Use of social media for reaching out to Pan India market.	Cluster products	5 interventions each year

## III. Product Design and Development

Sr. No.	Details on the proposed activity	Plan of implementation	Coverage	Duration
1	New Product Development and field Testing of developed new products and its modifications.	With help of reputed Institute / consultant develop new products and conduct field testing of it for commercial production. R&D activities will be done.	Cluster Products -10	3 years
2	Product Catalogue Development	Prepare Product Catalogue for market promotion and new market tie-ups.	Cluster Products-20	3 years
3	Packaging development	Development of packaging to improve shelf life and look of the product	20 cluster products	3 years

## IV. Cluster specific activity

1	Safety measures to artisans	Safety suit , shoes , Cap Etc.	for 150 artisans	Fist year
2	Health camps	Health checkup , Eye camps, investigation & vaccination camp	150 families	Once in a year
3	First aid tools , Medicines	to provide first aid kits and medicines to the artisans	150 families	Through out The project
4	Distribution of food supplements	Distribution of nutritional supplement and food to artisans children	Children to 150 families	Through out The project

## **10. The proposed committees for coordination , Purchase and implementation**

### **10.1 The Organizational Set up of Implementing Agency (ASHA)**

<b>No.</b>	<b>Name</b>	<b>Designation</b>
1	Dr. Prashant Bharne	President
2	Mr. Ravindra Bhandekar	Vice-president
3	Dr. Gurudeo Mhaske	Secretary
4	Mr. Sudhir Gohane	Treasurer
5	Mr. Pankaj Kanchankar	Member
6	Mrs. Shweta Bharne	Member
7	Mrs. Manisha Ghodmare	Member
8	Mrs. Bharti Raut	Member
9	Mr. Maniram Alami	Member

### **10.2 Proposed Committee for execution of cluster activity**

Special committee is to be formed to look after day to day operations

<b>No.</b>	<b>Name</b>	<b>Designation</b>	<b>Responsibility</b>
1.	Dr. Prashant Bharne	President	Management
2.	Dr. Gurudev Mhaske	Member	Management
3.	Mr. Ganesh	Artisan representative	Co-ordination
4.	Mrs. Sweta bharne	Member	Accounts
5.	Pankaj Kanchankar	Member	Marketing
6.	CDE	CDE	Trust building, Guidaing

### 10.3 Constitution of proposed purchase committee purchase of plant and machinery.

No.	Name	Designation	Institution
1	Representative KVIC	KVIC , Nagpur	KVIC , Nagpur
2.	Representative LDM	Branch manager	BOI, Gadchiroli
3.	Dr. Prashant Bharne	President	ASHA
4.	Mr. Ravindra Bhandekar	Vice president	ASHA
5.	Mr. Pankaj Kanchankar	Member	ASHA
6.	CDE	CDE	CDE

### 10.4 Constitution of proposed CDCG (Cluster Development and Coordination Group)

No.	Name	Designation	Institution
1	District Collector	District Collector	Gadchiroli district
1	Representative KVIC	KVIC , Nagpur	KVIC , Nagpur
2.	Representative Lead bank	LDM	BOI, Gadchiroli
3.	Representative DIC	General Manager	DIC Gadchiroli
4.	Representative KVIB	General Manager	KVIB
5.	Rep. Forest Department	DFO	Forest Department
6.	Rep of Agriculture dep.	SAO	Agriculture dep.
7.	CDE	CDE	CDE
8.	Representative TA	TA	TA
9	Dr. Prashant Bharne	President	ASHA
10	Mr. Pankaj Kanchankar	Member	ASHA



## **11. The proposed Business activity of the cluster**

### 11.1 The levels of business activity

Processing of Herbs in rural areas has a pattern of working. These artisans are mostly tribal, living and working in the remote small villages. At this level they collect raw material from jungle and partly process at their home. The activities they carry out are Cleaning, Drying, and Grading of medicinal plant parts.

In recent years few of them trained by ASHA the proposed I.A. and Department of forest under JFM have started further processing of plant parts by removing the seeds, Magaj and Gum from the raw material collected. Peeling of Harad, Behada, making are Avalkathi, removing of Bahava Magaj are some of the activities. The proposed project will make them more competitive to carry out same activities in better manner at their home level by providing them skill trainings and tool and small machinery support. The activity called Level 1 i.e. artisan level activity of the proposed business.

Level 2 of the proposed activity is CFC level, the material collected or part processed by the artisans will be bought to the CFC for further or secondary processing. In the CFC the collected the starting material will be processed and the finish products will be manufactured. The care for quality, hygiene and FDA rules will be taken at CFC level. The product will be packed, labeled and forwarded to market at CFC level.

As per the artisan, cluster and market need the business will be carried out at two levels

- 1) Artisan or Village level in Decentralised manner
- 2) The CFC level or In Centralised manner

### **11.2 The activities at two levels and benefits are of explained below:**

#### Level 1 – The artisan level

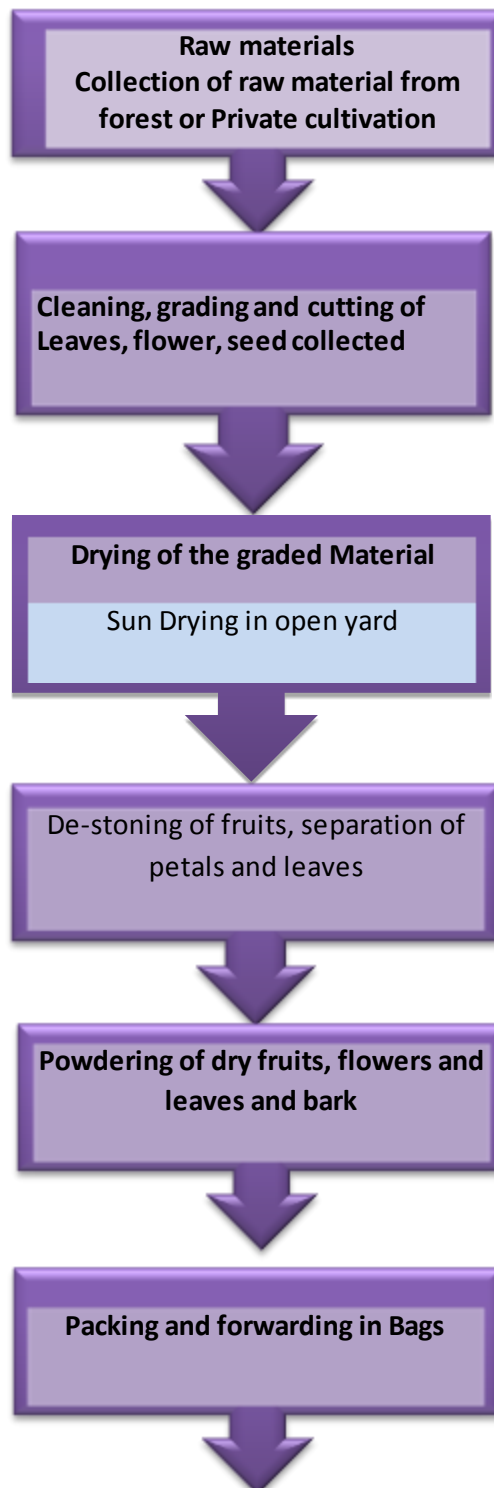
Sr. No.	The activities	Benefits
1	Processing at home level Will carry activities such as Collection, Cleaning , Drying and grading of medicinal plant	The artisans mostly residing in remote villages collect raw material from forest and process partly near their home.
2	The skill development training in medical plants processing will be given to the 150 artisans. Exposures of successful cluster will be given.	Skill training & Exposure will enhance their capacity to process more and regularly. Collective logistics will lower the transportation cost
3.	Tools for harvesting and cutting will be provided. The machineries such as peeling and drying will also be provided to selected artisans or group.	Provision of tools and machinery will help them to increase the production, which will increase their daily income as well as earning days in the year

## Level 2 – The CFC (Centralised) Level

Sr. No.	The Activities	Benefits
1	Facility for manufacturing of Herbal medicine such as powder, oil and bharad	A well-equipped CFC will facilitate the artisans to convert their raw or part processed material in final finish product.
2.	To look after process packing and marketing of artisans product	The Business will be run in facilitation mode. The CFC management /SPV will charge the working charges for processing, packing and marketing. After the sale of the finished product the profit will be shared with the artisans.
3	Development of standards of quality control, development of new product will be carried out at CFC level will	The standardised , new and effective products will give more market price to artisans which will increase their income
4	The quality standard and FDA will rules will be follow while manufacturing and packing the products	The legal and authentic business module will fetch good market and enhance their social status
5	Organizing monthly meeting of local artisans Training and capacity building and Market promotion programs will be carried out at CFC level	This will enhance their capacities and motivate them to start their own manufacturing unit and to stand independently.

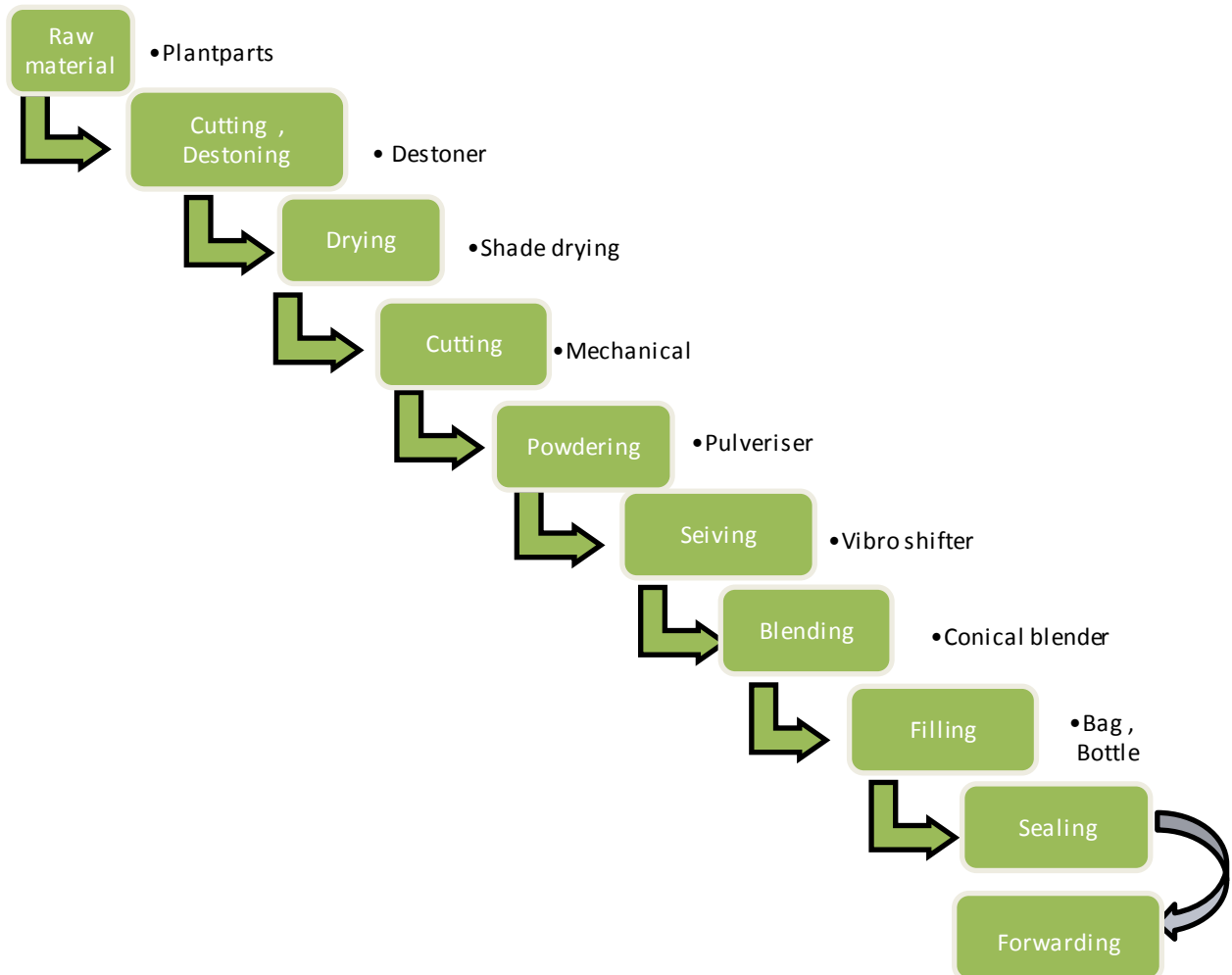
## 11.3 The process flow of business activity at artisan level

### A. Home/ Artisan Level Production Process of Medicinal Herbs (Proposed)



## B. CDC level processing of Medicinal herbs

### Proposed production process at CFC



## The products to be manufactured



## The crude powders ( Bharad)



## The fine powders for medicinal and cosmetics use



## The mahua (Tora seed oil)

## 11.4 The provision of facility in the proposed of CFC

The common facility center will be made available to process or facilitate the following services. The major activity of the facility center is processing of herbal medicinal plant parts for Cluster artisans.

<b>Sr. No.</b>	<b>Unit /Common Facility</b>	<b>Pattern</b>
1	Common Powdering and oil extraction unit	Facilitation Mode – the artisans will bought the collected or part processed material to CFC get processed and packed and marketed by SPV on terms of job work fees and market incentives.
2	Packing unit	The artisans also can use the packing facility for their finish product manufactured at their unit level.
3	Packing facility	Providing service for packing of Medicinal plant parts , and processed products.
4	Testing Lab facility	The testing facility will be used to test the quality parameters of the raw material and product manufactured at CFC level as facilitation. The artisans also can use the testing facility for their raw or finish product collected or manufactured at their unit level.
5	Marketing Outlet	Promotion of sale of the product manufactured by artisans

## 11.5 Capacity of processing, testing and marketing facilities

Sr. No.	Common Facility	Area Sq. ft	Annual capacity of Input	Activity
1.	Storage of raw material	500	Throughout the year	Storage of raw material of artisans bought to CFC for processing and packing
2	Powder making unit	500	800 Kg /day for 300 days	Powdering of raw Medicinal Herbs
3	Oil Making Unit	300	800 Kg /day for 300 days	Expelling of Oil from raw seeds
4	Packing department	300	1000 Kg / day for 300 days	Packing of Powder and Oils
5	Testing lab	200	300 days	Quality testing of CFC and artisans level
6	Market outlet at CFC	200	300 days	Common market outlet for Artisans



### **11.6 Annual requirement of Raw materials and consumables at 100% capacity utilization**

Sr. No	Raw material	Quantity Required in MT	Unit price / MT	Total Value Rs.
1	Hirada	50.00	18000	900000
2	Behada	50.00	15000	750000
3	Palash flower	25.00	15000	375000
4	Bell fruit	30.00	30000	900000
5	Bijak	5.00	26000	130000
6	Kalmegh	10.00	15000	150000
7	Jambhu lseed	20.00	15000	300000
8	Awala	50.00	35000	1750000
9	Karanj seed	20.00	8000	160000
10	Moha seed	10.00	12000	120000
				5535000

Raw material will be provided by MEs in cluster the material get processed at CFCs on job basis

### **11.7 Power, water and fuel at full capacity utilization**

Sr. No	Particulars	Unit	Per Year	No. of working hrs./month	Unit/month	Rs / unit	Rs. Total
1	Power for CFC operation	KW	300	200	100	8	480000
2	Water for CFC operation	K. Lit	600	200	50	200	12000
3	Fuel for CFC operation/ Firewood	MT	300	200	10	2000	200000

## The raw Material available with CFC



Amala



Harada



Behada



Kalmegh



Bhuiavala



Belphal



Karanj seed



Mahua Fruits

## 12 The budget of the cluster

The cluster development program for Herbal Health and Cosmetic cluster of Gadchiroli will be carried out for three year from the date of sanctioning of the project. The main activities of the cluster will be divided into two components such as Soft Intervention and Hard Interventions. The year wise details of the project implementation and budget are as follows

**Table - The year wise budget of soft and hard intervention**

<b>Sr . No</b>	<b>Interventions</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
1	Common Facility Centre	40.00	0	0	<b>40.00</b>
2	Capacity Building	11.60	3.50	3.50	<b>18.60</b>
3	Product Development & Design	3.00	5.50	5.50	<b>14.00</b>
4	Market Promotion	6.50	6.00	5.50	<b>18.00</b>
5	Cluster Specific Activity	2.90	1.60	0.50	<b>5.00</b>
6	TA Fees	6.00	4.50	4.50	<b>15.00</b>
7	IA Management grant	5.00	5.00	5.00	<b>15.00</b>
8	CDE Expenses	2.28	2.46	2.66	<b>7.40</b>
	<b>Total</b>	<b>77.28</b>	<b>28.56</b>	<b>27.16</b>	<b>133.00</b>

## 12.1 The soft Interventions

### A. Capacity Building

Sr. No.	Details on the proposed activity	Plan of implementation	Coverage	Mode of delivery/ implementation	Schedule	Yr 1	Yr 2	Yr3	Total in lakhs
<b>A General Awareness, Counseling, Motivation and Trust Building</b>									
1	Awareness and motivation Programme-3 Camps	To organize awareness programs in all 3 blocks for information dissemination about the KRDP HHC cluster project, to mobilize artisans for their active participation in project interventions	Blocks of the cluster.	Meetings, Pamphlet distribution, use of local announcement systems	One day	0.90	0.00	0.00	0.90
2	Consolidation of Artisans in groups	Consolidation of Artisans in Interest group (Group of 10 -20)	Artisans	Group formation	90 Days	0.90	0.30	0.30	1.50
<b>B Skill Development and Capacity Building</b>									
1	Training of CDE and IA staff on Cluster Development	On appointment of CDE, he will be provided training on Cluster Development by Technical Agency along with 3 key staff of IA	CDE and 3 staff of IA	Class room training with field exposure	15 days	0.90	0.00	0.00	0.90
2	Skill Development training- 5 program of 6 days for 30 batch	To provide basic skill development training for induction of new artisans as well as skill up gradation of potential artisans.	150 Artisans	Theory and workshop based training at CFC or IA premises.	7 days	2.70	0.00	0.00	2.70
3	Skill Development training-60	Secondary processing	60 artisans	Theory and workshop based training at CFC	10 days	0.00	0.90	0.90	1.80
4	Techno managerial training for 10 youths	Techno-managerial training will be provided to create skilled manpower to handle field level production centres, marketing and artisans' engagement in the value chain.	10 selected youth	Theory, workshop and Market exposure training.	One Month	1.00	0	0	1.00
5	Quality Control training	Training for 2 persons for quality control	2 person	Training by reputed institute	15 days	1.0	0.0	0.0	1.00
6	Farmers/Artisans meet	Two days Artisan Meet will be organized one in each year for information dissemination and demonstration of products developed and produced by the cluster. This will create awareness about availability of new products and its market.	100 farmers in an event	Exhibition cum Sale	Two Days	0.3	0.3	0.3	0.90
7	Tool distribution	Distribution of tools or small machinery to Artisans at village level				1.5	1.5	1.5	4.50
<b>C Exposure Visits</b>									
1	Exposure visits to Artisans	Exposure visit will be organized to the successful cluster for progressive cluster artisans, cluster skilled workers and SPV key members.	60 persons	Exposure Visit	3 days	1.8	0	0	1.80
2	Website Development	Cluster will develop its own website for reaching out to the national and international level customers and buyers	All Products	Web site development	for 3 years	0.60	0	0	0.60
3	Availing Quality certification	Cluster will get its processes and plant certified from reputed certification or government agencies	Cluster	Expenses for fees	Within last 2 yrs	0	0.5	0.5	1.00
<b>Total</b>						<b>11.6</b>	<b>3.50</b>	<b>3.50</b>	<b>18.6</b>

## B. Product development and Design

Sr. No.	Details on the proposed activity	Plan of implementation	Coverage	Mode of delivery/ implementation	Yr 1	Yr 2	Yr3	Total in lakhs
1	New Product Development and field Testing of developed new products and its modifications.	With help of reputed Institute / consultant develop new products and conduct field testing of it for commercial production. R&D activities will be done.	Cluster Products -10	Product and design development and field testing.	2.00	3.00	3.50	8.50
2	Product Catalogue Development	Prepare Product Catalogue for market promotion and new market tie-ups.	Cluster Products- 20	Product Photography and Literature development Print Product Catalogue.	1.00	1.00	0	2.00
3	Packaging development	Development of packaging to improve shelf life and look of the product	10 products	Packaging development & design	0	1.50	2.00	3.50
	<b>Total</b>				<b>3.00</b>	<b>5.50</b>	<b>5.50</b>	<b>14.00</b>

## C. Market Promotion Activities

Sr. No.	Details on the proposed activity	Plan of implementation	Coverage	Mode of delivery/ implementation	Schedule	Yr 1	Yr 2	Yr3	Total in Lakhs
1	Organization of and participation in domestic Exhibitions and Buyer Seller Meets (BSM)	Cluster SPV with Artisan will participate in various exhibitions organized by Government and other Leading private exhibitors. BSM will be organized for creating institutional tie-ups and new market linkages.	Cluster Artisans	Product exhibition and Buyer-seller Meetings	5 program of 2 day each	1.00	2.00	2.00	5.00
2	Computerization including billing and bar-coding	To computerize all the transaction of CFCs with billing and barcoding to ensure financial prudence for creating MIS for better informed management decisions and planning	Cluster artisans	Computerization with hardware and software	First 2 years	2.00	0.50	0.00	2.50
3	Training on Sales and Marketing	To provide Sales and Marketing training to selected artisans and cluster staff.	15 persons	Class room and on job training.	One week 3 programs	1.00	0.00	0.00	1.00
4	Hiring of Business Development Services for market promotion	Hire competent Business Development consultant on contract	Cluster products	Contacting various bulk drug manufacturers, large buyers, creating market linkages	Minimum 100 working days	1.00	1.50	1.50	4.00
5	Brand Building and Promotion	Cluster will develop its own brand for registration and carry out its promotions activities.	Cluster products	Brand logo designing, Registration and campaigning for promotions. Brochures, pamphlets, standees, exhibition set up	6 months	1.00	1.00	1.00	3.00
6	E marketing	Marketing through electronic channels like advertisement on Herbal Medicine portals, Herbal medicine practitioners' networks etc. Use of social media for reaching out to Pan India market.	Cluster products	Online advertisement, Social Media Strategy	5 interventions each year	0.50	1.00	1.00	2.50
						6.50	6.00	5.50	18.00
	<b>Total</b>								<b>18.00</b>

## D. Specific Cluster based activity

Specific Cluster based Activity							
				Yr1	Yr2	Yr 3	Total in Lakhs
1	Safety measures to artisans	Safety suit , shoes, Cap Etc.	for 150 artisans	2.00	1.00	0.00	3.00
2	Health camps	Health checkup , Eye camps, investigation & vaccination camp	150 families	0.20	0.20	0.20	0.60
3	First aid tools , Medicines	to provide first aid kits and medicines to the artisans	150 families	0.70	0.40	0.30	1.40
	Total			2.90	1.60	0.50	<b>5.00</b>

## 12.2 The Hard Component

### The details of proposed infrastructure for CFC establishment

#### 12.2.1 Availability of Land

The IA have identified land at village Porla, Tal- Gadchiroli , District – Gadchiroli Maharashtra , the details of the land are

No.	Address	Survey No.	Area in Sq. ft	Ownership
1.	Village Porla, Tal- Gadchiroli , District – Gadchiroli	277	10000	Purchasing of the land is in process

#### 12.2.2 Details of Common facility unit building shed

Location: At village Porla, Tal- gadchiroli , District – Gadchiroli, MS

Address: S.No.- 277, Village Porla,Tal - Gadchiroli ,District- Gadchiroli, MS Land area: 10000 Sq. feet

Proposed construction area: 2200 Sq. feet

#### 12.2.3 The area and utility of common facility proposed

Sr. No.	Unit /Common Facility	Area Sq. Ft.	Activity carried out
1.	Godwin area	500	Storage of Raw material
2	Powder making unit	500	Powdering of Medicinal herbs
3	Oil Making Unit	300	Oil Extraction of Medicinal seeds
4	Packing department	300	Packing of Powders and Oil
5	Testing lab	200	Quality testing
6	Market outlet at CFC	200	Sale outlet of the products
7	Office and sanitation	200	Administrative



#### 12.2.4 Required budget and availability details of building / Shed

<b>Sr. no.</b>	<b>Particulars</b>	<b>Rate/Sq.ft</b>	<b>Cost in lakh</b>
(i)	CFC buildings 2200 Sq ft	700	15.40
(ii)	Cost of land	-	2.50
(iii)	Development cost of land	-	Included in CFC building cost
(iv)	Cost of compound wall	-	Included in CFC building cost
(v)	Cost of fabricated gates & grills	-	Included in CFC building cost
(vi)	Electrification and Water	-	Included in CFC building cost
	Total without land cost		15.40
	Total with land cost		17.90

## 12.2.5 Plant & Machinery required in proposed CFC unit

Sr. No.	Particulars of plant and Machinery	NO.	Power requirement HP	Total F.O.R Price in lakhs	Delivery Schedule month wise	Capacity 300 days /shift
1	Pulveriser capacity 10 HP	1	15	4.00	3 Months	800 Kg
2	Pulveriser capacity 5HP	1	5	2.70	3 Months	800 Kg
3	Vibro shifter	1	3	1.35	3 Months	800 Kg
4	Conical blender	1	3	2.00	3 Months	800 Kg
5	Powder Filling Machine	1	1	2.50	3 Months	800 Kg
6	Packing machine Band sealer	1	0.5	0.40	3 Months	100 lit
7	Small oil expeller unit	1	5	2.60	3 Months	100 lit
10	Kettle 250 lit	1	3	1.50	3 Months	1000 Lit
11	Boiler for kettle	1		1.40	3 Months	1000 Lit
12	Racks and utensils			0.50	3 Months	
13	Misc. Fixed assets			0.70	3 Months	
14	Weighing balance set			0.18	3 Months	
15	Laboratory equipments			0.50	3 Months	
	Total			20.33		
	VAT 13%			2.64		
	Transit insurance 1%			0.20		
	Transportation 2%			0.41		
	Cost of Installation 2%			0.41		
	Cost of electrification 3%			0.61		
				24.60		<b>24.60</b>

Rs. Twenty four lakhs sixty thousand only

The decentralized support needed to Artisans at Village level will be ..

- 1) Small Pulverizer
- 2) Nut peeling Machine for Amala, Harada, Behada
- 3) Chopping machine for Kalmegh and Bhuiawala

## **13 The Special Purpose Vehicle (SPV)**

### **13 1 Structure of the SPV**

As per the Guidelines of KRDP & after discussion with, the members of Implementing Agency ASHA it has been decided to form a new SPV under company Act , the formation of company will be a Producers Company.

The benefits of formation of producers company as SPV will be as follows:-

1. Most of the artisans can become member as well as shareholders of the company. The type of the company is open ended and artisans can be easily incorporated in the company.
2. Every member is entitled for only one vote irrespective of the number of shares owned. Because of this all members will have equal weightage in the company.
3. The Company has right to facilitate, mentor, produce or manufacture any commodity as well as forest based products.
4. There will be transparency in financial transactions because of the rules, regulations and periodic monitoring of government.

The proposed constitution of Board of Directors is discussed As follows:-

Members from IA	4
Members from Artisans	5
Members from KVIC	1

### **13.2 Formation of SPV and exit policy of IA**

The process of formation of SPV will start in the first year of the project and will be completed within three months. The SPV will work together with implementing agency and artisans till the completion of project that is for the period of three years, after the completion of three years the IA will hand over the project for further execution and development hereafter the SPV will be responsible for the growth and enhancement of the cluster as well as the artisans and cluster business.

## 14. The Financials

### 14 . 1 The profit and loss statement

Particulars	Yr 2017	Yr 2018	Yr 2019	Yr 2020	Yr 2021	Yr 2022	Yr 2023
Sales	9,912,000.0 0	11,894,400.0 0	13,529,932.0 4	15,298,625.6 0	17,211,568.5 0	18,072,146.9 3	18,975,754.2 7
Total Sales	9,912,000.0 0	11,894,400.0 0	13,529,932.0 4	15,298,625.6 0	17,211,568.5 0	18,072,146.9 3	18,975,754.2 7
Cost of Material Consumed	3,874,500.0 0	4,649,400.00	5,288,712.84	5,980,077.17	6,727,827.09	7,064,218.45	7,417,429.37
Packing Cost	1,407,000.0 0	1,608,000.00	1,742,006.70	1,875,933.00	2,010,000.00	2,010,000.00	2,010,000.00
Wages	630,000.00	806,400.00	976,820.00	1,169,280.00	1,390,800.00	1,536,000.00	1,775,400.00
Power & Fuel	809,909.33	865,610.67	902,744.89	939,879.11	977,013.33	977,013.33	977,013.33
Consumables	360,000.00	378,000.00	396,900.00	416,745.00	437,582.25	459,461.36	482,434.43
	3,206,909.3 3	3,658,010.67	4,018,471.59	4,401,837.11	4,815,395.58	4,982,474.70	5,244,847.76
Operating Profit	<b>2,830,590.6 7</b>	<b>3,586,989.33</b>	<b>4,222,747.61</b>	<b>4,916,711.32</b>	<b>5,668,345.82</b>	<b>6,025,453.78</b>	<b>6,313,477.14</b>
Salary	324,000.00	340,200.00	357,210.00	375,070.50	393,824.03	413,515.23	434,190.99
Repair & Maintenance	120,000.00	125,000.00	137,500.00	151,250.00	166,375.00	183,012.50	201,313.75
Selling & Distribution Exp	611,840.93	716,461.07	805,988.77	903,230.18	1,009,342.17	1,063,322.09	1,128,778.19
Transport Expense	122,368.19	143,292.21	161,197.75	180,646.04	201,868.43	212,664.42	225,755.64
Comission to Artisan	495,600.00	594,720.00	676,496.60	764,931.28	860,578.43	903,607.35	948,787.71
Preoperative Exp	40,000.00	42,500.00	42,500.00	42,500.00	42,500.00	42,500.00	42,500.00
Profit Before Depreciation	1,116,781.5 5	1,624,816.05	2,041,854.48	2,499,083.33	2,993,857.77	3,206,832.20	3,332,150.86
Depreciation	523,000.00	452,250.00	391,342.50	338,878.13	293,659.71	254,662.72	221,010.09
<b>Net Profit</b>	<b>593,781.55</b>	<b>1,172,566.05</b>	<b>1,650,511.98</b>	<b>2,160,205.20</b>	<b>2,700,198.06</b>	<b>2,952,169.48</b>	<b>3,111,140.78</b>
<b>Net Profit</b>	<b>593,781.55</b>	<b>1,172,566.05</b>	<b>1,650,511.98</b>	<b>2,160,205.20</b>	<b>2,700,198.06</b>	<b>2,952,169.48</b>	<b>3,111,140.78</b>
<b>Gross Profit Ratio (%)</b>	28.56	30.16	31.21	32.14	32.93	33.34	33.27
<b>Net Profit Ratio (%)</b>	5.99	9.86	12.20	14.12	15.69	16.34	16.40

## 14.2 The selling Expenses

Particulars	Yr I	Yr II	Yr III	Yr IV	Yr V	Yr VI	Yr VII
Raw material cost	3,874,500.00	4,649,400.00	5,288,712.84	5,980,077.17	6,727,827.09	7,064,218.45	7,417,429.37
Wages	630,000.00	806,400.00	976,820.00	1,169,280.00	1,390,800.00	1,536,000.00	1,775,400.00
Power & Fuel	809,909.33	865,610.67	902,744.89	939,879.11	977,013.33	977,013.33	977,013.33
Consumables	360,000.00	378,000.00	396,900.00	416,745.00	437,582.25	459,461.36	482,434.43
Salary	324,000.00	340,200.00	357,210.00	375,070.50	393,824.03	413,515.23	434,190.99
Repair & Maintainance	120,000.00	125,000.00	137,500.00	151,250.00	166,375.00	183,012.50	201,313.75
<b>Total production cost</b>	<b>6,118,409.33</b>	<b>7,164,610.67</b>	<b>8,059,887.73</b>	<b>9,032,301.78</b>	<b>10,093,421.70</b>	<b>10,633,220.87</b>	<b>11,287,781.87</b>
<b>Selling expense</b>	<b>611840.93</b>	<b>716461.07</b>	<b>805988.77</b>	<b>903230.18</b>	<b>1009342.17</b>	<b>1063322.09</b>	<b>1128778.19</b>
<b>Transport expense</b>	<b>122368.19</b>	<b>143292.21</b>	<b>161197.75</b>	<b>180646.04</b>	<b>201868.43</b>	<b>212664.42</b>	<b>225755.64</b>

## 14.3 The Operational Cost

Particulars	2013	2014	2015	2016	2017	2018	2019
<b>Raw material cost</b>	3,874,500.00	4,649,400.00	5,288,712.84	5,980,077.17	6,727,827.09	7,064,218.45	7,417,429.37
Wages	630,000.00	806,400.00	976,820.00	1,169,280.00	1,390,800.00	1,536,000.00	1,775,400.00
Power & Fuel	809,909.33	865,610.67	902,744.89	939,879.11	977,013.33	977,013.33	977,013.33
Consumables	360,000.00	378,000.00	396,900.00	416,745.00	437,582.25	459,461.36	482,434.43
Salary	324,000.00	340,200.00	357,210.00	375,070.50	393,824.03	413,515.23	434,190.99
Repair & Maintainance	120,000.00	125,000.00	137,500.00	151,250.00	166,375.00	183,012.50	201,313.75
<b>total Processing cost</b>	2,243,909.33	2,515,210.67	2,771,174.89	3,052,224.61	3,365,594.61	3,569,002.42	3,870,352.50
<b>Total production cost</b>	<b>6,118,409.33</b>	<b>7,164,610.67</b>	<b>8,059,887.73</b>	<b>9,032,301.78</b>	<b>10,093,421.70</b>	<b>10,633,220.87</b>	<b>11,287,781.87</b>
Selling expense	611840.93	716461.07	805988.77	903230.18	1009342.17	1063322.09	1128778.19
Transport expense	122368.19	143292.21	161197.75	180646.04	201868.43	212664.42	225755.64
Comission to Artisan	495600.00	594720.00	676496.60	764931.28	860578.43	903607.35	948787.71
Packing cost	1407000.00	1608000.00	1742006.70	1875933.00	2010000.00	2010000.00	2010000.00
<b>Total Selling Exp</b>	2636809.12	3062473.28	3385689.83	3724740.49	4081789.03	4189593.85	4313321.54
Depreciation	523,000.00	452,250.00	391,342.50	338,878.13	293,659.71	254,662.72	221,010.09
Preoperative exp	40,000.00	42,500.00	42,500.00	42,500.00	42,500.00	42,500.00	42,500.00
<b>Total cost</b>	<b>9,318,218.45</b>	<b>10,721,833.95</b>	<b>11,879,420.06</b>	<b>13,138,420.40</b>	<b>14,511,370.44</b>	<b>15,119,977.44</b>	<b>15,864,613.50</b>
Facilitation charges	593781.55	1172566.05	1650511.98	2160205.20	2700198.06	2952169.48	3111140.78
<b>Sales</b>	<b>9,912,000.00</b>	<b>11,894,400.00</b>	<b>13,529,932.04</b>	<b>15,298,625.60</b>	<b>17,211,568.50</b>	<b>18,072,146.93</b>	<b>18,975,754.27</b>

## **14.4 The Financial Indicators**

### **Internal Rate of Return (IRR):**

The project internal rate of return should be more than 10% as per the current financial scenario of the country. The project IRR is **20%** therefore it is clearly indicating that the project is feasible for investment.

### **Break Even Point:**

The average break even percentage is **58%** and as per financial standards it should be below 60%.

### **Net Present Value :**

With a discount rate of 10% and a span of 5 years, the projected cash inflows are worth Rs. 6,274,054 today, which is greater than the initial cash outflow of Rs 4,000,000. The resulting positive NPV of the above project is Rs. 2,024,054 which indicates that pursuing the above project may be optimal.



## **15.The Benchmarking and growth indicators of the cluster**

### **Status of cluster before intervention and after intervention**

Gadchiroli cluster is identified and will be supported by various soft as well as hard interventions to uplift the socio-economic status of the cluster artisans. The estimated progress after implementation of the cluster development program can be measured on following parameters.

#### **a) The estimated progress after 3 years**

	<b>The parameters</b>	<b>Before Intervention</b>	<b>After Intervention</b>
1.	Number of Artisans in the Cluster	150	300
2.	Quantity of Processing	100 MT	300 MT
3.	Annual Turnover	80.00 lakhs	200 Lakhs
4.	Regular Employment (amongst artisans)	30	300
5.	Establishment of New units	2	10
6.	Export of the products	nil	10%

#### **b) Increase in Percentage of the parameters**

	<b>The parameters</b>	<b>Before Intervention</b>	<b>After Intervention</b>
1.	Number of Artisans in the Cluster	50%	100%
2.	Quantity of Processing	20%	60%
3.	Annual Turnover	25 %	75%
4.	Regular Employment (amongst artisans)	10%	90%
5.	Establishment of New units	5%	50%
6.	Export of the products	0	100%

### **c. Social development due to the Cluster intervention.**

1. Standard of living will be upgraded
2. Increase in trust and co-operation
3. Employment giving financial stability to local poor
4. EDP, SDP and CFC and Business incubation support promotes local tribal youth to enter and establish new sustainable business.
5. Capacity building of Women groups through income generation activity of herbal plant processing
6. Coming together in cluster will enhance the bargaining power of artisan as well as processors during purchase and sale of the products.
7. A joint power will be established to face any external force in business as well as life.





**REPORT ON  
DPR PREPARATION ON LEATHER SPORTS GOODS  
CLUSTER OF JALANDHAR**

**PREPARED FOR  
KHADI & VILLAGE INDUSTRIES COMMISSION**

BY



**CSIR-CENTRAL LEATHER RESEARCH INSTITUTE  
(COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH)  
ADYAR, CHENNAI**

**SEPTEMBER 2016**

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### ABBREVIATIONS

CLRI	Central Leather Research Institute
CSIR	Council of Scientific & Industrial Research
DPR	Detailed Project Report
KVIC	Khadi and Village Industry Commission
NGO	Non-Governmental Organization
UK	United Kingdom
US	United States of America

US\$	US Dollar
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## 1 Executive Summary

Indian traditional sector of sports goods manufacture has grown historically in tiny scale of household sector where large number of artisans engaged in processing and producing leather sports goods with traditional touch over the generations. These sports goods manufacturers produced various sports goods for domestic consumers. Jalandhar in Punjab and Meerut in Uttar Pradesh are prominent sports goods manufacturing clusters and Jalandhar contributes nearly 65% of total sports goods produced and marketed in the country. Apart from supplying valuable sports goods to domestic market, the Jalandhar cluster also contribute significantly in the export market. Last year, the country has exported nearly US\$ 274.5 million worth of sports goods and in this leather sports goods constitute, less than 10% in the total exports.

China is dominating in the global sports goods segment and it occupied almost 40 percent of the world supply of sports goods. India has great potential to harness the available opportunity to explore the growing demand for sports goods with planned development. However, over the years, the market share of leather sports goods has been witnessed declining trends in view of import of cheap sports goods from other countries especially from China due to liberalized market policy and that affected significantly to local sports goods manufacturers and in particular, the artisan segment. This sector has got attention from institutions like KVIC to review its growth and strengthening the skills of artisans and initiation of institutional intervention in the training input to make the sports goods sector to compete in the emerging liberalized market. Considering the importance of sports goods sector and involvement of artisan community with social cause of preserving the skills and employment generation, Khadi and Village Industry Commission (KVIC) has taken the right step in assessing the sports good sector in Jalandhar with the help of technical institute to identify the area for institutional intervention.

Accordingly, CSIR-Central Leather Research Institute (CLRI) has taken the responsibility of conducting diagnostic survey of eight artisan leather cluster in the country and selected Jalandhar cluster for preparation of Detailed Project Report. CLRI has identified the training input as right intervention to develop the



Jalandhar based sports goods cluster as part of cluster development programme. In this process, it is expected that, existing artisan community would derive the training benefit along with others and could be vital input to link them with industrial placement for assured jobs and at the same time enhancing their workmanship. The industry leaders and stake holders during intensive data collection exercise at Jalandhar cluster expressed that, shortage of skilled manpower is the major hindrance of sports goods cluster development and major one of the reason for meagre share of sports goods in global market. Hence, the

Detailed Project Report emphasized on training intervention with training modules which considered as right approach to sustain the leather sports goods industry in Jalandhar as part of cluster development programme. The share of leather sports goods in total sports goods produced in Jalandhar cluster account for less than 10 percent, yet it is observed that, the proposed training intervention aimed to those unemployed youth and existing artisan community to improve their skills which will be act as livelihood support and considered as part of soacila development initiative.

Accordingly, the need for a training programme with adequate technology inputs was felt by the Jalandhar cluster with the widening of the gap of the demand and supply for skilled human resources for soft protectives of leather sports goods such as cricket ball and boxing gloves. The demand for large supplies within a short time frame in the export market also needs use of technology in the form of better stitching machine, templates fixtures etc. to improve productivity and also standardise the component in the process to assure uniform product quality. Another element that brought urgency in introduction of technology in the industry was the rigorous standards like CE mark stipulated by the developed countries for protective gears.

Since the KVIC is interested in developing Jalandhar sports goods cluster with suitable intervention, the need for developing a technology oriented training programme for soft protectives was felt, due to the above reasons. On further discussions with the cluster based institutions it was found that, local NGO, M/s Marigold International Educational Society in association with Regional Centre

for Extension and Development of Central Leather Research Institute (RCED) is fully capable for conducting the training programme. In fact, RCED is already conducting training programmes on leather garment and the equipment and the expertise available was adequate for starting the workshop.

Method used for identification of the trades for skill development training: The proposed training course has been identified on the following basis:

- i. The need of the local sports goods cluster for skilled manpower for making soft protective items
- ii. The healthy growth rate in export and domestic market demand for sports goods
- iii. The requirement of developed countries for quality protective items which will conform to rigorous safety standards like CE mark.

Impact of Post-training Follow-up and Monitoring of Programmes to be undertaken for its efficacy:

As the participants of the training programme are expected to be immediately absorbed by the industry, follow up will be required to link them with suitable placement/entrepreneurship. However, regular feedback on their performance will be done by setting up a monitoring team comprising of Sports Goods Manufacturers stake holders and KVIC.

Expected outcome of the project: **Availability of trained human resources to the sports goods industry for making quality sports goods with latest technology and satisfying the product norms.**

The training programme proposed in this report is the result of extensive field study and interaction with many stake holders and understood the need of industry. It was found that, due to shortage of trained man power, a few of cricket ball manufacturing units are shifting their base to Meerut. Hence, the right intervention to strengthen the sports goods industry in Jalandhar was felt and stressed for implementing the training programme. The training programme

module is prepared with duration of two months to two & half months and costing Rs 30000 per trainee that includes stipend and other training costs.

## 2 Project Details

### 2.1 Introduction

The development of the nation is dependent on the systematic approach with actionable programmes that could be implemented in a time schedule. Today's development seen in the society is the result of such approach and exercise undertaken over the years. Various segments such as power production, irrigation, agriculture, industry etc. follow systematic planned approach to grow in the progressive path. Similarly leather and allied sector needs planned approach to develop the sector with actionable programme. The sports goods of leather industry in India has unique characteristic that it exist both in traditional and modern factory sector. Both segments contribute significant wealth and economic development for the country.

The traditional sector of sports goods manufacture was basically in tiny scale and gradually shaped in to organized entity. Artisans with skill of stitching are working for sports goods industry form their house itself due to socio-cultural reasons. These units are linked to export trade houses that supply cut components and collect finished goods. However, over the years, the market share of leather sports goods is shrinking in view of emerging alternative material usage. The leather sports goods are unable to complete with new products in the emerging competitive market particularly from China and Pakistan and in this process, many of the traditional artisans deserted the work and migrated to other sector to work as casual labourers. Considering the continuous downfall of the traditional household leather artisan segment in the country and in particular the sports goods of leather sector, it attracted the attention of institutions that are involved in assisting the rural industrial growth and treveiw with rehabilitation and support. Among the institutions, Khadi and Village Industry Commission (KVIC) have taken the right step in assisting the vulnerable rural sector. KVIC detrmind to develop leather sports goods cluster with firm objective of supporting artisan communities. It identifies this sector as potential area for institutional intervention to strengthen the skills and review its progress with appropriate development plan. **KVIC with objectives to**

**enhance the competence of artisans through right intervention in production skills and preserve the existing employment and create more employment to prepare the artisan community to face emerging challenges effectively.** Accordingly, KVIC approached Central Leather Research Institute (CLRI) for conducting diagnostic survey of eight leather cluster in the country and chosen Jalandhar cluster for preparation of Detailed Project Report. CLRI has taken up the assignment of preparation of DPR for sports goods of leather in Jalandhar cluster with intensive field survey and interaction with stake holders to elicit the responses and gather necessary data.

## 2.2 Project Objectives

The important objectives of the project are:

**To prepare actionable detailed report for development of leather sports goods sector of artisan with suitable intervention in Jalandhar cluster**

## 2.3 Expected outcomes

The expected outcomes of the project are:

- Detailed report of artisan leather sports goods cluster in Jalandhar as part of cluster development programme.
- Institutional interventions with appropriate actionable programme.

## 3 Approach and Methodology

### 3.1 Sampling Size, Sampling technique/Survey/Focussed Group Interviews

Jalandhar is one of the eight clusters selected by KVIC for diagnostic survey which is subsequently chosen for preparation of Detailed Project Report. During diagnostic study, the survey team has collected important data pertaining to leather sector at Jalandhar. The study found that, the cluster is not only popular for sports goods production & footwear activity, but also it is one of the main tanning centres in India. The survey team observed that, footwear production

activities are also carried out at the cluster, **however, majority of the footwear produced are belongs to non-leathers**. Thus, considering the focus area of the cluster, the study team confined to sports goods of leather produced in Jalandhar and collected the required data during recent visit to Jalandhar for preparation of DPR. However, in the cluster data analysis, information pertaining to other non-leather sports goods activity along with artisan products including footwear is also mentioned in the report wherever found necessary to highlight on the background of the cluster. The methodology followed was direct field visit and interaction with stake holders with structured schedules campaign to elicit the data. In addition, data also collected from secondary sources such as, published reports, documents, books etc. While carrying out intensive field survey in the cluster, close observation was made by survey team and conducted personal interview with traders, community leaders, artisans, NGO's.

### 3.2 Structure of the cluster

The details such as geographic, demographic and economic activity of the cluster were compiled. Much of these particulars are collected from secondary sources, websites of the government, organisations, statistical hand books, local publications and also through field enquiries.

### 3.3 Sampling technique

Extensive field survey was carried out in the cluster during the earlier diagnostic study and also additional up dated data were collected to support preparation of DPR. Data collected with random sampling technique by interacting with stake holders. The aspects such as artisan's traditional background, number of persons engaged in leather sports goods activity, family involvement, earnings, literacy etc have been covered under this activity. In addition artisans and sports goods of leather manufacturers associations were contacted for macro level data. Personal interviews and cluster visits helped the team to understand the factual scenario of the cluster and assess the activities. To substantiate the description, still photographic pictures were taken and incorporated in the report.

### 3.4 Focussed group interviews

Leather sports goods products that are produced in Jalandhar cluster are familiar to CLRI team. However current status of production in terms of new product range, raw materials usage etc were collected during the field survey. The physical observations of the products as well as the documentation of the range of leather sports goods products and materials used in fabrication were noted. This information was collected through interview with stake holders . The interview with respondents was focused manily on the following aspects

#### 3.4.1 Skill levels

It is basically an assessment exercise of artisan's capability of production skills in terms of ability to make the range of sports goods products, quality, identification of right input, fabrication method, style and fashion attributes, comfort factor, suitability to the market etc.

#### 3.4.2 Technology

It is an assessment of the production techniques as well as tools used in the product system. Efficacy of traditional tools and techniques were evaluated from the point of view of quality, productivity and cost of the end product.

#### 3.4.3 Market

Information of current marketing practices were collected directly from the manufacturers of sports goods of leather, representatives of artisans and associations as well. It comprises of costing / pricing, availability of local traders, undertaking job work for exporters, trends in the market, seasonal variation; competition etc were collected through a questionnaire.

#### 3.4.4 Future Orientation

It is included with a purpose of understanding the outlook of the sports goods manufacturers, artisans on their future plans. A question was incorporated in the questionnaire to understand the artisan's desire for continuation in this profession and kind of infrastructure needed and training to withstand the

dynamics of the market. Some associations and trade bodies also responded on this issue very positively.

### 3.4.5 Involvement of agencies

Apart from meeting with the manufacturers of leather sports goods manufacturers, artisans and associations, the team also visited and discussed with agencies such as state/ central development organisations, trade associations, NGOs connected with the welfare and promotion of leather sports goods activity in Jalandhar. It is a fact that, part of the data pertaining to above have been collected during the diagnostic survey are utilised for preparation of DPR.

## 4 Market Potential - Industry size and potential (Domestic Sales and Exports)

### 4.1 Domestic Sales

Indian sports goods industry is nearly a century old and has flourished due to the skills of its workforce. The industry adopts semi mechanized way of production system. Being labour-intensive in nature, the Indian sports goods industry provides employment to more than five lakhs people. The sports goods industry in India mostly concentrate in and around Jalandhar and Meerut. Both cluster together account for **75 %** of total sports goods production in the country. These two clusters house more than 3,000 manufacturing units and 130 exporters. The fact is that, about 60 per cent of the sports goods manufactured in Jalandhar consist of different kinds of inflatable balls this is apart from the footwear. The Indian sports goods industry also has a presence in the cities of Mumbai, Kolkata and Chennai, albeit at a lower scale.

### 4.2 Exports

India's share of the global sports goods export market is expected to grow manifold, with the country establishing the credibility of its goods in the international market. Indian sporting goods are well known around the world and have made a mark in the global sports goods market. The industry exports



nearly 60 per cent of its total output to sports-loving people the world over. In 2014-15, India exported sports goods worth US\$ 274.5 million and registered a 16% growth rate as compared to 2013-14 (US\$ 236.45 million). At the same time India also imported significant value of sports goods. As per the sports goods export promotion council report India imported US\$ 2013.5 million in 2014 and US\$ 201.9 million in 2015.

In the non-leather sports goods segment, Cricket bats made mainly in Meerut and Jalandhar, were second-best export item, next to inflatable balls, which continue to remain the top item for exports. The contribution of inflatable balls in the total export of the year was Rs 186.63 crore (27.10 per cent), and that of cricket bats was Rs 54.82 crore (7.96 per cent). At the other end of the spectrum, hockey, which is widely believed to be India's national game, languishes way below at the 16th position in terms of its contribution.

Among the sports goods manufacture, cricket balls use leather as raw material. Data collected on the exports segment of leather cricket balls indicate the lower level of exports realisation due to limited production capacity. This item constitute the share of less than 3 percent in the total exports of sports goods from India which reflects the size of the leather sports goods segment in the sports goods industry in India.

Apart from the sports goods, India is the second largest footwear producer in the world with 2409 million production capacity and accounting for 13% of the global footwear production. Exports account for 115 million pairs and remaining 2294 million pairs for domestic consumption which includes leather and non leather footwear. Footwear sector mainly comprises of small and medium enterprises. Major export destinations are U.K (17.29%), Germany (13.69%), U.S.A (11.69%), Italy (7.39%), France (7.4%) and Spain (4.76%). Footwear product mix has 58% Men footwear, 34% Women footwear and 8% Children footwear. Major world renowned brands are sourced from India. Various types of shoes produced and exported from India include dress shoes, casuals, moccasins, sports shoes, horacchis, sandals, ballerinas, and

booties. Major production centers are Chennai (Madras), Delhi, Agra, Kanpur, Mumbai (Bombay), Kolkata (Calcutta) and Jalandhar.

Almost 80% of the footwear is produced by the cottage sector. This footwear are then sourced by big names and then sold under their brand name.

Footwear exports increased at CAGR of 11.03% during last ten years. Indian footwear sector which is the engine of growth of the entire leather sector in India is poised to grow further in the years to come. Footwear export from India is projected to reach US \$ 5 billion in 2016-17.

The Indian footwear industry has advantages like own raw material base, best tanning expertise, availability of skilled workforce, institutional support towards design, development and capabilities and HRD, an increase in domestic consumption besides attractive policies of the government towards foreign direct investment and joint ventures. Hence there are opportunities and potential for overseas entrepreneurs to establish business collaborations with footwear and component manufacturers in India.

### 4.3 Global Scenario

Like any other goods facing thret from Chinese invade of market with cheap products, Indian sports goods also apprehension on the raising concerns on the survival of India's \$2 billion worth of sports goods industry facing serious threat due to influx of cheap Chinese products and global brands. India's exports of sports goods in the global trade found uncompetitive which accounting for a share of about less than 1 % while its major counterpart China has managed to increase its share significantly from 33.5 per cent to 40.5 per cent during 2008-12,". According to the Assocham study, India exported sports goods worth of US\$ 274.5 million in 2015.

In the export box, Inflatable balls, cricket, general exercise equipments, sports net and protective gear for cricket account for about 54 per cent share in total sports goods exports. The other major countries that are exports sports goods to global market are; China, United State of America, Germany and Japan

#### 4.4 Market share of competitive brands

Sports goods of leather products in India have potential market all over the world. The country has been exporting significant quantum leather and non-leather sports goods to global market. However many of the sports goods are exported without any brand name. Even in the domestic market, most sports goods are gaining popularity and interestingly brand image of the domestic products are not yet emerged as expected. Investment on the creation of brand image for sports goods of leather and allied products in the country is reported as low affair.

#### 4.5 Leather Sports Goods Industry Growth

The Indian leather industry has achieved a lot since independence, but not to its full potential especially in the case of sports goods of leather. Since liberalized economy, the artisan sector get affected its potential expansion due to lack of institutional intervention. Of the total leather and allied products produced in this country, almost 70% is sourced from informal household sector. Hence it is necessary to take care of the household sector for its appropriate development and planned approach. At the same time the sports goods of leather industry growth is depends on the global market as Indian leather products are most preferred in the Europe and other developed nations. The country earns quite significant value of foreign exchange (US\$ 274.5 million in 2014-15). However, composition of leather sports goods in the total exports is account for less than 10 percent and hence, our share in the global market is insignificant. Optimal target of achieving respectable share in the the global sports goods industry is set by the policy makers for which planned development with actionable framework has to be implemented. The industry at its present growth rate may not achieve its desirable share even after initiating slew of measures due to its size and scale of production system. This is due to a myriad of factors and many of which need rapid action if we plan to reach a respectable fraction of our targets. The important segment of linking informal sector with export oriented segment is necessary and required to keep the pace of accelerated growth of sports goods of leather sector. The investment

and required infrastructure creation are the major initiative that has to be taken up by Govt. on priority basis. Plenty of employments opportunities are exist for youth in this field which needs to encourage by tying up with institutional and investor's synergy. Some other problems, like cultural and social ones require a more artistic approach as short term solutions for these would not suffice. The country need to create more investment friendly environment and attract Foreign Direct Investment in this sector as this sector is considered least priority area for investment by investors. To accelerate the leather sports goods industrial growth, it is necessary to create more modern exclusive sports goods processing zones/ complexes/parks preferably nearby existing clusters with international standard infrastructural facilities.

## 4.6 SWOT Analysis of Indian Sports Goods of leather

### 4.6.1 STRENGTHS

- Most of the sports goods produced in the country are originated from Jalandhar and Meerut.
- The product has the advantage of being famous as handcrafted with semi mechanic operation approach.
- The sports goods are marketd widely in the domestic and exported to many countries.
- Significnat number of women and youth with cheap wages are involved in the activity that provides livelihood.
- Potential to expand to export markets.
- Greater scope exists to market the product through designated international trade fairs.
- Stake holding institutes are functioning in the cluster to support the sports goods of leather.
- Easy to source required raw material as tanning cluster is located in close proximaty of the sports goods cluster.

- Exporter-friendly government policies.

#### 4.6.2 WEAKNESSES

- Low level of modernization and upgradation of technology, and the integration of developed technology are very slow.
- Lower productivity level due to inadequate formal training / unskilled labour.
- Horizontal growth of sports goods of leather sector.
- Less number of organized product manufacturers.
- Lack of modern production facilities.
- Lack of accessibility of testing, designing and technical services.
- Environmental problems.
- Lack of strong presence in the global fashion market
- Unawareness of international standards by many players
- International price fluctuation

#### 4.6.3 OPPORTUNITIES

- Rising potential in the domestic market expansion
- Abundant scope to source leather sports goods from this cluster
- Growing fashion consciousness globally
- Use of information technology and decision support software to help eliminate the length of the production cycle for different products.
- Product diversification – There is lot of scope for diversification into other leather sports goods products, namely, sports leather garments, caps etc.
- Growing international and domestic markets

- Ideal location for large investors interested in leather sports goods manufacture and reach to global market

#### 4.6.4 THREATS

- Entry of multinationals in domestic market
- Stiff competition from other countries. (The performances of global competitors in leather sports goods indicates that there are emerging countries that are going to play major spoiler for Jalandhar cluster are Pakistan, China, which are more competitive than India.)
- Improving quality to adopt the stricter international standards.
- Fast changing fashion trends are difficult to adopt for the Indian leather sports goods industries.
- Limited scope for accessing to funds through private placements and public issues, as many businesses are family-owned and are classified as small and tiny scale.
- The Indian leather sports goods industry has achieved a remarkable growth since independence, but not to its full potential. The industry at its present growth rate cannot achieve significant share in the global trade due to a myriad of factors many of which need rapid action if we plan to reach a respectable fraction of our targets. The investment and required infrastructure creation are the major initiative that has been taken up by Govt. on priority basis. Plenty of employment opportunities are exist for youth in leather sports goods industry field which needs to encourage by tying up with institutional and investor's synergy. Some other problems, like cultural and social ones require a more artistic approach as short term solutions for these would not suffice. The country needs to create more investment friendly environment and attract Foreign Direct Investment in this sector as this sector traditionally considered least priority area for investment.

## 5 Survey Data for Jalandhar Cluster

### 5.1 Background of the cluster

Sports goods industry is pretty old with history of more than 120 years. Jalandhar in northern India has emerged as major sports goods supplying centre due to its historical growth of home based skills that produced sports goods. Gradually this cluster not only engaged in marketing the sports goods for domestic market, but expanded to international trade where at present it exports to nearly 130 countries. However, the composition of leather in this segment is less than 10 percent and non leather sports goods are dominated. The Jalandhar cluster is unique example where with the passage of time, it has started producing new, innovative sports goods items and retained some of the old items with quality adherence. The cluster is housed nearly 1200 units including small scale, and tiny household and these units providing direct livelihood to around one lakh fifty thousand persons. The sports goods cluster immensely contributing towards economic and well being of society and



earning valuable foreign exchange for the country is well placed in the Indian sports goods scenario.

### 5.1.1 Share of cluster as compared to the industry size

Sports goods industry in India is concentrated mostly in two major clusters viz Jalandhar in Punjab and Meerut in Uttar Pradesh. However, Jalandhar is major cluster in terms of its contribution to exports and domestic market. The data shows that, Jalandhar contributes nearly 65 percent of total value of sports goods produced in the country. The total value of sports goods produced in the country is US \$ 2 Billion and in this leather sports goods constitute less than 10 percent. It indicates that, composition of leather sports goods in the total sports goods manufactured is not much significant which indicates the low penetration of use of leather in sports goods manufacture. Cricket ball, boxing gloves, other sports gloves are major products that produced by using leather.

### 5.1.2 Livelihood

Jalandhar in northern India is a major centre for producing sports goods of leather. Leather tanning and footwear producing units, and sports goods for export market also located in the town. Jalandhar is the part of eight clusters that CLRI team visited to assess the artisan activities in leather sector. Based on the field visit, data related to various issues of the artisan sector were collected and are presented in the following tables with detailed analysis.

Table 5.1: Number of artisans engaged in sports goods sector

Footwear and other activity	Number of Responses
Number of households and cottage units	3697
Total Artisans	21000

Data pertaining to number of units engaged in artisan units that comprises of leather footwear, leather processing and sports goods manufacturing activity are presented in Table 5.1. The data reveals that, 371 footwear producing units, 26 Cricket balls manufacturing units and 3300 Volley ball, Foot ball and Rugby ball producing units are located in Jalandhar cluster. Among these units, leather based sports goods are constitute less than 10 percent of the total units



in Jalandhar. These units are spread in Khurla, Kingra, Mithapur, Tazpur, and Model House area of Jalandhar and its surrounding areas. The footwear units are largely concentrated in Model House area, where mostly migrated labourers from Uttar Pradesh involved in the production of footwear activities. The Cricket ball manufacturing units and other sports goods units are located in Jalandhar and in suburban and nearby villages. The system of artisans involvement in production of footballs and other balls is typical one in which artisans receive cut components from the Tekidar (middleman) and finished goods are supplied back to the owner through Tekidar on piece rate wage basis. The wages are paid depending upon the number of balls one is stitching in a day.

### 5.1.3 Specific Village Industry as an income generation activity in the cluster

Sports goods production activity in Jalandhar is comprises of mecanised and tine units which engaged in producing range of non-leather sports goods items. The leather segment in the total sports goods production is confined to few items and their share is less than 10 percent in the total sports goods production.

It is a fact that, Jalandhar being major sports goods supplier to domestic and international market is provides livelihood to around 21000 artisans. This is traditional artisaned based stitching activity in sports purpose segment. The work is mostly carried out from small premises where women feel comfort in working with other co women workers due to cultural reasons.

Table 5.2: Total footwear and sports goods production per day

Activities	Number of pairs/ Pieces	Value (Rs)
Footwear (in pairs)	25,000	25,00,000
Others (Specify)	3000 (Cricket ball); 55000 (Foot ball, Volley ball, Rugby, gloves)	2,25,000 (Cricket ball); 33,75,000 (Foot ball,

		Volley ball, Rugby, gloves);
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Data related to production level of footwear, Cricket ball, Volley ball and Foot ball were sourced during field survey and same is presented in Table 5.2. The data indicate that, the estimated daily output of Cricket balls are at 3000 pieces and nearly 55000 pieces of Foot ball, Volley ball and Rugby balls and gloves are produced. In otherwords, the annual estimated production of cricket ball in the cluster is arrived at 1 million pieces. At the same time for the other balls like football, volley ball, rugby ball and soft gloves the annual estimated production is approximately about 19.25 million pieces. Since Jalandhar cluster is popular place for sports goods production activity, the quantum of above said items produced is meant for **domestic and export market**. Interestingly most of the production activity is originated from household level. Even footwear is produced from tiny shed spread in model house area of Jalandhar where artisans use to work in hired shed.

Table 5.3: Household sector engaged type of sports goods activities

Activities	Responses in %		Total
	Leather	Non-leather	
Footwear	5	95	100
Cricket balls	100	--	100
Foot balls, Volley ball & Rugby ball	--	100	100
Boxing gloves	50	50	100

Information on households engaged in type of leather activity was collected during field survey and data is presented in Table 5.3. The data shows that, production of Volley balls, Foot balls and Rugby balls, the non-leather

component is almost 100 percent. Use of leather in inflated balls has come down drastically due to change in the customers taste and higher cost of leather. However, the Cricket balls and boxing sports items are produced by using combination of leather. The leather material is necessary requirement for boxing gloves and other items and Cricket ball manufacture (refer the details for cricket ball manufacturing process at annexure-1). The data indicate that, use of leather in sports goods are declined to a considerable level due to lower demand for these goods. It is mainly because of high cost of the leather and availability of non-leather sports goods at cheaper and attractive prices. Leather is used for cricket ball manufacture are largely sourced from local tanning units. In case of leather footwear production is confined to just 5% of the total footwear units and non-leather footwear producing units account for 95%.

## 5.2 Key Demographics (Population, Age, Literacy, Gender, etc.)

### 5.2.1 Population

Jalandhar is located on the intensively irrigated plain between the Beas and Sutlej rivers. It is situated at 71 degree 31 minutes East latitudes and 30 degree 33 minutes North longitudes at a distance of 146 kms from the state capital Chandigarh. It is surrounded by Ludhiana district in East, Kapurthala in West, Hoshiapur in North and Ferozepur in South. It has an area of 3,401 sq. km and the total population was 21,81,753 out of which 11,40,535 are males and 10,41,217 are females as per 2011 census. The city, which has major road and rail connections, is a market for agricultural products. Manufacturers include textiles, leather goods, wood products and sporting goods.

### 5.2.2 Age

The age composition of artisans in the leather sports goods cluster is presented in the table 5.4.

Table 5.4: Age composition of artisans

Age of artisans	% share
< 30 years	47.7

30 - 40 years	28.5
>40 years	23.8
Total	100

With regard to data on age composition of artisans involved in the Jalandhar cluster is presented in Table 5.7. The data shows that, 47.7% of artisans are come under the age group of below 30 years 28.5% reported in the age group of 30-40 years. Artisan with above age group of 40 years constitute of 23.8%. The data indicate that, high number of involvement youngsters particularly those who are dropouts from school are keen to take up the job sports goods activity. During the field survey it was observed that many youth in their household premises engaged in stitching Volley balls, Foot balls and Rugby balls, cricke balls. Even in boxing items of sports goods majority are women who works for stitching and other supporting activity. During survey period it was noticed that, footwear activity is mostly carried out by youngsters belongs to Uttar Pradesh. Lack of work in their native place and inclination to work in the urban atmosphere forced these youngsters to migrate to Jalandhar and work in leather sports goods industry.

### 5.2.3 Literacy

The standard indicators of the nation development are consists of many parameters and literacy level of that country is one of them which reflect the degree of development. Many developing countries emphasis the educational growth of the people as it act as catalyst of development in many fields. In fact, the world bank linked that, higher the educational level of the country, the better the growth of its economy and social development. The better educational level of the people impacted on reduction of poverty and ignorance. Similalry, educational level plays major role in artisan products manufacture and their adoption to competitive market challenges with awareness on improving their workmanhip and production skills. The literacy level of the artisan community at Jalndhar cluster is presented in the table 5.5

Table 5.5: Literacy level of artisans in sports goods of leather

Literacy level of artisans	% share
Male	72.6
Female	67.3

During field visit to Jalandhar cluster it was observed and gathered the data from stake holders that, total literacy of artisans in the cluster is 72.6 % for male and 67.3 % for female artisans which is less than the average literacy found for Jalandhar (77.2% for male and 72% for female 2011). This data collected to understand the general literacy level to assess the degree of value given to educational segment by artisans. Majority in the youth segment, it was noticed that, the dropout rate is high after high school education for female artisans. Graduate workers among artisans are very few and majority of them are confined to household production system. Few youth are working in the sports goods production activity to with intention of saving money for preparation to go abroad. Working in foreign countries especially in Canada is most fascination and dream for the local youth.

#### 5.2.4 Gender

The household sector of artisan sector traditionally is engaged in division of labour production method in which each member of the family specialize the product process. In other words, the household production system of artisan nature is a collective production system in which men, women and even school going children are also participate in the production processes. Data collected on composition of women worker and their level of participation in the productive work is presented in the table 5.6

Table 5.6: Gender composition of artisans in sports goods of leather

Gender of artisans	% share
Male	62.7

Female	37.3
Total	100

Data presented in the above table indicate the gender composition in sports goods manufacturing activity at Jalandhar. It was observed that, of the total artisans engaged in the sports goods manufacture, around 62.7% are male and rest is female. Male not only work outside of house, they work on piece rate basis as well as daily wage labourers. On the other hand, women mostly prefer to work from their house due to convenience to manage the productive work along with household chores. However, women generally prefer to work during their free time and spend less time in productive work as they have to spend considerable time in cooking, child care and other household chores. Hence, they earn lower wages.

### 5.3 Economic, Social and Infrastructural conditions

With more than a three thousand seven hundred enterprises that includes sports goods and footwear manufacture, providing livelihood to more than hundred and fifty thousand persons, the Jalandhar cluster is contributing valuable economic growth for the country. The annual trade of sports goods in the country is valued at US\$ 2 Billion and Jalandhar contribution is significant. Creating employment, earning valuable foreign exchange through exports and building healthier society is not mean achievement for the cluster.

Apart from supplying sports goods needs to domestic market, the cluster is created name for international market as reliable supplier of quality sports goods and presently, it exports to many countries. The total value of sports goods exports in 2014-15 is US \$ 274.68 million.

#### 5.3.1 Social and Infrastructural Conditions

Sports Goods Foundation India has made certain efforts in reaching the artsian community as well as other workers by initiating the social out reach programmes. Awareness campaign was organised and monitored on the harmful effect of employing children in the sports goods manufacturing activity

and providing necessary support for encouraging the children to attend school. Also the foundation in association with international sporting bodies, the foundation has undertaken useful socially relevant programmes for the betterment of artisans and workers. It supported the women to creation of Women Self Help Groups to empower them with better economic handling approach.

Jalandhar is also considered as one of the main leather processing cluster. To facilitate leather sector growth, supporting institutions are set up in the cluster. Central Leather Research Institute of Council for Scientific and Industrial Research has established its regional centre at Jalandhar to assist the leather sector and sports goods industry with range of facilities. Also Council for Leather exports and Council for Sports Goods Exports established their offices at this acluster to accelerate the growth of their respective products. Similarly few of assisting institutions are set up for supporting sports goods activity and SGFI has played key role in bringing the desired facilities for the cluster. Following are important mile stone in creating social and infrastructural facilities by SGFI are reproduced below.

In year 2000, UNICEF introduced the Center for Research in Rural and Industrial Development (CRRID), to undertake awareness raising exercise. CRRID's main job was building the credibility of SGFI initiative amongst the critical mass. The stitching community, local youth clubs, Mahila Mandal (women's groups) and local leaders were identified and made part of the programme.

After that SGFI took training from CRRID and sustained the awareness campaign on its own. Now SGFI has a regular campaign targeting the less aware areas. The profiling of the families was done to understand the reasons as why they engage their children in labour activities, which helped in planning for rehabilitation.

This awareness campaign has been very successful in terms of reaching the stitchers and making them understand that their children should be going to schools and enjoying their childhood and not doing any labour activities.

SGFI is committed to work on sustainable ventures so that this problem does not re-emerge or find its way out into some other area. The external monitoring and social protection projects will continue and we are constantly trying to increase the effectiveness of our campaign.

We have seen a dramatic change in the attitude and awareness of the community against the child labour. Now the village leaders (Panchayat and Sarpanch) have also started working in partnership with us. This partnership has been a breakthrough in accessing the community in a credible and trusted manner. They understand the importance of education in building the future of children.

Successful establishment and running of 27 transitional schools in Jalandhar in September 2000 under National Child Labour Project funded by Ministry of Labour, Govt. of India. Each school has 50 children with 2 educational instructors and one vocational instructor. 1350 Children are benefiting from these schools.

SGFI has adopted 8 schools that cover 400 children. The children in these schools were not going to school or dropouts and are from the ages of 8 yrs to 14yrs. The objective of these schools is to prepare these children to enable them to join the regular schooling system.

SGFI is running a free computer training centre in collaboration with Punjab Rural information Technology Management Agency (PRITMA) at village Tajpur, Jalandhar. This centre will give free computer literacy to all children of this village and then will move to next village. This centre would be covering appx 300 children. Two instructors are hired to provide training. Village Panchayat has provided a room in the community centre building. Children are given basic training on computers.

SGFI has built over 52 SHG with 15-20 women in each group covering 1000 families. SGFI found that these people are under debt constantly as they are not able to get loans for their micro finance needs and end up borrowing from local money lenders. SGFI created SHG where these women are contributing Rs. 100/- monthly towards their bank accounts and the banks have allowed



them overdraft facility also. The money so collected is being used by the SHG members for inter loaning. Few SHG have also availed of a bank loan & have successfully repaid back. SGFI is currently in the process of linking these 600 families with health insurance & pension benefits also.

Under this SGFI conducts one medical camp each week at 2-3 of its tuition centers /schools, a major camp every 2 months for its workers outside of the factory. Awareness camps for health related issues are conducted at the factory itself. Besides this, daily 70 first aid kits are issued to our 3300 household workers through our monitors. This kit is replaced every 3 months. SGFI has conducted over 150 eye cataract operations recently. (courtesy:SGFI website)

## 5.4 Village Industry Practices in the Cluster

### 5.4.1 Process

During field survey visit to Jalandhar, it was observed that, few household units that were engaged in processing of leather in traditional way are processing finished chrome leather in limited quantity. This processed leather is used for local market where juti manufacturers from other parts of Punjab and neighbouring States are purchasing from them regularly. These units numbering around 10 are located in Ravidas Nagar, Basti Danish Mandal a suburban of Jalandhar. However, these units supplying leather for cricket balls manufacturing is reported negligible.

### 5.4.2 Production

**The annual output of Jalandhar in terms of quantity and value is 8.75 million pairs of footwear valued at Rs 875 million Rs 450 million worth of boxing items of leather and 0.22 million cricket balls valued at Rs 16.87 million and 3.37 million inflated balls valued at Rs 253.12 million are produced in the cluster.** The above output is mostly from artisan sector that produces the products at cottage level except boxing sports goods items that are mostly produced from small scale and medium units located in Jalandhar town.

### 5.4.3 Processing

There are 10 number of leather processing units that are located in Ravidas Basti of outskirts of Jalandhar and this is one of the traditional cluster of tanning units. The leather processed in this cluster is utilised mainly for domestic purposes. However, it was found that, the processed leather usage for sports goods is although minimum, is sourced largely from mechanized processing units. The traditional processing units mainly supply their leather to footwear manufacturers.

### 5.4.4 Marketing

Sports goods produced in the country largely found market both at domestic and international. It is a fact that, nearly 65 percent of the total sports goods produced in India is sourced from Jalandhar cluster. Of the total output of sports goods in the country, 60 percent is exported and rest is for domestic consumption. Considering importance of the sports goods segment, government of India has established Sport Goods Export Council to support the sports goods manufacturing industry and enhance the country's exports share. Marketing access for artisan to sell their products is crucial in sustaining their vocation. Studies conducted on system of market by artisan shows that, major chunk of the profit is taken by middlemen as their no credible institutional support is available for the marketing support for artisan groups. The liberalised economy which was opened for global market, has severely impacted on artisan products and affected their market share. Many tiny and small scale units have disappeared due to too much competition from organized sector. Data related to marketing pattern of artisan and other small scale leather sports goods manufacturers is presented in table 5.7

Table 5.7: Marketing goods

Marketing Destination	Responses in %
Local	30
Outside	40

Export	30
Total	100

The data reveal that 30% of household sports goods artisans and producers market their products locally and 40% sell outside Jalandhar. Interestingly around 30% is constituted for export market. The sports goods contribute major portion in the export goods segment. Footwear produced at Jalandhar are sold in local market and also distributed to all other places with in the state. Based as the field survey, it is estimated that, Jalandhar produces yearly around 75.85 lakhs of footwear pairs which is major source of supply for domestic needs in the state.

#### ***5.4.4.1 Role of artisan, role of trader, role of wholeseller***

##### **5.4.4.1.1 Role of artisan**

In Jalandhar the survey team has visited two important localities that produces footwear and sports goods. In both locations, substantial numbers of artisan were involved in manufacturing activity. Data collected on role of artisans in Jalandhar cluster reveals that, nearly 5000 artisans are involved in footwear production activity and around 16000 artisans in sports goods manufacturing work. In the total work force, 80 percent belongs to Scheduled Caste community and women involvement is significant in sports goods segment.

##### **5.4.4.1.2 Role of trader**

The work distribution pattern is quite interesting in the cluster. The sports goods manufacturing system follows cut components distribution to households and pay the wages to workers on piece rate basis through middlemen. Those units take the responsibility of producing sports goods with own inputs market through traders and wholesalers. The marketing pattern and margin for the products are solely depends on the type of market link that producers are established.

#### 5.4.4.1.3 Role of Whole sellers

Like any other cluster, sports goods segment in Jalandhar is not exceptional from free of traders, the field visit indicate that, there are number of traders and whole sellers actively engaged in dealing in sports goods.

#### 5.4.4.2 Local brands

The sports goods marketed in India and abroad has lacks credible brand among artisan products However, Universal Sports Industries managed by Chadha group has developed the USI brand for their boxing leather sports goods which is popular among importers and domestic sports lovers. Most of sports goods are produced by artisans and tiny units in Jalandhar cluster are sold under unbranded mark particularly in the international market. It is a facts that, creation of brand image for any product need heavy investment on cumulative basis and sports goods industry with tiny scale and size con't affords to invest such a huge money on creating of standard brand. Hence, the penetration of brand image in sports goods of leather is is limited to USI brand that produces leather boxing items.

#### 5.4.5 Potential Causes of failure

Increase in the use of non-leather and ant change in consumer taste for leather sports goods would be main cause for potential failure of the project implementation. Also this industry may face challenges of marketing of its goods in case it is stick to older designs and marketing methods.

Possible reasons for failure of cluster are;

- Lack of skilled manpower supply
- Threats of Chinese sports goods as these products are in cheap in price.
- Age old designs by Indian producers
- Imposing any new higher taxes
- Lack of creation of required infrastructures
- Energy crises

- Any change in the international trade

## 5.5 Socio-economic importance of leather sports goods industry in the regional economy

The issue of importance of leather sports goods industry has been discussed and stressed that, this cluster provides employment to vulnerable class and approximately 21000 artisans are employed in footwear and sports goods industry. The District Industry Report indicates that, Jalandhar is place for many industrial activities that includes small, medium and large scale. In addition, artisans are also involved in productive activities in quite significant number. As per the annual report of district industry of Jalndhar, the cluster has 20042 industrial units that produced goods at the value of Rs 309043.63 lakhs. In this, the artisan sector contributed Rs 13081.64 lakhs worth of goods from 6491 units. However, the leather sports goods segment is at less than Rs 1000 lakhs in the total production. This reflects the role of artisan sector in total industrial production. Apart from supporting livelihood to large number of artisans, the sports goods segment is sustaining its production activity because of hereditary skills of artisan.

The cluster is also progressing actively due to support and helping hand extended by many corporate bodies and agencies with social concerns which are funding to build social infrastructures. Schools, community halls, training centres are established for artisan community to utilise them to empower themselves. Children enrolment is increased many fold and many parents encouraged children to attend school. Providing mid day meals, scholarship and books attracted large number of students to attend regular classes. In addition, regular health camps and women empowerment programmes are organized to benefit the artisan community in the cluster.

## 5.6 Working capital (Sources, Repayment, etc)

The field data shows that, most of artisan units engaged in leather processing and products manufacture are did not get working capital support from banking institutions as these units are small scale and unable to provide adequate security for the loan. Hence, availing working capital by artisans are limited to

negligible number. Most of artisans units and small scale units operating from household premises are managed with their own working capital. Generally the sales realization will take place after one or two months and till that time artisan units manage their units with their own working capital. Hence, question of repayment is not much importance to explain about it.

## 5.7 Value chain Analysis (Raw material purchasing patterns, Wages to hired labourers, Cost of production, margin to traders, selling price, mode of sale cash/credit)

### 5.7.1 Value Chain Analysis

In the value chain analysis, data were collected on the pattern of raw material purchase, selling method, wages to hired labourers, production cost, margin to traders, and mode of sales of leather sports goods. Data in the following tables indicate the raw material purchasing pattern and price of the raw material practiced by leather sports goods manufacturing artisans.

Table 5.8: Raw materials purchasing pattern

Raw material purchasing pattern	Responses in %
Local	85
Out side	15
Total	100

Data on raw material purchasing pattern presented in Table 5.8. The data shows that, 85% of respondent's purchases raw materials from local market; only 15% source their materials from outside Jalandhar. Some of sports goods related materials are sourced from imported agency. Based on the buyer's specification, the materials are sourced. For footwear manufacturers local market is major sourcing destination for all kinds of raw material requirement.

Table 5.9: Average price of raw material

Raw material	Price Range

Leather/ kg	160 – 1500
Synthetics/ meter	140 – 500

Data pertaining to raw material price is presented in Table 5.9. The data shows that, leather is purchased at Rs.160 to Rs.500 per Kg and synthetic, foam at Rs.140-500 per metre depending on the quality. The data indicate that, price of raw materials are in higher side and the share of leather in the total production is declined because of higher price. The field observation reveal that, raw material price was reasonably stable during last 6-8 years; the prices are exorbitantly raised in recent years, particularly during last 3-4 years. This is the main reason that artisans started turning towards non-leather products. They are unable to pay higher price and retaining better margins. At the same time, unable to sell leather footwear with the volume that they use to sell earlier which is also contributed for switching towards cheaper raw materials to produce footwear.

### 5.7.2 Wages to Hired workers

There are different kinds of wages paid to workers in India based on the nature of productive work. Piece rate, fixed wages, unpaid family labour and fixed monthly salery. The earnings of workers is reflections of degree of economic growth of the family. Data pertaining to wage level of the artisan are clooected and presented in the following table.

Table 5.10: Wage range paid to hired labours

Gender	Range of labour charge in Rs. Per day
Male	180 – 250
Female	100 – 150

Data related to wage range paid to hired workers is presented in Table 5.10. The data indicate that, male hired worker earns daily wage ranges between Rs.180 and Rs.250 and female members earns Rs.100-150 in a day. The

wages are paid on piece rate basis and volume of wages depends on the individual labour input. During festive seasons the wage earnings would increase by 20-30% as majority of the artisans works extra hours to meet the production demand. More orders are flow during festive seasons which is considered as peak season for artisans to earn some additional

### 5.7.3 Cost of Production

The survey team collected the data on cost of production for each leather item that produced at Jalandhar. It was found that, cost of production for Cricket ball (Standard ball –bagtanned) is 160 and another type of cricket ball (Standard ball –alumtanned) is Rs 275. In case of inflated balls the cost of production is Rs 960 for simple boxing gloves and Rs 905 for other cricket gloves. The cost of cricket ball is arrived due to use of leather as raw material with standard specifications and manufacturing methods. The ball is produced by using machine and stitched with hands to maintain strictly the quality standards. Majority of cricket ball stitchers are males and this is labour intensive work. Data presented in table 5.11 provide information on cost of production of certain leather sports goods in Jalandhar cluster.



Table 5.11: Production cost for select leather sports goods

Description	Cricket ball (Standard ball - Bagtanned) in Rs	Cricket ball (Standard ball- Alum Tanned) in Rs	Boxing gloves (Standard pair of gloves) in Rs	Wicket keeping gloves (standard gloves) in Rs
Raw material	Leather – 35-40	Leather – 80-100	Leather 6.5sft -- 525	Leather 5 sft - 400
Accessories	Thread -20 Cork -25 Wool - 4 Cork sheet -5 (30gms) Lacquer -5	Thread -20 Cork -25 Wool - 4 Cork sheet -5 (30gms) Lacquer -5	Pobster – 10 Cloth-10 Thread- 10 Cutting & Stitching -100 Mould -180	Rubber sheet -100 Denim -30 Cotton -20 Thread -15 Rubber solution -20 Finger protecting ring -30 Leather piping -20
Labour	35-40	70-80	100	150
Overhead	15%	15%	15%	15%
Total production cost	160	275	960	905

#### 5.7.4 Margin to traders

Traders are integral part of products marketing network in nay buseniess entity. They invest in marketing channel and earn certain margin to keep them to run their business. Traders in Jalandhar play important role in marketing artisan products by procuring and selling them at domestic as well as at international market. The survey team found that, the margin profit for traders is differ from traders to traders and is also depends on the type of products that they are dealing. In general on an average traders charge up to 10-15% as margin profit and in certain products such as boxing sports goods it goes even upto 20%.

#### 5.7.5 Selling prices of leather products

The prevailing selling price range of sports goods of leather are Cricket balls Rs 200-350 per piece, Rs 300-1000 a piece for inflated balls, Rs 1000 -5000 for pair of boxing gloves. Some of boxing leather items is sold on kilogram basis and costs according to the weight of the item. The prices are fluctuating based on various factors pertaining to raw materials, currency and demand for the products. Even, some of the exporters in the sports goods business face the problem of price fluctuation due to unsteady of doller at international exchange rate.

#### 5.7.6 Mode of Sale

Data related to mode of sale were collected during the study and same is presented in the table 5.12

Table 5.12: Mode of sales

Mode of sale	Responses in %
Cash	60
Credit	20
Both	20
Total	100

Data related to mode of sales is presented in Table 10.5. The data indicate that, 60% of artisans sell their products on cash and 20% on credit. Another 20% of artisans and sports goods producers market their products on cash as well as on credit basis. Depends on the quality and designs of the products and those products have high market demand, such products are transact on cash payment basis.

The nature of buying and selling of products depends on the mutual agreement between the buyer and trader involved in the business.

## 5.8 Target Beneficiaries

The main beneficiaries of the proposed project implementation are artisans involved in leather sports goods activity in Jalandhar cluster. These artisans basically engaged in stitching activity in inflated balls, cricket ball manufacturing, footwear manufacturing, leather processing and working as wage workers in leather sports goods items. The cricket balls are produced with the help of machines and stitching is done by hand. The survey identified that, the 21000 artisans force in Jalandhar are spread in different sports goods segment and some of them engaged in factory sector as wage earners. However, majority of women working leather sports goods works from household itself.

## 5.9 Skill assessment (Traditional skills, Training imparted)

The skills of persons can be assessed based on the certain parameters. Broadly two types of skills are dominantly found in the country. The traditional skills mostly confined to household and tiny level production where limited production activity is taking place. On the other hand, the trained skills generally are targeted for employability compliance and are offered in designated institutes. The traditional skills are largely hereditary in nature and passed these skills by generations. The skills involved in production of leather sports goods are mix of traditional and non traditional.

Data pertaining to degree of skill level found among the workers were collected and same is presented in the table 5.13

Table 5.13: Source of skill

Source of Skills	Responses in %
Traditional	80
New entrants	20
Total	100

Source of skills determine the nature of products and its quality as it reflect their manufacture system. Traditional skills possessed by artisans through hereditary are generally engaged in producing limited quantity of products with artistic skills. During the field survey, data related to source of skills collected and presented in Table 5.13.

The data reveal that, the footwear artisans in Jalandhar have acquired skills through elders and their skills are learnt through informal way in family vocation. Only 20% are considered as new entrants in the vocation. Such trend has taken place in footwear sector as some youngsters inclined to join the sector to utilize the available opportunity and learn the art to continue in the vocation.

In case of sports goods manufacturing units, households and artisans involved in stitching of Volley balls, Foot balls and Rugby balls accounts for 80% and they belongs to traditional community. Due to job opportunity available at doorstep, without any formal training, women and other family members took the stitching inflated balls and cricket ball production work.

It is interesting to note that, leather work is generally carried out by particular community in India, this is not exceptional in Jalandhar as majority of the artisans working in footwear and sports goods production sector hails from weaker section and continue to produce goods for domestic and export market.

Table 5.14: Training received by artisans (in %)

Training obtained	Responses in %
Yes	27
No	73
Total	100

Data pertaining to training received by artisans is presented in Table 5.14. The field data shows that, 73% of artisans did not receive any training to upgrade their skills; on the other hand around 27% of the respondents informed that, they have received training. It was observed that Sports Goods Federation of India (SGFI) has introduced training module to train the household artisans on quality goods production system. The skill update and confidence building through training is one of their activities that were targeted towards household artisans. In case of footwear artisans, it was observed that training approach is absent among artisans and many of them are relying on their traditional Knowledge. In few cases, the new entrant has to learn footwear work by attending simple component preparatory work. Hence institutional based training among footwear artisans is not found significantly.

### 5.10 Prospective implementing agency

The prospective implementing agency identified by KVIC at Jalandhar cluster is Marigold International Educational Society, BX-587, Kishanpura, Jalandhar.

Details Of Marigold International Educational Society - An NGO In Jalandhar, Punjab:

NGO Name : MARIGOLD  
INTERNATIONAL EDUCATIONAL  
SOCIETY

Unique Id of VO/NGO : PB/2011/0042926

Chief Functionary : Barinder Jit Singh

Chairman : Barinder Jit Singh

Secretary : Gursharn Singh

Treasurer : Ravi Khurana

Umbrella/Parent Organization : PaulFoundation

#### First Registration Details

Registered With : Registrar of Societies

Type of NGO : Society

Registration No : DIC/JAL/208

City of Registration : Jalandhar

State of Registration : Punjab

Date of Registration : 31-08-2000

Copy of Registration Certificate : Available

#### Sector/ Key Issues

Key Issues : Aged/Elderly, Art & Culture, Children, Differently Abled, Dalit Upliftment, Education & Literacy, Environment & Forests, Health & Family Welfare,

HIV/AIDS, Information & Communication Technology, Micro Finance (SHGs), Rural Development & Poverty Alleviation, Science & Technology, Urban Development & Poverty Alleviation, Vocational Training, Women's Development & Empowerment, Youth Affairs

Operational Area-States : Haryana, Himachal Pradesh, Punjab

Details of Achievements :

The Marigold International Educational Society is a registered organization, under the Society's Registration Act XXI of 1860; bearing Registration No. DIC/JAL/208 dated 31st of August 2000. Since the time of its inception, our organization is engaged in activities of education, health and environment. The society is also fully aware of the milieu in the social, economic, educational and environmental concerns. The society is particularly focused on helping the vulnerable section like the dalits, marginalized women, children and youth. It is therefore, engaged in the activities of literacy, vocational training and guidance, and the awareness building campaigns. The society is now desirous to engage in long term literacy and vocational programs, which is the felt need of larger

society, particularly the marginalized sections of the poor of the poors both in the urban and the rural areas. The urban areas are faced with the problem of migrant labour and rural areas are facing the problem of acute unemployment due to the mechanization of agriculture. Both these areas need equal attention and assistance for making their living. During the whole course of functioning, the society has developed a small team of staff to help and guide the needy people

#### Contact Details

Address : BX-587, Kishanpura, Hoshiarpur Road,  
Jalandhar

City : Jalandhar

State : Punjab

Telephone : 0181-5004394

Mobile No : 09417630673

E-mail : marigoldinternational[at]rediffmail[dot]com

Please refer for more details on this NGO at annexure-B enclosed with this report



## 6 Detail Analysis

Jalandhar is a popular cluster for production of sports goods of leather. The city has leather processing units and also houses the shoe producing factories for export purposes.

During the field survey in Jalandhar, information related to some of the critical parameters were collected and analyzed.

Artisan's involvement: **Jalandhar cluster produces footwear, Foot ball, Volley ball, Rugby ball, Cricket, Hockey balls and gloves.** It was found that this centre was popular for producing all leather sports goods a decade ago. However, in course of time, the trends of leather sports goods production activity has been changed drastically and in recent past due to raw material input cost factor and rising demand for non-leather goods, the Jalandhar cluster is involved more in non-leather sports goods production activities. During the field visit to Jalandhar, it was observed that, 3300 household units employing 15000 artisans are involved in producing Volley ball, Foot ball and Rugby balls at household level. In case of cricket, leather gloves and boxing items for sports purposes, around 1000 artisans involved in production process. The footwear sector which is concentrated in model house area of Jalandhar city has 250 units employing nearly 5000 artisans. Of the total footwear production in Jalandhar 95% constitute non-leather. **The annual out put of Jalandhar in terms of quantity and value is 8.75 million pairs of footwear valued at Rs 875 million Rs 450 million worth of boxing items of leather and 0.22 million cricket balls valued at Rs 16.87 million and 3.37 million inflated balls valued at Rs 253.12 million are produced in the cluster.** The above output is mostly from artisan sector that produces the products at cottage level except boxing sports goods items that are mostly produced from small scale and medium units located in Jalandhar town. It was observed that majority of the footwear artisans are migrants from Uttar Pradesh and belong to traditional scheduled caste community. These artisans use traditional skills for footwear manufacture. Sports Goods Federation of India (SGFI) which is established to look after the welfare activities of large number artisans and workers engaged

in producing sports goods is involved in number of artisan welfare related activities such as conducting schools for the wards of artisans, awareness programmes for health and other socially relevant programme with aid from government and international donors.

Level of skills and technology: During the field study in Jalandhar, it was observed that, the skills level in household sports goods production sector are largely found traditional. For some extent sports goods producing sector employ trained personnel at the supervision level to produce quality sports goods where as the household sector producing cricket balls largely employ the traditional method of production system. The field visit to Jalandhar and interaction with artisans reveal that, those youth who taken inflated balls stitching work at household level shown partial interest to undergo training and inclined to continue the job as there is not much employment opportunities available at the cluster. It was observed that basically, most of the school dropout youth who engaged in stitching activity aspiring for foreign jobs and work in the stitching activity to prepare for the job. This work will provide them some monetary benefit and experience in the job. The fact is that there is belief system in the society is that working in foreign country is a status symbol and many youth prefer to work in other country. As an alternative work for temporary earnings, some of these youngsters work in sports goods industry. Similarly footwear artisans in Jalandhar migrated from Uttar Pradesh and work for 8-9 months in a year. These artisans have a feeling of non-native and any intervention to improve their working condition and upgrade their skills may need to take confidence of local leaders.

Leather versus non-leather : Footwear and sports goods produced in Jalandhar are marketed in local as well for exports. The study team found that the footwear is for local consumption where as part of sports goods segment cater to the needs of exports market. It was observed that the share of non-leather products is emerging significantly in Jalandhar. For example 95% of footwear is non-leather and 90% of sports goods such as inflated balls and other goods are produced with non-leather materials. The consumers taste is changing towards low cost non-leather sports products with emergence of use

and throw attitude among the new age consumers. Hence cheap priced sports goods from non-leather segment are flooded in the market.

Service providers : Presence of service providing institutes in Jalandhar is confine to sports goods industry. Sports goods federation of India is established its office in Jalandhar and conduct various support programme for the benefit of artisans. Training, social awareness, health related benefits, etc are implemented by the SGFI. Currently, it has membership of around 15000 artisans majority of them are mostly from household level.

Some of the service providing institutions exist in Jalandhar are;

- Sports Goods Exports Promotion Council which basically support exporters of sports goods of all kinds. This institute is sponsored by ministry of commerce government of India is organizing trade fairs and arranging buyer and seller meeting to encourage the exports of sports goods from India.
- Regional centre of Council for Leather Exports, this is also sponsored by ministry of commerce government of India is supports to exports of leather products from the country. It also has common facility centre that support the artisans in basic manufacturing products.
- The regional centre of Central Leather Resear Institute is located in leather complex area where tanning units are working. CLRI is multi faceted institute where research, training, and technical support are provided to leather sector. The CLRI centre has undertaken the skilling of local youth for supplying trained manpower to leather and sports goods uindustry in Jalandhar. Short duration courses to long duration training programmes are regularly conducted at the centre.

## 6.1 Establishment of Centralized Resource Centre

The objective of the establishment of the Centralized Resource cum Cility Centre (CRC hereinafter) is to create an institutional mechanism and to

provide single window solution for comprehensive handholding in the following aspects:-

#### Common Facility centre

- Quality improvement and standardization of the products
- Technical & Technological assistance (Provision of Lasts, tools & Machines)
- Raw material and critical inputs information, procurement and issuance
- Micro Finance activity
- Market Intelligence and assistance
- Enterprise Development
- Product information
- Reporting/Monitoring evaluation/Experience share.
- Cluster/producer information

In order to facilitate the over all development and technological growth of the cluster, it is proposed to establish one Centralized Resource Centre in the cluster with one or two sub-centers, which can provide all kind of relevant information and support to the cluster.

In the proposed CRC basic infrastructural facility (like Machineries, standard tools, lasts, accessories etc.), would be created and provided to the artisans to upgrade the methodology, achieve Product standardization, enhanced Quality and higher Productivity. It is proposed that the CRC would be the nodal agency for the procurement and issuance of the Raw materials which will ensure availability of better quality of raw material as per market trend and demand and their timely issuance.

CRC would also be engaged in providing relevant information to the artisans in the key areas like design variations, market trend, potential segments, material information etc. The CRC would be repository of

the relevant information based on the analysis of the feedback received from the Marketing and Sales team and depictions of CRC members from the information collected from national and international Fairs/journals/catalogues etc. The information thus provided would brace up the Product positioning in the market and would ensure higher returns and long term sustainability of the artisans engaged in the Trade.

It is envisaged that the establishment of proposed resource cum facility center will assist different stake holders in obtaining the much required information & guidance reliably in quick time and experiencing better quality, higher productivity and product standardization with the use of machineries and tooling installed at the centre. This centre will also be a platform for constant interaction between different players of the craft environment.

The designers and trainers would be posted at CRC to provide regular support to the artisans. The quality inspectors and inspectors and facilitators will also be stationed at CRC for continuous assistance and guidance.

## 6.2 Market Potential/impact of the intervention

Any support measures for the benefit of artisan community is most welcome as it will boost the confidence of artisan community to continue in the vocation and enhance the earnings. It was true in the case of Kolhapuri footwear artisan where large number of artisan got benefitted due to institutional support. Similarly, suitable investment with institutional intervention at Jalandhar sports goods cluster would be most ideal to enhance the competence of artisan community. Skill improvement and training support of marketing of goods, creating brand image for the products and other socially relevant support measures would help artisan community to continue their vocation and preserve the age old art of traditional skills of sports goods manufacture and creation of further employment.

Description	Cricket ball (Standard ball -	Cricket ball (Standard ball-	Boxing gloves (Standard	Wicket keeping gloves (standard
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	Bagtanned) in Rs	Alum Tanned) in Rs	pair of gloves) in Rs	gloves) in Rs
Total production cost	160	275	960	905
Prevailing selling price	Rs 200-350 per piece	Rs 300-1000 a piece	Rs 1000 - 5000	Rs 1000 - 5000

In general on an average traders charge up to 10-15% as margin profit and in certain products such as boxing sports goods it goes even upto 20%.

### 6.3 Key issues and challenges (Operations / Finance / Marketing / Social / Infrastructure / raw material / skill development / any other)

The key issues observed during recent visit to Jalandhar cluster pertaining to operations, finance, marketing, social issues, infrastructural availability, raw material usage and skill development will be discussed as follows.

#### 6.3.1 Operations

The entire sports goods production activities are divided in to leather and non leather production segments. The non-leather production segment comprises many sports goods items that are mostly produced with machines and hand. In case of inflated balls, the production process takes place mostly on job work basis where middlemen plays major role in distributing the cut components to household stitchers and deliver the finished balls to the units. At the same time leather based sports goods are manufactured in limited quantity and operations are limited to cricket balls, gloves and boxing items.

#### 6.3.2 Finance

Majority of artisan based units operate in small scale and at household level, availing finance facility from banking and other financial instititons are reported

insignificant. Couple of the leather processing units located in Rohidas Colony of outskirts of Jalandhar town availed the loan facility and repaid their dues which helped them to expand their business. However, due to price fluctuations, the leather business has been affected severely and unable to compete with cheaper imported leather from China, these units faced huge loss and subsequently closed down their units. It shows that, banking and financial facility availed by the artisan community is little help as the major reason is widespread imports of alternative materials from China and lack of support from government.

### 6.3.3 Marketing

The field visit and interaction with stakeholders reveals that, marketing of leather sports goods in Jalandhar is a major cause for concern for many artisans. Due to lack of support of marketing network, most of artisans are selling their products to either middlemen or merchants who pay lower price for their products. Although, artisans put hard labour and skills in producing leather sports goods, their biggest challenge is to sell their goods at a better price to a reliable agency is not existence. Some of the respondents strongly suggested support of KVIC to market their products and urged to open its outlet in the Jalandhar sports goods cluster to facilitate the artisans market their goods directly. Hence, it was observed that, marketing of their products for a better price is the most problem faced by Jalandhar based artisan community.

### 6.3.4 Social

The artisans involved in leather sports goods production activity are largely belong to socially disadvantaged section. The leather processing and producing leather products is the traditional occupation that only downtrodden community take up the occupation. Even women and artisans who are working in non-leather sports goods segment are also belong to scheduled castes of socially vulnerable community. It was observed that, large scale entrepreneurship among these traditional leather communities was not noticed and many of them content with tiny and micro scale of production system.

### 6.3.5 Infrastructure

There is not much infrastructure facilities built for the use of artisan community in the cluster. Most facilities whether production related or processing infrastructures are created by artisan themselves. However, Sports Goods Foundation of India (SGFI) has taken up the task of creating few infrastructural facilities for the benefit of artisan community that are engaged in sports goods manufacturing activity in Jalandhar. The foundation is running the schools for the wards of artisan and also created the facility for crèche. Apart from that, the team observed that, not much visible infrastructures are built for the exclusive use of artisan community.

### 6.3.6 Raw materials

Leather sports goods that are produced with leather input are confined to cricket balls, gloves and boxing items. These items constitute less than 10 percent in the total output of sports goods produced in Jalandhar. In other words, use of leather in sports goods manufacture is limited to few items and that too at declining trends. The cricket balls and boxing items are adequate leather from local tanning units that supplies with good quality. Hence, it was found that, raw material issue is not much any difficulty in sourcing and most producers and traders in the Jalandhar who produces leather sports goods are content with supply of raw materials. This is also true in cases of non-leather materials as majority of the raw material inputs are sourced from local market.

### 6.3.7 Skill Development

Skill improvement is the major area that most stakeholders including artisan expressed need urgent intervention. During field visit, the team had interaction with many industry leaders who suggested that, skill manpower supply is major constraint that leather sports goods industry is facing at Jalandhar. The rapid declining trends of cricket manufacturing activity are largely affected by non-availability of skilled manpower especially for stitching. Some of the units that survey team visited witnessed that, cricket ball stitchers are belong to middle and older aged persons. It is a fact that, any business entity to continue its production activity uninterrupted is solely depends on the skilled manpower.



Due to reluctance of youngsters to take up the leather sports goods jobs, it is facing severe shortage of trained skilled manpower. In one of the interviews held with leading boxing sports goods manufacturer indicate that, the firm is training the raw candidates on its plants on various operations with stipend support. Some of the trained persons leave the factory for better payment and it faces the burden of training fresh candidates. The overall supplies of skilled manpower with updated training knowledge are inadequate and institutions should work on this issue to support the Jalandhar sports goods industry.

#### **6.4 Trend analysis of changes in leather sports goods industry over recent years**

Majority of the inflated balls for sports and gloves produced at Jalandhar over the years has the flavor of hand production skills that has artistic in nature in which large numbers of artisans are involved. Leather usage was dominant in these products till few decades ago and leather became costlier and beyond reach of many artisans that led to switch over to non-leather products production activity.

The field data on the trends of production system of sports goods of leather indicate that, use of leather in sports goods is declining over the years in view of cost and reduced market demand for leather sports goods. Hence, artisans alternatively started using non-leather to cut the production cost to stay in the market competition. The fact is that, liberalized economy has attracted many international producers toward Indian market to sell their products at much cheaper prices. This has impacted heavily to a large number of artisan community in the country because of their age-old designs and production method. It was found that, China-made sports goods posing a great threat for the Indian artisan community to become vulnerable to lose their market share in view of the cheaper products from China. China being a fast-developing country has adopted mechanized production system with mass scale that produces huge quality of products in low cost. Further, the Chinese government also supports their industry by incentives that helps the country to market its goods all over the world. Hence, mass scale production coupled with

government support made Chinese goods most competitive in the international market.

## 6.5 Solutions

The study team from CLRI during its visit to Jalandhar sports goods cluster gathered vital information on functioning of cluster and its immediate needs for its sustenance. The intensive interaction held with many stakeholders during the exercise of data collection process, it was found that, trained manpower for leather sports goods industry is the most and major issue that crippling the industry. Supply of trained manpower would enhance the competence of the industry and will impact better quality of products. It also considerably improves the workmanship of workers where reject quantity of sports goods of leather would be minimized. The broader opinion felt by industry leaders and entrepreneurs expressed that, skilling of artisans and training them through institutional intervention would create greater environment in which trained manpower get ready jobs in many leather sports goods units with better salary.

It is envisaged that the establishment of proposed resource cum facility center will assist different stakeholders in obtaining the much required information & guidance reliably in quick time and experiencing better quality, higher productivity and product standardization with the use of machineries and tooling installed at the centre. This centre will also be a platform for constant interaction between different players of the craft environment.

The proposed CRC basic infrastructural facility (like Machineries, standard tools, lasts, accessories etc.), would be created and provided to the artisans to upgrade the methodology, achieve Product standardization, enhanced Quality and higher Productivity. It is proposed that the CRC would be the nodal agency for the procurement and issuance of the Raw materials which will ensure availability of better quality of raw material as per market trend and demand and their timely issuance.

Thus targeting youth from artisan community for effective training and linking them for placement in established sports goods manufacturing units may ideal

intervention to provide better solution for the artisan community. The fact is that, some of the cricket balls manufacturing units already shifted their base from Jalandhar to Meerut in view of shortage of trained manpower. There is apprehension that, leather based sports goods industry will disappear from Jalandhar cluster in case right intervention of training needs of artisan community are not addressed with right perspective. To create employment opportunities and re-establish the confidence among artisan community is to train them with suitable perks and link their training with existing units that absorb the trained workers.

## 6.6 SWOT (Strength, Weakness, Opportunity, Threat)

### 6.6.1 Strengths

- Excellent demand for leather sports goods products.
- Lesser competence as few units in limited locations (Jalandhar and Meerut) produces sports goods
- Great potential to expand the market as volume is too low
- Good number of traditional artisans with readu skills
- Excellent Government support for the industry
- Better demand at international market

### 6.6.2 Weakness

- Shrinkage of leather based production sports goods units
- Reluctance of youngsters to continue in the family vocation
- Lack of institutional intervention
- Low quality leather based sports goods manufacture, especially cricket balls
- Lack of market support from government
- Stigma of leather vocation

### 6.6.3 Opportunities

- Creating major sports goods manufacturing cluster in India by investing infrastructure
- Well established international market link to expand it further
- Opportunity to diversify the sports goods of leather products with mixing of leather and non-leather inputs
- Creation of employment for the local youth with suitable training input
- Empowerment to women who are basically works from home and chance to enhance their earnings with improved livelihood and status
- Synergy of tying up with local institutions for effective implementation of developmental programmes for the benefit of artisan community

### 6.6.4 Threats

- Free market that allows liberalized imports of cheap sports goods of leather products including processed leather particularly from China
- Exodus of leather sports goods units to neighbouring States where abundant labour force is available
- Inadequate investment on creating required infrastructures
- Imposition of taxes on household products
- Implementation of strict environmental regulations
- Emergence of alternative employment opportunities where youngsters would prefer to take up the employment

## 7 Implementation

### 7.1 Strategy (Vision & Mission / Technical & Financial Intervention / Stakeholder Identification/ Critical Success factors /Growth & Sustainability)

#### 7.1.1 Vision & Mission

To create a better leather sports goods manufacturing cluster in the country, an planned approach must be initiated to achieve it. This includes identification of appropriate area for right intervention, investment and artisan participation the proposed vision. Generally artisan products have limited market demand due to its ethnic products in nature and hand based production system that most artisans are adopted. Due to many reasons, the demenad for artisan products have been declined over the years. Many artisans are out of their family vocation and are become vulnerable to lose their employment as they are unable to comptet with emerging products that are manufactured from factory. In this process, the team that visited the leather sports goods cluster in Jalandhar identified the skilling of artisan community to sustain their vocation and preserve the art of producing leather psorts goods. In addition, these trained artisans may also take up the employment at the sports goods manufacturing units to support their livelihood. Hence, the mission for leather sports goods cluster is to target the artisan empowerment mode where suitable training intervetntion have to be implemented.

Not only Investment in creating Common Facility Centre is an ideal solution and is far from the vision and mission but also and creating right trained manpower for the benefit of artisan community is also contribute significantly the growth of the cluster. Such investments on CFC with training component may yield desired results vowing many reasons. It is envisaged that the establishment of proposed resource cum facility center will assist different stake holders in obtaining the much required information & guidance reliably in quick time and experiencing better quality, higher productivity and product standardization with the use of machineries and tooling installed at the centre. This centre will also be a platform for constant interaction between different players of the craft environment. Under the above discussions, it is suggested that, KVIC should

focus to implement the creation of CFC would producing better trained manpower for the benefit of leather sports goods industry in Jalandhar. The designers and trainers would be posted at CRC to provide regular support to the artisans. The quality inspectors and inspectors and facilitators will also be stationed at CRC for continuous assistance and guidance.

### 7.1.2 Technical & Financial Intervention

The establishment of proposed resource cum facility center will provide/enable Training programme on soft protective items like batting gloves & wicket keeping gloves, cricket ball and boxing gloves for sports goods cluster of jalandhar. Soft protective items for sporting goods industry include Gloves, Caps, Abdomen Guards, Leg Guards etc. which are used for protecting the players during the game from being hurt from the fast moving balls and also attacking players. These are called soft protectives to separate from the other category of protective equipments like Helmets, Shin Guard etc. that are hard item moulded from plastics or composite materials. On the other hand the soft protectives are made from fabrics like leather, cotton and synthetic cloth etc. which are stitched with stiffeners for giving adequate protection to body parts. India is an important player due to the excellent skill base available in Jalandhar. With the increasing popularity of games like Cricket, boxing the demand for soft protectives is showing a good trend growth during the recent period. This has led more players joining the field and need of more skilled workers for producing the items. The supply side problem is so far the skill of stitching soft protectives is acquired through family and the skill flowing from the parents to children of families belonging to weaker communities. Though the product is more than fifty year old, there is no skill development course for soft protectives in or around Jalandhar. This is suggested over and above to the footwear related training.

#### 7.1.2.1 The Need

The need for a resource cum facility center will assist training programme with adequate technology inputs was felt by the Jalandhar cluster with the widening of the gap of the demand and supply for skilled human resources for soft

protectives like batting gloves and wicketkeeping gloves and for making Boxing gloves and cricket ball. The demand for large supplies within a short time frame in the export market also needs use of technology in the form of better stitching machine, templates fixtures etc. to improve productivity and also minimize the skill component in the process to assure uniform product quality. Another element that brought urgency in introduction of technology in the industry was the rigorous standards like European Conformity (CE) mark stipulated by the developed countries for protective gears.

#### Common Facility centre

- ✓ Quality improvement and standardization of the products
- ✓ Technical & Technological assistance (Provision of Lasts, tools & Machines)
- ✓ Raw material and critical inputs information, procurement and issuance
- ✓ Micro Finance activity
- ✓ Market Intelligence and assistance
- ✓ Enterprise Development
- ✓ Product information
- ✓ Reporting/Monitoring evaluation/Experience share.
- ✓ Cluster/producer information

In order to facilitate the over all development and technological growth of the cluster, it is proposed to establish one Centralized Resource Centre in the cluster with one or two sub-centers, which can provide all kind of relevant information and support to the cluster.

In the proposed CRC basic infrastructural facility (like Machineries, standard tools, lasts, accessories etc.), would be created and provided to the artisans to upgrade the methodology, achieve Product standardization, enhanced Quality and higher Productivity. It is proposed that the CRC would be the nodal agency for the procurement and issuance of the Raw materials which will ensure availability of better quality of raw material as per market trend and demand and their timely issuance.

CRC would also be engaged in providing relevant information to the artisans in the key areas like design variations, market trend, potential segments, material information etc. The CRC would be repository of the relevant information based on the analysis of the feedback received from the Marketing and Sales team and depictions of CRC members from the information collected from national and international Fairs/journals/catalogues etc. The information thus provided would brace up the Product positioning in the market and would ensure higher returns and long term sustainability of the artisans engaged in the Trade.

It is envisaged that the establishment of proposed resource cum facility center will assist different stake holders in obtaining the much required information & guidance reliably in quick time and experiencing better quality, higher productivity and product standardization with the use of machineries and tooling installed at the centre. This centre will also be a platform for constant interaction between different players of the craft environment.

The designers and trainers would be posted at CRC to provide regular support to the artisans. The quality inspectors and inspectors and facilitators will also be stationed at CRC for continuous assistance and guidance.

Process, Product & Design development: The traditional method of production which ideally should have led to the growth of the artisans did not accrue the benefits as the modern production methods have changed the product market. It is therefore imperative to ensure that the knowledge of such area shall be



made available to the artisans if the growth of the craft is required to be sustained in the long term. To ensure complete transfer of technology in the cluster following interventions are planned.

**Training of artisans and Entrepreneurs:** A large number of small enterprises are struggling to sustain themselves for want of necessary developments in the field of design & process, technology, management training etc. The skills of up gradation exercises in following focused areas are planned:

- ✓ Design & Product Development
- ✓ Productivity & Quality Enhancement
- ✓ Product and size standardization
- ✓ Micro-enterprise development

**Training of Trainers & designers:** In order to ensure a continuous knowledge base resource the exercises of training of trainers and designers will be carried out. It will directly help to create a strong base of knowledge resource persons in the clusters.

The impetus of design intervention will be on the enlistment of the technology, material & the changes in the fashion trend, design methodology etc. so that the necessary changes can be incorporated to increase demand and sale ability of the products.

**Establishment of Design Display centre:** For addressing the design needs of the cluster, it is proposed to set up a design display centre in the centralized resource center. The design will have complete archive of design, which will be made available to various user groups to help them to diversify/innovate products. A regular up gradation of knowledge, material and fashion trend will thus provide support to the design activity. This centre will be set up in the CRC where from it could be easily accessible from all the major clusters.

Provision of Raw material and critical input: The provision of availability for raw material and other critical inputs such as good quality lasts conforming to the standard size and fit, qualitative beads, threads, finishing materials, embroidery material, tools and equipment etc. of latest trends and technology will be made to help artisans make qualitative product with innovative design as per the market need.

The artisans/ manufacturers/SHG's will be encouraged to source their raw material requirement through CRC as the materials as per the current trend and fashion are mostly not available to them through outside traders due to small quantity, distance and cost. The availability of the good quality raw materials tools and equipment meeting the trend and fashion requirement of the trade will make the product more competitive and saleable in the market and reduce dependence on the outside traders.

The CRC will try to make these materials available at location nearest to the village clusters on regular basis.

#### *7.1.2.2 Advertisement and brand promotions*

Advertisement and brand promotions: A serious intervention is required to be put in for creating and positioning the brand in the market by proper advertisement and publicity of the product in various market segments - on National as well as International level.

Advertisement, publicity and brand promotion through Electronic Media and Print Media: The advertisement and publicity of the traditional ethnic products are planned through all the effective media such as Electronic channels, various News papers, in national as well as international magazines and journals etc which can ensure wider reach , higher recall value and powerful penetration of the product in the market.

Advertisement and brand promotion through Catalogues, Brochures Signages, Posters, display counters etc: To ensure brand building and brand promotion of the product on national as well as well as international platform. It is necessary to create awareness regarding the product through intensive advertisement and

publicity plan as the rural ethnic products have not yet achieved proper platform (market) due to lack of advertisement and proper exposure even though there is a big market for ethnic -products in India as well as abroad. This is not only discouraging the people, engaged in the cluster but also causing a serious threat for the entire efforts made towards preservation of the ethnic art and culture of the country.

Considering the fact it is proposed to develop exclusive Catalogues and Brochures of the product range and also to advertise the products range and its exclusive features through display counters, posters, signages etc. for higher visibility and greater impact.

#### ***7.1.2.3 Market Linkage***

To tap the potential of the domestic market and provide direct access to the unexplored international market in a collective manner.

Development of the market linkage is a key factor on which the long term development of the cluster depends. The current market of the product is erratic & insufficient therefore expansion of the market will be the prime requisite. The strategy of the intervention would revolve around display of the product at various national and international fairs, tie ups with retail outlets/emporiums and establishment of display centres/exclusive retail outlets and E-commerce facilities etc.

#### ***7.1.2.4 Participation in Trade fair/exhibitions***

The participation in various national and international trade fairs is required for the positioning of the product on national and international platform and at the same time would initiate the direct linkage between the manufacturer and the buyer. The participation in international domestic fairs organized is aimed .at providing adequate international and national market• exposure of the ethnic products and would help in tapping a huge market of ethnic and hand made artistic products by bringing innovative design, fashion trends and technology in the trade and making the product better acceptable and saleable in the market.

The international exposure and the wider marketing reach across the country would also encourage and motivate the people to remain and grow in the trade.

#### *7.1.2.5 Sales & marketing*

Sales & marketing: The continuous marketing and sales support to the cluster is planned with the intervention of the implementing organization. In order to ensure strong penetration in the market it is imperative to have a continuous market analysis and feedback system for identifying the trend, demand, segments where there is high acceptability of the product and the possible modifications in the product, desired, to give it a better positioning in the market. To achieve this a team of executives will be appointed whose efforts would be oriented to ensure better marketing and sales value of the product and at the same time give feedback to the CRC regarding the trend, design, market demand etc. so that desired modifications and alterations could be carried out to make the value added product better acceptable in the market. To ensure the sustainability of the marketing activity it is also proposed to induct SHG members in the marketing team and train them accordingly. This will further reinforce the long-term relationship between the buyers and the cluster people after the completion of the intervention period.

#### *7.1.2.6 Tie ups with retail outlets and Emporiums*

Considering the current retail and mall culture and the trend of niche customers moving to mega retail houses in the country it is important to position the products in these retail houses for better positioning and visibility. The positioning of the products in such kind of retail chain will not only give a better exposure and wider reach of the products in all segments but would also cause a value added brand image of the product in the market.

In order to widen the reach and higher penetration in the market, sincere efforts are to be made to display the products in Government emporiums/exhibitions categorically. The establishment of exclusive retail outlets and display centers is also proposed to ensure brand creation and positioning in the market.

#### ***7.1.2.7 E-Commerce Facility***

Considering the strong presence of E-commerce as strong cost effective emerging marketing tool for marketing as well as advertisement of the products, it is important to strengthen the marketing and positioning of the product by providing E-commerce facilities to the cluster. The E-commerce facilities need to be created for sports goods for qualitative marketing and advertisement support to the product. This will also help in creating brand building and stepped up positioning of the products in the market. Further the CRC needs to be equipped properly with e-facilities for effective for effective management of the interventions/activities.

#### ***7.1.2.8 Credit Support***

To promote formal sources of credit amongst those at the lower side of the supply chain to help them expand, upgrade and facilitate the building of capital.

The credit related interventions are mainly aimed at the artisans/unit holders, contractors and the local traders. Introduction of formal channels of credit supply through banks/FIs would open up new channels and avenues. The concept of SHG formation will be encouraged, so that the FIs/banks can be linked to them and sourcing of easy credit and soft loans, other than that of the local contractors, traders and money lenders are available.

#### ***7.1.2.9 The Institute***

Since the KVIC is interested in developing Jalandhar sports goods cluster with suitable intervention, the need for developing a technology oriented training programme for select sports goods was felt, due to the above reasons. On further discussions with the cluster based institutions it was found that, local NGO, M/s Marigold International Educational Society in association with Regional Centre for Extension and Development of Central Leather Research Institute (RCED) is fully capable for conducting the proposed training programme. In fact, RCED of CLRI at Jalandhar is already conducting training programmes on leather garment and the equipment and the expertise available was adequate for starting the training programmes.

**7.1.2.10 Target Group: Artisans and any new aspirant****a. CFC Creation: Rs. 94 Lakhs****b. Training intervention : Rs. 66 Lakhs**

Total cost (Rs.): Rs 22,000/- per candidate inclusive of training kit and minimum 100 artisans per year

Scheme –Khadi Reform and Development Programme (KRDP)

Method to be used for identification of the trades for skill development training:  
The proposed training course has been identified on the following basis:

- i. The need of the local sports goods cluster for skilled manpower for making soft protective items and footwear
- ii. The healthy growth rate in export of boxing gloves, soft protective gears, cricket ball
- iii. The requirement of developed countries for quality protective items which will conform to rigorous safety standards like CE mark.

Details of Post-training Follow-up and Monitoring of Programmes to be undertaken:

As the participants of the training programme are expected to be immediately absorbed by the industry, not much follow up will be required. However regular feedback on their performance will be done by setting up a monitoring team comprising of Sports Goods Manufacturers and Exporters Association (SGMEA), KVIC who will be monitoring the course in all respects.

Expected outcome of the project: **Availability of trained human resources to the sports goods industry for making quality protective gears for sports with latest technology and satisfying the product norms.**

**7.1.2.11 Trade wise targets**

Name of the Organisation:

Sl. No.	Trade	Duration	Full Time/ Part Time	No. of trainees to be trained in a year
1	Soft Protective Goods (batting gloves and wicket keeping gloves)	2.5 Months	Full Time	20
2	Soft Protective Goods (wicket keeping gloves)	2.5 Months	Full Time	20
3	Boxing Glove	2.5 Months	Full Time	20
4	Cricket ball	2.0 Months	Full Time	20
5	Footwear	2.5 Months	Full Time	20

#### 7.1.2.12 Cost of training

Cost of training per candidate is Rs 22,000/-

#### 7.1.2.13 Expenditure particulars

S.No	Particulars
1.	Creation of CFC with equipments (Hard & Soft)
2.	Cost of materials
3.	External faculty charges
4.	Institutional Charges
5.	Advertisement expenses

6.	Stipend for candidates
7.	Inaugural & Valedictory expenses
8.	Stationary expenses
9.	Transportation expenses
10.	Expenses towards hospitality & Refreshment to trainees

#### *7.1.2.14 Training schedule*

TRAINING DURATION : Two and half months (12 weeks) each for the trade Soft Protective Goods (batting gloves and wicket keeping gloves), Soft Protective Goods (wicket keeping gloves), Boxing Glove & Footwear and Two Months (8 weeks) for the trade Cricket ball

#### *7.1.2.15 Course structure*

- a. Cutting Section : 1 week
- b. Assembling & Stitching Section : 6 / 8 weeks
- c. Pattern Making : 1 week



### 7.1.2.16 Course contents

- Cutting Section:
  - Selection of Material of construction
  - Accessories
  - Pattern Cutting & Marking, Interlocking
  - Scissor Cutting
  - Cost Estimation
- Assembling & Stitching:
  - Preliminary Exercises
  - Stitching Machines, Needles, Threads and other grinders
  - Glove Manufacture
- Pattern Making:
  - Measurements
  - Pattern Making
  - Pattern Grading

The training must be implemented with enrolment of enthusiastic batch of artisan community that should be identified by the NGO's and other any implementing agency by scrutinizing genuine beneficiaries. For this, the agencies must undertake thorough exercise to identify the right artisans and motivate them for undergoing skill improvement training programme. The training duration should be minimum of two months and total strength should be 20 persons per batch. The field visit and previous experience of the survey team found that, training component should be implemented with adequate wage compensation to derive the maximum benefit of the training and need to motivate the artisan for participating in the training programme. Providing

transport and other training facilities, each artisan must be paid minimum wages as compensation of his earnings to meet his family needs. The fact is that, many artisans are losing their daily earnings during training period and after training; there is no immediate guarantee that, they get better wages for training appreciation. Hence, to make more attractive for implementing the training programme, it is strongly suggest that, KVIC must implement the payment of wages to artisans during their training period.

The study found that, Jalandhar cluster has 15000 artisans engaged in household inflated balls stitching, cricket balls manufacturing activities. In addition to sports goods activities, the study also brought out the data that, nearly 5000 artisans are engaged in footwear manufacturing activity. However, it is more desirable that, training programme must be implemented to artisans involved in sports goods activity.

The artisans during training period may be paid certain amount of stipend as wage compensation apart from providing other facilities. The size of the trainees has to be restricted to 20 persons per batch; however it could be fixed in consultation with logistic providing institutions. The training module must accompany with an expert who act as liaison of training to look after the placements for the trained persons.

### 7.1.3 Stakeholders Identification

The responsibility of enrolling right artisans for the training must lies with NGO which is take the lead role in implementing the training programme. Effective selection of probable artisans with care ful scrutiny would make easy for conducting the training and this will impact rightfully to benefit the target group. In many instances, training is conducted on paper and output is not that much visible to showcase. Hence, it is suggested that, identification of appropriate trainees and making them skillful for the employment need genuine efforts. At the same time, identification of stakeholders who are needed the trained manpower has to be kept ready so that trained personnel would be deployed to those who need them. The stake holders list must be prepared in association with leaders of industries and artisan representatives.

#### 7.1.4 Critical Success factors

For the successful implementation of people centric programmes, the previous experiments shows that, people participation is must and in this programme, it is strongly suggested that, artisan representatives must participate in the training activity right from identification to train the artisans. The systematic training schedule should be devised to impart the training to artisan with all supportive arrangements.

Following are main critical factors of successful implementation of training programme for artisan community in leather sports goods cluster in Jalandhar.

1. Establishing the Common Facility Centre by KVIC with the identified IA
2. Adequate representation of artisan community in the project implementation agency
3. Selection and enrollment of right trainees
4. Payment of right wage compensation to trainee artisans
5. Tie up with stake holding industrial leaders for their support
6. Clear cut role defining to each participating institutions
7. Effective monitoring of training programme
8. Taking corrective measures in each training batch for more effective training impact
9. Avoid force to impart training to artisan
10. Preference to impart training to at least one member from an artisan family
11. Linking trained persons to industries with regular income earnings

#### 7.1.5 Growth & Sustainability

The industry's growth mainly depends on two important critical components, they are quality manpower and quality output. The trained personnel are major

strength of the manufacturing unit that boost production many folds. World wide some of the successful entrepreneurs practice that, trained manpower are strong pillars of the entity. They put their expertise in producing fine quality products that stay in the market for longer period. The sports industry of Jalandhar has the advantage of producing sports goods and supplying to wider market, however, it faced major challenge of recruiting quality manpower as some of the youth switching over to other emerging areas for the employment. In the absence of quality manpower, many units in the production leather sports goods content with lower quality output. This has impacted the unit value realization of the leather sports goods.

To sustain the output and stay in the competitive market, it is most desirable that, quality manpower must be supplied to industries on continuous basis. This project aimed for that purpose where in training area is emphasized and producing quality manpower for the industries make ensure to upgrade the quality output.

## 7.2 Risk factors

Since leather sports goods industry has to compete with other international players, it has to equip itself with better tools in terms of quality manpower, quality raw material input and better infrastructural facilities. Enhancing production output by way of adopting mechanical method of production system also an option, however sports goods of leather sector exists mostly in micro and small scale level. It is strongly advised that, improvement of workers and artisan skill would be more ideal for the cluster. Investment in manpower skill up gradation is always rewards to productive output in many ways. Any apathy towards non-iniation of skill up gradation and training of manpower for the ready employment to industry is considered as major risk factor.

The other risk factors associated with sports goods of leather industry are;

1. Increase in input cost that will enhance the unit price
2. Increase in the taxes
3. Non availability of skilled labours

4. Lack of market support
5. Non accessibility to technical institutions

### 7.3 Cost/Investment Estimates

The proposed training should be targeted to artisans and unemployed youth. In this process, the NGO should clearly devise the plan to train the personnel for useful to leather sports goods industry. At the same time training benefit also should be extended to artisan community to enhance their workmanship. In this process, it is desirable to target at least 100 persons to impart the training to enable them to either to join the leather sports goods manufacturing units or enhance their production capabilities. These trainees have to be assessed after their successful completion and their usefulness to industry before continuing the training session for extended period. As has been mentioned that, the training should be implemented in association with technical institutions such as CSIR-Central Leather Research Institute which is having its regional centre located at Jalandhar. CLRI have the requisite infrastructure to provide technical support in terms of training manpower and artisan skill up gradation.

The cost of each trainee is arrived at Rs 30000 which includes stipend, institutional charges and training materials. The training duration is two months or two & half months period.

The time line for training in one year period total number of trainees should be minimum of 100 persons. Based on the degree of success of training for industry, the monitoring committee has to take the decision of continuation of training programme.

### 7.4 Proposed Intervention

A. Capacity Building - **Rs. 2.0 Lakhs**

Particulars	2016-17	2017-18	2018-19	Total
20 awareness camps	8	8	4	20
<b>Total Financial out lay (Rs. In Lakhs)</b>	<b>0.75</b>	<b>0.75</b>	<b>0.50</b>	<b>2.00</b>

B. **Training intervention** : Rs 20,000/- per candidate inclusive of training kit, stipend, others - **Rs. 60.0 Lakhs**

Particulars	No of persons	2016-17	2017-18	2018-19	Total
Soft Protective Goods (batting gloves and wicket keeping gloves)	20	4.0	4.0	4.0	12.0
Soft Protective Goods (wicket keeping gloves)	20	4.0	4.0	4.0	12.0
Boxing Glove	20	4.0	4.0	4.0	12.0
Cricket ball	20	4.0	4.0	4.0	12.0
Footwear	20	4.0	4.0	4.0	12.0
<b>Total Financial out lay (Rs. In Lakhs)</b>	-	<b>20.0</b>	<b>20.0</b>	<b>20.0</b>	<b>60.0</b>

**C. Common Facility Centre (CFC) Creation/ repair/maintenance - Rs. 72.0 Lakhs**

Particulars	2016-17	2017-18	2018-19	Total
Repairs, renovation and maintenance of building	10.0	7.0	3.0	<b>20.0</b>
Equipments / Generator	10.0	5.5	5.5	<b>21.0</b>
Stipend to the trainees	5.0	5.0	5.0	<b>15.0</b>
Transportation	2.5	2.5	2.5	<b>7.5</b>
Contingencies	1.5	1.5	1.5	<b>4.5</b>
Consumbles	1.5	1.5	1.0	<b>4.0</b>
<b>Total Financial out lay</b> (Rs. In Lakhs)	<b>30.50</b>	<b>23.0</b>	<b>18.50</b>	<b>72.00</b>

**D. Marketing promotion - Rs. 6 Lakhs**

Particulars	2016-17	2017-18	2018-19	Total
Buyers sellers meeting	0.0	0.75	0.75	<b>1.5</b>
Participation in exhibitions	0.0	0.75	0.5	<b>1.25</b>
Website development (MIS)	1.0	1.0	0.5	<b>2.5</b>
Advertisement /Booklet	0.25	0.25	0.25	<b>0.75</b>

<b>Total Financial out lay</b> (Rs. In Lakhs)	<b>1.25</b>	<b>2.75</b>	<b>2.0</b>	<b>6.0</b>
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#### E. Other Expenditures - **Rs. 20 Lakhs**

<b>Particulars</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>Total</b>
Operational Exp./Working fund	0.0	1.0	1.0	<b>2.0</b>
Management grant to IA	1.0	1.0	1.0	<b>3.0</b>
Cluster development executive	1.5	1.5	2.0	<b>5.0</b>
IT and other staffs (Two nos)	2.0	2.0	3.0	<b>7.0</b>
TA Intervention / Monitoring	1.0	1.0	1.0	<b>3.0</b>
<b>Total Financial out lay</b> (Rs. In Lakhs)	<b>5.5</b>	<b>6.5</b>	<b>8.0</b>	<b>20.0</b>

**Total financial budget requirement (A+B+C+D+E): **Rs. 160 Lakhs****

### 7.5 Roles and Responsibility of the stake holders

Since KVIC has already identified the local NGO Ms Marigold International Educational Institute for Jalandhar sports goods cluster, the survey team held discussions with NGO for its expertise in fixing responsibilities of skill up gradation and training to unemployed youth. It was found that, NGO has taken up some of the socially useful programmes from many government institutions and implemented them successfully in Jalandhar. The training programmes targetted various groups empowerment initiatives, has helped the artisan community in some extent. Based on the previous exposures, the NGO has the capability to take up the coordinating the proposed skill up gradation and



training programmes. This NGO also work in association with technical institutions such as CSIR-CLRI and other agencies to draw the required expertise to arrange the training at Jalandhar cluster.

Role of IA –

- The IA would be the custodian of the CFC and the fostering agency for the development of the cluster
- SEcretary, IA will be identify the artisans for the training programme
- IA shall keep the records / documents in upto date
- Trainees stipend, kit shall be given without any delay and respective reports shall be maintained
- The IA would in turn sale facilitate from raw material availability to the sales in different markets through established networks and also supported with local associations.
- Training programmees and meetings shall be organized by the IA
- IA may contact TA during the training programme if required with a fee with applicable taxes

## 7.6 Roadmap & Time lines

The skill up gradation and training programmes in sports goods of leather should be continuous activity and it is recommended that, skill up gradation and training programmes must be implemented on regular basis. This initiative will make sure of supply of trained manpower to sports goods sector uninturrepted. The task is to train at least 100 persons in the initial stage and based on the usefulness of trainees and feedback from stake holders, the training may be continued with restricted intake to maintain the quality out put of trainees. The enrolement for training is most crucial that one has to take utmost care while selecting persons for training and skill up gradation programmes.

## 7.7 Research and development Intervention

Since DPR is suggesting focus on skill up gradation and training intervention to help sports goods industry, the role of research and development is restricted to innovative training approach to move with industrial development. The training module suggested in DPR may be changed and modified based on the industry requirement and further expert opinion may be incorporated. New pattern making and design components may be addressed under the training programme where regular up gradation for existing artisans may be effected during the training course.

## 7.8 Monitoring & Evalaution

Repesantatives from sports goods industry, government and training institutions should form the independent monitoring body that oversee the overall progress and implementation of the training and skill up gradation programme. This is required in view of effective impact of training and its usefulness for the industry. The monitoring body should fix regular meeting schedule according to standard monitoring pattern followed in the industry.

A Cluster Moniotoring committee (CMC) may be constituted under the control of State Director, KVIC, Jalandhar. The CMC may meet six months and the members may be suggested as follows,

- State Director, KVIC, Jalandhar – Chairman
- Lead Bank Manager – Member
- Representative from PCBI-KVIC, Mumbai – Member
- Representative from TA (CSIR-CLRI) – Member

Secretary of NGO (IA) - Convener

**Annexures**

## Annexure – 1 – THE CRICKET BALL

### THE CRICKET BALL

The cricket ball is a hard, red or white coloured solid ball with an interior of cork and wool and leather case with a slightly raised sewn seam. An ideal cricket ball should have smooth surface, high scuff and abrasion resistance, good impact resistance and perspiration resistance. The ball must not lose its shape by hard hitting of batsmen.

The ball, when new, shall weigh not less than 5 ½ ounce / 155.9 gms. nor more than 5 ¾ ounce / 163 gms and shall measure not less than 8 13/16 inches / 22.4 cm. nor more than 9 inch / 22.9 cm in circumference. The specifications change for women's cricket and junior cricket, becoming smaller and lighter. In women's cricket the weight can range from 140g – 151g and the circumference from 21-22.5 cms. In junior cricket, the stipulation is 133-144g and 20.5 – 22 cms.

The traditional cricket ball is red while for day-night one day matches; a white ball with an olive green coloured seam is used to make it easier to see under floodlights and against coloured clothing. Recently, yellow coloured balls have been introduced which are lighter and softer and are used for indoor cricket.

The manufacturing of cricket ball and other sports goods in the country is done mainly in Jalandhar (Punjab) and Meerut (U.P). The sports goods industry started in India from Sialkot (now in Pakistan) around year 1890. After partition, business of sports goods owned by Hindus and Sikhs got shifted to Jalandhar and Meerut. Gradually, this industry emerged as the leading Centre of world market for sports goods. The cricket ball is a major leather based sports goods item today as synthetic material have replaced leather in other sports goods items like inflated balls, hockey balls, wicket-keeping pads etc.

### The Leather

The cricket ball leather used now-a-days is made in two steps. In the first step, alum tanning / bag tanning of cow hides is done in household units in some villages of Meerut district of U.P. For good quality balls, alum tanned leather is preferred. Only the double butts of heavy cow hides are used.



The semi-processed, alum / bag tanned butts are subsequently dyed and dressed in sports goods units. The processes involved are bleaching with hydros & tartaric / oxalic acid & dyeing by brush dyeing method. For white leathers, the alum tanned butts are applied with curd to get a soft feel.

Dubbin prepared with tallow and castor/ groundnut oil is then applied and rubbed well on both sides of the leathers and the butts are then dried. Finally the leathers are either hand stretched or stretched in clamps to remove excess stretch. Sometimes, impregnation of leathers with waxes or dipping into resinous oil is done to prevent damage to the leather by rain water. The area of a double butt is around 14 sq.ft. The substance should be 3 – 3.5 mm.

The leathers made by above process lack in quality and consistency. The major problems reported in such leathers are deshaping / swelling of balls in rainy season, poor stitch tear and perspiration resistance, poor rub fastness, colour variation, darkening of colour during storage (mainly in bag tanned leathers), yellowing of white leathers, colour migration to seams etc.

For improving quality and consistency and to overcome the above mentioned problems, processes have been developed where the entire processing is done involving scientific leather manufacturing processes like Chrome-Zirconium combination tanning, Chrome-Aluminium combination tanning, Aluminium tanning & Zirconium tanning; unlike the household tanning where no scientific method is followed to control the process. Drum dyeing & fatliquoring with proper fixing eliminates the colour fastness problems.

Zirconium tanned leather has been reported to be the much better in qualities like easier stitching, surface smoothness, shape retention, compactness, abrasion and impact resistance etc. Aluminium tanned leather comes next. Cricket ball manufacturers like Kookaburra, who is the largest manufacturer of cricket balls in the world, also use alum tanned leathers.

## Cricket Ball Making

As mentioned earlier, the two important components of a cricket ball are the core and the leather cover.

The core of a cricket ball is made using 3 / 5 / 7 layers of cork and wool depending on the quality of the ball. More layers are used for higher quality balls. Cork comes mainly from Portugal. The cork is cut into thin slices with a draw knife. The centre of core is a small rectangular shaped piece of cork (sometimes moulded with granulated rubber) known as marble. The smaller the nucleus (marble), the more expensive and higher quality the ball is. The marble is then layered alternately with pure new wool and cork to give a round shape.

The wool is wound wet under tension to compress each of cork layers to produce on drying, a core with the required bounce and shape retention qualities. It is very critical that the core has the correct firmness and bounce, without being too hard so as to damage expensive bats. The core so prepared is then seasoned for 4-5 months. The weight of core after seasoning is approximately 100 gms.

There are two basic types of cricket balls: a two piece ball and a four piece ball. The four piece ball is more traditional one. That is how they were made when they were first evolved, because the covers are formed from four quarters of leather. A pair of quarters is fabricated together, which gives them their basic shape. The two piece ball was created much, much later, probably in the early part of this century, simply a disc of leather which is dampened and forced into shape with a press. But the four piece ball is still required in the upper grades of cricket.

In four piece ball making, four quarters of leather are cut from the butt portion matching in both colour and weight. The control of weight of the core and the leather is very crucial as the ball has to finally weigh within a stipulated weight range. The quarters are then skived on edges to be joined. Two quarters are then hand sewn with two needles to give a half. The sewing is done with waxed 5/6 cord cotton/polyester thread with high breaking strength and wear resistance. Vegetable tanned leather reinforcement pieces are then attached to the two halves by sticking inside. The two halves so formed are then processed in a rounding machine which gives them a round shape and removes all wrinkles & excess stretch. The excess



leather which comes out of rounding cup is trimmed. The core is then covered with the cups and the cups are hand stitched together in a bonded, cross, lock stitch pattern with boar bristles while holding & pressing them in a stitching frame. Six rows of stitches, three each on the two cups, are formed. The number of stitches per row is kept as 75-80. The stitches should be slightly raised and not flat.

The seam of the ball is used to produce different trajectories through the air, with the technique known as Swing bowling, or to produce sideways movement as it bounces off the pitch, with the technique known as Seam bowling. The seam also provides good grip on the ball.

The joint of the two cups, sewn together, is then levelled by light hammering. The surface of the ball is then cleaned with a nylon cloth and lemon. After quality checking, the balls are normally finished with nitrocellulose lacquer or wax finishes. The balls are then stamped with company logo and other details. The balls are lightly pressed again to restore the shape that gets distorted because of pressure applied during stitching.

The approval criteria of a ball are based on hardness, bounce, impact resistance of ball and effect of impact on bat, shape retention, weight and circumference.



## Annexure – 2 – SURVEY SCHEDULE/QUESTIONNAIRE

### Survey Schedule/Questionnaire



CSIR-Central Leather Research Institute, Chennai-600 020

#### SCHEDULE-: Personal Interview with Stakeholders

Name: ..... Contact No: .....

Raw Material:

Sources and type of raw materials: .....

Price range: .....

No of raw material dealers at present in the cluster: .....

Trends in raw materials : Increase / Decrease / Stable

Any change in raw material usage over the last 5 years: Yes / No

If Yes, name the use of new materials and reasons

.....

What are the difficulties in raw materials sourcing :

.....

.....

What is your suggestion on raw material issue:

.....

.....

.....

.....



Market:

What is the pattern of market of the products: (in %) Export ..... Domestic .....

No. of dealers and exporters at present: .....

Any Institutional support for marketing the products: Yes / No

If Yes, name the Institute .....

Price range for leather products:

.....  
.....  
.....  
.....

What are the difficulties in marketing the products:

.....  
.....  
.....  
.....

What are your suggestion to overcome the marketing problems:

.....  
.....  
.....  
.....

**Skills:**

What is the level of existing skills at present in this cluster (in %) :.....

Any technical Institute support the skilling of workers: Yes / No

If Yes, name the Institution's.....

How the skill up-gradation is taking place? .....

Are there any complaints in the quality of manpower hiring? Yes / No

If yes please specify .....

Composition of gender in leather sports goods & other products production activity:

(in %)

Cricket balls		Inflated balls		Leather Footwear		Any other (Specify)	
Men	Women	Men	Women	Men	Women	Men	Women

What range of wages are paid at present in this cluster:

Daily earnings Rs. Men.....Women.....

Whether earnings are regular or seasonal : .....

What are your expectation from Institution/agencies to improve this cluster

.....  
 .....  
 .....  
 .....

Production:

What are existing leather products and provide daily production details

.....  
 .....  
 .....  
 .....

Whether production trends is increased / decreased / constant over the last 5 years.

If increased reasons for it : .....

If decreased reasons for it : .....

Please provide production cost details of leather products .....

Item / Description	Qty / no	Value in Rs.
Raw Materials		
Accessories		
Over heads		
Labour		
Total		

Please provide value chain in marketing process:

Name of Product .....

(In Rs).

From Production to Retails Sales	
Production base price	

Packaging Cost	
Transportation Cost	
Middleman Commission	
Dealer's margin	
Retail Sales price	

Could you provide source of capital?

.....

Is there any brand image available for existing leather products?: Yes / No

If yes, Name of the brand.....

Can you list out priority facilities for investment in this cluster to enhance the competence and benefit to this cluster

1 .....

2 .....

3 .....

Remarks

Date:

Name of the Investigator:

Signature:

### Annexure – 3 – SURVEY PHOTOGRAPHS



Group of young artisans in the Colony - Jalandhar



An artisan stitching the Football - Jalandhar



An youngster in action - stitching football – Jalandhar



Cricket ball production unit - Jalandhar



Artisna in action to stitch cricket ball – Jalandhar



CSIR-CLRI team interacting with artisan of cricket ball production unit - Jalandhar



Leather Gloves inspection by scientist of study team



Varieties of leather sports gloves manufactured in Jalandhar





Cricket ball with leather outer case ready for stitching process



Micro traditional artisan unit engaged in cricket ball manufacture



Skilled artisan at household cricket ball stitching action at Jalandhar



Woman at stitching of inflated ball at house– Non leather material used



Experienced artisan stitching activity of inflated ball



Traditional leather processing unit processing leather for artisan consumption



Study team with representatives from KVIC and NGO discussing with industry leaders



Intensive interaction with sports goods industry stake holders

**Annexure – 4 – NGO PARTICULARS**

## Information on NGO particulars

Name and address of organization :- Marigold International Educational  
Society BX-587, Kishanpura, Hoshiarpur  
Road,

Jalandhar , Punjab-144004

Contact Person and contact details:- Barinder Jit Singh (Chairman)

Contact No. 09815597890

Ownership As per Audit report and Lease deed att..

Recognition By KVIC Yes

Inception 31-08-2000

Employment Male Female

Infrastructure List attached

Equipments for production and processing List attached

Products Handicraft items-212

Production per day 1-2 items per SHG average 30 Items

Turnover in last three years 1013-14 :- 5270118

2014-15 :- 5879047

2015-16 :- 6254

Turnover for exports Nil

Benefit of any scheme availed previously As per undertaking attached

Benefit availed at present, if any 375 Artisans under AHVY scheme of Ministry of  
Textile



**GOVERNMENT OF INDIA**

Telephone : Office : 2459692  
Fax : 2223010

Office Of The  
Commissioner of Income-tax,  
Jalandhar-I, Jalandhar-144001.

No. CIT/JL-I/Trust/271/08-09/4021

Dated : 28-11-08

- |    |                             |   |  |
|----|-----------------------------|---|--|
| 1. | Name & address of the Trust | : | Mari Gold International Educational Society,<br>Hoshiarpur Road, Kishanpura,<br>Jalandhar. |
| 2. | PAN                         | : | -  |
| 3. | Date of order               | : | 27.11.2008   |
| 4. | File No.                    | : | CIT/JL-I/Trust/08-09/271   |

**Order 12AA(1)(b)(i) of the Income Tax Act :**

The Society was created on 01.04.2008 and registered with the Registrar of Societies on 08.05.2008. An application u/s 12A(a) of the Income-tax Act, 1961 for registration of trust, in the prescribed proforma, has been filed on 29.05.2008.

2. In compliance with the provisions of Section 12A of the Income-tax Act, 1961 read with Rule 17A of the Income-tax Rules, 1962, the trust has furnished the following documents :

- i) **Certified copy of Memorandum of articles of Association .**
- ii) **List of the members of the Managing Committee.**
- iii) **Copy of the certificate of registration by the Registrar of Societies.**

2.1 The main aims & objects of the Society are to impart education to poor and needy children, religious & cultural advancement and other activities of general public utility on charitable basis.

2.2 The objects of the Society are charitable in nature within the meaning of Section 2(15) of the Income-tax Act, 1961. The books of account are maintained and are audited. The activities of the trust at this stage appears to be genuine. The Society is thus treated as satisfying the conditions laid down u/s 12AA(1) of the Income-tax Act. Registration is accordingly allowed to the trust w.e.f. from 29.05.2008.

12A(a) File\_335

3. The mere fact that the Society has been granted registration under Section 12A of the Income-tax Act, 1961 does not confer any right or entitlement upon the assessee/ applicant regarding the operation of Section 11, 12 and 13 or any other provision of the Income-tax Act, 1961. The assessee trust is to file returns of income regularly and the operation of Section 11,12 and 13 or any other provisions of the Income-tax Act, 1961 is to be decided by the AO depending upon the merits of the case for each such year under consideration. Hence the availability of the benefit of registration is strictly subject to the provisions of the Income-tax Act, 1961 read with the Income-tax Rules, 1962 and in particular the provisions in the light of which the income qualifies to be considered as "exempt" and the provisions pertaining to the utilization/investment/manner of deposit of the funds. Any existing or subsequently framed rules and regulations and law bye-laws governing the Society, contrary to the provisions of the Income-tax Act, 1961 read with the Income-tax Act, 1962, shall render this order null and void.

4. The application has been entered in at Sr.No. 271 of the register of Society maintained in this office.

- Sd -  
( K.S. PATHANIA )  
COMMISSIONER OF INCOME TAX

**Copy to:**

- ✓ 1. The Applicant.
- 2. The Addl.CIT, Range-II, Jalandhar.
- 3. The A.O.

*Nand Kishore*  
( NAND KISHORE )  
INCOME TAX OFFICER (TECH)

CSIR File 336



**GOVERNMENT OF INDIA**

Telephone :Office :2459692  
Fax :2223010

**OFFICE OF THE  
COMMISSIONER OF INCOME TAX,  
JALANDHAR-I, JALANDAHR -144001.**

No.CIT/JL-I/Trust/271/11-12/2536

**Dated : 14.10.2011**

Name & address of the Trust. : Marigold International Educational Society, BX-587, Hoshiarpur Road Jalandhar.

PAN : -

Date of application : 04.05.2011

Date of order : **14.10.2011**

**ORDER UNDER RULE 11AA(4) OF THE INCOME TAX RULES, 1962:**

Donations made or to be made to will qualify for exemption under section 80-G of the Income Tax Act, 1961 in the hands of the donors subject to the limits and conditions prescribed therein. This exemption will be valid for the donations made from 01.04.2011 onwards and thereafter in view of ammendment made in section 80G(5) of the Income-tax Act, 1961 by the Finance Act 2009 effective from 01.10.2009.

*SJK*  
**( SUBHASH KUMAR )  
COMMISSIONER OF INCOME TAX**

**Notes :**

1. Receipt book should have printed number with duplicate receipt for record.
2. Receipts issued to the donors should bear the number and date of this order.
3. Statements of accounts viz. Income and Expenditure etc. should be submitted annually to the AO/Addl/Joint Commissioner of Income Tax, Range-II, Jalandhar.
4. The amendments, made to the constitution, if any, should be intimated to this office immediately together with a copy of the rescitution/amended deed.

**Copy to :**

- ✓ 1. The assessee Trust.
2. The Jt. Commissioner of Income Tax, Range-II, Jalandhar. He should verify and satisfy himself that the applicant continues to fulfill the conditions laid down u/s 80G and instructions issued by the Board from time to time. Violation, if any, should be reported to this office.

*S.S. Saini*  
**( S.S.SAINI ) 14/10/2011  
INCOME TAX OFFICER (TECH)**

MK(Trust)238



दूरभाष : 0120-4089800  
**राष्ट्रीय मुक्त विद्यालयी शिक्षा संस्थान**  
 (स्कूल शिक्षा और साक्षरता विभाग, मा.सं.वि.मं.,  
 भारत सरकार के अंतर्गत एक स्वायत्त संगठन)



Phone: 0120-4089800  
**NATIONAL INSTITUTE OF OPEN SCHOOLING**  
 (An Autonomous Organisation Under Deptt. of School  
 Education and Literacy, M.H.R.D., Govt. of India)

Ref: F-25/NIOS/SSS(Voc. Accr.)/AAC-100/2014/1398

Dated : 23/6/2014

Dear Principal,

As per the recommendation of 100<sup>th</sup> Accreditation Advisory Committee - (AAC) meeting held on 30-5-2014, I am to inform you that your institution has been provisionally accredited as Accredited Vocational Institution (AVI) of National Institute of Open Schooling (NIOS) for the following Vocational Education Courses from the current academic session 2014. This is further to inform you that there are two admission sessions beginning from 1<sup>st</sup> January and 1<sup>st</sup> July of every year.


Name of the Courses & Code	Maximum Intake in one Session	Course Duration
1. Cutting, Tailoring & Dress Making - (705-706)	25x1	One Year
2. Cutting & Tailoring - (605)	25x1	Six Months
3. Dress Making - (606)	30x1	Six Months
4. Early Childhood Care & Education - (439-441)	25x1	One Year
5. Indian Embroidery - (628)	25x1	Six Months

You have been allotted AVI No. - 660053. Please quote this number in all future correspondence with NIOS.

You are permitted to run/introduce above course(s) with minimum 8-10 learners. Your AVI falls under NIOS Regional Centre - Chandigarh. Please send your requirement for the syllabus, study material, prospectus, etc. to the Regional Centre of NIOS at: YMCA Complex, Sector-11C, Chandigarh-160011, Ph.: (O) 0172-2744915, 3950979, Fax : 0172-2744952, E-mail:rcchandigarh@nios.ac.in endorsing a copy thereof to the Incharge, Material Distribution Unit, CWC Godown Campus, 4/B, G.T. Karnal Road, Rana Pratap Bagh, Opp. State Bank Colony, Delhi- 110033, Ph. - 011-27416329, Fax. - 011-27240012, Email: mpdd@nios.ac.in. For any other assistance regarding admission, examination etc. you may contact your respective Regional Centre

The institution should display a sign board of NIOS Study Centre of size 3'x2' (white back ground with blue letters) outside Institute's premises. An amount of Rs.700/- (Rupees Seven Hundred only) will be reimbursed to you by the concerned Regional Centre, NIOS only on production of receipt of proof of preparation & placement of the sign board. Also please find enclosed two copies of Memorandum of Understanding (MoU) and a proforma for appointing Coordinator of the AVI. You are requested to fill the MoU and proforma and return the same to the undersigned within 21 days from the date of the letter.

With warm wishes,

Yours sincerely,  
  
 (Dr. Saranya Chaudhary)  
 Director (SSS)

The Principal  
 Marigold Technical College  
 Kishanpura Chowk  
 Jalandhar-144004, Punjab  
 Ph: 0181-5004394  
 Email: marigoldinter national@rediffmail.com

Copy to :

1. The Regional Director, NIOS Regional Centre, Chandigarh
2. SAP, NIOS 3. Dy. Dir. M.P.D.D.

Issuing Office: District Industries Centre, Jalandhar

**CERTIFICATE OF REGISTRATION OF SOCIETIES**  
(ACT XXI OF 1860)


No. DIC/JAL/208 of 2000-2001 Date: 31st August, 2000

I hereby certify that MARIGOLD INTERNATIONAL EDUCATIONAL SOCIETY, HOSHARPUR ROAD, KISHANPURA, JALANDHAR has this day been registered under the Societies, Registration Act, (XXI of 1860) and as amended by Punjab Amendment Act, 1957

Given under my hand at Jalandhar this 31st Day of August Two thousand

Fee Rs.500/-



  
ADDITIONAL REGISTRAR OF  
Societies Jalandhar  
SOCIETIES JALANDHAR

## List of Infrastructure/Assets available with the agency

Sl. No.	Particulars	Quantity
A List of Fixed & Movable Assets:-		
1.	Mini Bus	1 No.
2.	Maruti Ecco Van	1 No.
3.	Television	1 No.
4.	Audio System	1 No.
Furniture: -		
5.	Benches	64 No.
6.	Desk	40 No.
7.	Chair	150 No.
8.	Office Table	04 No
9.	Tracing Table	01 No.
10.	Teacher Table	10 No.
11.	Office Chair	05 No.
12.	Revolving Chair	02 No.
13.	Almaries	12 Nos.
14.	Library Almera	06 No.
15.	Dummy Model Male	01 No.

16.	Dummy Model Female	01 No.
17.	Dummy Model Children	02 No.
18.	Computer with Printer	04 No.
19.	Swing Machine	22 No.
20.	Bike Servicing Machine	01 No.
B	Equipment:-	
21.	Sliding Chair	01 No.
22.	Bollaster (2 Types)	02 No.
23.	Corner Chair	01 No.
24.	Stair Case	01 No.
25.	Gripper For Finger	03 No.
26.	Sand Bags	05 No.
27.	Walker	01 No.
28.	Angel Pully	01 No.
29.	Brain Model	01 No.
30.	Ear Model	02 No.
31.	Heart Model	01 No.
32.	Skelton	01 No.
33.	School Bell.	01 No.
34.	Black/White Boards	15 No.
35.	Caspian	10 No.

C	Learning & Teaching Materials:-	
36.	Microscope	02 No.
D	Sports Materials :-	
37.	Carrom Set	01 No.
38.	Cricket Kit	01 No.
39.	Lazim	12 No.
40.	Soft Ball	06 No.
41.	Boxing Kit	02 No.
42.	Boxing Gloves	06 Pairs
43.	Table Tanis	01 No.
44.	Aquarium	02 No.
E	Other Items	
45.	Generator	01 No.
46.	Water Cooler	01 No.
47.	Refrigerator	01 No.
48.	AC	03 No.
49.	Over Head Projector	02 No.
50.	Projector	02 No.
51.	LCD 40"	01 No.
52.	Sound System	01 No.
F	Infrastructure available	

53.	Office	01 No.
54.	Rooms	12 No.
55.	Library	01 No.
56.	Laboratory	01 No.
57.	Ac. Hall	01 No.
58.	Computer room	01 No.
59.	Store	01 No.
60.	Outlet	01 No.

## List of Employees at Marigold International Educational Society

S.No	Name & address of employee	Educational qualification sex/ class	Male /Female	Age	Post
1.	Sujan Singh 14, Ajit Nagar, Tanda Road, Jal;ndhar, Punjab	MA, B.Ed	Male	62	Principal
2.	Daljeet Kaur BX-386, Kishanpura, Jalandhar, Punjab	MCA, MPA, B.Eds	Female	37	Teacher
3.	Palwinder Kaur H.No 19 / 20, Santokhpura, Jalandhar, Pb	BSC (Eco)	Female	27	Teacher
4.	Sandeep Kaur N.A 76/ A Jagatpura , Jalalandhar	B.A (Honours)	Female	28	Teacher
5.	Priyanka Sharma N.C 77 / 1 Kot kishan chand	M.A , BEd , P.G.D.C.A	Female	25	Teacher
6.	Anuradha H.No 20/B Arjun Nagar, Jal	M.A , BEd	Female	35	Teacher

7.	Nancy N.A 121/2 , Kishanpura , Jal	M.A , BEd	Female	24	Teacher
8.	Reena H.No 73 New Hardyal Nagar, Jalandhar	M.A. BEd	Female	27	Teacher
9.	Jyoti BX-403, Santokhpura, Jalandhar	Fashion Designing	Female	26	Instructor & Designer
10.	Ravinder Kaur VPO- Bias Pind, Jalandhar	Diploma in Stenographer	Female	28	Clerk
11.	Poonam Ali Mohalla, Jalandhar	BA. BEd., ECC.,	Female	35	Teacher
12.	Chanderka VPO- Bulandpur, Jalandhar	Cutting & Tailoring Teachers Training	Female	27	Instructor
13.	Avtar Singh VPO-Budhiana, Jalandhar	Diploma in Leather Technolagy	Male	30	Instructor
14.	Anita BX-611, Santokhpura, Jalandhar	Diploma in Indian Embroidery	Female	28	Instructor
15.	Davinder Kaur, 634, Santokhpura, Jalandhar	Diploma in Embroidery and needle work	Female	32	Instructor
16.	Manpreet H.No Go. G.R.D Nagar, Jalandhar	MSC (IT)	Female	25	Compute r operator
17.	Kuldeep Kaur Village Dhogri, Distt- Jalandhar	+2	Female	38	Asst. Tracher
18.	Parveen BIX 669, Santokhpura, Jalandhar	10th	Female	42	Maid of Honour
19.	Balwinder Singh Santokhpura, Jalandhar	8th	Male	45	Driver
20.	Gurpreet VPO-Bulandpur, Jalandhar	5th	Male	23	Cleaner

# Detailed Project Report (DPR)

---

Handmade Paper Cluster, Kalpi



**Submitted to:**

**Khadi and Village Industries Commission**

**Submitted by:**



**Technology and Action for Rural Advancement (TARA)**

B 32, Tara Crescent, Qutub Institutional Area,

New Delhi 110016



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# Chapter 1

## CLUSTER PROFILE

### 1.1 Background

The Indian handmade paper industry has been identified as one of the village industries. It has seen significant growth in last one decade because of increased demand of handmade paper and paper products not only at national level but in the international arena. As per estimates there are nearly 450 handmade paper units scattered around India. 50% of these units are located in Kalpi, UP. Kalpi located 120 kms from Jhansi, is the biggest handmade paper cluster in India.

Kalpi district has a total population of 44,000. However, the people involved in production of handmade paper are only 1500. The industrial area of Kalpi has close to 200 units situated. These have a combined production capacity of 12,225 MT with an annual turnover of 86 crore. The volume of exports (domestic) from the cluster is to the tune of 90 crores.

The cluster dates back to 1954. Since the beginning, KVIC played a significant role in the cluster. After entering the cluster they started organizing the artisan through Khadi Societies. Till 2000, the industry at Kalpi flourished owing to its location i.e. on the industrial belt. Since, Kanpur is on the Kolkata – Delhi highway, there was easy access to raw material and easy to get the final product to the market.

Following this, till 2006, the industry was its high. There was product innovation and also the technology was improved and the process became more mechanized. More and more units started using Cylinder Mould. After 2006 the industry started facing major problems in the areas of raw material, marketing, product diversification and design development. Also, the competition in the market had peaked by now and with slow product innovation and economic recession, the downfall of the handmade paper industry was initiated. The enterprises as a measure to keep them afloat in the market started adopting certain cost cutting measures that degraded to the quality of the sheets. Use of low quality raw material, bleaching of material etc. cut down the production cost but at the same time heavily reduced the quality of the handmade sheet produced.

### 1.2 Regional setting of the cluster

Uttar Pradesh comprising of a total of 243,290 sq. km, is divided into 18 administrative divisions, comprising of a total of 75 districts.

Kalpi tehsil falls under Jalaun district in the administrative division of Jhansi, Uttar Pradesh. Kalpi comprises of two towns- Kalpi and Kadaura and 195 villages.

District administration comprises of Revenue, Development, Police (Law and Order), Judiciary, and Local self-government. District Magistrate is in charge of revenue & administration. He is assisted by Additional District Magistrate (Finance and Revenue) i.e., ADM (F&R). At the tehsil level Sub Divisional Magistrate is in charge, who is now redesignated as Up-Jila Adhikari. He is assisted by Tehsildars in each tehsil and for revenue collection each tehsil is further entrusted to Naib Tehsildars and Kanongos's circles respectively. For each revenue village, Lekhpal is In-charge. Chief Development Officer (C.D.O) and District Development Officer (D.D.O) are In-charge for development activities in the district. They also assist District Magistrate for implementation and monitoring of various development schemes in the district. Project Director is also deployed to assist D.M and C.D.O. in formations & supervision of different development programs in the

district. For development of rural area, district is further divided into Development Block well known as Vikas Khand (also known as Office of Kshetra Panchayats). Block Development Officers (B.D.O) look after development works at Blocks level. For his assistance, Assistant Development Officer and at village level Village Development Officers have been deployed.

### 1.3 Location

The proposed cluster is set up in the Kalpi tehsil of Jalaun district in Uttar Pradesh. This cluster covers the town of Kalpi. Kalpi is located 34 kms from Orai, the district headquarters of Jalaun district and 164 km from Lucknow, the state capital and 77.8 km from Kanpur, a major industrial town in North India. The native languages are Hindi and Urdu.



Figure 1.1: Geographical location of Kalpi

### 1.4 Evolution of the cluster

Kalpi has been declared an Industrial Belt by the Government of India and is known for the hand-made paper produced here.

Post-independence, during the period of 1954-1975, the KVIC played a significant role in the cluster. Upon entering the cluster, they organized the artisans through Khadi Societies. This led to the development of the Village Industries in the area, one of which was the handmade paper.

Post this, till around 2000, the cluster saw more and more artisans taking up the profession. During 2000 to 2006, the cluster flourished. Handmade paper in the forms of Chatai, Cards, Fiber paper, Envelop, Letter Head, Filter and Plain paper flooded the market, using the Cylinder Mould Machines.

Post 2006, business slumped. Major problems cropped in the areas of Raw Materials, Marketing, Product diversification and design development. Due to high competition in the market, many units were forced to shut down due to lack of aggregated action.

## 1.5 Demography and growth trends

As per details from Census 2011, Uttar Pradesh has population of 19.98 Cr, an increase from figure of 16.62 Cr in 2001 census. Total population of Uttar Pradesh as per 2011 census is 199,812,341 of which there are 104,480,510 male and 95,331,831 female. In 2001, total population was 166,197,921 in which there were 87,565,369 males and 78,632,552 females.

The total population growth in this decade was 20.23 percent while in previous decade it was 25.80 percent. The population of Uttar Pradesh forms 16.50 percent of total Indian population in 2011. In 2001, the figure was 16.16 percent.

Description	2011	2001
Approximate Population	19.98 Crores	16.62 Crore
Actual Population	199,812,341	166,197,921
Male	104,480,510	87,565,369
Female	95,331,831	78,632,552
Population Growth	20.23%	25.80%
Percentage of total Population	16.50%	16.16%
Sex Ratio	912	898
Child Sex Ratio	902	916
Density/km <sup>2</sup>	829	690
Density/mi <sup>2</sup>	2,148	1,787
Area(Km <sup>2</sup> )	240,928	240,928
Area mi <sup>2</sup>	93,023	93,023
Total Child Population (0-6 Age)	30,791,331	31,624,628
Male Population (0-6 Age)	16,185,581	16,509,033
Female Population (0-6 Age)	14,605,750	15,115,595
Literacy	67.68 %	56.27 %
Male Literacy	77.28 %	68.82 %
Female Literacy	57.18 %	42.22 %
Total Literate	114,397,555	75,719,284
Male Literate	68,234,964	48,901,413
Female Literate	46,162,591	26,817,871

Table 1.1: Demography of Uttar Pradesh

## 1.6 Socio-economic aspects

As per 2011 census, total population of Kalpi is 369,860.

Literacy rate in Uttar Pradesh has seen upward trend and is 67.68 percent as per 2011 population census. Of that, male literacy stands at 77.28 percent while female literacy is at 68.82 percent. In 2001, literacy rate in Uttar Pradesh stood at 56.27 percent of which male literacy and female literacy were 68.82 percent and 42.22 percent respectively. In actual numbers, total literates in Uttar Pradesh stands at 114,397,555 of which male literates were 68,234,964 and female literates were 46,162,591.

Kalpi has total of 140,968 people employed. Out of total employed people, 103,992 are male and 36,976 are female. There is an employment ratio of 38%.

The total population of Jalaun district is 16,89,974, out of which 4,20,266 are main workers whereas 2,00,498 are marginal workers.

The population distribution according to employment categories:

<b>Population</b>	Persons	16,89,974
	Males	9,06,092
	Females	7,83,882
<b>Main workers</b>	Persons	4,20,266
	Males	3,60,043
	Females	60,223
<b>Marginal workers</b>	Persons	2,00,498
	Males	1,10,926
	Females	26,202
<b>Non-workers</b>	Persons	10,69,210
	Males	4,35,123
	Females	34,179

Table 1.2: Population distribution of Jalaun district according to employment categories

Major employment sources:

<b>Types of Activities</b>		<b>Number</b>	<b>Percentage</b>
<b>Cultivators</b>	Persons	1,96,613	31.67
	Males	1,65,646	35.17
	Females	30,967	20.67
<b>Agricultural Laborers</b>	Persons	2,43,035	39.15
	Males	1,65,039	35.04
	Females	77,996	52.07
<b>Workers in household industry</b>	Persons	26,109	4.21
	Males	14,661	3.11
	Females	11,448	7.64
<b>Other Workers</b>	Persons	1,55,007	24.97
	Males	1,25,623	26.67
	Females	29,384	19.62

Table 1.3: Major employment sources in Jalaun district

## 1.7 Human Development aspects

The sex ratio in Jalaun district is 875. The rural sex ratio stands at 859 per 1000 males whereas it is 883 for urban. The number of literates in the district is 1,075,196 which are 73.75% of the total population. The male literacy rate is 83.48% whereas female literacy rate is 62.46%.

Jalaun has the following educational facilities:

Education Institutions	Nos.
(a) Primary school	1,938
(b) Middle schools	979
(c) Secondary & senior secondary schools	162
(d) i. Degree Colleges	26
(d) ii. P.G. College	6
(e) University	0
(f) Engineering College	-
(g) Polytechnic	1
(h) ITI	01
(i) Educational training institute	-

*Table 1.4: Educational facilities in Jalaun district*

## 1.8 Key economic activities in the region

### Agriculture

Agriculture is the main economic activity of farmers in the district. The three main cropping seasons in the district are kharif, rabi, zaid. The main crops raised in the district include wheat, gram, pea, lentil, arhar, mung, jowar and bajra.

Area under major crops:

S. No.	Crops	Area (h)	Production (MT)	Productivity (T/ha)
1	Wheat	1,17,831	3,70,251	3.14
2	Pulses	2,09,597	2,76,017	1.32
3	Jowar	7,483	12,114	1.62
4	Bajra	12,000	10,668	0.89

*Table 1.5: Area under major crops in Jalaun district*

## Industry

Existing status of industrial areas in Jalaun:

S. No.	Name of industrial Area	Land Acquired (in acres)	Land Developed	Prevailing Rate per sqm (in Rs.)	No. of plots	No. of allotted plots	No. of vacant plots	No. of Units of Production
1	Industrial Estate Orai	5.38	5.38	3,500	13	13	-	09
2	Industrial Estate Kalpi	16.80	16.80	500	36	36	-	12
3	Industrial Estate Konch	18.10	18.10	2,800	59	59	-	27

Table 1.6: Status of existing industrial areas in Jalaun district

Industrial Status of Jalaun:

Sr. No.	Head	Unit	
1	Registered Industrial Unit	2802	
2	Registered Medium and Large Units	02	
3	Avg. no. of daily workers employed in Small Scale industries	05	
4	Employment in large and medium industries	425	
5	No. of industrial areas	03	
6	Small scale industries	Turnover	13810 (in thousand)
		Investment	2795.93 (in lakhs)
7	Medium and large scale industries	Turnover	NA
		Investment	2072

Table 1.7: Industrial status of Jalaun district

## Infrastructure

Jalaun is also well connected by roads and railways.

Status of communication facilities in Jalaun:

Communication	Nos.	
(a) Telephone connection	18129	
(b) Post offices	207	
(c) Telephone center/exchange	43	
(d) Density of Telephone per 1000 person	176.12	
(e) Density of Telephone per km.	128.05	
(f) PCO	i. Rural	717
	ii. STD	1452
(g) Mobile	276132	

Table 1.8: Status of communication facilities in Jalaun district

Status of banking infrastructure in Jalaun:

<b>Banking commercial</b>	<b>Nos.</b>
(a) Commercial Bank	51
(b) rural Bank Products	48
(c) Co-Operative bank products	18
(d) PLDB Branches	-

*Table 1.9: Status of banking infrastructure in Jalaun district*

Status health infrastructure in Jalaun:

<b>Public Health</b>	<b>No.</b>
(a) Allopathic Hospital	4
(b) Beds in Allopathic hospitals	-
(c) Ayurvedic Hospital	41
(d) Beds in Ayurvedic hospitals	189
(e) Unani hospitals	2
(f) Homeopathic hospitals	21
(g) Community health centers	5
(h) Primary health centers	37
(i) Dispensaries	-
(j) Family & Mother Child Welfare Centre	13
(k) Family & Mother Child Welfare Sub Centre	286
(l) Private hospitals	-

*Table 1.10: Status of health infrastructure in Jalaun district*



# Chapter 2

## CLUSTER VALUE CHAIN MAPPING

### 2.1 Product Profile

The raw material for producing handmade paper sheets is procured either from cities such as Calcutta, Agra, Tripur etc. or from nearby Kanpur. The raw material procured from Kanpur is majorly formed by the hosiery waste from garment factories that are located in and around Kanpur. The conversion happens at units located in Kalpi. The next step in the chain is value addition to the paper sheets. At this step the sheets are converted into something more useful such as a diary, carry bag or wedding cards. These products are however, sold in their very basic form. The major product sold by the manufacturing units at Kalpi is handmade paper sheets.

The main types of raw materials used by handmade paper industries in Kalpi are:

- Cotton rags
  - Hosiery cuttings
  - Towel cuttings
  - Carpet cuttings
  - Tents
  - Ropes
- Waste Paper

Handmade paper industry in Kalpi dates close to around 100 years. The cluster at a given time had close to 200 units operating. However on account of certain challenges faced, the many units have shut down operations and the number has reduced to 50 – 60. A general outline of an enterprise operating in Kalpi has been presented below:

### Technology

This section elaborates on the technology and its components used by the handmade paper units in Kalpi. The technology can primarily be differentiated on the basis of the method used for laying the pulp into sheets. In Kalpi, cylinder mould and dipping vat are mostly used. While cylinder mould runs on electricity and its operation is a fairly mechanized process, dipping vat has to be operated manually and requires skill on the part of the operator.

Attributes of each of these have been listed below:

S. No.	Parameters	Dipping Vat	Cylinder Mould
1	Equipment required	Chopper, Beater, Autovot, Calendaring Machine, Screw Press, Cutting machine	Chopper, Rag Chopper, Agitator, Cylinder Mould, Head Box, Calendaring Machine, Cutting Machine
2	Method of laying sheets	Pulp poured over wire mesh fitted in wooden frame	Pulp spread into sheets over cloth or woolen felt, through rollers
3	Cost of the entire plant	6 – 7 Lakhs	Approx. 10 – 15 Lakhs
4	Capacity (kg) – per cycle	70 – 80 Kg	100 – 1000 Kg
5	Paper thickness (gsm)	100 – 300	150 – 2000
6	Product feature	Paper more suited for writing papers	Paper more suited for file covers
7	Electricity Requirements (for laying sheets only)	Not required	High (40 HP)
8	Water Requirements	Medium	Very High
9	Labour Requirements	Highly skilled	Moderately skilled
10	Plant Set-up	Requires civil work for storing pulp	Requires civil work: pulp storage, agitators and head box

*Table 2.1: Attributes of technology used in handmade paper production*

Dipping vat and Cylinder mould hugely differ on the type of production process. In case of cylinder mould, the process of making handmade paper sheets is fairly simple and mechanized. Dipping vat on the other hand requires skill on the labour to achieve good quality paper. The resource requirement i.e. investment, labour, electricity and water also vary in both. Specifications for each of the two technologies against each of the aspects have been mentioned in the table above.

In order to achieve economies of scale, the handmade paper units compromise on the skill and time of the labour required to produce authentic handmade paper and use mechanized form of production i.e. cylinder mould. Using a cylinder mould allows greater capacities of pulp to be prepared at a given time and ensure continuous production of sheets. While a dipping vat method can recycle only 80-100 Kgs of waste in one cycle, cylinder mould can recycle up to a ton.

A number of units also use a combination of both cylinder mould and dipping vat to produce paper different varieties of paper, on account of the different varieties of paper that is produced by both. On an average the general process followed for production in Kalpi, it takes 90 liters' of water to produce 1 kg of handmade paper. Since Kalpi is situated close to the Yamuna River, underground water is easily accessible.

Using both the mentioned technologies, paper sheets of size from 22"X30" to 38"X42" are produced by units in Kalpi.

## 2.2 Production Process

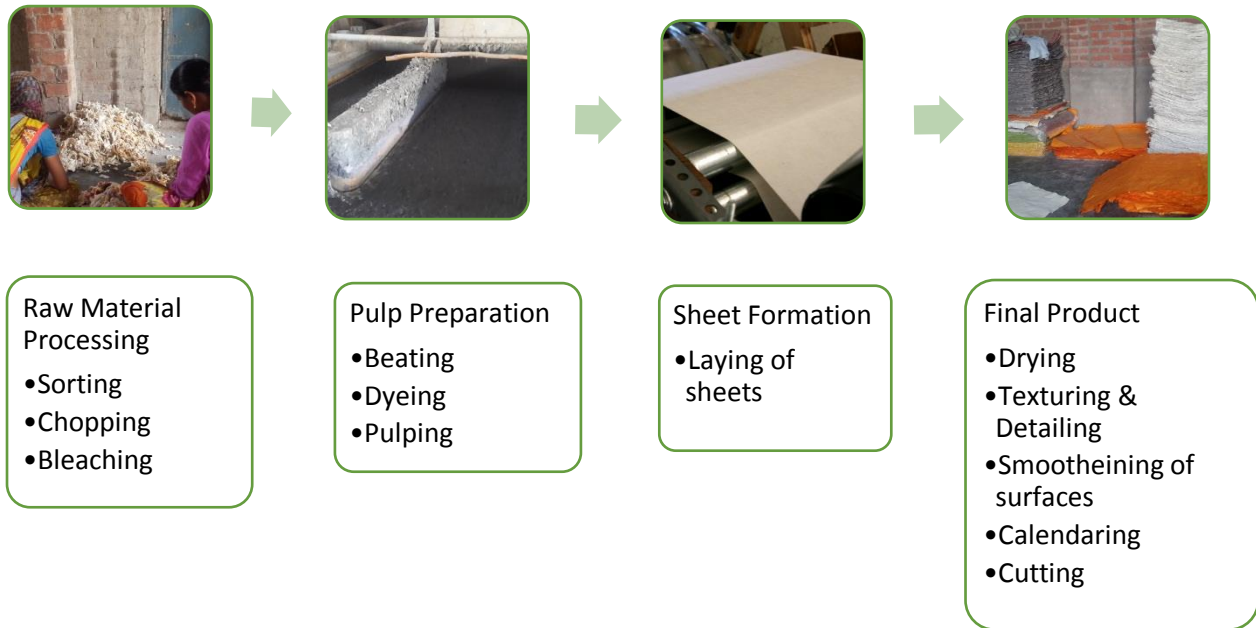


Figure 2.1: Production process of handmade paper

A detailed description of the process of handmade paper manufacturing is given below:

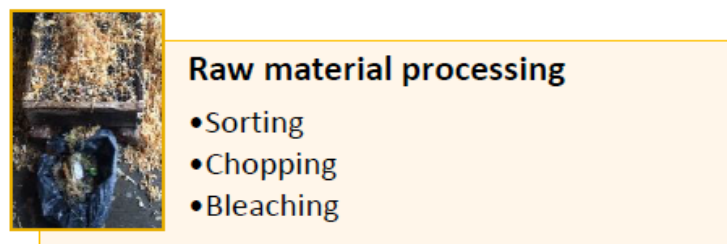
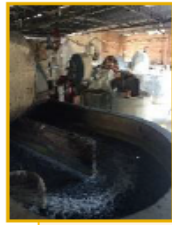


Figure 2.2: Raw material processing for production of handmade paper

**Raw Material processing:** Before the hosiery rags are converted into handmade paper, they have to be processed i.e. **sorted and chopped**. Mixed rags of different colors and sizes are supplied to the handmade paper units. For sorting as per size, the rags are chopped using a manual or electric shredder. The rags which are 10- 12 inches are cut down to 2 inches.

Since sorting according to color is a time consuming process, the rags are bleached in big open containers to cut down on time and effort spent. The bleach used is chlorine based and in some cases  $H_2SO_4$ . Since white hosiery is costlier, bleaching also helps in cutting costs for producing light or white coloured paper. Bleaching requires minimum 4 hrs. however the general practice includes soaking overnight.

Bleaching helps in cutting costs, but at the same time negatively affects paper strength as well as the environment. Bleach reduces the length of the fiber, thereby reducing its strength. Paper made from short length fiber has low tear strength which reduces its durability. In case the rags are not bleached, they are soaked in water to soften the fiber and prepare it for pulping.



### **Pulp preparation**

- Beating
- Pulping

*Figure 2.3: Pulp preparation for production of handmade paper*

The second stage is of **pulp preparation**. The rags after being soaked in water (with or without bleach) are put into the **beater** for pulp preparation. Inside the beater the rags are continuously churned with water for at least an hour and a half in order to get a smooth and consistent pulp. 100 kg of pulp is prepared at time in a single beater. To increase productivity, units in Kalpi, have installed multiple beaters at their facility. Pulp transfer from soaking tanks to beater is done using pipes. Only a single labourer is required to facilitate the entire process. Beaters are the main energy guzzlers in a handmade paper unit. A single beater with 100 kg feed capacity requires 30 HP to run. Addition of chemicals such as rosin and alum is done at the time of pulp preparation inside the beater. Rosin and alum are added to achieve smoothness and strength. Addition of chemicals to the pulp for increasing strength is known as internal sizing. In case coloured paper is required to be produced, colour dyes are also added while the beating takes place. This ensures even distribution.



### **Sheet formation (using one of the following)**

- VAT
- Univat
- Cylinder Mould

*Figure 2.4: Sheet formation for production of handmade paper*

**Sheet Formation:** After a smooth pulp is attained, it is laid out in sheet form over wire mesh or felt. Sheets are laid using any of the three technologies: Dipping Vat, Univat and Cylinder mould.

From beaters, the pulp is transferred to storage tanks from where a continuous feed is taken for preparing sheets. In case of Univat and Dipping Vat the pulp is stored in 3 feet deep cemented tanks. The workers take out pulp from these, using a small container and then poured on to a wire mesh. In case of cylinder mould, the pulp from beater feed into the agitators. An agitator is used in the case of a cylinder mould since it requires a consistent flow of pulp over a longer duration. The agitators are situated below the cylinder moulds and have a rotating gun that does not allow the pulp to settle and form layers. The flow of the pulp from the agitator to the cylinder mould is regulated by the head box.

In case of cylinder mould, the sheets are automatically laid through the rollers on the belts. The pulp will feed at one end into the system and a worker pulls out the finished wet sheet and stacks them at the other end. Cylinder mould requires a single person to manage operations.

In order to make sheets using dipping vat, two workers are needed. One person holds the strainer, while the other transfers pulp from container to strainer. The amount of pulp determines the thickness of the sheet. Since any of the technologies at present lack any quality check or mechanism to ensure consistency in the thickness of the sheets, skill of the labour is required while using any of the two technologies.



### Finishing of the final product

- Drying
- Calendaring
- Cutting
- Texturing

Figure 2.5: Finishing of the final product for production of handmade paper

The next step involves giving final shape to the wet sheets. **For drying the sheets**, excess water is drained using a screw press. Two types of screw press machine are used. One kind is the hydraulic, with a piston at the bottom. This type of calendaring machine, since it has a stronger built, imparts greater strength and produces paper that is stiffer. The other type, which is manual, exudes lesser pressure on the sheets as compared to a hydraulic screw press. Also a manual screw press processes less number of sheets (20-25) at a given time.

After screw pressing the sheets are put along a cotton felt, to dry in the open. They are either dried on a rope or put on grass. Drying on grass sometimes, results in dirt and dust getting stuck to the wet sheets causing wastage or poor quality sheets. Drying generally takes 3-4 hours on a sunny day. Time required for drying is relative and depends on the weather and thickness of the sheet.

**Texturing and detailing** on the finished product can be done at any step of the entire process. Largely texturing is done in the end. While patterns and water marks can only be added while the sheets are still wet coloring or glazing is done after the sheets are dried. Different details at different stages can be added as per requirement and innovation. For example, if the sheet is to be coated with silver dust, it is done when the sheet is damp. However, in case colour coating or designing is required, it is done after the sheet has dried. Texturing may also include, giving a stronger outer finish to the paper sheet. This is done using starch coating. This is known as external sizing of the paper. Texturing usually requires a two people team to complete the process.

The last step includes giving a final finish to the sheets. Finishing here refers to **smoothing of the surface** to even out creases and patches and trimming the unfinished edges. **Calendaring** refers to the process of putting the raw sheets placed between a set of two GI (galvanised iron) or SS (stainless steel) sheets, between heavy rollers that rotate. Each set of 25-30 sheets is passed 2 – 3 times between the rollers in each cycle. Calendaring for 25 sheets takes about 5 – 6 minutes and requires minimum two people, to hold the set of sheets (one at each end).

After the sheets get a smooth finish, they are cut into the required size. **Cutting of the sheets** forms the last and final step in sheet preparation. Cutting requires only a single person and can be completed at a fairly fast speed.

Another laborious activity that is carried out in parallel to the main process is starch preparation. Starch is required for imparting stiffness to the sheet. In some cases colour dyes are also mixed with the starch. This mixture has to be boiled, till the appropriate consistency is achieved. As fuel for boiling the liquid, locally collected wood and twigs are used in place of gas. One person is continuously required to stand and churn the mixture to avoid lump formation.

## 2.3 Value Chain Analysis

Hosiery waste from garment factories is the major raw material used for producing handmade paper in Kalpi. Other wastes that are seldom used, include used tents and ropes from army camps and cutting from carpet and towel industry. These are used as fillers in the pulp.

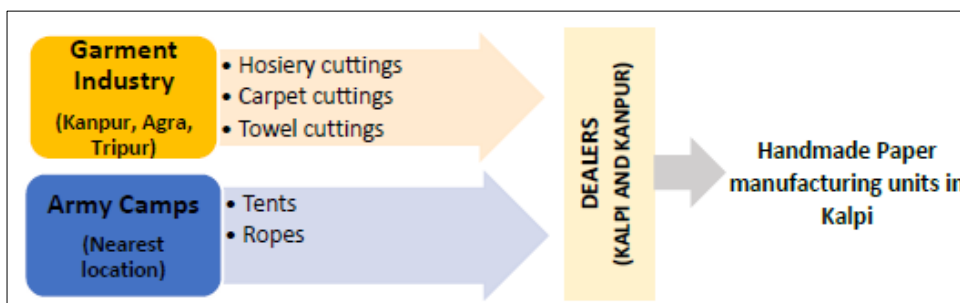


Figure 2.6: Value Chain of handmade paper production at Kalpi

The waste from the garment factories located around Kanpur, Agra and other places where clusters of garment factories are located e.g. Tripur, Calcutta is picked up by raw material dealers. The raw material dealers further supply the collected cuttings to handmade paper units in Kalpi. The major waste picked up by these dealers includes hosiery cuttings from undergarment production and towel, carpet cuttings. While coloured hosiery waste is sold at Rs. 15-20 per kg, white hosiery (mostly supplied from Tripur) costs Rs. 45-60 per kg. Towel and carpet cuttings costs between Rs.8 -12 per kg depending on the quality. While hosiery remains the primary raw material used for handmade paper production, carpet and towel cuttings are used as fillers in the pulp.

Other sources from where raw material is picked up include army camps. Used tents and ropes are picked up through auctions, held by army camps. This type of waste is sold at Rs. 11- 15 per kg. Army waste is ideal to make card sheets because of the fibre strength and superior quality.

The raw material is purchased on a monthly or bi-monthly basis, as per requirement.

## 2.4 Cluster Map

### Backward and Forward Linkages

Raw material for the handmade paper production is usually procured from nearby big cities like Kanpur, Agra, Tripur and Hyderabad. Due to the absence of local source of procurement of raw material, the artisan units have to procure their raw materials from these cities. The artisan units majorly convert this raw material to handmade paper. This can be done both manually and with the help of machineries.

After the formation of the handmade paper, the sheets can either be sold as it is, or can be converted into paper products like diary, carry bags, wedding cards etc. If sold as handmade paper sheets, these sheets can be sold to paper product manufacturing units. Once converted into paper products, the products can be sold to companies that sell handmade paper products, or in the open market. The final product can also be sold online through various e-retailers such as Flipkart, Amazon etc.

### Handmade paper units

Currently there exists around 50-60 handmade paper manufacturing units in Kalpi. These units mostly employ local artisans at either local daily labour wages or at piecemeal basis. The local average daily wage rate is Rs. 154, while piecemeal workers can earn anywhere from Rs. 400 to 700 per day based on their output. Most of the units use cylinder mould and dipping vat technologies for their production process. The average revenue for individual plants comes to be around INR 8 to 10 lakhs.

## Labour

The handmade paper units mostly employ medium to low skilled labour. The medium skilled laborers are mostly employed as managers or for performing pulping and texturing functions. The low skilled laborers are used mostly for sorting of rags and drying of sheets.

The profile of a typical handmade paper manufacturing unit at Kalpi is given below:

<b>Outline of handmade paper enterprise at Kalpi</b>	
Material use	Cotton hosiery cuttings
Source	Undergarment factories, handlooms in Kanpur, Agra, Tripur, Hyderabad
Technology used	Cylinder Mould and Dipping Vat
Cost of the plant	Rs. 20 - 25 lakh
Average plant size	500 kgs. Per day
Products made	Mottled paper, leather paper, Bond sheet, Filter paper, pulp sheet
Average size of paper	23" X 30"
Average selling price	Rs. 14 per sheet
Annual Revenue	Rs. 8 – 10 Lakhs
Average profit per sheet	Rs. 3 - 4 per sheet

*Table 2.2: Profile of handmade paper enterprise at Kalpi*

# Chapter 3

## MARKET ASSESSMENT AND DEMAND ANALYSIS

### Key Trends and Demand Potential for the industry

This section presents the market segmentation based on the types of products and existing value chains. In the present situation, Kalpi based handmade paper units manufacture only sheets. These are sold into the market through the dealers that are spread across urban centers like Delhi, Mumbai, Bangalore and Indore.



**Niche Market:** Niche market refers a particular demand or need in the market. Products in this category satisfy a particular need of the consumer and are not meant for general public.

- **Sugarcane industry and testing labs** – These two require filter paper for testing the quality of the sugarcane juice and during chemical testing respectively. There exists units in Kalpi that produce only filter paper. The main market for filter paper is the sugarcane industry and institutes that have lab facilities. Filter paper is used for testing the quality of the sugarcane. The general rule of testing is that the more time the juice takes to filter, the more sugar content it has. Filter papers are sold in different sizes and shapes. The shape vary from round to square. This type of paper has a special requirement of cutting. The small cuttings are done by hand and require time.
- **Cement Industry** – Pulp sheets are required during cement manufacturing. It requires very little skill and effort to produce these sheets. Simply put, these are thick sheets prepared by laying out pulp. The pulp used in this case is not very fine. Also dark coloured hosiery of very low quality (mixed with impurities) is used. The sheets are supplied to cement manufacturing units in large quantities. The size per order usually varies from 1-2 tons. The margin per sheet in this case is high since it requires less effort in terms of bleaching, time and labour skills to produce these sheets. A large number of units are shifting to producing only these sheets. This in a way is hampering the handmade paper market since there is no art and skill involved in producing pulp

**Open Market:** This refers to the market where the prices are based on the competition among the sellers and not controlled by the government. In an open market buyers and sellers can do business without barriers like licenses etc., which could prove to be beneficial for some while being a hindrance for others.

- **Wedding card market** – Wedding card market heavily relies on the handmade paper. Since handmade paper gives an ethnic Indian feel, it is preferred to make wedding cards out of handmade paper. This segment of the market forms the biggest pool of consumers for handmade paper. Sheets used for wedding cards are generally dark coloured and mottled with silk with a golden or silver finish. These sheets are sold at Rs. 7 – 8, depending on the quality and size of the order.



- **Lifestyle products** – Lifestyle products include items like lamps, paper bag, dairies, carry bags, chit pads, gift envelopes etc. Lifestyle products made out of handmade paper are more preferred by the urban markets since they signify a certain style statement. Handmade paper is sourced from Kalpi are used by units that specialize in product conversion. These units are situated around urban centres like Delhi, Bombay and Bangalore. Proximity to urban centres is on account of ready market and available resources (labour and electricity). Handmade paper lifestyle products have an ethnic feel to them and contribute towards having a safer environment; therefore higher premium is charged for such items.
- **Universities** – For printing certificates, universities have a specific requirement of using paper that has a special finish high grade paper. White or cream coloured bond sheets are therefore used by them. Bond sheet requires pure white hosiery, for the superior quality and is therefore costlier than other types of sheets.
- **Shops selling sheets in the open market** – These shops are located in the urban markets and sell sheets directly to end users for varied uses. These are sold as stationery items and for artistic purposes. Sheets in the urban market are sold at Rs.15 – 40/- depending on the quality, demand and size. For example, a silk mottled sheet of size 18”X 23” sells at Rs. 20.
- **Textured paper** – Different textures and feel can be given to a handmade paper sheet. Texture such as bamboo or wood, leather etc. can be imprinted on a handmade paper sheet. Texturing is used to give an exquisite finish to the paper. These sheets are prepared as per requirement.

**Export Market:** This category refers to the international market that exists for handmade paper and products made out of it. Handmade paper industry is a traditional industry and the product reflects Indian ethnicity, because of which it finds a reasonable demand in the international market. Mottled sheets and lifestyle products made out of handmade paper are the most in demand products for this segment.

- **Mottled paper** – Mottling with silk and jute are the most common in units across Kalpi. Mottled sheets are slightly expensive at Rs 13 – 14 per sheet. These are produced only to order and as per requirement.
- **Lifestyle products** – Handmade paper and items also find their way into the international market, because of the ethnic yet fashionable attribute. Craft items being a hot favorite in the export market; enables handmade paper to be a profitable exportable product. The export dealers are also centered in urban areas like, Delhi, Hyderabad, Bangalore and Mumbai. Interaction with multiple units’ revealed that hardly any type of product conversion is currently taking place in Kalpi.

# Chapter 4

## SWOT AND NEED GAP ANALYSIS

### SWOT

Strength	Weakness
<ul style="list-style-type: none"> <li>• Handmade paper making has been a significant part of Indian culture</li> <li>• Alongside being sold as handmade paper, multiple paper products are made out of handmade paper</li> <li>• Handmade paper making is an integral part of the Kalpi cluster</li> <li>• It employs artisans by virtue of which those artisans are making a living</li> <li>• The craft brings in foreign exchange by export market</li> <li>• It is not essential to be literate to become an artisan in this trade.</li> <li>• Endless product possibilities for the global market</li> <li>• Government policies &amp; scheme interventions support such as SFURTI, IHDP etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of access to raw material locally and poor knowledge of raw material sourcing and client acquisition</li> <li>• Lack of market access and knowledge on available schemes</li> <li>• Difficulty in generating capital ( grants as well as loans )</li> <li>• Lack of training facilities and infrastructure</li> <li>• Lack of product diversification due financial constraints</li> <li>• Irregular employment opportunity.</li> <li>• Strenuous job: time taking &amp; requires constant attention</li> <li>• Low wages to artisan leading to increased drop out</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Opportunity to exhibit in international and national trade fairs and exhibitions</li> <li>• Makes room for interlinked opportunities in the handicraft sector</li> <li>• Scope for increasing sales by improved promotional activities like advertisement campaigns</li> <li>• Provision of loan and profitable policies for small units</li> <li>• Raw material bank construction which will lead to the local artisan units being able to access raw materials easily.</li> </ul>	<ul style="list-style-type: none"> <li>• Poor delivery chain management creates gap between demand and supply</li> <li>• Due to low wages and laborious work, artisans are migrating to other regular jobs in nearby cities.</li> <li>• Because of low education level manufacturers are often unable to follow the proper process of costing and fail to deal with a buyer.</li> </ul>

## Need Gap Analysis

The handmade paper industry in Kalpi faces issues on almost all the facets. These challenges have contributed to the downfall of the industry. Therefore, in order to revamp the cluster, it is important to resolve these pertinent issues.

The table below enlists the key challenges faced by the handmade paper enterprises at Kalpi.

S.No.	Segment	Gaps Identified/Challenges
1	Technology	<ul style="list-style-type: none"> <li>○ No technical check to ensure uniform thickness of paper</li> <li>○ High operating costs (mainly due to high electricity consumption of beaters)</li> <li>○ Absence of paper testing facility</li> </ul>
2	Raw Material	<ul style="list-style-type: none"> <li>○ Seasonal fluctuation of rates and quantity Adulteration of raw material with other synthetic fibres – hampers quality of handmade paper</li> <li>○ High raw material costs</li> </ul>
3	Process	<ul style="list-style-type: none"> <li>○ Consistency of paper thickness remains a challenge</li> <li>○ Starch preparation for external sizing is a laborious activity</li> <li>○ Drying of sheets during winter and rainy season is a challenge</li> <li>○ Processing of rags – sorting, cutting and bleaching is a tedious process</li> </ul>
4	Labour	<ul style="list-style-type: none"> <li>○ Migration of labour</li> <li>○ Capacities of the labour for product development need to be built</li> </ul>
5	Others	<ul style="list-style-type: none"> <li>○ Waste disposal</li> <li>○ Innovation in product – update to market demand</li> <li>○ Strong competition from Chinese paper (very low pricing)</li> <li>○ Non paper conversion unit at Kalpi</li> </ul>

*Table 4.1: Key challenges faced by the handmade paper enterprise at Kalpi*

The solutions/mitigation strategies for each of these has however been provided in the next section. The implementation strategy has therefore been built keeping in mind these challenges.

- i. **Technology:** Machine and equipment used by majority of the unit at Kalpi are locally manufactured. The technology is not very advanced and therefore leads to a lot of wastage. Also, the machines are highly inefficient in terms of electricity usage. There is a scope of improvement in processing technology for producing quality handmade paper by improvement in fibre recovery and pulping methods for lingo-cellulosic raw materials. There have not been any major innovation/modifications made to the technology to reduce inefficiencies and improve quality. The machines currently lack any quality check mechanism. Also, since the units are over a decade old and suffering varying degrees of losses, maintenance of machines remains an issue.
- ii. **Raw Material:** Handmade paper units in Kalpi also face competition in procuring raw material from other industries such as leather buff making, carpet making, quilt making and asbestos industry. These industries require hosiery cuttings as supplement in the buff making process and as fillers in the asbestos and quilt making industry. Since there exists a fair demand for leather and asbestos in the market, the dealers often ask for a higher price from the handmade paper units for supply of the raw material. Competition and seasonal fluctuation causes Rs. 2-6 rise in the cost of the raw material. Apart from the struggle to ensure a regular supply of raw material, handmade paper units in Kalpi also face the issue of adulteration of raw material. During garment manufacturing, pure cotton or hosiery is mixed with other forms of synthetic fiber (such as nylon, silk and Lycra) for the purpose of making different types of garments. Mixing of pure hosiery or cotton with other cloth materials for producing other items, leads to the material being adulterated for handmade paper production. These fibres are intricately knit, through machines, therefore their identification becomes difficult.

- iii. **Process:** There is huge loss of fiber during the entire production which is the main constraint in the industry. Handmade paper making is the main source of their income. Another issue is electricity problem which usually cut for 8-10 hrs. This hampers the production. The overall production is highly labour intensive without any standard quality checks and mechanisms in place. For example, the sorting of rags, preparation of starch, drying of sheets are all long and tiring processes.
- iv. **Labor:** On this front, migration of labour is the biggest challenge. Also, entrepreneurs are not able to fully utilize the labour capacity since there is inconsistent production due to erratic power supply and high fluctuations in demand. The labour that is currently working is semi-skilled. They have little or no skill related to product conversion. Therefore, the work for product conversion has to be outsourced to units in Kanpur and/or Delhi. This increase the overall costs and at the same time reduces margin for the paper production.
- v. **Others:** the other types of challenges that handmade paper units in Kalpi face are disposal of waste, lack of product innovation and high costs of competition. Handmade paper produced in India faces strong competition from Chinese paper, that is available at extremely cheap prices (price difference of Rs. 7-8/sheet) and at the same time has better or comparable quality.

# Chapter 5

## PROFILE OF THE IMPLEMENTATION AGENCY

The implementing agency appointed for revamping the Handmade Paper cluster at Kalpi is Shri Bhagwan Das Gramadyog Sewa Sansthan, owned and operated by Sh. Ramesh Chandra Gupta is located at Rao Ganj Mohalla, Tehsil: Kalpi, District Jalaun, UP. The society has been working in the handmade paper industry since 1992. The society has an annual turnover of Rs. 20 lakh per annum.

Under the SFURTI program, they have been appointed as the Implementing agency owing to the vast experience and interest in working towards improving the exiting conditions of the handmade paper units.

### 5.1 Institutional structure

- **Legal Status:** Registered as society under Societies Registration Act,1860
- **Date of registration:** Reg.no. 860/1991-92
- **Registered Address:** Shri Bhagwan Das Gramadyog Sewa Sansthan  
Raoganj, Kalpi, Jalaun, Uttar Pradesh-285204  
Phone: 05164274817, 05164274306 Mob. No.: 9415032306  
E-mail: rameshgupta1953@gmail.com

### 5.2 Governance structure

S. No.	Name of Member	Designation	Background Profile	Contact Number	Email ID
1	Ramesh Chandra Gupta	Secretary	Service	05164-274817/ 9415032306	<a href="mailto:rameshgupta1953@gmail.com">rameshgupta1953@gmail.com</a>
2	P.S. Shukla	Consultant	Service	9559241011	<a href="mailto:ms.deepak0074@rediffmail.com">ms.deepak0074@rediffmail.com</a>

Table 5.1: Governance Structure

### 5.3 Operational profile

Shri Bhagwan Das Gramadyog Sewa Sansthan has been active for over 20 years in the fields of social and developmental work for artisans.

i. Bank Account Details:

- Name of Bank : State Bank of India
- Branch Name : Kalpi
- Bank Account Number : 11498597029

ii. Contact Details:

- Name of Contact Person : P.S. Shukla
- Designation of Contact Person : Consultant
- Correspondence Address : Moh. Ramganj (Royal Gardens), Kalpi, Jalaun- 285204

- Contact Number : 9559241011
- Email-address : ms.deepak0074@rediffmail.com

#### 5.4 Management profile

S. No.	Name of member	Address	Designation	Occupation
1	Smt. Bimla Gupta	Ramganj, Kalpi, District: Jalaun	Member	Social Worker
2	Shri Ramesh Chandra	Ramganj, Kalpi, District : Jalaun	Member	Social Worker/ Artisan
3	Smt. Sudha Gupta	Ramganj, Kalpi, District : Jalaun	Member	Social Worker
4	Shri Jageshwar	Baldau Chowk, Urai, District: Jalaun	Member	Social Worker
5	Smt. Sunita Gupta	Ramganj, Kalpi, District : Jalaun	Member	Social Worker
6	Shri Birendra Kumar Gupta	Ganeshganj, kalpi, Dist.: Jalaun	Member	Social Worker/ Business
7	Shri Pradeep Kumar	Baldau Chowk, Urai, District: Jalaun	Member	Social Worker
8	Shri Rakesh Kumar	Matapura, Orai, Dist.: Jalaun	Member	Social Worker
9	Shri Pramod Kumar	Gopalganj, Orai, Dist.: Jalaun	Member	Social Worker

Table 5.2: Management Profile

#### 5.5 Financial position

<b>Key financials of the organization</b>	Fixed Assets (bank)	Rs. 9,212.37		
	Current Assets	Rs. 7,35,926.00		
	Current Liabilities	Rs. 26,800.00		
	Revenue trend for last 3 years	<b>Year</b>	<b>Revenue INR</b>	
		2013-14	Rs. 10,89,113.00	
		2014-15	Rs.12,68,008.00	
	Profit/Loss for the last 3 years	2015-16	Rs.15,73,623.00	
		<b>Year</b>	<b>Profit/Loss</b>	<b>Amount(Rs.)</b>
		2013-14	Profit	Rs.1,89,430.30
		2014-15	Profit	Rs.2,68,759.67
	2015-16	Profit	Rs.2,93,526.40	

Table 5.3: Financial Position

# Chapter 6

## PROJECT CONCEPT AND STRATEGY FRAMEWORK

### 6.1 Project Rationale

TARA as a Technical Agency has observed that there are plenty of factors which require a deep dive working, for sustainable growth of the cluster and artisans. If we take a look at the existing practices of the artisans in this craft, we can observe that currently the artisans are unable to manufacture the goods in line with the International Market design. Because of this they have to face a very stiff competition. The artisans do not have access to modern machines and tools as well as they are not aware of the modern technologies required for efficient production of the craft. There is also a lack of support structure in terms of market development so that the artisans can market their products in the domestic as well as international market and receive the required profit out of their work.

A supporting ecosystem needs to be developed for the artisans of these handicrafts which shall help them to produce efficiently as well as with better designs and improved marketability of their products. One important element of this ecosystem is a Raw Material Bank (RMB), which helps the artisans to gain easier access to the raw materials and improves the efficiency of the units by lowering the cost of procurement of raw materials.

KRDP program will help in:

- **Product diversification:** Traditional Designs will be converged with modern designs to develop a range of diverse products
- **Infrastructure Supports:** The RMB will help in more efficient production and ease the access to raw materials for the artisans. This will also lead to better production system due to ease of procurement of raw materials.
- **Improvement in skills:** The artisans will be provided with training regarding the handmade paper manufacturing process and on the various types of handmade papers, and paper products which will enhance their capacity.

### 6.2 Project Objective

- Increase in awareness of beneficiary groups on social, financial and business related matters
- Expansion of the avenues, facilities & infrastructure
- Providing a sustainable source of income to the target beneficiaries

- Establishment of procurement center for raw materials in the long run during the project period
- Training and capacity building of artisans for sustainable livelihood opportunities

### 6.3 Focus Products/Services

#### Products:

- Handmade paper
- Handmade paper products

#### Services:

- **In Hard Interventions:**
  - a. Raw Material Bank(RMB)
- **In Soft Interventions:**
  - a. Skill Training
  - b. Capacity Building
  - c. Market Promotion
  - d. Buyer Seller Meet

### 6.4 Conceptual Framework/Project Strategy

The project requires strategic interventions which are conducive for achieving the objectives of the program. Since the cluster is poor in social capital, there is a need to give due emphasis for implementation of soft interventions. Alongside, hard interventions like establishment of raw material bank is expected to improve the overall cluster production.

The major hard intervention proposed in this cluster is the establishment of a raw material bank. Due to lack of access to raw materials in bulk locally, the existing handmade paper units face problems in procurement of raw materials. It is hence proposed that we establish a raw material bank in the area which will supply the other manufacturing units with raw material, thereby bringing ease in procurement of raw material leading to efficient production process and lowered cost of manufacturing.

In soft interventions, skill up gradation programs on handmade paper will be conducted for the local artisans at regular intervals by the Implementing Agency. This will include skill building on improved processes for handmade paper and paper products manufacturing leading to better quality products and introduction of diverse varieties of handmade paper production in the cluster. Once the artisans are technically equipped enough, they will also be provided information on market demand and conditions and various marketing strategies. Buyer seller meets will be held to promote the products from the cluster.

Prior to exit by IA and TA from the cluster, it will be ensured that the cluster develops sustainable market linkages, strengthened self-governance mechanisms, and develops strong monitoring & evaluation mechanisms for long term sustainability of interventions.



# Chapter 7

## PROJECT INTERVENTIONS

Kalpi is recognized as a hub for handmade paper manufacturing in India. However, due to small segregated units and problems in procuring raw materials, many artisans are facing problems in earning a sustainable livelihood. Alongside, low wages due to unskilled labour and lack of skilling initiatives has led to a steady migration of artisans from the cluster to nearby cities.

There is a requirement of two-forked project interventions. There exists a need for intervention in terms of skilling of the artisans and establishing a raw material bank. A parallel intervention in terms of both human capital and physical capital improvement is crucial for the Kalpi center to flourish.

The interventions will be executed by a Special Purpose Vehicle (SPV), to be formed by the Implementing Agency (IA), which will be entirely responsible for implementing and reporting regular progress of the cluster.

### Soft Interventions

The major focus of the soft interventions in the cluster shall be on capacity building and creating market linkages. It is expected that skill training programs of the local artisans will lead to more efficient production units and higher daily earnings of the artisans.

Alongside, the soft interventions will also include marketing initiatives. Alongside facing problems with raw material procurement, the handmade paper making units in Kalpi also face problem in creating a customer base. In order to capture a significant market share it is required that the manufacturing units produce marketable paper, of various types, while incorporating new designs and techniques. To create an expanding customer base, it is necessary to create market linkages for the manufacturers in the cluster. Advertising through pamphlets and brochures, alongside organizing regular buyer seller meets is essential. In addition to these, participation in handicraft melas and exhibitions will also increase visibility of the products from the cluster.

### Hard Interventions

To accomplish the targeted goal supplying quality raw material at a subsidized rate for production of handmade paper, setting up of raw material bank is imperative. This strengthens a segment of craft industry by efficient flow of resources and optimum utilization of available skilled craftsmen.

The proposed hard interventions include installation of die cutting machines and craft and design equipment for the purpose of building the proposed training center. Alongside this, a raw material bank will be set up to ease the procurement of raw materials by the local artisan units. By building a raw material bank, the cluster will benefit by availing themselves of the locally available raw material instead of procuring it from nearby cities which markedly increases the cost of production of handmade paper and paper products in Kalpi.

#### i. Proposed Activities

- Provide adequate training for various types of handmade paper and paper product development
- Provide adequate infrastructure support for improved quality and productivity and to enable exporter access to a larger market segment.
- Create well integrated forward and backward linkages.

#### ii. Statutory Clearances

All required statutory clearances will be taken from the govt. as and wherever applicable by the implementing agency.

### iii. Training Activities

The SPV has taken the help of subject matter experts before proposing these activities. Some important core competencies to be developed are:

1. Safety consciousness and safe working practices
2. Care of equipment and tools
3. Punctuality and discipline
4. Concern for quality
5. Respect for rules and regulations
6. Concern for health and hygiene
7. Cordial relationship and cooperation with co-workers and teamwork
8. Positive attitude and behavior
9. Responsibility and accountability
10. Continuous Learning
11. Communication Skills
12. Concern for environment and waste disposal

### iv. Design Development Activities

These activities will be focused in the physical development of products both as samples and as prototypes. The IA will provide the artisans with the requisite design tools, software, machineries and technical guidance to develop new product as samples.

### v. Program Components – Technology Up gradation Activities

Introduction of various craft and design equipment and Die cutting machines into the training of the artisans can be attempted to get higher productivity and low production cost of the overall cluster.

Due to lack of innovative designs in both types of handmade paper production and various paper products developed, the manufacturers in Kalpi often face limitations in capturing niche markets. Under such circumstances, it is crucial to design and produce marketable innovative products that will help in capturing a sizable chunk of the market. A particular design becomes obsolete after certain time and creation of new design is time consuming. In the interest of the development of the cluster as a whole, training on design development, skill development etc. can be organized.

The projects shall render the services as listed below and propose to encompass following facilities:

- Design & Product Development Services- focus on contemporary designs suitable for the urban market such as conference giveaways, festive gifting etc.
- Product Development / Manufacturing
- Improved Product Quality
- Other Specialized Design Services viz. Design Research, Industry Linkage, Tie-ups, Design Workshops etc.

**vi. Prototype Development**

In this stage, demonstration, product replication and sampling will be done before the final presentation.

**vii. Product Standards and Product Excellence**

With the execution of the trainings on the technicalities of handmade paper manufacturing and the supply of raw material, it is expected that the cluster will improve the quality of the products produced. The artists will be exposed to quality control parameters in order to maintain product design and standards.

**viii. Product Technology Demonstration**

Instructional and hands-on training and technology exchange in learning and application of skills in prototyping and manufacturing of paper and paper products related to product value-added enhancements.

**ix. Design, Market and Technical Trends Information**

Information on current market trends to be given. Trends applications and interpretations will be provided to manufacture marketable goods.

**x. Benefits of the Raw Material Bank and Training at Kalpi**

The training facilities will enable the cluster to produce a wide range of contemporary handicraft items which can be transported and sold to the export units.

Setting up the Raw Material Bank and the Training Unit is going to help the manufacturer/ Skilled worker of Kalpi cluster in many ways-

1. Skill enhancement opportunities for the skilled labour involved in the traditional business of handmade paper making.
2. Reliable source of supply of raw material and information.
3. Through the formation of the raw material bank, the cluster will have ready access to raw material, leading to lowered cost of production which will help in better utilization of resources, leading to scaling up of business of the existing manufacturing units.

**xi. Need & Justification**

There is no or limited institution set up in the State either by Central / State Government / NGO / Private entrepreneur or any other agency to cater to the needs of changing taste of design & technological concepts of international buyers and overseas markets.

If a significant upsurge is to be achieved in global market share, design and product development will have to be addressed in totality with a strategic insight and knowledge of market process and its complexity for such products.

There is a strong justification of setting up of a Raw Material Bank and Training which will emphasize product development as per the consumer taste, easy access to raw materials and

marketing support system. The intervention will help in capacity building of the local artisans leading to enhanced income flow, alongside bringing in innovative and marketable designs that will help capture a significant portion of the market of handmade paper and paper products.

# Chapter 8

## SOFT INTERVENTIONS

As mentioned before, Kalpi is recognized as a promising cluster for handmade paper manufacturing. However, due to limited market reach, many of the artisans involved in handmade paper units are facing challenges in earning sustainable livelihoods.

Cluster awareness about handmade paper and paper products and their market presence will be provided to the local artisans, alongside awareness about the training programs to be conducted by the IA and the possible benefits of attending the program.

Skill development of these artisans is crucial to keep them abreast of latest technological development in the sector and to hone their existing skill-set. The skill developed in the artisans will lead to improved product quality. A master trainer will be appointed for the purpose of training the artisans. An average batch size of 25 artisans is estimated for the training to take place. The skilling initiatives will lead to capacity building of the artisans to the extent that they can form their own handmade paper units.

Alongside, bringing in new designs will also be focused on specially to capture the niche market that the cluster caters to.

### **i. Training Activities**

The trainings provided will be majorly of two types:

- a. Training for production of different varieties of handmade paper
- b. Training for production of handmade paper products

These trainings will be conducted by a master trainer, who will be hired by the Implementing Agency for capacity building of the local artisans. For the purpose of the training programs, basic paper cutting and dye cutting machines and other craft and designing equipment will be installed by the IA as part of the intervention. The training program will consist of training regarding production of handmade paper of various types, alongside paper products. The artisans will also be given information on the marketable designs currently trending in the market. Alongside the technical skill training, the artisans will also be trained in on basic entrepreneurial skills, so that they understand the value chain. The trainings should make the artisans equipped enough to be able to start working in a handmade paper and paper product manufacturing unit. Alongside the training, information regarding various market linkages will also be provided to the artisans. The TA shall provide help regarding the designing of the products and providing relevant information regarding the various designing and product development.

Various marketing strategies will be adopted by the IA including buyer seller meets and exhibitions, to successfully market their product range. It is expected that the buyer seller meets will help the manufacturing units in getting bulk orders and establishing contacts with exporters /bulk traders which will in turn pull up their profits considerably.

Over time it is expected that the cluster as a whole will focus more on paper products as an end-product for the consumer as opposed to paper as an end-product. Paper products have higher margins as

compared to paper itself and it is expected that as the production of appear products increase, the profitability of the manufacturing units at Kalpi will also increase.

<b>Soft Interventions</b>				
<b>Sr.No.</b>	<b>Activity</b>	<b>IA Contribution (0% of TC)</b>	<b>NA Contribution (100% of TC)</b>	<b>Total Cost in INR [Lakhs]</b>
1	<b>Identification of artisans for training</b>			
	Identify 200 artisans for training 50 artisans to be trained in 1 <sup>st</sup> year, 75 artisans to be trained in 2 <sup>nd</sup> year and 75 artisans in 3 <sup>rd</sup> year Training period – 40 days per batch Artisans to be paid Rs. 300/- for participation and other expenditures.	0	1057060	1057060
	<b>Total</b>	<b>0</b>	<b>1057060</b>	<b>1057060</b>
	<b>Skill Development and Capacity Building Workshop (training on paper/ paper product development over 3 years)</b>			
2	Training kit @ 2000per kit for 200 artisans	0	400000	400000
	Master trainer's fee @ 500/day for 240 days	0	120000	120000
	<b>Total</b>	<b>0</b>	<b>520000</b>	<b>520000</b>
3	<b>Documentation</b>			
	Monthly Reports - Updates on progress made	0	55000	55000
4	<b>Market Linkage</b>			
	Buyer seller meets - one annually	0	150000	150000
	Develop Promotional Material		50000	50000
	Participation in domestic Exhibitions - twice a year	0	200000	200000
	Study tour for 60 entrepreneurs / artisans – one annually	0	360000	360000
	<b>Total</b>	<b>0</b>	<b>760000</b>	<b>760000</b>
<b>Grand Total</b>		<b>0</b>	<b>2392060</b>	<b>2392060</b>

Table 8.1: Soft Interventions

# Chapter 9

## HARD INTERVENTIONS

To build Kalpi as a center for excellence for handmade paper, setting up a raw material bank is imperative. This shall strengthen a segment of craft industry by efficient flow of resources and optimum utilization of available skilled craftsmen.

By the means of the raw material bank, artisans gain an opportunity to develop products with access to market linkages for better income generation and opportunities. The IA will also serve as a facility to provide training program to augment and fine tune the abilities of the artisans with the provision of state of the art technology. With a set monitoring system to examine the quality control mechanism and the logistics management, the training center will ensure a wholesome process for product development.

### **i. Proposed Facilities**

#### **a. Raw Material Bank**

For access to surplus of raw material and reduced hindrances for procuring raw material from local vendors.

The raw material bank will be established by the IA, with the consent of the existing manufacturing units at the handmade paper cluster at Kalpi for easy access of raw materials by the manufacturing units at Kalpi.

The IA will supply the raw materials at a subsidized rate to the other manufacturing units at Kalpi, leading to lowered cost of production for the units. This in turn, will increase the units' profitability. Hence, the units can utilize their profits to scale up their enterprises.

It is expected that as the procurement of raw material becomes easier, over the years, the cluster will gradually shift from selling solely handmade paper to selling paper products to the end-consumer. This will lead to increased margin from sale of manufactured products.

### **ii. Proposed Site and Infrastructure Details**

The IA owns a total area of 7864 sq. feet. Of this area, 3145 sq. ft. area bears constructions. This includes space for storage of materials required for the functioning of the proposed raw material bank and machinery. In addition to this, 4719 sq. feet of open area is available. This area could in future be converted for construction of further storage space for the raw material bank. The total area approximately can be valued at INR 30.85 lakh.

<b>Hard Interventions</b>				
Sr.No.	Particulars	IA Share (25% of TC)	NA Share (75% of TC)	Total Cost in INR [Lakhs]
1	<b>Raw Material Bank</b>			
a.	Raw Material Bank	<b>771448</b>	<b>2314343</b>	<b>3085790</b>
2	<b>Basic machinery for product development training</b>			
a.	Small beater with 1 HP Motor - 2 kg capacity	18750	56250	75000
b	Die cutting machine	187500	562500	750000
c	Sheet making machine	12625	37875	50500
d	Small screw press	10750	32250	43000
e	File master	10000	30000	40000
f	Spiral binding machine	11250	33750	45000
g	Perforating machine	9250	27750	37000
h	Punching machine	4375	13125	17500
i	Stitching machine	1500	4500	6000
j	Hot packing machine	175000	525000	700000
k	20 no. dies of different sizes	4250	12750	17000
l	Semi-automatic screen printing machine	11250	33750	45000
m	Different sizes frame, cloth, squeezers etc.	5000	15000	20000
n	Working table 2 no.	1500	4500	6000
o	100 woolen felts @75/-	1875	5625	7500
p	Rags Chopper [2] @1.75 each	87500	262500	350000
	Transportation	6250	18750	25000
	Installation Charge	27500	82500	110000
	Mics unforeseen expenses	5000	15000	20000
	<b>Total for Machinery Costs</b>	<b>591125</b>	<b>1773375</b>	<b>2364500</b>
	<b>Total of Raw Material and Machinery Costs</b>	<b>1362573</b>	<b>4087718</b>	<b>5450290</b>

Table 9.1: Hard Interventions

Considering the units that have given consent to the setup of the Raw Material Bank by the IA, the minimum amount for setting up the Raw Material Bank along with the machinery for easy procurement of quality raw material is 54.50 lakhs (INR).

The IA's share of hard interventions will be **15% in the form of land** to be mortgaged to KVIC and **10% by the way of liquidity in the bank**. The entire cost of procurement of raw material will be provided by the Nodal Agency.



# Chapter 10

## PROJECT COST AND MEANS OF FINANCE

### 10.1 Project Cost

Sl. No.	Component	IA Share	NA Share	Total Cost in INR [Lakhs]
1	Soft intervention (SI)	0	2400500	2392060
2	Hard intervention (HI) 25% share by IA will be paid in terms of storage space for setting up raw material bank	1362573	4087718	5450290
3	Cost of IA/SPV	0	1470000	1470000
4	TA fees	0	627388	627388
	<b>Total</b>	<b>1362573</b>	<b>8585606</b>	<b>9939738</b>

Table 10.1: Project Cost

The total project cost amounts to 99.39 Lakhs INR. This cost is inclusive of all the project interventions- both hard interventions (in the form of Raw Material Bank) and soft interventions (in the form of trainings provided to artisans and other manufacturing units and marketing exposure), alongside the cost for the smooth functioning of the IA/SPV and the fees of the Technical Agency (TA).

### 10.2 Implementing Agency Cost

S. No	Component	IA Contribution (0% of TC)	NA Contribution [100% of TC]	Total Cost in INR [Lakhs]
1	Salary of manager for 36 months @ 20000 p.m.	-	720000	720000
2	Salary of support staff for 36 months	-	410000	410000
3	Office establishment expenses for IA [Lump sum amount] -Storage cupboards -Computer and printer -Table, Chair -Office Stationery -Electrical Fittings	-	300000	300000
4	Miscellaneous expenses	-	40000	40000
	<b>Total</b>	<b>-</b>	<b>1470000</b>	<b>1470000</b>

Table 10.2: Implementing Agency Cost

The Implementing Agency will be required to hire and assign some personnel for the proper functioning of the SPV. This requires a manager for the efficient handling of the Raw Material Bank and to ensure the training programs run smoothly.

This also includes hiring a support staff for safety and security purposes.

The cost also includes relevant expenditure for running the establishment including office expenditure, stationary, computer & printer, communication devices, electrical fittings etc.

The total cost for the efficient functioning of the IA amounts to 14.70 lakh INR.

### 10.3 Means of Finance

S. No.	Component	Total Cost in INR [Lakhs]
1	Government of India grant	8577166
2	Implementing Agency Contribution [25% share of the Hard Intervention will be paid by IA in terms of storage space / land for setting up raw material bank]	1362573
<b>Total Project Cost</b>		<b>9939738</b>

Table 10.3: Means of Finance

The total project will be financed as per the norms of the KRDP guidelines. As per the guidelines, the entire cost for soft interventions is borne by the Nodal Agency (NA). Alongside, 75% of the hard interventions will be borne by NA. The IA will contribute in the project in the form of the storage space that they will be providing for the setup of the Raw Material Bank.

Alongside the direct interventions, additional expenses for the smooth functioning of the IA and the fees of the TA will also be borne by the Nodal Agency. Therefore, the entire amount to be borne by the NA is amounting to 85.77 lakhs INR. The IA will bear a cost in the form of provision of the 15% against the land cost and 10% as liquidity in the bank towards raw material bank and the machinery cost.

### 10.4 Project Phasing

Phases	Activity	Timeline
<b>Soft Interventions</b>	General awareness, counselling, motivation and trust building	1st & 3rd Quarter, for 3 years
	Skill development and capacity building training program	2nd and 4th Quarter, for 3 years
	Exposure visits- to exhibitions and buyer seller meets	3rd Quarter, for 3 years
	Promotional initiatives	3rd Quarter, for 3 years
<b>Hard Interventions</b>	Set-up Raw Material Bank	1st Quarter, 1st year
	Craft and design Equipment, Die cutting Machine, Office equipment and stationary	1st Quarter, 1st year

Table 10.4: Project Phasing

**The project is planned for three years.** The soft and hard interventions are accordingly distributed over the course of three years to ensure efficient execution of the project and to achieve the project objectives.

The hard interventions, consisting of setup of Raw Material Bank and installation of various machines and equipment for the training programs to be conducted is planned to be completed by the first quarter of the project execution. The procurement and distribution of quality raw material will be done throughout the three year project timeline.

Simultaneously, the soft intervention also needs to be planned and phased out over the course of three years. General awareness about the interventions and various counseling drives and trust building and motivational activities will be carried out every year in the first and third quarter. This activity will help in identifying and registering potential trainees for the training programs, alongside the general awareness building across the cluster. This will be followed by the training program of the artisans. This has been planned for the second and fourth quarter for every year. For the first year, two batches have been planned. For the next two years, three batches have been planned for each year.

Alongside training programs, various market promotion initiatives and exposure visits have also been planned during the third quarter of each year over the course of three years. This has been planned keeping in mind the festive season and the potential exhibitions, melas and meets that can be tapped upon for increased sales.

# Chapter 11

## PLAN FOR CONVERGENCE OF INITIATIVES

In order to optimize the efforts and maximize impact and sustainability, it is imperative to ensure convergence and bring in synergies between different private initiatives and government schemes in term of planning, process and implementation.

For the Kalpi handmade paper cluster we envisage leveraging resources from the following sources:

- i. **Private sector Participation:** IA shall encourage participation of private sector retailers with proven track records and established retail network for handmade paper and paper product items marketing and sales in different part of country. Retailers specializing in this will be contacted by IA and TA for forward linkages.
- ii. **Corporate Social responsibility:** IA and TA will establish contacts with corporates of public and private sectors for additional financial support and professional operations and management support to the handmade paper items project funded under the scheme as part of their CSR activity.
- iii. **Other Schemes of state and central government:** IA will link in funds from other various state and central government scheme over and above the funds sanctioned for the SFURTI scheme provided that there is no duplication of the specific project component being funded from one or more sources. One such partnership which can be facilitated by the TA will be related to providing trainings to the artisans under the DST i-STED program.
- iv. **Participation by Private Equity/Impact fund:** IA and TA will encourage SPV's participation in the increasing trend of financial institution floating funds to support cluster that are in nature of social investments, subject to the condition that their shareholding shall not exceed 50% of the total equity. In case of debt support, patient capital with extended moratorium, low rate of interest and flexible repayment options shall be considered.

## Chapter 12

### ENHANCED PROJECT COST WITH CONVERGENCE OF SCHEMES

The project breaks up cost are as given below:

Sr.No.	Particulars	IA Share	NA Share	Total Cost in INR [Lakhs]
<b>1</b>	<b>Soft Intervention</b>	<b>0%</b>	<b>100%</b>	
a	Identification of 200 artisans for training	0	1057060	1057060
c	Skill Development and Capacity Building Workshop (training on paper/ paper product development across 8 batches over 3 years)	0	520000	520000
d	Documentation	0	55000	55000
e	Market Linkage	0	760000	760000
			<b>2392060</b>	<b>2392060</b>
<b>2</b>	<b>Hard Intervention</b>	<b>25%</b>	<b>75%</b>	
a	Raw Material Bank	771448	2314343	3085790
b	Basic machinery for product development training	591125	1773375	2364500
		<b>1362573</b>	<b>4087718</b>	<b>5450290</b>
<b>3</b>	<b>Cost of IA/SPV</b>	<b>0%</b>	<b>100%</b>	
		<b>0</b>	<b>1470000</b>	<b>1470000</b>
<b>4</b>	<b>TA fees</b>	<b>0%</b>	<b>100%</b>	
		<b>0</b>	<b>627388</b>	<b>627388</b>
	<b>Total</b>	<b>1362573</b>	<b>8577166</b>	<b>9939738</b>

Table 12.1: Project breakup cost

The total project cost amounts up to 99.39 lakhs INR. This is inclusive of the soft interventions, the hard interventions and the cost of the IA and the fees to be paid to the TA. The consolidated expenditure under each intervention has been presented in the table above.

The entire amount required for soft and hard implementation will be executed with the grant amount as under KRDP scheme.

# Chapter 13

## PROJECT TIMELINE

Project Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Implementation of Trust building activity	■		■		■		■		■		■	
Implementation of Training under soft intervention		■		■		■		■		■		■
Exposure visits			■				■				■	
Market Promotion Activities			■				■				■	
Establishment of Raw Material Bank	■											
Establishment of training center having necessary craft and design equipment and paper converting machines	■											

Table 13.1: Project Timeline

The detailed timeline of the entire project over the course of three years has been presented above. This detailed timeline presents the timeline for execution of each activity as per the interventions planned at the cluster. The setup of the Raw Material Bank and the establishment of the various equipment and machines for the training programs are expected to end by the first quarter.

Over the course of three years, spread across twelve quarters, various soft intervention activities have been planned as shown in the timeline. The trust building activities have been planned during the first and third quarters of every year for three years. Immediately, after the trust building activities, every year, the training programs have been planned in the second and fourth quarters. Alongside these, various marketing promotion and exposure visits have been planned in the third quarter of each year.

# Chapter 14

## DETAILED BUSINESS PLAN

### 14.1 Project Phasing

Phases	Activity	Timeline
Soft Interventions	General awareness, counselling, motivation and trust building	1st & 3rd Quarter, for 3 years
	Skill development and capacity building training program	2nd and 4th Quarter, for 3 years
	Exposure visit- buyer seller meets and exhibitions	3rd Quarter, for 3 years
	Promotional initiatives	3rd Quarter, for 3 years
Hard Interventions	Set -up Raw Material Bank	1st Quarter, 1st year
	Craft and design Equipment, Die Cutting Machine, Office equipment and stationary	1st Quarter, 1st year

*Table 14.1: Project phasing*

The project phasing across three years is shown in the above table. This gives a consolidated view of the activities planned across three years for the various interventions, to be implemented by the Implementation Agency, with the support of the Technical Agency.

The hard interventions including the setup of the Raw Material Bank and the establishment of the equipment and machineries for training purposes will be completed by the first quarter.

The soft interventions, however, are phased across three years. While general awareness building and various trust building activities are planned for the first and third quarter every year, the training programs are planned for the second and fourth quarter of every year. Alongside this, various exposure visits and market promotion initiatives have been planned during the third quarter of every year.

### 14.3 Financial Projections: Profitability Estimates

PARTICULARS	Y1	Y2	Y3	Y4	Y5
<b>Income/Revenue</b>					
Paper Sales	260	286	320.2	368	441.6
Product Sales	80.3	99.75	112.7	138.5	174
<b>Total Income/Revenues</b>	<b>340.30</b>	<b>385.75</b>	<b>433.90</b>	<b>506.50</b>	<b>615.60</b>
<b>Expenditure</b>					
Raw Material Cost	150	168	187	215	257
Labour and Manpower Costs	52.5	58.8	65.4	75.25	90
Power, Utilities Costs	33	37	41	47.4	46.7
Cost of production	235.5	263.8	293.4	337.65	403.7
Operational Overheads - Repair & Maintenance, Staff Salary, Marketing, Selling, Distribution etc.	57.88	65.95	73.45	84.42	100.93
<b>Total Expenses</b>	<b>293.38</b>	<b>329.75</b>	<b>366.85</b>	<b>422.07</b>	<b>504.63</b>
<b>Profit Before Tax (PBT)</b>	<b>16%</b>	<b>17%</b>	<b>18%</b>	<b>20%</b>	<b>22%</b>

Amounts in lakh INR

Table 14.2 Financial Projections- Profitability Estimates

With the hard and soft interventions to be executed by the implementing agency for three consecutive years, it is expected that manufacturing units at Kalpi, would be able to attain **improved profitability and increased turnover**. Previously the units had focused on revenues through selling paper only. With IA's support and interventions, the manufacturers will be exposed to have their **foot in the lifestyle industry** through sales of paper products. The figures have been worked out considering all the 39 enterprises who have given consent to participate in the interventions to be implemented by IA. As per the revenue figures shared in the table above, **after five years, the cluster is expected to have revenue of more than a crore through product sales**. This will become a separate segment for the manufacturers to target for achieving desired revenues, bringing in sustainability to their enterprises.

The raw material bank will support in matching up with the increasing demands as with the expansion in product portfolio, demand for raw material will also increase. While the overhead expenditures will increase overall, but the percentage of revenue spent on operations will be controlled. Hence, the profitability of the cluster will increase.



# Chapter 15

## PROPOSED IMPLEMENTATION FRAMEWORK

### 15.1 Role of implementing agency

Role of Implementing Agency (IA) includes the following:

- **Set up a raw material bank**, which will supply raw material at subsidized rate to other manufacturers at Kalpi.
- **Create awareness and build capacity** of other manufacturing units to produce quality paper and marketable designs.
- The IA will enter into an agreement with the Nodal Agency for **timely completion of cluster intervention** and utilization of Government Grants
- Operation and Maintenance (O&M) of assets created under the project by way of user-fee based model
- Responsible for furnishing Utilization Certificates (UCs) and regular progress reports to Nodal Agency and Technical Agency in the prescribed formats.

The IA shall endeavor to increase participation of other cluster stakeholders and institutions by creating awareness among smaller manufacturing setups about the advantages of procuring raw materials from a local nodal point. They should also focus efforts on creating awareness about the benefits of learning and improving artisans' skills and introducing innovation in the designing of handmade paper and paper products. Increased level of involvement of various cluster stakeholders should be fostered to strengthen the implementation of the project.

### 15.2 Details of strategic partners and other project stakeholders

The strategic partnership is envisaged with following institutes and retail outlets for increased visibility in the market.

Project Implementation stakeholders

1. Other manufacturing units at Kalpi
2. Trainers
3. TARA

Buyers

1. Traders and Exporters
2. Direct exports
3. Printing houses
4. Paper product manufacturers
5. Universities
6. Chemical companies

### 15.3 Structure of the SPV

The proposed raw material bank will be managed by special purpose vehicle which will be formed at the initiation of implementation. **Special Purpose Vehicle (SPV)** will be formed for the current project by the IA. The SPV will oversee the following functions:

1. Establish, operate and maintain all facilities as mentioned in the DPR
2. Collection of user charges from SPV members and other users of the facility to meet the recurring expenses and future expanses
3. Preparation and submission of progress reports to KVIC through TA

### 15.4 Composition of the SPV with details of roles and responsibilities of each partner/ shareholder

Its Managing Committee, will have fair representation of artisans (at least 33 %). The management of raw material bank will be a three-tier structure for smooth and uninterrupted operation.

The structure is as given: -

#### 1. The Management Committee

It is the main governing body of SPV which is ably assisted by technical staff. Committee will have executive members namely President, Vice President, Secretary, Asst. Secretary, Cashier and members. All the members will oversee the entire operations of the SPV.

#### 2. The Technical Staff

The facility will have its own technical staff who will work on full time basis. The technical staff is headed by an experienced manager and will be assisted by skilled and unskilled employees to run the proposed hard interventions.

#### 3. The Secretarial Staff

A competent and well qualified person will be appointed as the general manager who will look after day to day operations of Raw Material Bank and the training programs and directly report to management committee.

# Chapter 16

## EXPECTED IMPACT

### 16.1 At Cluster Level

- Around **200 people will be benefited** with the program implementation
- **Skill development and capacity building** of artisans for producing various types of handmade paper and paper products
- **Create market linkages** for the manufacturing units through regular buyer seller meets and participation in domestic exhibitions
- **Increased revenue and profitability** of the manufacturing units leading to enhanced income for the artisans

### 16.2 At Enterprise level

- **Easy access** to quality raw materials through the construction of a Raw Material Bank helping in reduced operational expenditures
- **Improved production processes** with better understanding on product development and market trends
- **Gradual shift from producing paper to paper products** suitable for the lifestyle market, bringing in higher margins

### 16.3 Indirect Expected Impact

With the establishment of the raw material bank and up-skilling of the artisans, it is expected that the Kalpi cluster will be **revived and retain its position as one of the major clusters** for handmade paper and paper products in India. It is expected that local sourcing of handmade paper will increase as opposed to purchasing and transporting the paper from nearby major cities.

Also, women participation in the cluster is expected to go up. The cluster, along with providing better employment opportunities will also reduce distress migration from Kalpi to cities. With increased artisan earning, the socio-economic status of the artisans and their families will also rise.

# **Diagnostic Study Report**

AWALA PROCESSING CLUSTER,  
PRATAPGARH

## **Implementing Agency**

Abhishek Gramodyog Sewa Sansthan

## **Nodal Agency**

Directorate of Agro Based Food Processing Industries  
Khadi and Village Industries Commission [KVIC]  
Ministry of MSME, Govt.of India

## **Program Supported Under**

Khadi Reform and Development Programme  
[KRDP-ADB]

**February 2015**

## **Prepared and Submitted By**



Entrepreneurship Development Institute of India  
Ahmedabad

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## **A. INTRODUCTION:**

Awala is a gift of nature to mankind. It is an indispensable part of the Ayurvedic and Unani system of medicine. Awala has amazing remedial qualities. In Sanskrit, it is called Amalaki or Dhatriphala. It belongs to the family Euphorbiaceae and its scientific name is *Emblica officinalis*.

There are two varieties of Awala - **cultivated (Gramya)** and **wild (Vanya)**. The wild Awala is small, hard and has lots of fiber while the cultivated Awala is big, smooth and juicy. It is basically sour but at times it is sweet and pungent also.

Awala, Aonla or Indian Gooseberry (*Emblica officinalis*) is an indigenous fruit to the Indian subcontinent. Owing to hardy nature, suitability to various waste lands, high productivity/ unit area (15-20 tons/ha), nutritive and therapeutic value, Awala is becoming more and more commercially important.

Awala fruits are very rich source of vitamin C having an ascorbic acid content varying from 0.9 to 1.3 per cent. This is the second highest among all the cultivated fruits. This fruit is highly valued among indigenous medicines. It is acrid, cooling, refrigerant, diuretic and laxative. Dried fruits have been reported to be useful in hemorrhages, diarrhea, dysentery, anemia, jaundice, dyspepsia and cough. Trifala and Chyavanprash are well known indigenous medicines in Ayurvedic system using Awala fruits.

## **B. CLUSTER BACKGROUND**

Awala is basically found in India, Pakistan, Bangladesh, Sri Lanka and some part of Malaysia. In India, Awala is widely found in Uttar Pradesh (UP). Pratapgarh town in UP is known as Awala City of India as most of Awala is grown there.

Due to the geo-climatic condition, fertility of land, temperature of the region etc., the Awala cultivation in Pratapgarh district is approximately 2,000 hectare in 17 blocks. The estimated total production of Awala fruit is about 1.2 million metric tons. The major production of Awala is reported in the Sandwa, Chandika, Mangora and Chilbila blocks of Pratapgarh district which has been declared "Fruit Belt" by the state govt.

Awala based products are the main products of the area, which plays major role for economic development of Pratapgarh. Being Awala a natural rich source of Vitamin 'C' and having enough nutrients, it is very popular among the people. It is not only consumed daily as a fruit and supplement but also used in many special occasions due to which its demand is increasing continuously. Indian companies like Dabur, Baidaynath and Zandu are producing high quality standard Awala products with and are exporting it.

It is about 80% of the country's total Awala production done in Pratapgarh district. New varieties of Awala, NA-6, NA-7, NA-10 & Laxmi-52 along with Baransi, Krishna, Chakaiya, Kanchan are very productive and suitable for food industries.

### **Awala is used in these forms**

- Food Items
- Ayurvedic Drugs
- Cosmetics
- Brewages

All four forms involve high degree of value addition. The profit of Value Addition of its cultivation, handling, storage, preservation, processing and marketing, must be shared by all the stakeholders.

Due to historical and socio economic reasons, the heartland of Awala production, District Pratapgarh, is not getting benefit of value addition as Awala is mainly used as food product. Nearly all Indian Cuisines (both based on cereals and fruits/ vegetables) fall under Unorganized Food processing industries category. Murabba and Pickels production from Awala are a few important products of this unorganized category along with other fruit and vegetable products occupy a prime place in the Village Industries activity in food processing sub sector. These activities have now taken shape in tiny, small and medium size rural industry in and around Pratapgarh District of Uttar Pradesh.

Worldwide awareness and interest towards Indian Medicinal system, especially Ayurveda, and invaluable attributes of Awala, called 'Amrit Phala' has accelerated the process in the district but in unorganized way.

At present there are more than 100 units manufacturing processed Awala products located in Gorhreh, Sonawan, Mohanganj, Chilbila belonging to different community. The total direct employment of cluster is approximately 300 persons and indirect employment is also 300 persons.

### **C. LOCATION OF THE CLUSTER:**

The main concentration of Awala cluster is **Chilbila**, which is situated at a distance of 08 Kms from district Headquarter Pratapgarh. It is 65 Kms away from Allahabad towards Faizabad. It is well connected by road and rail as it is in on the main rail line of Howrah-Lucknow-Delhi. The nearest Airport is Bamrauli Airport at a distance of 75 Kms. Nearest port is Kolkata at a distance of 815 Kms and dry port of Kanpur is at a distance of 200 Kms.

The Pratapgarh district is exactly located near bank of river Sai. The soil of 17 blocks of Pratapgarh is very fertile and suitable for plantation point of view. The Awala grown in Pratapgarh is having specialty in terms of its taste and content of vitamin C than other Awala grown in other parts of the country. It is reported that about 10-15% of total Awala production is processed locally and remaining 85-90% of Awala is purchased in bulk by Indian major Aurvedic pharmaceutical companies like Dabur, Baidhyanath, Zandu and also sent to State like Bihar, West Bengal, Delhi, Maharashtra, Kerala, Gujarat, Odisha, Haryana, Punjab etc. for preparation of Awala based products like Chyavanprash and other value added products.

### **D. PRESENT STATES OF CLUSTER:**

At present there are 100 units manufacturing Awala based products out of 25 units got FPO license from Government of India, Ministry of Food Processing Industry, Most of the units are micro units. The units in Pratapgarh produces products of Awala like Murabba, Awala[ Pickles, Awala Laddoo, Awala Burfi, Awala Juice, Awala Candy, Awala Powder etc., as per FPO specifications. The basic raw material Awala is easily available in the Chilbila Mandi. Other raw materials, such as sugar, citric acid, preservative, color, flavors are available in local markets of Allahabad, which is 65 Kms. from Pratapgarh.

During the Survey it was found that for preparation of Awala Murabba and Awala Pickle, traditional method is followed. It is reported that earlier these products were prepared traditionally by people for their own consumption but in around 1990 it is prepared for business purposes. The local people are manufacturing Awala Murabba, Pickles, Laddoo, Burfi and other products and the they are packed into jar, bottle and supplied to the market.

Maximum units of the cluster are using manual process for manufacturing of Awala based products. However, some of the units of cluster are using machinery. The entrepreneur has traditional knowledge for manufacturing of Awala based products. It is seen during the survey that some of



the cluster units are manufacturing other products like Bel Murabba, Mixed Pickle, Garlic pickles, Guawa Jelly, Toffee etc. to cater the needs of customer.

There is a lot of scope of Awala processing industries in this area due to easy availability of Raw Material. Awala is a seasonal fruit which is collected in the month of November-December every year, than its processing starts from the month of November to January every year. All units of cluster are processing Awala into different products like Awala Murabba, Pickles, Juice, Candy, Powder & store it for marketing. Only 10 to 15% of the total production is processed locally and rest is sent to different States, Indian multinationals for processing of Awala products. As Awala is a natural source of Vitamin C, nowadays people are very health conscious so they prefer to use Awala based products. There is no problem of market for Awala based products, people are coming to purchase from the units. Some of the units of the Cluster are National/ State Awards winner and also participating domestic exhibition organized by Khadi village Industries Board and in different Melas of the Country. As far as market scenario is concerned, there is huge market potential of the Awala products.

The proprietor and their family member are the workers, managers in most of the units. The production of Awala products in the cluster is approximately about 300 MT per year. The profit margin for selling of 1 Kg of Awala Murabba is about Rs. 19/-. The finished product of Awala is also sent to other states like Bihar, West Bengal, Odisha, Rajasthan, Gujarat, Punjab etc.

## **E. FOOD PROCESSING INDUSTRY –GLOBAL SCENARIO**

Food Processing Industry is one of the largest growing sectors globally with annual production of USD7 trillion. Major contributors to the industry are Cold drinks, Potato Chips, Juice, Italian Pasta, Pizza, Burgers, Sandwiches, Sugar free products, Cornflakes, Oats, Ketchup, Jam etc. are among most demanded consumer goods.

India's Food Processing sector **ranks fifth in the world** in production, consumption and exports. India's share at the global market is mere 2% in the processed food category. Countries like USA and China processes their 90% and 40% of their fruit and vegetable produce. While other developing countries such as Thailand, Philippines, and Brazil processes 30, 78 and 70% of their fruit and vegetable produce.

## **F. FOOD PROCESSING INDUSTRY –INDIAN SCENARIO**

The agriculture sector is the principal source of Livelihood in India. It accounts for more than 60 per cent of the total population and is the base for the majority of the food processing industry. The agriculture sector has achieved growth rate of 4.4 per cent in the year 2013-14 with food grain production close to 264 Million Tonnes (MT) (*Data Source: <http://agricoop.nic.in>*)

Food processing sector is one of the largest sectors in India in terms of production, growth, consumption, and export. India's food processing sector covers fruits and vegetables, spices, meat, poultry, milk, milk products, alcoholic beverages, fisheries, plantation, grain processing and other consumer product groups like confectionery, chocolates and cocoa products, soya-based products, mineral water, high protein foods etc.

The Industry has registered growth rate of 13 per cent annually and have significant contribution towards growth of the Indian economy. As it takes care of the farmers and provides employment for skilled and unskilled labour.

Annually, India produces 205 million tons fruit and vegetables, and is the second-largest country in the world as far as farm production is concerned. However, it processes only 4.6 per cent of its production. In contrast, countries like the United States (90 per cent), China (40 per cent) and Philippines (78 per cent) are far ahead of India in reducing wastage and enhancing the value addition and shelf-life of their farm products. The fact is that a large volume of India's agricultural output is wasted, which is a major concern for attaining the food security in the country.

About 35 per cent of the fruit and vegetable is getting wasted annually, due to poor storage facility, amounting to a revenue loss of INR 500 billion. Approximately 80 per cent of the vegetables get rot due to their high water content and the lack of processing facility, resulting in revenue loss of INR 125 billion. India aims to increase the processing level to 20 per cent by the year 2015 (*Data Source: MoFPI*)

The major export destinations for Indian fruits and vegetables are Russia, USA, Bangladesh, UAE, Malaysia, Sri Lanka, UK, Nepal, Saudi Arabia, Pakistan and Indonesia.

India's exported processed food and related commodities of USD 37,798 Million in 2013-14, that includes several other products like Processed Vegetables USD 218 Million ; processed Fruits and Juices USD 420 Million ; Meat and Preparation USD 4481; Marine Products USD 5015 (*Data Source: MoFPI & DGCI&S*)

Being the second largest producer of fruits and vegetables in the world, the consumption of processed fruits and vegetables is still very low in India compared to the processed foods. It is because of cheap and fresh availability of fruits and vegetable in the market. However, with the change in urban lifestyle such as nuclear families, working couples with rise in their disposable income especially working middle class segment has created greater demand of processed food products. Apart from urban market there is greater potential in the rural market also for the processed food products because of rise in household income and increased awareness about brands with access to latest technology and media etc.

India's food sector has moved ahead to achieve the set objectives under Vision 2015. It aims at providing safe and quality food, providing dynamic food processing industry, enhancing the competitiveness of food processing industry in domestic and international market, increasing the infrastructure facilities to enhance the production of processed food, increasing the level of perishable agricultural produce from 4 to 20%, increasing the value addition from 20 to 35%, increasing the share in global trade from 2% to 3%. The food processing industry in India attracted foreign direct investment (FDI) worth USD 1,273.96 million between April 2000 and June 2011, according to data provided by the Department of Industrial Policy and Promotion (DIPP).

## **G. FUNCTIONING OF THE FOOD PROCESSING SECTOR IN INDIA**

The Food Processing Industry in India operates in a highly decentralized manner. The small scale and unorganized sector constitutes about 70% of the food processing sector. Large numbers of units are cottage based, household and small-scale sectors, having small capacities of up to 250 tons per annum. Since 2000, the food processing industry has seen large growth in ready-to-serve beverages, fruit juices and pulps, dehydrated and frozen fruits and vegetable products, pickles, mushrooms and ready-mix vegetables. These small scale units are engaged in these segments of processing and marketing their produce both at domestic and export market.

## H. DIAGNOSTIC STUDY REPORT

### 1. Profile Of Implementing Agency

<b>Name of the cluster</b>	:	<b>AWALA PROCESSING CLUSTER, PRATAPGARH</b>	
<b>Address</b>	:	Village- Banwarpur/Kaulapur Nand Patti, Post- Muwar Adharganj, Block-Gaura/Shivgarh, District-Pratapgarh-230304	
<b>Telephone No.</b>	:	<b>09935005366</b>	
<b>Fax/e-mail</b>	:	abhigram@yahoo.com	
<b>PROFILE OF IMPLEMENTING AGENCY</b>			
1)	Name of the IA	:	Abhishek Gramodyog Sewa Sansthan
i)	Address with PIN code	:	Village- Kaulapur Nand Patti, Post- Muwar Adharganj, Block-Gaura/Shivgarh, District-Pratapgarh-230304
ii)	Telephone & Fax no.	:	09935005366
iii)	E-mail ID	:	abhigram@yahoo.com
2)	Reg. no. and date & its validity	:	1556/1997-98, 22/01/2018 Copy of Registration Certificate is attached as Annexure 1
i)	Whether Direct listed with KVIC/KVIB (Give details)	:	No Institution is not enlisted with KVIC/ KVIB
ii)	Board of management	:	
<b>Sr. No</b>	<b>Name</b>	<b>Address</b>	<b>Designation</b>
1	Mr. Siddhanarayan Mishra	Village- Banwarpur, Post- Muwar Adharganj, Pratapgarh	Chairman
2	Mr. Umakant Dwivedi	Village- Umrao Ka Purwa, Post- Narayanganj, Pratapgarh	Vice-Chairman
3	Mr. Abhishekh Pandey	Village- Banwarpur, Post- Muwar Adharganj, Pratapgarh	Secretary
4	Mr. Jayant Kumar Dubey	Village-Ghatampur, Post-Prithviganj, Pratapgarh	Treasurer
5	Mr. Sunil Kumar Maurya	Village-Lilha Raniganj, Pratapgarh	Member
6	Mr. Ram Pyare Tiwari	Village-Tiwaripur, Post-Garwara, Pratapgarh	Member
7	Mr. Vijay Prakash Dwivedi	Village-Pure Chandu, Post-Jagesharganj, Pratapgarh	Member
iii)	Certificate No.	:	N.A. (Institution is not direct listed KVIB/ KVIC)
iv)	Audit conducted up to	:	N.A.
v)	Major Audit observation	:	N.A.
3)	Type of activities undertaken	:	
<p>Being a basic resource of Cash Crops, Awala is contributing a lot over the socio-economic structure of Pratapgarh, District of Eastern UP. As such the inhabitants of the district are traditionally associated themselves with indigenous methodology of its plantation, processing for routine domestic consumption in local markets. In order to canalize the flow of scattered and ignored groups involved in traditional way to the main stream of technological expertise with market driven aptitude, Shri Sidhnarayan Mishra (formar IAS and founder of Abhishek Gramudyog Sewa Sansthan) has decided to provide a basic infrastructural facility to such scattered group of his locality and as such with this noble objective he has established Abhishek Gramudyog Sewa Sansthan in the year 1998 with active support of Shri Abhishek Pandey and other likeminded enthusiastic people. The Sansthan with objective of generating scope for rural employment as well spreading awareness among the peasants for their socio-economic growth, become popularized</p>			

	within very short span of its induction and therefore its undertake following activities successfully without taking any financial aids from Govt. agencies.				
	<ul style="list-style-type: none"> <li>• Processing &amp; Preservation of Foods &amp; Vegetable</li> <li>• Food Processing Training</li> <li>• Women Welfare / Empowerment Program</li> <li>• Vocational Training for Youths</li> <li>• AIDS Awareness Program</li> <li>• Environment Awareness Program</li> </ul>				
i)	Whether engaged in manufacturing/ service/ other activities	:	Processing Awala Products		
	<b>Particulars</b>	<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>1-</b>	<b>Total Production</b>	In Tons	<b>47.33</b>	<b>62.22</b>	<b>75.10</b>
	<i>Manufacturing</i>		<i>11.38</i>	<i>12.82</i>	<i>12.85</i>
	<i>Under Job Work</i>		<i>35.95</i>	<i>49.40</i>	<i>62.25</i>
<b>2-</b>	<b>Total Revenue</b>	Rs. In Lacs	<b>75.49</b>	<b>86.77</b>	<b>89.55</b>
	<i>Sales of Products</i>		<i>68.30</i>	<i>76.89</i>	<i>77.10</i>
	<i>Receipts from Job Work</i>		<i>7.19</i>	<i>9.88</i>	<i>12.45</i>
<b>3-</b>	<b>Total Employment</b>	No	<b>27</b>	<b>34</b>	<b>38</b>
	<i>Skilled</i>	No	<i>5</i>	<i>6</i>	<i>6</i>
	<i>Unskilled</i>	No	<i>22</i>	<i>28</i>	<i>32</i>
ii)	Indicate the budgetary and funding support, year wise for last three years in respect of KVIC/ KVIB related NGOs and other NGOs availing fund from different sources.				
a)	Budgetary target (last three years)	:	N.A.		
i)	Production, sale, employment	:	N.A.		
ii)	Funding support	:	N.A.		
iii)	Working capital availability	:	N.A.		
iv)	CC availed in the previous year against budgetary allocation	:	N.A.		
	<b>Funding support for last three years</b>				
	Capital expenditure (incurred)				
	<b>Particulars</b>	<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	Capital Expenditure	Rs. In Lacs	Nil	Nil	Nil
	Working capital (availed)				
	<b>Particulars</b>	<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	Working capital (availed)	Rs. In Lacs	Nil	Nil	Nil
	Indicate the position of current assets and current liabilities of the previous year				
	<b>Particulars</b>	<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	Current Assets	Rs. In Lacs	31.93	35.08	39.99
	Current Liabilities	Rs. In Lacs	1.75	0.00	0.00
	Working Capital (1-2)	Rs. In Lacs	30.18	35.08	39.99
	Indicate cash flow/ fund flow statement of the previous year for the NGOs engaged in manufacturing activities				
	<b>Cash Flow Statement</b> [Rs.in Lakh]				
	<b>Particulars</b>	<b>Consol.</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	<b>[1] SOURCES</b>				
	Net profit after tax	-	4.85	2.39	2.69
	Add: Depreciation	-	1.79	2.51	2.22
	Add: Misc. Expenses W/off	-	-	-	-

	-	<b>6.64</b>	<b>4.90</b>	<b>4.91</b>
Increase in Prop. Capital	48.00	-	-	-
Increase in Term Loan	-	-	-	-
Increase in Cash Credit Limit	-	-	-	-
Increase in Capital Subsidy	-	-	-	-
Increase/(Decrease) in Current Liability	1.03	0.72	(1.75)	-
	<b>49.03</b>	<b>7.36</b>	<b>3.15</b>	<b>4.91</b>
<b>[2] APPLICATION OF FUNDS:</b>				
Increase in Fixed Assets	-	-	-	-
Building & Civil Work	18.76			
Plant & Machinery	5.70			
Increase in Investment	-	-	-	-
Increase in Current Assets	23.98	7.79	3.14	4.92
Decrease in Term Loan	-	-	-	-
Promoters' Withdrawals	-	-	-	-
Increase/(Decrease) in Misc. Expenses	-	-	-	-
	<b>48.44</b>	<b>7.79</b>	<b>3.14</b>	<b>4.92</b>
<b>Opening Balance</b>	-	0.59	0.16	0.17
<b>Surplus/ (Deficit) (1-2)</b>	0.59	(0.43)	0.01	(0.01)
<b>Closing Balance</b>	<b>0.59</b>	<b>0.16</b>	<b>0.17</b>	<b>0.16</b>

## 2. Manpower

- a) Full time/permanent employees of the NGO : 10 (list enclosed)

Artisans	SC/ ST	OBC	Minority	General	Total
Male	2	3	0	0	<b>5</b>
Female	5	0	0	0	<b>5</b>
Total	<b>7</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>10</b>

- b) Part time/ semi-permanent employees of the NGO : 55 ( list enclosed)

Artisans	SC/ ST	OBC	Minority	General	Total
Male	8	2	0	2	<b>12</b>
Female	34	4	5	0	<b>43</b>
Total	<b>42</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>55</b>

- c) Artisans/ workers getting wages on monthly basis through their respective bank account :

**No**

- d) Artisans/ workers getting wages on daily/ monthly basis not through their respective bank account:

**Yes, all the artisans/ workers employees get their wages in cash.**

e) Category wise Artisans (SC/ST/OBC/Minority/Women)

Artisans	SC/ ST	OBC	Minority	General	Total
Male	8	2	0	2	<b>12</b>
Female	34	4	5	0	<b>43</b>
Total	<b>42</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>55</b>

### 3. Infrastructure available with IA

i) Give details of existing land and building available with IA and details of the property mortgaged with KVIC/KVIB under EM as on date or with bank/financial institutions

S. No.	Particulars	Details
1	Total Land Area	4764.375 Sq. ft.
2	Total Construction Area	2200.210 Sq. ft.
3	Water tank/ Overhead water tank	1000 Litters
	<b>Existing Land &amp; Building Cost (W.D.V.) as on 31 March 2014</b>	<b>Rs. 14.43 Lacs</b>

Note: Land and Building are free from any mortgage deal current present status.

ii) Plant and machineries:

S. No.	Particulars	Details
1	Boiler Machine	Steam fire
2	Cattle	Cooking
3	Tools & Utensils	Silver tub, Punching, weight machine, etc.
4	Plastic Drum	Raw material storage
	<b>Existing Plant &amp; Machinery Cost (W.D.V.) as on 31 March 2014</b>	<b>Rs. 3.50 Lacs</b>

iii) Indicate the availability of land in regard to managing the cluster activities.

**Available area for proposed cluster activities: 2564.165 Sq. ft.**

Whether land could be made available for organizing CFC. : **Yes**

### 4. Geographical area of the activities undertaken

a) Indicate the area where the cluster will be functioning, mentioning the names of the villages along with district, block, sub-division and equally mentioning the no. of Artisans of each of these villages

S. No.	Village	District	Artisans available						
			SC/ST	OBC	Minority	Other	Male	Female	Total
1	Bhanwarpur	Pratapgarh	115	19	0	28	93	69	162
2	Kaulapur	Pratapgarh	116	04	0	0	79	41	120
3	Pure Ramsahay	Pratapgarh	55	16	0	0	62	09	71
4	Muwaradharganj	Pratapgarh	27	04	0	0	18	13	31
5	Shahpur	Pratapgarh	07	01	0	0	06	02	08
6	Borra	Pratapgarh	95	0	0	13	52	56	108
7	Khampurduvepatti	Pratapgarh	39	0	0	01	31	09	40
			<b>454</b>	<b>44</b>	<b>0</b>	<b>14</b>	<b>341</b>	<b>199</b>	<b>540</b>

Post-Muwar Adharganj, Block-Gaura, Sub-division: Raniganj, District Pratapgarh, 230304.

- C) Indicate the present area of activities of the IA and the involvement of Artisans in respect of Khadi as well as of V.I. institutions.:

Village- Banwarpur/ Kulapur Nandpatti, Post- Muwar Adharganj, District – Pratapgarh-230304

## 5. Action plan of IA in terms of progress of the cluster

(Giving projection of year wise, activity wise and focusing various interventions as per the SFURTI guidelines and yearly utilization of fund)

- i) Such action plan should be based on appropriate data base and input of the cluster jointly undertaken by IA, TA and CDE.
- ii) Such action plan will also take the necessary feedback of the adjoining bank personnel, who will be associated in the proposed DSR of the cluster.

# **I. CLUSTER ACTOR**

## **A. Profile Of Artisans [Annexure -1]**

As the Awala products preparation has various steps, it needs many people to prepare the final product.

Following peoples are associated with the Awala cluster at the different steps of preparation of Awala products.

- I. Awala Growers
- II. Awala pluckers
- III. Awala Processors
- IV. Entrepreneurs

These various cluster actors play a vital role in processing of Awala and converting it into final product.

No association exists in Awala Cluster at Pratapgarh. Long back there was association by the name of "Rashtriya Awala Mission" having direct linkage with Cluster Actor. But at present this "Rashtriya Awala Mission" is inactive. This Mission was formed around 10 years back.

Due to lack of literacy & technology, this cluster is facing marketing problems. Most of the cluster actors have adopted traditional manufacturing process for production of Awala Products. Due to unorganized cluster actors, the sale price of Awala is not fixed that is why profit margin is less which affects the overall market scenario.

Except few, most of the cluster actors are not financially sound; they need financial support, training from Technical Institutions as well as Product Development, Waste Minimization Technique and marketing support.

The Cluster Actors do not have quality control laboratory wherein, testing of raw materials & finished products can be made.

### **a. Following Institutes having indirect relation with cluster actors:**

- I. District Industries Centre (DIC), Pratapgarh.
- II. Small Industries Service Institute (SISI), Allahabad.
- III. National Small Industries Corporation, Allahabad.
- IV. Small Industries Development Bank of India (SIDBI), Varanasi.
- V. Nationalized Banks.
- VI. U.P. Small Industrial Corporation, Allahabad.
- VII. UPFC, Allahabad.
- VIII. Directorate of Horticulture & Food Processing, Lucknow.
- IX. Ministry of Food processing, Govt. of India, 7<sup>th</sup> Floor Aliganj, Lucknow.

## **B. Core Cluster Actors:**

The entrepreneurs manufacturing Awala Based products are the Core Cluster actors. The core actor of the Awala cluster can be divided into following sections:

**Section A:** They are many traders/ entrepreneurs who purchase Awala from Awala growers/ Awala Producer (Farmers) through local market or directly from Awala growers. They collect and categorize it and send to the market for whole sale of Awala. This trading of Awala Fruit is done



through Agents or Mediators. The farmers of Awala Produce will not get actual price of their Awala Fruits.

Therefore, it is necessary to develop a network that farmers can sale their Awala fruits directly to processors, so that they can get suitable price for their Awala products.

**Section B:** This group consists of about 90% units of the cluster. The units processing Awala fruit and prepare variety of value added products are as under:

1. Awala Murabba.
2. Awala Laddo.
3. Awala Burfi
4. Awala Pickles
5. Awala Squash
6. Awala Sarbat
7. Awala Powder

Other than this, most of units are manufacturing Bel Murabba, Garlic Pickles, Mixed Pickles, Mango Pickles etc. to cater the need of people.

In this group of units, there is no machinery and only utensils like Bhagona, Stove, Oil fired spoon, Knife are used. There is no quality control measure being adopted but only on the basis of expertise they manufacture their products.

**Section C:** There are few units having machinery like M/S Khandelwal Food Pvt. Ltd., Chilbila, Pratapgarh, who use steam for boiling of sugar, syrup, boiling of Awala, Juicer machine, bottle, jam jar sealing machine is used in the unit. Most of the Awala products are manufactured by this unit. This unit has maintained good hygienic condition.

## J. THE EXISTENCE OF INTER-FIRM AND INTRA-FIRM LINKAGES:

The existence of inter-firm linkage is one of the most important attributes of Awala Cluster, Pratapgarh which is helpful for executing supply of order.

Industry structure analysis: The analysis of the industry structure of Awala Cluster, Pratapgarh is show figure 2.3 The Industry structure analyses determine.

- Prospect of growth
- Profitability
- SSI viability

Entry barriers <b>Low</b>	Rivalry <b>Moderate</b>
Bargaining power of the customers <b>High</b>	Bargaining power of the suppliers <b>Low</b>

**Entry Barrier:** In the Awala Cluster, Pratapgarh the entry barrier is low because any one can enter in this field with minimum investment; Second thing is no need of technical expertise and easily availability of raw materials.

Another positive point is the economics of scale which means that if you produce more the manufacturing cost may be automatically go down but the manufacturing process of Awala products is almost manual and seasonal only. Improvement in manufacturing process can certainly provide the growth of a Cluster; enough emphasis should be given on brand building.

**Bargaining power of the customer:** The bargaining power of the customer is very high in Cluster area as there is no product differentiation so that customer can switch from one supplier to another. The switching cost is very low. The customers are not only quality conscious but price sensitive also. There are few entrepreneurs having good reputation in market, therefore, forming consortium and brand building can reduce the bargaining power of the customer.

**Bargaining power of the supplier:** It has observed that bargaining power of the supplier in the cluster area is also low because the price of Awala fruit is fixed in the cluster area. There is middleman or traders who are supplying raw material to the cluster actor at the fixed cost. Therefore, the bargaining power of the supplier is low. It can be further reduced by forming network among the cluster actor.

**Rivalry:** In Awala Cluster, Pratapgarh almost all the units/enterprises producing the same Awala based products, some of the cluster actor also producing products other than Awala. The rivalry among enterprises is moderate; there is rivalry in the domestic market like Bihar, U.P., Delhi, M.P., Odisha, West Bengal and Jharkhand etc. After globalization the growth potential of the industry is tremendously changing due to technology up gradation.

Rivalry among firm can be reduced by encouraging product diversification, product development, and quality product.

## K. GEOGRAPHICAL CONCENTRATION OF THE CLUSTER

- 1) Location of the cluster  
***Village-Kaulapur Nand Patti, Post- Muwar Adharganj, District, Pratapgarh-230304***
- 2) No. of villages to be associated in the cluster :  
***7 Villages***
- 3) Give details of such villages mentioning block, sub-division and district :  
***2 Block (Gaura & Shivgarh), 1 Sub-division (Raniganj) of District Pratapgarh (UP)***
- 4) No. of artisans to be associated from each villages in the cluster : ***540***

S. No.	Village	Block	Artisans available						
			SC/ST	OBC	Minority	Other	Male	Female	Total
1	Bhanwarpur	Gaura	115	19	0	28	93	69	162
2	Kaulapur	Gaura	116	04	0	0	79	41	120
3	Pure Ramsahay	Gaura	55	16	0	0	62	09	71
4	Muwaradharganj	Gaura	27	04	0	0	18	13	31
5	Shahpur	Gaura	07	01	0	0	06	02	08
6	Borra	Gaura	95	0	0	13	52	56	108
7	Khampurduvepatti	Shivgarh	39	0	0	01	31	09	40
			<b>454</b>	<b>44</b>	<b>0</b>	<b>14</b>	<b>341</b>	<b>199</b>	<b>540</b>

Post Muwar Adharganj, Block Gaura, Sub-division Raniganj, District Pratapgarh 230304

5) Provide a map of the geographical concentration of the cluster



## About the District

### Origin of the District

The District that forms a part of Faizabad Division is named after its headquarters town Bela Pratabgarh, commonly known as Pratabgarh. Pratab Singh, a King of the locality who flourished between 1628-1682, fixed his headquarters at Rampur near old town of Aror. There he built a garh (fort) and called it Pratabgarh after his own name. Subsequently the locality around the fort came to be known as Pratabgarh. When the district was constituted in 1858 its headquarters was established at Bela which came to be known as Bela Pratabgarh, the name Bela presumably being derived from the temple of Bela Bhawani on the bank of river Sai.

### Location and Boundaries

The District lies between the parallels of 25°34' and 26°11' north latitude and between the meridians of 81°19' and 82°27' east longitude extending for some 110 km. from west to east. It is bounded on the north by district Sultanpur, on the south by district Allahabad, on the east by district Jaunpur and on the west by Fatehpur and north-east by district Rae Bareilly. In the south-west the Ganga forms the boundary of the district for about 50 km. separating it from Fatehpur and Allahabad and in the extreme north-east the Gomti forms the boundary for about 6 km.

### Area Covered

According to The Central Statistical Organization the district has an area of 3,730 sq. km.

## Pre-History

The early history of region covered by the present history of Pratapgarh is not with put interest. The region was already inhabited in pre-historic age.

## Archaeological Finds

Several human skeletons along some animal bones and a number of small stones implements, belonging probably to the Neolithic, have been unearthed in Archaeological exploration at Sarai Nahar in Kunda Tehsil. It is the only site in the entire valley of Ganga which has yielded human skeleton of such an early age as also the Stone Age implements. On the left bank of river Sai there stand a ruined "Kot" representing a Buddhist Stupa.

## L. PRODUCT PROFILE IN THE CLUSTER

### AWALA (*Emblica officinalis*)



### An old tree of Awala

**Family:** Phyllanthaceae

**Synonym:** *Phyllanthus emblica*

**Awala**, Aonla or Indian gooseberry (*Emblica officinalis*) is an indigenous fruit to the Indian subcontinent. Owing to hardy nature, suitability to various waste lands, high productivity/ unit area (15-20tons/ha), nutritive and therapeutic value, Awala is becoming more and more commercially important with every passing year.

Indian Ayurveda always described this fruit as beneficial for nail to hair. Ayurveda physicians have Sanskrit synonyms for this fruit that mean the 'sustainer', 'the fruit where the goddess of prosperity resides'

Awala fruits are a very rich source of vitamin C having an ascorbic acid content varying from 0.9 to 1.3 per cent. This is the second highest among all the cultivated fruits. This fruit is highly valued among indigenous medicines. It is acrid, cooling, refrigerant, diuretic and laxative. Dried fruits have been reported to be useful in haemorrhages, diarrhea, dysentery, anaemia, jaundice, dyspepsia and cough. Trifala and Chyavanprash are well known indigenous medicines in Ayurvedic system using Awala fruits.

Awala is basically found in India, Pakistan, Bangladesh, Sri Lanka and some part of Malaysia. In India, Awala was mostly found in Uttar Pradesh (UP). Pratapgarh town in UP is known as Awala City of India as most of Awala is grown there. The Awala was grown for last several decades by small, uneducated farmers. But for last few years, several educated and especially NRIs (Non Residing Indians) have taken keen interest in cultivating Awala seeing the demand of Awala and Awala products all across world. Hence, now Rajasthan has took over UP in Awala cultivation. Several NRIs have farm-house in Rajasthan cultivating Awala. Not only Rajasthan, but also several other states such as Maharashtra, Andhra Pradesh, and Punjab are having several thousand acres of Awala plantation.

When Awala fruit is having such powerful medicinal values, why it is not consumed like other fruits such as mango, apple or other berries? The answer to this question is its sour taste! Awala became famous worldwide as main constituent of Chyvanprash, which is the most popular rejuvenator in the world. In India, it is consumed in almost every home in the form of Murabba (Awala preserved in sugar syrup).

Now Awala processing is picked up in India and efforts are made to develop products that are good in taste so that people can consume Awala every day and improve health. Awala is a Rich source of Vitamin "C" which is required by human being to develop their immune system.

Several properties that are talked about Awala are as follows:

Antioxidant, anti-inflammatory, Immune Modulator, anti-bacterial, expectorant, antipyretic, cardio tonic, anti-emetic, anabolic

It is considered to cure or help in skin problems, hair problems, acidity, diabetes, asthma, cholesterol and cholesterol induced atherosclerosis (Obstruction of the arteries), etc.

Awala is getting popular all across globe among people as well as commercial organizations (Pharma MNCs), as rich source of Natural Vitamin "C".

## **Climate and soil**

Awala is a subtropical plant and prefers dry subtropical climate. Even mild frost during the winter months can be injurious to tree. Though it can bear temperature up to 46 C during summer months, but the temperature should not be high at the time of flowering. It affects fruit setting and may sometime lead to complete unfruitfulness, if there are hot and dry winds too. Ample humidity is essential for initiation of fruit growth of dormant fruitlets during July –August. Dry spells result in heavy dropping and delay in initiation of fruit growth.

Since Awala is a hardy plant, it can be successfully grown in variable soil conditions. The deep root system, reduced foliage, dormancy of fertilized fruitlets (April- June) makes Awala an ideal plant for arid and semiarid conditions. Awala can be cultivated in marginal soils—slightly acidic to saline/ sodic (pH 6.5-9.5) conditions. Heavy soils or high water table areas are not suited for cultivation.

## Varieties

There are 3 main varieties of Awala viz., Banarasi, Francis (Hathijhool) and Chakaiya. These varieties have their own merits and demerits. Banarasi, an early-maturing Awala, is a shy-bearing, prone to heavy dropping of fruits with poor shelf-life. Francis suffers from severe incidence of fruit necrosis. Chakaiya fruits are fibrous, smaller in size and also have a tendency to bear heavy crop in alternate years. Other varieties identified and released for commercial cultivation during the recent years are:



### Fruits of banarasi Awala

**Kanchan (NA4):** A seedling selection from Chakaiya, it is heavy and regular bearer (7.7female flowers/ branch let), with medium-sized fruits, having higher fiber content. It is preferred by industrie for pulp extraction and manufacturing of various products. This has been adopted very well in the semiarid regions of Gujarat and Maharashtra.

**NA6:** A seedling selection from Chakaiya, it is prolific and heavy bearer (10.8female flowers/ branchlet). It is ideal for preserve and candy, owing to low fibre content.

**NA7:** A seedling selection of Francis, it is precocious, prolific and regular-bearer (9.7female flowers/ branch let). This is an ideal variety for preparation of products and has a great promise.

Besides above varieties, Anand 1, Anand 2 and Anand 3 have been selected as promising strains at the Gujarat Agricultural University.

**Wild Himalayan Awala:** There also exists a quite distinct type of Awala, which grows wild in the mid-hill regions of the Western Himalayas. This Awala bears smaller fruits and is a very heavy cropper. A very good quality of this type is that it is much cold hardy in comparison to the commercial Awala. The wild Himalayan Awala can therefore be successfully used to extend Awala cultivation to colder areas.

A separate chapter on this strain under the heading “**Wild Himalayan Awala**” has been given here.

## **Propagation and rootstock**

Awala has are raised through seeds as well as inarching. However, there is prolonged juvenility and wide variability in seedlings. On the other hand only limited number of scion shoots is available for inarching owing to upright tree habit.

It can also be propagated through patch/ modified ring budding in north India during mid-May to September with 60-100% success. Besides, Veneer grafting also has successfully been attempted. Considering the efficiency and requirement of single bud, budding is an ideal method of propagation.

Six months to one year-old seedlings obtained from ordinary seedlings Awala trees are being used as rootstock. Mature Awala fruits are collected during January-February and their seeds are extracted after drying. Seeds are sown in raised beds April onwards and these are transplanted in separate bed for subsequent budding.

## **Cultivation Planting**

Grafted or budded Awala plants are planted 7-10 m apart during July–August or February. Pits of 1-1.25 m size are dug 2 months prior to planting. In each pit 3-4 baskets of well rotten farmyard manure and 1 kg neem cake or 500 g bone meal are mixed with soil and filled. In sodic soils, 5-8 kg gypsum along with 20kg sand is incorporated. Filled pits are irrigated thoroughly if there is no rain. Hedge row planting is also being tried keeping line-to-line distance of 8m, while plant-to-plant distance is reduced to 4-5m. Under adverse soil conditions, it is advisable to grow the seedlings directly in the field pits or raise these in suitable containers and transplant at permanent site, and perform budding (in situ) subsequently. Awala scion shoots can be safely stored for 5-7 days with ample success.



## **Awala is a heavy bearer tree**

Since self-incompatibility appears to be a problem with Awala varieties, 2 varieties in alternate rows need to be planted.

## **Training and pruning**

Awala plant should be encouraged to develop a medium headed tree. The main branches should be allowed to appear at a height of 0.75-1m above the ground level. Plants should be trained to modified central leader system. Two to four branches with wide crotch angle, appearing in the opposite directions should be encouraged in early years. The unwanted branches in are pinched off during March-April. In the subsequent years, 4-6 branches should be allowed to develop. Regular pruning of a bearing aonla tree is not required. As per growth habit, shedding of all determinate shoots encourages new growth in coming season. However, dead, infested, broken, weak or overlapping branches should be removed regularly.

## **Manure and fertilization**

The dose of manures and fertilizers depends upon soil fertility, age of plant and production. A dose of 10 kg farmyard manure, 100 g N, 50 g P and 100 g K should be given to one years old plants of aonla. This dose should be increased yearly up to 10 years and thereafter a constant dose should be given. Full dose of farmyard manure and P and half of N and K should be given in tree basin during January- February. The remaining half should be applied in August. In sodic soils, 100-500 g of B and zinc sulphate should also be incorporated along with fertilizers as per tree age and vigour.

## **Irrigation**

Established Awala orchards in general do not require irrigation particularly in normal soils. No irrigation is required during rainy and winter season. However, irrigation at 15-20 days interval is desirable in dry summer particularly during early years of orchard establishment under wasteland conditions. Brackish water should not be used for irrigation. In the bearing plantation, first irrigation should be given just after manure and fertilizer application (January/ February). Irrigation should be avoided during flowering (mid-March-mid April) period. Irrigation at 10-15 days intervals should be given particularly in the salt affected soils.

Basin system of irrigation is well suited for Awala. The initial information obtained with drip irrigation has shown promising response. Alternate drip irrigation with 60 CPE is appropriate with water saving of 40-45%. In water scarcity areas, pitcher irrigation can also be successfully utilized.

## **Mulching**

Mulching with organic wastes is very effective tool for establishment of Awala orchards in sodic and ravenous areas. Paddy straw, sugarcane trash and farmyard manure have shown better response. Mulching with organic wastes over a number of years shall be helpful in improving the organic matter content, infiltration rate, and restricting the upward movement or soluble salts and thus escaping their toxicity menace in salt-affected soils.

## **Intercropping**

Awala being a deep rooted, deciduous tree with sparse foliage's, is an ideal plant amicable for 2 or 3 tier cropping system. Fruits, vegetables, flowers and a few medicinal and aromatic plants are well suited for intercropping in aonla orchards



## Harvesting and post-harvest management

Change in seed color from creamy white to brown is an indication of fruit maturity. Fully developed fruits are harvested. Delay in harvesting results in heavy dropping of fruits particularly in Banarasi and Francis. It also adversely affects the following years bearing. Individual fruits are plucked by climbing on the tree with the help of pegged bamboo or ladder. Harvesting should be done in early or in the late hours of the day.

A budded/ grafted Aonla tree starts bearing third year onwards after planting, whereas a seedlings tree may take 6-8 years. Vegetative propagated plants attain full bearing within 10-12 years and may continue to bear for 60-75 years of age under well managed conditions. An Aonla tree may bear 1-300 kg tree, giving 15-20 tons/ha.

Awala fruits are graded into 3 grades. Large sized, sound fruits are mostly utilized for preserve and candy; small sized for chyavanprash and trifala and blemished fruits for powder and shampoo making. Aonla fruits can be stored for 6-9 days at ambient temperature. However, with a salt solution it can be stored up to 75 days.

## Physiological disorder

Necrosis, a physiological disorder, has been observed in Aonla fruits. Francis variety is highly susceptible followed by Banarasi incidence initiates with browning of mesocarp which extends towards the epicarp resulting into brownish black appearance of flesh.

- Existing/ current product developed in the cluster, its demand, present level of production, sales, profitability, wages and other issues :

***At present the major products developed in the cluster with indigenous methodology are –***

Existing Products	Demand (In Tons)	Production (In Tons)	Sales (In Lacs)	Wages and other issues
Awala Murabba	2,16,000.00	54,000.00	24,300.00	Modernization/ up gradation of Plant & Machinery is necessary, normal packaging of pet jars and normal cargo nation boxes. As per FPO specification to the tune of 90000 tones for meeting the local/ domestic requirements on the self-help basis with very meager profitable input.
Awala Pickle	3,600.00	1,800.00	630.00	
Awala Laddu	54,000.00	13,500.00	9,450.00	
Awala Burfi	14,400.00	3,600.00	2,700.00	
Awala Juice	32,400.00	5,400.00	2,484.00	
Awala Candy	25,200.00	3,600.00	2,592.00	
Awala Chatpati	31,500.00	4,500.00	3,600.00	
Awala Powder	27,000.00	2,700.00	1,755.00	
Awala Chutney	2,700.00	900.00	405.00	
<b>Total</b>	<b>4,06,800.00</b>	<b>90,000.00</b>	<b>47,916.00</b>	

- Whether the existing products is proposed for any changes/ modification/ correction along with new set of product/products in the cluster in terms of :-

Packaging: Packaging should be redesigned as per International standard with the help of NIRD/ IECD to maintained natural aroma/ taste of processed foods in tact till its validity period.

Name of Products	Status of product	Existing Packaging	Proposed Packaging	Benefits
Awala Murabba	Existing Product	Pet Jar	Can Jar	Longer shelf life and better hygienic condition of products in improved packaging
Awala Pickle	Existing Product	Pet Jar	Blister/ Caning	
Awala Laddu	Existing Product	Corrugated boxes	Blister	
Awala Burfi	Existing Product	Corrugated boxes	Blister	
Awala Juice	Existing Product	Pet Bottles	Tetra/ Caning	
Awala Candy	Existing Product	Pet Jar	Blister	
Awala Chatpati	Existing Product	Pet Jar	Blister	
Awala Powder	Existing Product	PP Poly Bag	Blister	
Awala Chutney	Existing Product	Pet Jar	Blister/ Caning	
Awala Squash	Proposed Product	----	Aseptic/ Canning	
Awala Jam	Proposed Product	----	Glass/ Can/ Blister	
Awala Souses	Proposed Product	----	Canning/ Glass	
Awala Chawanprash	Proposed Product	----	Canning/ Glass	
Awala RTS drinks	Proposed Product	----	Canning/ Tetra	
Awala Health drinks	Proposed Product	----	Canning/ Tetra	
Awala Jelly	Proposed Product	----	Blister	
Awala Mouth freshener	Proposed Product	----	PP Poly Bag	

### Product development and design:

Traditionally the cluster actors are involved in processing of Awala with stereo-type indigenous quality and shape of products, which requires to be improvised suitably for exploring better options in competitive markets.

### Branding:

Branding avenues by registering with **ISO** (International Organization for Standardization), **CODEX** (The **CODEX ALIMENTARIUS** international food standards) & **HACCP** (Hazard Analysis and Critical Control Points) standardization together with **Bar Coding** facility and with highlighting the **GI** title in bold as **PRATAPGARH AWALA** to encash the Goodwill of Pratapgarh (UP) which itself a renowned name for hygienic Awala grower, further tagged with another reliable name of **Khadi**, can be explored to achieve the optimum target.

### Product diversification:

By the span of the time, there is paradigm shift in the scenario relating to the varieties of products due to its growing demand in the local market. Entrepreneurs are now keen to develop new products considering the demand of the market. In order to meet the challenges there is ample scope to diversify the processed product with the support of ultra-technological expertise, matching the taste and consuming habits of modern generation facing hazardous life style.

ii) New products (details of such new products along with specific product features)

Awala base products:-

Awala Squash	Awala Ready to Soft Drinks
Awala Jam	Awala Health Drinks
Awala Souses	Awala Jelly
Awala Chyawanprash	Awala Mouth freshener

- iii) Capacities in terms of production and sale proposed to be developed in the cluster on annual basis and accordingly provide break even analysis to make the cluster profitable from the product prospective.

<b>Particulars</b>	<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Capacity	%	50%	60%	70%	80%	90%
Awala Cultivation (in hectares)	Area	10100	12830	13000	13000	15000
Production in District	In MT	8300	8500	9000	10500	11000
No of Units organized	No	18	26	27	29	30
No of Units unorganized	No	72	85	100	110	115
Employment	No	640	690	750	900	1200
Production to process under product	In MT	900	1080	1260	1440	1620
Sale of Awala	Rs. In Cr	16.60	17.00	18.00	31.50	33.00
Sale of process products	Rs. In Cr	1.55	1.86	2.17	2.48	2.79
Cost of Goods Sold : -						
Fixed	Rs. In Cr	0.18	0.16	0.14	0.12	0.11
Variable	Rs. In Cr	1.31	1.56	1.81	2.06	2.32
Net Profit in process products	Rs. In Cr	0.06	0.15	0.23	0.30	0.37
Break Even Point	%	37.21%	30.69%	26.20%	22.76%	20.39%

- iv) Assess the overall contribution in terms of break-even analysis and project the overall profitability, considering the expenditure towards fixed cost of the project.

Details are given in DPR

## v) Details about source of raw materials

The basic raw materials i.e. Awala fruits are easily available in local area of plantation as well in Mahuli Mandi of the district itself. Other raw materials such as Sugar, Citric Acid, Preservative, Additive, Natural colours/ flavor, Bottles, Jar, Gable paper box, Packaging material, Label and Caps etc. are also easily available in adjoining markets/ NCR.

	<b>Particulars</b>	<b>Source of raw materials</b>
<b>A)</b>	<b>Raw Materials</b>	
1	Awala	Pratapgarh
2	Vegetable / Fruits	Pratapgarh
3	Sugar	Pratapgarh
4	Preservative	Pratapgarh
5	Citric Acid	Pratapgarh
6	Natural colors/flavor	Pratapgarh
<b>B)</b>	<b>Packing Materials</b>	
1	Pet Jar	Pratapgarh/ Allahabad
2	Pet Bottles	Pratapgarh/ Allahabad
3	Can Jar	New Delhi
4	Blister	New Delhi
5	Tetra	New Delhi
6	Glass Bottles	New Delhi
7	Aseptic pack	New Delhi
8	PP Poly Bag	New Delhi
9	Label & Caps	New Delhi
10	Gable Paper Box	Pratapgarh/ Allahabad

## **M. PRESENT TECHNOLOGY AND MANUFACTURING PROCESS**

The present technology of the manufacturing process of Awala Products are given in the flow-chart.

The following products are manufactured in Awala Cluster, Pratapgarh:

1. Awala preserve/ Murabba
2. Awala Pickle
3. Awala Laddoo/Burfi
4. Awala Juice
5. Awala Candy
6. Awala Powder

In complete manufacturing process some of the above products are as follows:

### **1. AWALA PRESERVE/ MURABBA**

Select large Awala preferably of the best variety available, wash them thoroughly and prick all over with a stainless steel needle. Soak them in one liter water of salt, which is a 2 percent solution. Raise the strength of the salt solution progressively by 2.0 percent on subsequent day until the final concentration reaches 8.0 percent. Wash thoroughly in running water so as to completely remove the salt residue. To prepare the syrup mix 1 Kg sugar, citric acid and  $\frac{3}{4}$  liters water. Bring to a boil, than strain through a muslin cloth. Add Awala into syrup and boil them in it for 10 minutes. Now remove from fire and set aside for one night. Next day, add  $\frac{1}{4}$  Kg of sugar and boil again till we get a one thread (et-tar or 65 percent sugar) consistency. Once again, leave the Awala in this syrup for one night. On third day, add another  $\frac{1}{4}$  Kg of sugar and boil the Awala till a two threads (do-tar) consistency is reached. The Awala preserve/Murabba is now ready for packing in jar or can. Sterilize the jar or canes before use. Also make sure they are perfectly dry. Fill the containers with the Murabba and cap seal and store in a cool place. Quantity of prepared Murabba is about 1.7 Kg.

### **2. AWALA PICKLE**

Select preferably the best variety of Awala. Wash it thoroughly with water & boil it in water for 8-12 minutes till it becomes soft. In the container, with warm mustard oil add small quantity of salt and water so that foam is formed. Now, add all ingredients except Awala and mix it properly. Remove it from fire then add Awala. Mix it and fry it for one minute. Add remaining salt and put it in a glass jar or plastic jar. Seal it and store in a cool place.

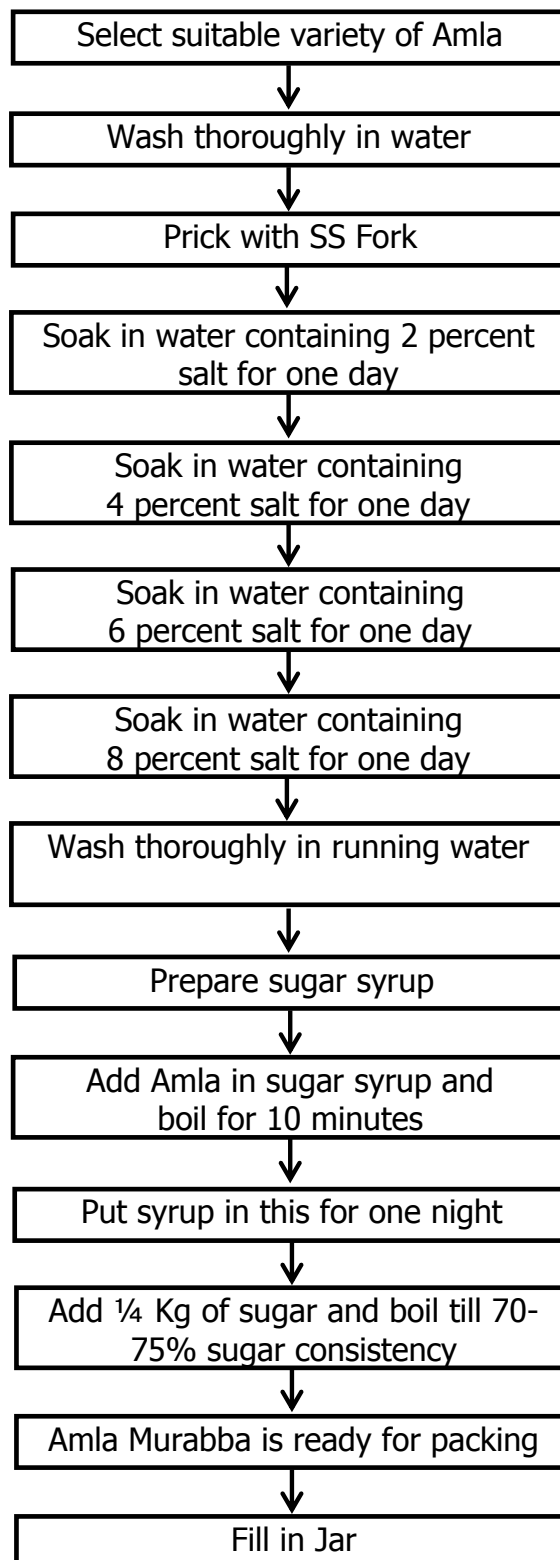
### **3. AWALA LADDO**

Select good variety of Awala, wash it in water. Prepare lachchha of Awala and boil the same 4-5 minutes in hot water so that it becomes soft. After that drained water from lachchha with the help of cotton cloth so that water is removed. Prepare sugar syrup and put Awala lachchha into that, add small Ilaichi powder pepper into it. Mix it properly when it becomes slightly hard, make Laddoo of required size/shape.

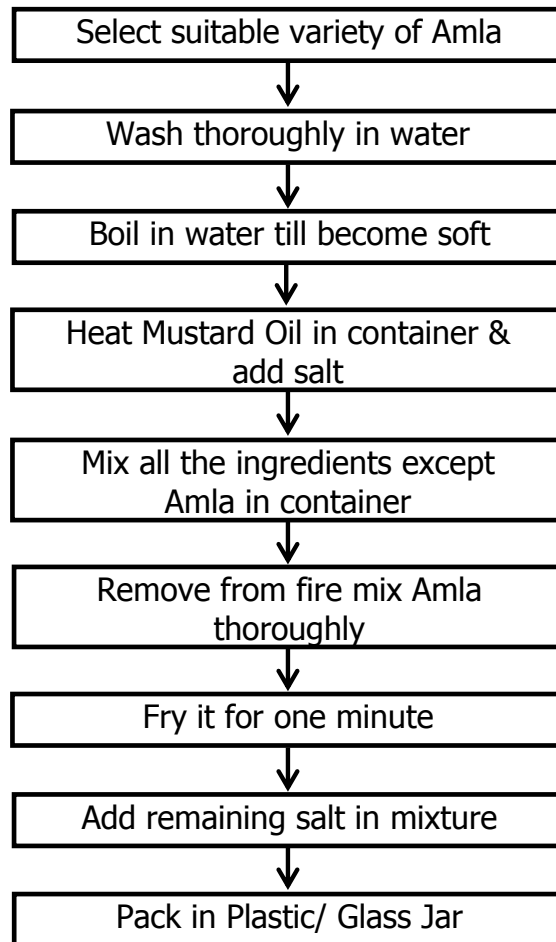
### **4. AWALA BURFI**

Select suitable variety of Awala, wash with water, boil in water till it becomes soft. Then remove kernel of the fruit, crush it to make it pulp. Now, add sugar in pulp and concentrate it. Add small Ilaichi powder when the mass become viscous, spread it on the plate, cool it then cut it with the help of knife in the form of Burfi. At last, spread coconut powder and pack in a small box of 250 gram.

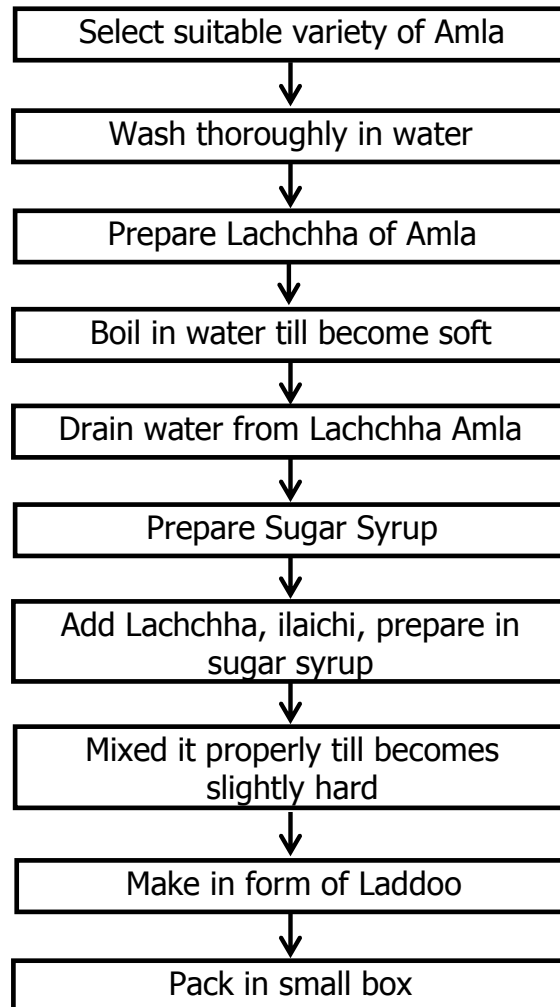
## MANUFACTURING PROCESS FOR AWALA PRESERVE/ MURABBA



## AWALA PICKLE

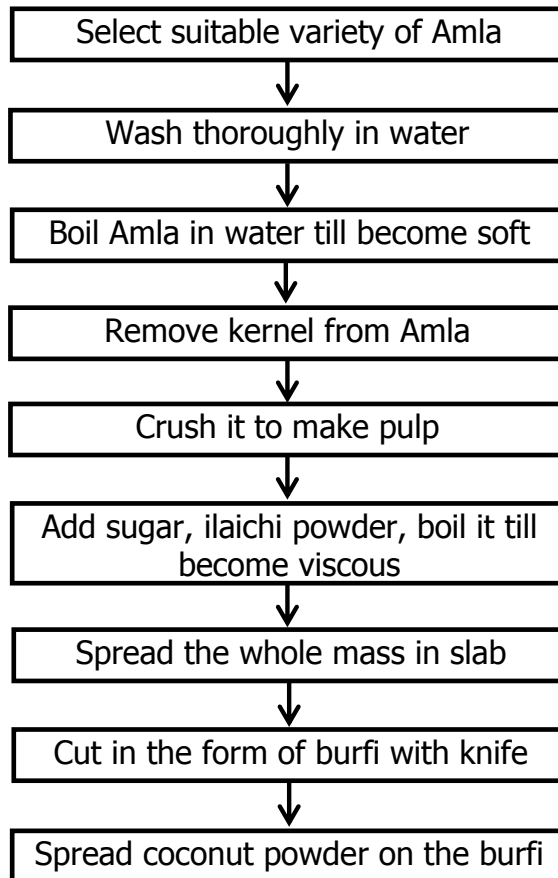


## AWALA LADDOO





## AWALA BURFI



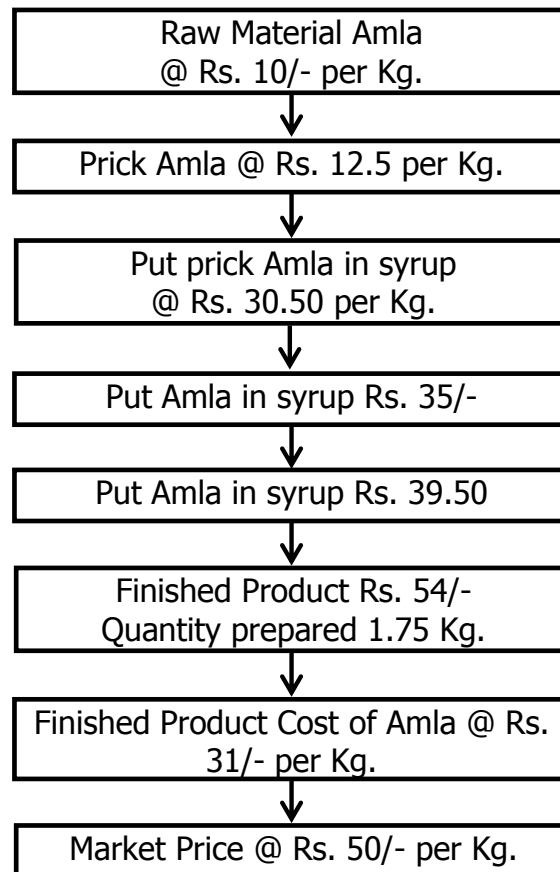
## **N. VALUE CHAIN ANALYSIS**

As per flow chart of the value chain analysis of the Awala Cluster is indicating the degree of value addition of Awala Murabba. The main activities involved are as under:

### **Awala Preserve/ Murabba:**

The price of Awala available in the market is Rs. 10/- per Kg. It is cleaned with water then pricking with S.S. Fork. The cost of pricking is Rs. 2.5 per Kg. The cost of Awala becomes Rs. 12.5 per Kg. This pricked Awala now soaked in water containing 2% salt solution and concentration of salt raised up to 8%. Then finally thoroughly cleaned it. Now prepare sugar syrup for one Kg. Awala 1.5 Kg. sugar is required. The initial cost of 1 Kg. Awala now become Rs. 30.50 per Kg. Add Awala in sugar syrup, boil it for 10 minutes, put Awala in syrup for one night, add ¼ Kg. sugar in the syrup and boil it. Now cost of Awala becomes Rs. 35/-. Put Awala in sugar syrup for one night and again add ¼ Kg. of sugar in the syrup and boil it. So the cost of Awala becomes Rs. 39.50. The cost of labor, fuel, chemical, jar are taken around at Rs. 14.50 hence the total cost of finished product become Rs. 54/- and prepared finished product is 1.75 Kg. So cost of 1 Kg. Awala Murabba is Rs. 31/-. Cluster actors are selling Awala Murabba in the market @ Rs. 50 per Kg., hence the profit is around Rs. 19/- per Kg. and percentage of profit is 38% in which trader's commission is also included.

## VALUE CHAIN ANALYSIS



## O. CURRENT INSTITUTIONAL MATRIX

The current institutional matrix depicts the relationship among the various stakeholders in the Awala Cluster, Pratapgarh, the relationship between cluster actors and stakeholder is not very clear & direct.

**Directorate of Industries:** The department deals with the Small Scale Industries in the state & apart from the regular develops initial work done by the department it also registering the no. of SSI units in the state it prepared state govt. Industrial policy and implements in the recent industrial policy special emphasis has been given to the development of the cluster in the state.

**NSIC:** National Small Industries Corporation is Government of India agency, which has been setup to promote the growth of small industries in the country. NSIC has direct link with this cluster and organizing training program in future for cluster actor, so they can upgrade their technical knowledge and diversified product. The organization operated various schemes such as hire purchase, raw material assistant and some financial scheme it can be also speak consortia marketing assistant program but it has been observed no entrepreneur has benefited from above said scheme in cluster area.

**SIDBI:** Small Industries Development Bank of India is a financial institution had been set up with the objective of assisting the development of SSI in India. This institution has number of scheme is for SSI sector link TDME, CGFT, TUF etc. This institute have direct link with cluster but most of the cluster actor not availing facility provided by SIDBI. This institute also assists in many development activities especially HRD, Training and Technology up gradation etc. Therefore, SIDBI can play major role for implementation action plan and development of Awala Cluster Pratapgarh.

**DIC:** District Industries Center, Pratapgarh is one of the field offices working under Director of Industries, Govt. of Uttar Pradesh. DIC has direct link with cluster and registered more than 50 units but cluster actor are not more facilitate from DIC's other schemes. Therefore, deep involvement of DIC is necessary for development of the Pratapgarh Cluster.

**SISI:** Small Industries Service Institute is a Central Government organization coming under the control of office of the Development Commissioner (SSI), Ministry of Small Scale Industries and have direct link with the cluster. This is the body which disseminated information about the central government policy & scheme and also conducts training programme in various disciplines under the aegis of UNIDO, this organization also has subcontracting exchange for tender. This organization has been mandated to play a role as a cluster development agency.

**Department of Horticulture & Food Processing:** The Department deals with basically fruits and vegetable growers and processor in State/District. The basic work of the Department is to provide technical knowledge about plantation, variety, land climate condition, fertilizer to the farmers of the area. It also provides technical inputs regarding processing of fruits and vegetable to value added products. It organizes training programme to upgrade Skill Development among growers so that they can get valuable price of their products. The department also helps in marketing of finished products and its export through State Horticulture Cooperative Marketing Federation. The Department is also Nodal Office of the Ministry of Food Processing Industries, New Delhi to implement its schemes in the State.

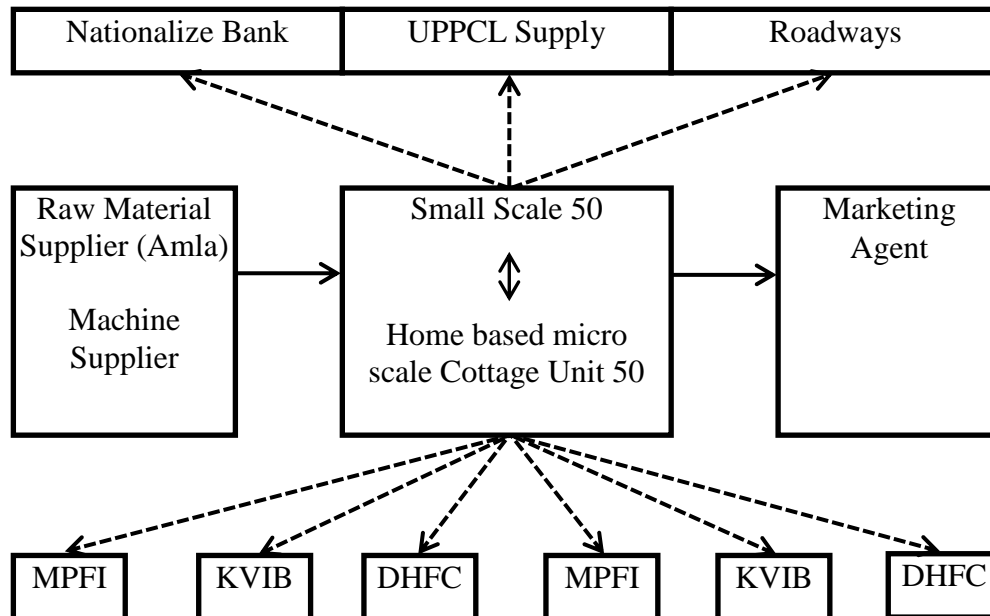
**M.F.P.I.:** Ministry of Food Processing Industries, Government of India promulgated a Fruit Product Order which lays down statutory minimum standard in respect of the quality of processing, packing of various fruit and vegetable products and be carried out only after a valid

license issued by the Licensing Officer after satisfying with regard to the quality of products, sanitation, personnel, machinery and equipment, work area as required in the order. On the other hand, Ministry of Food Processing Industries has been operating several schemes for the development of processed food in the country.

**K.V.I.B.:** Khadi Village Industries Board is operating several schemes for the development of rural area. The Department provides financial, technical, marketing assistance to prospective and existing entrepreneurs of rural area.

**C.F.T.R.I.:** The Central Food Technological Research Institute was set up by Council of Scientific and Industrial Research to provide the Industrial thrust for food production, add value and utility to agro resources through research and development and contribute to sustain development and food security. Assists aid and promote the development of the food industry through technology and technical services. One of the Regional Centre is located at Lucknow.

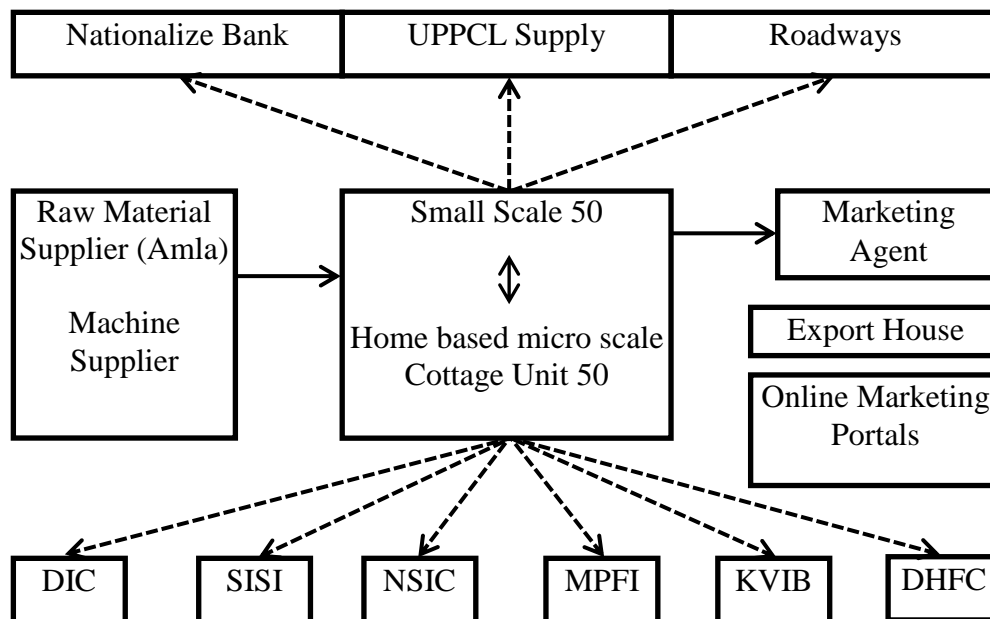
## P. PRESENT CLUSTER MAP



The present cluster map of the Awala Cluster, Pratapgarh is as shown in above figure, which indicates various linkages with cluster actor. The bold line indicates the prevalence of the organization and dotted line indicates that organization to be developed.

1. There are major problem of business development service provider (BDS). There is no good service available like consultants, chartered accountants, testing labs, UPPCL Power supply, transporters etc. These valuable services may provide on commercial basis to the cluster area.
2. Although Awala Cluster Pratapgarh has many entrepreneurs engaged in processing of Awala buy the availability of Raw Material supplier and machine supplier is not adequate.
3. In the center of the cluster map there are maximum small scale and cottage units in which all family members are engaged. Most of the units are facing financial and working capital problems. There are 50 SSI units and 50 Home Scale Cottage units involved manufacturing of Awala based products.
4. In terms of linkages with institution, cluster is having only strong linkage with SISI, NSIC, KVIB, DHO and it has weak linkage with the DIC, CFTRI. The institutions can play a major role in developing the cluster. Institutes like CFTRI, U.P. State Horticulture Cooperative Marketing Federation, SIDBI, NABARD etc. also may be useful to the cluster.
5. In respect of forward linkage there is no marketing channel, distributors' dealers in the Cluster. Only few cluster actors are having marketing channel. Therefore, it is necessary to develop and aware them for better marketing prospects in association with the U.P. State Horticulture Cooperative Marketing Federation, Lucknow which may play a vital role.

## Q. PROJECTED CLUSTER MAP



The projected cluster map of the Awala Cluster, Pratapgarh as shown very strong linkage that exist in this cluster.

1. Policy implementation Agencies such as DC (SSI), Sale Tax Department, Uttar Pradesh Powder Corporation Limited, Uttar Pradesh Pollution Control Board, Transport, Central Excise, Ministry of Food Processing Industry decide the policy, which have direct impact on the activity of the industry.
2. There are commercial service providers like Bank, Chartered Accountant, Export Consultant, Transport etc. who are providing valuable services for strengthening the business development of the area.
3. In the cluster map there are Small Scale Industries and Home Scale Cottage Units who are engaged in the manufacturing of Awala Murabba, which involve many steps. The important thing in the manufacturing of Awala Murabba is pricking of Awala which is done by contract basis or the family members of the unit engaged in the operation because it is manual operation that gives flexibility in the operating system.
4. Due to weak backward linkage, the cluster actors are not getting raw material at low cost. Efforts should be made to strengthening the linkage amongst the Cluster Actors.
5. Among the forward linkage members, there are no marketing agent & exporter most of the marketing activity are done the unit itself; therefore, it is necessary to have strong linkages with distributors, exporters, Dept. Of Horticulture and Food Processing, State Horticulture Cooperative Marketing Federation and common branding to create and develop for the cluster as shown in the projected cluster map.
6. There are large number of Small Scale & Home Scale Cottage Units having working Capital problems and linkage with common association. There are number of organizations who are providing services to the cluster actors such as DIC, SISI, SIDBI, NSIC, KVIB, DHFP, CFTRI,

APEDA, etc. The role of these institutions has already been described in the current institutional matrix. Regional CFTRI, Lucknow, Agriculture University, Allahabad, Faizabad, Department of Horticulture and Food Processing can play major role for the development of cluster.

7. It is also proposed that existing unit/entrepreneurs should prepare semi-finished materials of Awala and can be marketed to Dabur, Zandu and other Indian Multinationals.



## **R. VISION**

To give new thrust to Agro based industries so that Awala based Processing Cottage and Micro Processing units may be able to provide decent earning to the cluster's primary actors and the cluster may have bigger share in domestic markets and entry to international markets. Cluster products can be exported and earnings of Awala growers and processers increased by 30%.

## **S. SWOT ANALYSIS**

The SWOT analysis of the cluster based upon the interaction and field interview with the Awala Cluster, Pratapgarh:

### **1. Strengths**

- Easy availability of raw material
- Soil and climate of the region due to which Awala trees are grown in huge numbers.
- Area is declared as Fruit belt by the State Government, which can ensure support from Govt. agencies
- Cluster has experience in food processing
- High market demands

### **2. Weakness**

- No Association of entrepreneurs
- Middleman profit is high in marketing of the product
- It is a Seasonal business
- Traditional method of production- Low production
- Weak linkages amongst the Cluster Actors and institutions
- No research and developmental efforts
- Inadequate market information
- No training institutions for development of skills
- Poor Infrastructure
- No Testing Laboratory

### **3. Opportunity**

- Growing national/international market
- Product diversification/product development
- Enterprise has to join hands together for national/international marketing, brand building and participation in the trade fairs.
- Use of latest technology
- Establishment of a Common Facility Centre

### **4. Threat**

- Increasing Competition
- Government policy
- ISO-9000 or some quality standard norms are placed cost of which may be very high and unaffordable by the entrepreneurs

## **T. STRATEGY FOR INTERVENTION IN CLUSTER**

There is following areas wherein strategic intervention is needed:

- Technology up-gradation
- Training for diversification & product development
- Developing BDS
- Establishment of Common Facilities Center
- Capacity Building of existing and new network
- Access to new market areas in the country and abroad

## **U. ANALYSIS OF BUSINESS OPERATION (PROBLEM IDENTIFY)**

This part consist an analysis of business operation in Awala Cluster in Pratapgarh. Diagnostic study on the following discipline such as technology, raw material, training, finance, marketing, quality control, diversification & management etc. is being narrated herein under:

The following products are manufactured in Awala Cluster, Pratapgarh:

1. Awala Preserve/ Murabba
2. Awala Prickle
3. Awala Laddoo
4. Awala Burfi
5. Awala Juice
6. Awala Candy
7. Awala Powder

Almost all of the existing units in the Cluster are manufacturing above products but Awala preserve, Awala Laddoo, Awala Burfi are very common and popular. The manufacturing process of Awala Preserve/Murabba is adopted by the units is almost in the same manner. Following important steps are as under:

### **1. Selection of suitable variety of Awala :**

It is privilege of Pratapgarh that a special variety of Awala fruit are grown here due to soil and climate condition of the region, hence suitable variety of Awala is available in huge quantity.

### **2. Pricking :**

This is very important step in preparation of Awala Murabba. If pricking is not properly done, it will affect overall quality of finished products so it is to be done very carefully by trained manpower. At present, pricking is done by manually through contract labor basis which takes time. It is suggested that units should opt machine so that it will save time and money too which will ultimately reduce the cost of the products.

### **3. Preparation of Sugar Syrup :**

In Awala Murabba, preparation of sugar syrup is very important step. The furnace generally used is wood fired. Only few of the cluster actors are using steam for cooking purposes. In steam cooking, quality of product, such as, taste, aroma, flavors are being preserved. Therefore, it is advisable that units should go for steam generator for syrup and boiling of the Awala.

### **4. Packaging :**

Packaging plays an important role in the preservation of Awala products. Awala products should be packed in a glass jar and sealed it air tightly. Before packing of the product it should be ensured that jar is cleaned and dried. If it is not properly done, bacteria will spoil the products. It is suggested that proper packaging of the product should be done in suitable packaging material. One thing will also be taken into consideration that worker involved in this process must wear hand gloves to avoid infection.

### **5. Training & Product Development:**

There are no training facilities or institution available in Pratapgarh. There is a need to train entrepreneurs involved in the production activities. It has been observed that they are not trained properly, hence it is required that the cluster actors may be trained in following fields:

- Improved manufacturing process of Awala products
- Quality Control of Awala products
- New Product in Awala
- Waste Minimization in Awala Industry
- Packaging of Awala Products
- Skill Development Programme

Following institutions may play major role for product development and training for the entrepreneurs :

- CFTRI, Lucknow
- Fruits Preservation & Canning Institute, Lucknow
- Agriculture University, Allahabad & Faizabad
- Cluster to Cluster visit like Pune, Ahmedabad and Karnal

## **6. Quality control testing and inspection :**

It has been observed that most of the units are carrying out visual inspection. No proper methods and techniques are followed by the entrepreneurs for Quality Control and standardization of products.

Quality control within units demands constant vigilance in all stages in processing so that the necessary adjustment can be made at the appropriate time. Therefore, it is required that total quality and its inspection to be done which is as follows:

### **a. Quality Control at grower level –**

At this level inspection of fertilizer, pesticides should be properly done.

### **b. Quality Control at crop production level –**

Quality control should be exercised during production of crop in relation to the intended use. Quantity and time of irrigation, amount of fertilizer and pesticides used have a profound influence on the quality and yield of Awala.

### **c. Quality Control at harvest level –**

It is practiced to test the stage of maturity in order to determine the exact time at which average quality of lot harvested.

### **d. Raw material control –**

Raw material inspection includes free from contamination and conformity with standard.

### **e. Process control –**

During processing careful attention may be given to procedures. The desired composition, consistency, colour etc. are to be checked and ensured.

### **f. Inspection of finished products –**

Finished products examination should be carried out to determine the extent to which the desired quality specifications have been achieved.

### **g. Control at Storage and Market Level –**

The control must be exercised to protect the product from post process contamination to keep it in good condition and to preserve the flavor until it reaches the consumer. Therefore, it is essential to choose appropriate packaging material and labeling must be clear.

## **7. Finance and working capital –**

It has been found that the problem of working capital and finance is connected with most of cluster actor specially Home Scale Cottage Units.

It has been observed that entrepreneurs are aware and availing facilities given by the bank but it is not enough for development. Therefore, it is suggested that strong linkage with other financial institutions like SIDBI & NSIB may be made. Most of the cluster actors do not know financial institution's schemes, thus awareness program for financial assistance from SIDBI, NSIC, KVIB & Bank may be organized for development of cluster.

## **8. Product & marketing**

As observed that most of the units involved in the production of same range of product and some of the units also producing other than Awala product such as Karauda Murabba, mixed pickles, etc. At present no dealer, no distribution is available in cluster area for marketing. It is advisable to develop marketing network for sale of the products.

For marketing purpose, following line of action should be adopted:

- Suitable marketing techniques can be explored with Uttar Pradesh State Horticulture cooperative Marketing Federation, Lucknow.
- Ministry of Food Processing Industry
- Other marketing agencies linkage with cluster.

## **9. Entrepreneur & Enterprise –**

In Awala cluster of Pratapgarh more than 90% of the enterprises are family owned. The owner and other family member are deeply associated with production of Awala. Family members working as manager, operator, technician, marketer etc. there is hardly any qualified person or people invited from outside for processing and marketing purposes, so that no fresh idea came up and the processing of products remain unchanged and traditional.

Similarly, the level of awareness of the entrepreneurs in technical account, management & marketing area is very low because low level of.

If good manufacturing process available in the units, they may be able to share the techniques between cluster actors. At present there is no testing laboratory in the cluster area, it is suggested that the same may be set up in this particular cluster area.

## **10. Infrastructure -**

All the enterprises are located in and around the Pratapgarh. It has been observed that the complete infrastructure in the cluster area is very poor. We find that there is major problem like:

- Power supply and road conditions are very poor
- Due to frequent power cuts production is hampered
- No good transportation arrangement is available
- New Industrial area not declared

If the cluster actors will join hand together then they may be able to solve their difficulties of cluster area regarding infrastructure, power road etc.

## **11. Business Development Service –**

The business development service is not available in Pratapgarh cluster for rapid growth. There is no management institute, technical training institute, no R&D laboratory, no testing facilities, no interaction with CA, and no marketing experts are available in Pratapgarh. Therefore, there is need to have networking and consortium among the SSIs in the cluster and BDS linkage with cluster.

Central Food Technological Research Institute, Mysore is one of the best premier institutes working in the field of Food Processing Industry. This institute has developed several technologies. If a laboratory of this kind is set in the cluster are, the cluster actors may definitely be benefited by this laboratory.

There exists no formal system of production planning and inventory control in the entire cluster actors since the raw materials are locally available it is suggested that proper production planning, inventory control should be done.

## **12. Liberalizing Government Rules and Regulation –**

Most of the entrepreneurs are finding difficulty to comply with rules and regulation of several Government Departments. According to interaction with cluster actors it has been observed that they are paying sales tax, mandi tax according to the Government Rules.

Therefore govt. rules and regulation have to be liberalized. The role of Govt. Depot should be as facilitator rather than regulator.

Efforts will be made through proper advocacy of the problems of the entrepreneurs with different govt. departments to address the problems related to rules and regulations.

## **13. Safety gadgets –**

It has been observed that during the process of manufacturing accident may take place. No precautionary measures are being taken by the units because of the lack of awareness and negligence about the safety gadgets which are required at the stage of pricking of Awala, sugar syrup preparation and Awala boiling. Therefore, it is need to create safe work habits, safe working conditions and workers may be trained to do the job safely for which some of the safety equipments are mentioned as under:

- Personnel protective equipment such as safety glasses, gloves, safety shoes and aprons are required to be used during the production of Awala products.
- Maintain good housekeeping, rubbish and waste can be kept in container for disposal.
- Fire prevention should be a work habit and availability of extinguishers needs to be ensured.
- First aid box should be kept in each unit

This can be achieved by training of cluster actors. A special training programme may be arranged for the cluster actors to teach about the safety measures and health hazards etc.

## V. DETAILS OF PROPOSED INTERVENTION

### 1. COMMON FACILITY CENTRE IN THE CLUSTER

#### 1.1. Plan for CFC

The processor of the cluster area are traditionally associated themselves with indigenous methodology having substandard skill of processing seasonally due to lack of coherence & on-going relationship among the artisans as well because of poor infrastructural facilities. Hence for canalizing the flow of scattered and ignored group of talent involved in traditional way into the main stream of technological expertise, concentrating them under umbrella coverage of a fully equipped CFC is necessitated.

#### 1.2. Land and building

S. No.	Particulars	Quantity/ Nos.		Rate (In Rs.)	Cost (Rs. In Lacs)
1	Available area for proposed cluster	2564.165	Sq. ft.		
2	Development cost of land	2564.165	Sq. ft.	45.00	1.15
3	Cost of compound wall	130.000	Ft.	500.00	0.65
4	Cost of fabricated gates & grills				4.70
5	Cost of shed	1000.000	Sq. ft.	750.00	7.50
6	Cost of laboratory	200.000	Sq. ft.	1000.00	2.00
7	Other RCC construction	900.000	Sq. ft.	1000.00	9.00
8	Electricity Installation @ 5 %				1.25
9	Fabricator & Fittings				3.75
	<b>TOTAL COST OF CONSTRUCTION</b>				<b>30.00</b>

#### 1.3. Machineries for CFC

S. No.	Particulars of Plant and Machinery	No	Justification	F.O.R. Price
[A]	<b>Common Equipments -</b>			
1	S.S top working table 3'x5'x8'	6	Peeling, cutting etc.	2,11,000.00
2	Boiler 500 Kg cap. Diesel fire, pressure, water, steam indicator	1	Steam cooking	4,00,000.00
3	Senior Pulper 3 hp motor, mounted on MS 1.5 ton/hr cap. With extra sieve and brush	1	Pulping of fruits & vegetables	1,25,000.00
4	Hydraulic juice press 3 hp motor with hydraulic pump rack in cloth 40 ton pressure, auto pressure control	1	Awala, Pineapple, grapes, carrots, ginger, hard and soft fruits.	1,52,000.00
5	Steam jacketed kettle with Teflon scraper SS tilting complete with pressure gauge safety valve & steam petcock 100 gallons cap. For cooking	2	Cooking purpose	8,64,000.00
[B]	<b>Filling and Packing Section –</b>			



<b>S. No.</b>	<b>Particulars of Plant and Machinery</b>	<b>No</b>	<b>Justification</b>	<b>F.O.R. Price</b>
6	Vacuum filling machine 4 heads 20-30 bottles/minutes SS 304 with over flow jar	1	Bottle filling	96,000.00
7	Crown corking machine heavy duty , size adjustable	2	Bottle corking	26,000.00
8	Blister sealer 2 feeding platform model	1	Sealing blister pack.	1,32,000.00
9	Blister cutter, pressing & cutting in individual pcs with extra roller cutting die model	1	Blister cutting	1,03,000.00
10	Aluminium foil sealer model	1	Sealing of jar	18,000.00
11	Drying/ dehydrator 24 tray cap. Up to 100 degree temp. Control , air inlet and wet air exhaust model	2	Drying/ dehydration	4,16,000.00
12	Colloidal mill fine grinding & homogenizing model	1	Juices, squashes & ketchup	1,20,000.00
<b>[C]</b>	<b>Canning Section –</b>			
13	Rotary can body reformer 1 hp, starter, with rubber, roller, & bearing 600-800 can/ hr, 200-600 dia rang	1	Reforming flat can	70,000.00
14	Hand flanger	1	Round can flanging dies	38,000.00
15	Double Seamer (1 ADS Type) 1HP 1440 rpm Motor capacity 600-800 can/hr	2	Can seaming	2,24,000.00
16	Can hand tester up to 30 LBS/ sq. Inch.	1	Can testing	5,000.00
17	Vacuum tester with vacuum gauge	1	Can testing	2,000.00
18	Seam checking gauge	1	Can testing	1,000.00
19	Canning retort (pressure cooker) 2 crates cap. 280-300 can cap. With safety valve, thermometer etc.	1	Sterilization/ pasteurization	83,000.00
<b>[D]</b>	<b>Water purification System –</b>			
20	Water purification plant 2000 LPH with SS tank 2000 Lit. UV system ozonator with circulating pump with SS fitting model APTE	1	Sterilization/ pasteurization	15,78,000.00
21	Pouch Packing – Automatic pouch packing , batch coding, UV tube & hour meter 200 -250 ml 2000 pouches/hr model APTE	1	For hot water & purified water wash of jars	2,48,000.00
22	Juice Filling – Automatic bottle filling, sealing machine with outside rising system 1 hp motor 20-22 bottles/ minute 01 lit. Model APTE	1	Fruit juices packing in pouches	12,72,000.00
23	Sugar syrup preparation tank :SS 304 , Vertical conical heating jacket 3mm thick SS304 with agitator with 70 rpm Capacity 500ltr	2	Syrup preparation	9,18,000.00

<b>S. No.</b>	<b>Particulars of Plant and Machinery</b>	<b>No</b>	<b>Justification</b>	<b>F.O.R. Price</b>
24	Filter press :SS 304 Capacity 500 ltr	1	Extraction and cleaning	1,76,000.00
25	Sugar syrup transfer pump : centrifugal pump with product contact part SS 304	1	For transfer of sugar syrup	76,000.00
26	Blending tank ss304 vertical conical 3mm thick SS304 with agitator with 70 rpm Capacity 250ltr	2	Blending of juice	6,72,000.00
27	Transfer pump to homogenizer centrifugal pump with product contact part in ss304 capacity 250lph	2	Transfer of Syrup/ homogenize juice	1,82,000.00
28	UHT- <ul style="list-style-type: none"> <li>· 1000 LPH</li> <li>- Sterilizing temperature 115-135 degree</li> <li>· Retention time 30-40 degree</li> <li>· Outlet temperature 60-80 degree</li> <li>· with ss pump</li> <li>· power 3 phase 1 kw</li> <li>· Steam pressure guage</li> <li>· Outlet temp. gauge</li> </ul>	1	Sterilization of liquid juices	6,64,000.00
<b>[E]</b>	<b>Pet Bottle Making –</b>			
29	Fruit crusher (senior) :mounted on a MS stand with 3 HP motor .capacity 2 tones per hour. crushing head size is 8”	1	Crushing of fruit vegetables	48,000.00
30	Shrink wrapping machine suitable for attaching shrink sleeves of neck. available in following bed size.12”X12”X48”	2	For wrapping of Packed bottles/jar	1,76,000.00
31	Awala punching machine	2	For Murabba Purpose	4,25,000.00
32	Awala Shredding Machine	2	Awala Shredding	3,95,000.00
<b>[F]</b>	<b>Microbiology Lab</b>			
33	<b>Digital Microscope</b> with digital Imaging module Digital Imaging Microscope with USB plug with direct connection with PC for image capturing and comparison With Digi pro imaging advanced Software		For microbial analysis	2,50,000.00
34	<b>Laminar Flow Vertical (Bio Safety)</b> HEPA Filter having high performance rating 99.99% of cold DOP Size: 600 x 600 x 600 mm With UV Light Burn out exhaust facility		To provide complete sterile environment for Microbial culture Preparation. & Bacteria Virus free Exhaust	1,85,000.00

<b>S. No.</b>	<b>Particulars of Plant and Machinery</b>	<b>No</b>	<b>Justification</b>	<b>F.O.R. Price</b>
35	<b>Autoclave</b> Vertical Digital Outer and inner chamber of Stainless Steel 304 qlty. fitted with automatic cut off device and endfoss auto pressure control Size: 400 X 600 mm		For sterilization of Micro lab wares	1,75,000.00
36	<b>Colony Counter (Digital)</b> Digital Colony Counter with 4 digit LED display Range: 0-9999 with pen for Colony counter		To count yeast , Bacteria and microbes	35000.00
37	<b>BOD Incubator</b> (Microprocessor Controlled) Size 6 Cu.ft. Accuracy: 0.5°C Inner Stainless Steel 304 Qlty. Outer Epoxy Powder coating Programmable CFC Free Cooling System		For Incubation at 37°C, 20°C and 5°C with precision. For storing and cultivation of enzymes, yeast etc.	1,25,000.00
38	<b>Deep freezer</b> (Microprocessor Controlled) Up to minus 20°C CFC Free Cooling System Size : 6 Cu. Ft. Programmable		For storing at low temperature at inactivation stage.	1,15,000.00
39	<b>Incubator Digital</b> Temperature Range: ambient to 70°C Accuracy ±0.5°C Size: 455 X 455 X 455 mm		For Incubation beyond room temperature i.e. 37°C , 40°C etc.	50,000.00
40	<b>Hot Plate digital</b> Size: 250 X 300x150 mm Temperature 350°C		For Heating application at accurate Temperature	5,000.00
41	Computer with printer			50,000.00
42	Weight Machine			15,000.00
	<b>Total [ A to F ]</b>			<b>1,00,71,000.00</b>

**Total Cost of Plant & Machinery Rs. 1,00,71,000/- or Rs. 100.71 lacs**

**Note : Name of proposed suppliers :-**

- 1 M/s Milkraft Projects & Consultants Pvt. Ltd (New Delhi)
- 2 M/s Vindhawasani Engineering (New Delhi)
- 3 M/s Bajaj Maschinen (Ghaziabad)
- 4 M/s Greensco Enterprises (New Delhi)
- 5 M/s Prince Engineering Work (Pratapgarh)
- 6 M/s Packaging Machines (Kolkata)
- 7 M/s Mahatma Brijmohan Technicals (Aligarh)

**1.4. Plan for procurement of machineries**

After sanction of the project, the procurement of machineries may be materialized within stipulated target of 6 months

<b>1.5.Details of machineries</b>		
a)	Names of fabricator/ supplier	Available in local market
b)	Specification of machineries	Proposed machinery in CFC is hygienically quality based processing mechanisms.
c)	Cost	Rs. 100.71 Lacs
d)	Capacity	Will be detailed in DPR
e)	Pollution certificate	: Pollution certificate is not required.
6)	Manpower/ Technical person	2- Manpower is easily available in cluster area. 3- Technical person/food technician are available in Cluster district.
7)	Maintenance	As per the standard terms & condition of guarantee period, the same will be meeting by the Supplier.
A	Service contract	After expiry of the guarantee period, fresh agreement with the suppliers will be prepared for the routine services and maintenance of machineries.
B	Cost	It will be negotiated only at the time of procurement and on finalization of Annual Maintenance Agreement with suppliers.
C	Timeline	6 Months
8)	Availability of other infrastructure	
	a) Electricity b) Water c) Road connectivity	Available but supply condition is very poor Available (Summer sable pump) Available (linkage road attached to Highway road Allahabad to Faizabad) Road condition is very poor

(In case these basic infrastructures are not available, the plan for arrangement of these basic infrastructural facilities)

## **2. REPLACEMENT OF TOOLS, EQUIPMENTS AND IMPLEMENTS**

2.1. Total no. of Artisans in the cluster : 5500 Artisans

2.2. Plan for distribution of tools against the old/traditional tools and implements for the no. of Artisans in the cluster :-

<b>Farmers</b>	<b>Labors</b>	<b>Total</b>
<b>100</b>	<b>440</b>	<b>540</b>

2.3. Details of tools/machineries to be distributed to the Artisans:-

<b>Sl. No.</b>	<b>Tools/ Equipment</b>	<b>Uses</b>	<b>Farmers</b>	<b>Labors</b>
1	Rubber Gloves	Picking the Awala	7 sets	--
2	Cloth Bag	Collection of Awala	7 bags	--
3	Ladder	Reach the Awala Tree	7 pcs.	--
4	Rope	To gathering of tree	8 k.g.	--

5	SS Punching Machine	Punching of Awala	--	1 pc.
6	Plastic Bucket	Used for the water	--	1 pc.
7	Plastic Drum	Store of Awala	--	1 pc.
8	SS Shedding Machine	Shedding of Awala	--	1 pc.
9	Aluminum Tub	Cooking of Awala	--	1 pc.
10	Aluminum Tray	Uses of accessories	--	1 pc.
11	Gas Burner	Fire for burning	--	1 pc.

2.4. Cost of each set of tools/ implements :-

a) Cost of each Farmer tools

<b>Tools/ Equipment</b>	<b>Qty.</b>	<b>Rate</b>	<b>Amount (in Rs.)</b>
Rubber Gloves	7 sets	40	280.00
Cloth Bag	7 bags	70	490.00
Ladder	7 pcs.	500	3500.00
Rope	8 kg.	60	480.00
<b>Cost of each farmer tools/ equipment</b>			<b>4750.00</b>
<b>Total Cost of tools/ equipment for 100 farmers</b>			<b>4,75,000.00</b>

b) Cost of each Labour tools

<b>Tools/ Equipment</b>	<b>Qty.</b>	<b>Rate</b>	<b>Amount (in Rs.)</b>
SS Punching Machine	1 no	150	150.00
Plastic Bucket	1 no	120	120.00
Plastic Drum 110 ltr.	1 no	850	850.00
SS Shedding Machine	1 no	80	80.00
Aluminum Tub	1 no	2200	2200.00
Aluminum Tray	1 no	250	250.00
Gas Burner	1 no	350	350.00
<b>Cost of each labour tools/ equipment</b>			<b>4,000.00</b>
<b>Total Cost of tools/ equipment for 440 labours</b>			<b>17,60,000.00</b>

c) What about the remaining Artisans not covered under replacement of tools/ equipment

IA will try to get support from other Central/ State Govt. departments to replace tools and equipment of other artisans.

ii) How to propose full replacement of tools and Equipments in the cluster if necessary sourcing funding arrangements from other sources.

IA will try to get support from other Central/ State Govt. departments to replace tools and equipment of other artisans. Any specific plan cannot be spell out as of now.

iii) Any plan for convergence with the agencies of State Govt., Central Govt., DRDA and other bodies including PRIs

Yes, will be done by making interaction with different departments of State and Central Govt.

### 3. CAPACITY BUILDING MEASURES IN THE CLUSTER

#### 3.1. Training Need Assessment :-

Most of the cluster actors are semi-literate and rural based; hence accustomed with fragmented knowledge and very poor perception about quality control. Thus a proper training for result oriented capacity building of cluster functioning is necessitated.

##### a) Artisan Level Training :-

Farmers Training Programme

<b>Subject of Training</b>	<b>Number of Artisan per Batch</b>	<b>No. of Training</b>	<b>Days</b>
Modern Cultivation Awareness Program	25	4	3
Quality Control	100	1	1
Bio-fertilizer Awareness	100	1	1
Roping Plantations	100	1	1

Generally artisans are accustomed with traditional way of processing methodology; hence Artisan level training program for scientific methodology for effective diversification of products intervention is necessitated.

##### b) Skill Development Training :-

Labour Training Program

<b>Subject of Training</b>	<b>Number of Artisan per Batch</b>	<b>No. of Training</b>	<b>Days</b>
Food Processing	40	11	15
Product Packaging	40	11	5

In rural area most of the artisans are habitual in indigenous methodology having semi-skilled or un-skilled aptitude, hence skill development training to cope-up the challenges of competitive market is necessitated.

##### c) Managerial Training :-

Staff Training Program

<b>Subject of Training</b>	<b>No. of Beneficiaries per batch</b>	<b>No. of Training</b>	<b>Days</b>
Administration	5	2	3
Marketing	10	4	7

In order to achieve optimum level of capacity building relating to value added quality control, food safety & storage mechanisms, a managerial level training is necessary.

d) Micro-level Training for Design Inputs, Marketing, Packaging, etc

To cope-up with the challenges of the competitive market by way of exploring options for diversification/ development of products and quality packaging mechanisms with scope of better avenues for marketing, a micro level training is necessitated.

e) Training for CDE and managerial staff of IA in Audit, Accounts, Budget, Finance and etc.

f) Similarly training for carrying out proper auditing, maintaining accounts and knowhow for allocating budget/finance is also necessitated.

g) Other Training programs :-

Subject of Training	No. of Training	Days
Self Help Group Formation & Management Trg. Program	9	3

Training for handling machinery and equipment, operating lab testing techniques, cleanliness, hygienic pre-cautions, factory discipline, storage etc. for cluster actor is necessitated.

3.2. Total No. of Training to be conducted as per the above and total cost component thereupon:

(Program, durations, No. of persons per batch, No. of batches, Cost with boarding and lodging facilities)

	Type of Program	No. of persons	Duration	Cost
a)	Artisan Level Training	100	5 days	50,000.00
b)	Skill Development Training	440	30 days	19,80,000.00
c)	Managerial Training for Design Inputs, Marketing, Packaging, etc.	440	15 days	9,90,000.00
d)	Training for CDE and managerial staff of IA in Audit, Accounts, Budget, Finance and etc.	5	10 days	7,500.00
e)	Other Training programs	2500	16 days	1,00,000.00
	<b>Total</b>			<b>31,27,500.00</b>

3.3. Linkages with Institutions for training and its location :

MIGRI (Mahatma Gandhi Institute for Rural Industrialization)

a) MDTC of KVIC: Yes (Haldwani)



- b) Banking institutions: Necessary assistance from BIRD, Lucknow or local Bank with consultation with LBM for imparting capsule training to concerned staff of Cluster in connection with Auditing, Accounting, Record maintenance etc may be organized.
- c) National level institutions: Necessary negotiation may be made with CFTRI (Central Food Technological Research Institute), SISI (Small Industries Services Institute), NISC (National Small Industries Corporation) etc for imparting capacity building training program to the Cluster Actor.
- d) State level institutions: Similarly UP State Horticulture Co-operative Marketing Federation, Fruit Preservation & Canning Institute, Lucknow & DIC (District Industrial Centre) Partapgarh may also be approached for providing training to the artisan for their skill development.
- e) Any other: Training through cluster to cluster visit of renowned expertise such as Cluster of Ahmedabad, Pune etc including of local area may also be chalked out.

#### 3.4. Exposure visit :

- a) Clusters proposed to visit: Food Processing Clusters in Punjab and Ahmedabad
- b) No. of visits : 2
- c) No. of participants : 10 member
- d) Duration of visit : 10 days
- e) Approximate Cost : 0.50 lacs per exposure visit

#### 3.5. Seminars, Workshops and Technology up-gradation, etc.

(Identification of Institutions which organizing Technology up-gradation, workshops, seminars, etc. and its cost involvement, etc. for participation)

Seminar and Workshop relating to food safety and quality control through technological up-gradation program will be conducted/ organized in cluster area for capacity building of the participants for which cost of Rs 5.00 Lacs will be involved in catering the requirement.

#### 3.6. Organizing such training program: MIGRI, Wardha

- a) Primary responsibilities in conducting such training and in identify Training Institutions may be given to MDTCs of the area; otherwise, a suitable training infrastructure may be identified.

All such Training program may be designed/ organized strictly in accordance with the guideline and through proper consultation with concerned institutions for effective result.

#### **4. DESIGN INTERVENTION AND PRODUCT DEVELOPMENT**

##### 4.1. Improvement of Raw Materials

Soil testing and quality plantation supports will be provided to the growers for harvesting rich hygienic fruits by linking them with Agricultural institutions/ Kisan Sansh etc.. Quality assessment may be carried out for procurement of others raw material from the market.

##### 4.2. Improved processing

Application of technological up gradation and quality control measures will be strictly adhered for improving processing aptitude.

##### 4.3. Thrust on high value addition

For quality control and value added processing capabilities, laboratory testing facility may be explored.

##### 4.4. Improved packaging

To maintain natural aroma and taste of the product ultra-packaging system may be invented and applied.

##### 4.5. Improved designs :

N/A

##### 4.6. Diversification of product line

Innovation for diversification of product such as Mouth freshener, Health drinks, Squash, Jam, Souses, RTS drinks etc. may be taken into consideration with extra cautions of hygienic & quality control.

##### 4.7. Developing innovative products by linkages with professional Institutes.

For this purpose technological expertise may be suitably obtained by consulting CFTRI, SISI, FPCI and if required from Agriculture Universities too.

###### a) Any such reputed institute is located near the cluster?

No

###### b) To study the innovative feature of the product through such institute/ institutions

Assistance and proper guidance required for such innovative may be obtained from other professional institute of the fields such as MIGRI, Wardha.

###### c) Other R&D inputs for innovation and related features :

as explained in (b) above

##### 4.8. Quality and product standardization

Quality and product standardization may be strictly adopted by registering with ISO, CODEX & HACCP and through application of technology up gradation and skilled development of cluster artisans.

#### 4.9. Developing Product Catalogue

- a) Cost and efforts for developing it as a booklet format and to keep it under electronic system

To make efforts for attracting market concentration, a high quality catalogue with clear specification of product with its hygienic value may be developed to meet the challenges of present day. For this purpose the onetime cost of designing such catalogue will be Rs 0.50 Lakhs excluding the quantum of printing leaflets.

#### 4.10. Product promotion through e-catalogue

E-catalogue technique may be adopted to ensure informative reach of product at maximum level.

### **5. MARKET PROMOTION IN THE CLUSTER**

#### 5.1. Marketing outlets available in the cluster belonging to IA or of the Associated Institutions.

Presently the processing products are being marketed through participation in National & State Level Exhibitions and by sharing display at KVIC, KVIV outlets of the Delhi and by exhibiting at various outlets of Ltd. Companies of Noida and Gurgaon (NCR) on temporary renting basis. IA does not have its own marketing outlets.

#### 5.2. Identifying such outlets suitable for marketing of the product of the cluster

IA does not have its own marketing outlets.

#### 5.3. Address, location, area, average fall of such outlets proposed to be renovated under the cluster objectives.

IA does not have its own marketing outlets.

#### 5.4. Renovation of each of the outlets mentioning: Not Applicable

#### 5.5. Brand building and promotion of Products of the clusters

- a) What are the mechanisms of Brand building?

Branding through registering with ISO, CODEX & HACCP standardization and by applying Bar Coding technique apart from maintaining hygienic quality control with support of latest technology and by maintaining natural aroma and taste with the help of improvised packaging material will be ultimate trust building measures.

- b) How to create the Brand and to establish it?

Clubbed with ISO, HACCP standardization & on the strength of age old track record of unique production of nutritious Awala fruits of Pratapgarh, the cluster of the region is able to earn the populace among the consumers easily.

- c) Cost and other parameters of Brand building, exercise may be indicated

Installation of laboratory test Equipments and its operation altogether with application of Bar Coding techniques/ registration for ISO, CODEX & HACCP STANDARIZATION AND THROUGH procurement of improvised packing materials and advertising process may incur approximate cost of Rs 10.00 Lakhs

5.6. Identifying the New media marketing (on-line marketing) for products of the clusters and its cost involvement

- i) Whether the product may be considered under online marketing?

Yes

- ii) Cost and other related issues :

Website develop cost approx. Rs.1.00 Lacs

- iii) Tie-up arrangements with other established "online marketing houses" like flip cart, ebay etc.

Necessary tie-up arrangements will be made through various ecommerce portals for online marketing of the product.

5.7. Creation of website for Cluster (e-commerce)

- a) Cost and other parameters :  
Rs. 0.50 Lacs

- b) Scope for e-commerce initiatives :

IT technology has created a new horizon in spreading market activities smoothly by way of e-commerce relating to various commodities. As a result of increasing income, faster urbanization and changing eating habits the demand for healthy foods products has been growing day by day among the Metro cities. Thus with the help of e-commerce the cluster group will easily reach with their products to distant located needy consumers.

Organic India is a company based in Lucknow who is into production and marketing of Organic based herbal products. (<http://www.organicindia.com/>)

They have created extensive marketing possibilities by ecommerce through their own website as well as linking themselves with so many online marketing ecommerce portals.

5.8. Marketing tie-up with any organizations:

This could be explored by assessing the future requirements. However till such time participation in various National/State exhibition strategy and enjoying outlets of KVIC/ KVIB may be considered for spreading marketing avenues/enhancing sale proceed.

- a) Developing marketing network based on demography of the consumers

An effective marketing network at Metropolitan Cities covering MNC employees can be developed for effective trading of the products.

- b) Analysis in regard to consumer demand

Necessary feedback from the consumers about the products may be obtained from time to time for up gradation and quality improvisation of products.

- c) Tie-up arrangements through established network and developing the scope of furthering the network

Necessary tie-up may be arranged by negotiating concerned establishment for smooth trading networks tie-up with Khadi Bhawan Gram Shilpa, Gandhi Asram, Vishal Megamart, Appolo Pharmacy attached with others industries such as 1-Harbal Amlika Food Products, 2-JP Food Products.

5.9. Chances for export of the products :

Due to the unique properties of Awala demand of Awala base products is increasing and chances of export are very Bright.

- a) Identification of the products for export

Awala Murabba	Awala Chyawanprash
Awala Powder	Awala RTS drinks
Awala Squash	Awala Health drinks
Awala Jam	Awala Jelly
Awala Souses	Awala Mouth freshener

- b) Name of the countries for exporting the products

Demand of herbal products are there in all around the world as people are becoming conscious about the health issues and properties of Awala as well.

5.10. Export of products?

- a) Plan to avail all the required formalities for commercial export : IEC, EPC membership will be taken by the IA

- b) Related infrastructure to be created;

No separate infrastructure will be created for exploring the possibility of exports of Awala products

- c) Cost and related mechanism;

Nil

- d) Cost Benefit Analysis :

It is very nominal cost

- e) Any further improvement for the product: Will be done as per standard and requirements of export.

#### 5.11. Exhibition (national and international)

- a) Plan for participation:

Participation at various events will be ensured to promote the products.

- b) To achieve retail sales through exhibition:

By participating in exhibitions being arranged by KVIC, MOFPI, NSIC and district administration.

- c) Infrastructure to be created:

Banners, Promotional items & Canopy

- d) Plan to take part regularly :

Yes

- e) Leaflet, printing materials, etc. to be developed :

Yes

- f) Cost and other support mechanism to be developed :

Cost of participation in exhibition will be covered under cost of marketing linkages.

## **6. RAW MATERIAL BANKS (RMBs):**

- 6.1. Any necessity for organizing a separate Raw Material Bank in the cluster. :

Awala being a seasonal fruits, its time table for harvesting is too short. As such proper storage facilities through Raw Material Bank is one of core essential factor for round the year functioning of the Cluster.

- 6.2. Exploring tie-up arrangement with CSPs for Khadi and RMBs for V.I.:

Since Awala cannot be preserved dry in Cold Stores, separate arrangements of built-up tanks, which can be filled/ rotated with water, is needed to Store Awala intact round the year.

- 6.3. Plan for such arrangement:

Such tank with proper coverage may be constructed at the operating center of the Cluster.

- 6.4. Cost parameters:

Approx. cost of construction of the proposed Tanks, Godown facility is Rs. 3.00 Lakhs and Rs. 7.00 Lakhs will be the expense on purchasing Awala for the Raw Material Bank.

6.5. Godown and other related infrastructures:

Similarly separate infrastructure for preservation of other raw materials and packaging items may also be explored at appropriate site of the working campus.

**7. WARE HOUSING FACILITY:**

- 1) Existing Warehousing facilities available in the cluster belonging to IA or of the Associated Institutions:. N/A
- 2) Identifying such warehousing facilities in the cluster: N/A
- 3) Address, location, area, etc. of such warehousing facilities.: N/A
- 4) Any plan for renovation of such warehousing/storing facilities. N/A

**8. OTHER INTERVENTIONS:**

- 1) Research & Development Initiatives for Innovation

Efforts will be made to develop some new products by taking help of institutions involve in R&D. Currently some efforts are on to develop Awala Wine.

- 2) Developing institutional linkages with the existing & proposed clusters

Efforts will be made to develop linkages with institutions and other clusters related with food processing in India.

**9. ASSOCIATED INSTITUTIONS:**

No. of Associated Institutions: Proposed Associated Institutions are KVIC, CFTRI, SISI, FPCI, DIC etc.

Profile of Associated Institution (enclosed)

Profile of Artisans (enclosed)

## W. FINANCIAL OUTLAY

Sr. No	Item	Amount (Rs. in lakh)			
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> year	Total
<b>1</b>	<b>Tools, Equipments and work sheds</b>	0.00	0.00	0.00	0.00
	1.1 Charkha	0.00	0.00	0.00	0.00
	1.2 Loom	0.00	0.00	0.00	0.00
	1.3 Warp unit, etc.	0.00	0.00	0.00	0.00
	1.4 Other tools & implements for artisans	0.00	22.45	0.00	22.45
	1.5 Individual/ Group work sheds	0.00	0.00	0.00	0.00
<b>2</b>	<b>Common Facility/ facilities</b>	0.00	0.00	0.00	0.00
	2.1 Construction of Work shed to house common facilities	30.00	0.00	0.00	30.00
	2.2 Procurement & installation of Machinery	100.71	0.00	0.00	100.71
	2.3 Maintenance of CFC	0.00	5.00	5.00	10.00
	2.4 Procurement of basic infrastructure like water, electricity, etc.	0.00	0.00	0.00	0.00
<b>3</b>	<b>Capacity building &amp; exposure visits</b>	10.50	10.50	11.28	32.28
<b>4</b>	<b>PRODIP</b>	0.00	0.00	0.00	0.00
	4.1 Improvement of Raw Materials	1.00	1.00	0.00	2.00
	4.2 Improved processing	2.00	2.00	0.00	4.00
	4.3 Thrust on high value addition	2.00	2.00	0.00	4.00
	4.4 Improved packaging	1.00	1.00	0.00	2.00
	4.5 Improved designs	0.00	0.00	0.00	0.00
	4.6 Diversification of product line	2.00	2.00	0.00	4.00
	4.7 Tie-up with designer's houses	0.00	0.00	0.00	0.00
	4.8 Quality and product standardization	2.00	1.00	0.00	3.00
	4.9 Product catalogue	1.00	1.00	0.00	2.00
	4.10 Product promotion through e-catalogue	0.50	0.50	0.00	1.00
<b>5</b>	<b>Market promotion</b>	0.00	0.00	0.00	0.00
	5.1 Common logo	0.50	0.00	0.00	0.50
	5.2 Signage	0.00	0.00	0.00	0.00
	5.3 Visual merchandising	1.00	0.00	0.00	1.00
	5.4 Computerization including billing and bar-coding	0.50	0.00	0.00	0.50
	5.5 Training of sales staff	0.00	0.00	0.00	0.00
	5.6 Furniture and fixture including civil works incidental to renovation etc.	0.00	0.00	0.00	0.00
	5.7 Formation of consortiums	0.00	0.00	0.00	0.00
	5.8 Website	0.50	0.00	0.00	0.50
	5.9 ISO	0.00	0.00	0.00	0.00
	5.10 Product promotion through domestic and international exhibition	1.00	1.00	1.00	3.00
<b>6</b>	<b>Working fund/ Revolving fund</b>	0.00	0.00	0.00	0.00
	6.1 Purchase or raw materials	5.00	5.00	0.00	10.00
	6.2 Payment to artisans	0.00	0.00	0.00	0.00
	6.3 Other production overheads such as Supervision, Sales Distribution Expenditure, Processing and fabric conversion	0.00	0.00	0.00	0.00
	6.4 Payment of statutory dues such as P.F.	0.00	0.00	0.00	0.00



Sr. No	Item	Amount (Rs. in lakh)			
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> year	Total
	etc., Payment of interest to the Bank loan for renewal wherever required				
	6.5 Provision for engaging professional expert	0.00	0.00	0.00	0.00
<b>7</b>	<b>Cost of IA</b>	4.00	4.00	4.00	12.00
<b>8</b>	<b>Cost of CDE</b>	2.40	2.64	2.90	7.94
<b>9</b>	<b>Cost of TA/ Project Management Service Providers (PMSPs)</b>	4.00	4.00	4.00	12.00
<b>10</b>	<b>Formation of Producer Company</b>	0.00	1.00	0.00	1.00
	<b>TOTAL</b>	171.61	66.09	28.18	265.88

## X. ANNEXURES

### Annexure -1 [Artisan List]

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
1	दूधनाथ पुत्र बाबू लाल	बोर्डा	50	पुरुष	शिक्षित	No	अनु० जाति	-	अंशकालिक
2	लखपती पत्नी दूधनाथ	बोर्डा	48	महिला	शिक्षित	No	अनु० जाति	HSK 2663144	अंशकालिक
3	अशोक कुमार पुत्र दूधनाथ	बोर्डा	35	पुरुष	शिक्षित	No	अनु० जाति	-	अंशकालिक
4	रेनू देवी पत्नी अशोक	बोर्डा	30	महिला	शिक्षित	No	अनु० जाति	-	अंशकालिक
5	उमेश कुमार दूधनाथ	बोर्डा	31	पुरुष	शिक्षित	No	अनु० जाति	-	अंशकालिक
6	कमलेश पुत्र अमरनाथ	बोर्डा	28	पुरुष	शिक्षित	No	अनु० जाति	-	अंशकालिक
7	उषा देवी पत्नी कमलेश	बोर्डा	34	महिला	शिक्षित	No	अनु० जाति	-	अंशकालिक
8	पारसनाथ पुत्र बाबू लाल	बोर्डा	38	पुरुष	अशिक्षित	No	अनु० जाति	-	अंशकालिक
9	रामचन्द्र पुत्र संतराम	बोर्डा	34	पुरुष	अशिक्षित	No	अनु० जाति	47/119/768365	अंशकालिक
10	शिव कुमारी पत्नी राम चन्द्र	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	47/119/768365	अंशकालिक
11	मीता देवी पुत्री राम चन्द्र	बोर्डा	48	महिला	शिक्षित	No	अनु० जाति	47/119/768365	अंशकालिक
12	राम फकीर पुत्र भुल्लर	बोर्डा	45	पुरुष	शिक्षित	No	अनु० जाति	47/119/768365	अंशकालिक
13	गोमती देवी पत्नी राम फकीर	बोर्डा	48	महिला	शिक्षित	No	अनु० जाति	UP/47/119/768355	अंशकालिक
14	चन्द्रा देवी पत्नी बबउराम	बोर्डा	19	महिला	शिक्षित	No	अनु० जाति	UP/47/119/768355	अंशकालिक
15	सुनील कुमार पुत्र राम फकीर	बोर्डा	26	पुरुष	शिक्षित	No	अनु० जाति	UP/47/119/768355	अंशकालिक
16	किरण देवी पत्नी हरीलाल	बोर्डा	50	महिला	शिक्षित	No	अनु० जाति	HSK 2683910	अंशकालिक
17	सितारा पत्नी कल्लू	बोर्डा	29	महिला	शिक्षित	No	अनु० जाति	UP/47/119/768368	अंशकालिक
18	दयाशंकर पुत्र राम गरीब	बोर्डा	42	पुरुष	शिक्षित	No	अनु० जाति	UP/47/119/768363	अंशकालिक
19	नोहरा देवी पत्नी मंगरू	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	UP/47/119/768363	अंशकालिक
20	रमेश पुत्र राम फकीर	बोर्डा	20	पुरुष	अशिक्षित	No	अनु० जाति	UP/47/119/768363	अंशकालिक
21	सन्तोष पुत्र दयाशंकर	बोर्डा	48	पुरुष	अशिक्षित	No	अनु० जाति	UP/47/119/768363	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
22	प्रभावती पत्नी ननकूराम	बोर्सा	20	महिला	अशिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
23	सुनीता पुत्री ननकू राम	बोर्सा	18	महिला	अशिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
24	गुडिया पुत्री राम बहादुर	बोर्सा	22	महिला	अशिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
25	राम आशीष पुत्र मंगरूराम	बोर्सा	19	पुरुष	अशिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
26	फोटो देवी पुत्री राम सुन्दर	बोर्सा	22	महिला	शिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
27	सुबेदार पुत्र राम बहादुर	बोर्सा	20	पुरुष	शिक्षित	No	ळमद	HSK 2683803	अंशकालिक
28	सुरेश पुत्र राम फकीर	बोर्सा	42	पुरुष	शिक्षित	No	अनु० जाति	HSK 2683803	अंशकालिक
29	मन्जौका पत्नी राम नाथ	बोर्सा	45	महिला	शिक्षित	No	अनु० जाति	HSK 0000844	अंशकालिक
30	अयूब पुत्र मो० इब्राहिम	बोर्सा	42	पुरुष	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
31	नूरजहां पत्नी अयूब	बोर्सा	29	महिला	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
32	सीमा पुत्री अयूब	बोर्सा	22	महिला	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
33	सबनम पुत्री अयूब	बोर्सा	24	महिला	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
34	सबीना पत्नी बबलू	बोर्सा	26	महिला	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
35	बबलू पुत्र अयूब	बोर्सा	19	पुरुष	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
36	रेहाना पुत्री अयूब	बोर्सा	18	महिला	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
37	सन्नो पुत्री अयूब	बोर्सा	42	महिला	शिक्षित	No	ळमद	HSK 0000844	पूर्णकालिक
38	मो० याकूब पुत्र मो० इब्राहिम	बोर्सा	40	पुरुष	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
39	नजमुल हसन पुत्र याकूब	बोर्सा	24	पुरुष	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
40	नसीम खान पुत्र याकूब	बोर्सा	20	पुरुष	शिक्षित	No	ळमद	HSK 0000844	अंशकालिक
41	चांदनी पत्नी नसीम खान	बोर्सा	53	महिला	अशिक्षित	No	ळमद	HSK 0000844	अंशकालिक
42	राजाराम पुत्र बलभद्र	बोर्सा	50	पुरुष	अशिक्षित	No	अनु० जाति	47/119/765027	अंशकालिक
43	जयराजी देवी पत्नी राजाराम	बोर्सा	35	महिला	अशिक्षित	No	अनु० जाति	47/119/765027	अंशकालिक
44	राम अभिलाष पुत्र राजाराम	बोर्सा	32	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
45	अनीता देवी पत्नी राम अभिलाष	बोर्सा	18	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
46	पूजा कुमारी पुत्री राम अभिलाष	बोर्सा	19	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
47	प्रदीप कुमार पुत्र राम अभिलाष	बोर्डा	33	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
48	मिठाई लाल पुत्र राजाराम	बोर्डा	30	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
49	सुलेमा देवी पत्नी मिठाई लाल	बोर्डा	28	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
50	राम अंजोर पुत्र राजाराम	बोर्डा	26	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
51	मालती देवी पत्नी राम अंजोर	बोर्डा	26	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
52	राज कुमार पुत्र राजाराम	बोर्डा	36	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
53	हरकेश कुमार पुत्र राम शिरोमणि	बोर्डा	32	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
54	आशा देवी पत्नी हरकेश कुमार	बोर्डा	30	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
55	रमाशंकर पुत्र बैजूराम	बोर्डा	48	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
56	रजवन्ती देवी पत्नी रमाशंकर	बोर्डा	32	महिला	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
57	मुन्ना पुत्र रमाशंकर	बोर्डा	30	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
58	सुशीला देवी पत्नी मुन्ना	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
59	अर्चना पुत्री पिरथीपाल	बोर्डा	20	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
60	बबलू पुत्र हरी लाल	बोर्डा	24	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
61	रागिनी देवी पत्नी बबलू	बोर्डा	20	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
62	आरती पुत्री हरीलाल	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
63	सूरज पुत्र हरीलाल	बोर्डा	48	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
64	पिरथीपाल पुत्र राम शिरोमणि	बोर्डा	40	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
65	लालजी सरोज पुत्र सतईराम	बोर्डा	38	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
66	रीता देवी पत्नी लालजी	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
67	नीतू पुत्री लालजी	बोर्डा	38	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
68	रजनीश पुत्र पिरथीपाल	बोर्डा	20	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
69	श्रीनाथ पुत्र छंगूराम	बोर्डा	38	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
70	सुनीता देवी पत्नी श्रीनाथ	बोर्डा	36	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
71	रंजना पुत्री श्रीनाथ	बोर्डा	19	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
72	समर बहादुर पुत्र रामदेव सरोज	बोर्डा	50	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
73	अमरावती पत्नी समर बहादुर	बोर्डा	48	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
74	अवधनारायण पुत्र समर बहादुर	बोर्डा	38	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
75	सुषमा देवी पत्नी अवध नारायण	बोर्डा	36	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
76	राम बाबू पुत्र राम देव	बोर्डा	48	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
77	चन्द्रशेखर पुत्र राम बाबू	बोर्डा	20	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
78	यशोदा देवी पुत्री राम बाबू	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
79	गीता देवी पत्नी स्व० किशोरी लाल	बोर्डा	40	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
80	अशीष कुमार पुत्र किशोरी लाल	बोर्डा	20	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
81	जगनाथ पुत्र छंगूराम	बोर्डा	45	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
82	प्रभावती देवी पत्नी जगनाथ	बोर्डा	42	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
83	दिलीप कुमार पुत्र जगनाथ	बोर्डा	22	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
84	आशीष पुत्र जगनाथ	बोर्डा	20	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
85	सुशीला पुत्री जगनाथ	बोर्डा	19	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
86	शोभनाथ सरोज पुत्र छंगू राम	बोर्डा	48	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
87	राज कुमारी पत्नी शोभनाथ	बोर्डा	46	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
88	अनीता देवी पुत्री शोभनाथ	बोर्डा	20	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
89	पवन कुमार पुत्र श्री शोभनाथ	बोर्डा	19	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
90	अमृत लाल पुत्र पनेहू	बोर्डा	46	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
91	आशा देवी पत्नी अमृत लाल	बोर्डा	44	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
92	शिल्पा पुत्री अमृत लाल	बोर्डा	20	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
93	अनीता पुत्री अमृत लाल	बोर्डा	19	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
94	पुष्पा देवी पत्नी राजू	बोर्डा	24	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
95	राजेश कुमार पुत्र जीत लाल	बोर्सा	40	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
96	अनारा देवी पत्नी राजेश कुमार	बोर्सा	38	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
97	बिन्दू पत्नी जीत लाल	बोर्सा	19	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
98	राजाराम पुत्र भारत	बोर्सा	52	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
99	अरुनारानी पत्नी राजाराम	बोर्सा	52	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
100	गेंदा देवी पत्नी फूल चन्द्र	बोर्सा	27	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
101	मनीषा देवी विनोद	बोर्सा	26	महिला	अशिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
102	राम सजीवन पुत्र शीतला प्रसाद	बोर्सा	42	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
103	धर्मावती पत्नी राम सजीवन	बोर्सा	40	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
104	सीमा पुत्री राम सजीवन	बोर्सा	20	महिला	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
105	राम राज सरोज पुत्र राम राज	बोर्सा	52	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
106	राजू पुत्र राम राज	बोर्सा	48	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
107	महेन्द्र कुमार पुत्र राम राज	बोर्सा	30	पुरुष	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
108	राजेन्द्र पुत्र राम राज	बोर्सा	30	पुरुष	शिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
109	प्रतिमा पत्नी राजेन्द्र	बोर्सा	26	महिला	अशिक्षित	No	अनु० जाति	HSK525294	अंशकालिक
110	अन्जू पुत्री राम राज	बोर्सा	19	महिला	शिक्षित	No	अनु० जाति	HSK525294	पूर्णकालिक
111	सूरसती पत्नी गेंदा लाल	बनवारपुर	55	महिला	अशिक्षित	NO	अनुसूचित जाति	UP/47/ 119/0546378	अंशकालिक
112	छोटकी पत्नी समर बहादुर	बनवारपुर	54	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK0019851	अंशकालिक
113	समर बहादुर पुत्र बोदी	बनवारपुर	56	पुरुष	शिक्षित	NO	अनुसूचित जाति	47/119/546263	अंशकालिक
114	जानकी देवी पत्नी इन्द्र बहादुर	बनवारपुर	57	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK00019877	अंशकालिक
115	रीना पत्नी कमलेश	बनवारपुर	27	महिला	शिक्षित	NO	अनुसूचित जाति	ZUK1314970	अंशकालिक
116	कमलेश पुत्र इन्द्र बहादुर	बनवारपुर	30	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK0908947	अंशकालिक
117	अशोक कुमार पुत्र कृष्ण लाल	बनवारपुर	42	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK1133024	अंशकालिक
118	सीता देवी पत्नी अशोक कुमार	बनवारपुर	38	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK2873024	अंशकालिक
119	बृजेश कुमार पुत्र कृष्ण लाल	बनवारपुर	36	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2873032	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
120	शोभा देवी पत्नी श्री बृजेश कुमार	बनवारपुर	34	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
121	लालसा राम पुत्र राम बहादुर	बनवारपुर	19	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
122	रनजीत पुत्र राम बहादुर	बनवारपुर	21	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
123	रवीन्द्र पुत्र श्री राम बहादुर	बनवारपुर	19	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
124	गोविन्द पुत्र शम्भूनाथ	बनवारपुर	20	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
125	बैजनाथ पुत्र बेचूलाल	बनवारपुर	42	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1435148	अंशकालिक
126	शिव कुमार पुत्र कृष्ण लाल	बनवारपुर	34	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2575447	अंशकालिक
127	राम कुमार पुत्र कृष्ण लाल	बनवारपुर	44	पुरुष	शिक्षित	NO	पिछडी जाति	UP/47/119/0546009	अंशकालिक
128	पूनम देवी पत्नी शिव कुमार	बनवारपुर	38	महिला	शिक्षित	NO	पिछडी जाति	HSK2872976	अंशकालिक
129	नन्हे पुत्र कन्हई	बनवारपुर	49	पुरुष	शिक्षित	NO	पिछडी जाति	UP/47/119/0546011	अंशकालिक
130	जयपती पत्नी स्व० भागीरथी	बनवारपुर	54	महिला	अशिक्षित	NO	पिछडी जाति	UP/47/119/0546012	अंशकालिक
131	दखनहिया पत्नी शम्भूनाथ	बनवारपुर	52	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK1435205	अंशकालिक
132	अतरहिन पत्नी श्रीपाल	बनवारपुर	50	महिला	अशिक्षित	NO	अनुसूचित जाति	1435197	अंशकालिक
133	राम आसरे पुत्र सुखदेव	बनवारपुर	42	पुरुष	अशिक्षित	NO	अनुसूचित जाति	HSK1990456	अंशकालिक
134	राम कुमार पुत्र सहदेव	बनवारपुर	38	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1435213	अंशकालिक
135	सुखई पुत्र स्व० ओरी	बनवारपुर	58	पुरुष	अशिक्षित	NO	अनुसूचित जाति	HSK1435221	अंशकालिक
136	दुबाईन पत्नी सुखई	बनवारपुर	54	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK1435239	अंशकालिक
137	विकास कुमार पुत्र स्व० विनोद कुमार	बनवारपुर	21	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1435239	अंशकालिक
138	राम बहादुर पुत्र सुखई	बनवारपुर	50	पुरुष	अशिक्षित	NO	अनुसूचित जाति	HSK1990399	अंशकालिक
139	आशा देवी पत्नी राम बहादुर	बनवारपुर	46	महिला	शिक्षित	NO	अनुसूचित जाति	HSK1435247	अंशकालिक
140	राम कैलाश पुत्र सुखई	बनवारपुर	38	पुरुष	अशिक्षित	NO	अनुसूचित जाति	HSK1990381	अंशकालिक
141	मीरा पत्नी राम प्रताप	बनवारपुर	28	महिला	अशिक्षित	NO	अनुसूचित जाति	ZUK0096292	अंशकालिक
142	रंजीत कुमार पुत्र राम बहादुर	बनवारपुर	26	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK0096321	अंशकालिक
143	राम बहादुर पुत्र सुखई	बनवारपुर	50	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1990134	अंशकालिक

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144	मुन्नी लाल पुत्र सुखई	बनवारपुर	44	पुरुष	शिक्षित	NO	अनुसूचित जाति	UP/47/119/0546399	अंशकालिक
145	सुशीला पत्नी मुन्नी लाल	बनवारपुर	41	महिला	शिक्षित	NO	अनुसूचित जाति	HSK 2207942	अंशकालिक
146	अनिल कुमार पुत्र मिट्टू लाल	बनवारपुर	37	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK 0020438	अंशकालिक
147	अजय कुमार पुत्र मिट्टू लाल	बनवारपुर	33	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1436302	पूर्णकालिक
148	सुमन पत्नी अजय कुमार	बनवारपुर	30	महिला	अशिक्षित	NO	अनुसूचित जाति	ZUK031118	अंशकालिक
149	पंकज पुत्र देवी प्रसाद	बनवारपुर	34	पुरुष	शिक्षित	NO	पिछडी जाति	HSK25752314	अंशकालिक
150	उमाशंकर पुत्र राम फेर	बनवारपुर	28	पुरुष	शिक्षित	NO	पिछडी जाति	HSK25752314	अंशकालिक
151	रोहित पुत्र राम लखन	बनवारपुर	33	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2439784	अंशकालिक
152	अभिमन्यु पुत्र राम दुलार	बनवारपुर	30	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1990175	अंशकालिक
153	राम सजीवन पुत्र राम दुलार	बनवारपुर	39	पुरुष	शिक्षित	NO	अनुसूचित जाति	UP/47/119/0546048	अंशकालिक
154	राम चन्द्र पुत्र राम दुलार	बनवारपुर	36	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2439792	अंशकालिक
155	दिलीप पुत्र पूदी	बनवारपुर	50	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK0020404	अंशकालिक
156	कन्हई पुत्र राम पलट	बनवारपुर	37	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK1990167	अंशकालिक
157	निर्मला पत्नी कन्हैया लाल	बनवारपुर	39	महिला	शिक्षित	NO	अनुसूचित जाति	HSK1990159	पूर्णकालिक
158	राज कुमारी पत्नी दिलीप कुमार	बनवारपुर	47	महिला	अशिक्षित	NO	अनुसूचित जाति	UP/47/ 119/0546396	अंशकालिक
159	मनोज कुमार पुत्र गिरिश	बनवारपुर	29	पुरुष	शिक्षित	NO	पिछडी जाति	HSK1990134	अंशकालिक
160	अशोक कुमार पुत्र गिरिश	बनवारपुर	32	पुरुष	शिक्षित	NO	पिछडी जाति	UP/47/119/ 0546399	अंशकालिक
161	सईद अहमद पुत्र असीरुदीन	बनवारपुर	20	पुरुष	शिक्षित	NO	पिछडी जाति	HSK1435130	अंशकालिक
162	रईस अहमद पुत्र असीरुदीन	बनवारपुर	39	पुरुष	शिक्षित	NO	पिछडी जाति	HSK2287942	पूर्णकालिक
163	राधेश्याम दूबे पुत्र स्व0 राजनाथ दूबे	बनवारपुर	44	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
164	कुसुम पत्नी राधेश्याम	बनवारपुर	45	महिला	शिक्षित	NO	सामान्य	HSK0020230	अंशकालिक
165	गीता देवी पत्नी लालमनि दूबे	बनवारपुर	21	महिला	शिक्षित	NO	सामान्य	HSK0020255	अंशकालिक
166	गुड़िया देवी पुत्री लालमनि दूबे	बनवारपुर	28	महिला	शिक्षित	NO	सामान्य	-	पूर्णकालिक
167	सरला पत्नी राम अचल	बनवारपुर	25	महिला	शिक्षित	NO	सामान्य	ZUK0209098	अंशकालिक



Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
168	राम अचल पत्नी श्याम नारायण	बनवारपुर	46	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
169	बीरेन्द्र कुमार पुत्र श्याम नारायण	बनवारपुर	40	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
170	रेखा पत्नी बीरेन्द्र कुमार	बनवारपुर	38	महिला	शिक्षित	NO	सामान्य	-	अंशकालिक
171	सुरेन्द्र कुमार पुत्र श्याम	बनवारपुर	19	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
172	उषा देवी पत्नी सुरेन्द्र कुमार	बनवारपुर	40	महिला	अशिक्षित	NO	सामान्य	-	अंशकालिक
173	प्रेम चन्द्र पुत्र राम प्यारे	बनवारपुर	55	पुरुष	शिक्षित	NO	सामान्य	-	पूर्णकालिक
174	विमला पत्नी प्रेम चन्द्र	बनवारपुर	26	महिला	अशिक्षित	NO	सामान्य	HSK2373751	अंशकालिक
175	रमाकान्त दूबे पुत्र स्व० जगदीश प्रसाद	बनवारपुर	29	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
176	शोभा देवी रमाकान्त	बनवारपुर	32	महिला	अशिक्षित	NO	सामान्य	-	अंशकालिक
177	पूजा देवी पुत्री रमाकान्त	बनवारपुर	33	महिला	शिक्षित	NO	सामान्य	-	अंशकालिक
178	रेनु देवी पत्नी शिवाकान्त	बनवारपुर	29	महिला	शिक्षित	NO	सामान्य	UP/47/119/548334	पूर्णकालिक
179	माया देवी पत्नी विजय कान्त	बनवारपुर	44	महिला	शिक्षित	NO	सामान्य	-	अंशकालिक
180	फोटो देवी पत्नी जटाशंकर	बनवारपुर	40	महिला	अशिक्षित	NO	सामान्य	-	अंशकालिक
181	किरण देवी पत्नी अजय नाथ तिवारी	बनवारपुर	48	महिला	शिक्षित	NO	सामान्य	-	अंशकालिक
182	परमानन्द पुत्र सत्य नारायण	बनवारपुर	19	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
183	नीलम पत्नी परमानन्द	बनवारपुर	32	महिला	शिक्षित	NO	सामान्य	-	अंशकालिक
184	किशन देव पुत्र सत्य नारायण	बनवारपुर	34	पुरुष	शिक्षित	NO	सामान्य	-	अंशकालिक
185	गीता देवी पत्नी किशन देव	बनवारपुर	30	महिला	अशिक्षित	NO	सामान्य	-	अंशकालिक
186	रेखा देवी पत्नी कृष्ण कुमार	बनवारपुर	29	महिला	शिक्षित	NO	सामान्य	HSK1990166	पूर्णकालिक
187	कु० रीना दूबे पुत्री कृष्ण कुमार	बनवारपुर	28	महिला	शिक्षित	NO	सामान्य	ZUK1144880	अंशकालिक
188	विमला पत्नी शिव शंकर	बनवारपुर	26	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
189	राम दुलारी पत्नी स्व० राम निहोर	बनवारपुर	44	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
190	मनीषा पत्नी लालजी	बनवारपुर	39	महिला	अशिक्षित	NO	अनुसूचित जाति	ZUK1146794	पूर्णकालिक

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191	लालजी पुत्र राम निहोर	बनवारपुर	27	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK1146844	अंशकालिक
192	राजकली पत्नी राम सुख	बनवारपुर	48	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
193	आशा देवी पत्नी जगनाथ	बनवारपुर	32	महिला	अशिक्षित	NO	अनुसूचित जाति	ZUK1145200	अंशकालिक
194	लेखई पुत्र भगेलू	बनवारपुर	44	पुरुष	अशिक्षित	NO	अनुसूचित जाति	UP/47/119/546089	अंशकालिक
195	शान्ती पत्नी लेखई	बनवारपुर	40	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
196	संगीता पत्नी अमरनाथ	बनवारपुर	36	महिला	शिक्षित	NO	अनुसूचित जाति	-	पूर्णकालिक
197	मनोरमा पत्नी कल्पनाथ	बनवारपुर	34	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
198	सुमन देवी पत्नी राम नरेश	बनवारपुर	29	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK1991447	अंशकालिक
199	अन्जू पुत्री लेखई	बनवारपुर	19	महिला	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
200	जमुना देवी पत्नी प्रेम चन्द्र	बनवारपुर	46	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
201	पुन्नीलाल	बनवारपुर	59	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
202	रूपा देवी पत्नी लाल	बनवारपुर	54	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
203	अनिल कुमार पुत्र पुन्नी लाल	बनवारपुर	32	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2207736	अंशकालिक
204	दीपदेव पत्नी अनिल कुमार	बनवारपुर	30	महिला	शिक्षित	NO	अनुसूचित जाति	HSK2207728	अंशकालिक
205	सुनील कुमार पुत्र पुन्नी लाल	बनवारपुर	28	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2207744	पूर्णकालिक
206	सीता देवी पत्नी सुनील कुमार	बनवारपुर	26	महिला	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
207	महेन्द्र कुमार	बनवारपुर	35	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
208	सीमा देवी पत्नी महेन्द्र कुमार	बनवारपुर	32	महिला	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
209	सरजू प्रसाद	बनवारपुर	50	पुरुष	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
210	केवला देवी पत्नी सरजू प्रसाद	बनवारपुर	48	महिला	शिक्षित	NO	अनुसूचित जाति	HSK2032738	अंशकालिक
211	हरिभजन	बनवारपुर	28	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	पूर्णकालिक
212	बिटोला देवी पत्नी हरिभजन	बनवारपुर	26	महिला	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
213	त्रिभुवन	बनवारपुर	24	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
214	सुलोचना देवी पत्नी त्रिभुवन	बनवारपुर	22	महिला	शिक्षित	NO	अनुसूचित जाति	ZUK0096008	अंशकालिक
215	मोहन लाल	बनवारपुर	56	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
216	सुनारा देवी पत्नी मोहन लाल	बनवारपुर	54	महिला	शिक्षित	NO	अनुसूचित जाति		अंशकालिक
217	आनन्द राव	बनवारपुर	30	पुरुष	शिक्षित	NO	अनुसूचित जाति		अंशकालिक
218	गीता देवी पत्नी आनन्द राव	बनवारपुर	26	महिला	शिक्षित	NO	अनुसूचित जाति		अंशकालिक
219	प्रदीप कुमार	बनवारपुर	29	पुरुष	शिक्षित	NO	अनुसूचित जाति	HSK2208726	अंशकालिक
220	शर्मिला देवी पत्नी प्रदीप कुमार	बनवारपुर	24	महिला	शिक्षित	NO	अनुसूचित जाति	-	पूर्णकालिक
221	प्यारे लाल	बनवारपुर	48	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK0537050	अंशकालिक
222	हीरावती देवी पत्नी प्यारे लाल	बनवारपुर	45	महिला	अशिक्षित	NO	अनुसूचित जाति	HSK2032704	अंशकालिक
223	नन्हे लाल	बनवारपुर	50	पुरुष	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
224	इन्द्रावती देवी पत्नी नन्हे लाल	बनवारपुर	47	महिला	अशिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
225	राजीव कुमार पुत्र नन्हे लाल	बनवारपुर	23	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK1153808	अंशकालिक
226	कमलेश कुमार पुत्र नन्हे लाल	बनवारपुर	26	पुरुष	शिक्षित	NO	अनुसूचित जाति	ZUK-1289248	अंशकालिक
227	राज कुमार पुत्र बुधिराम	बनवारपुर	34	पुरुष	शिक्षित	NO	अनुसूचित जाति	-	अंशकालिक
228	प्रभा देवी	बनवारपुर	25	महिला	अशिक्षित	NO	अनुसूचित जाति	39516	अंशकालिक
229	रानी देवी	बनवारपुर	23	महिला	अशिक्षित	NO	अनुसूचित जाति	39518	अंशकालिक
230	शिव कुमार	बनवारपुर	28	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39522	पूर्णकालिक
231	सीताराम	बनवारपुर	26	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39156	पूर्णकालिक
232	दिलीप कुमार	बनवारपुर	48	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39165	अंशकालिक
233	मो० हारून	बनवारपुर	48	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39170	अंशकालिक
234	दुखीलाल गुप्ता	बनवारपुर	24	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39526	अंशकालिक
235	दुलारी सरोज	बनवारपुर	44	महिला	अशिक्षित	NO	अनुसूचित जाति	39154	अंशकालिक
236	अमरनाथ	बनवारपुर	19	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39525	अंशकालिक
237	शिव कुमार	बनवारपुर	48	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39541	अंशकालिक
238	लल्लू करुणाकर	बनवारपुर	19	पुरुष	शिक्षित	NO	अनुसूचित जाति	39540	अंशकालिक
239	निर्मला देवी	बनवारपुर	19	महिला	अशिक्षित	NO	अनुसूचित जाति	39159	पूर्णकालिक
240	धर्मराज	बनवारपुर	22	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39509	अंशकालिक

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241	रामनाथ	बनवारपुर	20	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39532	अंशकालिक
242	श्रीपाल	बनवारपुर	46	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39510	अंशकालिक
243	अमरपाल	बनवारपुर	19	पुरुष	अशिक्षित	NO	अनुसूचित जाति	039168	अंशकालिक
244	अशोक कुमार	बनवारपुर	24	पुरुष	अशिक्षित	NO	अनुसूचित जाति	395445	अंशकालिक
245	वंशी लाल	बनवारपुर	26	पुरुष	अशिक्षित	NO	अनुसूचित जाति	039520	पूर्णकालिक
246	छोटे लाल	बनवारपुर	24	पुरुष	अशिक्षित	NO	अनुसूचित जाति	039158	अंशकालिक
247	राम चन्द्र	बनवारपुर	23	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39535	अंशकालिक
248	राजाराम	बनवारपुर	44	पुरुष	अशिक्षित	NO	अनुसूचित जाति	39531	अंशकालिक
249	स्वामीनाथ	बनवारपुर	50	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119475	अंशकालिक
250	बैजनाथ	बनवारपुर	48	पुरुष	अशिक्षित	NO	अनुसूचित जाति	22705	अंशकालिक
251	राम अचल	बनवारपुर	26	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119467	अंशकालिक
252	राधेश्याम	बनवारपुर	27	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119430	अंशकालिक
253	मालती देवी	बनवारपुर	30	महिला	अशिक्षित	NO	अनुसूचित जाति	22702	पूर्णकालिक
254	राम चन्द्र	बनवारपुर	38	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119440	अंशकालिक
255	राम लाल	बनवारपुर	50	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119457	अंशकालिक
256	रामयश	बनवारपुर	44	पुरुष	अशिक्षित	NO	अनुसूचित जाति	119471	अंशकालिक
257	रानी देवी	बनवारपुर	34	महिला	अशिक्षित	NO	अनुसूचित जाति	119486	अंशकालिक
258	राम मूर्ति	बनवारपुर	32	पुरुष	अशिक्षित	NO	अनुसूचित जाति	11947	अंशकालिक
259	अशोक कुमार	बनवारपुर	36	पुरुष	अशिक्षित	NO	अनुसूचित जाति	22719	पूर्णकालिक
260	राम आसरे	बनवारपुर	34	पुरुष	अशिक्षित	NO	पिछडी जाति	22712	अंशकालिक
261	राम सुमेर	बनवारपुर	28	पुरुष	अशिक्षित	NO	पिछडी जाति	119460	अंशकालिक
262	शोभनाथ	बनवारपुर	48	पुरुष	अशिक्षित	NO	पिछडी जाति	22715	अंशकालिक
263	नन्द लाल	बनवारपुर	44	पुरुष	शिक्षित	NO	पिछडी जाति	119480	अंशकालिक
264	प्रेमा देवी	बनवारपुर	40	महिला	अशिक्षित	NO	पिछडी जाति	119450	अंशकालिक
265	नन्द लाल	बनवारपुर	44	पुरुष	अशिक्षित	NO	पिछडी जाति	119466	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
266	श्रीराम	बनवारपुर	38	पुरुष	अशिक्षित	NO	पिछडी जाति	22704	पूर्णकालिक
267	रामदास	बनवारपुर	36	पुरुष	अशिक्षित	NO	पिछडी जाति	119488	अंशकालिक
268	विमला देवी	बनवारपुर	38	महिला	अशिक्षित	NO	पिछडी जाति	119437	अंशकालिक
269	बासुदेव	बनवारपुर	50	पुरुष	अशिक्षित	NO	पिछडी जाति	119443	अंशकालिक
270	लालचन्द्र पुत्र राम प्यारे	बनवारीपुर	48	पुरुष	शिक्षित	NO	सामान्य	HSK 1864859	अंशकालिक
271	निराला पत्नी लालचन्द्र	बनवारीपुर	35	महिला	अशिक्षित	NO	सामान्य	HSK 1864859	अंशकालिक
272	भोला सरोज पुत्र शनलीश लाल	बनवारीपुर	32	पुरुष	शिक्षित	NO	सामान्य	HSK-2207760	अंशकालिक
273	पूर्णमासी पुत्र मंगरू	कौलापुर	25	पुरुष	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
274	अनीता पत्नी पूर्णमासी	कौलापुर	25	महिला	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
275	कल्लू पुत्र पूर्णमासी	कौलापुर	28	पुरुष	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
276	निशा पत्नी कल्लू	कौलापुर	26	महिला	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
277	सैय्यदा बानो	कौलापुर	48	महिला	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
278	अमर पाल पुत्र राम भरोस	कौलापुर	48	पुरुष	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
279	संजय पुत्र अमर पाल	कौलापुर	24	पुरुष	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
280	शिवपती पत्नी अमरपाल	कौलापुर	44	महिला	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
281	सोनू पुत्र अमरपाल	कौलापुर	18	पुरुष	शिक्षित	NO	अनु0 जाति	-	अंशकालिक
282	हीरावती पत्नी पिरथीपाल	कौलापुर	48	महिला	अशिक्षित	NO	अनु0 जाति	-	अंशकालिक
283	रवीन्द्र पुत्र पिरथीपाल	कौलापुर	18	पुरुष	शिक्षित	NO	अनु0 जाति	up/47/119/589237	अंशकालिक
284	सुरेन्द्र पुत्र पिरथीपाल	कौलापुर	19	पुरुष	शिक्षित	NO	अनु0 जाति	UP-47/119/585237	अंशकालिक
285	संगीता पत्नी संजय	कौलापुर	22	महिला	अशिक्षित	NO	अनु0 जाति	UP-47/119/585237	अंशकालिक
286	अंतिमा पुत्री पिरथीपाल	कौलापुर	20	महिला	अशिक्षित	NO	अनु0 जाति	UP-47/119/585237	अंशकालिक
287	लालती पत्नी राम लखन	कौलापुर	46	महिला	अशिक्षित	NO	अनु0 जाति	UP-47/119/585237	अंशकालिक
288	खुशबू पुत्री राम लखन	कौलापुर	18	महिला	अशिक्षित	NO	अनु0 जाति	UP-47/119/585237	अंशकालिक
289	रंजना पत्नी नन्द लाल	कौलापुर	24	महिला	अशिक्षित	NO	अनु0 जाति	ZUK 0215897	अंशकालिक
290	लालती पत्नी अशोक कुमार	कौलापुर	26	महिला	अशिक्षित	NO	अनु0 जाति	ZUK 0215897	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
291	मन्जू पत्नी अरुण	कौलापुर	24	महिला	अशिक्षित	NO	अनु० जाति	ZUK 0215897	अंशकालिक
292	रीनू पत्नी संजय	कौलापुर	23	महिला	अशिक्षित	NO	अनु० जाति	ZUK 0215897	अंशकालिक
293	दुर्गावती पत्नी चन्द्र कुमार	कौलापुर	44	महिला	अशिक्षित	NO	अनु० जाति	UP/47/119/585217	अंशकालिक
294	राजाराम पुत्र राम हरख	कौलापुर	50	पुरुष	शिक्षित	NO	अनु० जाति	UP/47/119/58504	अंशकालिक
295	पछुनहिन पत्नी राजाराम	कौलापुर	48	महिला	अशिक्षित	NO	अनु० जाति	HSK 2637361	अंशकालिक
296	सुमन पत्नी लाल बहादुर	कौलापुर	26	महिला	अशिक्षित	NO	अनु० जाति	HSK 2637361	अंशकालिक
297	मंजीता देवी पत्नी राम अभिलाष	कौलापुर	27	महिला	अशिक्षित	NO	अनु० जाति	HSK 2637361	अंशकालिक
298	लालती पत्नी राम सजीवन	कौलापुर	30	महिला	शिक्षित	NO	अनु० जाति	HSK 2637361	अंशकालिक
299	नूर जहां पत्नी मो० जमील	कौलापुर	38	महिला	अशिक्षित	NO	अनु० जाति	HSK 2637361	अंशकालिक
300	जलीलुद्दीन पुत्र रईसुद्दीन	कौलापुर	50	पुरुष	शिक्षित	NO	अनु० जाति	UP /47/119/585245	अंशकालिक
301	कौशिल्या पत्नी राम नेवाज	कौलापुर	44	महिला	अशिक्षित	NO	अनु० जाति	UP /47/119/585231	अंशकालिक
302	रेशम देवी पत्नी विनोद कुमार	कौलापुर	34	महिला	अशिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
303	सीमा देवी पत्नी प्रमोद कुमार	कौलापुर	32	महिला	अशिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
304	विनोद कुमार पुत्र राम देव	कौलापुर	36	पुरुष	शिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
305	प्रमोद कुमार पुत्र राम देव	कौलापुर	34	पुरुष	शिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
306	शिव कुमार पुत्र ननकूराम	कौलापुर	28	पुरुष	अशिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
307	ननकू राम पुत्र राम लाल	कौलापुर	48	पुरुष	शिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
308	अनारा देवी पत्नी नन्हू राम	कौलापुर	44	महिला	अशिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
309	शारदा देवी पत्नी बनवारी लाल	कौलापुर	40	महिला	अशिक्षित	NO	अनु० जाति	HSK 1864859	पूर्णकालिक
310	बनवारी लाल पुत्र झूरी	कौलापुर	44	पुरुष	शिक्षित	NO	अनु० जाति	HSK 1864859	अंशकालिक
311	कौशिल्या देवी	कौलापुरनन्दपट्टी	45	महिला	अशिक्षित	NO	अनु० जाति	18167	अंशकालिक
312	पारसनाथ	कौलापुरनन्दपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	18160	अंशकालिक
313	मैना देवी	कौलापुरनन्दपट्टी	46	महिला	अशिक्षित	NO	अनु० जाति	18163	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
314	सिंघासन पासी	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	18505	अंशकालिक
315	मुन्नू पासी	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	18185	अंशकालिक
316	लालती देवी	कौलापुरनन्दपट्टी	32	महिला	शिक्षित	NO	अनु० जाति	18564	अंशकालिक
317	सरजू देवी	कौलापुरनन्दपट्टी	36	महिला	अशिक्षित	NO	अनु० जाति	18522	अंशकालिक
318	जहीरुददीन	कौलापुरनन्दपट्टी	37	पुरुष	अशिक्षित	NO	पि० जाति	18168	अंशकालिक
319	बनवारी लाल	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	18154	पूर्णकालिक
320	किशोरी लाल	कौलापुरनन्दपट्टी	46	पुरुष	अशिक्षित	NO	अनु० जाति	018151	अंशकालिक
321	शिव शंकर	कौलापुरनन्दपट्टी	49	पुरुष	अशिक्षित	NO	अनु० जाति	18312	अंशकालिक
322	दुर्गावती	कौलापुरनन्दपट्टी	50	महिला	अशिक्षित	NO	अनु० जाति	18517	अंशकालिक
323	इन्द्रपाल	कौलापुरनन्दपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	18164	अंशकालिक
324	अमरावती	कौलापुरनन्दपट्टी	36	महिला	अशिक्षित	NO	अनु० जाति	18190	पूर्णकालिक
325	जगरूपा	कौलापुरनन्दपट्टी	38	महिला	अशिक्षित	NO	अनु० जाति	18508	अंशकालिक
326	चौरा देवी	कौलापुरनन्दपट्टी	34	महिला	अशिक्षित	NO	अनु० जाति	18540	अंशकालिक
327	अनार कली	कौलापुरनन्दपट्टी	60	महिला	अशिक्षित	NO	अनु० जाति	18169	अंशकालिक
328	राजाराम पासी	कौलापुरनन्दपट्टी	55	पुरुष	अशिक्षित	NO	अनु० जाति	18158	पूर्णकालिक
329	राम लखन पासी	कौलापुरनन्दपट्टी	50	पुरुष	शिक्षित	NO	अनु० जाति	18516	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
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330	विविअहा	कौलापुरनन्दपट्टी	65	महिला	अशिक्षित	NO	अनु० जाति	18153	अंशकालिक
331	शिवपत्नी	कौलापुरनन्दपट्टी	50	महिला	अशिक्षित	NO	अनु० जाति	18191	अंशकालिक
332	रामकली	कौलापुरनन्दपट्टी	32	महिला	अशिक्षित	NO	अनु० जाति	18194	अंशकालिक
333	बाबू लाल	कौलापुरनन्दपट्टी	54	पुरुष	अशिक्षित	NO	अनु० जाति	18193	अंशकालिक
334	राम खेलावन	कौलापुरनन्दपट्टी	35	पुरुष	अशिक्षित	NO	अनु० जाति	0018175	अंशकालिक
335	इन्द्रासन	कौलापुरनन्दपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	018568	पूर्णकालिक
336	रमाशंकर पटेल	कौलापुरनन्दपट्टी	41	पुरुष	अशिक्षित	NO	पि० जाति	18170	अंशकालिक
337	जयराम पासी	कौलापुरनन्दपट्टी	41	पुरुष	अशिक्षित	NO	अनु० जाति	18506	अंशकालिक
338	छोटे लाल	कौलापुरनन्दपट्टी	42	पुरुष	अशिक्षित	NO	अनु० जाति	018563	अंशकालिक
339	सुशीला देवी	कौलापुरनन्दपट्टी	40	महिला	अशिक्षित	NO	अनु० जाति	18567	अंशकालिक
340	भगवानदीन	कौलापुरनन्दपट्टी	49	पुरुष	अशिक्षित	NO	अनु० जाति	49455	पूर्णकालिक
341	धनराजी	कौलापुरनन्दपट्टी	58	महिला	शिक्षित	NO	अनु० जाति	49479	अंशकालिक
342	रामदेवी चमार	कौलापुरनन्दपट्टी	46	पुरुष	अशिक्षित	NO	अनु० जाति	049469	अंशकालिक
343	राम दुलार	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	49470	अंशकालिक
344	नन्हकूराम	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49838	अंशकालिक



Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
345	नन्हू चमार	कौलापुरनन्दपट्टी	32	पुरुष	अशिक्षित	NO	अनु० जाति	49842	अंशकालिक
346	अवधेश कुमार	कौलापुरनन्दपट्टी	36	पुरुष	अशिक्षित	NO	अनु० जाति	549806	अंशकालिक
347	हरिश्चन्द्र	कौलापुरनन्दपट्टी	37	पुरुष	अशिक्षित	NO	अनु० जाति	49492	अंशकालिक
348	राम कृपाल	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	49846	पूर्णकालिक
349	राम सेवक	कौलापुरनन्दपट्टी	46	पुरुष	अशिक्षित	NO	अनु० जाति	49481	अंशकालिक
350	जय कुमार	कौलापुरनन्दपट्टी	49	पुरुष	अशिक्षित	NO	अनु० जाति	49460	अंशकालिक
351	इन्द्र कुमार	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49458	अंशकालिक
352	पृथ्वीपाल	कौलापुरनन्दपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	49459	पूर्णकालिक
353	राम करन	कौलापुरनन्दपट्टी	36	पुरुष	अशिक्षित	NO	अनु० जाति	49815	अंशकालिक
354	राम बहादुर	कौलापुरनन्दपट्टी	38	पुरुष	शिक्षित	NO	अनु० जाति	49833	अंशकालिक
355	हरीलाल	कौलापुरनन्दपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	049889	अंशकालिक
356	राजेश कुमार पाल	कौलापुरनन्दपट्टी	60	पुरुष	अशिक्षित	NO	पि० जाति	49477	अंशकालिक
357	संजय कुमार	कौलापुरनन्दपट्टी	55	पुरुष	अशिक्षित	NO	अनु० जाति	49819	अंशकालिक
358	जीतलाल	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49820	पूर्णकालिक
359	मोती लाल	कौलापुरनन्दपट्टी	65	पुरुष	अशिक्षित	NO	अनु० जाति	49833	अंशकालिक
360	सुदामा	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49137	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
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361	मंगरू	कौलापुरनन्दपट्टी	32	पुरुष	अशिक्षित	NO	अनु० जाति	49809	अंशकालिक
362	भोलानाथ	कौलापुरनन्दपट्टी	54	पुरुष	अशिक्षित	NO	अनु० जाति	49493	अंशकालिक
363	राम प्रवेश	कौलापुरनन्दपट्टी	35	पुरुष	अशिक्षित	NO	अनु० जाति	49474	अंशकालिक
364	राम खेलावन	कौलापुरनन्दपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	49832	अंशकालिक
365	चन्द्र कुमार	कौलापुरनन्दपट्टी	41	पुरुष	अशिक्षित	NO	अनु० जाति	49813	अंशकालिक
366	राम बरन	कौलापुरनन्दपट्टी	41	पुरुष	अशिक्षित	NO	अनु० जाति	49840	अंशकालिक
367	अमरपाल	कौलापुरनन्दपट्टी	42	पुरुष	शिक्षित	NO	अनु० जाति	49852	पूर्णकालिक
368	राम शिरोमणि	कौलापुरनन्दपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	049854	अंशकालिक
369	राम लखन	कौलापुरनन्दपट्टी	49	पुरुष	अशिक्षित	NO	अनु० जाति	49453	अंशकालिक
370	बुधिराम	कौलापुरनन्दपट्टी	58	पुरुष	अशिक्षित	NO	अनु० जाति	49487	अंशकालिक
371	लालती देवी	कौलापुरनन्दपट्टी	46	महिला	अशिक्षित	NO	अनु० जाति	49834	अंशकालिक
372	देवतादीन	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	049426	अंशकालिक
373	राम कृपाल	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49471	पूर्णकालिक
374	राजाराम	कौलापुरनन्दपट्टी	32	पुरुष	अशिक्षित	NO	अनु० जाति	49826	अंशकालिक
375	राम सरन	कौलापुरनन्दपट्टी	36	पुरुष	अशिक्षित	NO	अनु० जाति	49831	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
376	अशोक कुमार	कौलापुरनन्दपट्टी	37	पुरुष	अशिक्षित	NO	अनु० जाति	49496	अंशकालिक
377	मेवालाल	कौलापुरनन्दपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	49494	अंशकालिक
378	अनिल	कौलापुरनन्दपट्टी	46	पुरुष	अशिक्षित	NO	अनु० जाति	49818	अंशकालिक
379	मुरलीधर	कौलापुरनन्दपट्टी	49	पुरुष	शिक्षित	NO	अनु० जाति	49836	अंशकालिक
380	राम नारायण	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49485	अंशकालिक
381	राम नेवाज	कौलापुरनन्दपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	49497	अंशकालिक
382	इन्द्रजीत	कौलापुरनन्दपट्टी	36	पुरुष	अशिक्षित	NO	अनु० जाति	49855	पूर्णकालिक
383	कौशिल्या	कौलापुरनन्दपट्टी	38	महिला	अशिक्षित	NO	अनु० जाति	49811	अंशकालिक
384	राम किशुन	कौलापुरनन्दपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	49499	अंशकालिक
385	बच्चन पासी	कौलापुरनन्दपट्टी	60	पुरुष	अशिक्षित	NO	अनु० जाति	49814	अंशकालिक
386	मथुरा प्रसाद	कौलापुरनन्दपट्टी	55	पुरुष	अशिक्षित	NO	अनु० जाति	19806	अंशकालिक
387	विजय कुमार	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	49853	अंशकालिक
388	जयतुल निशा	कौलापुरनन्दपट्टी	65	महिला	अशिक्षित	NO	पि० जाति	49806	अंशकालिक
389	नसीरुद्दीन	कौलापुरनन्दपट्टी	50	पुरुष	अशिक्षित	NO	पि० जाति	49452	अंशकालिक
390	जाहिद	कौलापुरनन्दपट्टी	32	पुरुष	अशिक्षित	NO	पि० जाति	49480	अंशकालिक
391	कल्लू पासी	कौलापुरनन्दपट्टी	54	पुरुष	अशिक्षित	NO	अनु० जाति	49476	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
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392	अब्दुल रसीद	कौलापुरनन्दपट्टी	35	पुरुष	शिक्षित	NO	अनु० जाति	49812	पूर्णकालिक
393	लहरीराम	पूरेरामसहाय	50	पुरुष	अशिक्षित	NO	अनु० जाति	39010	अंशकालिक
394	राम नाथ	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	39011	थनसस ज्यउम
395	अख्तरी बानो	पूरेरामसहाय	45	महिला	अशिक्षित	NO	पि० जाति	39027	अंशकालिक
396	हीरालाल	पूरेरामसहाय	57	पुरुष	अशिक्षित	NO	अनु० जाति	039009	अंशकालिक
397	हरीलाल	पूरेरामसहाय	54	पुरुष	अशिक्षित	NO	अनु० जाति	039028	अंशकालिक
398	इन्द्रपाल	पूरेरामसहाय	54	पुरुष	अशिक्षित	NO	अनु० जाति	39045	अंशकालिक
399	इस्माइल	पूरेरामसहाय	42	पुरुष	अशिक्षित	NO	पि० जाति	39038	पूर्णकालिक
400	शोभनाथ	पूरेरामसहाय	42	पुरुष	अशिक्षित	NO	अनु० जाति	39034	अंशकालिक
401	युसुफ	पूरेरामसहाय	30	पुरुष	अशिक्षित	NO	पि० जाति	39033	अंशकालिक
402	शान्ती देवी	पूरेरामसहाय	32	महिला	अशिक्षित	NO	अनु० जाति	39031	पूर्णकालिक
403	मो० इद्रीश	पूरेरामसहाय	50	पुरुष	अशिक्षित	NO	पि० जाति	39026	पूर्णकालिक
404	नन्हे लाल	पूरेरामसहाय	50	पुरुष	अशिक्षित	NO	अनु० जाति	39024	अंशकालिक
405	राम नरेश	पूरेरामसहाय	35	पुरुष	शिक्षित	NO	अनु० जाति	39018	अंशकालिक
406	राम आनन्द	पूरेरामसहाय	35	पुरुष	अशिक्षित	NO	अनु० जाति	39012	पूर्णकालिक
407	माअनु० जार्तिन	पूरेरामसहाय	32	पुरुष	अशिक्षित	NO	पि० जाति	39025	अंशकालिक
408	जलील	पूरेरामसहाय	34	पुरुष	अशिक्षित	NO	पि० जाति	39015	पूर्णकालिक
409	जानकी प्रसाद	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	39043	अंशकालिक
410	जगतपाल	पूरेरामसहाय	48	पुरुष	अशिक्षित	NO	अनु० जाति	39046	अंशकालिक
411	बाबू लाल	पूरेरामसहाय	47	पुरुष	अशिक्षित	NO	अनु० जाति	39047	अंशकालिक
412	सीताराम	पूरेरामसहाय	48	पुरुष	अशिक्षित	NO	अनु० जाति	39044	पूर्णकालिक
413	शिखा	पूरेरामसहाय	25	महिला	अशिक्षित	NO	अनु० जाति	39037	अंशकालिक
414	नूर मोहम्मद	पूरेरामसहाय	48	पुरुष	अशिक्षित	NO	पि० जाति	39035	अंशकालिक
415	रामनाथ	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	39032	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
416	कासिम	पूरेरामसहाय	45	पुरुष	अशिक्षित	NO	पि० जाति	39030	अंशकालिक
417	राम मिलन	पूरेरामसहाय	45	पुरुष	अशिक्षित	NO	अनु० जाति	39028	पूर्णकालिक
418	राधेश्याम	पूरेरामसहाय	42	पुरुष	शिक्षित	NO	अनु० जाति	39023	अंशकालिक
419	चन्द्रिका	पूरेरामसहाय	32	पुरुष	अशिक्षित	NO	अनु० जाति	39017	अंशकालिक
420	विश्वनाथ	पूरेरामसहाय	36	पुरुष	अशिक्षित	NO	अनु० जाति	39048	पूर्णकालिक
421	नियाज	पूरेरामसहाय	29	पुरुष	अशिक्षित	NO	पि० जाति	39022	पूर्णकालिक
422	शायरा बानो	पूरेरामसहाय	32	महिला	अशिक्षित	NO	पि० जाति	0118669	अंशकालिक
423	शकीना	पूरेरामसहाय	25	महिला	अशिक्षित	NO	पि० जाति	0119426	अंशकालिक
424	दूधनाथ	पूरेरामसहाय	26	पुरुष	अशिक्षित	NO	अनु० जाति	0119424	पूर्णकालिक
425	आरिफ	पूरेरामसहाय	24	पुरुष	अशिक्षित	NO	पि० जाति	0119416	अंशकालिक
426	भैयाराम	पूरेरामसहाय	36	पुरुष	अशिक्षित	NO	अनु० जाति	0119414	थनसस ज्यउम
427	राम नाथ	पूरेरामसहाय	43	पुरुष	अशिक्षित	NO	अनु० जाति	0119413	अंशकालिक
428	आयशा	पूरेरामसहाय	43	महिला	अशिक्षित	NO	पि० जाति	0119411	अंशकालिक
429	रामनाथ	पूरेरामसहाय	43	पुरुष	अशिक्षित	NO	अनु० जाति	0118667	अंशकालिक
430	द्रौपदी	पूरेरामसहाय	45	महिला	शिक्षित	NO	पि० जाति	0118671	अंशकालिक
431	नन्हकळ	पूरेरामसहाय	50	पुरुष	अशिक्षित	NO	अनु० जाति	0118673	अंशकालिक
432	रामकली	पूरेरामसहाय	48	महिला	अशिक्षित	NO	पि० जाति	0118672	अंशकालिक
433	महारानीदीन	पूरेरामसहाय	42	पुरुष	अशिक्षित	NO	अनु० जाति	0118661	अंशकालिक
434	प्यारे लाल	पूरेरामसहाय	43	पुरुष	अशिक्षित	NO	अनु० जाति	0119406	अंशकालिक
435	बृजलाल	पूरेरामसहाय	43	पुरुष	अशिक्षित	NO	अनु० जाति	0119407	अंशकालिक
436	मिट्टू लाल	पूरेरामसहाय	46	पुरुष	अशिक्षित	NO	अनु० जाति	0119404	अंशकालिक
437	अशोक कुमार	पूरेरामसहाय	29	पुरुष	अशिक्षित	NO	अनु० जाति	0119405	अंशकालिक
438	मोमिना	पूरेरामसहाय	32	महिला	अशिक्षित	NO	पि० जाति	0119401	अंशकालिक
439	श्रीपाल	पूरेरामसहाय	50	पुरुष	अशिक्षित	NO	अनु० जाति	0118699	अंशकालिक
440	हरीलाल	पूरेरामसहाय	42	पुरुष	अशिक्षित	NO	अनु० जाति	0118697	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
441	प्रताप बहादुर	पूरेरामसहाय	30	पुरुष	अशिक्षित	NO	अनु० जाति	0118698	अंशकालिक
442	फूलचन्द्र	पूरेरामसहाय	34	पुरुष	अशिक्षित	NO	अनु० जाति	0118694	अंशकालिक
443	जगजीवन	पूरेरामसहाय	39	पुरुष	शिक्षित	NO	अनु० जाति	0118695	अंशकालिक
444	अकबाल	पूरेरामसहाय	32	पुरुष	अशिक्षित	NO	अनु० जाति	0118691	अंशकालिक
445	मेवालाल	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	0118680	अंशकालिक
446	राम सुमेर	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	0118689	पूर्णकालिक
447	लियाकत अली	पूरेरामसहाय	46	पुरुष	अशिक्षित	NO	अनु० जाति	0118690	अंशकालिक
448	अंगनू सरोज	पूरेरामसहाय	42	पुरुष	अशिक्षित	NO	अनु० जाति	0118683	अंशकालिक
449	जवाहर लाल	पूरेरामसहाय	55	पुरुष	अशिक्षित	NO	अनु० जाति	0118688	अंशकालिक
450	राम अवतार	पूरेरामसहाय	52	पुरुष	अशिक्षित	NO	अनु० जाति	0118685	अंशकालिक
451	पृथ्वीपाल	पूरेरामसहाय	51	पुरुष	अशिक्षित	NO	अनु० जाति	0118686	पूर्णकालिक
452	अच्छे लाल	पूरेरामसहाय	49	पुरुष	अशिक्षित	NO	अनु० जाति	0118684	अंशकालिक
453	श्रीराम	पूरेरामसहाय	43	पुरुष	अशिक्षित	NO	अनु० जाति	0118681	अंशकालिक
454	नोहर लाल	पूरेरामसहाय	48	पुरुष	अशिक्षित	NO	अनु० जाति	0118675	पूर्णकालिक
455	बाबू लाल	पूरेरामसहाय	46	पुरुष	अशिक्षित	NO	अनु० जाति	0118675	पूर्णकालिक
456	गोविन्द	पूरेरामसहाय	29	पुरुष	शिक्षित	NO	अनु० जाति	0118675	अंशकालिक
457	जगन्नाथ	पूरेरामसहाय	54	पुरुष	अशिक्षित	NO	अनु० जाति	0118679	अंशकालिक
458	सुरेश चन्द्र	पूरेरामसहाय	32	पुरुष	अशिक्षित	NO	अनु० जाति	0119410	पूर्णकालिक
459	जगदीश प्रसाद	पूरेरामसहाय	39	पुरुष	अशिक्षित	NO	अनु० जाति	0118668	अंशकालिक
460	किशोरी लाल	पूरेरामसहाय	37	पुरुष	अशिक्षित	NO	अनु० जाति	0118670	पूर्णकालिक
461	राम प्रसाद	पूरेरामसहाय	37	पुरुष	अशिक्षित	NO	अनु० जाति	118659	अंशकालिक
462	नन्हे लाल	मुआर अधारगंज	32	पुरुष	अशिक्षित	NO	अनु० जाति	0118650	अंशकालिक
463	महादेव	मुआर अधारगंज	40	पुरुष	अशिक्षित	NO	अनु० जाति	118633	अंशकालिक
464	रामचन्द्र	मुआर अधारगंज	48	पुरुष	अशिक्षित	NO	अनु० जाति	118651	अंशकालिक
465	आशा देव	मुआर अधारगंज	32	महिला	अशिक्षित	NO	अनु० जाति	18094	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
466	पृथ्वीपाल	मुआर आधारगंज	42	पुरुष	अशिक्षित	NO	अनु० जाति	118636	अंशकालिक
467	कलना	मुआर आधारगंज	32	महिला	अशिक्षित	NO	अनु० जाति	18095	अंशकालिक
468	कु० देवी	मुआर आधारगंज	36	महिला	शिक्षित	NO	अनु० जाति	018093	पूर्णकालिक
469	गेनई	मुआर आधारगंज	36	महिला	अशिक्षित	NO	अनु० जाति	18440	अंशकालिक
470	सुलेमा देवी	मुआर आधारगंज	37	महिला	अशिक्षित	NO	अनु० जाति	18445	अंशकालिक
471	बसिरहा	मुआर आधारगंज	39	पुरुष	अशिक्षित	NO	अनु० जाति	18447	अंशकालिक
472	इसराजी	मुआर आधारगंज	42	महिला	अशिक्षित	NO	अनु० जाति	39002	अंशकालिक
473	परगासी	मुआर आधारगंज	36	पुरुष	अशिक्षित	NO	अनु० जाति	39003	अंशकालिक
474	मंगरू	मुआर आधारगंज	42	पुरुष	अशिक्षित	NO	अनु० जाति	18438	पूर्णकालिक
475	सूर्यकान्त	मुआर आधारगंज	28	पुरुष	अशिक्षित	NO	अनु० जाति	118611	पूर्णकालिक
476	सुनीता देवी	मुआर आधारगंज	39	महिला	अशिक्षित	NO	अनु० जाति	118627	पूर्णकालिक
477	कालू	मुआर आधारगंज	42	पुरुष	अशिक्षित	NO	अनु० जाति	118632	अंशकालिक
478	अजन्तुलनिशा	मुआर आधारगंज	50	महिला	अशिक्षित	NO	पि० जाति	18436	अंशकालिक
479	असीरुननिशा	मुआर आधारगंज	45	महिला	अशिक्षित	NO	पि० जाति	18098	अंशकालिक
480	गीता सिंह	मुआर आधारगंज	43	महिला	शिक्षित	NO	सामान्य	188640	अंशकालिक
481	राम बहादुर	मुआर आधारगंज	36	पुरुष	अशिक्षित	NO	सामान्य	118654	अंशकालिक
482	देवतादीन	मुआर आधारगंज	34	पुरुष	अशिक्षित	NO	अनु० जाति	118648	अंशकालिक
483	फूला देवी	मुआर आधारगंज	46	महिला	अशिक्षित	NO	अनु० जाति	118613	अंशकालिक
484	रजहार अहमद	मुआर आधारगंज	49	पुरुष	अशिक्षित	NO	पि० जाति	1186341	पूर्णकालिक
485	तैयब अली	मुआर आधारगंज	42	पुरुष	अशिक्षित	NO	पि० जाति	118631	पूर्णकालिक
486	सुनीता देवी	मुआर आधारगंज	34	महिला	अशिक्षित	NO	अनु० जाति	118655	अंशकालिक
487	मेवालाल	मुआर आधारगंज	36	पुरुष	अशिक्षित	NO	अनु० जाति	118616	अंशकालिक
488	धर्मादेवी	मुआर आधारगंज	37	महिला	अशिक्षित	NO	अनु० जाति	118620	अंशकालिक
489	राम जतन	मुआर आधारगंज	28	पुरुष	अशिक्षित	NO	अनु० जाति	118652	अंशकालिक
490	नहे लाल	मुआर आधारगंज	36	पुरुष	अशिक्षित	NO	अनु० जाति	1186501	अंशकालिक

Sr. No.	Name of the Artisan	Address	Age	M/ F	Education	Technical Qualification	Cast/ Category	Any Identity (Voter ID/ Adhar/ Bank a/c)	Employment (Full Time/ Part Time)
491	अभिमन्यू	मुआर अधारगंज	37	पुरुष	अशिक्षित	NO	अनु० जाति	118634	पूर्णकालिक
492	ज्वाला प्रसाद	मुआर अधारगंज	39	पुरुष	शिक्षित	NO	अनु० जाति	118653	अंशकालिक
493	विपता	शाहपुर	50	महिला	अशिक्षित	NO	अनु०जाति	18620	अंशकालिक
494	कालू	शाहपुर	55	पुरुष	अशिक्षित	NO	अनु०जाति	18602	अंशकालिक
495	सहदेव	शाहपुर	52	पुरुष	शिक्षित	NO	अनु०जाति	18601	अंशकालिक
496	राम निहोर	शाहपुर	34	पुरुष	अशिक्षित	NO	अनु०जाति	18439	अंशकालिक
497	कर्मादेवी	शाहपुर	38	महिला	शिक्षित	NO	अनु०जाति	18610	अंशकालिक
498	सफीक अहमद	शाहपुर	36	पुरुष	शिक्षित	NO	पि० जाति	18490	अंशकालिक
499	राम नेवाज	शाहपुर	40	पुरुष	शिक्षित	NO	अनु०जाति	18606	अंशकालिक
500	नन्हकूराम	शाहपुर	42	पुरुष	अशिक्षित	NO	अनु०जाति	18644	अंशकालिक
501	रामजतन	खमपुर दूबेपट्टी	25	पुरुष	अशिक्षित	NO	अनु० जाति	051620	अंशकालिक
502	सीता देवी	खमपुर दूबेपट्टी	25	महिला	अशिक्षित	NO	अनु० जाति	051616	अंशकालिक
503	मुरली	खमपुर दूबेपट्टी	28	पुरुष	अशिक्षित	NO	अनु० जाति	51654	अंशकालिक
504	नोहरा देवी	खमपुर दूबेपट्टी	26	महिला	अशिक्षित	NO	अनु० जाति	51604	अंशकालिक
505	मंगरूराम	खमपुर दूबेपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	51634	अंशकालिक
506	छोटे लाल	खमपुर दूबेपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	51608	अंशकालिक
507	रमेश कुमार	खमपुर दूबेपट्टी	24	पुरुष	अशिक्षित	NO	अनु० जाति	51619	पूर्णकालिक
508	रमाशंकर	खमपुर दूबेपट्टी	44	पुरुष	अशिक्षित	NO	अनु० जाति	51612	अंशकालिक
509	बुधिराम	खमपुर दूबेपट्टी	18	पुरुष	अशिक्षित	NO	अनु० जाति	51629	अंशकालिक
510	बंशी लाल	खमपुर दूबेपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	51633	अंशकालिक
511	राम प्यारे	खमपुर दूबेपट्टी	18	पुरुष	शिक्षित	NO	अनु० जाति	95522	अंशकालिक
512	चन्द्र कली	खमपुर दूबेपट्टी	19	महिला	अशिक्षित	NO	अनु० जाति	51747	अंशकालिक
513	राम दुलार	खमपुर दूबेपट्टी	22	पुरुष	अशिक्षित	NO	अनु० जाति	51746	पूर्णकालिक
514	हीरालाल	खमपुर दूबेपट्टी	20	पुरुष	अशिक्षित	NO	अनु० जाति	51618	पूर्णकालिक
515	निर्मला देवी	खमपुर दूबेपट्टी	46	महिला	अशिक्षित	NO	अनु० जाति	51635	पूर्णकालिक



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516	मेवा लाल	खमपुर दूबेपट्टी	18	पुरुष	अशिक्षित	NO	अनु० जाति	51609	अंशकालिक
517	रामपती	खमपुर दूबेपट्टी	24	महिला	अशिक्षित	NO	अनु० जाति	51600	अंशकालिक
518	राम निहोर	खमपुर दूबेपट्टी	26	पुरुष	अशिक्षित	NO	अनु० जाति	51655	अंशकालिक
519	सन्तोषा देवी	खमपुर दूबेपट्टी	24	महिला	अशिक्षित	NO	अनु० जाति	51630	अंशकालिक
520	कृष्ण कुमार	खमपुर दूबेपट्टी	23	पुरुष	अशिक्षित	NO	अनु० जाति	12084	अंशकालिक
521	राम देव	खमपुर दूबेपट्टी	44	पुरुष	अशिक्षित	NO	अनु० जाति	12021	अंशकालिक
522	पन्ना लाल	खमपुर दूबेपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	12029	अंशकालिक
523	डंगर	खमपुर दूबेपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	129398	पूर्णकालिक
524	फूला देवी	खमपुर दूबेपट्टी	26	महिला	अशिक्षित	NO	अनु० जाति	12025	पूर्णकालिक
525	राम खेलावन	खमपुर दूबेपट्टी	27	पुरुष	अशिक्षित	NO	अनु० जाति	12039	अंशकालिक
526	नगेश्वर	खमपुर दूबेपट्टी	30	पुरुष	अशिक्षित	NO	अनु० जाति	1209	अंशकालिक
527	मु० तस्लीम	खमपुर दूबेपट्टी	38	पुरुष	अशिक्षित	NO	पि० जाति	129350	अंशकालिक
528	सन्तोष कुमार	खमपुर दूबेपट्टी	50	पुरुष	अशिक्षित	NO	अनु० जाति	129351	अंशकालिक
529	राम मूर्ति	खमपुर दूबेपट्टी	44	पुरुष	अशिक्षित	NO	अनु० जाति	22083	अंशकालिक
530	राम खेलावन	खमपुर दूबेपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	12081	पूर्णकालिक
531	राम औतार	खमपुर दूबेपट्टी	32	पुरुष	अशिक्षित	NO	अनु० जाति	129400	अंशकालिक
532	झगडूराम	खमपुर दूबेपट्टी	36	पुरुष	अशिक्षित	NO	अनु० जाति	12085	अंशकालिक
533	मंगरू	खमपुर दूबेपट्टी	34	पुरुष	अशिक्षित	NO	अनु० जाति	12210	अंशकालिक
534	शोभा देवी	खमपुर दूबेपट्टी	28	महिला	अशिक्षित	NO	अनु० जाति	129392	अंशकालिक
535	राम सजीवन	खमपुर दूबेपट्टी	48	पुरुष	अशिक्षित	NO	अनु० जाति	129390	अंशकालिक
536	फूलकली	खमपुर दूबेपट्टी	44	महिला	अशिक्षित	NO	अनु० जाति	129394	अंशकालिक
537	भगेलू	खमपुर दूबेपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	129397	अंशकालिक
538	राधेश्याम	खमपुर दूबेपट्टी	44	पुरुष	अशिक्षित	NO	अनु० जाति	129686	अंशकालिक
539	दयाराम	खमपुर दूबेपट्टी	45	पुरुष	अशिक्षित	NO	अनु० जाति	12008	अंशकालिक
540	राम बरन	खमपुर दूबेपट्टी	40	पुरुष	अशिक्षित	NO	अनु० जाति	0129396	अंशकालिक

## **Annexure -2 [Organization Profile]**

1. Copy of Registration Certificate of the IA
2. Copy of Memorandum of Association and Bylaws of IA
3. Copy of Balance Sheet of the IA for last 3 years

संख्या- 2136

दिनांक- 26.7.13



**सोसाइटी के नवीनीकरण का प्रमाण - पत्र**  
(अधिनियम संख्या 21, 1860 के अधीन)



नवीनीकरण संख्या- 843/ 2013-14

फाईल संख्या AL- 8430

एतद्वारा प्रमाणित किया जाता है कि **अभिषेक ग्रामोद्योग सेवा संस्थान**  
**इनवारपुर, पोस्ट- मुजार आधारगंज, प्रतापगढ़**

को दिये गये रजिस्ट्रीकरण प्रमाण-पत्र संख्या- 1558/ 1997-98

दिनांक 22.01.1998 को दिनांक 22.01.2013 से पाँच वर्ष की अवधि के लिए नवीकृत किया गया है।

1400/- रुपये की नवीनीकरण फीस सम्यक् रूप से प्राप्त हो गयी है।

दिनांक- 26.07.2013

*P. K. Singh*  
सोसाइटी के रजिस्ट्रार,  
उत्तर प्रदेश।

स्मृति-पत्र

- 1- संस्था का नाम : अभिन्नक ग्रामोद्योग सेवा संस्थान  
 2- संस्था का पता : बनवार पुर , पो 0 मुआर अधार गंज, प्रतापगढ़  
 3- संस्था का कार्यक्षेत्र : संपूर्ण उत्तर प्रदेश ।  
 4- संस्था का उद्देश्य :-

8/11/97 Abhishek Pandey

11/4/97 सिद्धनारायण

11/97 जयशारदा पाण्डेय

11/97 उमाकान्त बिहारी

11/97 Abhishek

11/97 विष्णुप्रसाद बिहारी

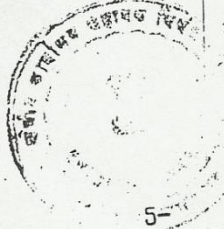
11/97 उज्ज्वलनारायण पाण्डेय

11/97 Abhishek

8/11/97 जयशारदा पाण्डेय

राजेश्वर

8/11/97 सुनील कुमार शर्मा



- 1- संस्था का उद्देश्य कार्यक्षेत्र के ग्रामों में स्वात्मिक की भावना उत्पन्न करते हुए क्षेत्र में सामाजिक एवं चारित्रिक विकास करना ।
- 2- गांधी विचारधारा के अंतर्गत साहित्य के प्रचार और प्रसार द्वारा लोगों को रचनात्मक जीवन को ओर अग्रसर करना ।
- 3- ग्रामोद्योग निवासियों, मजदूरों एवं कारीगरों व कृषकों को ग्रामोद्योग संबंधी जानकारी दिलाने का प्रचार व प्रयास करना ।
- 4- उत्तर प्रदेश खादी एवं ग्रामोद्योग बोर्ड तथा अखिल भारतीय खादी एवं ग्रामोद्योग आयोग की योजनाओं का प्रचार व प्रसार करना तथा उसके प्रोत्साहन की व्यवस्था करना तथा ग्रामोद्योगों को स्थापना-संचालन करना एवं ग्रामोद्योगों को स्थापना व संचालन करना ।
- 5- लोगों के ज्ञानार्जन हेतु पुस्तकालय एवं वाचनालय की स्थापना व संचालन करना ।
- 6- समय-समय पर सांस्कृतिक कार्यक्रम, विचारगोष्ठों, सेमिनार आदि का आयोजन करना ।
- 7- उच्च खादी तथा ग्रामोद्योग बोर्ड/अखिल भारतीय खादी एवं ग्रामोद्योग आयोग/केन्द्रीय/प्रान्तीय सरकार अथवा अन्य किसी भी विदेशी संस्था से उद्देश्यों की पूर्ति हेतु आर्थिक व अन्य प्रकार की सहायता प्राप्त करना एवं उपयोग और समायोजन अदायगी करना । आर्थिक सहायता, ऋण अनुदान प्राप्त हेतु संस्था की चल-अचल संपत्ति तथा अन्य कानूनानुसार पदाधिकारियों को चल-अचल संपत्ति बंधक करना ।

**सत्य प्रतिनिधि**

- 2 पेज

Abhishek Pandey

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प्रबन्धकारिणी समित्त के सदस्यों के नाम, पता, पद एवं व्यवसाय, जिन्की स्था के नियमानुसार कार्यभार स्था गया है:-

क्र०	नाम	पता {ग्राम, पी०, जिला}	पद	व्यवसाय
1-	सिद्ध नारायण मिश्र पुत्र बासुदेव मिश्र	बनवारपुर, मुआरअधारगंज, प्रतापगढ़।	अध्यक्ष	कृषि
2-	उमाकांत द्विवेदी पुत्र लक्ष्मी कान्त	उमराव का पुरवा, नारायण गंज, प्रतापगढ़।	उपाध्यक्ष	.
3-	अभिषेक पाण्डेय पुत्र श्री ओम्पि पाण्डेय	बनवारपुर, मुआरअधारगंज प्रतापगढ़।	मन्त्री	.
4-	सुनील कुमार मेघि पुत्र श्री लालकृष्ण मेघि	लिलहा, रानी गंज, प्रतापगढ़	सदस्य	.
5-	जय नारायण पाण्डेय पुत्र बासुदेव	बनवारपुर, मुआरअधारगंज, प्रतापगढ़।	.	.
6-	जयशंकर कुमार दुबे पुत्र नरेन्द्र देव दुबे	घाटमपुर, गंगुवा, प्रतापगढ़	.	.
7-	रामधारे तिवारी पुत्र दुर्जन तिवारी	तिवारीपुर, गडुवा, प्रतापगढ़	.	.
8-	विजयप्रकाश द्विवेदी पुत्र श्रीमणि	पूरचन्द, जोगारगंज, प्रतापगढ़	.	.
9-	चन्द्रिकाप्रसाद दुबे पुत्र परमेश्वर दीन	दादुपुर, रानी गंज, प्रतापगढ़	.	.
10-	अजयनारायण पाण्डेय पुत्र बासुदेव	बनवारपुर, मुआरअधारगंज, प्रतापगढ़।	.	.
11-	राजमणि तिवारी पुत्र रामेश्वर तिवारी	तिवारीपुर, मुआरअधारगंज, प्रतापगढ़।	.	.



6= हम निम्न हस्ताक्षरकर्ता गण संस्था की उपरोक्त स्मृति-पत्र के अनुसार सीमा  
-इटी व रजिस्ट्रेशन स्वयं, सन् 1860 के अर्थात् रजिस्ट्रेशन कराना चाहते हैं।

दिनांक

हस्ताक्षर

सत्य प्रतिलिपि

18/11/97

प्रतिलिपि कर्ता  
स्थान

*Mohinder Pandey*  
सुनाता कुमार जैय

18/11/97

अजय नारायण पाण्डेय

सिद्ध नारायण

Dubey

जयनारायण पाण्डेय

जयशंकर कुमार दुबे

उमाकांत द्विवेदी

राजमणि

विजयप्रकाश द्विवेदी

Rishwan

सत्य प्रतिलिपि  
9-12-98

निधमावली  
=====

- 1- संस्था का नाम - आभोक ग्रामोपयोग सेवा संस्थान ।  
 2- संस्था का पता - बनवारपुर, पो 0 मुआरअधार गंज, प्रतापगढ़ ।  
 3- संस्था का व्यक्ती - संपूर्ण उत्तर प्रदेश ।  
 4- संस्था की स्वरूपता तथा स्वरुपों के वर्ग :-

18/11/97- Abhishek Pandey

आजीवन स्वरुप :-

जो व्यक्ती संस्था को एक बार में 201/- रुपये नकद या इतने ही मूल्य की चल या अचल संपत्ति निःस्वार्थभाव से देगा, वह आजीवन स्वरुप होगा

18/11/97- सिद्ध नारायण

सामान्य स्वरुप :-

जो व्यक्ती संस्था के उद्देश्यों में आस्था रखते होंगे व संस्था को 21/- रुपये स्वरुपता शुल्क देंगे, वे सामान्य स्वरुप होंगे ।

18/11/97- जयनारायण पाण्डेय

18/11/97- उभावा नाडिवा

18/11/97- Rohit

18/11/97- विजयकाश मिश्रा

5- स्वरुपता की समाप्ति :-

18/11/97- उभावा नाडिवा



- 1- मृत्यु हो जाने पर
- 2- पतन या दिवांगत हो जाने पर ।
- 3- संस्था के विरोधी कार्य करने पर ।
- 4- त्याग पत्र या अधिष्ठाता प्रस्ताव पंजीरत होने पर
- 5- लगातार तीन बैठकों में अनुपस्थित रहने पर ।
- 6- नियमित रूप से स्वरुपता शुल्क न देने पर ।

18/11/97- Dubey

18/11/97- जयलाल मुंगेर 6= संस्था के अंग :-

18/11/97-

- अ- साधारण तम्भ ।
- ब- प्रबंधकारणों समाप्त ।

7= साधारण तम्भ :-

राजमनि

18/11/97 मुन्नाल मुंगेर

गण :-

साधारण तम्भ को गण सभी प्रकार के स्वरुपों को मिलाकर दिया जायेगा ।

बैठके :-

साधारण तम्भ को सामान्य बैठक ताल में एक बार व विशेष बैठक आवश्यकतानुसार विस्तार भी समय बुलाई जा सकती है ।

स्वरुप प्रतिलिपि

- 20 ज

सहायक रजिस्ट्रार  
सोसाइटीज तथा चिट्ठे  
24-9-98

= 2 =

सूचना अवधि:-

प्रबंधकारणी समिति को सामान्य बैठक को सूचना सभी सदस्यों को कम से कम 15 दिन पूर्व व विशेष बैठक को सूचना 7 दिन पूर्व देना अनिवार्य होगा।

18/11/97 Mohishet Pandey गणपूर्ति :-

साधारण सभा को गणपूर्ति हेतु कुल सदस्य संख्या का 2/3 बहुमत कोरम होगा।  
को तिथि :-

18/11/97 सिद्ध नारायण वा. र्षिक अधिवेशन

18/11/97 जयनारायण पांडेय

साधारण सभा का वा. र्षिक अधिवेशन साल में एक बार होगा, जिसको तिथि प्रबंधकारणी समिति के 2/3 सदस्यों के बहुमत द्वारा तय को जायेगा।

18/11/97 उमाकांत शिंदे

18/11/97 Ritwik

साधारण सभा के कार्य :-

18/11/97 विठ्ठलकाश हिबे

- 1- प्रबंधकारणी समिति का चुनाव करना।
- 2- संस्था का वा. र्षिक रिपोर्ट पास करना।
- 3- संस्था का वा. र्षिक बजट पास करना।
- 4- संशोधित, परिवर्तन एवं परिवर्धन साधारण सभा के 2/3 सदस्यों के बहुमत से करना।

18/11/97 डा. ज. नारायण पांडेय

8= प्रबंधकारणी समिति :-

गठन :-

18/11/97 Debag

प्रबंधकारणी का गठन साधारण सभा द्वारा निर्वाचित सदस्यों को मिलाकर को जायेगी, जिसमें अध्यक्ष-एक, उप-अध्यक्ष-एक, मंत्री-एक तथा आ. सदस्य होंगे। कुल संख्या ग्यारह होगी।

जयलक्ष्मण शिंदे

18/11/97

बैठके :-

राजमाने

प्रबंधकारणी समिति को सामान्य बैठक साल में चार बार व विशेष बैठक आवश्यकतानुसार किसी भी समय बुलाई जा सकता है।

18/11/97 सुनील कुमार मोदी

सूचनावधि:-

प्रबंधकारणी समिति को सामान्य बैठक को सूचना सभी सदस्यों व पदाधिकारियों को कम से कम 7 दिन पूर्व व विशेष बैठक को सूचना 3 दिन पूर्व भेजी जायेगी

सत्य प्रतिनिधि

[Signature]  
सहायक सचिव  
कुल सोसाइटी का सचिव  
७.११.९७

गमृति:-

प्रबंधकारणी समिति की गमृति हेतु कुल सदस्य संख्या का 2/3 बहुमत, कोरम होगा।

रिक्त स्थानों को पूर्ति -

प्रबंधकारणी समिति के अन्दर रिक्त स्थानों पर उसकी पूर्ति साधारण सभा के 2/3 सदस्यों बहुमत द्वारा शेष काल के लिए की जायेगी।

18/11/97 *Atishah Bandy*

18/11/97 *रिक्त-नारायण*

18/11/97 *जयनारायण पाण्डेय*

18/11/97 *उमा शर्मा*

18/11/97 *Rohit*

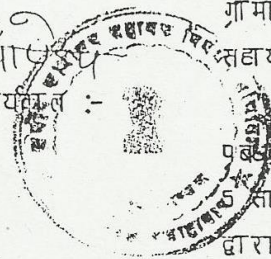
18/11/97 *विनयकाश शिवदी*

प्रबंधकारणी समिति के कर्तव्य :-

- 1- संस्था के विकास हेतु आवश्यक कार्य करना
- 2- संस्था का वार्षिक बजट तैयार करना।
- 3- संस्था का वार्षिक रिपोर्ट तैयार करना।
- 4- राज्य सरकार, केन्द्र सरकार, छादों ग्रामोद्योग बोर्ड/ग्रामोद्योग आयोग से आर्थिक सहायता प्राप्त करना।

18/11/97 *उजय नारायण पाण्डेय*

कार्यकाल :-



प्रबंधकारणी समिति का कार्यकाल 5 साल को हिसाब 5 साल पूर्ण होने से एक माह पूर्व साधारण सभा द्वारा पुनः चुनाव कराया जायेगा।

18/11/97 *Padubay*

प्रबंधकारणी समिति के पदाधिकारियों के अधिकार एवं कर्तव्य :-

*जयनारायण पाण्डेय*

18/11/97

*राजमणि*

18/11/97 *सुनाल कुमार*

अध्यक्ष :-

- 1- समस्त बैठकों को अध्यक्षता करना।
- 2- बैठकों के लिए दिनांकों का अनुमोदन करना परिवर्तन करना तथा बैठकों को स्थगित करना।
- 3- समान मत होने पर एक निर्णायक मत देना।
- 4- संस्था के विकास हेतु आवश्यक कार्य करना।
- 5- प्रबंधकारणी समिति के निर्णयों को कार्यान्वित करना।

उपाध्यक्ष :-

- 1- संस्था का उपमुख्य कार्यपालक अधिकारी होगा।
- 2- प्रबंधकारणी समिति के निर्णयों को कार्यान्वित करना।

मंत्री :-

- 1- पारित बजट के अंतर्गत व्यय को त्वीकृत देना समस्त विल एवं बाउचरों पर हस्ताक्षर करना
- 2- राजकीय सहायता अर्ह अनुदान प्राप्त करना।

सत्य प्रतिलिपि

*सहायक रजिस्ट्रार*

*राज्य सहायता एवं विकास विभाग*

*18/11/97*

- अपेक्ष



14/11/92- Abhishek Pandey

31/11/92- सिद्धेश्वर राय

31/11/92- जयनारायण पांडेय

31/11/92- उमा कान्त सिंघा

31/11/92- विनयकान्त सिंघा

31/11/92- अजायबारायण पांडेय

Pdibay

अजायबारायण

राजमनि

31/11/92 सुनाल सुगा



4- सामाजिक की स्वीकृत की प्रत्याशा में 500/= तक व्यय करने के लिए रखना ।

5- संस्था को और से समस्त पत्र व्यय द्वारा करना

6- आद-व्यय का लेखा जोखा करना ।

7- बैंकों को सूचना सदस्यों को गिलाखत रूप में देना ।

8- बैंकों को कार्यवाही लिपिबद्ध करना व सुनिश्चित

9- सदस्यों का नाम सदस्यता रजिस्टर पर नोट करना ।

10- संस्था के आडिट की व्यवस्था करना ।

11- संस्था को और से अदावती कार्यवाही हो करना

12- दान, चन्दा प्राप्त करना तथा उतको रसीद देना ।

13- संस्था को चल एवं अचल संपत्ति को देख-रेख एवं सुरक्षा करना ।

14- संस्थान के विकास हेतु अन्य से कार्य कराया जो संस्था के लिए आवश्यक होंगा ।

10- संस्था के नियमों एवं विनियमों में संशोधन :-

संस्था के नियमों एवं विनियमों में संशोधन प्रीक्या विशेष आचारण सभा के 2/3 सदस्यों के बहुमत द्वारा की जायेगी ।

11- संस्था का कोष :-

संस्था का समस्त कोष किसी मान्यता प्राप्त बैंक या पोस्ट ऑफिस में संस्था के नाम से खता खोलकर जमा किया जायेगा, जिसका आचरण अध्यक्ष/मंत्रो द्वारा किया जायेगा ।

12- संस्था के आद-व्यय का लेखा परीक्षण :-

संस्था के आद-व्यय का लेखा परीक्षण धारा-23 के अन्तर्गत की जायेगी ।

13- संस्था के द्वारा अथवा उसके विश्व अदावती कार्यवाही के संघर्ष का उत्तरदायित्व :-

संस्था द्वारा होने वाले पक्ष-विपक्ष के मुद्दनों को परची अर्द्ध या उसके द्वारा अधिवृत्त अन्त गिराव व्ययित्त द्वारा की जायेगी ।

सत्य प्रतिलिपि

-54 ज.

[Signature]

सहायक रजिस्ट्रार

24/11/92

14= संस्था के अधिकार :-

- अ- सदस्यता रजिस्टर ।
- ब- कार्यवाही रजिस्टर
- स- स्टॉक रजिस्टर
- द- कैश बुक आदि

15 = विघटन :-

संस्था के विघटन और विघटित संघों के निस्तारण को कार्यवाही रजिस्ट्रेशन अधिनियम की धारा 13 व 14 के अंतर्गत को जायेगी ।

16 = संपत्ति का दायित्व :-

अ- यदि संस्था खादों ग्रामोद्योग बोर्ड / खादों ग्रामोद्योग आयोग से ऋण हेतु आवेदन करती है तो उनका संपूर्ण उत्तरदायित्व प्रबंधक विभागों सीमांत पर होगा , चाहे वे अपनी सदस्यता से पृथक् ही क्यों न हो गये हों , जब तक ऋण को पूर्ण अदायगी न हो जाये ।

ब- जिस मद के तहत संस्था ऋण प्राप्त करेगी , उसी मद में धन व्यय किया जायेगा ।

स- संस्था ऋण प्राप्त करने हेतु सोसाइटीज रजिस्ट्रेशन की धारा 5 § 8 के अनुसार ऋणदाता के पास अपनी चल-अचल संपत्ति रखेगा । जिसको अनुमत कोर्ट से लेनी अनिवार्य होगी ।



दिनांक:

- 18/11/97
- 18/11/97
- 18/11/97
- 18/11/97
- 18/11/97
- 18/11/97
- 18/11/97
- 18/11/97

सत्य प्रतिलिपि

सहायक रजिस्ट्रार  
सोसाइटीज विभाग  
25-2-98

हस्ताक्षर सत्य प्रतिलिपि

Abhishek Pandey  
सिद्धेश्वर राय

मुनिंद्र कुमार शर्मा  
18/11/97

अध्यापक पाण्डेय  
उमा कान्ता डिवी.

प्रतिपिपि  
25/2/98

उज्जयिनी राय सांपाण्डेय  
Rajmani

विनय कान्ता डिवी

Poli Bay

अथर्व कुमार डिवी  
- राजमनि

**Annexure -3 [Audited Reports]**

**ABHISHEK GRAMODHYOG SEWA SANSTHAN**

**BANWARPUR, MUAR ADHARGANJ  
PRATAPGARH, (U.P.)-230304**

**Balance Sheet as at 31<sup>st</sup> March 2014**

**Auditor**

**Umesh Lamba & Co.  
Chartered Accountants  
Near Durga Mandir, Balipur  
Pratapgarh, (U.P.)- 230001  
Phone (Off.)- 05342-221941  
Mob. +91-9452542941,9839202941  
Email: carameshshukla@gmail.com**

**UMESH LAMBA & CO.**  
CHARTERED ACCOUNTANTS



**B.O. – Near Durga Mandir, Balipur  
Pratapgarh (U.P.) – 230001  
Phone (Off.)- 05342221941  
Mobile. No. +919452542941  
E-Mail: [carameshshukla@gmail.com](mailto:carameshshukla@gmail.com)  
H.O. - 25/51, M.G. Marg  
Civil Lines, Allahabad (U.P.) – 211001  
E-Mail: [umesh.lamba@rediffmail.com](mailto:umesh.lamba@rediffmail.com)**

**FORM NO. 10B**

[See rule 17B]

**Audit report under section 12A(b) of the Income-tax Act, 1961, in the case of  
charitable or religious trusts or institutions**

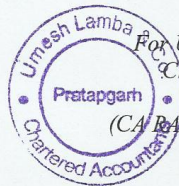
I/We have examined the balance sheet of **ABHISHEK GRAMOUDHYOG SEWA  
SANSTHAN, BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)-  
230304** as at 31-03-2014 and the Profit and loss account for the year ended on that date  
which are in agreement with the books of account maintained by the said institution

I/We have obtained all the information and explanations which to the best of my/our  
knowledge and belief were necessary for the purposes of the audit. In my/our opinion,  
proper books of account have been kept by the head office and the branches of the above  
named institution visited by me/us so far as appears from my/our examination of the  
books, and proper Returns adequate for the purposes of audit have been received from  
branches not visited by \* me/us, subject to the comments given below:

In \* my/our opinion and to the best of \* my/our information, and according to  
information given to \* me/us, the said accounts give a true and fair view-

- (i) in the case of the balance sheet, of the state of affairs of the above named \*  
trust/institution as at 31-03-2014 and
- (ii) in the case of the profit and loss account, of the profit or loss of its accounting year  
ending on 31-03-2014.

The prescribed particulars are annexed hereto.



**UMESH LAMBA & CO.**  
Chartered Accountants

*P. Shukla*  
(CA) **RAMESH KUMAR SHUKLA**

Partner  
M. No. 411060

Place: Pratapgarh  
Date: 12-07-2014

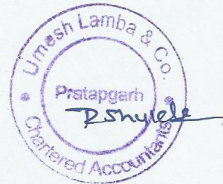
Signed  
Accountant †

*ANNEXURE*

**STATEMENT OF PARTICULARS**

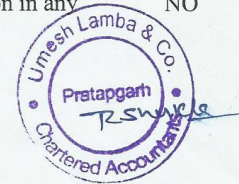
**I. APPLICATION OF INCOME FOR CHARITABLE OR RELIGIOUS PURPOSES**

1. Amount of income of the previous year applied to charitable or religious purposes in India during that year Rs.89,61,472.00
2. Whether the trust/institution \* has exercised the option under clause (2) of the Explanation to section 11(1) ? If so, the details of the amount of income deemed to have been applied to charitable or religious purposes in India during the previous year NO
3. Amount of income accumulated or set apart\* /finally set apart for application to charitable or religious purposes, to the extent it does not exceed 25 per cent of the income derived from property held under trust wholly \* /in part only for such purposes. NIL
4. Amount of income eligible for exemption under section 11(1)(c) (Give details) NIL
5. Amount of income, in addition to the amount referred to in item 3 above, accumulated or set apart for specified purposes under section 11(2) NIL
6. Whether the amount of income mentioned in item 5 above has been invested or deposited in the manner laid down in section 11(2)(b) ? If so, the details thereof N.A.
7. Whether any part of the income in respect of which an option was exercised under clause (2) of the Explanation to section 11(1) in any earlier year is deemed to be income of the previous year under section 11(1B) ? If so, the details thereof NO
8. Whether, during the previous year, any part of income accumulated or set apart for specified purposes under section 11(2) in any earlier year-  
(a) has been applied for purposes other than charitable or religious purposes or has ceased to be accumulated or set apart for application thereto, or NO  
(b) has ceased to remain invested in any security referred to in section 11(2)(b)(i) or deposited in any account referred to in section 11(2)(b)(ii) or section 11(2)(b)(iii), or N.A.  
(c) has not been utilised for purposes for which it was accumulated or set apart during the period for which it was to be accumulated or set apart, or in the year immediately following the expiry thereof? If so, the details thereof N.A.



**II. APPLICATION OR USE OF INCOME OR PROPERTY FOR THE BENEFIT OF PERSONS REFERRED TO IN SECTION 13(3)**

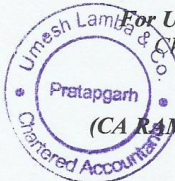
1. Whether any part of the income or property of the \* trust/institution was lent, or continues to be lent, in the previous year to any person referred to in section 13(3) (hereinafter referred to in this Annexure as such person)? If so, give details of the amount, rate of interest charged and the nature of security, if any NO
2. Whether any land, building or other property of the \* trust/institution was made, or continued to be made, available for the use of any such person during the previous year? If so, give details of the property and the amount of rent or compensation charged, if any NO
3. Whether any payment was made to any such person during the previous year by way of salary, allowance or otherwise? If so, give details NO
4. Whether the services of the \* trust/institution were made available to any such person during the previous year? If so, give details thereof together with remuneration or compensation received, if any NO
5. Whether any share, security or other property was purchased by or on behalf of the \* trust/institution during the previous year from any such person? If so, give details thereof together with the consideration paid NO
6. Whether any share, security or other property was sold by or on behalf of the \* trust/institution during the previous year to any such person? If so, give details thereof together with the consideration received NO
7. Whether any income or property of the \* trust/institution was diverted during the previous year in favour of any such person? If so, give details thereof together with the amount of income or value of property so diverted NO
8. Whether the income or property of the \* trust/institution was used or applied during the previous year for the benefit of any such person in any other manner? If so, give details NO



**III. INVESTMENTS HELD AT ANY TIME DURING THE PREVIOUS YEAR(S)  
IN CONCERNS IN WHICH PERSONS REFERRED TO IN SECTION 13(3)  
HAVE A SUBSTANTIAL INTEREST**

Sl. No.	Name and address of the concern	Where the concern is a company, number and class of shares held	Nominal value of the investment	Income from the investment	Whether the amount in col. 4 exceeded 5 per cent of the capital of the concern during the previous year-say, Yes/No
1	2	3	4	5	6
Total	NIL	NIL	NIL	NIL	NIL

Place: Pratapgarh  
Date: 12-07-2014


**For UMESH LAMBA & CO.**  
 Chartered Accountants  
*rsnucle*  
**(CA RAMESH KUMAR SHUKLA)**  
 Partner  
 M. No. 411060

Signed  
Accountant

**ABHISHEK GRAMODHYOG SEWA SANSTHAN**  
**BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304**

**STATEMENT OF AFFAIRS AS AT 31.03.2014**

<b>LIABILITIES</b>		<b>AMOUNT (Rs)</b>
<b>CAPITAL FUND &amp; LIABILITIES</b>		
<b>CAPITAL/GENERAL FUND</b>		
Opening Balance		5,524,304.70
Add: Income Over Expenditure		491,438.00
Less: Depreciation Contra		222,209.00
		<u>5,793,533.70</u>
<b>TOTAL</b>		<u><b>5,793,533.70</b></u>
<b>ASSETS</b>		
<b>FIXED ASSETS</b>		
<b>Land Development &amp; Building</b>	1,603,880.00	
Add: Addition	-	
Less: Depreciation @ 10% p.a.	<u>160,388.00</u>	1,443,492.00
<b>Plant, Machinery &amp; Equipments</b>	412,139.00	
Less: Depreciation @ 15% p.a.	<u>61,821.00</u>	350,318.00
<b>CURRENT ASSETS</b>		
Closing Stock (As valued and verified by the management)		3,227,860.00
Sundry Debtors		755,417.70
Bank Balance		1,604.00
Cash In Hand		14,842.00
<b>TOTAL</b>		<u><b>5,793,533.70</b></u>

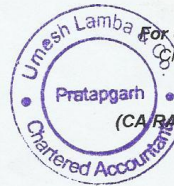
For ABHISHEK GRAMODHYOG SEWA SANSTHAN

*Umesh*

**Auditor's Report**

As per our separate report of even date annexed.

Date: 12-07-2014  
Place: Pratappgarh


 For **UMESH LAMBA & Co.**  
 Chartered Accountants  
*R. Shukla*  
**(CA) RAMESH KUMAR SHUKLA**  
 Partner  
 M. No. 411060



**ABHISHEK GRAMOUDHYOG SEWA SANSTHAN**  
**BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304**

**INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED AS ON 31-03-2014**

PARTICULARS	AMOUNT (Rs.)
<b>INCOME</b>	
Membership Fees	4,890.00
Sales of Finished Goods & Stock	7,710,908.00
Receipts From Service Charges For Processing & Preservation of Foods & Vegetables	1,245,329.00
Increase In Stock	281,540.00
<b>TOTAL</b>	<b>9,242,667.00</b>
<b>EXPENDITURE</b>	
Honorarium to Trainees & Workers	748,000.00
AIDS Awareness Program	12,897.00
Bank Charges	245.00
Environment Awareness Program	16,748.00
Exhibition of Khadi Gram Udyog	45,630.00
Purchases of Materials	7,354,678.00
Farmers Training & Land Fertility Improved	19,342.00
Food Processing Training Program	176,850.00
Miscellaneous Expenses	17,865.00
National Intregation	11,023.00
Office Expenses	20,134.00
Power & Fuel Expenses	165,740.00
Printing & Stationary Expenses	6,745.00
Professional Charges	2,500.00
Refreshment for Trainees & Workers	25,648.00
Seminar on Industrial Development	10,254.00
Telephone Expenses	3,190.00
Traditional Medicine Camp	8,750.00
Training Workshop For Workers	40,235.00
Travelling & Conveyance Expenses	17,865.00
Vocational Training For Youths	22,354.00
Women Welfare/Empowerment Program	24,536.00
<b>TOTAL</b>	<b>8,751,229.00</b>
Expenditure over Income transferred to General Fund A/c	491,438.00
	<b>9,242,667.00</b>

For ABHISHEK GRAMOUDHYOG SEWA SANSTHAN

**Auditor's Report**

As per our separate report of even date annexed.

*(Handwritten Signature)*

Date: 12-07-2014  
Place: Pratapgarh


**For UMESH LAMBA & Co.**  
 Chartered Accountants  
*(Handwritten Signature)*  
**(CA RAMESH KUMAR SHUKLA)**  
 Partner  
 M. No. 411060

**ABHISHEK GRAMOUDHYOG SEWA SANSTHAN  
BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304**

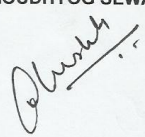
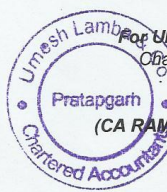
**RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED AS ON 31-03-2014**

RECEIPTS	AMOUNT (Rs.)	PAYMENTS	AMOUNT (Rs.)
<b>Opening Balances</b>		<b>Payment During the year</b>	
Cash at Bank	5,849.00	Honorarium to Trainees & Workers	748,000.00
Cash In Hand	10,942.00	AIDS Awareness Program	12,897.00
<b>Receipts During the year</b>		Bank Charges	245.00
Membership Fees	4,890.00	Environment Awareness Program	16,748.00
Sales of Finished Goods & Stock	7,710,908.00	Exhibition of Khadi Gram Udyog	45,630.00
Receipts From Service Charges For Processing & Preservation of Foods & Vegetables	1,245,329.00	Purchases of Materials	7,354,678.00
		Farmers Training & Land Fertility Improved	19,342.00
		Food Processing Training Program	176,850.00
		Miscellaneous Expenses	17,865.00
		National Intregation	11,023.00
		Office Expenses	20,134.00
		Power & Fuel Expenses	165,740.00
		Printing & Stationary Expenses	6,745.00
		Professional Charges	2,500.00
		Refreshment for Trainees & Workers	25,648.00
		Seminar on Industrial Development	10,254.00
		Telephone Expenses	3,190.00
		Traditional Medicine Camp	8,750.00
		Training Workshop For Workers	40,235.00
		Travelling & Conveyance Expenses	17,865.00
		Vocational Training For Youths	22,354.00
		Women Welfare/Empowerment Program	24,536.00
		Increase in Sundry Debtors	210,243.00
		<b>Closing Balances</b>	
		Cash at Bank	1,604.00
		Cash In Hand	14,842.00
	<b>8,977,918.00</b>		<b>8,977,918.00</b>

For ABHISHEK GRAMOUDHYOG SEWA SANSTHAN

**Auditor's Report**

As per our separate report of even date annexed.

  

**UMESH LAMBA & Co.**  
 Chartered Accountants  
 Pratapgarh  
**(CA RAMESH KUMAR SHUKLA)**  
 Partner  
 M. No. 411060

Date: 12-07-2014  
Place: Pratapgarh

**ABHISHEK GRAMODHYOG SEWA SANSTHAN**

**BANWARPUR, MUAR ADHARGANJ  
PRATAPGARH, (U.P.)-230304**

**Balance Sheet as at 31<sup>st</sup> March 2013**

**Auditor**

**Umesh Lamba & Co.  
Chartered Accountants  
Near Durga Mandir, Balipur  
Pratapgarh, (U.P.)- 230001  
Phone (Off.)- 05342-221941  
Mob. +91-9452542941,9839202941  
Email: carameshshukla@gmail.com**

**UMESH LAMBA & CO.**  
CHARTERED ACCOUNTANTS



**B.O. – Near Durga Mandir, Balipur  
Pratapgarh (U.P.) – 230001  
Phone (Off.)- 05342221941  
Mobile. No. +919452542941  
E-Mail: [carameshshukla@gmail.com](mailto:carameshshukla@gmail.com)  
H.O. - 25/51, M.G. Marg  
Civil Lines, Allahabad (U.P.) – 211001  
E-Mail: [umesh.lamba@rediffmail.com](mailto:umesh.lamba@rediffmail.com)**

**FORM NO. 10B**

[See rule 17B]

**Audit report under section 12A(b) of the Income-tax Act, 1961, in the case of  
charitable or religious trusts or institutions**

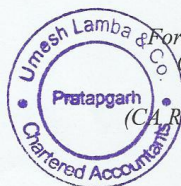
I/We have examined the balance sheet of ABHISHEK GRAMOUDHYOG SEWA SANSTHAN, BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304 as at 31-03-2013 and the Profit and loss account for the year ended on that date which are in agreement with the books of account maintained by the said institution

I/We have obtained all the information and explanations which to the best of my/our knowledge and belief were necessary for the purposes of the audit. In my/our opinion, proper books of account have been kept by the head office and the branches of the above named institution visited by me/us so far as appears from my/our examination of the books, and proper Returns adequate for the purposes of audit have been received from branches not visited by \* me/us, subject to the comments given below:

In \* my/our opinion and to the best of \* my/our information, and according to information given to \* me/us, the said accounts give a true and fair view-

- (i) in the case of the balance sheet, of the state of affairs of the above named \* trust/institution as at 31-03-2013 and
- (ii) in the case of the profit and loss account, of the profit or loss of its accounting year ending on 31-03-2013.

The prescribed particulars are annexed hereto.



For UMESH LAMBA & CO.  
Chartered Accountants

*R. Shukla*  
(CA RAMESH KUMAR SHUKLA)

Partner  
M. No. 411060

Place: Pratapgarh  
Date: 15-06-2013

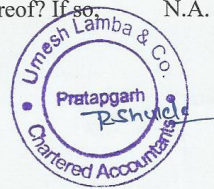
Signed  
Accountant †

*ANNEXURE*

**STATEMENT OF PARTICULARS**

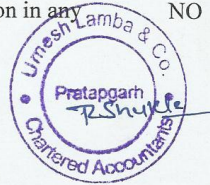
**I. APPLICATION OF INCOME FOR CHARITABLE OR RELIGIOUS PURPOSES**

1. Amount of income of the previous year applied to charitable or religious purposes in India during that year Rs.86,81,403.00
2. Whether the trust/institution \* has exercised the option under clause (2) of the Explanation to section 11(1) ? If so, the details of the amount of income deemed to have been applied to charitable or religious purposes in India during the previous year NO
3. Amount of income accumulated or set apart\* /finally set apart for application to charitable or religious purposes, to the extent it does not exceed 25 per cent of the income derived from property held under trust wholly \* /in part only for such purposes. NIL
4. Amount of income eligible for exemption under section 11(1)(c) (Give details) NIL
5. Amount of income, in addition to the amount referred to in item 3 above, accumulated or set apart for specified purposes under section 11(2) NIL
6. Whether the amount of income mentioned in item 5 above has been invested or deposited in the manner laid down in section 11(2)(b) ? If so, the details thereof N.A.
7. Whether any part of the income in respect of which an option was exercised under clause (2) of the Explanation to section 11(1) in any earlier year is deemed to be income of the previous year under section 11(1B) ? If so, the details thereof NO
8. Whether, during the previous year, any part of income accumulated or set apart for specified purposes under section 11(2) in any earlier year-  
(a) has been applied for purposes other than charitable or religious purposes or has ceased to be accumulated or set apart for application thereto, or NO  
(b) has ceased to remain invested in any security referred to in section 11(2)(b)(i) or deposited in any account referred to in section 11(2)(b)(ii) or section 11(2)(b)(iii), or N.A.  
(c) has not been utilised for purposes for which it was accumulated or set apart during the period for which it was to be accumulated or set apart, or in the year immediately following the expiry thereof? If so, the details thereof N.A.



**II. APPLICATION OR USE OF INCOME OR PROPERTY FOR THE BENEFIT OF PERSONS REFERRED TO IN SECTION 13(3)**

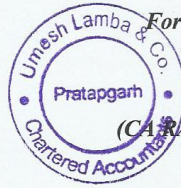
1. Whether any part of the income or property of the \* trust/institution was lent, or continues to be lent, in the previous year to any person referred to in section 13(3) (hereinafter referred to in this Annexure as such person)? If so, give details of the amount, rate of interest charged and the nature of security, if any NO
2. Whether any land, building or other property of the \* trust/institution was made, or continued to be made, available for the use of any such person during the previous year? If so, give details of the property and the amount of rent or compensation charged, if any NO
3. Whether any payment was made to any such person during the previous year by way of salary, allowance or otherwise? If so, give details NO
4. Whether the services of the \* trust/institution were made available to any such person during the previous year? If so, give details thereof together with remuneration or compensation received, if any NO
5. Whether any share, security or other property was purchased by or on behalf of the \* trust/institution during the previous year from any such person? If so, give details thereof together with the consideration paid NO
6. Whether any share, security or other property was sold by or on behalf of the \* trust/institution during the previous year to any such person? If so, give details thereof together with the consideration received NO
7. Whether any income or property of the \* trust/institution was diverted during the previous year in favour of any such person? If so, give details thereof together with the amount of income or value of property so diverted NO
8. Whether the income or property of the \* trust/institution was used or applied during the previous year for the benefit of any such person in any other manner? If so, give details NO



**III. INVESTMENTS HELD AT ANY TIME DURING THE PREVIOUS YEAR(S)  
IN CONCERNS IN WHICH PERSONS REFERRED TO IN SECTION 13(3)  
HAVE A SUBSTANTIAL INTEREST**

Sl. No.	Name and address of the concern	Where the concern is a company, number and class of shares held	Nominal value of the investment	Income from the investment	Whether the amount in col. 4 exceeded 5 per cent of the capital of the concern during the previous year-say, Yes/No
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
Total	NIL	NIL	NIL	NIL	NIL

Place: Pratapgarh  
Date: 15-06-2013



For **UMESH LAMBA & CO.**  
Chartered Accountants

*R. Shukla*

(CA **RAMESH KUMAR SHUKLA**)

Partner  
M. No. 411060

Signed  
Accountant

**ABHISHEK GRAMODHYOG SEWA SANSTHAN**  
**BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304**

**STATEMENT OF AFFAIRS AS AT 31.03.2013**

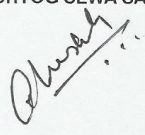
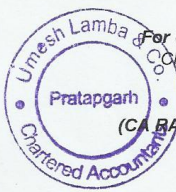
<b>LIABILITIES</b>		<b>AMOUNT (Rs)</b>
<b>CAPITAL FUND &amp; LIABILITIES</b>		
<b>CAPITAL/GENERAL FUND</b>		
Opening Balance		5,284,958.70
Add: Income Over Expenditure		490,286.00
Less: Depreciation Contra		250,940.00
		<u>5,524,304.70</u>
<b>TOTAL</b>		<u><b>5,524,304.70</b></u>
<b>ASSETS</b>		
<b>FIXED ASSETS</b>		
<b>Land Development &amp; Building</b>		
Add: Addition	1,782,089.00	
Less: Depreciation @ 10% p.a.	<u>178,209.00</u>	1,603,880.00
<b>Plant, Machinery &amp; Equipments</b>		
Less: Depreciation @ 15% p.a.	<u>484,870.00</u>	412,139.00
	<u>72,731.00</u>	
<b>CURRENT ASSETS</b>		
Closing Stock (As valued and verified by the management)		2,946,320.00
Sundry Debtors		545,174.70
Bank Balance		5,849.00
Cash In Hand		<u>10,942.00</u>
<b>TOTAL</b>		<u><b>5,524,304.70</b></u>

For ABHISHEK GRAMODHYOG SEWA SANSTHAN

**Auditor's Report**

As per our separate report of even date annexed.

Date: 15-06-2013  
 Place: Pratapgarh

  

 For **UMESH LAMBA & Co.**  
 Chartered Accountants  
**R. Shukla**  
 (CA RAMESH KUMAR SHUKLA)  
 Partner  
 M. No. 411060



**ABHISHEK GRAMOUDHYOG SEWA SANSTHAN**  
**BANWARPUR, MUAR ADHARGANJ, PRATAPGARH, (U.P.)- 230304**

**INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED AS ON 31-03-2013**

PARTICULARS	AMOUNT (Rs.)
<b>INCOME</b>	
Membership Fees	4,551.00
Sales of Finished Goods & Stock	7,689,706.00
Receipts From Service Charges For Processing & Preservation of Foods & Vegetables	987,650.00
Increase In Stock	120,908.00
<b>TOTAL</b>	<b>8,802,815.00</b>
<b>EXPENDITURE</b>	
Honorarium to Trainees & Workers	618,000.00
AIDS Awareness Program	11,908.00
Bank Charges	120.00
Environment Awareness Program	15,745.00
Exhibition of Khadi Gram Udyog	42,630.00
Purchases of Materials	7,124,010.00
Farmers Training & Land Fertility Improved	18,194.00
Food Processing Training Program	143,630.00
Miscellaneous Expenses	16,750.00
National Intregation	10,234.00
Office Expenses	18,975.00
Power & Fuel Expenses	146,750.00
Printing & Stationary Expenses	5,674.00
Professional Charges	2,500.00
Refreshment for Trainees & Workers	24,530.00
Seminar on Industrial Development	9,456.00
Telephone Expenses	2,895.00
Traditional Medicine Camp	7,854.00
Training Workshop For Workers	37,860.00
Travelling & Conveyance Expenses	15,630.00
Vocational Training For Youths	19,086.00
Women Welfare/Empowerment Program	20,098.00
<b>TOTAL</b>	<b>8,312,529.00</b>
Expenditure over Income transferred to General Fund A/c	490,286.00
	<b>8,802,815.00</b>

For ABHISHEK GRAMOUDHYOG SEWA SANSTHAN

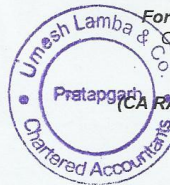
**Auditor's Report**

As per our separate report of even date annexed.

*Abhishek*

Date: 15-06-2013  
Place: Pratapgarh

For **UMESH LAMBA & Co.**  
Chartered Accountants  
*RSnuleb*  
**(CA RAMESH KUMAR SHUKLA)**  
Partner  
M. No. 411060



**M/s Abhishek Gramoudyog Sawa Sansthan**  
Village- Banwarpur, Post-Muwar Adharganj  
District-Pratapgarh

**Balance Sheet as at 31st March 2012**

***Auditor :***  
***Akhilesh K Pandey & Co.***  
***Chartered Accountants***  
*131, Station Road,*  
*Pratapgarh -230001*  
*Phone No.- 05342-221263*  
*Mobile No.-9415744597*

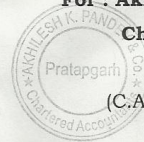
**Akhilesh K Pandey & Co.**  
**Chartered Accountants**

131, Station Road  
Pratapgarh : 230001  
Ph. No : 05342-221263  
Mobile : 9415744597  
email:sanjay02jaiswal@yahoo.co.in

### **Auditors' Report**

We have examined the annexed Balance Sheet of "**Abhishek Gramoudyog Sewa Sansthan**"  
**Village - Banwarpur, Post - Muwar Adharganj, District - Pratapgarh**, as at 31 st March 2010 and  
Balance Sheet And Manufacturing/Trading And Profit & Loss Account for the year ended on that date  
which are in agreement with the books of account and records produced before us and information  
supplied and found the same in accordance with the financial records.

**For : Akhilesh K Pandey & Co.**  
**Chartered Accountants**



(C.A.Sanjay Kumar Jaiswal)  
Partner

**M/s Abhishek Gramoudyog Sawa Sansthan**  
Village- Banwarpur, Post-Muwar Adharganj  
District-Pratapgarh

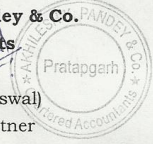
**Balance Sheet as at 31st March 2012**

<b>Liabilities</b>		<b>Amount</b>	<b>Assets</b>		<b>Amount</b>
<b>Proprietors' Capital Account :</b>			<b>Fixed Assets :</b>		
B.F.	4799765.70		Building & Civil Works	1875883.00	
Add : Net Profit	<u>485193.00</u>	5284958.70	Less : Dep.@5%	<u>93794.00</u>	1782089.00
<b>Current Liabilities :</b>			Plant & Machinery	570435.00	
Sundry Creditors	175240.00		Less : Dep.@15%	<u>85565.00</u>	484870.00
			<b>Current Assets :</b>		
			Closing Stock	2825412.00	
			Sundry Debtors	351540.70	
			Cash and Bank Balance	16287.00	
<b>Total</b>		<b>5460198.70</b>	<b>Total</b>		<b>5460198.70</b>

As per separate report of even date annexed.

**For : Akhilesh K Pandey & Co.**  
**Chartered Accountants**

(CA. Sanjay Kumar Jaiswal)  
Partner



**For : M/s Abhishek Gramoudyog Sawa Sansthan**

(Abhishek Pandey)  
Secretary

**M/s Abhishek Gramoudyog Sawa Sansthan**  
Village- Banwarpur, Post-Muwar Adharganj  
District-Pratapgarh

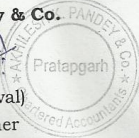
**Manufacturing/Trading and Profit & Loss Account for the year ended on 31st March 2012**

Particulars	Amount	Particulars	Amount
To Opening Stock	1800248.00	By Sales	7548752.00
To Raw Material	5482752.00	By Closing Stock	2825412.00
To Manufacturing Expenses	1247588.00		
To Packing	247851.00		
To Utilities	357842.00		
To Gross Profit Carried down	1237883.00		
	<b>10374164.00</b>		<b>10374164.00</b>
To Salary	164000.00	By Gross Profit Brought Down	1237883.00
To Office Expenses	32465.00		
To Bank Interest & Commission	45784.00		
To Freight & Forwarding	125895.00		
To Travelling & Conveyance	45120.00		
To Advertisement Expenses	22470.00		
To Electricity Expenses	16840.00		
To Telephone Expenses	13894.00		
To Commission	94213.00		
To Legal Expenses	12650.00		
To Depreciation	179359.00		
To Net Profit transferred to General Fund	485193.00		
<b>Total</b>	<b>1237883.00</b>	<b>Total</b>	<b>1237883.00</b>

As per separate report of even date annexed.

**For : Akhilesh K Pandey & Co.**  
**Chartered Accountants**

(CA. Sanjay Kumar Jaiswal)  
Partner



**For : M/s Abhishek Gramoudyog Sawa Sansthan**

(Abhishek Pandey)  
Secretary

# **Diagnostic Study Report**

On

## **SUNDARBAN HONEYBEEKEEPING CLUSTER**

(“Honey Bee Cluster at Sundarban Region”)

**UNDER FINANCE - KRDP OF ADB IN VILLAGE INDUSTRY CATEGORY**

**(MAJOR CLUSTER)**

Implementing Agency:-

***Vivekananda Institute of Biotechnology***

**P.O.- Nimpith Ashram, Dist.-24 Parganas (South), PIN-743 338,W.B.,India**



Phone: 0091-03218-226003, Fax: 0091-03218-226201

E-mail: [bkdattasranvib@gmail.com](mailto:bkdattasranvib@gmail.com)

[vibsran@gmail.com](mailto:vibsran@gmail.com)

Technical Agency

CBRTI., PUNE

NODAL AGENCY

KHADI V.I. COMMISSION

MMSME., GOVT. OF INDIA

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## Executive summary

1	Name of the Cluster	<b>SUNDARBAN BEEKEEPING CLUSTER</b>
2	Title of the study	Diagnostic study Report on the formation of Cluster of Rock Bee Beekeepers in Sundarbans, West Bengal (under KRDP- V.I Category of ASIAN DEVELOPMENT BANK) with guidance of the Khadi & V.I. Commission.
3	Objective	<ul style="list-style-type: none"> <li>• To organize the collectors in Group</li> <li>• To organize the beekeepers in Group</li> <li>• To develop the Clusters involving both collectors and beekeepers</li> <li>• To impart skilled development training as well as financial literacy for better collection process/storage,</li> <li>• To organize the collection and testing of the quality,</li> <li>• To organize processing,</li> <li>• To market the product making under a brand,</li> <li>• To initiate apiculture throughout the year as a complementary activity for the collector for a better livelihood.</li> </ul>
4	Location	<p>The Beekeepers are located along the border line of Sundarban forest (Sundarban biosphere), mainly in the blocks of Pathar Pratima, Kultali, Mathurapore-II, Gosaba, Basanti, Canning, Hingalgunge, Minakhan, Sandeshkhali, Sagar under the district of South &amp; North 24-Parganas .</p> <p>The beekeepers are engaged in all the blocks in unorganized manner.</p> <p>Initially the present clusters would be developed in Pathar Pratima and Kultali under the district of South 24-Parganas .Latter the other parts will be covered.</p>
4	Existence of the cluster	It is very old Clusters, the Collectors and Beekeepers are in this practice for generation.
5	Product	Rock bee honey & Apiary Honey (as a complementary activities)
6	Production capacity	700 kg per day.
7	Annual turnover	Rs. 2.75 crores .



8	Cluster Vision	<ul style="list-style-type: none"> <li>• Establishment of common facility centre for processing the crude honey</li> <li>• Establishment of collection and testing centres (6),</li> <li>• Payment based on the quality on the spot,</li> <li>• Better marketing, development of a brand,</li> <li>• Strengthening the existing apiaries and establishment of new apiaries for the collectors' for a stable income throughout the year.</li> <li>• Promotion of community business,</li> <li>• 60% of the consumer price would go to the primary collectors as well as beekeepers thus better income for them.</li> <li>• Social upliftment of the collectors and the beekeepers , and safety during collection as well as operation.</li> <li>• Production of safe food by the beekeepers.</li> </ul>
9	Major strength	<ul style="list-style-type: none"> <li>• Good export potential,</li> <li>• Reputation of the Parent Organization and its philosophy,</li> <li>• The professional approach of the Institute,</li> <li>• The Resource persons available with the Institute.</li> </ul>
10	Major problems	<ul style="list-style-type: none"> <li>• Middle man takes the advantage of unorganized situation.</li> <li>• Lack of training on the scientific method of collection and other related processes</li> <li>• Lack of proper skill on scientific management and lack of forage throughout the year</li> <li>• No network of collection and quality testing,</li> <li>• Lack of concept of quality/community business/entrepreneurship,</li> <li>• It's a seasonal activity, need strengthening with apicultural activities to make it a whole year activity.</li> <li>• Remoteness/lack of road connectivity,</li> </ul>
	Action plan	<ul style="list-style-type: none"> <li>• Identification of Beekeepers and honey collectors/development of data base/initial bench marking,</li> <li>• Identification of CD group,</li> <li>• Awareness creation/and capacity building on the subject matter for the beneficiaries,</li> <li>• Workshop on grouping approach/formation of groups.</li> <li>• Establishment of the collection network and testing centres</li> <li>• Establishment of the brand,</li> </ul>

		<ul style="list-style-type: none"> <li>• Setting up direct marketing out let,</li> <li>• Establishment of the common facility centre</li> <li>• Designing and promoting of different value added products.</li> </ul>
	Programme Duration	5 years
	Proposed Budget	Rs. 369.95 lakhs (say Rs. 370.00 Lakhs)

## INTRODUCTION

Micro Small-scale and Medium Enterprises (MSMEs) play an important role in the Indian economy by generating sustainable employment and livelihood promotion of the targeted stakeholders. Government of India has adopted Cluster Development Approach towards the development of village traditional industries in different parts of the country. The cluster development program is an innovative concept, which targets MSMEs clusters with the purpose of upgrading their capacities to respond to the challenges created by the increasing liberalization of the Indian economy.

India has a rich tradition in traditional industries. The eco-friendly products of traditional industries not only have great potential for growth in production and export but can also lead to widespread generation of employment opportunities in the rural areas of the country. With a view to making the traditional industries more productive and competitive and facilitating their sustainable development, with a view to revitalizing the Khadi & Village Industries(KVI) sector, the GOI, in assistance with the of Asian Development Bank (ADB) under Khadi Reform & Development Programme(KRDP) which inter alia aimed at development 5 thrust area of traditional village industries such as herbal products, honey , handmade paper, leather and agro based industries through a cluster based approach with the following objectives:

- ❖ to develop clusters of traditional industries in various parts of the country over a period of five years commencing 2005-06
- ❖ to make traditional industries more competitive with more market-driven, productive, profitable and sustained employment for traditional industry artisans and rural entrepreneurs;
- ❖ to strengthen the local governance systems of industry clusters, with the active participation of the local stakeholders, so that they are enabled to undertake development initiatives by themselves; and
- ❖ to build up innovated and traditional skills, improved technologies, advanced processes, market intelligence and new models of public-private partnerships, so as to gradually replicate similar models of cluster-based regenerated traditional industries.

Given the background, the Diagnostic Study of the Sunderban Honey beekeeping Cluster, West Bengal was taken up to find out the baseline information about the artisans, the available facilities in the cluster, the potential stakeholder and assess the potential for future growth and development of the artisan's work and life.

The Sunderban Honey Beekeeping Cluster is located in Sunderban area covering seven blocks such Pather Pratima, Kultoli, Mathurapur II, Namkhanna, Gosaba ,Sagar and Jaynagar II. The cluster has a radius of about 40 kilometer. However, as proposed the cluster will be now limited to Pathar Pratiam and Kultoli blocks that cover about 12 villages which are mostly the tribal villages. The places are located in Sunderban islands covered with rivers and dense forest. The nearby mangrove forest is rich with abundant flora and fauna, herbs, shrubs, plants and trees. In recent

passed many part of Sundarban are growing two crops in a year nad total land area cultivation is more than 3 lakhs hactor which will strengthen the beekeeping activities. The geographical location of the place and climatic condition make it fit for breeding of natural honeybees.

As per a survey conducted by Vivekananda Institute of Biotechnology more than 1000 honey collectors are presently engaged in the honey collection. In whole Sundarban area more than 1000 beekeepers are involved with beekeeping. The honey collectors, besides the collections of honey collects other minor forest produces and catch fish and crab add to their family income. The scope of the apiary honey also immense as at present the beekeepers does not get proper support to make it a meaningful venture.

**Of all the artisans engaged in honey collection and beekeeping, 1000 will be targeted to be covered under this project; 250 honey collectors and 350 apiary bee keepers are most needy belonging to tribal, SC and minority communities, so have been selected for the initial phase of intervention.**

Most of the honey collectors belong to tribal community and primarily depend on the river and forest resources for the sustenance of their livelihood. The tribal people mainly collect honey form the interior forests and sale the raw honey directly to the forest department and in local markets / Hats. Often they face the tigers and forest wild animals during their expedition to the forest.

The SC,ST community of Sundarban is more than 38% of the total population and all are depending for their livelihood ,cultivation,fishery,animalhusbandory and few of them are associated with beekeeping.

However, they lack the scientific skills of honey collection and bee keepings , which often results in damage of beehives and bee colonies of the boxes. Moreover, due to lack of proper knowledge and skills of honey processing, place for storage etc they sale out the honey immediately at very cheaper price. While the major portion of the collected honey goes to forest department, the buyers in the local markets are the agents of exporters or big business men who collect honey in huge quantity and in turn process it elsewhere and sale at higher price which is around Rs.175/-per kg. However, the price offered by forest department seems to be very low that varies from place to place from Rs 100/- from this year. Since it is a predetermined condition based on which a collector is given permit to enter into forest, the poor collectors do not have any other way. Unfortunately the forest department does not have any processing plant and they simply filter the raw honey and sale in the market under the brand name of "Mouban". In the entire process of honey collection to marketing the worst sufferers are the honey hunters who at the cost of their life dare to venture into forests and face the monopoly raj of forest department and the traders who determine the price. It would be heart breaking to hear the melancholic story of families who have lost their son, daughter, wife and husbands fighting Royal Bengal tigers in the forests while collecting honey.

The beekeepers in command area(only about 1000)are very poorly equipped in terms of technical skill, requisites to support their activities technical knowledge regarding box management, bee colony management and the forage.

The poor and needy hunters as well as the beekeepers lack business skills and the entrepreneurial ability to sustain the trading activity on a commercial basis. The innocence, illiteracy and ignorance of the community are some of the reasons for their lack of bargaining capacity. Therefore, each individual is in need of training in improved technology, equipments, preparation of value added products etc on a continuous basis. They also need Exposure Visit to change their mindset, get new ideas and adopt new practices for getting higher income. Skill up-gradation training, established marketing channels, scientific and hygienic methods of honey collection and processing, quality-testing facilities for honey, new machinery support services etc are some of the services that are needed for the development of the cluster. Given the organized inputs, the economic return to the hunters would be more and they would be a part of the organized system that can sustain their livelihood.

Vivekananda Institute of Biotechnology, a State NGO in the state under the banner of Ramakrishna Ashram (the IA for the cluster) has been working on bio-diversity project and have service centres in remotest places to help the needy people in the field of agriculture development, fishing etc. This is for the first time that the organization has conducted a preliminary survey on the community engaged in honey related activities (with special reference to honey collectors) in Sunderban and plans to put in organized effort to ameliorate the condition of those poor needy people.

There is an enabling environment since potential stakeholders like KVIC, State Government Departments particularly Forest Department, Tourism, NABARD, Sunderban Development Board, etc are giving priority to promotion of work and life of the poor people living in the island. The local leadership, the district administration, the NGO and moreover the State Government have favoured this project for the benefit of the poor honey hunters. It is worth mentioning here that Sri Ramakrishna Ashram, Nimpith has adequate infrastructure facilities like land and buildings, vehicles, boats etc which will be very helpful while implementing the project. It is envisaged that there is ample scope for convergence of resources from different resource support agencies to carry forward the project in the long run.

Coming to marketing, West Bengal has adequate markets that can consume honey produced in the cluster. Moreover, Sunderban honey has its own charm due to its organic nature and flavor and taste. Some initiatives have been taken up by the NGO in terms of identifying marketing outlets for the honey in Kolkata and other metropolitan cities in West Bengal besides selling in fairs and exhibitions. Moreover, the organization has also plans to open a regular sales outlet at Nimpith to sale all processed organic products. At this stage it appears that the product needs a boost up in the market in terms of consumer awareness and awareness of channel partners. To meet the market demand there is a need to produce the quality products and ensure the volume of production and timely distribution.

Establishment of CFC will be a major intervention. As proposed the CFC that will contain the honey processing plant will be located at Nimpith. Ashram has adequate land for the same purpose. The CFC will be linked with the cluster level satellite centres at different locations of the cluster.

Bye and large, it is observed that there is a great need for the project intervention since most of the identified artisans are tribal people. There is enabling environment for the development of the cluster. The positive aspect is that the IA has done lot of spadework and is committed to promote the Beekeeping cluster involving the identified artisans and other stakeholders. Considering all aspects the need-based interventions as mentioned in the report may be initiated. It is envisaged that the project would create significant changes in the mindset and life style of the honey hunters enabling them to come at par with the mainstream society. It is expected that some of them would move into entrepreneurial mode for continuation of their business after the project is over.

This project in itself is an instrument for changing the livelihood pattern of the tribal people and other backward communities. However, given the inputs its impact could be tremendous in the long run. Thrust must be given on creating basic infrastructure facilities in the area in the form of CFC, which would play as a centre for the development of needy honey hunters. Therefore, wherever needed, the additional fund may be provided for the successful implementation of the project.

## CLUSTER AT A GLANCE

1. Name of the Cluster	Sunderban Honey Beekeeping Cluster, 24 Praganas, West Bengal
2. Products of the Cluster	Honey, Wax
3. Name of the implementing Agency	Dr. B K Datta, Director –09434078003(M)  Vivekananda Institute of Biotechnology, Po- Nimpith Ashram, Dist- 24 Praganas (South), Pin- 743 338 , West Bengal  Tel/Fax- 03218-226201  E.mail: vibsran@gmail.com
4. Name of the C.D.E.	Not yet appointed
5. Name of the T.A.	CBRTI., Pune

### 6. CLUSTER VISION

*“To motivate honey hunter communities, NGOs, Federations, Primary Societies, SHGs to provide an interactive couplings between technology, economy, environment and society for speedy development of honey beekeeping industry to build up a substantial base for increase in productivity, production of qualitative honey and value added honey products for domestic and export markets with strong emphasis on cleaner and user friendly technology and quality, enabling the production, supply and consumption chain, especially to realize direct benefits of new technology, environment friendly products and marketing/institutional network and to ensure adequate availability of honey products for the consumer at affordable prices and to promote sustainable development, employment generation and poverty alleviation through entrepreneurship and enterprise promotion.”*

7. (i) Location:-

Name of the District	Name of the Block	Village covered
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South 24 Praganas	Pathar Pratima, Kultoli, Mathurapur II, Namkhanna, Gosaba, Jaynagar II,Sagar	About 100 villages
Total : 1	7	About 100 villages

Note: Out of the 07 blocks initially Pathar Pratima and Kultoli covering 12 villages will be taken up for first phase of intervention.

**i) The details of Seven Blocks of Sundarbans.**

	Patahr Pratima	Kultali	Namkhana	Mathura pur-II	Joynagar - II	Gosaba	Sagar
Area (km <sup>2</sup> )	469.05	239.48	227.13	230.51	175.18	285.85	470.80
No. of Villages	88	43	37	27	49	50	7
No. of Gram Panchayats	15	9	7	11	10		9
No. Mouzas	92	46	38	27	49		44
Total Population	288,259	187942	160630	198361	209136	222764	221816
Male	147518	97272	82234	102937	108059	113827	14179
Female	140741	90670	78396	95324	101077	108937	13423
Population Density	615	785	707	860	1194	779	471
% BPL	31.6	49.2	42.1	37.2	44.4	36.1	43%



**(ii) Artisans to be covered**

Sl. No.	Name of the Block	Villages Covered	Artisans covered (Approximately)						
			Genl.	SC	ST	OBC	Minority	Women	Total
1	Pathar Pratima and Kultoli	12	Nil	154	370	61	31	210	620

**(iii) Project Beneficiary Details**

Targeted beneficiaries over the project duration	Total Identified Beneficiaries	Beneficiaries taken up for intervention during the initial phase
1000 (direct beneficiary families)	1000	620

8. Date of validation of DSR by CDCG: CDCG yet to be organized

9. Projected new artisans to be added in next 5 years: 400+

10. Total artisans to be benefited: 1000+

11. Beneficiary taken up for intervention in  
(14-15, 15-16, 16-17, 17-18, 18-19) 600+

12. No. of SHGs / Cooperative/Joint Liability Groups Formed: 30 Groups are to be formed in concept of Gender Action Plan (GAP) of ADB

Major Intervention planned:

<i>Sl. No.</i>	<i>Major Intervention</i>	<i>Sub-Intervention</i>	<i>Rate (Rs.)</i>	<i>Total (Rs.)</i>
i.	Replacement of Equipments			Nil
ii.	Common Facility Centre	Installation of Machineries for honey processing (Details of proposed machineries attached in annexure-I)		29,35,000
		Cost of Power Connection		1,50,000
		Construction of Work shed(2000 square ft.@Rs.3000/-)		60,00,000
		CFC meeting		20,000
		BSNL Server hiring charge		4,00,000
		Generator & solar equipments		3,00,000
		<b>Total</b>		<b>9,805,000</b>
iii	Product Development and Design Intervention	CAD based designing of packaging, labelling, Ag-marking, market testing and new product development		15,00,000
iv	Capacity Building Measures	a) Skill training, Exposure visit and other relevant programme as per action plan		45,00,000
		b) Tool-kits distribution to the Artisans		420,000
		<b>Total</b>		<b>4,920,000</b>
v	Market Promotion Assistance	Creation facility for Participation in Exhibitions, Trade Fair, Catalogue, Website etc.		49,00,000
Vi	Survey & Study	Survey & Study		1.70,000

		Cost of CDE		18,00,000
		Cost of IA		30,00,000
		Cost of TA		10,00,000
VII	Working Capital			75,00,000
VII	IT & Managerial			10,00,000
VIII	Food Technologist			10,00,000
	<b>Total</b>			<b>36,995,000</b>

13. Linkages/ Net working: -

i.	Financial Institutions	State Bank of India, Nimpith and its Branches in Project Areas
ii	Micro Finance	Nil
iii	Other Institutional linkage (State/ semi Government/ Central Government/ quasi Organizations)	State Govt. of West Bengal, KVIB, KVIC, DRDA, ITDA, Directorate of Industries., DIC, NABARD, Sunderban Development Corporation, Forest Department, Department of Science & Technology, Government of India, CBTRI,Pune
iv	Social organizations	NGOs working in the concerned area

14. Source of working Capital: State Bank of India, NABARD, DRDA, Department of Science & Technology, Government of India

15. Projected Additional Production/ sales/ Employment:-

Years	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	Total
Production	78MT	98MT	104MT	110 MT	130MT	
Sale	140 Per kg	150perkg	160 per kg	170 per kg	180 per kg	
Employment	620	620	700	850	1000	1000

Project Investment viz Benefit ratio

<i>Years</i>	<i>1<sup>st</sup></i>	<i>2<sup>nd</sup></i>	<i>3<sup>rd</sup></i>	<i>4<sup>th</sup></i>	<i>5<sup>th</sup></i>	<i>Total</i>
Investment	18460000	7760000	4310000	3310000	3135000	3797500000
Projected Benefit (Income)	10920000	14700000	15600000	16500000	19500000	77220000

**16. Total Investment ( 5 Years)**

<i>Budget Heads</i>	<i>ADB Grant</i>	<i>Institutional Share</i>	<i>Total ( in Lakh)</i>
Common facility Centre_ Construction of Work shed, Cost of new machineries, provision of Advanced Tools to Artisans	7,353,750	2,451,250	98,05,000
Product Development and Design intervention	11,25,000	3,75,000	15,00,000
Market Promotion assistance	49,00,000	NIL	49,00,000
Capacity Building Measures	45,00,000	NIL	49,20,000
Survey & Study	1,70,000	Nil	1,70,000
IA	30,00,000	Nil	30,00,000
CDE	18,00,000	Nil	18,00,000
TA	10,00,000	Nil	10,00,000
Working Capital	75,00,000	Nil	75,00,000
IT & Managerial			10,00,000
Food Technologist			10,00,000
<b>Total</b>	<b>33,768,750</b>	<b>2,826,250</b>	<b>369,95,000</b>

## Total Benefit to the artisans (05 Years)

<b>ECONOMIC BENEFITS</b>
<ul style="list-style-type: none"><li>• 30% Profit on the projected sales in every year</li></ul>
<ul style="list-style-type: none"><li>• 30 % wage benefit due to employment in the trade</li></ul>
<ul style="list-style-type: none"><li>• Regular employment and income</li></ul>
<b>SOCIAL BENEFITS</b>
<ul style="list-style-type: none"><li>• Regaining faith and dignity in the trade due to created facilities including production and marketing</li></ul>
<ul style="list-style-type: none"><li>• Increase in purchasing power due to regular income enabling fulfillment of daily requirements</li></ul>
<ul style="list-style-type: none"><li>• Exposure to wider markets leading to new ideas, opportunities for boosting up trade activities</li></ul>
<ul style="list-style-type: none"><li>• Improved skill leading to increase in productivity and quality of production</li></ul>
<ul style="list-style-type: none"><li>• Creation of entrepreneurial ability for continuance of the business activities after the project is over.</li></ul>
<ul style="list-style-type: none"><li>• Increased socioeconomic condition</li></ul>
<ul style="list-style-type: none"><li>• Women Empowerment</li></ul>
<ul style="list-style-type: none"><li>• Mainstreaming ST/SC, women and other backward and minority communities engaged in the trade due to project intervention.</li></ul>

## **MISC. OBSERVATIONS ABOUT THE CLUSTER :-**

The importance and contribution of enterprise sector to the economic growth and prosperity is well established in most of the developed and developing countries. The role of traditional industries for creation of employment, upholding the entrepreneurial spirit and innovation in the rural economy of the country is very important. To support, encourage and strengthen this, Government of India has been taking many proactive steps.

It is proved that these traditional industries can boost up their competitiveness through networking and this process is easier and more sustainable if they work very closely with one another in clusters. Also they can build their competitive strength through cost reduction, value chain up gradation and utilization of collective economics of scale when they cooperate with each other and build linkage with private or /and public service providers. The application of cluster approach has resulted in sustainable development of national industries in both developed and developing nations.

By observing the success stories world wide, India has taken up cluster development methodology a decade ago to support and encourage small enterprise. UNIDO initiated implementation of cluster approach in industrial clusters with the support of Ministry of Small Scale Industries. The approach was adopted by Development Commissioner SSI followed by Development Commissioner (Handlooms), Development Commissioner (Handicrafts) and now Khadi and Village Industries Commission and Coir Board actively supporting many rural, industrial and artisan-based clusters.

Now as a marketing strategy or because of huge business opportunities many commercial Banks are also seriously thinking and coming forward to support cluster development projects, especially in creation of Common Facility Centre and providing funds for bulk purchase of raw-materials etc.. State Bank of India, NABARD, and Central Bank of India, United Bank of India are some of the leading Banks associated with the Cluster Development Programme.

Government of India wants to strengthen the traditional clusters by providing benefits through different schemes related to technology up gradation, infrastructure provision and through various institutions at national and state level. SFURTI is one of such schemes designed to develop rural Khadi and Village Industry Clusters including Coir clusters.

Given the above backdrop Sunderban Honeybee Keeping Cluster was considered under the ADB scheme of KVIC to put in need based interventions for the integrated development of the artisans in the cluster. Xavier Institute of Management, Bhubaneswar was given the responsibility to provide the technical support to the cluster level programme implementation while Vivekananda Institute of Bio-technology, Nimpith, West Bengal has been selected as the Implementing Agency for the cluster. To begin with, a diagnostic study was conducted as per the guidelines of KVIC (ADB) to assess the needs and problems and streamline planning of activities.

#### **Scope and Objectives of the Diagnostic Study:**

- To present the existing status of the cluster
- To find out the roadblocks that is hindering the development of the cluster
- To analyze the strengths, weakness, opportunities and Treats (SWOT)
- To analyze business operation and identify suitable potential areas for intervention.
- To prepare an action plan for implementation in the cluster.

#### **Study Methodology**

- Visit to the artisan clusters in Sunderban bio-sphere and collection of vital information
- Interaction with various stakeholders such as supporting organizations, input suppliers, artisans, market players etc.
- Interactive discussion with the artisans for Strength, Weakness, Opportunity and Threat (SWOT) analysis.
- Discussion with the implementing Agency and the Nodal Officer/Beekeeping Staff
- Study of documents available with the Implementing Agency.

## **Background of the Traditional Honey Beekeeping Industry:**

Honey is sweet liquid gathered by honeybees from nectar or other secretions of plants, which they transform by addition of enzymes and evaporation of water in it. Honey is the most wonderful gift of God and Mother Nature to mankind. Honey is held in high esteem, next only to AMRIT, the Ambrosia. It was the only sweetening agent known to the early men and naturally found its way into traditions, rituals, customs and food for every religion and nation. It is the sweetest way to get the daily dose of essential nutrition's – carbohydrate, minerals, amino acids, proteins and vitamins. It is the most complete natural food. The best-known advantage of honey lies in its pre-digested form; hence, even an infant can get direct benefit from it. Honey provides instantaneous replenishment of energy losses.

Honey is in use in India since ancient vedic times. It was the only sweetener before the advent of sugar, which being cheaper has replaced honey altogether. Ancient civilizations were aware of the medicinal properties of Honey thus advocating its use as a carrier of Ayurvedic medicines. They knew about its ability to cure a host of ailments like cold, fever, throat, eye, skin and intestine infections, piles, anaemia etc. Honey improves digestive and nervous system and heals wounds etc. This has led to its use as a medicine only whereas in foreign countries honey is used as a food. It is evident from the per capita consumption, which is only 8.4 grams compared to 1200 grams of the developed countries. Effort is made in India to propagate the concept of Honey as a Food besides its medicinal properties.

Jamun and karvi honeys are amber and dark amber, respectively, whereas, lichi and mustard honeys are golden or light yellow colour. Generally, light or golden coloured honeys are preferred by the consumers; but dark honeys that have more minerals are preferred by the health conscious consumers.

### **Traditional Honey Beekeeping Industry – One of the keys to development of rural economy**

Honey Beekeeping industry is the most primitive traditional village Industry in our Country. India being the country of agriculture with plenty of forests and vegetations the scope of honey extraction is quite larger. There are tribal communities who even today collect honey from forests using their traditional skills and are generally called as bee hunters. In course of time people have taken up beekeeping activities with application of bee boxes, scientific knowledge, modern technology of processing etc. Large numbers of people in this country earn substantial income by practicing this occupation. With the gradual changes in people's mindset the uses of honey have been many folds; be it for medicines or for food nutrients. There are companies like Dabur who are purchasing huge volumes of honey for preparation of ayurvedic medicines and as food.



In view of the unemployment problem facing the country there is ample scope for providing employment opportunity to unemployed youths in this industry. Moreover, the traditional honey hunters as well as beekeepers that lack the scientific knowledge and skills are unable to get enough income out of this. Besides honey, its by-products are rarely available. There is enough research based scientific knowledge, skills and technologies available in India, which can nurture this industry in a more scientific and professional way. People particularly in the down stream should be given the scope, opportunity and enabling environment to take up this occupation for earning their livelihood.

### **The Scenario of Honey Beekeeping Industry in the State of West Bengal:**

#### **Business of Rock-bee Honey – Current Situation\***

In India, production of honey is very low as compared to China, the highest producer which exports 80,000 tones annually in comparison to India's 70,000 tones.

Estimates of honey production in India, as presented in the workshop titled 'Awareness- cum-technology transfer in bee-keeping, 2006" organized by National Bee Board, New Delhi, is about 64,455 tones a year. Consumption of honey in India is also very low. The per capita consumption is estimated to be a dismal 3.0 gm as against that in Germany it is 1.5 kg. Sunderban is the largest provider of rock-bee honey in West Bengal. Honey available in the region is collected during a specific period between March and May, the period when Mangrove trees bloom in Sunderban bio-sphere.

**The Forest department issues permit to honey hunters every year to collect honey and wax from forest. The guidelines have it that the permit holding hunters (members) who collect honey from combs can sell it to the Forest Department against payment of a pre-determined collection fees (price of raw honey). However, in the discussion of the Focused Group , on 21<sup>st</sup> June,2014, held at Vivekananda Institute of Biotechnology , Sri Ramkrishna Ashram,Nimpith, the Implementing Agency (I.A) of the cluster, the DFO, Govt.of West Bengal, was informed that though there is no specific guidelines about the existing practice but to save the original beekeepers of Sunderban area from the un-ethical middleman group , the forest department collect that honey .The Hunters do also sell the honey collected from forest to private middlemen. The Forest Department does procure honey on behalf of West Bengal Forest Development Corporation Ltd. (WBFDC), which in turn transports honey to its filtration unit at Kolkata. Subsequently, WBFDC markets only filtered honey, mostly in consumer pack, under brand name of "Mouban". It also sells honey through exhibitions and a few select wholesalers. The price that is paid by Forest Department to honey hunters (Presently Rs. 100 a kg) though in several times the payment is being made in delay and it is fact also in open market price is more than the rate of local Govt. In this regard the cluster may be taken a good role with the professional approach and the DFO has assured also in the meeting for their whole hearted cooperation in this regard.**

Data available from 'The 24 Parganas Beekeepers' Cooperative Society Ltd., village- Shasan, P.O Baruipur is presented in Table below that highlights basic facts of Sunderban honey.

### Number of Beekeepers, Bee colonies, etc., in Sunderban

No. of beekeepers	1000
No. of bee colonies	10,000
Annual honey production (rock-bee honey); M.T	60 to 80

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\* Project Report on promoting Beekeeping as a Supplementary Livelihood activity for Poor BPL households in Sunderban, January 2008 of IL&FS CDI Ltd., New Delhi

There are some 8-10 processing units in West Bengal, data on which is provided in Table below:

### Honey Processing Units in West Bengal

Sr. No.	Processing Unit	Technology Used	Approx. Capacity (MT)
1	Dabur, Narendrapur	Automatic	200
2	Emami, Kolkata	Automatic	100
3	Jhandu, Kolkata	Automatic	80
4	Baidyanath, Kolkata	Automatic	75
5	Beekeepers' Coop. Society, Sashan, Baruipur	Automatic	30
6	Ramakrishna Mission Ashram, Narendrapur	Manual	15
7	Nagarukhra Sustainable Agro Based Industries, Nadia	Manual	10
8	24 Beekeepers' Association, Barasat, North 24 Parganas	Automatic	10

\* The State Forest Department is having one unit which does not process but only filters the honey and then markets it under the brand name "MOUBAN".

None of the units as shown in the Table above are state- of- the- art and modern and use basically heating technology to process honey.

## **Potential for Development of Honey Business**

In addition to rock-bee honey (also referred to as wild squeeze honey) that is produced in the mangrove forest in Sunderban, bee-keeping (Apiary) in Sunderban also holds a good prospect and, if taken up in a planned manner, could emerge as an important additional source of income to honey hunters. The concept is born out of the fact that the large area (roughly about 49,000 hectare) under cultivation of crops, fruits and vegetables could support forage requirement of honey bees in Sunderban tract. Considering one hectare under cultivation as bee flora base for two colonies as a reasonable assumption, Sunderban region could support a total of 1, 00,000 bee colonies as against estimated number of 10,000 colonies existing at present.

Mobility of habitants in Sunderban being very difficult most of the time due to their dependence largely on water ways for transportation, the 'Apis cerana' (indigenous honey bee species) could be an ideal choice of honey bee species to begin with. Later, when adoption of bee keeping becomes a prominent activity, bee-keepers could be advised to switch over to 'mellifera' (migratory Italian honey bee species) as a more viable choice, for it requires special attention and care at all times. Rearing this type of bees (yield potential of 40-60 kg per colony per year) also requires the keepers to have very sound technical knowledge which takes long time to acquire and internalize.

Very low household Consumer's demand for honey notwithstanding, its demand as an intermediary product used in pharmaceutical industries is steadily moving north-ward. Further, as mentioned earlier potential for export looks quite promising. Share of export from India could grow steadily from the present paltry level of 70000 tones compared to annual demand for world markets pegged at around 10,00,000 tones, if the production is restructured and organized in a well articulated line.

### **The Sunderban Beekeeping Cluster & its present Scenario:**

The Sunderban Beekeeping Cluster is located in Sunderban area covering seven blocks such Pather Pratima, Kultoli, Mathurapur II, Namkhanna, Gosaba and Jaynagar II, Sagar. The cluster has a radius of about 40 kilometer. However, as proposed the cluster will be now limited to Pathar Pratima and Kultoli blocks that cover about 12 villages which are mostly the tribal villages. The places are located in Sunderban islands covered with rivers and dense forest. The nearby mangrove forest is rich with abundant flora and fauna, herbs, shrubs, plants and trees. The geographical location of the place and climatic condition make it fit for breeding of natural honeybees.

As per a survey conducted by Vivekananda Institute of Biotechnology about 1000 traditional tribal bee hunters are presently engaged in the honey collection and related activities. Besides collection of honey, the collections of other minor forest produces and catching of fish and crab add to their family income.

**Out of 1000 Artisans, 350 nos. Beekeepers and 250 most needy honey hunters belonging to tribal, SC and minority communities have been selected for the initial phase of intervention.**

Most of the beekeepers and honey hunters belong to tribal community and primarily depend on the river and forest resources for the sustenance of their livelihood. The tribal people mainly collect honey from the interior forests and sale the raw honey directly to the forest department and in local markets / Hats. Often they face the tigers and forest wild animals during their expedition to the forest.

However, they lack the scientific skills of honey collection, which often results in damage of beehives, bees. Moreover, due to lack of proper knowledge and skills of honey processing, place for storage etc they sale out the honey immediately at very cheaper price. While the major portion of the collected honey goes to forest department, the buyers in the local markets are the agents of exporters or big business men who collect honey in huge quantity and in turn process it elsewhere and sale at higher price which is around 175 kg. However, the price offered by forest department seems to be very low that varies from place to place from Rs 40-60 in general. Since it is a predetermined condition based on which a hunter is given permit to enter into forest, the poor hunters do not have any other way. Unfortunately the forest department does not have any processing plant and they simply filter the raw honey and sale in the market under the brand name of "Mouban". In the entire process of honey collection to marketing the worst sufferers are the honey hunters who at the cost of their life dare to venture into forests and face the monopoly raj of forest department and the traders who determine the price. It would be heart breaking to hear the melancholic story of families who have lost their son, daughter, wife and husbands fighting Royal Bengal tigers in the forests while collecting honey. Many of them are migrating to Kolkata and other places in search of employment.

The poor and needy hunters lack business skills and the entrepreneurial ability to sustain the trading activity on a commercial basis. The innocence, illiteracy and ignorance of tribals and other hunters are some of the reasons for their lack of bargaining capacity. Therefore, the individual hunters are in need of training in improved technology, equipments, preparation of value added products etc on a continuous basis. They also need Exposure Visit to change their mindset, get new ideas and adopt new practices for getting higher income. Skill up-gradation training, established marketing channels, scientific and hygienic methods of honey collection and processing, quality-testing facilities for honey, new machinery support services etc are some of the services that are needed for the development of the cluster. Given the organized inputs, the economic return to the hunters would be more and they would be a part of the organized system that can sustain their livelihood.

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There is an enabling environment since potential stakeholders like KVIC, State Government Departments particularly forest Department, Tourism, NABARD, Sunderban Development Corporation, etc are giving priority to promotion of work and life of the poor people living in the island. The local leadership, the district administration, the NGO and moreover the State Government have favoured this project for the benefit of the poor honey hunters. It is worth mentioning here that Sri Ramakrishna Ashram, Nimpith has adequate infrastructure facilities like land and buildings, vehicles, boats etc which will be very helpful while implementing the project. It is envisaged that there is ample scope for convergence of resources from different resource support agencies to carry forward the project in the long run.

## GENERAL INFORMATION ABOUT THE CLUSTER

<i>Name of the District</i>	<i>Name of the Block</i>	<i>Village covered</i>
South 24 Praganas	Pathar Pratima, Kultoli, Mathurapur II, Namkhanna, Gosaba, Jaynagar II, Sagar	About 100 villages
Total : 1	7	About 100 villages

Note: Out of the 07 blocks initially Pathar Pratima and Kultoli covering 12 villages will be taken up for first phase of intervention.

### i) Artisans to be covered

Sl. No.	Name of the Block	Villages Covered	Artisans covered (Approximately)						
			Genl.	SC	ST	OBC	Minority	Women	Total
1	Pathar Pratima and Kultoli	12	Nil	154	370	61	31	210	620

### ii) Skill Level of Artisans

Name of the Cluster	Skilled Status				
	Highly Skilled	Skilled	Semiskilled	Traditionally skilled	Total
Sunderban Honey Beekeeping Cluster	Nil	-	-	620	620

**iii) Important Traditional/Monument/specially with respect to art and crafts in the cluster:**

Sunderban Biosphere with tourist spot at Kaikhali, Ramakrishna Ashram is the main attraction. Tourist Bungalow and boat services on Matla River connecting Bay of Bengal through its tributaries are also available at Kaikhali.

**iv) Employment of SC/ST/Women**

The very purpose of this **Honeybee keeping Cluster** under KRDP scheme of ADB is to generate employment opportunities for the rural artisans as well as to enhance their income, so that their standard of living could be developed and their livelihood could be sustained. The cluster has the presence of most tribal people (men & women) who are engaged in collection and trading of honey often at the cost of their life on the face of Royal Bengal Tiger, Crocodiles, snakes and other wild animals.

**iv) Existing Institutional Network:**

SI No	<i>Name of the Institution</i>
1	Block Development Offices
3	Police Stations
4	High School & College at Jalalpur
5	Ramakrishna Ashram at Kaikhali
6	Hospital at Jalalpur
13	Forest Offices
14	Market at Kultoli and Ramganga
15	Village level clubs

## CHAPTER-II

### Honey Collection Process (Traditional)

STEP-I	<ul style="list-style-type: none"> <li>➤ <b>Collection of raw honey by the traditional honey hunters</b></li> <li>➤ <b>Manual filtration and storage in containers</b></li> </ul>
STEP-II	<ul style="list-style-type: none"> <li>➤ <i>Direct sale to Forest Department and buyers in open market</i></li> </ul>
STEP-III	<ul style="list-style-type: none"> <li>➤ Filtration by Forest Department</li> </ul>
STEP-IV	<ul style="list-style-type: none"> <li>➤ Sales to consumers through exhibitions and sales outlets</li> </ul>

#### Traditional Tools, Equipments and Raw Material used in the production Process

Tools and Equipments used by the Hunters	Honey	<i>Tools used by the honey hunters</i>
<ul style="list-style-type: none"> <li>❖ Rope</li> <li>❖ Uncapping knife</li> <li>❖ Filter net</li> <li>❖ Container</li> </ul>		<ul style="list-style-type: none"> <li>❖ Crude method of covering body</li> <li>❖ Firing by manual technology</li> <li>❖ Filtering net</li> </ul>

#### *Existing Range of Products*

SI No	Name of the Product	Price Range	Present level of Business Volume per artisan family (Average) per season
1	Honey	Average Rs 100/- per kg	Average Rs 25,000/- per family per season of three months
2	Wax	Rs. 90 per kg average	Average Rs 2250/- per family
3	Present level of income per family		Average Rs 10,000/- per season of three months. (Usually they are issued permit for 15 days only during the season by the forest department.

***Present Value Chain and Marketing Channel of Sunderban Honey:***

SI No	Markets	% of sales
1	Primary Honey Collectors	
2	Forest Department and other Businessmen	
	<b>Primary Markets</b>	
3	Local Haats	<b>10%</b>
4	Sale to Forest Department	<b>60%</b>
	<b>Secondary Markets</b>	
5	Sales to private businessmen	<b>30%</b>
	Total	<b>100%</b>

***Profile of Implementing Agency promoting palmgur industry in the Cluster***

SI No	Name of the Institution	Vivekananda Institute of Bio-technology, Ramakrishana Ashram, Nimpith
2	Legal Status	Registered Society that operates under the banner of Ramkrishna Ashram, Nimpith
3	Name of the Director	Sri B K Datta, Director
4	Name of the chairman	Maharaj Swami Sadananda
5	Goal of the Organization	“Development of people through innovation, modulation and adaptation of appropriate rural technologies, and transferring the selected technologies to the people of the Sunderban area through trainings, awareness building and follow up programmes.”
6	Objective	➤ To assess, design and develop multi skill bio-technology programmes for application in the filed of rural development.



		<ul style="list-style-type: none"> <li>➤ To build village based human resource as biotechnology entrepreneurs and create a network of these knowledge worker (known as Krishi Sampad Karmis) for the transfer of technology.</li> <li>➤ To provide service and create knowledge base in the village through network of rural entrepreneurs.</li> </ul>
7	Operational Blocks	<ul style="list-style-type: none"> <li>➤ South 24 Praganas Focusing entire Sunderban Biosphere.</li> </ul>
8	Activities Undertaken	<ul style="list-style-type: none"> <li>➤ Development of bio-technologies that includes bio-fertilizer technology, horticultural bio-technology, low cost soil testing services, low cost microbial culture, package of integrated Nutrient Management, Azola-Fish-Rice culture, use of neem seed kernel for pest, control, integrated model of biogas production and vermin composting, mushroom cultivation, banana fibre based value added products.</li> <li>➤ Conduct trainings</li> <li>➤ Transfer technologies</li> <li>➤ Science and technology for entrepreneurship development</li> <li>➤ Running non-conventional energy projects</li> </ul>
9	Available Infrastructure	<ul style="list-style-type: none"> <li>➤ Permanent staff: 51 (List enclosed in the annexure)</li> </ul>
		<ul style="list-style-type: none"> <li>➤ Land, Building, Vehicles etc)</li> </ul>
11	Activities undertaken in the proposed cluster area	<ul style="list-style-type: none"> <li>➤ Transfer of bio-technology</li> <li>➤ Field demonstration and trials</li> <li>➤ Entrepreneurial training</li> <li>➤ Value addition services</li> </ul>
12	Development Partners	<ul style="list-style-type: none"> <li>➤ KVIC</li> <li>➤ Department of Science &amp; Technology</li> <li>➤ DRDA</li> <li>➤ NABARD</li> <li>➤ Sir Dorabji Tata Trust</li> <li>➤ CAPART</li> <li>➤ Burdwan University</li> <li>➤ KVIB, West Bengal</li> </ul>

## CHAPTER – III

### Strength, Weakness, Opportunity and Threat Analysis (SWOT)

<b>STRENGTH</b>
<ul style="list-style-type: none"><li>• Needy artisans engaged in the honey collection activities</li><li>• Suitable geographical condition for promoting honey beekeeping</li><li>• Favourable enabling environment to initiate cluster level intervention</li><li>• Interest of the local leaders and the Government</li><li>• Willingness of the implementing NGO to spearhead the activities and contribute the share</li><li>• Presence of key stakeholders for convergence of resources</li><li>• Availability of technical know-how to vibrate the traditional industry</li><li>• Growing demand for the honey based products due to changes in the consumption pattern.</li><li>• Export market potential of the Honey and the honey based products.</li><li>• Low capital investment and higher income return</li></ul>
<b>WEAKNESS &amp; ROAD BLOCKAGE</b>
<ul style="list-style-type: none"><li>• Lack of infrastructural facilities for streamlining development activities</li><li>• Low productivity due to lack of scientific knowledge and advance skills</li><li>• Low quality product due to unscientific practices</li><li>• Lack of confidence among the artisans/ Groups for further growth</li><li>• Lack of ability to move out to other places for collection of honey</li><li>• Lack of market information.</li><li>• Lack of institutional support and escorting service</li><li>• Lack of bargaining capacity</li><li>• Lack of entrepreneurial ability</li><li>• Lack of established marketing network</li><li>• Lack of basic business skills</li><li>• Lack of suitable transportation facility on the River connecting different forests</li><li>• Monopoly of forest department to issue license</li></ul>
<b>OPPORTUNITY</b>
<ul style="list-style-type: none"><li>• Sustainable livelihood promotion with an integrated approach</li><li>• Support of local Government and the leaders</li><li>• Opportunity to promote entrepreneurship among the honey hunters with the help from NABARD, department of Science &amp; Technology and other agencies</li><li>• Possibility of refining honey by adopting latest state o f the art technologies</li><li>• Possibility of tapping local, national and national level markets</li><li>• Experience and interest of the IA to work in the cluster and escort the artisans through a cluster development approach.</li><li>• Availability of finance from the Banks</li><li>• Opportunity for Self employment particularly for the tribal youths</li></ul>

## THREATS

- Change in taste of Customers
- Lack of marketing
- Exploitation by the middlemen
- Seasonal failures
- Natural calamities
- Competitions from other industries
- Uncertainty of market demand
- Lack of credit support by the banks
- Monopoly of the forest department

## CHAPTER -IV

### STRATEGIC INTERVENTION PLAN

Given the above information on the existing status of the cluster and the background of the scheme the following interventions and strategic measures are suggested for the accomplishment of the objectives of the scheme and fulfill the needs of the artisans to enable them to get regular employment and reasonable income.

<b>CAPACITY BUILDING</b>
<ul style="list-style-type: none"> <li>• Awareness Programme on the Cluster Development Programme of the KVIC Under KRDP - V.I. Category of the ADB for the artisans and other stakeholders</li> </ul>
<ul style="list-style-type: none"> <li>• Formation/strengthening of Honey Hunter SHGs or Joint Liability Groups</li> </ul>
<ul style="list-style-type: none"> <li>• Preparation of Artisan photo pass book and enrolment register</li> </ul>
<ul style="list-style-type: none"> <li>• Skill up-gradation training on rearing of Box Honey, propel collection, pollen collection, royal jelly collection, bee venom collection with the help of CBRTI, Pune</li> </ul>
<ul style="list-style-type: none"> <li>• Scientific skill development training</li> </ul>
<ul style="list-style-type: none"> <li>• Honey Hunters' participation in seminars/ workshops for scientific advanced knowledge</li> </ul>
<p>Artisan's exposure visit to Melghat and other such places for acquiring new ideas and knowledge on best practices.</p>
<ul style="list-style-type: none"> <li>• Entrepreneurship Development Programme</li> </ul>
<ul style="list-style-type: none"> <li>• Printing and dissemination of information booklets on KVIC's Cluster Development Approach.</li> </ul>
<ul style="list-style-type: none"> <li>• Artisan identity card</li> </ul>
<ul style="list-style-type: none"> <li>• Health check up camps for the Honey Hunters</li> </ul>
<ul style="list-style-type: none"> <li>• Leadership Training Programme for SHG/JLG leaders</li> </ul>
<ul style="list-style-type: none"> <li>• Linkage of Honey Hunters SHGs/JLGs with Banks for micro credit support</li> </ul>

<b>PRODUCT DEVELOPMENT</b>
<ul style="list-style-type: none"> <li>➤ Introduce CAD based design for labeling, packaging, bottling in different shapes and sizes with the help of a product designer.</li> </ul>
<ul style="list-style-type: none"> <li>➤ Develop value added products of honey such as honey candy, honey vinegar, honey chocolate, honey squash etc as per demand of various consumer segments with the technical expertise from CBTRI, Pune/CFTRI, Mysore/IITs</li> </ul>
<ul style="list-style-type: none"> <li>➤ Market Testing of new products</li> </ul>
<ul style="list-style-type: none"> <li>➤ Agmarking and branding, ISO certification, Packaging development, Bar- coding etc.</li> </ul>

<b>COMMON FACILITY CENTRE</b>	
➤	Construction of CFC, layout for honey processing plant including bottle filling, cap sealing, quality control laboratory, Agmarking, Facilitation for bee medicines, bee kits, Bee boxes etc
➤	Installation of honey parlor with computer and internet facility for dissemination of information
➤	Service and maintenance of common infrastructure and facilities
➤	Provide facilities and services to the beekeepers for the qualitative production and marketing of honey.
➤	Maintenance of inventory for supply of spares and other accessories etc to beekeepers.
➤	Input supply such as bee medicines, bee boxes with colonies, spares to the artisans*
➤	Organize procurement and supply of honey through a process of qualitative production on a commercial basis.
➤	Formation of CFC maintenance committee consisting of important stakeholders from Govt., artisans, IA and other important stakeholders for the effective functioning of the CFC.
➤	Organize the regular meeting of the Maintenance Committee.
➤	Supply of honey testing meter along with bee medicines to artisans
➤	Input I.T. System, Global Monitoring Programme (G.M.P.) by BSNL Server.
➤	(* The IA would mobilize fund from other departments to operate the input supply systems for the artisans)

<b>MARKET PROMOTION</b>	
•	Renovation/Opening of honey sales outlets
•	Creation of cluster website for facilitating e-marketing
•	Development of Product Catalogue
•	Preparation of Buyer's Inventory
•	Buyer-seller Meeting
•	Participation in Exhibitions and Trade fair fairs of state and national standard
•	Advertisement in print and electronic media
•	Participate in Trade fairs of international standards
•	Printing of market promotion booklets/ information brochures
•	Participation in state and national level marketing seminars
•	Workshop on procedures of export marketing and network with the help of IIFT, New Delhi
•	Creation of Marketing Channel with the Professional Marketing Management Group.

<b>ARTISAN WELFARE MEASURES</b>	
•	Artisan Identity cards
•	Health Insurance for the artisans
•	Artisan Credit Cards
•	Artisan Children's education
•	Social development

**Note: While some of the activities will be directly supported under the scheme, the IA/CDE should look into possibility of mobilizing the resources from other departments like DRDA, Sunderban Development Corporation etc and other development support departments to promote the cluster development programme.**

### **Project Monitoring**

State level Cluster Development Coordination Group (CDCG) may be formed taking members from the key stakeholders (as per guideline) who are playing or would play important roles in the promotion of the cluster and their meeting to be conducted on a regular basis for the effective monitoring of the cluster level programme activities. The DM of the district should be the Chairman of the Committee.

The key functionaries like the representative of the IA/NO/TA should monitor the programme on a monthly basis at the cluster level.

Artisan Photo Pass Book particularly for the SFURTI project along with the register and other relevant records should be maintained by the CDE/IA

## **IDENTIFIED KEY STAKEHOLDERS FOR THE PROMOTION OF THE CLUSTER**

### **Stake Holder Analysis**

<b>Sl No</b>	<b>Stake Holder</b>	<b>Expected Role</b>
1	KVIC	KVIC will play the role of Nodal Agency. Provide funding support, monitor and guide in the programme execution, extend support services for the effective implementation of the programmes.
2	Vivekananda Institute of Biotechnology	VIB is the implementing agency of cluster development programme. The institute is expected to play a key role in coordinating and spearheading all proposed activities of the cluster. Cluster Development Executive will be an employee of the VIB and work under the guidance of TA, IA and the Nodal Officer of KVIC.
3	CBRTI., Pune	CBRTI., Pune is the Technical agency of the cluster development programme. TA is expected to provide technical support towards the effective functioning of the cluster. It will monitor the programme implementation on a regular basis and guide the CDE and the IA for the smooth implementation of the programme. TA will also assist the CDE and the IA in the preparation of Action Plans and their validation in the CDCG.
4	Beekeepers and Honey Hunters	Beekeepers and Honey hunters are principal stakeholders. They are involved directly in the honey collection activities from Sunderban forest. They are expected to be the active participants in the programme implementation process since the beginning.
5	Cluster Development Executive (CDE)	CDE is the key functionary of the project who will lead the entire project under the guidance of IA/TA and NO. He is expected to implement programmes as per plan and coordinate with other stakeholders for their involvement in the programme execution process.
6	State Bank of India	Expected to provide working capital support to the IA and the JLGs for undertaking honey business on a commercial basis.
7	Madhu Sampad Karmi(MSK)	The MSK will be the village level catalyst agents who will help the honey hunters in terms of getting the programme

		benefits. They will also collect honey from the hunters at different clusters and coordinate with the VIB for smooth execution of the programmes.
8	Social organization /own Network (Vivekanada Centre for skills and Kaikhali Ashram)	Organizing, Collecting and storing of honey (Collection and initial quality test), providing facility centres for conducting training and other such programmes.
9	Khadi VI sales outlets of KVIC	Khadi and VI outlets of KVIC are expected to help in selling of the honey in their sales outlets.
10	Whole sale outlets(mother Dairy)	The institute will be using its supply chain that is already existing marketing channel for 'Fresh Oyster Mushroom' supply would be used for the same.
11	Cluster Development coordination Group(CDCG)	CDCG will be the main monitoring forum for the validation of the Action Plan and effective implementation of the proposed interventions.
12	NABARD and other Development Agencies	For convergence of resources that are not provided under the scheme to achieve the integrated development of the honey hunters/Beekeepers.

#### **FUTURE PROSPECTS OF THE SUNDERBAN BEEKEEPING CLUSTER**

The cluster has got bright future prospect because of availability of the raw honey, conducive climate and varieties of plants, flora and fauna, artisan's traditional skills, low capital investment, favourable enabling environment, marketing opportunities, scope for self employment and support of the Banks.

The scheme is a right step to regenerate traditional industry in terms of changes in practices so that the scope of employment and income generation increases and a large number of honey hunters/keepers get the benefit. Given the enhanced skill trainings, credit support, improved user friendly machineries/technologies, common facility centres, capacity development trainings, networking with important stakeholders, convergence of resources from other departments and many other structural management inputs it is expected that the project would create a positive impact in the sector in terms of economic and social gains for the poor and needy honey hunters.



**Proposed Range of Honey Based Products:**

Sl No	Name of product
1	• Honey Mango Squash
2	• Comb Lemon Squash
3	• Honey Jam
4	• Honey Candy
5	• Honey Ice-cream
6	• Honey Chocolate
7	• Honey Chikki
8	• Honey Jelly
9	• Honey Soap

**Prospective Value Chain:**

• Primary honey collectors organized in the form of SHGs/JLGs
• Honey Supply to CFC Production Centre, processing, labeling, packaging etc
• Primary Markets- Local Markets using Mother Dairy Channel
• Sales to Companies, exporters- bulk sales
• Retail sale in sales outlets in Nimpith and sales in Khadi Bhawans/ sales outlets
• Institutional Marketing – utilizing own contacts and contacts of associated stakeholders.

**Marketing Channel of the Honey Product/Arrangements for forward linkage**

Sl .No	Particulars
1	• Retails Sales through Bhavans/bhandars
2	• Whole sales to bulk buyers(Mother Dairy)
3	• Sales through exhibition
4	• Sales through honey festivals
5	• Own network/entrepreneur
6	• Export

**Feasibility of establishing CFC:**

• Land already available which is owned by Ashram and will be given for establishing the CFC workshed
• Availability of electricity
• Availability of water facility
• Central place to all periphery villages
• Reasonable communication facilities to all cluster locations
• Transportation facilities through bus, jeep etc
• IA has agreed to provide the matching contribution
• Cluster locations are well connected with rail route

**Machinery Supplier**

**M/s Shobhana Industries,**

**S 107, MIDC, Bhosari, Pune -411026**

**shobhanaindustries@gmail.com 020-27120028**

## Proposed Operational Mechanism of CFC

<ul style="list-style-type: none"> <li>• A CFC maintenance committee consisting of key stakeholders needs to be formed to look after the effective day to day functioning of the CFC</li> </ul>
<ul style="list-style-type: none"> <li>• The IA would be the custodian of the CFC and the fostering agency for the development of the cluster</li> </ul>
<ul style="list-style-type: none"> <li>• The artisans will avail the machinery support at the CFC for processing and packaging of their honey</li> </ul>
<ul style="list-style-type: none"> <li>• The artisans will be provided with a honey testing meter with bee medicines as proposed in the action plan</li> </ul>
<ul style="list-style-type: none"> <li>• The IA would mobilize fund from Banks and other sources to run the honey production center at the CFC.</li> </ul>
<ul style="list-style-type: none"> <li>• The primary producers through their SHGs/JLGs would sale honey to the production center and get the price immediately.</li> </ul>
<ul style="list-style-type: none"> <li>• The procurement price would be mutually decided based on quality and market demand of honey.</li> </ul>
<ul style="list-style-type: none"> <li>• The IA would in turn sale processed honey in different markets through established networks.</li> </ul>
<ul style="list-style-type: none"> <li>• The Beekeepers and honey hunters will get adequate information from the CFC on marketing of product and would be provided with opportunities for participation in exhibitions, sales in local and district level markets, trade fair etc on their own or with the support of the IA.</li> </ul>
<ul style="list-style-type: none"> <li>• The artisans on a rotation basis would be given opportunity to work at the production center and get income.</li> </ul>
<ul style="list-style-type: none"> <li>• Trainings and meetings etc would be conducted at the CFC and it would serve as a center for beekeeper's development.</li> </ul>
<ul style="list-style-type: none"> <li>• In the long run after the project is over nominal charges will be collected from the artisans through their SHGs/JLGs towards the maintenance cost of the machineries on being used by them</li> </ul>
<ul style="list-style-type: none"> <li>• To carry out the business activity the artisan SHGs/JLGs will be linked with the Bank for necessary credit support</li> </ul>
<ul style="list-style-type: none"> <li>• The IA will engage suitable person for the smooth management of the CFC</li> </ul>
<ul style="list-style-type: none"> <li>• The centre would be equipped with computer and other infrastructure facilities and machineries for processing and production of quality honey</li> </ul>
<ul style="list-style-type: none"> <li>• A work shed along with other facilities should be established.</li> </ul>

## Justification for proposed intervention and outcome

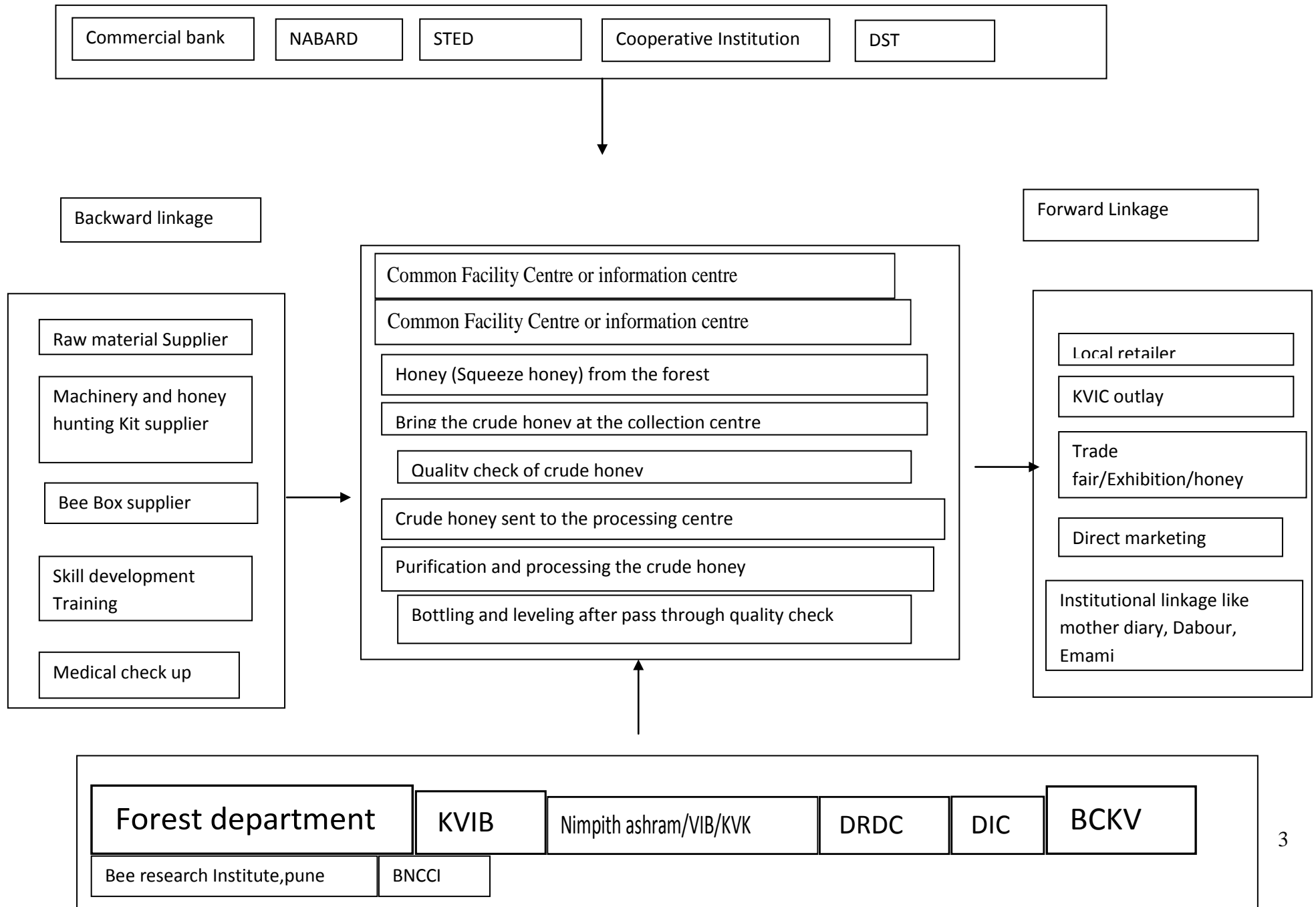
SI No	Heads of Intervention	Justification	Outcome
1	<b>Common Facility Centre</b>		
	Processing Plant	Presently raw honey is sold in the market which is valued at very low price. With the processing of honey the moisture content will be reduced and the flavor of honey could be maintained with attractive packaging	The processed honey will be soled in the market at higher price. In return the artisans will get more income return compared to what they are presently getting.
		Besides providing facilities to the artisans it will also help act as production centre on a commercial basis.	The artisans will get assured source of supply and technical supporting organization.
		Artisans will get their inputs from the centre at reasonable prices.	No trouble of middlemen exploitation
2	<b>Capacity Building Measures</b>		
	Artisan skill up-gradation training	The traditional honey hunters will get scientific knowledge and skills of rock bee honey collection Beekeepers will be also trained on scientific knowledge and latest skill on colony management and also related aspect.	The collected honey will be qualitative and hygienic There will be no harm to honey bees Productivity will be more.
	Skill training on box honey rearing, royal jelly	The rearing of box honey bees will be first time in the cluster. It	Women can be involved in rearing of

	collection, venom collection etc	will substantiate the shortfall if any due to forest honey.	box honey instead of going to forest. It will provide other by-products such as pollen, royal jelly and propolis etc.
	Artisan Exposure	The outlook of the artisans needs to be changed. It is said "seeing is believes. Therefore, they need exposure to similar clusters where good practices are being adopted. Melght in Maharastra is one such cluster for exposure of the artisans	This will bring confidence on the artisans and they will be motivated to adopt the practices and get associated with the project activities.
	Artisan Identity Cards/Photo Pass Book etc	These are required for documentation purposes	Benefits received under the project can be measured
	Awareness and publicity materials	Awareness is required not only for artisans but also for general public	This will help in production and sale of the products
	Participation in Seminars	New knowledge is necessary to keep up the present business	Enhanced knowledge and skills leading to professional business practices
	Entrepreneurship Development Training	Artisans need to turn themselves into entrepreneurs. If this takes place their income will increase substantially. Entrepreneurship Development Training will help them in this regard	Artisans will turn into entrepreneur with commercial approach of business practices.
<b>3</b>	<b>Product Development</b>	New value added products need to be developed to get maximum income return	This will motivate customers and the consumption honey will be more. More range of honey products will attract customer's attention.
<b>4</b>	<b>Market Promotion</b>		
	Show room	This is required for regular sale	There will be an

		of honey and honey based products	assured source for marketing
	Website	Will help in e-marketing	The market outreach will expand.
	Product catalogue	Will help in promoting products in the market and generating orders	Orders will be generated and more sale will take place  Publicity to the product
	Buyer-Seller Meeting	Will bring together the artisans and the buyers	Business tie-ups will develop Orders will be generated leading to more sales
	Advertisement and publicity materials	Market promotion is very much required for sale of the products	Generate product awareness among the customers Increases brand image
	Participation in national and international level exhibitions	This is required to develop forward linkages	Marketing outreach will increase. More sale will take place
<b>5</b>	<b>Survey and Study</b>	Bench market data on artisan profile is necessary for comparative analysis in future. Similarly, impact of the project need to be assessed towards the end of the project intervention	Availability of the data for comparative socio-economic analysis.  Documentation for future reference

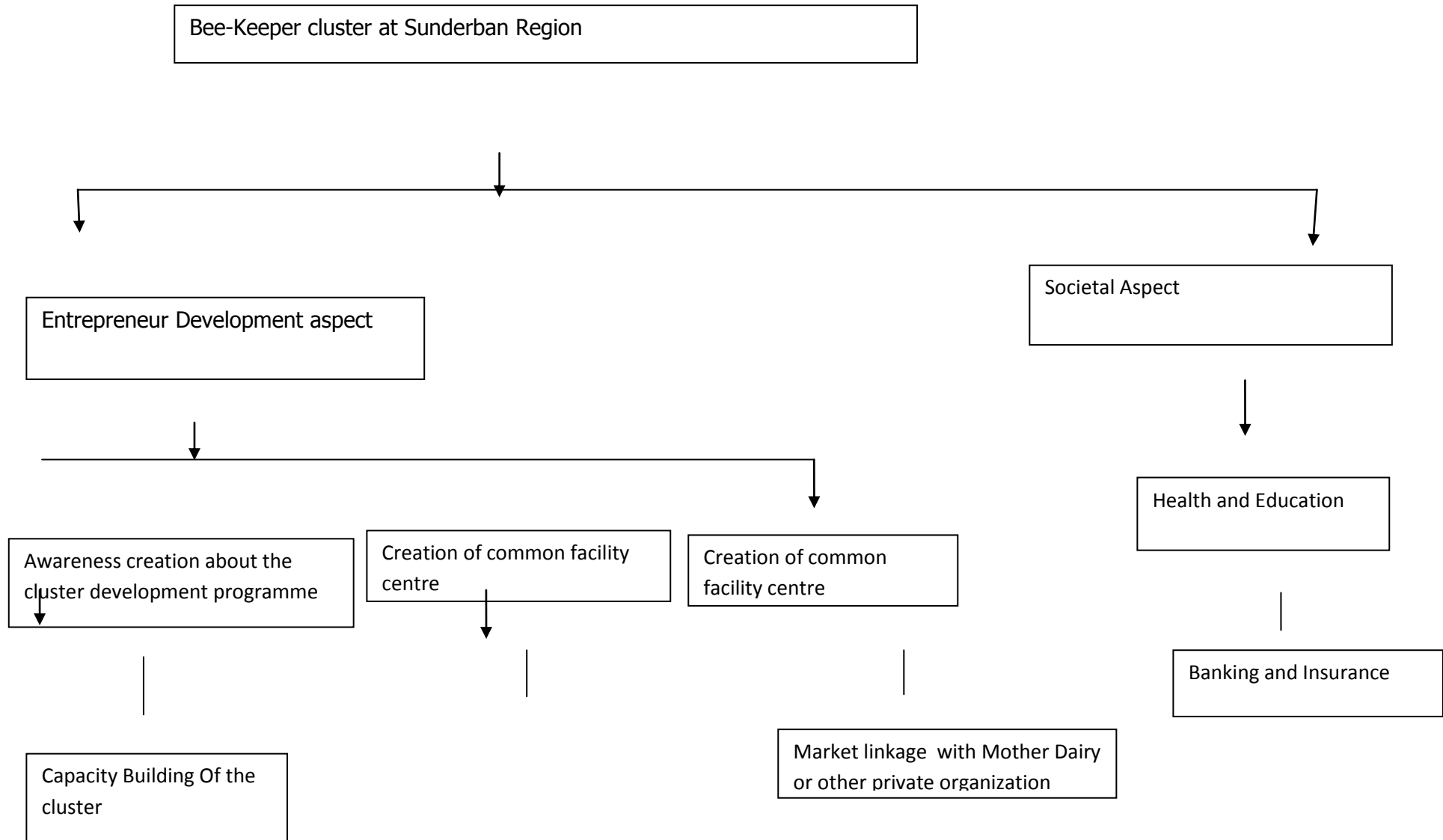


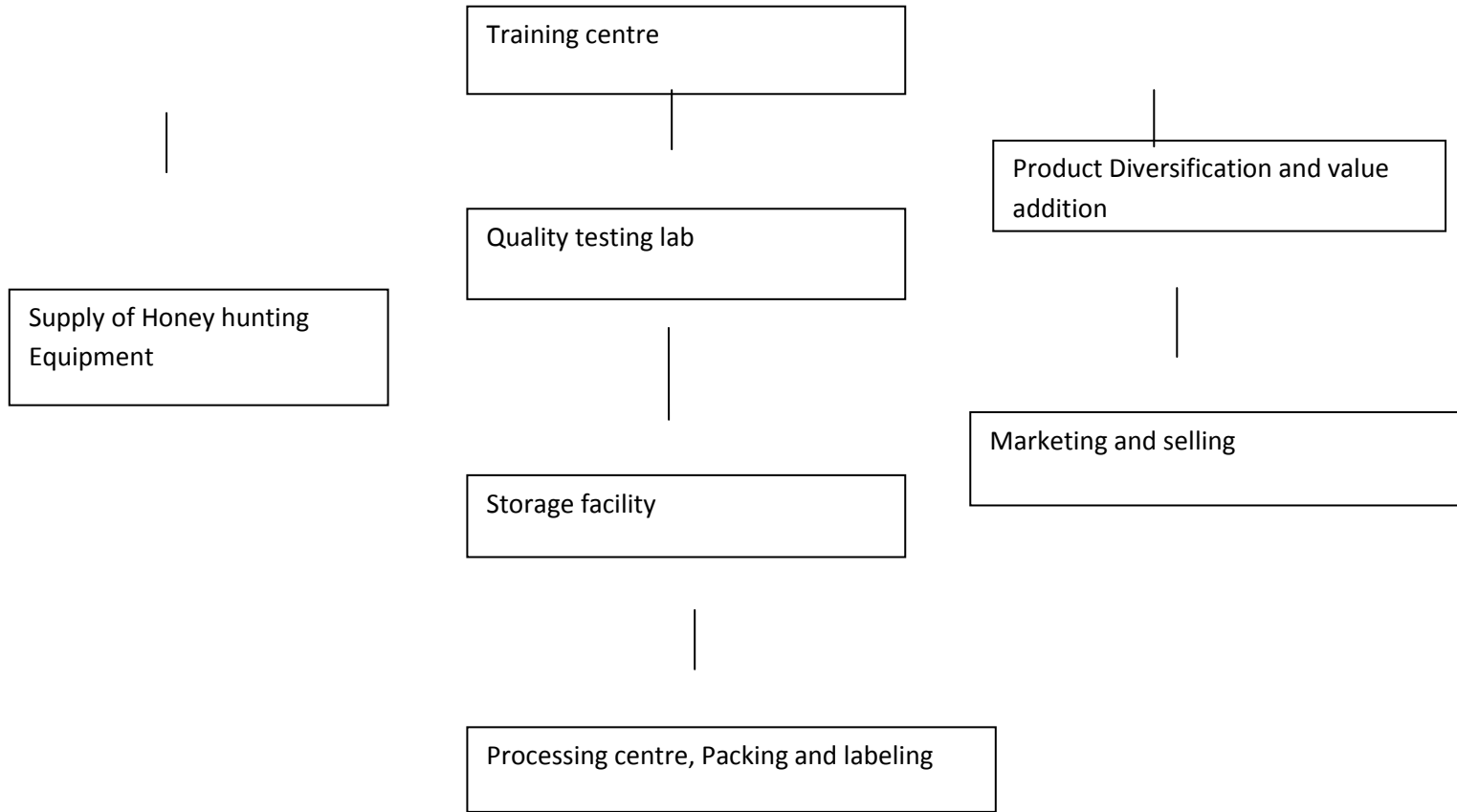
**Sunderban Rock bee honey cluster (Post Intervention)**





## Intervention Chart





# FORM-A

## 1. FINANCIAL PROGRESS (New Project yet to be started)

### A. FINANCIAL SANCTIONS:

(Rs.in Lakhs)

Sl.No	Activity Heads	Total Budget Provision per Cluster (as per OM)			Total Funds sanction extended by KVIC (as on)			Total Funds received by the Cluster (as on)		
		IA	NA	TOTAL	IA	NA	TOTAL	IA	NA	TOTAL
1	Replacement of Equipments	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	Common Facility Center	24,51,250	73,53,750	98,05,000	Nil	Nil	Nil	Nil	Nil	Nil
3	Product Development and Design Intervention	3,75,000	11,25,000	15,00,000	Nil	Nil	Nil	Nil	Nil	Nil
4	Market Promotional Assistance	Nil	49,00,000	49,00,000	Nil	Nil	Nil	Nil	Nil	Nil
5	Capacity Building Measures	Nil	49,20,000	49,20,000	Nil	Nil	Nil	Nil	Nil	Nil
6	Cost of Survey & Study	Nil	1,70,000	1,70,000	Nil	Nil	Nil	Nil	Nil	Nil

7	Cost of Implementing Agency	Nil	30,00,000	30,00,000	Nil	Nil	Nil	Nil	Nil	Nil
8	Coat of Cluster Development Executive	Nil	18,00,000	18,00,000	Nil	Nil	Nil	Nil	Nil	Nil
9	Cost of Technical Agency	Nil	10,00,000	10,00,000	Nil	Nil	Nil	Nil	Nil	Nil
10.	Working Capital	Nil	75,00,000	75,00,000	Nil	Nil	Nil	Nil	Nil	Nil
11.	IT & Managerial	Nil	10,00,000	10,00,000	Nil	Nil	Nil	Nil	Nil	Nil
12.	Food Technologist	Nil	10,00,000	10,00,000	Nil	Nil	Nil	Nil	Nil	Nil
<b>TOTAL</b>		28,26,250	3,37,68,750	3,69,95,000	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>

<b>Remarks (if any)</b>	Fund is yet to be released to the cluster.
-------------------------	--

(C.D.E):

(Implementing Agency)

(Technical Agency)

**B. FINANCIAL UTILISATION: Not Applicable since it is a new cluster**

(Rs.in Lakhs)

Sl.No	Activity Heads	Total Funds received by the Cluster			Total Funds Utilized by the Cluster			Total Funds Unspent balance available with the Cluster		
		IA	NA	TOTAL	IA	NA	TOTAL	IA	NA	TOTAL
1	Replacement of Equipments									
2	Common Facility Center									
3	Product Development and Design Intervention									
4	Market Promotional Assistance									
5	Capacity Building Measures									
6	Cost of Implementing Agency									
7	Coat of Cluster Development Executive									

8	Cost of Technical Agency									
9.	Working Capital									
<b>TOTAL</b>										

<b>Remarks (if any)</b>	Fund not yet Released
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**(C.D.E):**

**(Implementing Agency)**

**(Technical Agency)**

**PHYSICAL PROGRESS:** Diagnostic Study has been conducted and preliminary discussion has been held with key stakeholders including the beneficiaries.

**Activities Undertaken: Not applicable**

Sl. No	Activity Heads	Activities Undertaken  The activities undertaken under the head may be described in detail such as quantity of the machineries/tools procured under CFC heads, trainings organized under CBM, activities undertaken under MPA
1	Replacement of Equipments	
2	Common Facility Center	
3	Product Development & Design Intervention	
4	Market Promotional Assistance	
5	Capacity Building Measures	
6	Cost of Implementing Agency	

**B. Performance: Delivered achieved due to ADB intervention: Not Applicable**

Production (Rs.in Lakhs)	Sales (Rs.in Lakhs)	Employment (No.of Persons)						Average Earnings Increased (In Percentage)
		SC	ST	OBC	Gen.	Others	Total	

**(C.D.E):**

**(Implementing Agency)**

**(Technical Agency)**



## FORM-B

## 1. ANNUAL ACTION PLAN: 2014-15 and 2015-16

## A. Financial Plan:

Sl. No	Activity Heads	Total balance available Budget Provision per Cluster (as per OM) (Provision as per the OM (-) minus budget sanctioned to the Cluster			Financial Plan for 2014-15			Financial Plan for 2015-16		
		IA	NA	TOTAL	IA	NA	TOTAL	IA	NA	TOTAL
1	Replacement of Equipments	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	Common Facility Center	24,51,250	73,53,750	98,05,000	24,51,250	73,53,750	98,05,000	Nil	Nil	Nil
3	Product Development and Design Intervention	3,75,000	11,25,000	15,00,000	Nil	Nil	Nil	1,87,500	5,62,500	7,50,000
4	Market Promotional Assistance	Nil	49,00,000	15,00,000	Nil	2450000	2450000	Nil	20,50,000	20,50,000
5	Capacity Building Measures	Nil	49,20,000	49,20,000	Nil	2250000	2250000	Nil	19,00,000	19,00,000
6	Cost of Survey & Study	Nil	1,70,000	1,70,000	Nil	75,000	75,000	Nil	Nil	Nil
7	Cost of Implementing Agency	Nil	30,00,000	30,00,000	Nil	6,00,000	6,00,000	Nil	6,00,000	6,00,000

8	Cost of Cluster Development Executive	Nil	18,00,000	18,00,000	Nil	3,60,000	3,60,000	Nil	3,60,000	3,60,000
9	Cost of Technical Agency	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000	2,00,000
10.	Working Capital	Nil	7500000	7500000	Nil	1500000	1500000	Nil	1500000	1500000
	IT & Managerial	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000	2,00,000
	Food Technologist	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000	2,00,000
<b>TOTAL</b>		<b>28,26,250</b>	<b>3,37,68,750</b>	<b>3,69,950</b>	<b>26,56,250</b>	<b>15803750</b>	<b>18460000</b>	<b>187500</b>	<b>7572500</b>	<b>7760000</b>

<b>Remarks (if any)</b>	Newly sanctioned project. Funds not yet released.
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(C.D.E):

(Implementing Agency)

(Technical Agency)

**2. ANNUAL ACTION PLAN: 2016-17 and 2017-18**

**A. Financial Plan:**

Sl. No	Activity Heads	Total balance available Budget Provision per Cluster (as per OM) (Provision as per the OM (-) minus budget sanctioned to the Cluster			Financial Plan for 2016-17			Financial Plan for 2017-18		
		IA	NA	TOTAL	IA	NA	TOTAL	IA	NA	TOTAL
1	Replacement of Equipments	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	Common Facility Center	24,51,250	73,53,750	98,05,000	Nil	Nil	Nil	Nil	Nil	Nil
3	Product Development and Design Intervention	3,75,000	11,25,000	15,00,000	1,87,500	5,62,500	7,50,000	Nil	Nil	Nil
4	Market Promotional Assistance	Nil	49,00,000	15,00,000	Nil	3,00,000	3,00,000	Nil	1,00,000	1,00,000
5	Capacity Building Measures	Nil	49,20,000	49,20,000	Nil	2,00,000	2,00,000	Nil	5,70,000	5,70,000
6	Cost of survey & Study	Nil	1,70,000	1,70,000						
7	Cost of Implementing Agency	Nil	30,00,000	30,00,000	Nil	6,00,000	6,00,000	Nil	6,00,000	6,00,000

8	Cost of Cluster Development Executive	Nil	18,00,000	18,00,000	Nil	3,60,000	3,60,000	Nil	3,60,000	3,60,000
9	Cost of Technical Agency	Nil	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000
10.	Working Capital	Nil	7500000	7500000		1500000	1500000		1500000	1500000
	IT & Managerial	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000	2,00,000
	Food Technologist	Nil	10,00,000	10,00,000	Nil	2,00,000	2,00,000	Nil	2,00,000	2,00,000
<b>TOTAL</b>		3031250	<b>28,26,250</b>	<b>3,37,68,750</b>	<b>3,69,950</b>	<b>4122500</b>	<b>4310000</b>		<b>3310000</b>	<b>3310000</b>

<b>Remarks (if any)</b>	Newly sanctioned project. Funds not yet released.
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(C.D.E):

(Implementing Agency)

(Technical Agency)

**ANNUAL ACTION PLAN: 2018-19**

**A. Financial Plan:**

Sl. No	Activity Heads	Total balance available Budget Provision per Cluster (as per OM) (Provision as per the OM (-) minus budget sanctioned to the Cluster			Financial Plan for 2018-19		
		IA	NA	TOTAL	IA	NA	TOTAL
1	Replacement of Equipments	Nil	Nil	Nil	Nil	Nil	Nil
2	Common Facility Center	24,51,250	73,53,750	98,05,000	Nil	Nil	Nil
3	Product Development and Design Intervention	3,75,000	11,25,000	15,00,000	Nil	Nil	Nil
4	Market Promotional Assistance	Nil	49,00,000	15,00,000	Nil	Nil	Nil
5	Capacity Building Measures	Nil	49,20,000	49,20,000	Nil	Nil	Nil
6	Cost of Survey & Study	Nil	1,70,000	1,70,000	Nil	75,000	75,000
7	Cost of Implementing Agency	Nil	30,00,000	30,00,000	Nil	6,00,000	6,00,000

8	Cost of Cluster Development Executive	Nil	18,00,000	18,00,000	Nil	3,60,000	3,60,000
9	Cost of Technical Agency	Nil	10,00,000	10 ,00,000	Nil	2,00,000	2,00,000
10	Working Capital	Nil	7500000	7500000		1500000	1500000
	IT & Managerial	Nil	10,00,000	10 ,00,000	Nil	2,00,000	2,00,000
	Food Technologist	Nil	10,00,000	10 ,00,000	Nil	2,00,000	2,00,000
<b>TOTAL</b>		3031250	<b>28,26,250</b>	<b>3,37,68,750</b>	<b>3,69,950</b>	<b>3135000</b>	<b>3135000</b>

<b>Remarks (if any)</b>	Newly sanctioned project. Funds not yet released.
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(C.D.E):

(Implementing Agency)

(Technical Agency)

### Budget Summary (In Rs)

Sl No	Financial Year	IA share	NA Share	Total
1	2014-15	26,56,250	15803750	18460000
2	2015-16	187500	7572500	7760000
3	2016-17	187500	4122500	4310000
4	2017-18	Nil	3310000	3310000
5	2018-19	Nil	3135000	3135000

## Activity Plan: 2014-15 & 15-16

Sl.No	Activity Head	Activities Proposed in terms of annual action plan (Details may be indicated for the activities to be undertaken during the years)	
		2014-15	2015-16
1	Replacement of Equipments	Not Applicable	Not Applicable
2	Common Facility Centre	<ul style="list-style-type: none"> <li>➤ Construction of CFC, layout for honey processing plant including bottle filling, cap sealing, quality control laboratory, Ag-marking, Facilitation for bee medicines, bee kits</li> <li>➤ Installation of honey parlour with computer and internet facility for dissemination of information</li> <li>➤ Service and maintenance of common infrastructure</li> <li>➤ Provide facilities and services to the beekeepers for the qualitative production and marketing of honey.</li> <li>➤ Maintenance of inventory for supply of spares and other accessories etc to beekeepers.</li> <li>➤ * Input supply such as bee medicines, bee boxes with colonies, spares to the artisans</li> <li>➤ Organize procurement and supply of honey through a process of qualitative production on a commercial basis.</li> <li>➤ Formation of CFC maintenance committee consisting of important stakeholders from Govt., artisans, IA and other important stakeholders for the effective functioning of the CFC.</li> <li>➤ Organize the regular meeting of the Maintenance Committee.</li> <li>➤ Supply of honey testing meter along with bee medicines to artisans</li> </ul>	<ul style="list-style-type: none"> <li>➤ Service and maintenance of the common infrastructure</li> <li>➤ * Input supply such as bee medicines, bee boxes including colonies, spares etc to the needy artisans.</li> <li>➤ Maintenance of inventory for supply of spares and accessories etc.</li> <li>➤ Organize regular meeting of the CFC maintenance committee.</li> <li>➤ Continue procurement and qualitative production and marketing of honey and other new products</li> <li>➤ Render regular service and facility to the artisans. (* The IA would mobilize fund from other departments to operate the input supply systems for the artisans)</li> </ul>
3	Product Development and Design Intervention	Nil	<ul style="list-style-type: none"> <li>➤ Introduce CAD based design for labeling, packaging, bottling in different shapes and sizes with the help of a product designer.</li> <li>➤ Develop value added products of honey such as honey candy, honey vinegar, honey chocolate, honey squash etc as per demand of various consumer segments with the technical expertise from CBTRI, Pune/CFTRI, Mysore/IITs</li> </ul>



			<ul style="list-style-type: none"> <li>➤ Market Testing of new products</li> <li>➤ Agmarking and branding</li> </ul>
4	Market Promotional Assistance	<ul style="list-style-type: none"> <li>• Renovation/Opening of honey sales outlets</li> <li>• Creation of cluster website for facilitating e-marketing</li> <li>• Preparation of Buyer's Inventory</li> <li>• Participation in Exhibitions and Trade fair fairs of state and national standard</li> <li>• Printing of market promotion booklets/ information brochures</li> <li>• Participation in state and national level marketing seminars</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of cluster website for facilitating e-marketing</li> <li>• ISO certification</li> <li>• Printing of Product catalogue</li> <li>• Buyer seller meeting</li> <li>• Participation in Exhibitions and Trade Fair of state and national standard</li> <li>• Advertisement in print and electronic media for mass communication</li> <li>• Workshop on procedures of export marketing and network with the help of IIFT, New Delhi</li> <li>• Participate in Trade Fairs of international standards.</li> <li>• Printing of market promotion booklets/ information brochures</li> <li>• Participation in state and national level marketing seminars</li> </ul>
5	Capacity Building Measures	<ul style="list-style-type: none"> <li>• Awareness Programme on the SFURTI scheme for the artisans and other stakeholders</li> <li>• Formation/strengthening of artisan SHGs/JLG</li> <li>• Preparation of Artisan photo pass book and enrolment register</li> <li>• Skill up-gradation training on box honey keeping propel collection, pollen collection, royal jelly collection, bee venom collection with the help of CBRTI, Pune</li> <li>• Scientific skill development training for honey hunters</li> <li>• Artisans's participation in seminars/ workshops for scientific advanced knowledge</li> <li>• Artisan's exposure visit</li> <li>• Entrepreneurship Development Programme</li> <li>• Printing and dissemination of information booklets on SFURTI</li> <li>• Artisan identity card</li> <li>• Health check up camps for the artisans</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership Training Programme for SHG/JLG leaders</li> <li>• Linkage of artisans/ SHGs /JLGs with Banks for micro credit support</li> <li>• Skill up-gradation training on box honey rearing propel collection, pollen collection, royal jelly collection, bee venom collection with the help of CBRTI, Pune</li> <li>• Scientific skill development training for honey hunters</li> <li>• Strengthening of SHGs/JLGs</li> <li>• Entrepreneurship Development Programme</li> <li>• Artisan's participation in seminar/workshops for advanced scientific knowledge</li> <li>• Artisan exposure programme to successful clusters</li> <li>• Supply of Honey Boxes with colonies to the SHGs</li> </ul>

			@ 05 boxes per SHG for 30 SHGs for demonstration purpose
6	Cost of Survey & Study	<ul style="list-style-type: none"> <li>Enrolled artisan profile as baseline data for future comparison</li> </ul>	<ul style="list-style-type: none"> <li>Nil</li> </ul>
6	Cost of Implementing Agency	Rs 6,00,000/- (this has to be spent as per the guideline of the SFURTI schme)	<ul style="list-style-type: none"> <li>Rs6,00,000/- (this includes the TA/DA of IA and the CDE, cluster establishment expenses, 205 contribution towards common workshed and other recurring expenses to manage the programme)</li> </ul>
7	Coat of CDE	360000 (Mainly includes the salary and the mobility expenses)	<ul style="list-style-type: none"> <li>360000 (Mainly includes the salary and the mobility expenses)</li> </ul>
8	Cost of TA	2,00,000 (Fees towards Technical Agency)	<ul style="list-style-type: none"> <li>2,00,000(Fees towards Technical Agency)</li> </ul>
9.	Cost of Working Capital	2,00,000 (mainly includes recurring cost)	2,00,000 (mainly includes recurring cost)
10.	Cost of IT & Managerial	2,00,000 (Fees towards IT & Managerial)	2,00,000 (Fees towards IT & Managerial)
11.	Cost of Food Technologist	2,00,000 (Fees towards Food Technologist)	2,00,000 (Fees towards Food Technologist)

### Activity Plan: 2016-17 & 17-18

Sl.No	Activity Head	Activities Proposed in terms of annual action plan (Details may be indicated for the activities to be undertaken during the years)	
		2016-17	2017-18
1	Replacement of Equipments	Not Applicable	Not Applicable
2	Common Facility Center	<ul style="list-style-type: none"> <li>➤ Service and maintenance of the common infrastructure</li> <li>➤ * Input supply such as bee medicines, bee boxes including colonies, spares etc to the needy artisans.</li> <li>➤ Maintenance of inventory for supply of spares and accessories etc.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Service and maintenance of the common infrastructure</li> <li>➤ * Input supply such as bee medicines, bee boxes including colonies, spares etc to the needy</li> </ul>

		<ul style="list-style-type: none"> <li>➤ Organize regular meeting of the CFC maintenance committee.</li> <li>➤ Continue procurement and qualitative production and marketing of honey and other new products</li> <li>➤ Render regular service and facility to the artisans.</li> <li>➤ (* The IA would mobilize fund from other departments to operate the input supply systems for the artisans)</li> <li>➤ Supply of honey testing meter along with bee medicines to artisans</li> </ul>	<p>artisans.</p> <ul style="list-style-type: none"> <li>➤ Maintenance of inventory for supply of spares and accessories etc.</li> <li>➤ Organize regular meeting of the CFC maintenance committee.</li> <li>➤ Continue procurement and qualitative production and marketing of honey and other new products</li> <li>➤ Render regular service and facility to the artisans. (* The IA would mobilize fund from other departments to operate the input supply systems for the artisans)</li> </ul>
3	Product Development and Design Intervention	<ul style="list-style-type: none"> <li>➤ Develop Value added products of Honey such as Honey Jam, Honey Jelly as per demand of various market segments.</li> <li>➤ Take the technical help of CBTRI, Pune/CFTRI, Mysore/IITs</li> <li>➤ Market Testing of new products</li> </ul>	Nil
4	Market Promotional Assistance	<ul style="list-style-type: none"> <li>• Updating of cluster website for facilitating e-marketing</li> <li>• Buyer-seller Meeting</li> <li>• Participation in Exhibitions and Trade fair fairs of state and national standard</li> <li>• Advertisement in print and electronic media</li> <li>• Participate in Trade fairs of international standards</li> <li>• Printing of market promotion booklets/ information brochures</li> <li>• Participation in state and national level marketing seminars</li> </ul>	<ul style="list-style-type: none"> <li>• Buyer seller meeting</li> <li>• Participation in Exhibitions and Trade Fair of state and national standard</li> <li>• Advertisement in print and electronic media for mass communication</li> <li>• Workshop on procedures of export marketing and network with the help of IIFT, New Delhi</li> <li>• Participate in Trade Fairs of international standards.</li> <li>• Printing of market promotion booklets/ information brochures</li> <li>• Participation in state and national level marketing seminars</li> </ul>
5	Capacity Building Measures	<ul style="list-style-type: none"> <li>• Capacity building of SHGs/JLGs</li> <li>• Skill up-gradation training on propel collection, pollen collection, royal jelly collection, bee venom collection with the help of CBTRI, Pune</li> <li>• Scientific skill development training</li> <li>• The be3ekeepers and Honey hunter's participation in seminars/ workshops for scientific advanced knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership Training Programme for SHG/JLG leaders</li> <li>• Linkage of artisans/ SHGs with Banks for micro credit support</li> <li>• Entrepreneurship Development Programme</li> <li>• Artisan's participation in seminar/workshops for advanced scientific knowledge</li> </ul>

		<ul style="list-style-type: none"> <li>• Artisan's exposure visit</li> <li>• Entrepreneurship Development Programme</li> <li>• Health check up camps for the artisans</li> <li>• Convergence of resources from other departments</li> </ul>	<ul style="list-style-type: none"> <li>• Artisan exposure programme to successful clusters</li> <li>• Convergence of resources from other departments</li> </ul>
6	Cost of Implementing Agency	Rs6,00,000/- (the amount has to be spent as per the guideline of the SFURTI scheme))	<ul style="list-style-type: none"> <li>• Rs 600,000/- (the amount has to be spent as per the guideline of the SFURTI scheme))</li> </ul>
7	Coat of CDE	360000 (Mainly includes the salary and the mobility expenses)	<ul style="list-style-type: none"> <li>• 360000 (Mainly includes the salary and the mobility expenses)</li> </ul>
8	Cost of TA	2,00,000(Towards the fees of the Technical Agency)	<ul style="list-style-type: none"> <li>• 2,00,000(Towards the fees of the Technical Agency)</li> </ul>

### Activity Plan: 2018-19

Sl.No	Activity Head	Activities Proposed in terms of annual action plan (Details may be indicated for the activities to be undertaken during the years)
		2018-19
1	Replacement of Equipments	Not Applicable
2	Common Facility Center	<ul style="list-style-type: none"> <li>➤ Service and maintenance of the common infrastructure</li> <li>➤ * Input supply such as bee medicines, bee boxes including colonies, spares etc to the needy artisans.</li> <li>➤ Maintenance of inventory for supply of spares and accessories etc.</li> <li>➤ Organize regular meeting of the CFC maintenance committee.</li> <li>➤ Continue procurement and qualitative production and marketing of honey and other new products</li> <li>➤ Render regular service and facility to the artisans.</li> <li>➤ (* The IA would mobilize fund from other departments to operate the input supply systems for the artisans)</li> </ul>

3	Product Development and Design Intervention	➤ Nil
4	Market Promotional Assistance	• Continue regular production and marketing
5	Capacity Building Measures	• Escorting of the SHGs/JLGs, IA and CDE to continue cluster development activities • Convergence of funds from other departments to satisfy the emerging needs of the cluster artisans.
6	Cost of survey and study	• Impact evaluation study
7	Cost of Implementing Agency	Rs 6,00,000/- (this includes the TA/DA of IA and the CDE, cluster establishment expenses, 205 contribution towards common workshed and other recurring expenses to manage the programme)
8	Coat of CDE	3,60,000 (Mainly includes the salary and the mobility expenses)
9	Cost of TA	2,00,000(Towards the fees of the Technical Agency)
9.	Cost of Working Capital	2,00,000 (mainly includes recurring cost)
10.	Cost of IT & Managerial	2,00,000 (Fees towards IT & Managerial)
11.	Cost of Food Technologist	2,00,000 (Fees towards Food Technologist)

**Performance: Deliveries to be achieved due to ADB intervention:**

Year	Production (Rs.in Lakhs)	Sales (Rs. In.Lakhs)	Employment (No.of Persons)						Average Earnings Increased (in Percentage)
			SC	ST	OBC	Wom en	Others( Minorit y)	Total	
Existing	24,00,000	24,00,000	15 4	370	61	210	35	620	
2014-15	10920000	10920000	13 4	370	61	Nil	35	600	50%

2015-16	14700000	14700000	13 4	370	61	Nil	35	600	53%
2016-17	15600000	15600000	13 4	370	61	Nil	35	600	75%
2017-18	16500000	16500000	13 4	370	61	Nil	35	600	83%
2018-19	19500000	19500000	13 4	370	61	Nil	35	600	80%
	77220000	77220000							

**(Projected production volume multiplied by projected market price = Production and sales figures)**

**(C.D.E):**

**(Implementing Agency)**

**(Technical Agency)**

**D. Micro Activity Plan: 2014-15****I. Replacement of Equipments: Nil**

Sl.No	Details of the activities Proposed in terms of annual action plan 2014-15 (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/no.of beneficiaries to be benefited	Funds proposed (Rs.in Lakhs)
1	Nil	Nil	Nil
2			
Total		Nil	Nil

**II. Common Facility Center**

Sl. No	Details of the activities Proposed in terms of annual action plan 2014-15 (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/no. of beneficiaries to be benefited	Funds proposed (Rs.in Lakhs)
1	Installation of New Machineries& Honey processing plant Details in Annexure-I	Direct Artisans-600+,Indirectly may-1000+ artisans	2935000
3	Construction of Work Shed	- Do-	6000000

4	Power Connection	Do	150000
5	Regular meeting of the CFC maintenance committee	Do	20,000
6	Honey quality measurement Instrument with honey bee medicine-@ one kit per artisan @ Rs 700/-	Do	4,20,000
		BSNL Server hiring charge	4,00,000
		Generator & solar equipments	3,00,000
<b>Total</b>			<b>1,06,25,000</b>

Note: For construction of CFC the given budget may not be sufficient. Similarly the cost of establishing the processing plant may be more while establishing the plant. Therefore the additional requirement of fund on the top of the given budget limit may be considered to establish proper infrastructure for the honey cluster.

**III. Product Development and Design intervention: There will be no intervention on this head during the first year**

Sl.No	Details of the activities Proposed in terms of annual action plan 2008-09  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/No. of beneficiaries to be benefited	Funds proposed  (Rs.in Lakhs)
1	CAD based Design Development Programme for packaging, labeling, bottling as per different sizes with the help of technical expert, Ag-marking & branding, ISO etc.s		



2	Value added product development such as honey candy, honey vinegar, honey chocolate, honey squash etc with the technical expertise from CBTRI, Pune/CFTRI, Mysore/IITs		
3	Market Testing of the new products and product improvement		
<b>Total</b>			

**IV. Market Promotional Assistance:**

Sl.No	Details of the activities Proposed in terms of annual action plan 2008-09  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/No. of beneficiaries to be benefited	Funds proposed (Rs.in Lakhs)
1	Honey Parlor Kolkata or Nimpith	620 Appx.	10,00,000
2	Launching of Website/ up-grading		1,00,000
3	Preparation of buyer's inventory		100000
4	Participation in Various State, National and International Trade Fairs and Exhibitions		100000
5	Bee keepers accessories		30,00,000
6	Printing of publicity materials		100000
7	Van for collection honey from different honey collection centre		400000
<b>Total</b>		<b>620</b>	<b>4900000</b>

## V. Capacity Building Measures

Sl.No	Details of the activities Proposed in terms of annual action plan 2014-15  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/ no.of beneficiaries to be benefited	Funds proposed  (Rs.in Lakhs)
1	Artisans Awareness Programme on Cluster Development Scheme under ADB of KRDPs, Proposed Intervention and Role of other Stakeholders @ Rs 5000/- per batch for 12 batches	620	60,,000
2	Formation/Strengthening of Artisan SHGs @Rs.2, 000/SHG for 30 SHG	620	60,000
3	Trainer's Training on scientific Skill Up gradation Training @Rs.3, 000/- per Artisan for 60 Artisans (selected artisans)	2 selected artisans from 30 SHGs	1,80,000
4	Trainer's Training on Skill Up gradation Training on propel collection, pollen collection, bee venom collection etc @Rs.3, 000/- per Artisan for 60 Artisans	2 selected artisans from 30 SHGs	1,80,000
4	Leadership Training on SHG/JLG management and Accounts @Rs.2, 000/ per Participant for 30 participants	30 SHGs x 1 Participant = 30	60,000
5	Artisan photo pass book and enrolment register @ Rs 100/- per artisan for 616 artisans	616	61,600
6	Entrepreneurship Development Training Programme	30 participants from 30 SHGs	60,000

	@Rs.2, 000/ per Participant for 30 participants		
7	Artisan's Exposure to other successful clusters outside of the state @ Rs 5000/- per participant for 15 artisans	15 artisans from 15 SHGS	75,000
8	Printing of awareness, publicity materials	Lump sum	13,400
10.	Health camp for regular basis	620	1500000
<b>Total</b>			<b>7,50,000</b>

**VI. Cost of Implementing Agency**

Sl.No	Details of the activities Proposed in terms of annual action plan 2014-15  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/no. of beneficiaries to be benefited	Funds proposed  (in Rs)
1	TA/DA for IA Representatives		30,000
2	TA/DA for CDE		30,000
3	Expenses towards establishment of Cluster, Office Procurement of office equipments such as Furniture, Fax Machine, Laptop, Telephone, Computer,		50,000
4	Contribution towards construction of Common Work shed for CFC		40,000
	Establishment expenses for Cluster Office, Office rent, Electricity, Telephone Charges, Organizing meetings, guests expenses, Press meets, Coordination cost etc.		40,000
5	Miscellaneous expenses		10,000
<b>Total</b>			<b>2,00,000</b>

**Note: -** The Break up of I.A Cost has been estimated as per the circular issued by Directorate of SFURTI vide circular No-DSFURTI/Policy/6502/2008-09 dated 29<sup>th</sup> September-2008

**VII. Cost of Cluster Development Executive**

Sl.No	Details of the activities Proposed in terms of annual action plan 2014-15  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/no.of beneficiaries to be benefited	Funds proposed  (in Rs.)
1	Monthly Consolidated Salary	1	3,00,000
2	TA/DA of CDE within the Cluster		30,000
3	Miscellaneous expenses		30,000
<b>Total</b>			<b>3,60,000</b>

**VIII. Other Activities**

Sl.No	Details of the activities Proposed in terms of annual action plan 2014-15  (Details may be indicated for the activities proposed to be undertaken during the year)	Deliveries/no.of beneficiaries to be benefited	Funds proposed  (in Rs.)
	Cost of further sSurvey and study	620	75,000

- V. Cost of Technical Agency: Rs 2,00,000/-
- VI. Cost of IT Managerial: Rs 2,00,000/-
- VII. Cost of Food Technologist: Rs 2,00,000/-
- VIII. Cost of Working Capital :15,00,000/-

IX. **Note: The above estimate is based on the financial limits given as per the scheme. However, additional funds may be considered wherever necessary based on the practical reality at the time of implementing the project activities.**

**Annex-1**

**Installation of Machineries for honey Processing Unit**

Sl.No	Equipments	Unit cost and total units required	Total Amount(In
1.	Honey Processing Plant	1 (300 kg capacity)	18,00,000
2.	Honey Filling Machine	1	2,00,000
3.	Cap Sealing Machine	1	1,80,000
4.	Labeling, Pasting and Gumming Machine	1	1,25,000
5.	SS Storage Tank, crates, Trolley	1	6,30,000
	Total		29,35,000

**Artisan Kit (To be distributed to the artisans)**

1. Honey quality measurement meter along with

Bee medicines @ Rs 700/- per artisan for 600 artisans = Rs 4,20,000/-



## CONCLUDING REMARK

There is tremendous scope for promoting the honey beekeeping industry in the cluster. Given the inputs of the scheme the project is expected to create lasting impact on the targeted beneficiaries in terms of gainful employment, increased income, social benefits, changes of practice etc. We have tried our best to put in the relevant information in this report that was available to us. We are grateful to KVIC, particularly the State Director, Nodal Officer, Deputy CEO (EZ), the CDE and the representative of the IA and the honey hunters who have cooperated with us in terms of providing relevant information and completing the assignment. We expect that the report would help the concerned authorities to effectively plan, execute and monitor the project. **The proposed budget is as per the financial limit of the scheme. The additional budget provision may be considered based on the practical situation at the time of implementing the project activities.**

### Gender Activity Programme:

The women of the area though continue to be outnumbered by males but the gap is slowly closing. The literacy rate is a concern for the wild honey hunters and despite the fact that the rates for female is increasing, but still they lag well behind in this aspect of their human development. It is a common trend that the women and girls tend to have lower nutritional status. Their work is counted less than men's work including their inputs to household maintenance, prawn seed collection, cash crop production, post harvest processing, home- gardening, home based industries, and managing the house hold matters including the social issues, rearing children while the male counterpart is away from home. Against this background insufficient resources are channeled into women's development and cycles of poverty are perpetuated.

Against this background in this project the role of women in processing of wild honey, its testing, storage, in the apiary activities will be ensured. As it will be a producer group based activities and finally a federation/producer company will be formed their predominant role will be made sure. As the institute is already managing a Women Technology Park, the same will take lead to enforce it.

Annexure - II

Human Resource on 23.06.2014

SI No.	Name of the Employee	Designation	Qualification
1	Dr. B.K.Datta	Director	M.Sc. PhD.
2	Dr. Y.Ramalakshmi Datta	Joint Director	M.Sc. PhD.
3	Dr. Sisir Kr. Si	Programme Officer Level -I	M.Sc. PhD.
4	Dr. Sadhan Kumar Das	Programme Officer Level -I	M.Sc. PhD.
5	Shri Dhritiman Biswas	Technical Officer Level -II	M.Sc.
6	Shri Ranadeb Sinha	Technical Officer Level -II	M.Sc.
7	Shri Alope Kumar Kayal	Programme Profesional Level -II	B.Com.
8	Shri Salil Kumar Sahoo	Programme Officer Level -I	M.Sc. PhD.
9	Md. Gopal Molla	Senior Field Assistant – Level I	VIII
10	Shri Madan Malik	Senior Internal Service Assistant – Level I	VIII
11	Shri Sujoy Adhikary	Lab Attendant – Level II”	VIII
12	Shri Gopal Das	Internal Service Assistant – Level I	V
13	Saswati Purakayastha(Ghosh)	Lab Technician – Level IV	B.Sc.
14	Shri Tarun Kanti Das	Technical Officer Level -I	M.Sc.
15	Shri Chandan Pramanik	Internal Service Attendant – Level III	Madhyamik, ITI
16	Shri Dibakar Naskar	Internal Service Attendant – Level III	B.A.
17	Shri A. K. Mukherjee	Office Manager - Internal Service	B.E.
18	Shri Dipankar Halder	Lab Attendant – Level II	H.S.
19	Mrs. Sudha Mistry	Lab Attendant – Level II	B.A.
20	Ms.Archana Chatterjee	Prog. Professional	M.Sc.
21	Sri Dipankar Halder (Jr)	Internal Service Attendant – Level II	H.S.
22	Miss. Debjani Kayal	Lab Technician– Level III	B.A.
23	Shri Tarun Kanti Majumdar	Technical Assistant Level -II	B.Sc.
24	Shri Monoranjan Mandal	Internal Service Attendant – Level II	Madhyamik
25	Shri Pradip Baidya	Technical Officer Level -I	M.Sc.
26	Shri Sowreesh Bhattacharyya	Technical Officer (IT) Level -II	MCA
27	Shri Prokash Bhattacharyya	Programme Profesional Level -II	B.Com.
28	Shri Rajib Guha	Community Development Officer	MRDM
29	Shri Monoj Bagani	Technician (Apiculture)	Madhyamik
30	Shri Sandip Bairagi	Community Development Officer	MBA
31	Shri Srikrishna Das	Internal Service Attendant – Level II	VIII
32	Shri Manash Mandela Sur	Assistant AICP	MRDM
<b>Advisors</b>			
33	Dr. Ajit Kumar Podder	Advisor	M.Sc. PhD.
34	Shri Manimoy Chattopadhyay	Advisor	M.Sc.
35	Shri Chandan Narayan Sur		M.Com.
<b>WTP Gangasagar - ICZM Project</b>			

37	Ms. Dipti Mitra	Programme Coordinator	M.A. B.Ed.
38	Shri Sanjay Haldar	Trainer	B.Sc.
39	Shri Tarun Kumar Debnath	Procurement and Marketing Officer	MRDM
40	Shri Sovan Hazra	Documentation Officer	Masters in Mass Communication
41	Shri Provanjan Das	Field Facilitator	M.A.
42	Ms. Sonali Santra	Field Facilitator	B.A.
43	Ms. Asima Das	Field Facilitator	B.A.
44	Shri Gouranga Pramanik	Field Facilitator	B. Sc.

This institute is capable to act as technology providers as because of the following features:

- It is a R&D institute
- Recognized by Burdwan University as PG research lab
- Recognized by DSIR , Ministry of Science & Technology, Govt of India as a SIRO
- It is having reasonably good infrastructure to conduct different research programs, though for apiculture extra facilities are to created
- In the whole region there no place where researcher/farmer can go for better technology
- No place for technical guidance to the potential entrepreneurs to venture on other products of honey industry
- To promote this technology this region needs a good research as well as resource centre to support the technology
- It has been organizing EAP/ EDP regularly with the support from DST/KVIC
- It is recognized by KVIC as EDI
- It is a MSME Business incubator

- **Annexure III LIST OF BENEFICIARIES**

**Among 620 beneficiaries (Beekeepers) , 370 male and 210 female. Most of them are belonging to ST, SC families. Some are OBC and minority.**

**SC-134**

**ST-370**

**OBC-61**

**Others-35**



**THRISSUR BEEKEEPING CLUSTER'S DETAILED PROJECT REPORT (DPR)  
UNDER FINANCE-KRDP OF ADB IN VILLAGE INDUSTRY CATEGORY**

**MAJOR CLUSTER**

**Implementing agency Kerala Khadi and Village Industries Association  
–P.O., Ollur, Thrissur, Kerala Pin 680313 India. Ph.0487-  
2342408,2352598**

**Technical Agency**

**CENTRAL BEE RESEARCH AND TRAINING INSTITUTE**

**PUNE 410 016**

**Nodal Agency**

**Office for Commissioner Khadi and Village Industries**

**MMSME**

# Contents

# Chapter- I

## Executive summary

1	Name of the Cluster	<b>THRISSUR BEEKEEPING CLUSTER</b>												
2	Title of the study	Diagnostic study Report on formation of <i>Apis cerana</i> (Hived bee) beekeepers and <i>Apis Dorsata</i> Rock bee Hunters of Thrissur Beekeeping Cluster Kerala (under KRDP-V.I. category of ASIAN DEVELOPMENT BANK with guidance of Khadi and V.I. Commission												
3	Objectives	<ul style="list-style-type: none"> <li>• Provide situation analysis of beekeeping activities in selected clusters.</li> <li>• To establish infrastructure should be easily accessible to the beekeepers and Bee hunters</li> <li>• Identify issues in beekeeping and solutions</li> <li>• Identify market potential of beekeeping activities</li> <li>• Assess potential of cluster to be covered under cluster development interventions</li> <li>• To develop the cluster involving Beekeepers and Bee hunters</li> </ul>												
4	Location	<p>The beekeepers and bee hunters are located around Thrissur mainly</p> <table border="0"> <thead> <tr> <th><b>Name of the Block</b></th> <th><b>Villages covered</b></th> </tr> </thead> <tbody> <tr> <td>PUZHAKKAL</td> <td>Adat, Kolazhy, Avannur,</td> </tr> <tr> <td>WADAKKANCHERY</td> <td>Kaiparamb,Mulamkunnathukav</td> </tr> <tr> <td>CHALAKUDY</td> <td>Vazhani, Viripacca, Machad</td> </tr> <tr> <td>OLLUKARA</td> <td>Kodakara,Amballur,Puthukad</td> </tr> <tr> <td></td> <td>Mannuthy, Vellanikara, Paravattany,</td> </tr> </tbody> </table>	<b>Name of the Block</b>	<b>Villages covered</b>	PUZHAKKAL	Adat, Kolazhy, Avannur,	WADAKKANCHERY	Kaiparamb,Mulamkunnathukav	CHALAKUDY	Vazhani, Viripacca, Machad	OLLUKARA	Kodakara,Amballur,Puthukad		Mannuthy, Vellanikara, Paravattany,
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OLLUKARA	Kodakara,Amballur,Puthukad													
	Mannuthy, Vellanikara, Paravattany,													
5	Existence of the cluster	This is pioneer beekeepers and rock bee honey collectors since very long												
6	Production of honey													
7	Annual turnover	48.49 (in lakhs)												
8	Cluster vision	<ul style="list-style-type: none"> <li>• Establishment of common facility centre for processing of raw honey which one extracted by beekeepers and collected by bee hunters of the Thrissur area.</li> <li>• Establishing Laboratory to analyse honey and pollen which is available in the area.</li> <li>• Market promotion activities via current khadi sales outlets and new generation shopping malls and govt departments like consumer fed and market gradation</li> </ul>												

		<ul style="list-style-type: none"> <li>• Mobilization of beekeepers and capacity development</li> <li>• Value added products of honey, pollen and Appe therapy.</li> <li>• To promote tribal community in this region</li> <li>• Social upliftment of the beekeepers as well honey hunters</li> </ul>
9	Major strength	<ul style="list-style-type: none"> <li>• Thrissur area has abundance of bee flora</li> <li>• Beekeepers and bee hunters are very interesting to do the beekeeping activity</li> <li>• Well organized of Khadi sales outlets and other marketing opportunities</li> <li>• Agricultural, Horticultural and Forest departmental are promoting beekeeping activity.</li> <li>• The Cluster has reputation philosophy of Mahatma Gandhi</li> <li>• Resource persons are available</li> <li>• Most of the area under this cluster engaged in Agriculture</li> </ul>
10	Major problems	<ul style="list-style-type: none"> <li>• Beekeepers and bee hunters are very much in lack of scientific and modern beekeeping technology</li> <li>• Beekeepers are facing harassment from check post during local and state to state migration of their bee colony for honey production</li> <li>• Beekeepers are not getting good price for their honey</li> <li>• Honey processing unit and laboratory is not available</li> <li>• Tradition method of honey processing</li> <li>• Beekeepers are not organized and no federation</li> <li>• Mediators exploitation in honey marketing</li> </ul>
11	Action plan	<ul style="list-style-type: none"> <li>• Identification of beekeepers and honey collectors/development of data base/initial bench marking</li> <li>• Identification of CD group</li> <li>• Awareness creation and capacity building on the subject matter for the beneficiaries</li> <li>• Workshop on grouping approach formation of groups</li> <li>• Establishment of the collection network and testing centres</li> <li>• Establishment of the brand</li> <li>• Setting up direct marketing out let and linkage with other sales centres</li> <li>• Establishment of the common facility centre</li> <li>• Designing and promoting of different value added products.</li> </ul>
12	Programme duration	3 years
13	Proposed Budget	Rs.135.25



# **Introduction**

## **Beekeeping in India**

The vast agriculture, horticulture and forest cover of India coupled with over dominance of its majority of rural population on agriculture and allied occupations make beekeeping one of the most important potential village industry. Because of the low level of mechanization involved, the beekeeping industry offers direct employment to lakhs of people especially hill dwellers, tribals. Sustainability of this industry is therefore vital to the country's economic well being and development.

It is a proven fact that beekeeping improves the economic condition of the farmers, restrict the migration of rural youth to urban areas and helps in holistic development of rural society. It is the only enterprise which did not create any problem to the nature, does not require more capital investment and skilled labour. This profession can be successfully adopted by well to do as well as small/marginal farmers, farm-women, landless labourers, rural unemployed youth and retired or in-service personals. This enterprise has minimum land and structural requirement. Initial cost to start this profession is also very nominal and recurring cost in negligible.

Beekeeping is the most suitable component for up liftment and development and has ample scope in India to develop as a prime agri-horticulture and forest based rural industry. It can be used in rural development programmes designed to increase the income of individuals as well as of the group and thus has great potential in raising the economic and social status of rural communities. The peculiarity of this agro based rural industry is that it does not compete with any branch of animal husbandry.

As a village industry, it is of considerable importance as it can provide opportunity for employment and extra income to unemployed youth and the farmers, respectively. It can be started by anyone who is skilled or unskilled, man or woman, old or young, working or retired, children and even physically handicapped because of the light nature of the work. The landless cultivators in particular can add extra income to their principal source of income. It can be adopted at any level i.e. side line, important subsidiary, semi commercial or commercial enterprise depending upon the availability of local resources and other social and cultural factors.

## **Objectives of the survey**

- Provide situation analysis of beekeeping activities in selected clusters
- Identify issues in beekeeping and solutions
- Identify market potential of beekeeping activities
- Assess potential of cluster to be covered under cluster development interventions

## **Beekeeping**

Tribal population and forest dwellers in several parts of India have honey collection from wild honey bee nests as their traditional profession. The major regions for production of this honey are the forests and farms along the sub-Himalayan tracts and adjacent foothills, tropical forest and cultivated vegetation in Rajasthan, Uttar Pradesh, Madhya Pradesh, Maharashtra and Eastern Ghats in Orissa and Andhra Pradesh.

## **Process of beekeeping**

The raw materials for the beekeeping industry are mainly pollen and nectar that come from flowering plants. Both the natural and cultivated vegetation in India constitute an immense potential for development of beekeeping. About 500 flowering plant species, both wild and cultivated, are useful as major or minor sources of nectar and pollen. There are at least four species of true honey bees and three species of the stingless bees. Several sub-species and races of these are known to exist. In recent years the exotic honey bee has been introduced. Together these represent a wide variety of bee fauna that can be utilized for the development of honey industry in the country.

Side by side with the development of apiculture using the indigenous bee, *Apis cerana*, apiculture using the European bee, *Apis mellifera*, gained popularity in Jammu & Kashmir, Punjab, Himachal Pradesh, Haryana, Uttar Pradesh, Bihar and West Bengal. Wild honey bee colonies of the giant honey bee and the oriental hive bee have also been exploited for collection of honey.

Beekeepers sell the honey to the co-operative society, if one exists in the area. In many parts of India, the beekeeper gets a much higher price if he sells it directly to the consumer.

## **Products of beekeeping**

**Honey:** Production of honey is the prime objective of any person engaged in beekeeping. A beekeeper generally gets 10-15 kg honey per colony from *A. mellifera* and 8-10 kg from *Apis cerana* but with migratory beekeeping, beekeepers in Himachal Pradesh, Punjab, Jammu and Kashmir and Bihar are obtaining 50-70 kg honey per colony of *A. mellifera*. The maximum honey yield from a single colony of *A. mellifera* from Himachal Pradesh has been reported to be 110 kg. Honey has domestic, medicinal and industrial uses. There is a vast difference in price of raw honey and processed honey. Raw honey costs about Rs. 90 to Rs 100 per kg and processed honey @ Rs. 250 to Rs 300 per kg or more without any consideration of quality and packing. Raw white honey from 'Shain' (*Plectranthus rugosus*) is valued at @ Rs 300 to Rs. 350 per kg in some parts of Himachal Pradesh.

**Pollen:** It is another product which can be easily collected by putting a pollen trap at hive entrance. During a good pollen flow season, it is possible to harvest 0.5 to 1.0 kg of pollen per day from one hive of *A. mellifera* and sold @ Rs. 100/kg. Maximum use of pollen is for feeding bees as pollen supplement during the dearth period. Farmers /children can also collect pollen from maize crop during its flowering which after sun drying can be kept in air tight containers

and later sold to beekeepers at the time of pollen dearth period. Pollen is suitable for medical and prophylactic purposes. It is effective for treating hyper tension when mixed with honey (1:1). It can be used for complaints of nervous and endocrine systems. It is also used in various cosmetic preparations.

**Royal jelly:** It is produced by nurse bees to feed the queen bee throughout her larval and adult life, and also young worker and drone larvae. Royal jelly can be produced by dequeening a colony and harvesting the jelly from newly constructed queen cells. On an average, it requires 1000, 3-day old cells to produce 500gm of royal jelly and sold @ Rs 4000/kg. Royal jelly has a reputation as a panacea, aphrodisiac and rejuvenator. It is used to make medicines and nutritional supplements.

**Bee venom:** It can be commercially obtained by stimulating large number of bees by electric shock (8-12 volts) to sting through a sheet of nylon parchment taffeta above two sheets of thin polyethylene (0.025 mm thick), stretched over the collection board. Another method is to pass electric current through the sheet of gel or silicone and bees standing on this react by stinging in to it where it is deposited. About 50 mg venom can be obtained per colony and sold @ Rs 1000/g. It has been used to cure polyarthritis, infectious-polyarthritis, spondylosis deformans, neuralgia, rheumatism, certain eye diseases like iritis and iridocyclitis, skin diseases (tuberculosis of skin), inflammation of sciatic, facial and other nerves, hypertension etc. It is also known to lower down the cholesterol level.

**Propolis:** It has anti-microbial properties and is effective in healing wounds as a medicine for removing corns and good anesthetic in dental medicine. It is used as veterinary ointments for treating cuts, abscesses and wounds of animals. About 300g of propolis can be obtained from one colony per year and sold @ Rs 500/kg.

## **Apiculture technology**

Modern beekeeping is possible only with a proper management of bees, utilizing the local plant resources and adapting to the local climatic conditions. It makes heavy use of beekeeping equipment and honey processing plant. This results in high efficiency and also ensures the quality of the processed honey.

Apiary honey is produced in bee hives and is harvested by extraction in honey extractors. Other types of beekeeping equipment like queen excluder, smoker, hive tool, pollen trap, honey processing plant are also used.

There are several types of indigenous and traditional hives including logs, clay pots, wall niches, baskets and boxes of different sizes and shapes. In modern beekeeping, the combs are built on wooden frames that are moveable. This facilitates inspection and management of bee colonies. Three types of moveable frame hive are in common use : the Newton type along with its standardized version ISI Type A, the Jeolikote Villager, and its counterpart ISI Type B, and the Langstroth type. Besides the hives, the beekeepers need equipment and implements like the hive stand, nucleus box and smoker. The industry also needs equipment and machinery for handling and processing of honey, beeswax, for manufacture of comb foundation sheets, and for other

operations.

Apiary honey is usually processed at the producers level. This consists mainly of heating the honey and filtering. A few beekeepers or honey producers co-operative societies have better processing facilities that involve killing of honey fermenting yeasts. About 50 per cent of the apiary honey under the KVI sector is graded and marketed under AGMARK specifications. Earlier the consumption of honey was estimated to be about 8.4 g per capita, while in other countries this was 200 g. Presently this would be about 2.5 Kg.

### **Seasonal management of beekeeping**

Seasonal management of bee colonies varies in different parts of the country although the basic management methods are the same. Flow management, dearth management, provision of feeding, and control and cure of bee disorders, bee diseases, pests and enemies, are some of the routine measures to keep bee colonies healthy and strong. There are special management techniques like queen rearing, migration for honey production or for colony multiplication, which the beekeeper takes up after he gains sufficient knowledge and experience in handling bee colonies.

### **Beekeeping as industry**

#### *Global*

Country	2008-09		2009-10	
	Qty (tons)	Value (million US \$)	Qty (tons)	Value (million US \$)
United States	9,319.42	18.4	9,067.86	20.5
Germany	1,330.56	3.1	980.77	2.44
Belgium	956.95	2.41	825.23	2.31
United Kingdom	816.92	2.04	833.65	2.15
Saudi Arabia	1,518.74	3.18	517.98	1.16
United Arab Emirates	271.54	0.55	175.25	0.37
Morocco	329.4	0.65	231.99	0.36
Yemen Republic	180.83	0.33	139.5	0.29
Japan	15.02	0.05	29.27	0.16
Kuwait	76.72	0.14	71.03	0.15

Source: DGCIS,

#### *India*

About 70,000 tons of honey is produced in India. Out of this, 40,000 tons is forest honey and apiary honey produced under the KVI sector is estimated upto 30,000 tons in 2008-09. Forest honey is usually collected by tribals in forests and is procured by forest or tribal corporations as a

minor forest produce. Quite a large quantity is also collected by groups or individuals on their own. Forest honey is usually thin, contains large quantity of pollen, bee juices and parts, wax and soil particles.

India has a potential to keep about 120 million bee colonies, that can provide self-employment to over 6 million rural and tribal families. In terms of production, these bee colonies can produce over 1.2 million tons of honey and about 15,000 tons of beeswax. Organized collection of forest honey and beeswax using improved methods can result in an additional production of at least 120,000 tons of honey and 10,000 tons of beeswax. This can generate income to about 5 million tribal families. This will need a provision of 6 million bee boxes with few spare ones creating an employment of 5000 persons in a year. Comb foundation sheets will also be needed to be manufactured for each hive. This can generate employment for 5000 more persons (projections for 2009 -10 based on recommendation of National Commission on Agriculture).

Much of the forest honey is sold to the pharmaceutical, confectionery and food industries, where it is processed and used in different formulations.

### **Progress of beekeeping during last 5 years**

Year	Beekeepers (Lakh)	Bee colonies (Lakh)	Honey production (Lakh)	Sale value
1995-96	2.73	6.10	2743.04	3173.46
1996-97	2.56	7.96	3182.72	3807.82
1997-98	2.41	8.14	3257.80	3196.45
1998-99	2.41	8.21	3282.30	4253.62
1999-00	2.29	7.64	4584.22	4321.07
2000-12	2.60	16.00	70,000M.T.	

*Apiacta 4, 2002*

### **Market for beekeeping industry**

Indian honey has a good export market. With the use of modern collection, storage, beekeeping equipment, honey processing plants and bottling technologies the potential export market can be tapped.

Apiary honeys are usually multifloral when marketed by state-level marketing organizations, because honeys from different sources are mixed while pooling, storage and processing. Several unifloral honeys are available in markets restricted to small areas within the state where it is produced. Honey from Rubber plants contributed to over 60 per cent of the total apiary honey production during 1990-91.

One often finds a good demand for local honey like honey from Mahabaleshwar. People in Maharashtra have a strong liking for jamun, hirda or gela honeys which have acquired special individual medicinal significance. Similarly, kartiki honey in Kumaon, Uttar Pradesh is locally much favored. Some honeys have an essentially non-local market. Rubber tree honey can only be sold in non-local markets. Coorg honey with its characteristic flavour is well-known. Shain or sulah honey from Kashmir has been very popular. Presently litchi honey from Bihar and other northern states is in great demand. The price structure is regulated by the market forces of supply and demand. Beekeepers in well-known hill stations and other places of tourist attraction take advantage of the popularity of honey and can market their produce at remunerative prices.

Much of the forest honey is sold to the pharmaceutical, confectionery and food industries, where it is processed and used in different formulations.

### **Beekeeping Cluster under KVIC**

The establishment of Khadi and Village Industries Commission to revitalize the traditional village industries hastened the development of beekeeping. During the 1980s, an estimated one million bee hives had been functioning under various schemes of the Khadi and Village Industries Commission. Production of apiary honey in the country reached 10,000 tons, valued at about Rs. 300 million. The production in 2009-10 is estimated to be 30,000 tons from KVI alone.

Under KVIC, 194 registered institutions are mostly engaged in Khadi activities and some of them are involved in beekeeping programmes. Every state has a Beekeeping Association and one or two beekeeping institutions to facilitate the beekeeping activities in the state.

The Directorate of beekeeping has taken up marketing of honey as departmental activity since 1970's to help the beekeepers co-operatives in disposing of stock of honey. There are departmental marketing depots at Ernakulam (Kerala), Pune (Maharashtra) and Delhi to take care the marketing aspect of south, central and north India respectively. These depots purchased, processed, graded and marketed the honey. A floor price for honey is fixed on season to season and place to place basis, considering the local factors. The beekeepers can supply their excess honey at the floor price to the depots. This protects both the producer and the consumers from exploitation by private traders. Besides this, there is a chain of marketing, sales outlets throughout the country owned by KVIC departmental such as Major Bhavans (Seventeen) and Institutions/Cooperatives (Fifteen thousands). Some beekeepers co-operative societies as well as institutions are also marketing honey having established their own processing plants and Agmarking facilities. Besides this, the private limited such as, Dabar, Baidyanath, Charak, Zandu, etc. are also processing and marketing honey through their own marketing outlets. Honey processing plant developed by KVIC and installed by institutions has moisture reduction system to reduce percentage of moisture in the honey, which can facilitate for export of honey.

### **Employment in beekeeping industry**

It is estimated that India has 50 million hectares under cross pollinated crops that are benefitted by Honey bees pollination 3 to 9 bee colonies depending of crop per hectare are generally required for adequate pollination. Even if a minimum of 3 colonies per hectare are considered essential, then about 150 million colonies would be needed for assured pollination of 50 million

hectare crops. Against this requirement, only 1 million bee-colonies are available at present (Agrobios, 2011<sup>1</sup>). It can generate self-employment for over 15 million rural and tribal families, and can produce annual income of over Rs. 4.5 billion by producing 1,50,000 tons of honey<sup>2</sup> alone,

**Fabrication and manufacturing activities:** With the development of beekeeping, a number of subsidiary industries will also develop which include fabrication of hives, nucleus hives and other bee equipments like honey extractors, comb foundation mills, bee veils, smokers, queen excluder sheets, hive tools, iron stands, swarm catching nets, uncapping knives, queen cages and gates, uncapping trays, hand gloves, ant proof bowls (ant wells), pollen traps and other allied tools. All these equipments and tools can be manufactured by rural artisans thus creating additional employment for them in carpentry, black smithy and tailoring, etc. It also includes the manufacture of honey processing plants and containers for packing honey and other hive products.

**Processing and marketing activities:** The marketing of honey, bees wax and other hive products explore the marketing services like processing, packing and transport packaging. This can open new vistas for unemployed and underemployed youth. Even honey from rock honeybee can be profitably utilized for value addition products.

**Multiplication of colonies and queen bees:** Multiplication of colonies and their sale is another aspect of employment generation and a good source of income. A colony (excluding beehive) with 4-frames bee strength, queen right and with optimum amount of brood, pollen and nectar/honey is generally sold @ Rs 600/colony. About 25 per cent of the total colonies can be increased and sold. Similarly, queens produced in the colonies selected for economic traits like disease resistance, higher honey production, higher brood rearing, etc. can also be sold at nominal rate (say Rs 50/queen). Mass queen rearing is another area for employment generation. A beekeeper can produce about 200 queens per colony per annum and sell them to the needy beekeepers for replacing their unproductive queen bees.

**Employment through engagement in transportation activities:** It includes the transport of honey bee colonies for pollination purpose, migration of colonies from hills to plains to overcome winter and transport of produce and manufactured equipments.

Beekeeping is such an enterprise which can provide employment to people throughout the year. It can give employment to idle hands of rural masses during idle hours and help them to earn their livelihood or additional income for better living. It is, however, a high risk enterprise and depends upon favourable weather conditions for honey production. Therefore, beekeepers need financial support during seasons of bad honey harvest to sustain their colonies for the next season. To boost this industry, there is an urgent need of government aid and strategy.

## **Potential for product development and diversification**

### **Honey Products:**

- Liquid honey
- Cream honey
- Honey spread
- Honey drinks in different flavours e.g. lemon, orange, ginger
- Honey chocolates
- Honey biscuits
- Honey cake
- Honey milk
- Honey sweets, chikki
- Honey coated dry fruits
- Honey jam
- Honey jelly
- Honey ice-cream
- Beeswax applications
- Comb foundation sheets for bee keeping
- Coating for ammunition
- Surface coating
- Paints
- Warnishes for furniture
- Base ingredients for cosmetics
- Content of medicines like skin ointments
- Toys
- Decorative articles
- Bee pollen
- Bee feed for breeding during pollen dearth period
- Medical: allergy treatments
- Nutraceutical products with various herbs, as protein substitutes
- Royal Jelly
- Dry powder for nutraceuticals and health products
- Medical applications: Rejuvenator and improving genetical characters
- Feed for queen bees

### **Propolis**

- Propolis powder for food and pharmaceutical applications
- Source of antibiotic activity
- Propolis liquid for consumption
- Propolis as natural resin for surface coating



## **Bee venom**

- Medical: Injections for arthritis and rheumatism treatment, venom power for various applications in pharmaceutical

## **Methodology of Survey**

Common methodology was followed for conducting survey in the selected clusters. Orientation was given to the co-ordinators from KVIC and staff concerned with the survey regarding the methodology before initiation of the survey.

### **Selection of cluster**

The clusters were selected on the basis of following criteria:

- Consistent and active involvement in beekeeping under KVIC
- Concentration of persons undertaking beekeeping activities
- Potential for cluster development under KRDP

### **Selection of respondents for primary data**

Respondents for the survey included beekeepers, and honey traders.

### **Tools for survey**

Semi-structured Questionnaire was used for primary data collection.

### **Method and process of data collection**

#### **i) Sample survey**

The staff of beekeeping VI of KVIC themselves conducted the survey with the help of questionnaire from 3.06.2014 to 28.06.2014 there are 345 Beekeepers who are maintaining around 5,869 *Apis cerana colonies* (Male-251 and female 94 apart from this 114 Bee Hunters are collecting honey from *Apis dorsata* by traditional method due to this the the honey bees are disappearing. If they get new technology, training with Bee man's Kit they can collect hygienic honey and they can improve their life style.

#### **ii) Focus Group Discussions (FGD)**

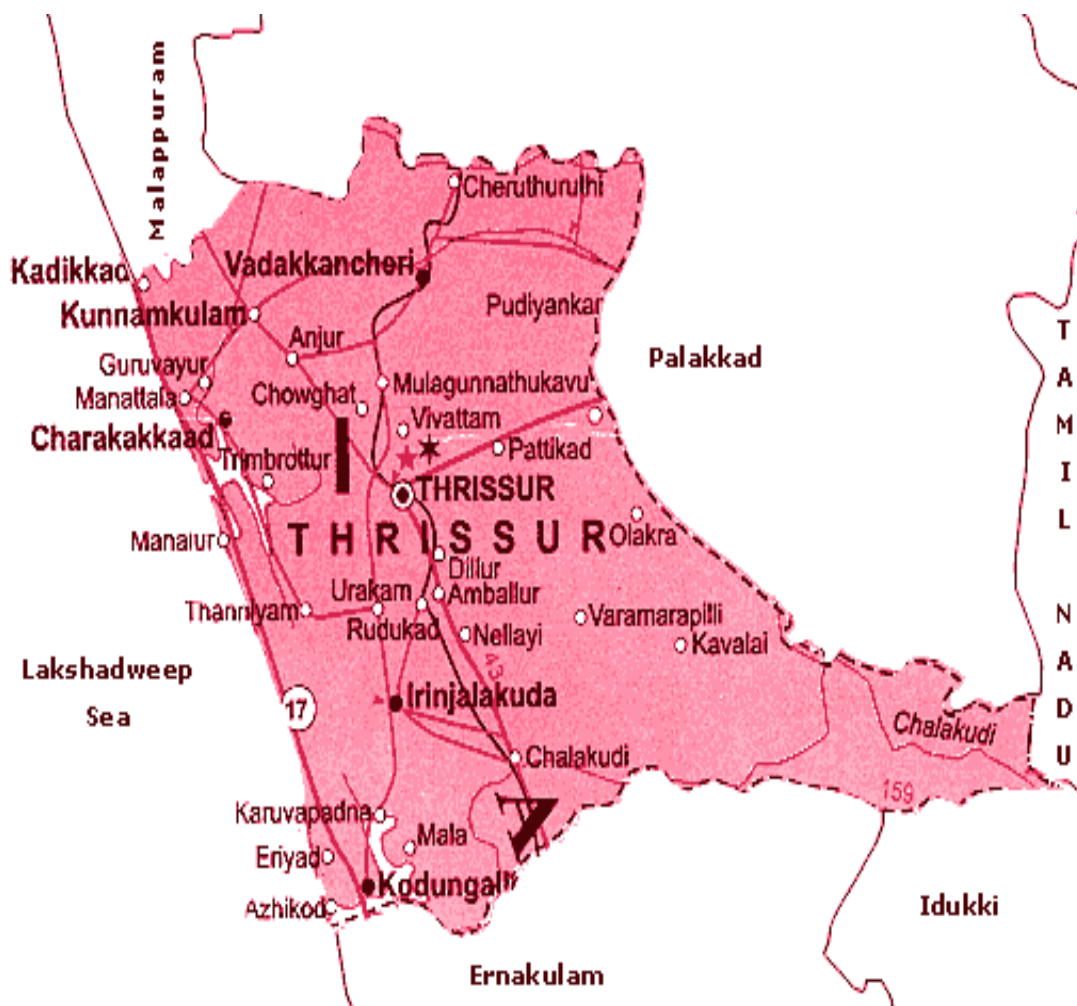
FGDs were conducted in the cluster involving stakeholders like beekeepers, entrepreneurs, traders and experts in beekeeping. About 80 people participated in the focus group discussion. The participants were divided into 5 groups and recommendations were chalked out from each group as shown in Annexure - 1

#### **iii) Supporting videos and photographs**

Primary data was supported with and photographs. As shown in annexure -2.

### **Preparation of Detailed Survey Report**

The data collected through the surveys was processed and analyses by SNTD College of Management. The draft reports were developed by the respective officials at CBRTI who had co-ordinated the surveys in the selected clusters.



## THRISSUR CLUSTER

### Introduction

Thrissur (also Trichur, Trishur; Malayalam: Sanskrit: is a revenue district of Kerala situated in the central part of that state. Spanning an area of about 3,032 km<sup>2</sup>, Thrissur district is home to over 10% of Kerala's population. Thrissur district was formed on July 1, 1949, with the headquarters at Thrissur City. Thrissur is known as the cultural capital of Kerala, and the land of Poorams. The district is famous for its ancient temples, churches, and mosques. Thrissur Pooram is the most colourful and spectacular temple festival in Kerala.

From ancient times, Thrissur District has played a part in the political history of south India. The early political history of the District is interlinked with that of the Cheras of the Sangam age, who ruled over vast portions of Kerala with their capital at Vanchi. The whole of the present Thrissur District was included in the early Chera Empire. The District can claim to have played a part in fostering the trade relations between Kerala and the outside world in the ancient and medieval period.



Cheraman Jama Masjid built around 612 AD by Malik Ibn Dinar. First mosque constructed in India. A block of white marble in the mosque is believed to have been brought from Mecca.

Kodungalloor, which had the distinction of being the "Primum Emporium India", gave shelter to all the three communities which have contributed to the prosperity of Malabar. These three communities are the Christians, the Jews and the Muslims. The history of Thrissur district from the 9th to the 12th centuries is the history of Kulasekharas of Mahodayapuram and the history since 12th century is the history of the rise and growth of Perumpadappu Swarupam.

In 1790 Raja Rama Varma (1790–1805) popularly known as Saktan Tampuran ascended the throne of Cochin. With the accession of this ruler the English or modern period in the history of Cochin and of the District began. Saktan Tampuran was mainly responsible for the destruction of the power of the feudal Nair chieftains and increase of royal power. Another force in the public life of Trichur and its suburbs was the Namboodithiri community and Menons of Royal ancestry. A large part of the Trichur Taluk was for long under the domination of the Yogiatiripppads, the ecclesiastical heads of the Vadakkunnathan and Perumanam Devaswoms.

The wave of nationalism and political consciousness which swept through the country since the early decades of this century has its repercussions in the District as well. Thrissur District has been in the forefront of the country-wide movement for temple entry and abolition of untouchability. The Guruvayur Satyagraha is a memorable episode in the history of the national movement.

## Demographics

According to the [2011 census](#) Thrissur district has a [population](#) of 3,110,327,<sup>[2]</sup> roughly equal to the nation of [Mongolia](#)<sup>[3]</sup> or the US state of [Iowa](#).<sup>[4]</sup> This gives it a ranking of 113th in India (out of a total of 640).<sup>[2]</sup> The district has a population density of 1,026 inhabitants per square kilometre (2,660 /sq mi) .<sup>[2]</sup> Its [population growth rate](#) over the decade 2001-2011 was 4.58%.<sup>[2]</sup> Thrissur has a [sex ratio](#) of 1109 [females](#) for every 1000 males,<sup>[2]</sup> and a [literacy rate](#) of 95.32%.<sup>[2]</sup> Thrissur was also the second highest urbanized district in [Kerala](#) after [Ernakulam](#).<sup>[5]</sup>

According to the 2001 India [census](#), Thrissur District had a population of 2,975,440.<sup>[6]</sup> Males constitute 49% of the population and females 51%. Thrissur has a literacy rate of 86%, higher than the national average of 59.5%: male literacy is 87%, and female literacy is 85%. 10% of the population is under 6 years of age. [Hindus](#), [Christians](#) and [Muslims \(16.43%\)](#) constitute the bulk of the population, with Hindus as the majority, with 59.24%, closely followed by Christians(24.21%).

The [Ezhavas](#) are numerically the most dominant Hindu community of Thrissur followed by Dheeverars and [Nairs](#). [Ambalavasis](#) and [Tamil brahmins](#) also form a percentage of the Hindu population. The Scheduled Castes, around 12% of the population of the district, also form a section among the Hindus of the district. The [Catholics](#) - both [Syro Malabar](#) and [Latin](#), [Jacobites](#) and [Chaldeans](#) are the main sections of the Christian Community in the district. [Catholics](#) constitute 90% of the Christian population of the district spreading in 5 [dioceses](#) namely [Thrissur](#) (4,60,000), [Irinjalakkuda](#) (2,52,000) and [Kottapuram](#) (75,000). Jacobites and Chaldean Syrians constitute the rest.

[Kunnamkulam](#), a small town in the northern part of the district is the center for the Jacobites. Jacobite church (50000 followers) has its Thrissur [diocese](#) centered at [Mannuthy](#). Chaldean Syrians spread around Thrissur city with 25,000 followers. A church known as Thozhiyoor church has its own headquarters at [Guruvayur](#) with 7000 followers. [Malankara Orthodox Church](#) has a few hundreds of followers in the district. [Muslims](#) live predominantly in the coastal belt of the district, from north Punnayoorkkulam to South Azhikode. They are dominant in [Guruvayur](#) and [Chavakkad](#), in good numbers [Kodungalloor](#), Kaipamangalam and [Nattika](#) areas [Sunnis](#) are the major section in Muslim community.

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### **Scope and Objectives of the Diagnostic Study:**

- To present the existing status of the cluster
- To find out the roadblocks that is hindering the development of the cluster
- To analyze the strengths, weakness, opportunities and Treats (SWOT)
- To analyze business operation and identify suitable potential areas for intervention.
- To prepare an action plan for implementation in the cluster.

## **Study Methodology**

- Visit to the artisan clusters in Thrissur bio-sphere and collection of vital information
- Interaction with various stakeholders such as supporting organizations, input suppliers, artisans, market players etc.
- Interactive discussion with the artisans for Strength, Weakness, Opportunity and Threat (SWOT) analysis.
- Discussion with the implementing Agency and the Nodal Officer/Beekeeping Staff
- Study of documents available with the Implementing Agency.

## **Demographic and Geographic Data**

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District	Thrissur
Area	3,032
Population	29,74,232
Males	14,22,052
Females	15,52,180
Sex ratio : Females/1000	1,092
Density of Population	981
Per Capita Income (in Rs)	21,362
Literacy rate	92.27%; Male 95.11%; Female 89.71%
Coastal line in km.	54
Water bodied area in ha.	5,573
Forest area in ha.	103619

## Geography and climate

Thrissur is situated in south western India 10.52°N 76.21°E and is in the central part of Kerala, India. Thrissur is at sea level and spans an area of about 3032 km<sup>2</sup>. It is bounded on the north by Malappuram district, on the east by Idukki district, Palakkad district and Coimbatore district of Tamil Nadu, on the south by Ernakulam district, and on the west by the Arabian Sea (54 km).

Descending from the heights of the Western Ghats in the east, the land slopes towards the west forming three distinct natural divisions - the highlands, the plains and the sea board

The Periyar, the Chalakudy, the Karuvannur, the Kurumali River (main tributary of the Karuvannur river) and the Ponnani (Bharatha Puzha) are the main river systems in the district. They take their origin from the mountains on the east, and flow westward and discharge into the Arabian Sea. There are a number of tributaries also joining these main rivers. There are waterfalls such as Athirappilly Falls which is vastly known as "Indian Niagra" nowadays.

The district has a tropical humid climate with an oppressive hot season and plentiful and seasonal rainfall. Annual rainfall is about 3000 mm. The hot season from March to May is followed by the South West Monsoon season from June to September. The period from December to February is the North East Monsoon season. However the rain stops by the end of December and the rest of the period is generally dry.



Eastward panoramic view



Westward panoramic view

### a) Agri-horticultural crops:

Thrissur District accounts for more than 95% of the production of natural rubber in the state of Kerala. Due to the ideal soil and climatic conditions existing in Thrissur district, the natural rubber yield from here has the finest superior quality in India. Rubber plantation mainly cultivated in the hilly areas, while paddy and other crops are mainly cultivated in the plain area near the coast. The areas of major crops are has given under:

<b>Name of the crop</b>	<b>Area in Hectar in Thrissur Dist.</b>
Rice	23098
Rubber	15460
Banana	2141
Cashewnut	2148
Palmyra	1631
Areca nut	5932
Coconut	86476
Tapioca	1234
Pulses	2948
Mango	6920
Ginger	81
Pepper	1888
Tamarind	46
Medicinal Plants	2378
Jack Fruit	

### b) FOREST FLORA:

The forests in Thrissur District are about 75 million years old. The total District area is 1671.3 km<sup>2</sup>, government forests occupy an area of 504.86 km<sup>2</sup> which comes to about 30.2% the total geographical area of the district. The forests of the district are administered through the Thrissur Forest Division, with headquarters at Thrissur, the capital of Thrissur District.

There are 14 types of forests from luxuriant tropical wet evergreen to tropical thorn forests. This variety occurs in the district because of diverse locality factors.[20] Rainfall varies from 103 cm to 310 cm elevation from sea level to 1829 m. The forest area is 30.2% of the total district geographical area which is next to Nilgiris District with 59% and Dharmapuri District with 38% in Tamil Nadu State. 52% of the district's forests are classified as dense forests, which is second only to Dharmapuri District with 58%.

The forests contain species such as *Mesua ferrea*, *Bischofia javanica*, *Vitex altissima* to smaller trees of Dillini a species festooning climber, shrubs, valuable herbs, variety of orchids, two types of canes, many indigenous palms and cycas. The important timbers are teak, rosewood, vengai and aini. Various types of forest products like bamboos, reeds, canes, soft wood, tamarind, lemon grass, rubber, coconut, areca nut, terminalia chebula, cinnamon bark nelli, cardamom, mango and many medicinal plants are harvested in this district. The Maruthuvalmalai, a hill located among green paddy fields and coconut palms, is famous for valuable medicinal plants. This is the only district in Tamil Nadu where rubber and clove plantations have been raised in reserve forests in an area of 47.857 km<sup>2</sup> and 1.1 km<sup>2</sup> respectively. The district is rich in wildlife with at least 25 types of mammals, about 60 species of birds including 14 species of migratory birds and many species of fishes, reptiles and amphibians .

### **C) Medicinal plants**

The Thrissur district in Kerala State is endowed by nature with several hills and mountains with rich herbs of medicinal value and minerals. Malayan Colony and Aathivasi Colony, a hill in the district located near Athirappally, literally means medicinal hill, and is referred to by Therapeutics (Buddhist monks) who belonged to the period of Emperor Ashoka, as having medical and spiritual heritage. According to traditional beliefs, the hill was a piece of the mountain Gandha Madhana which dropped, while the mountain was being carried by Hanuman to Lanka during the epic war between Rama and Ravana. The list of some bee forage plants that provide both pollen and nectar during different months are given in the floral calendar of Thrissur District.

### **D. Fauna:**

The flora and fauna of Thrissur District are vast and diverse. Animals on the hills of the district include Bengal Tiger, Elephant, Sambar Deer, Porcupines, Hedgehogs and wild boar, while pied kingfisher, Painted Stork and cranes are commonly found in the water bodies and wetlands. Reptiles include Monitor Lizards, Pythons, Blood Viper and other snakes.



In Athirappally hills (about 4,000 ft (1,200 m) above sea level), one can find Elephant, Tiger, Leopards and deer. Leopard cubs often stray onto the highway near the hills and are sometimes run over by motorists.

The Peechi Dam and Manamangalam hills are habitats for wild Elephants and Indian Bison. The Athirappally hills are the breeding centers for the Indian rock pythons and Indian Bison. In the Petchi Dam wetlands, one can see several varieties of storks and migratory birds during specific seasons. Trout and other varieties of freshwater fish are found in the Peechi reservoir.

## FLORAL CALENDAR OF THRISSUR DISTRICT

Sr. No.	Botanical Name of the Plant	Family	Poll en Nec tar	Local Name	Flowering period
	<i>Acacia auriculiformis</i> A. Cunn.	Mimosaceae	P	Seemai acacia	July-September
	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	P N	Villavam	March-May
	<i>Areca catechu</i> L.	Arecaceae	P	Kamugu	Throughout the year
	<i>Azadirachta indica</i> A. Juss.	Meliaceae	P N	Veppu	February-March
	<i>Borassus flabellifer</i> L.	Arecaceae	P N	Panai	March-April
	<i>Ceiba pentandra</i> (L) Gaertn	Bombacaceae	P N	Vel Elavu	February-March
	<i>Leucas aspera</i> Spreng.	Lamiaceae	P N	Thumpai	June-August
	<i>Manihot esculenta</i> Cran.	Euphorbiaceae	P	Maravalli	April-May
	<i>Mimosa intsia</i> L.	Mimosaceae	P	Kattu seekai	May-August
	<i>Mimosa pudica</i> L.	Mimosaceae	P	Thottalvadi	Most of the year
	<i>Morinda tinctoria</i> Roxb.	Rubiaceae	P N	Manjinathi	March-May
	<i>Moringa oleifera</i> Lamk.	Moringaceae	P N	Murungai	January-March, July-August
	<i>Ocimum basilicum</i> L.	Lamiaceae	P	Thiruneth pachilai	July-August
	<i>Ocimum sanctum</i> L.	Lamiaceae	P	Thulasi	Most of the year
	<i>Oryza sativa</i> L.	Poaceae	P	Nellu	August-Sept, Jan-Feb
	<i>Peltophorum peterocarpum</i> DC.	Caesalpiniaceae	P N	Manjal konnai	March-July
	<i>Phaseolus aureus</i> Roxb.	Fabaceae	P N	Pachai payaru	August-September

	<i>Phaseolus vulgaris</i> L.	Fabaceae	P N	French Bean	August-September
	<i>Psidium guajava</i> L.	Myraceae	p	Koyya	May-June
	<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	P N	Vengai	June-August
	<i>Santalum album</i> L.	Santalaceae	N	Santhanam	December-January
	<i>Sapindus emarginatus</i> Vahl.	Sapindaceae	P N	Soap-nut	April-May
	<i>Schleichera oleosa</i> Oken	Sapindaceae	P N	Puvanavu	March-April
	<i>Sechium edule</i> (Jacq.) Sw.	Cucurbitaceae	P N	Chow-chow	July-August
	<i>Strychnos nux-vomica</i> L.	Strychnaceae	P N	Yetti	October-November
	<i>Syzygium cumini</i> (L) Skeels	Mytaceae	P N	Naaval	April-May
	<i>Tamarindus indica</i> L.	Caesalpiaceae	P N	Puli	April-May
	<i>Terminalia</i> Spp.	Combretaceae	P N	Vellai maruthu	May-July

P- Pollen            N- Nectar

## Cluster at a glance

Name of the Institution	Kerala Khadi and Village Industries Association, A+ Category (Top Most Category) by the Khadi & V.I. Commission
Address of the Institution	Kerala Khadi and Village Industries Association, Avinissery- P.O., Ollur, Thrissur, Kerala. Pin: 680313
Name of the Cluster	THRISSUR BEE-KEEPING CLUSTER
Present Activities of the Cluster	Processed honey is packed in bottles pack in big plastic cartons and And sent to fifteen major outlets of Kerala Khadi Association. The price of processed honey is decided by honey price fixation Committee of KVIC.
Details of Implementing Agency : Main / Associate	KERALA KHADI AND VILLAGE INDUSTRIES ASSOCIATION, AVINISSERY P.O., OLLUR, THRISSUR, KERALA. PIN: 680313
Affiliated to KVIC / KVIB	Yes, To KVIC
Details Office bearers	Chairman : M.N. Krishnankutty Secretary : V. Kesavan Treasurer : K.K. Divakaran
Fax Number	0487 - 2352598
Bank Account details Name of the Bank A/C	Canara Bank, Ollur Branch 0862261005017
Whether interest subsidy under ISEC Scheme availed  (Interest Subsidy Eligible Certificate)	YES
If Yes, Amount of ISEC availed during last three years.	2009-2010 - 200.00 Lakhs 2010-11 - 3000.00 Lakhs

	2011-12 - 400.00 Lakhs																				
Budgetary Allocation (2011-12)	30 Lakhs (Only for Honey Processing)																				
Experience in KVI or similar other programme	60- Years																				
Certification details may be given	KRL-224																				
Any other expertise / specialised work of the Institution	Khadi Carpentry work Ginjelly Oil Production Cane Furniture Production Soap Production Bed Production																				
Major Products of the cluster (Taking the performance on Annual basis for 2011-12)	Raw Honey and Processed Agmark honey																				
Name of the Products produced in the cluster	<table border="1"> <thead> <tr> <th>Year</th> <th>Production (Rs.in Lakhs)</th> <th>Sales (Rs. In.Lakhs)</th> <th>Employment</th> </tr> </thead> <tbody> <tr> <td>Existing</td> <td>26773 kg</td> <td>14000 kg</td> <td>496</td> </tr> <tr> <td>2016-17*</td> <td>34000 kg</td> <td>18000 kg</td> <td>644*</td> </tr> <tr> <td>2017-18*</td> <td>43500 kg</td> <td>24000 kg</td> <td>837*</td> </tr> <tr> <td>2018-19*</td> <td>55000 kg</td> <td>30000 kg</td> <td>1088*</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Projected Production,sale and employment</li> </ul>	Year	Production (Rs.in Lakhs)	Sales (Rs. In.Lakhs)	Employment	Existing	26773 kg	14000 kg	496	2016-17*	34000 kg	18000 kg	644*	2017-18*	43500 kg	24000 kg	837*	2018-19*	55000 kg	30000 kg	1088*
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2017-18*	43500 kg	24000 kg	837*																		
2018-19*	55000 kg	30000 kg	1088*																		
Existing Facilities / infrastructure available in the cluster	Land area - 234 Cent Built up area - 3000 sq.ft.																				
Machineries	Honey processing is done manually at- This plant. 15 Nos. Food graded plastic containers. 24 Nos. Tin Wax coated container. 5 Nos. of processed honey containers- With a total capacity of 23000 Kg. Automatic sealing machine.																				

	Weigh balance, Gas stove. Copper and Steel vessels as containers
Quality control facilities & Lab.	Not having own Agmark Laboratory done through Irinjalakuda, Thrissur District – Agmark Testing Lab.
Market Out lets	15- Khadi Gramodyog Bhavans for Kerala Khadi & Village Industries Association.  Apart from KVIC, KVIB, Kerala Khadi Federation Bhavans. (Approximately 39) at the surrounding areas of Thrissur district.
ISO certificate if any	Yes, the Kerala Khadi & Village Institution on is an IS / ISO 9001:2008 certified Khadi Institution in India.
Computer & Bar coding facilities	Computers are installed and billing is computerized in all slaes outlet, Bar-coding is not introduced yet.
Vehicles to transport raw materials and products	Yes, Three Four wheeler.
Employees	Management Staff - 5 Production Staff - 60 Marketing Staff - 15 Others - 3
Financial Status of IA	Fixed Capital - 504.66 Lakhs Working Capital - 553.67 Lakhs Current liabilities - 641.92 Lakhs Fixed Assets - 718.89 Lakhs Proposed plan under KRDP (Financial)

**Existing facilities / infrastructure available / to be made available in the cluster**

- a) Land Area 234 cent (sq.ft.) Available
- b) Built up area 3000 (sq.ft.) available
- c) Mechineries (Khadi / V.I.) Available
- d) Tools available with the artisans – Bee-Hives, Bee Boxes, Bee-Knife & Extractor.
- e) Road connection :
  1. Air-port (60 km away from Thrissur)
  2. Railway (10 km away from Thrissur)
  3. Port (70 km away from Thrissur)
  4. National Highway (3 km from Head Quarter)
- f) Water availability in case of relevant industry :
  1. The implementing institution had an open well and a bore-well in own premises.  
Electricity is available with a facility of Three Phase line and a transformer on the premises

**Institution and its Service providers ( Raw material / Service/Suppliers/transport etc )**

<b><u>Sr. No.</u></b>	<b><u>Name and address of the Service providers</u></b>	<b><u>Type of services provided</u></b>
1.	Beekeepers in Thrissur and Neighbouring Districts in Kerala	Raw Honey Collection
2.	Kerala Khadi & Village Industries Association, Ollur, Thrissur. Pin 680313	Honey processing and Marketing
3.	The Deputy Agricultural Marketing Officer Directorate of Marketing & Inspection, Government of India, Cochin – 682302.	Government approved Agency for Agmarking.
4.	State Agmark Grading Laboratory, Erinjalakuda.	Quality testing of Honey
5.	Bright Cartons Edathara, Palakad – 678611	Supply of Carton boxes for Honey bottles packing

## MAJOR INTERVENTIONS PLANNED

Sr.No	Major intervention	Sub intervention	Total Rs (in lalkhs)
<b>Common Facility Centre</b>	Honey Processing Plant with Moisture reduction unit. (300- kg Capacity 8 hour shift)	Used for processing of raw honey to Agmark Honey	12.00
	Lab. equipments	To analyse the honey	3.00
	Semi automatic Honey Bottling unit	For filling of Agmark Honey	2.00
	Sealing Machine	To seal the Cap of honey bottles	1.00
	Honey Storage stainless Steel containers @25000 4nos (300 kg capacity)	Used for storage of raw honey collected from cluster bee-keepers.	2.00
	Honey Storage Stainless Steel containers with a cap. of 1000 lit., @50000 4 nos	Used for Storage of Processed Honey and also used as filling tank for processed honey	2.00
	Carpentry unit machineries Mini Rizzo with ,Plainer Wood crop, Drilling Machine, Laith Machine, Hand operator, Cross cutter , Tools Electrifying and commissioning	To manufacture of quality bee hives	15.00
	Work shed for installing the common machinery and equipments.		10.00
	Generator Capacity -30 kw		5.00
	<b>Total</b>		<b>52 .00</b>
Product Development and Design Intervention	Design development	CAD based designing of packaging & labeling. Improved Packing system	<b>3.00</b>



	Brand registration	(New Bottle Design., Honey Pouch Designs., Honey vending Machines)	<b>3.00</b>
		Branding and Brand promotion strategies'	<b>4.00</b>
		Design and preparation of New Honey Value- added products (Branded Agmark Honey, Honey Pouch, Honey Cola Honey Fruit Mixed Jam, Honey Squash Honey Lime Squash, Honey Jelly Honey Chikky)	
	<b>Total</b>		<b>10.00</b>
<b>Capacity Building Measures</b>	Awareness Programmes	50 nos x 16 batches =800 25,000 x16 = 4.00	4.00
	Skill Development in A.Cerana and Trigona	20/ nos participants x 15 batches = 300 candidates Rs 20,000 x 15 =3.00	3.00
	Skill up-gradation awareness in Indian hive bees / mellifera	20/batches x 6 batches 120 candidates Rs. 20,000x 6= 1.200 lakhs	1.20
	Sp. Training in honey testing kit and plant operation	20/batch x 15=300 candidates Rs. 20,000x 15= 3.00 lakhs	3.00
	Training of Hygienic honey collection	26nos @6 training batches 6 x 20000 =120000	1.20
	Trust building activity Organizing camp with KVIC,KVIB,DIC and IA	1 x 80000 = 0.80	0.80
	<b>Tools and &amp; equipment</b>		
	Apis Dorsata tools &	15.00	15.00

	Kit(100nos) Bee Colonies		
	Bee colonies and tools for 200 including women	9.40	9.40
	Misc C.F Sheet, Sugar and transportation	<b>3.60</b>	3.60
	<b>Total</b>		<b>41.20</b>
Market Promotion	Conduct Buyers Sellers Meet 200 Participants	One lakh @ 3 nos meet	<b>3.00</b>
	Participation in National and International <a href="#">Exhibition@1.25</a> 2nos	2.50	<b>2.50</b>
	Web-site for marketing cluster products	2.00	<b>2.00</b>
	Three Exposure visit @2 lakhs	6.00	<b>6.00</b>
	Honey Hut	8,00/-	<b>8.00</b>
	Advertisement, SMS packageses ,Social mediya Advertisining	2.00	<b>2.00</b>
	<b>Total</b>		<b>23.50</b>
Survey & study			
	Cost of CDE		<b>9.00</b>
	Management grant to IA		<b>10.00</b>
	Cost of TA		<b>4.00</b>
	Working Capital		<b>10.00</b>
	IT and Managerial		<b>3.00</b>

## Total investment

Budget heads	ADB grant	Institutional Share	Total
Common Facility Centre	39	13	52
Product Development and Design Intervention	7.50	2.50	10
Capacity Building Measures	41.20	0.00	41.20
Market Promotion	23.50	0.00	23.50
Cost of CDE	9.00	0.00	9.00
Management Grant	10.00	0.00	10.00
Cost of TA	4.00	0.00	4.00
Working Capital			10.00
IT and Managerial			3.00
Total			

Total benefits to the artisans (Three years)

➤ <b>ECONOMIC BENEFITS</b>
<ul style="list-style-type: none"> <li>• 35% Profit on the projected sales in every year</li> <li>• 35 % wage benefit due to employment in the trade</li> <li>• Regular employment and income</li> </ul>
➤ <b>SOCIAL BENEFITS</b>
<ul style="list-style-type: none"> <li>• Regaining faith and dignity in the trade due to created facilities including production and marketing</li> <li>• Increase in purchasing power due to regular income enabling fulfillment of daily requirements</li> <li>• Exposure to wider markets leading to new ideas, opportunities for boosting up trade activities</li> <li>• Improved skill leading to increase in productivity and quality of production</li> <li>• Creation of entrepreneurial ability for continuance of the business activities after the project is over.</li> </ul>

<ul style="list-style-type: none"> <li>• Increased socioeconomic condition</li> </ul>
<ul style="list-style-type: none"> <li>• Women Empowerment</li> </ul>
<ul style="list-style-type: none"> <li>• Mainstreaming ST/SC, women and other backward and minority communities engaged in the trade due to project intervention.</li> </ul>

## Observation about the cluster

The importance and contribution of enterprise sector to the economic growth and prosperity is well established in most of the developed and developing countries. The role of traditional industries for creation of employment, upholding the entrepreneurial spirit and innovation in the rural economy of the country is very important. To support, encourage and strengthen this, Government of India has been taking many proactive steps.

It is proved that these traditional industries can boost up their competitiveness through networking and this process is easier and more sustainable if they work very closely with one another in clusters. Also they can build their competitive strength through cost reduction, value chain up gradation and utilization of collective economics of scale when they cooperate with each other and build linkage with private or /and public service providers. The application of cluster approach has resulted in sustainable development of national industries in both developed and developing nations.

By observing the success stories world wide, India has taken up cluster development methodology a decade ago to support and encourage small enterprise. UNIDO initiated implementation of cluster approach in industrial clusters with the support of Ministry of Small Scale Industries. The approach was adopted by Development Commissioner SSI followed by Development Commissioner (Handlooms), Development Commissioner (Handicrafts) and now Khadi and Village Industries Commission and Coir Board actively supporting many rural, industrial and artisan-based clusters.

Now as a marketing strategy or because of huge business opportunities many commercial Banks are also seriously thinking and coming forward to support cluster development projects, especially in creation of Common Facility Centre and providing funds for bulk purchase of raw-materials etc.. State Bank of India, NABARD, and Central Bank of India, United Bank of India are some of the leading Banks associated with the Cluster Development Programme.

Government of India wants to strengthen the traditional clusters by providing benefits through different schemes related to technology up gradation, infrastructure provision and through various institutions at national and state level. SFURTI is one of such schemes designed to develop rural Khadi and Village Industry Clusters including Coir clusters.

Given the above backdrop Thrissur bee Keeping Cluster was considered under the SFURTI scheme of KVIC to put in need based interventions for the integrated development of the artisans in the cluster. Cenral Bee Reasearch institute given the responsibility to provide the technical support to the cluster level programme implementation while Kerala Khadi & Village industries Association has been selected as the Implementing Agency for the cluster. To begin with, a diagnostic study was conducted as per the guidelines of KVIC (SFURTI) to assess the needs and problems and streamline planning of activities.

## Strength, Weakness, Opportunity and Threat Analysis (SWOT)

### STRENGTH

- Needy artisans engaged in the honey collection activities
- Suitable geographical condition for promoting honey beekeeping
- Favourable enabling environment to initiate cluster level intervention
- Interest of the local leaders and the Government
- Willingness of the implementing NGO to spearhead the activities and contribute the share
- Presence of key stakeholders for convergence of resources
- Availability of technical know-how to vibrate the traditional industry
- Growing demand for the honey based products due to changes in the consumption pattern.
- Export market potential of the Honey and the honey based products.
- Low capital investment and higher income return

### WEAKNESS & ROAD BLOCKAGE

- Lack of infrastructural facilities for streamlining development activities
- Low productivity due to lack of scientific knowledge and advance skills
- Low quality product due to unscientific practices
- Lack of confidence among the artisans/ Groups for further growth
- Lack of ability to move out to other places for collection of honey
- Lack of market information.
- Lack of institutional support and escorting service
- Lack of bargaining capacity
- Lack of entrepreneurial ability
- Lack of established marketing network
- Lack of basic business skills
- Lack of suitable transportation facility on the River connecting different forests
- Monopoly of forest department to issue license

### OPPORTUNITY

- Sustainable livelihood promotion with an integrated approach
- Support of local Government and the leaders
- Opportunity to promote entrepreneurship among the honey hunters with the help from NABARD, department of Science & Technology and other agencies
- Possibility of refining honey by adopting latest state of the art technologies
- Possibility of tapping local, national and international level markets
- Experience and interest of the IA to work in the cluster and escort the artisans through a cluster development approach.
- Availability of finance from the Banks
- Opportunity for Self employment particularly for the tribal youths

### THREATS

- Change in taste of Customers
- Lack of marketing
- Exploitation by the middlemen
- Seasonal failures
- Natural calamities
- Competitions from other industries
- Uncertainty of market demand
- Lack of credit support by the banks
- Monopoly of the forest department

<b>S.No</b>	<b>Issues</b>	<b>Solution</b>
1	Lack of scientific knowledge	Training in bee management, colony multiplication queen rearing and quality of honey control required
2.	G.I extractors	SS honey extractors to be provided
3.	Imposing VAT on honey	Recommendation may be done to concern officials
4.	Fund for Sugar feeding during dearth (6 months)	Rationalized distribution of sugar to beekeepers on identity cards
5.	Low pricing for honey	Minimum pricing should be done
6.	Police and forest department harassments during migration	Memorandum to be submitted to local Govt /State govt..
7	Lack of equipments supply	N.G.O to be provided with infrastructure for equipments units.

#### **Potential coverage**

- 2,000 persons likely to be benefited in future
- Expected benefits:
- Increase in income, better working capital, etc.
- Other non-financial benefits:
- Increase in employment, better educational levels, improvement in quality of life, inclusive development, Integrity etc.

## STRATAGIC INTERVENTION PLAN

<p>Activities IN brief under KRDP – ADB Cluster</p>	<ol style="list-style-type: none"> <li>1. Common facility Centre.</li> <li>2. Market Promotion assistance.</li> <li>3. Capital Development measures.</li> <li>4. Product Development &amp; Desing.</li> </ol>
	<p>One Common Facility Centre-Includes.</p> <p>Honey Testing laboratory.</p> <p>Packing Storage Facility.</p> <p>Processing Plant.</p> <p>Bottle washing area.</p> <p>Office.</p> <p>Necessity Amenities.</p> <p><b><u>Installation of CFC – equipments</u></b></p> <p>Honey Processing Plant with MoistureReduction Unit (#00 Kg * Hr)</p> <p>Semi automatic Filling and sealing Machine</p> <p>Honey storage stainless Steel containers (30x300 &amp; 2x1000)</p> <p><b><u>Laboratory and Equipments</u></b></p> <p>Electronic Balance</p> <p>Muffle furnace</p> <p>Hot air oven</p> <p>Single wall water bath</p> <p>Micro controller based visible</p> <p>Sectrophoto meter</p> <p>Refracto meter, Centrifuge,</p> <p>Microscope and Glass wares.</p>
<p>Replacement / Additional requirement of tools, etc.</p>	<p>Supply of Bee-Hive and beekeeping equipments</p>

Design Development inputs (Select the required ones)	New Bottle Design. Honey Pouch Designs. Honey vending Machines. Design and preparation of New Honey Value- added products. Improved Packing system.
Improved Processing	<b><u>Installation of CFC Equipments</u></b> Honey Processing Plant with moisture reduction unit (300 Kg 8-Hr)
Improved packaging	New Designs will develop for packaging of Honey Marketing Experts.
Improved Design- engaging a professional designer	introduce a designer required
Diversification of product line	Branded Agmark Honey Honey Pouch Honey Cola Honey Fruit Mixed Jam Honey Squash Honey Lime Squash Honey Jelly Honey Chikky etc.
Quality and product standardisation	Agmarking and Bee coding will introduced for ensure quality and standardisation of honey products.
Product Catalogue	Professional and Modern Catalogue will prepared for marketing of Honey Products.
Production promotion through e-catalogue	Website creation and e- Marketing.
Any other requirements	HONEY HUT – An Exclusive Show Room for Honey products is needed for marketing
Retail sales through own Bhavans Bhandars / sales outlet	15- Khadi Gramodyog Bhavan
Whole sales to bulk buyers	10,000 Kgs.
Sales through Exhibitions (Target)	Consumer Federation Sales outlets. (7000 Kgs)
Exports (Target)	2000 Kgs.
Any other relevant information	No



<b>ARTISAN WELFARE MEASURES</b>	
•	Artisan Identity cards
•	Health Insurance for the artisans
•	Artisan Credit Cards
•	Artisan Children's education
•	Social development

**Note: While some of the activities will be directly supported under the scheme, the IA/CDE should look into possibility of mobilizing the resources from local self governments and other development support departments to promote the cluster development programme.**

### **Project Monitoring**

State level Cluster Development Coordination Group (CDCG) may be formed taking members from the key stakeholders (as per guideline) who are playing or would play important roles in the promotion of the cluster and their meeting to be conducted on a regular basis for the effective monitoring of the cluster level programme activities. The DM of the district should be the Chairman of the Committee.

The key functionaries like the representative of the IA/NO/TA should monitor the programme on a monthly basis at the cluster level.

Artisan Photo Pass Book particularly for the ADB project along with the register and other relevant records should be maintained by the CDE/IA

### **IDENTIFIED KEY STAKEHOLDERS FOR THE PROMOTION OF CLUSTER**

#### **Stake Holder analysis**

<b>Sr.No</b>	<b>Stake Holder</b>	<b>Expected Role</b>
1	KVIC	KVIC will play the role of Nodal Agency. Provide financial support, monitor and guide in the programme execution, extend support services for the effective implementation of the programmes.
2	Kerala Khadi and Village Industries Association, Avinissery	KKVIA is a implementing agency of the cluster development programme. The association is expected to play a key role in co-ordinating and spreading all proposed activities of the cluster. Cluster Development Executive will be an employee of the KKVIA and work under the guidance of TA, IA and Nodal Officer of KVIC
3	Central Bee Research and Training Institute	Central Bee Research and Training Institute is the Technical agency of cluster development programme. TA is expected to provide all technical support towards the effective functioning of the cluster. It will monitor the programme implementation of regular basis and guide the CDE and the IA for the smooth implementation of the programme. TA will also guide the CDE and the IA in preparation of action plans and their validation

		in the CDCG
4	Beekeeper and Honey Hunter	Beekeeper and Honey Hunter are principal stakeholders. They are involved directly in the honey extraction ,collection and other activities from Thrissur area as well as forest. They are expected to be the active participants in the programme implementation process since the beginning.
5	Cluster Development Executive (CDE)	CDE is the key functionary of the project who will lead the entire project under the guidance of ISA/TA and NA. He is expected to implement programmes as per plan and co ordinate with other stakeholders for their involvement in the programme execution process.
6	State Bank of India and Canara Bank	Expected to provide working capital support to the IA and other stakeholders for undertaking honey business on a commercial basis.
7	Kerala Federation and other agency	Kerala Federation and other agency will be the overall catalyst agency who will help the beekeepers and honey hunter in terms of getting the programme benefits. They will also collect honey from them at different clusters and co ordinate with the KKVIA for smooth execution of the programmes.
8	CBRTI, Pune	Technical know – how as well as supply of required implements, skill training etc.
9	Khadi Bhavan sales outlet	Khadi Bhavan sales outlet and other KVIC are expected to promote in selling of honey and bee products in their sales outlet
10	Cluster Development Co ordination Group	CDCG will be the main monitoring forum for the validation of the Action Plan and effective implementation of the proposed intervention
11	NABARD/Horticulture and Agriculture and other Agencies	For convergence of resources that are not provided under the scheme to achieve the integrated development of the honey beekeepers and honey hunters.

## **FUTURE PROSPECTS OF THE THRISSUR BEEKEEPING CLUSTER**

The Thrissur Beekeeping Cluster has got bright future prospect because abundance of availability of the raw honey, conducive climate and varieties of bee plants, flora and fauna, beekeepers and bee hunters traditional skills, low capital investment, favorable enabling environment, marketing opportunities, scope for self employment and support of Banks technical support from KVIC, Agriculture and Forest Depts.

The scheme is a right step to generate traditional industry in terms of changes in practices so that the scope of employment and income generation increase and large number of beekeepers and bee hunters get benefit. Given the enhanced skill training, credit support, improved user friendly machineries/technologies, common facility centre, capacity development training, networking with important stakeholders, convergence of resources from other departments and many other structural management inputs it is expected that the project would create a positive impact in the sector in terms of economic and social gains for the poor and needy beekeepers and bee hunters.

### **Honey processing plant Manufacturer.**

**PROCESS AID SYSTEMS  
15 PUSHPA BMERLD  
BEHIND WONDER CITY  
KATRAJ , PUNE 411046**

#### **Proposed Range of Honey Based Products**

Sr.No	Name of products
1.	➤ Honey Mango Squash
2.	➤ Honey Lemon Squash
3.	➤ Honey Jam
4.	➤ Honey Candy
5.	➤ Honey Ice Cream
6.	➤ Honey Chocolate
7.	➤ Honey Chikki
8.	➤ Honey Jelly
9.	➤ Honey Soap

### Prospective Value Chain

➤ Primary beekeepers and Honey Hunters organized in the form of SHG/ Kudumba sree
➤ Honey Supply to CFC Production Centre ➤ , Processing ,Labelling and packing etc.
➤ Primary Markets using Khadi Bhavans
➤ Sales companies,exporters and bulk sellers
➤ Retail sale in sales outlets in Thrissur and sales Khadi Bhavans/sales outlets
➤ Institutional Marketing – utilizing own contacts of associated stakeholders.

### Marketing Channel of the Honey Product/Arrangements for forward linkage

Sr.No	Particulars
1	➤ Retails sales through Bhavans/Bhandars
2	➤ Whole sale to bulk buyers
3	➤ Sales through exhibitions
4	➤ Sales through exhibitions
5	➤ Sales through honey festivals
6	➤ Own net work/entrepreneur
7.	➤ Export

### Feasibility of establishing CFC

➤ Land already available which is owned by KKVI Association and it will be given for establishing the CFC work shed
➤ Availability of electricity
➤ Availability of water facility
➤ Central place of to all periphery villages
➤ Reasonable communication facilities through bus,geep etc.
➤ IA has agreed to provide the matching contribution

- Cluster locations are well connected with rail route.

#### PROPOSED OPERATIONAL MECHANISIM OF COMMON FACILITY CENTRE

- A cfc maintenance committee consisting of key stakeholders needs to be formed to look after the effective day functioning of the CFC
- The IA would be the custodian of the CFC and the fostering agency for the development of the cluster
- The Beekeepers will avail the machinery support at the CFC for processing and packaging of their honey
- The beekeepers will be provided with honey testing meter with bee medicines as proposed in the action plan
- The IA would in turn sale processed honey in different markets through established networks
- The beekeepers and honey hunters will get adequate information from the CFC on marketing of product and would be provided with opportunities for participation in exhibitions, sale in local and district level markets, trade fair etc on their own or with the support of the IA
- The beekeepers on a rotation basis would be given opportunity to work at the production centre for beekeeper's development
- In the long run after the project over nominal charges will be collected from the beekeepers through their SHG/Kudumba shree towards the maintenance cost of the machineries on being used by them
- To carry out the business activity the beekeepers SHGs/Kudumba shree will be linked with the Bank for necessary credit support
- The IA will engage suitable person for the smooth management of the CFC
- The centre would be equipped with computer and other infrastructure facilities and machineries for processing and production of quality honey
- A work shed along with other facilities should be established

<b>Justification for proposed intervention &amp; outcome</b>			
	<b>Head of Intervention</b>	<b>Justification</b>	<b>Outcome</b>
1	Common Facility Centre		
	Processing Plant	Presently raw honey is sold in the market which is valued at very low price. With the processing of honey the moisture content will be reduced and the flavor of honey could be maintained with attractive packaging	The process honey will be sold in the market at higher price. In return the beekeepers will get more income return compared to what they are presently getting
		Besides providing facilities to the beekeepers it will also help act as production centre on a commercial basis	The beekeepers will get assured source of supply and technical supporting organization
		Beekeepers will get their inputs from the centre at reasonable prices	No interfere of middle man exploitation
2	Capacity Building Measure		
	Beekeepers skill up gradation training	The traditional honey hunters will get scientific knowledge and skills of rock bee honey collection	The collected honey will be qualitative and hygienic. There will be no harm to honey bees  Productivity will be more.
	Skill training on modern beekeeping, pollen collection	Modern Beekeeping will be the substantiate the shortfall if any due to forest honey	Women can be involved in rearing bees also they can earn good money by collecting pollen ,wax etc.
	Beekeepers exposure	The outlook of the beekeepers needs to be changed. It is said "seeing is believes. Therefore they need exposure to similar clusters where good practices are being adopted. Kozhikode Bee Cluster, Coorg Cluster and Melghat Cluster etc. is one such cluster for exposure of beekeepers.	This will bring confidence on the beekeepers and they will be motivated to adopt the practices and get associated with the project activities.

	Beekeepers/ Bee hunters Identity Cards/Photo ,Pass Book etc.	These are required for documentation purpose	Benefits received under the project can be measured
	Awareness and publicity materials	Awareness is required not only for beekeepers and bee hunters but also for general public	This will help in production and sale of products
	Participation in seminars	Now knowledge is necessary to keep up the present business	Enhanced knowledge and skills leading to professional business practices
	Entrepreneurship	Beekeepers need to turn themselves in to entrepreneurship. If this takes place their income will increase substantially. Entrepreneurship Development Training will help them in this regard	Beekeepers will turn into entrepreneurship with commercial approach of business practices.
3	Product Development	New value added products need to be developed to get maximum income return	This will motivate customers and the consumption honey will be more. More range of honey products will attract customers attention
4	Market promotion		
	Show room	This is required for regular sale of honey and honey ts	There will be an assured source for marketing
	Website	Will help in e- marketing	The market outreach will expand.
	Product catalogue	Will help in promoting products in the market and generating orders	Orders will be generated and more sale will take place. Publicity to the product.
	Buyer seller Meeting	Will bring together the artisans and the buyers	Business tie-ups will develop Orders will be generated leading to more sales
	Advertisement and publicity materials	Market promotion is very much required for sale of the	Generate product awareness among the

		products	customers. Increase brand image
	Participation in national and international level exhibitions	This is required to develop forward linkages	Marketing outreach will increase .More sale will take place
5	Survey and study	Bench market data on beekeepers profile is necessary for comparative analysis in future. Similarly, impact of the project need to be assessed towards the end of the project intervention	Availability of the data for comparative socio-economic analysis. Documentation for future reference

**List of items for the tribal honey collector's kit for honey collection from the rock bee colonies settled on trees and cliffs**

Sr. No.	Particulars	qty
1	Sting proof dress with interlocking bee veil	2
2	Leather gloves	2
3	Garware nylon rope (22 mm) 100 ‘	1
4	Garware nylon rope (12 mm) 300”	1
5	Garware nylon rope (6 mm) 45 m	1
6	Stainless Steel Knife (12”)	1
7	Stainless Steel bucket (15 lit)	1
8	Stainless Steel container (20 lit)	1
9	Stainless Steel Seive	1
10	Full body harness	2

**Specifications of the items required for the honey collector's kit  
(For one group consisting of 5 persons).**

Sting protective bee dress: 2 nos

It has to be a one-piece suit (Dangri / mechanic suit) the full sleeved shirt attached to the pant. The portion above the waist mainly the shirt is required to be two to three layered thick so that the sting of the rock bees does not reach inside.

The open ends i.e. the cuff and pant bottom should have Velcro. This will help in tightening depending upon the size of the wrist or ankle of the wearer.



A flap with Velcro is required to cover the chain on the upper part of the dress i.e. the shirt portion up to the waist.

The stitching should be of strong thread to avoid tears while climbing the rope / rope ladder or tree trunk.

The Cloth should be preferably of Cotton drill which is washable and which is required to be used in subsequent operations.

The colour may be olive green (leaf green) – this helps in camouflaging the honey hunters with the surrounding (leaves, bark of the tree, etc.).

The suit is required to be large size and loose preferably XXL (Extra large sized)

Bee veil: 2 nos

Made from black net with a broad rimmed hat.

The veil should not touch the face.

It may be attached to the bee suit.

Hand gloves: 2 nos

Preferably of leather of thicker quality up to the elbow so that the sting does not penetrate through and lasts longer.

Rope: 1 no (For climbing on trees)

It should be of Garware Nylon of thickness of 20 – 22 mm.

Length of the rope should be minimum 150 ft

Rope ladder: 1 no (For working on cliffs)

The rope ladder may be made from Polypropylene Nylon / thick cotton / coir fiber of approximately 20 mm (approx. 1 1/2") thick and length 70 ft.

The steps may be at least 1½ feet apart made of bamboo.

The bamboo sticks should be treated with chemicals to avoid attack of fungus or borers.

Twine thin rope: 1 no

It should be of Garware Nylon rope of thickness 5-7 mm.

Useful in lowering the produce from the trees to the ground level.

Length of rope may be approximately 200 ft. As the bucket or container can be taken up and again lowered down without getting stuck in the branches due to its slippery nature

SS Knife: 1 no

High carbon Steel knife of approximate total length of 1 ft including the handle.

The knife should have serrated edge on one side while the other edge is sharpened.

This will help in cutting the honey comb with the serrated edge and the sharpened edge can be used during the draining of honey comb.

SS bucket (SS 316): 1 nos

Required for collecting the honey combs from the rock bee colonies on arboreal / terrestrial support.

The capacity may be at least 15 liters

SS containers (SS 316): 2 nos

The capacity may be at least 20 liters for draining the honey combs, collecting the produce on the ground.

The handle is required to be strong and extra long to hold the content of honey combs with honey.

SS Sieve (SS 316): 1 no

SS mesh of 4 to 5 mm covering the container below made of SS for draining the honey.

SS JOMBO Smoker 1 no

Full body harness: 2 no

Torch: 1 no

Preferably 3 celled of good brand & quality.



**Rope ladder for climbing trees**



**25 lit SS container for storing honey**



**Leather gloves**



**Twine rope for lowering produce**



**SS Bucket with  
sieve and double edged knife**



**22 mm thick nylon rope for climbing trees**

Year-wise operative plan/work plan of activities and funding provision for the three financial years for implementation of Thrissur Beekeeping Cluster by the Implement agency: Kerala Khadi and Village Industries Association, Avinissery- P.O., Ollur, Thrissur, Kerala. Pin 680 313

S.No	Particulars/Head	Year wise Funding			Total
		2015-16	2016-17	2017-18	
<b>A</b>	<b>Common Facility Centre</b>				
1	Work Shed	10.00	0.00	0.00	10.00
2	Carpentering Unit	10.00	5.00	0.00	15.00
3	Honey Processing Plant(HPP)	12.00	0.00	0.00	12.00
4	Lab Equipment	0.00	3.00	0.00	3.00
5	Bottling Unit	0.00	2.00	0.00	2.00
6	Sealing Machine	0.00	0.00	1.00	1.00
7	Honey Storage containers(SS300 Kg capacity) 8 nos@25000	0.00	2.00	0.00	2.00
8	Honey Storage containers(SS1000 Kg capacity) 4 nos	0.00	2.00	0.00	2.00
9	Generator	5.00	0.00	0.00	5.00
	<b>Sub Total</b>	<b>37.00</b>	<b>14.00</b>	<b>1.00</b>	<b>52.00</b>
<b>B</b>	<b>Marketing Promotion</b>				
i	Buyer Sellers meet	0.00	1.50	1.50	3.00
ii	National & International meet	0.00	1.25	1.25	2.50
iii	Website	0.00	2.00	0.00	2.00
iv	Exposure Visit	2.00	2.00	2.00	6.00
vii	Honey Hut/Parlour	0.00	4.00	4.00	8.00
vii	Advertisement	0.00	1.00	1.00	2.00
	<b>Sub total(2)</b>	<b>2.00</b>	<b>11.75</b>	<b>9.75</b>	<b>23.50</b>
<b>C</b>	<b>PRODIP</b>	0.00	0.00	0.00	4.00
	<b>CAD Designing &amp;Pack, Label etc</b>	<b>0.00</b>	<b>3.00</b>	<b>0.00</b>	<b>3.00</b>
	<b>Branding</b>	<b>0.00</b>	<b>1.50</b>	<b>1.50</b>	<b>3.00</b>
	<b>Product Development</b>	0.00	2.00	2.00	4.00
	<b>Sub total(3)</b>	<b>0.00</b>	<b>6.50</b>	<b>3.50</b>	<b>10.00</b>
<b>D</b>	<b>Capacity Building</b>				
	Awareness	4.00	0.00	0.00	4.00
	Skill Up Gradation (AC)	1.00	1.00	1.00	3.00
	Hygenic collection of honey	0.00	1.20	0.00	1.20
	Spl. Training on honey testing Kit	0.00	1.50	1.50	3.00
	Skill Upgradation & Awareness AM	0.00	1.20	0.00	1.20
	Trust building activity	0.80	0.00	0.00	0.80
	Tools and& equipment				
	Apis Dorsata tools & Kits (100nos)	7.50	7.50	0.00	15.00
	Bee colonies and tools for 200 including women	4.70	4.70	0.00	9.40
	Misc C.F Sheet, Sugar and transportation	1.80	1.80	0.00	3.60
	<b>Sub total(4)</b>	<b>19.80</b>	<b>18.90</b>	<b>2.50</b>	<b>41.20</b>
	<b>Cost of CDE</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>9.00</b>
<b>5</b>	<b>Managment Grant</b>	3	3	4	10.00
	<b>Coat of TA</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>4</b>
	<b>Grand Total</b>				<b>149.70</b>

### b) Tools and Equipments

- a) 200 beginners will be selected from the candidates of awareness camp and 2 colonies along with hive+ tools will be supplied.

Sr.No	Name of the item	Price of one kit /unit	No of kits	Total (Rs)
1	Bee hives	Rs.1000	2	2000
2	Nuclues hives	Rs.500	2	<b>1000</b>
3	Bee colonies	Rs.600	2	<b>1200</b>
4	Hive tools kit	Rs.500	1	<b>500</b>

**B.** Tribal will be supplied with the hives for rearing of the hive bees found in the forest for their livelihood.

- a) 100 Tribal will be selected from the candidates of awareness Camp and 2 colonies along with hive + tools will be supplied as under.

Sr.No	Name of the item	Price/unit	No of item	Total (Rs)
1	Bee hives	Rs. 1,500	2	3,000
2	Bee colonies	Rs.600	2	1,200
3	Hive tools kit	Rs.500	1	500
				<b>4,700</b>

For 200 beginners the above said item can supply  $Rs.4700 \times 200 = 9,40,000/=$

- b) For existing 300 beekeepers 2 good quality colonies will be supplied from Bee Breeding Unit  $300 \times 2 + 600$  bee colonies.

Bee Breeding Unit with basic stock of 100 colonies = Rs.7.00 lakhs

Misc. C.F.Sheet,sugar and transportation etc. = Rs.3.60 lakhs

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Rs.10.60 lakhs  
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**Fund requirement for the proposed cluster: Rupees in Lakhs.**

Sl. No	Activity Heads	Total Funds		
		IA	NA	TOTAL
1	Common Facility Center	13.00	39.00	52.00
2	Product Development and Design Intervention	2.50	7.50	10.00
3	Market Promotional Assistance	0.00	23.50	23.50
4	Capacity Building Measures		41.20	41.20
5	Cost of Survey & Study		0.00	0.00
6	Cost of Implementing Agency		10.00	10.00
7	Cost of Cluster Development Executive		9.00	9.00
8	Cost of Technical Agency		4.00	4.00
<b>TOTAL</b>		<b>15.50</b>	<b>134.20</b>	<b>149.70</b>
<b>Total IA</b>		<b>15.50</b>		
<b>Total NA</b>		<b>134.20</b>		
<b>Grand total</b>		<b>149.70</b>		

**The Focus Group Discussion meeting (FGD) of Thrissur Beekeeping Cluster**  
**The meeting was conducted at Thrissur on 27<sup>th</sup> July 2014**

**Recommendations of each group is as under:**

**Group.1**

1. Bee colonies having good qualities to be supplied to the beekeepers.
2. Bee equipments and accessories to be supplied to beekeepers.
3. Minimum 5 days training to be provided to the beekeepers.

**Group. II.**

1. Good quality bees to be supplied free of cost to the beekeepers.
2. Good quality of bee boxes and bee equipments to be supplied.
3. Beekeeping training for beginners to be provided.
4. Bee diseases and it's treatments to be provided through cluster.
5. Beekeepers list with address to be provided through cluster and make available to all.
6. Trigona bee boxes to be supplied.
7. Training to be given in all Panchayats.
8. Honey processing unit to be installed in the cluster, so that beekeepers. Can avail the utility of the same.
9. Apis mellifera colonies to be supplied and royal jelly production to be taught.
10. Bee technicians should visit apiaries and inspect the colonies and give guidance.

**Group III**

1. Good quality colonies to be supplies
2. Training to be provided to the beekeepers.
3. Bee box quality and equipments to be supplied to the beekeepers.

**Group.IV.**

1. Sugar to be provided in subsidised rate.
2. Honey price to be fixed @ Rs 300/- Kg.
3. Honey storage cans to be supplied
4. Insurance system for bee colonies to be provided.
5. Bee diseases to be tackled and necessary guidance to be given.
6. Migration charges above 50 km to be provided.

**Group V.**

1. In State Budget of Agriculture, beekeeping is to be included.

2. Floral calendars of near by state to be prepared for migration.
3. Net working of beekeepers with Meteorology dept. For understanding seasonal variations in the climate.
4. Beekeeping to be promoted among farmers who are in depts. Of loan other problems.
5. Those who having 10 bee colonies should be recognised as beekeeper.
6. Prepare data bank of beekeepers.
7. Bulletin for beekeepers. To be introduced in local language.
8. Marketing survey for honey to promote honey traders and retailers.
9. Insurance scheme to be introduced for beekeeping activity.

**Specific recommendations suggested for the cluster:**

- 1) VAT impose should be avoided
- 2) Indent card should be issued to all the beekeepers
- 3) The honey purchasing rate may be increased
- 4) Formation of the new Beekeepers association in the adjacent area is required. Beekeeping equipments, sugar etc., should be available in the subsidized rate.
- 5) There is immense potential of bee flora and natural bee colonies in the cluster and specific unifloral honey like Rubber, Tamarind, Jambul and till can be produced in large quantity. The infrastructure of the pioneering beekeeping Gramodyog society, Thrissur is required to be upgraded for supply of beekeeping equipment like bee hives, bee colonies, storage containers, etc. and other hive products.
- 6) A Common Facility Centre (CFC) is needed to cater to the needs of the local beekeepers and equipped with honey testing laboratory; honey processing unit can be established.
- 7) Regular supply of good quality bee hives and other equipment like stainless steel extractor, swarm net, bee veil, gloves, hive tools, storage drums (SS) containers required for the beekeepers to increase the honey production through CFC.
- 8) Beekeepers are required to be imparted scientific beekeeping training in bee management, bee breeding, queen rearing and quality control of honey, wax and other bee products.
- 9) Proper medicine should provide to beekeepers to save the bee colony.
- 10) Purchasing rate of honey should be increased according the market trend.

- 11) Insurance scheme may be introduced for bee colonies.
- 12) Bee Pollination awareness camp may be conduct.
- 13) Bee Act should be formulated as foreign countries.
- 14) KVIC should established one honey procuring centre at Thrissur area.
- 15) Need to start well equipped marketing outlet for honey and bee products for easy availability to common consumers.
- 16) Wide publicity about honey consumption is required to boost the consumption.

### **7.3. Key success factors**

Beekeepers are required to be imparted scientific beekeeping training in bee management, bee breeding, queen rearing and quality control of honey, wax and other bee products.

Purchasing rate of honey should be increased according the market trend.

Sufficient natural forest bee flora available and the scope for enhancing the number of colonies are huge for beekeeping.



## Chapter - IX

### THRISSUR BEEKEEPING CLUSTER (KERALA)

Sr.No	Name of the beekeeper & Address	No of bee colonies	Sex
1.	Shri. Shaju, Puthenpurayil House, Vazhani-P.O., Thrissur-Dist., Mobile – 9526161821	125	Male
2.	Smt. Lissy George, Vizhayil House, Chennaipara-P.O., Thrissur-Dist., Mobile – 9544423231	18	Female
3.	Smt. Jolly, Thekkekara House, Chennaipara – P.O., Thrissur-Dist., Mobile – 9048854265	27	Female
4.	Shri. Baskaran, Prathiphalayam House, Murikkingal – P.O., Thrissur-Dist., Mobile – 9539790184	29	Male
5.	Shri. James . P.V., Paracherry House, Peechi- P.O., Thrissur-Dist., Mobile – 9605284844	12	Male
6.	Smt. Santhikumar, Shri Nandhanam Forms Garden, Engg. College-P.O., Thrissur-Dist., Mob – 9744733825	15	Female
7.	Smt. Mary Saji, Thettalickal House, Chennaipara-P.O., Thrissur-Dist., Mobile – 9995961975	17	Female
8.	Shri. M. Sreekumar, Madavam House, Chembukkavu, Thrissur-Dist., Mobile – 9495632403	34	Male
9.	K.V. Suresh, Kattil House, Kodungalur-P.O., Thrissur-Dist., Mobile – 8129124773	15	Male
10.	Smt. Mini Shaji, Erambath House, Chennaipara-P.O., Thrissur-Dist., Mobile- 9961711540	24	Female
11.	Shri. Santhosh . P.P., Parakkuth House, Vellur Bazaar-P.O., Thrissur-Dist., Mobile – 9745556226	19	Male
12.	Smt. Ranjitha Suresh, Thuppinikkattil House, Peechi-P.O., Thrissur-Dist., Mobile – 8129746413	18	Female
13.	Smt. Sheena. C.J., Divyahridhaya Ashram, Thrissur-Dist., Mobile – 9048738009	9	Female
14.	Smt. Najma, Sevankuzhi House, Vazhani- P.O., Thrissur-Dist., Mobile – 9645121534	13	Female
15.	Smt. Mariamma . P.M., Souriyemakkal House, Chennaipara-P.O., Thrissur-Dist., Mobile – 9645697418	11	Female
16.	Shri. Saji Mathew, Thruruthel House,	13	Male

	Mulangunnathukavu-P.O., Thrissur-Dist., Mob : 9946575166		
17.	Shri. Raju John, Oluvakkandathil House, Chennaipara – P.O., Thrissur-Dist., Mob: 9961528851	17	Male
18.	Shri. Muthu Ali, Mankunnath House, Chiramanegad – P.O., Thrissur-Dist., Mob : 9447813326	9	Male
19.	Shri. Joy, Pulikkottil House, Mepadam – P.O., Thrissur-Dist., Mob : 9288170500	18	Male
20.	Smt. Lalitha John, Vazhakkuttathil House, Peechi-P.O., Thrissur-Dist., Mob : 9605116917	12	Female
21.	Shri. Rappai . T.V., Thommana House, Muttithadi – P.O., Thrissur-Dist., Ph : 0480 – 2763139	15	Male
22.	Smt. Saguntala Vijayan Pilla, Echaram Parambil House, Peechi-P.O., Thrissur-Dist., Mob : 9645969641	18	Female
23.	Shri. Mohan Kumar, T.B., Thalikkulathu House, Iringappuram-P.O., Thrissur-Dist., Mob: 9847481058	16	Male
24.	Smt. Swapna Radhakrishnan, Kathirappilli House, Peechi-P.O., Thrissur-Dist., Mob: 9446982429	12	Female
25.	Smt. Thangamma, Namparath House, Vazhani-P.O., Thrissur-Dist., Mob : 9745558774	16	Female
26.	Smt. Hajara Mohamed, Vattapparambil House, Vazhani- P.O., Thrissur-Dist., Mob : 9539986573	12	Female
27.	Shri. Tinu George, Panackkappilli (H), Muttithadi- P.O., Thrissur-Dist.,	20	Male
28.	Shri. Binoy, Koonamakkal House, Muttithadi- P.O., Thrissur-Dist., Mob : 9961615126	15	Male
29.	Shri. K,G, Babu, Kalladathil House, Vettukkadu- P.O., Thrissur-Dist., Mob: - 9744489696	13	Male
30.	Smt. Parvathy, Divyahrudayashram, Chennaipara – P.O., Thrissur-Dist.,	8	Female
31.	Shri. Abraham, Kuzhivelil House, Vettukadu – P.O., Thrissur-Dist., Mob: 9656651070	14	Male
32.	Shri. M.A. Joseph, Muttakkulam House, Manamangalam – P.O., Thrissur-Dist.,	18	Male
34.	Shri. Paulose . C.I., Chemmanam House, Manamangalam – P.O., Thrissur-Dist., Mob:- 9747738811	16	Male
35.	Smt. Jamera, Puthen Pedikkayil House, Vazhani – P.O., Thrissur-Dist., Mob: 9526488660	18	Female
36.	Shri. Philip. M.J., Muttakkulam (H), Manamangalam – P.O., Thrissur-Dist., Mob:- 9745240365	19	Male

37.	Shri. Babu Mookken, Mookken House, Engg. College – P.O., Thrissur-Dist., Mob : 9446229923	60 Dammer Bee	Male
38.	Smt. Anupama, Nedumpallil House, Mailattumpara – Vill., Peechi- P.O., Thrissur-Dist., Mob: 9446620321	16	Female
39.	Shri. Pius, A.P., Akkarapattiyikal (H), Puranattukkara- P.O., Thrissur-Dist., Mob : 9446625840	29	Male
40.	Shri. M.J. Issac, Mattathil House, Plakkocde- P.O., Thrissur-Dist., Mob : 9794178731	18	Male
41.	Shri. P.D. Jose, Punnekadan House, Manamangalam – P.O., Thrissur-Dist.,	15	Male
42.	Fr. George, Kannamplackal House, Divyahrudyashram, Chennaipara – Po., Thrissur-Dist., Mob : 9447423229	18	Male
43.	Shri. Samson. M.U., Mavara House, Muttithadi – P.O., Thrissur-Dist.,	17	Male
44.	Shri. Abdul Azeez, Pondhody House, Vellikkulangara – P.O., Thrissur-Dist., Mob: 8086178018	19	Male
45.	Shri. Wilson Varghese, Echaram Kudiyl Peechi- P.O., Thrissur-Dist., Mob : 9496984233	16	Male
46.	Shri. Radhakrishnan . K.N., Kumbil (H) Peraham – P.O., Thrissur-Dist., Mob : 9847227788	15	Male
47.	Shri. Salin Paul, Chirappathu Puthen Purayil (H)., Kurumala –P.O., Thrissur-Dist., Mob : 9446869810	13	Male
48.	Shree Shaji. M.M., Madappilly House, Poomala – P.O., Thrissur-Dist.,	18	Male
49.	Shri. Moideen. M., Lava House, Murikkingal – P.O., Thrissur-Dist., Mob : 9843359830	15	Male
50.	Shri. P.V. John, Pulikotil House, Chelakkara – P.O., Thrissur-Dist., Mob : 9048278927	16	Male
51.	Shri. Hamsa, M.S., Mecheri House, Palappilly – P.O., Thrissur-Dist., Mob : 9400660938	13	Male
52.	Shri. P.K. Mohan, Pathikarayil House, Peechi – P.O., Thrissur-Dist., Mob : 9633009815	12	Male
53.	Smt. Bharkavi, Pazhayakalathil House, Chennaipara – P.O., Thrissur-Dist., Mob : Nil.	18	Female
54.	Shri. Wilson Jacob, Vattakkuzhiyil (H), Kuttichira – P.O., Thrissur-Dist., Mob : 9495097277	11	Male
55.	Shri. Chackappan. K.D., Karumban (H), Vellikkulangara- P.O., Thrissur-Dist., Mob : 80869319353	16	Male
56.	Shri. Sudheer, E.I., Edathil House,	14	Male

	Palappilly-P.O., Thrissur-Dist., Mob: 9995188368		
57.	Smt. Sandhya Unnikrishnan, Nellattumpuram (H), Vetrillappara-P.O., Thrissur-Dist., Mob: 9645053875	18	Female
58.	Shri. Shibu, M.M., Murikkengal House, Palappilly-P.O., Thrissur-Dist., Mob : 9947805649	15	Male
59.	Shri. Sirajudeen, Kannathodi House, Palappilly-P.O., Thrissur-Dist., Mob : 9747770905	18	Male
60.	Shri. Abdul Rasheed, Mecheri House, Palappilly-P.O., Thrissur-Dist., Mob : 9400883353	13	Male
61.	Shri. Ubaid. M.H., Mullappalli House, Palappilly- P.O., Thrissur-Dist., Mob : 9961485106	17	Male
62.	Shri. Ummer. V.M., Villan House, Vellikulangara – P.O., Thrissur-Dist., Mob: 95265665248	12	Male
63.	Shri. M.S. George, Madappilli House, Kuttichira- Vill., Thrissur-Dist., Mob: 9496417406	12	Male
64.	Shri. Sreenivasan, V.N., Varikkanikkal House, Varanparappilly- P.O., Thrissur-Dist., Ph: 0480- 2761039	18	Male
65.	Shri. James Joseph. V., Vadakken- Ambizhappilly- P.O., Thrissur-Dist., Mob : 9387105535	12	Male
66.	Smt. Rani Bhavadasan, Alackal House, Chennaipara – P.O., Thrissur-Dist., Mob : 8281674093	10	Female
67.	Shri. N.P. Francis, Neelankavil House, Santhinagar, Thrissur, Thrissur-Dist., Ph : 0487-2382382	17	Male
68.	Shri. Davis. N.J., Neelankavil House, Kallepady Road, M.G. Kare- P.O., Thrissur-Dist., Mob: 9995227743	14	Male
69.	Shri. Santhosh, M.S., Mangarath House, Manamangalam – P.O., Thrissur-Dist., Mob : 9544340994	18	Male
70.	Shri. Sunny. M.T., Melit Palathingal (H), Velur, Chowannur, Thrissur-Dist., Mob : 9847468511	12	Male
71.	Shri. Shaju, V.A., Vattikuzha House, Muttithadi- P.O., Thrissur-Dist., Mob : Nil.	14	Male
72.	Shri. Hema, Plackal parambil, Natika Beach- Vill., & P.O., Thrissur-Dist., Ph : 0487 – 2397521	18	Male
73	Smt. Elsamma Luckose, Divyahrudayashram, Chennaipara-P.O., Thrissur-Dist., Ph: 0487- 2689126	10	Female

74.	Shri. Premadasan. K.N., Karumpanackal House, Chemmenthitta – P.O., Thrissur-Dist., Mob: 9142737594	12	Male
75.	Shri. Benny, Vettuparackal House, Kuttichira- P.O., Thrissur-Dist., Mob : 9745569724	17	Male
76.	Shri. Sijo. T.R., Tricukkaran House, Marottichal-P.O., Thrissur-Dist., Mob : 9846098994	12	Male
77.	Shri. Biju. V.V., Veluthaserry House, Muttithadi – P.O., Thrissur-Dist., Mob : 9446828736	17	Male
78.	Smt. Flory Davis, Cheeramban (H), Marottichal- P.O., Thrissur-Dist., Mob : 9656500120	10	Female
79.	Shri. M.M. Cyril, Marathonthra (H), Poomala – P.O., Thrissur-Dist., Mob : 9249239239	14	Male
80.	Shri. Stephen, Chakkackal House, Vellikulangara-P.O., Thrissur-Dist., Mob : 9946980222	18	Male
81.	Shri. Mohamed Ali, Thettangal (H), Vellikulangara –P.O., Thrissur-Dist., Mob : 6806861446	14	Male
82.	Shri. Kunju Moideen, Karupparamban House, Vellikulangara- P.O., Thrissur-Dist., Ph: 0480-2741261	18	Male
83.	Shri. George. N.L., Neelamkavil (H), Vallarakkad – P.O., Thrissur-Dist., Mob : 9539172195	13	Male
84.	Shri. Roy Mathew, Madappilly House, Poomala- P.O., Thrissur-Dist., Mob : 9747376896	17	Male
85.	Shri. N.S. Sameer, Nadichala Vettukkatil House, Palappilly-P.O., Thrissur-Dist., Mob : 9846575621	18	Male
86.	Shri. Jenni, Palunkaran House, Vellikulangara- P.O., Thrissur-Dist., Mob: 9495881813	15	Male
87.	Smt. Kumari Haridass, Puthen Purayil, Peechi- P.O., Thrissur-Dist., Mob : 9446844564	18	Female
88.	Shri. M. Rajendran, Kailasam, Poly Pack Plastic Co.- Road, Kunnathangadi, Thrissur-Dist., Mob: 9847947243	12	Male
89.	Shri. Aslkan, T.G., Thottathi House, Nandhipuram _P.O., Thrissur-Dist., Mob : 9747217366	17	Male
90.	Smt. Elsamma Jose, Chembananickal House, Chennaipara- P.O., Thrissur-Dist., Mob: 9567388960	15	Female
91.	Shri. Radhakrishnan, Kattipparambil House, Trikkur- P.O., Thrissur-Dist., Mob : 9605841279	18	Male

92.	Shri. Jobi, P.T.O.M., Plackuttam House, Vellikulangar-P.O., Thrissur-Dist., Mob : 9447992915	14	Male
93.	Smt. Subitha, Karayil House, Chennaipara- P.O., Thrissur-Dist., Mob : 9539178274	18	Female
94.	Shri. Sajan Thomas, Plackkootam House, Murikkengal – P.O., Thrissur-Dist., Mob: 8589837961	10	Male
95.	Shri. Jeyalakshmi, Nedumpallil House, Peechi- P.O., Thrissur-Dist., Mob : 9447087848	18	Female
96.	Shri. Sreekumar, Kade Padickal House, Pankarapally- P.O., Thrissur-Dist., Mob : 9947546885	12	Male
97.	Shri. Gnanasekaran, C/o. Thandapani, Sivankoil Theru, Thrissur-Dist., Mob : 9037721565	15	Male
98.	Shri. K. Thandapani, Poothole Road, Sivankoil Theru, Thrissur-Dist., Mob : 9995546965	13	Male
99.	Smt. Girija Parameswaran, Kilakkekkara (H), Mullaserry-P.O., Thrissur-Dist., Mob : 9544561719	55 Dammer	Female
100.	Shri. Byju. N.U., Nelleserry House, Trikkur- P.O., Thrissur-Dist., Mob : 9947128129	16	Male
101.	Smt. Sujatha Baby, Kalapparambil (H), Chennaipara- P.O., Thrissur-Dist., Mob : 9746531532	15	Female
102.	Shri. K.S. Ramankutty, Cherulivalappil House, Perunchira- P.O., Thrissur-Dist., Mob : 9496373843	18	Male
103.	Shri. Bijesh. V.S., Vaderiyatti House, Mundur- P.O., Thrissur-Dist., Mob : 9995524151	26	Male
104.	Dr. K.M. Viswambharan, Kozhissery (H) Thrithallore- P.O., Thrissur-Dist., Mob : 9288953708	18	Male
105.	Smt. Joly Baby, Kilakkenethu House, Vazhani- P.O., Thrissur-Dist., Mob : 9567886316	15	Female
106.	Smt. Laissa Mathew, Valiyaparambil, Poomala- P.O., Thrissur-Dist., Ph: 0487- 2202432	18	Female
107.	Smt. Maya, K.R., Vadekkemadam (H), Chelakkara- P.O., Thrissur-Dist., Ph: 0488-4250175	12	Female
108.	Shri. Shibu. P.M., Pulickal House, Palappilly- P.O., Thrissur-Dist., Mob : 9645141294	32	Male
109.	Shri. Benny, Veliyathumaril House, Muttithadi – P.O., Thrissur-Dist., Mob : 9495712273	18	Male
110.	Shri. Biju, P.T., Poovathukaran House,	15	Male

	Chengaloor- P.O., Thrissur-Dist., Mob : 9744029205		
111.	Shri. Krishnan. T.S., Therupparambil House, Erumappetty, Thrissur-Dist., Mobile : 9605958282	14	Male
112.	Smt. Lucy Thomas, Chugan House, Muttithadi- P.O., Thrissur-Dist., Mobile : 8547363202	12	Female
113.	Smt. Pathuma Sulaiman, Pulickal (H), Vazhani- P.O., Thrissur-Dist., Mob : 9605587253	17	Female
114.	Smt. Leelamma Jacob, Kochkunnel (H), Vazhani- P.O., Thrissur-Dist., Mobile : 7560942009	19	Female
115.	Smt. Suncy, Keelakkenethu House, Vazhani- P.O., Thrissur-Dist., Mob: 8547066998	12	Female
116.	Smt. Kadeeja, Pulickal House, Vazhani- P.O., Thrissur-Dist., Mob : 9847611139	10	Female
117.	Shri. Rahulan, Kuttikattuparambil (H), Irinjalakkuda – P.O., Thrissur-Dist., Mob: 9446218469	12	Male
118.	Shri. Suthakaran, A.B., Adilakuzhy (H)., Chengalur- P.O., Thrissur-Dist., Mob : 9995979272	12	Male
119.	Shri. N.K. Wilson, Vazhappilly- House, Chellakkara- P.O., Thrissur-Dist.,	14	Male
120.	Shri. Shibu, Palliyil House, Chayappankuzhi- P.O., Thrissur-Dist., Mob : 9744625668	56	Male
121.	Shri. Dince, Plakkottam House, Vellikulangara- P.O., Thrissur-Dist., Mobile : 9446623421	60	Male
122.	Smt. Hajara, Karappam Veetil, Natika – Vill, & P.O., Thrissur-Dist., Mob : 9995248738	15	Female
123.	Shri. K.J. Paulose, Kokkandathil House, Kuttichira- P.O., Thrissur-Dist., Mob : 8086128818	212	Male
124.	Shri. Samzudeen, Moothedath House, Ayiroor – P.O., Thrissur-Dist., Mobile: Nil	15	Male
125.	Shri. Joseph M. Kuttiyil, Palamattathu Kuttiyil House, Thrissur-Dist., Mob : 9400821984	13	Male
126.	Shri. N.K. Wilson, Naraikattu House, Vellikulangara- P.O., Thrissur-Dist., Ph : 0480- 2743627	18	Male
127.	Shri. Joseph. O.G., Olickal House, Murikkengal – P.O., Thrissur-Dist., Ph : 0480 – 2743785	15	Male
128.	Shri. Sijohn. V.J., Vellanikkaran (H),	18	Male

	Muttithadi – P.O., Thrissur-Dist., Mobile : 8086121692		
129.	Shri. Tomy Joseph, Kuzhikandathil House,Chayappankuzhi – P.O., Thrissur-Dist., Mob : 9446995409	19	Male
130.	Shri. Lal V.T., Varikanickal House, Muttithadi- P.O., Thrissur-Dist., Mob : 9745035146	16	Male
131.	Shri. Abikan, A.P., Andazhathu House, Padiyam- P.O., Thrissur-Dist., Mob : 9847137921	18	Male
132.	Shri. Seethi, Nambipunnilath House, Mathilakam – P.O., Thrissur-Dist., Mob : 9142214325	4	Male
133.	Shri. M.J. Thomas, Munduthottil House, Vazhani – P.O., Thrissur-Dist., Mob : 9961467796	15	Male
134.	Shri. Geo Thomas, Sanriamaffel (H)., Assarikkad- P.O., Thrissur-Dist., Mob : 9744650167	20	Male
135.	Shri. Rajan, M.S., Melampat House, Kumaranellur – P.O., Thrissur-Dist., Mob : 9497773862	12	Male
136.	Shri. P.V. George, Palackal House, Alagappa nagar – P.O., Thrissur-Dist., Mob : 9645288781	16	Male
137.	Shri. Jose. K.I., Kalarickal House, Assarikkadu – P.O., Thrissur-Dist., Mob : 9656025135	12	Male
138.	Shri. Hamsa. P.A., Pattukara House, Palappilly – P.O., Thrissur-Dist., Mob : 9495692613	12	Male
139.	Shri. Abdul Muthaleef, Pichen House, Palappilly – P.O., Thrissur-Dist., Mob : 9539546549	18	Male
140.	Shri. Mohanan, Kalladathil House, Vettukkadu – P.O., Thrissur-Dist., Mob : 9142286349	12	Male
141.	Shri. Anilkumar, K.G., karootle House, Muttithadi – P.O., Thrissur-Dist., Mob : 9946270519	18	Male
142.	Shri. N. Mohanan, Nagath House, Muttithady – P.O., Thrissur-Dist., Mob : Nil	12	Male
143.	Smt. Vijayalakhsmi prabha, Divyahrudayaashram, Chennaipara- P.O., Thrissur-Dist., 0487- 2689126	14	Female
144.	Shri. Shammy, K.V., Kizhupilly House, Muttithadi – P.O., Thrissur-Dist., Mob : 9446228547	18	Male
145.	Shri. Siymon. C.V., Chirayath House, Muttithadi – P.O., Thrissur-Dist., Mob : 9946944764	12	Male



146.	Shri. Santhosh, Kalaparambil House, Muttithadi P.O., Thrissur-Dist., Mob : 9048816717	18	Male
147.	Smt. Devi Sathiyam, Thaliyathu Gudi House, Vetrilappara – P.O., Thrissur-Dist., Mob. 9745828405	12	Female
148.	Shri. Hariharaiyer, Paleykkaramadham, 3, Nenmanikkara, Thrissur-Dist., Mob : 9447407976	18	Male
149.	Smt. Merikutty Vargeese, Mulanthara house, Muttithadi _ P.O, Thrissur-Dist., Mob : 8086674965	12	Female
150.	Smt. Dhanya santhosh, Vellanemecherry House, Muttithadi P.O., Thrissur-Dist., Mob : 9048865500	18	Female
151.	Smt. Ashley Benny, Mathekan House, Mattithadi – P.O., Thrissur-Dist., Mob : Nil	12	Female
152.	Smt. Nisha Manoj, Vetiyaden House, Varandharappilly – P.O., Thrissur-Dist., Mob: 9495331767	16	Female
153.	Smt. Jolly Jose, Mukkadayil House, Muttithadi – P.O., Thrissur-Dist., Mob : 9745252468	15	Female
154.	Joshy . M.V., Mundakka House, Muttithadi – P.O., Thrissur-Dist., Mob : 9447721389	11	Male
155.	Smt. Alice Louis, Payyapilly House, Chennaipara – P.O., Thrissur-Dist., Mob : 9847583867	17	Female
156.	Shri. Sumesh . K.S., Kanjirathingal House, Muttithadi – P.O., Thrissur-Dist., Mob: 9847424845	15	Male
157.	Shri. Rajan, N.K., Nelleserry House, Trikkur- P.O., Thrissur-Dist., Mob : 9495422672	20	Male
158.	Shri. Sankara Narayanan, P.V., Poovathumkadayil House, Muttithadi- P.O., Thrissur-Dist., Mob : 9656570557	13	Male
159.	Shri. George Jude, C.V., Chazhoor (H), Mullassery – P.O., Thrissur-Dist., Mob : 9846256400	17	Male
160.	Shri. M.A. Saidu Mohamed, Mankunnathil (H), Perumpilavu – P.O., Thrissur-Dist., Mob : 9846486488	14	Male
161.	Shri. Vinod, V.T., Varikkanickal (H), Muttithadi – P.O., Thrissur-Dist.,	15	Male
162.	Shri. Thanoj, T.T., Thazhatha Pura (H), Kuriyachira- P.O., Thrissur-Dist., Mob: 9497991570	17	Male
163.	Shri. Lijo Joseph, Thachamperil House, Vaniampara- P.O., Thrissur-Dist.,	12	Male

	Mob : 9446873696		
164.	Shri. Krishnaraj, Puthiyamadam (H), Veluthoor – P.O., Thrissur-Dist., Mob : 9846367918	18	Male
165.	Shri. Sunny, P.D., Pulakkeel House, Muttithadi – P.O., Thrissur-Dist., Mob : Nil.	13	Male
166.	Shri. Vargese. C. Chandy, Chandy (H), Lourde puram, Thrissur-Dist., Mob : 9746994486	12	Male
167.	Shri. K.V. Paul, Krerakkattil House, Muttithady – P.O., Thrissur-Dist., Mob : 9846637590	18	Male
168.	Shri. Sreedharan, A.K., Ayyanchira (H), Vattanathra – P.O., Thrissur-Dist., Ph : 0480 – 2751485	13	Male
169.	Shri. Narayanan Namboothri. F.P., Elangaloomana, Thrissur- P.O., Thrissur-Dist., Mob : 9446142804	17	Male
170.	Smt. Sainabha, Vattapparambil House, Viruppakka, Vazhani – P.O., Mob: 9645539446	14	Female
171.	Smt. C.G. Latha, Kossery House, Anandapuram – P.O., Thrissur-Dist., Mob : 9539605608	12	Female
172.	Shri. Chandhran, K.M., Kudappully (H), Chembuchira – P.O., Thrissur-Dist., Mob : 9526872110	17	Male
173.	Smt. Praveena Manoj, Alathur, Nambukkulangara (H), Thrissur-Dist., Mob : 9746950549	12	Female
174.	Shri. Rajaram. T.A., Trikkur Madam, Trikkur – P.O., Thrissur-Dist., Mob : 9846993903	11	Male
175.	Shri. Aneesh C.B., Cheenath (H), Kodakara – P.O., Thrissur-Dist., Mob : 9995714388	19	Male
176.	Shri. Biju. K.V., Kallumpuram House, Kodakara- P.O., Thrissur-Dist., Mob : 9400527381	12	Male
177.	Shri. K.K. Thilagan, Karayil House, Valappad- P.O., Thrissur-Dist., Mob : 9847752059	20	Male
178.	Shri. Gangadharan, Vazhappilli House, Peechi- P.O., Thrissur-Dist., Mob : 9744692467	20	Male
179.	Smt. Leela, K.V., Kallumpuram House, Kodakara- P.O., Thrissur-Dist., Mob : 8136866645	20	Female
180.	Shri. Bibin, O.B., Odathil House, Pantallur-P.O., Thrissur-Dist., Mob : 917293350170	20	Male
181.	Shri. K.I. Joseph, Kalloor House, Venganallur-P.O.,	20	Male

	Thrissur-Dist., Mob : 9605577895		
182.	Shri. P.K. Sudhakaran, Panackal House, Valappad Beach-P.O., Thrissur-Dist., Mob : Nil.	20	Male
183.	Shri. Tibi Issac, Kunjukattil House, Chelakkara-P.O., Thrissur-Dist., Mob : 9495504961	60	Male
184.	Smt. Smt. Molly Babu, Kattsachira Kunnel House, Peechi-P.O., Thrissur-Dist., Mob : 9895741820	20	Female
185.	Smt. Nisha Jeyan, Karunthedath House, Karuvanoor- P.O., Thrissur-Dist., Mob : 9497773799	25	Female
186.	Shri. Varkuy, C.K., Sheerankuzhiyil House, Thalappally-T.K., Thrissur-Dist., Mob : 9505482462	20	Male
187.	Shri. Damodaran Unny, T.N., Thekkumnambidi House, Thrissur-Dist., Mob : 9447617490	20	Male
188.	Shri. Jose Anto, Cheruvathur House, Thekkungara P.O., Thrissur-Dist., Mob : 9495462451	20	Male
189.	Shri. Moideen. P.A., Pattukkara House, Palappilly- P.O., Thrissur-Dist., Mob : 8086121736	20	Male
190.	Shri. Rubin. T.A., Thykkappilli House, Anna Nad- P.O., Thrissur-Dist., Mob : 9895461183	20	Male
191.	Shri. George, T.A., Thazhatha Kudiyil, Murikkingal- P.O., Thrissur-Dist., Mob : 9745464924	20	Male
192.	Shri. Sharafudeen, Angapparambil House, Murikkengal – P.O., Thrissur-Dist., Mob : 9744185608	20	Male
193.	Shri. Baby. K.D., Kurinchingal House, Placode- P.O., Thrissur-Dist., Mob : 9847778248	20	Male
194.	Shri. Mathai. T., Thozhuthingal House, Pangarappilly- P.O., Thrissur-Dist., Mob : 9526540680	20	Male
195.	Shri. Babu. T.M., Kunjukattil House, Chelakkara- P.O., Thrissur-Dist., Mob : 9846271346	20	Male
196.	Shri. T.K. Sasidharan, Thendakavil House, Chelakkara-P.O., Thrissur-Dist., Mob : 8281645177	20	Male
197.	Shri. K.I. Mathai, Kunjukattil House, Chelakkode- P.O., Thrissur-Dist., Mob : 9747513724	20	Male
198.	Shri. Joy. C.M., Chethipuzha House, Thenoorkara- P.O., Thrissur-Dist., Mob : 9446229327	20	Male
199.	Shri. Kurian, K.A., Kocheri House, Thonnoorkara-	20	Male

	P.O., Thrissur-Dist., Mob : 9544011391		
200.	Shri. Viju.John, K., Karayamparamban House, Vellanchira- P.O., Thrissur-Dist., Mob :8157063461	20	Male
201.	Shri.Prabakaran,Thaivalappil House, Padiyam P.O. Thrissur-Dist., Mob : 9656168063	20	Male
202.	Shri. Bhojan, V.K., Vaikkattil House, Puthur-P.O., Thrissur-Dist., Mob: 9567396392	20	Male
203.	Smt. Chandrika, Chempallipurathu House, Kodanur- P.O., Thrissur-Dist., Mob : 9846755936	20	Female
204.	Shri. Baburajan, Karamath House, Padiamuttichir House, Thrissur-Dist., Mob : 9048180820	20	Male
205.	Shri. P.S. Raveendran, Pandara House, Thalikkulam-P.O., Thrissur-Dist., Mob : 9895339244	20	Male
206.	Smt. Sheeja, T.R., Valiyaparambil House, Manalur- P.O., Thrissur-Dist., Mob : 9745222869	20	Female
207.	Shri. P.S. Baskaran, Pandarikkal House, Anthikad- P.O., Thrissur-Dist., Mob : 9847137921	20	Male
208.	Smt. Cicily George, Kanjirathingal House, Peechi- P.O., Thrissur-Dist., Mob : 9605284844	20	Female
209.	Smt. Ammini. K., Kochuparambil House, Chennaipara, Peechi, Thrissur-Dist., Mob : 9048524767	20	Female
210.	Shri. Prasanthan, Kanichiyil House, Natika- P.O., Thrissur-Dist., Mob : 9847064055	20	Male
211.	Shri, Benny Joseph, Plakkootathil House, Vellikulangara-P.O., Thrissur-Dist., Mob :9400542192	20	Male
212.	Shri. Siddik. C.K., Cholackal House, Vellikulangara- P.O., Thrissur-Dist., Mob : 8111972343	20	Male
213.	Shri. Thomas, P.K., Poovathukaran House, Thrissur- Dist., Mob : 9744029205	20	Male
214.	Shri. A.T. Chandran, Arody House, Chengaloor –P.O., Thrissur-Dist., Mob : 8592834706	20	Male
215.	Smt. Ancy Saji, Kummanancherry House, Chengaloor- P.O., Thrissur-Dist., Mob : 9846386225	20	Female
216.	Smt. Stephy Sijo, Thekken House, Chennaipara-P.O., Thrissur-Dist., Mob : 9562384809	20	Female

217.	Shri. M.A. Searia, Mattathil House, Muttithadi-P.O., Thrissur-Dist., Mob : 9400763520	20	Male
218.	Shri. Edwin Anto. P., Puthenpeedika House, Chengaloor-P.O., Thrissur-Dist., Mob : 9961787286	20	Male
219.	Shri. Lijomon. P.M., Pallithazath House, Muttithadi-P.O., Thrissur-Dist., Mob : 8606862684	20	Male
220.	Shri. Justin Baby, Marathonthara House, Poomala-P.O., Thrissur-Dist., Mob : 9495636732	20	Male
221.	Shri. Anson Abraham, Marathonkara House, Poomala-P.O., Thrissur-Dist., Mob : Nil	20	Male
222.	Shri. Sankaranarayanan, Maniyil House, Velur-P.O., Thrissur-Dist., Mob : 9745552503	20	Male
223.	Shri. Sinoj. N.S., Nedumattathil House, Killimangalam – P.O., Thrissur-Dist., Mob : 9605628641	20	Male
224.	Shri. Thomas, N.L., Neelankavil House, Vellarakkad-P.O., Thrissur-Dist., Mob : 9495040802	17	Male
225.	Shri. Rajendran, Kailasam House, Veluthoor-P.O., Thrissur-Dist., Mob : 9847947243	16	Male
226.	Shri. K.I. Kunju Kunju, Kunjukattil House, Chelakkara-P.O., Thrissur-Dist., Mob : 9645590642	12	Male
227.	Shri. Saju. K. Paul, Kochupurackal House, Chelakkara-P.O., Thrissur-Dist., Mob : 9947510122	16	Male
228.	Shri. Jonshan, C.T., Choondakkaran House, Thrissur-P.O., Thrissur-Dist., Mob : 9747391170	14	Male
229.	Shri. Unnikrishnan Nair, Arakkal House, Ammadam-P.O., Thrissur-Dist., Mob : 9400479956	18	Male
230.	Shri. Abdul Rhiman, Sarabbikal House, Thonoorkara-P.O., Thrissur-Dist., Mob : 9656581728	20	Male
231.	Shri. Kuttappan, U.A., Uttoyil House, Muttithadi-P.O., Thrissur-Dist., Mob : 9846015972	16	Male
232.	Shri. Santhosh. T.R., Thaivazhapil House, Padiyam-P.O., Thrissur-Dist., Mob : 95444554387	13	Male
233.	Shri. T.H. Sabith, Tharupedikkayil House, Azhicode-P.O., Thrissur-Dist., Mob : 9633260314	15	Male
234.	Shri. K.R. Antony, Kachappalli House, Chengaloor-P.O., Thrissur-Dist.,	17	Male

	Mob : 9946296231		
235.	Shri. Salish. P.K., Perumparambil House, Peruncherry-P.O., Thrissur-Dist., Mob : 9946274325	16	Male
236.	Shri. T.V. Jose, Therattil House, Avaniserry-P.O., Thrissur-Dist., Ph : 0487 – 2352678	16	Male
237.	Shri. K.K. Navin, Shri. Lakhshmi Kottungal House, Thrissur-Dist., Mob : 7403179661	12	Male
238.	Shri. Shaji. C.A., Cherpanath House, Annanad-P.O., Thrissur-Dist., Mob : 9447616372	14	Male
239.	Shri.K.K. Vijayan, Kakkanadan House, Alagappa Nagar-P.O., Thrissur-Dist., Mob : 8547175146	18	Male
240.	Shri. Seena Rajeev, Alathukattil House, Inchamudi- P.O., Thrissur-Dist., Mob : 9846660894	15	Male
241.	Shri. Kunju Mohamed, Puliyl House, Chekkana – P.O., Thrissur-Dist., Ph : 0480 – 2743627	17	Male
242.	Smt. Frincy Alexander, Payyappilly House, Chennaipara-P.O., Thrissur-Dist., Mob : 9895040073	17	Female
243.	Shri. James, Maraphonthra House, Poomala-P.O., Thrissur-Dist., Mob : 9947767134	15	Male
244.	Shri. P.A. Unnikrishnan, Poovathumkadavil House, Panangad-P.O., Thrissur-Dist., Mob : 9496417905	15	Male
245.	Smt. Sheba Ajithkumar, Chirayith House, Nattika- P.O., Thrissur-Dist., Mob : 9446392411	14	Female
246.	Shri. Jose Joseph (Joy), Mangalath (H), Kuttichira P.O., Thrissur-Dist., Mob : 9497317307	16	Male
247.	Shri. Amal Antony, Manjaly House, Muttithadi-P.O., Thrissur-Dist., Mob : 9745559856	12	Male
248.	Shri. Jose Mathew, thuruthel (H), M.G. Kavu-P.O., Thrissur-Dist., Mob : 9895446816	18	Male
249.	Shri. Jose Joseph, Chakramakkil (H), Jos Cottage, Paluvai-P.O., Thrissur-Dist., Mob : 9387110669	17	Male
250.	Shri. M.P. Jose, Vattakottai, Muttithadi- P.O., Thrissur-Dist., Mob : 9539469877	12	Male
251.	Shri. Jhony. V.M., Thadikkatt House, Muttithadi – P.O., Thrissur-Dist., Mob : 9745424530	14	Male
252.	Shri. Sathesan. A.K., Elluvinchalil (H), Muttithadi – P.O., Thrissur-Dist.,	11	Male

	Mob : 9544556350		
253.	Shri. A.L. Sebastian, Arangassery (H), Puranattukkara- P.O., Thrissur-Dist., Mob : 949666125	16	Male
254.	Smt. Sheeja Joseph, Mavara House, Muttithadi- P.O., Thrissur-Dist., Mob : 9048739255	11	Female
255.	Shri. T.V. Johny, Thadickal House, Muttithadi – P.O., Thrissur-Dist., Mob : 9747152874	10	Male
256.	Smt. Thressia Devasi, Kattilapeedika (H) Muttithadi – P.O.,	18	Female
257.	Shri. K.M. Davis, Kodavarakaran (H), Muttithadi – P.O., Thrissur-Dist., Mob : 9846208720	12	Male
258.	Shri. M.V. Mathew, Mudakkil House, Muttithadi – P.O., Thrissur-Dist., Mob : 9645420912	10	Male
259.	Shri. Dancil Joseph, Pullavirathil (H), Muttithadi – P.O., Thrissur-Dist., Mob : 9048685303	15	Male
260.	Shri. T.M. Babu, Thiparambil House, Vellanikode – P.O., Thrissur-Dist., Mob : 9447694911	10	Male
261.	Shri. Antu. K.R., Koonamplackal (H), Venginissery – P.O., Thrissur-Dist., Mob :9388554225	18	Male
262.	Shri. Denny, M.G., Mapranathukaran House, Muttithadi- P.O., Thrissur-Dist., Mob : 9496529266	14	Female
263.	Smt. K.N. Ramani, Kappamavungal (H), Chennaipara- P.O., Thrissur-Dist., Mob : 9526290754	11	Female
264.	Smt. Mini Mathew, Kadavungal House, Mutti – P.O., Thrissur-Dist., Mob : Nil	10	Female
265.	Shri. Saju. M.M., Mulanthara House, Varandharapilly- P.O., Thrissur-Dist., Mob : 9947680248	09	Male
266.	Shri. Johny, K.D., Kochukunnel House, Kundakkadu, Thrissur-Dist., Mob : 9562581057	20	Male
267.	Shri. Selvarajan, Kunnampulli House, Kochupadam – Village, Choorakotta Ambalam, Thrissur-Dist., Mob : 0487- 2633401	12	Male
268.	Shri. Madhavan. T., Kakkarachola House, Kumbalakode – P.O., Pazhayannur, Thrissur-Dist., Mob : 9544070501	15	Male
269.	Shri. Thejkumar. K., Kadunthayil House, Varandarapilly- P.O., Thrissur-Dist., Mob : 9447696337	16	Male

270.	Smt. Sreedevi. A.N., Koupramana House, Peramangalam- P.O., Thrissur-Dist., Mob : 9495856149	12	Female
271.	Smt. Vinetha Abilash, Thazhath House, Poopathy, Poyya- P.O., Thrissur-Dist., Mob : 7559857104	12	Female
272	Shri. Chakkan, Parassery House, Poopathy, Poyya, Thrissur-Dist., Mob : 9605229712	11	Male
273	Smt. Jisha, Jemmikkattil House, Poopathy, Poyya, Thrissur-Dist., Mob : 8943924249	10	Female
274	Smt. Salma Suliman, Thaiparambil (H), NH Amanghat, Kunnankulam-P.O., Thrissur-Dist., Mob : 9846603977	12	Female
275	Smt. Nisha Sunil, Mattapilly House, Poopathy- P.O., Poyya-Village, Thrissur-Dist., Mob : 9846569445	11	Female
276	Smt. Sathi Valayudhan, Thazhath House, Poopathy- P.O., Poyya-Village, Thrissur-Dist., Mob : 9496032499	18	Female
277	Shri. Rajesh. T.V., Thekkoot House, Kozhkkully- P.O., Thrissur-Dist., Mob : 9446621194	12	Male
278	Smt. Thankamma, Vadakkeveetil (H)., Poopathy- P.O., Poyya-Village, Thrissur-Dist., Mob : 8918943975	16	Female
279	Shri. Davison, K.U., Kattakkakath (H), Koottala – P.O., Thrissur-Dist., Mob : 9400683750	12	Male
280	Shri. Kunjikuttan, Thazhath House, Poopathy- P.O., Poyya-Village, Thrissur-Dist., Mob : 9605305746	16	Male
281	Shri. Ramesh. A., Kakkarachola (H), Kumbalakode- P.O., Thrissur-Dist., Mob : 9846380293	14	Male
282	Shri. Abdul Salam. C.A., Cherathu Valappil (H), Vazhni- P.O., Thrissur-Dist., Mob : 9846452530	17	Male
283	Shri. Sreenivasan. P., Mundankandath House, Kumbalakode – P.O., Thrissur-Dist., Mob : 9847803441	12	Male
284	Shri. Shabu. V.V., Valakkapady (H), Chengaloor- P.O., Thrissur-Dist., Mob :9447725761	10	Male
285	Shri. Thakkappan, V.P., Vayalipparappil House, Kumbalakode – P.O., Thrissur-Dist., Mob : 8086121164	16	Male
286	Smt. Minarva bai, Kanakkapparambil House, Manalur – Vill., & P.O., Thrissur-Dist., Mob : 9895113115	14	Female
287	Shri. Varghese.T.P., Thomman House, Kodakara – P.O., Thrissur-Dist., Mob : 9846555664	12	Male
288	Shri. Shaju. C.K., Chithalapilly (H), Mankulangeri- P.O., Thrissur-Dist.,	17	Male



	Mob : 9447992898		
289	Shri. Binny Cherian, Poovathukaran (H), Chengaloor – P.O., Thrissur-Dist., Mob : 9020607020	15	Male
290	Shri. T.P. Sureshkumar, Theratil House, Vattanathara – P.O., Thrissur-Dist., Mob : 9142653709	16	Male
291	Smt. Rincy Bibin, Kannampuzha House, Vattanathara – P.O., Thrissur-Dist., Mob : 9048681266	17	Female
292	Shri. Seby. P.R., Pulikoden House, Gandhi Nagar, Kodakara – P.O., , Thrissur-Dist., Mob : 9847787881	13	Male
293	Shri. Biju. P.R., Pulikoden House, ST. Thomas Road, Kuriyanchira- P.O., , Thrissur-Dist., Mob : 9446586706	18	Male
294	Smt. Sudha Sajeev, Kunnathully House, Vattanathara-P.O., , Thrissur-Dist., Mob : 9847106862	16	Female
295	Shri. Unnikrishnan, V., Erattakulambil House, Kumbalakode – P.O., , Thrissur-Dist., Mob :9946978609	14	Male
296	Smt. Saija. N.B., Naduparambil House, Nenmanikkara- P.O., , Thrissur-Dist., Mob :97469763312	10	Female
297	Shri. Appu. C., Kakkarakunnu House, Kumbalakode – P.O., , Thrissur-Dist., Mob : 9946959708	11	Male
298	Shri. Balakrishnan, K.R., Kangarparabil House, Madakkathara- P.O., , Thrissur-Dist., Mob : 9446237406	16	Male
299	Smt. Tincy Manoj, Edakalathoor (H), Chevoor- P.O., , Thrissur-Dist., Mob : 9744492843	13	Female
300	Shri. Joseph Peroth, Preoth House, Pootharakkal-P.O., , Thrissur-Dist., Mob : 9562294897	16	Male
301	Smt. Mini Vincent, Neelagavil House, Peramangalam –P.O., , Thrissur-Dist., Ph: 0487-2307429	12	Female
302	Shri. Chandran, C.K., Ummaruvalappil House, Madakkathra – P.O., , Thrissur-Dist., Mob : 9446237401	16	Male
303	Shri. Ravindran, A.C., Ayyanchira (H), .Chengalur- P.O., , Thrissur-Dist., Mob : 9745602900	13	Male
304	Smt. Dency Seby, Perath House, Kodakara- P.O., , Thrissur-Dist., Mob : 9544369036	16	Female
305	Smt. Pally Karappan, Kanathatt (H), Poopathy, Poyya-P.O., , Thrissur-Dist., Mob : 9744187429	17	Male
306	Smt. Thangamma, Thaivalappil House, Poopathy, Poyya- P.O., , Thrissur-Dist.,	13	Female

	Mob : 8156898149		
307	Smt. Girija Unni, Pandyalakkal House, Poopathy, Poyya – P.O., , Thrissur-Dist., Mob : 9524871084	16	Female
308	Smt. Jeya Gopalan, Puthiyedath House, Poopathy, Poyya – P.O., , Thrissur-Dist., Mob : 9539429655	13	Female
309	Shri. Kailasanathan.K., Kizhikki Madam East, Poopathy, Poyya – P.O., , Thrissur-Dist., Mob : 8281520160	10	Male
310	Shri. Dasan, Kovath House, Pookop, Vattanathara- P.O., Thrissur-Dist., Mob : 9562239240	12	Male
311	Shri. Simon. A.L., Aloor, Thaikad (H)., Guruvayur, – P.O., Thrissur-Dist., Mob :9745883909	16	Male
312	Smt. Pushpa Vijayan, Kuttikattuparambil, Porathussery-P.O., Thrissur-Dist., Mob :9746737782	11	Female
313	Shri. Veno. V.A., Valiyaparambil (H), West Chalakudy – P.O., Thrissur-Dist., Mob : 9447006884	16	Male
314	Smt. Ajitha Jain, Chittakkad House, Marottickal – P.O., Thrissur-Dist., Mob :9961485457	10	Female
315	Smt. Shainy Prinesh, Porottukkarar (H), Vattanathara- P.O., Thrissur-Dist., Mob : 9605395730	12	Female
316	Smt. Santha Vijayan, Therilal House, Poopathy, Poyya – P.O., , Thrissur-Dist., Mob : 8943364496	10	Female
317	Shri. Davis. M.T., Mechery House, Nalukettu- P.O., Thrissur-Dist., Mob : 9995979272	18	Male
318	Smt. Raji Manoj, Central Residency, Padathum, Gulangara – P.O., Thrissur-Dist., Mob :8606480922	12	Female
319	Smt. Laly Salim, Arakkai House, Millenium Nagar, Pullazhy- P.O., Thrissur-Dist., Mob : 9447200417	16	Female
320	Shri. Pramoodhe. S., Pandalamuchikkal House, Kumbalakode- P.O., Thrissur-Dist., Mob :9847488978	13	Male
321	Shri. Joseph. M.A., Mapranathukaran House, Muttithadi – P.O., Thrissur-Dist., Mob : 9495190355	10	Male
322	Smt. Dali .M.G., Mulanthara House, Muttithadi- P.O., Thrissur-Dist., Mob :9539640581	13	Female
323	Shri. Benny. M.A., Mapranathukaran House, Muttithadi – P.O., Thrissur-Dist., Mob : 9946690729	16	Male
324	Shri. Mathews. N.J., Nedumpurath (H), Muttithadi – P.O., Thrissur-Dist., Mob : 9539094669	11	Male

325	Shri. Joy. P.I., Puthiyamattathil House, , Muttithadi – P.O., Thrissur-Dist., Mob : 9946275998	13	Male
326	Shri. Sunny. V.A., Vengakkal House, Muttithadi – P.O., Thrissur-Dist., Mob : 9847713588	10	Male

327	Shri. Baby. T.V., thiruvai House, Muttithadi – P.O., Thrissur-Dist., Mob : 9904868530	17	Male
328	Smt. Ajitha Gopinathan, Mallyakkal House, Kandassankadavu –P.O., Thrissur-Dist., Mob : 9961639518	14	Female
329	Smt. Sandhya Binesh, Pulissery House, Kallur- P.O., Thrissur-Dist., Mob : 9747225540	10	Female
330	Smt. Vanaja. V.S., Putha House, Manaloor –P.O., Thrissur-Dist., Mob :9961836631	12	Female
331	Shri. Shinuraj, Theruparampath House, Edavilangu- P.O., Thrissur-Dist., Mob : 9645896613	10	Male
332	Shri. Abdul Samad. C.A., Cherathuvalappil House, Vazhani- P.O., Thrissur-Dist., Mob : 9048171141	15	Male
333	Shri. P.V. Satyan, Pallath House, Vellani- P.O., Thrissur-Dist., Mob : 9645701235	13	Male
334	Shri. T.A. Antony, Thandieckal House, Alathur- P.O., Thrissur-Dist., Mob : 8129915766	10	Male
335	Shri. Navin. C.V., Chalissery House, Mannampetta- P.O., Thrissur-Dist., Mob : 9746226709	15	Male
336	Shri. Chandran. M.T., Mullaykkal (H)., Mannampetta- P.O.,Thrissur-Dist., Mob : 8157805901	10	Male
337	Miss. Akhila, Mullakkal House, Mannampetta- P.O.,Thrissur-Dist., Mob : 9745792836	16	Female
338	Smt. Priya Muraly, Palakkada House, Pudukad – P.O., Thrissur-Dist., Mob :9526074245	12	Female
339	Shri. Ramkumar. P.V., parekkadan (H)., Muttithadi – P.O., Thrissur-Dist., Mob :9946296197	10	Male
340	Shri. Rappai. P.A., Pulikoden House, ST. Thomas Road, Kuriyachira-P.O., Thrissur-Dist., Mob : 7736421219	11	Male
341	Shri. Pons George, Madamby House, Pudukkad- P.O., Thrissur-Dist., Mob :9846833692	15	Male

342	Shri. K.A. Asokan, Karickotan House, Mupliyam-P.O., Thrissur-Dist., Mob : 9633543161	12	Male
343	Jithin Prince, Kollanoor House, Pudukad- P.O., Thrissur-Dist., Mob : 9567285446	10	Male

344	Smt. Bindu. K.R., Kunnatholly House, Pullazhy –P.O., Thrissur-Dist., Mob :9142203383	14	Female
345	Shri. Sinto Antony, Payyappilly House, Pudukad-P.O.,Thrissur-Dist., Mob : 9846192987	11	Male
346	Shri. Jonson. C.P., Chevedan House, Pudukad-P.O.,Thrissur-Dist., Mob : 9895619856	16	Male
347	Shri. Ajaykumar. M.R., Prop. Nectar Honey, Aviniserry – P.O., Thrissur-Dist., Mob : 9447527425	Trader	Male
348	Shri. C.P. George, Chirayathu Manade House, Chalakkudi- P.O.,Thrissur-Dist., Mob : 9495064742	Trader	Male (Blind)
349	Shri. Yousuf, Prop. Indian Honey, Verankadavathu House, Thrissur- P.O., Ph: 0480- 2837366	Trader	Male
350	Shri. Baby. C.M., Chakkikallil House, Murickingal – P.O., Kodali, Thrissur-Dist., Mob : 9446232160	Trader	Male
352	Shri Balan W.B. Kadavil Hounse, R.S.Road, Pudukad Thrissur-Dist., Mob.938 8328637	Fammer	Male
353	Shri Jose T.S. Thanikkal House Korattu,Chalakdu Thrissur-Dist.	Fammer	Male
354	Smt T.C.Indira Panachiparmbil Green garden Kuttur P.O. Kuttur Thrissur-Dist., 944 6320727	Farmer	Female
355	Shri Mohamaed Kutty Erachamvettil, Ambadikulam Road,Pullazhi P.O. Aranakara Thrissur-Dist., 04872369311	Farmer	Male
356	Shri Issac T.P. Thuru thummel House, Kannara P.O. Thrissur-Dist., 04872699895	Farmer	Male

357	A.P.Thomas Aloor House Tirur, Mugnaathru P.O Thrissur-Dist., Ph.No0487 2200581	Electrician	Male
358	Smt.Rajitha, Namiattu Parambil Karumathra,Ellanallur 9539778335	Farmer	Female
359	Smt.Mini Gopalan Kuzhiveli Padam Kaitharam North Thalikdlam Thrissur-Dist., 9895618087	Farmer	Female
360	Smt.Meghana Padinjettavil House Chendrappinnu Thrissur-Dist., 9539893666	Farmer	Female
361	Shri Eljo.K.J. Kalluvetttil House S.N.Park Road,Puthole P.O. Thrissur-Dist., 9747714770	Farmer	Male
362	Smt.Malaraju Ooromkaran House Chittissery P.O. Thrissur-Dist.,	Business	Femal
363	Shr Rajeev .P.K Pulinkuzhy House Mannuthi.P.O. Elinjikalam Thrissur-Dist., 9744362445	Farmer	Male
364	Shri George.M.L. Maliamave House Chittilappily. P.O. Thrissur-Dist., 9441622361	Farmer	Male
365	Shri Varghes.K.K. Kakkanatu House Vettukadu,Puthur Village,Ollurkara Thrissur-Dist., 04872359044	Farmer	Male
366	Smt.Sabeena.A.A. Thervil House Karumathra Kadalavi P.O. Thrissur-Dist., 9745542522	Farmer	Female
367	Shri Joy Antony Alenattu Kalaparamath House Madavi Konam Thrissur-Dist., 9496040500	Farmer	Male
368	Shri Saththeyan.K.K.	Farmer	Male

	Kadayathu House, Kannara P.O. Thrissur-Dist., 9495013085		
369	Shri.Pushkaran Kishkoodan Porathussry Irinjalakadu Thrissur-Dist., 9745689496	Farmer	Male
370	Smt Sredevi Thazathu Veettil Poyya Thrissur-Dist.,	Goldsmith	Female
371	Smt Jessymol Suraj Manuady House P.O. Madu Kadapuram Mbl 8129073467	Farmer	Female
372	Shri Venugopalan Alathu House P.O.Katoor Thrissur-Dist., 914 2808306	Farmer	Male
373	Smt. Sreeshma Velu Meptadam House P.O.Kattoor Thrissur-Dist., Mbl 9605861874	Farmer	Female
374	Smt Prasanna P.V. Inchody House P.O.Kaloor Njellur, Mukunddam Thrissur-Dist., 8129952232	Tailoring	Female
375	Shri Jose A.A Katlapeedika Anikkal House Muttithady P.O. Thrissur-Dist.,	Farmer	Male
376	Shri Jilson Antony Kokadan House Mariyamala Pallikunnu P.O.Varanthrapilly Thrissur-Dist., 9995979272	Farmer	Male
377	Smt. Gilja Janardhanan Kuttikatu Parmbil Porathdssery Irinjalakdda Thrissur-Dist., 9747907917	Farmer	Female
378	Shri Tilakan T.C Thacham Kulam Chenallur P.O. Kodakara Mbl. 9539285028	Farmer	Male
379	Shri.Sathiavan O.M Chittiath House	Farmer	Male

	Chengahoor Pudukkad Thrissur-Dist., 9656171277		
380	Smt Sindu Peediyekkal Cherdu Cheeavi Vellannallur 8129074679	Farmer	Female
381	Smt. Savithi Kankori Parambil Vellanaloor Thrissur-Dist., Mbl. 8129096099	Farmer	Female
382	Smt Mohini Neravath House Orumanayoor Thrissur-Dist., 9747088882	Farmer	Female
383	Shri Amal K.P. Kokkandthil House Kuttichira P.O. Challkudy Thrissur-Dist., 048027406724	Student	Male

**THRISSUR BEEKEEPING CLUSTER (KERALA)**

**(APIS DORSATA)**

Sr.No	Name of the beekeeper & Address	No of bee colonies	Sex
1.	Shri. Sudhakaran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	--	Male
2.	Shri. M.A. Ravi, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
3.	Shri. Subran, Thecherry, Poringalkuthu, Thrissur-Dist.,	---	Male
4.	Smt. Vallikutty, Thecherry, Poringalkuthu, Thrissur- Dist.,	---	Female
5.	Shri. M.R. Ayyappan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
6.	Smt. Ammalu (Raman), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
7.	Smt. Janaki (Vadakken), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
8.	Shri. M.K. Sredharan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
9.	Shri. M.R. Kochuraman, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
10.	Smt. Madhavi, (Kochu Ayyappan), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	----	Female
11.	Shri. M.R. Narayanan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
12.	Shri. K. Sasi, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
13.	Smt. Indira, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
14.	Shri. Lakhmi (Kandhan), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
15.	Smt. Radha, (late Subramanian), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
16.	Smt. Santha (Santhosh), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female



17.	Shri. M. V. Velavu, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
18.	Shr. Jose, R., Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
19.	Shri. Ponnumani, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
20.	Smt. Sheja, kadar, Vachumaram, Poringalkuthu, Thrissur-Dist.,	---	Female
21.	Shri. Venu, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
22.	Shri. Xavier, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
23.	Shri. Balakrishnan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
24.	Shri. Thomas, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
25.	Shri. Ananadan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
26.	Smt. Karthu (Sathu), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
27.	Shri. M.L. Narayanan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
28.	Smt. Devu, (Joshi), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
29.	Shri. Krishnamoorthy, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
30.	Shri. Shaju, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
31.	Shri. Rajan. B., Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
32.	Shri. Sankaran, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
33.	Shri. Velayudhan, Pillappara Aathi Vasi- Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
34.	Shri. Rajamani, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
35.	Shri. Babu, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male

36.	Shri. Vasandhan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
37.	Smt. Kadhera, Valachal Aathivasi- Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
38.	Shri. Damodharan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
39.	Shri. Shaji, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
40.	Shri. Velavu, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
41.	Shri. Sivan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
42.	Shri. Sasi, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
43.	Sheedaran, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
44.	Shri. Ponnunni, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
45.	Shri. Rajan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
46.	Smt. Leela (Rajan), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
47.	Smt. Omena (Sudeesh), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
48.	Shri. Balakrishnan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
49.	Shri. Sasi, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
50.	Shri. Omena (Gobi), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
51.	Shri. Sreeraman, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
52.	Shri. Kochu Govindan, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
53.	Smt. Vallykutty, (Raman), Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
54.	Shri. George, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male

55.	Shri. Divakaran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
56.	Shri. Sahadevan, Valachal Aathivasi - Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
57.	Shri. Chandrasekaran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
58.	Shri. Lakshmanan, Valachal Aathivasi-Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
59.	Shri. Thangappan, Valachal Aathivasi-Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
60.	Shri. Jose, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
61.	Smt. Mallika, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
62.	Shri. M.R. Raghavan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
63.	Smt. Subitha, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
64.	Smt. Kalyani (Unni Chakkan), Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
65.	Shri. Sivan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
66.	Shri. Ravendran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
67.	Shri. Dinesh, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
68.	Shri. M.R. Rajesh, Pillappara Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
69.	Shri. Ayyappan (Vadakken), Malayan House, Poringalkuthu, Thrissur-Dist.,	---	Male
70.	Smt. Kamalasi (Koman), Malayan House,	---	Female

	Poringalkuthu, Thrissur-Dist.,		
71.	Shri. Velayudhan (Vetteli), Malayan House, Poringalkuthu, Thrissur-Dist.,	---	Male
72.	Shri. M.N. Raman, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
73.	Shri. Devasi, Pillappara Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
74.	Shri. M.V. Ramankutty, Pillappara Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
75.	Shri. Gopalan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
76.	Shri. Surendran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
77.	Smt. Girija, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
78.	Shri. Velaudhan (Kunjan), Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
79.	Shri. Subramani, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
80.	Shri. Veerappan, Kadar, Vachumaram, Poringalkuthu, Thrissur-Dist.,	---	Male
81.	Smt. Beena, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
82.	Shri. Sasidaran, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
83.	Shri. Vargeesh, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
84.	Shri. Lonappan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
85.	Smt. Seetha, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
86.	Shri. Krishnan, Valachal Aathivasi	---	Male

	Colony, Poringalkuthu, Thrissur-Dist.,		
87.	Shri. Pradesh, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
88.	Smt. Janaki, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
89.	Shri. A. Sasi, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
90.	Shri. Kunjumon, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
91.	Shri. Kunjuvel, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
92.	Shri. Rajan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
93.	Smt. Janu, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
94.	Shri. M.K. Madhavan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
95.	Shri. Santhosh, Pillappara, Vetrilappara, Poringalkuthu, Thrissur-Dist.,	---	Male
96.	Shri. Satheesh, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
97.	Smt.Lakhmi, Malayan Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
98.	Shri. M.V. Sathyan, Malayan House, Pillappara Aathivasi Cy., Vetrillappara – P.O., Poringalkuthu, Thrissur-Dist.,	---	Male
99.	Shri. T.S. Suresh, Pillappara Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
100.	Smt. Padmini, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
101.	Shri. Vijayan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male

102.	Smt. Santha, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
103.	Smt. Puspaa, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
104.	Shri. Sajeevan, M.K., Malyan House, Pillappara Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
105.	Smt. Chandrika, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.,	---	Female
106.	Smt. Saradha, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
107.	Smt. Kalyani, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Female
108.	Shri. Ramakrishnan, Valachal Aathivasi Colony, Poringalkuthu, Thrissur-Dist.,	---	Male
109.	Smt. Lakshmi, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist	---	Female
110.	Shri. Devu, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.	---	Male
111.	Shri. Chandran, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.	---	Male
112.	Shri. Sivan, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.	---	Male
113.	Shri. Mohanan, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.	---	Male
114.	Shri. Saneesh, Malayan Colony, Kakkinikkadavu, Vazhani- P.O., Poringalkuthu, Thrissur-Dist.	---	Male



Thrissur Beekeeping Cluster's Focus Group Discussion



Participants are actively taking part in FGD



Raw honey kept at Institution for processing



Conversion method honey processing at Institution





Carpentering unit at Institution



The view of Thrissur



Honey processor and packer from Thrissur



Packing machine which he using



Raw honey stored in plastic cans



Group of tribal people at Salaikudi Thrissur