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Silk Fabrics, Bhagalpur, Bihar

Bhagalpur silk fabrics are under the global spotlight. But, beneath all the sheen, the industry has a dark side as well, leaving the existence of its craftsmen in obscurity.

Bhagalpur is a town with historical importance situated on the banks of the river Ganga in the state of Eastern Bihar. Once considered as the biggest trade center of Eastern India, the city is famous for its unique silk fabrics called 'Tussah or Tusser'. Silk weaving is an age-old tradition in the city. Fabrics produced in the city are famous both on the domestic and the international market. Bhagalpur cluster ranks the second highest, next to Karnataka in the production and exports of silk fabrics. It has been named as the Silk City due to its popularity for Bhagalpuri silk, there are altogether 4,000 handloom and **15,000 power loom weavers** in the district.

However, at present the weavers of Bhagalpur are in crisis. They have been facing problems for a while now and the lockdown has dealt them a hard blow. The levels of production have also dropped. Weavers not only face a financial crunch; they are also affected by dwindling numbers (the younger generation among the traditional weaving communities are keen to move away from what they see as a labor intensive and unremunerative work).

Problems

- 1. Artisans want to upgrade their product however they are not enthusiastic enough to work on it.*

Proposed Intervention

- We can introduce them with the same craft communities and groups on social media so that these artisans can get idea of updated trends and market.
- Quarterly seminars can be arranged for a similar craft in different district of the state where we can educate them about the importance of new innovations and upgradation in their products.
- In this era of corporate gifting, we can ask government organizations to support craftsmen by choosing these crafts for their corporate gifts and give orders to these artisans via Invest India so that Invest India can help them to develop some new design and products for these corporate gifts.

- 2. Dead stock to covid lockdown*

Proposed Intervention

- a) Artisans can sell their dead stock at different online platforms like on flip cart, meesho, amazon, Instagram and Facebook which has many groups and communities where artisans can promote their product and also approach the international buyers.

Who will do it – Artisan itself, organization like NIFT and Invest India will be there to guide

3. Lack of knowledge of new trends (colours and styles) in craftsman

Proposed Intervention

- a) Teaching them the importance of design and aesthetics and how it can boost their sales and make their product acceptable to the mass (Especially young population), we can train them how to research on latest trends, colors, designs.
- b) Infusion of new and contemporary designs through design intervention as well as product diversification

Who will do it – Artisan itself, organization like NIFT and Invest India will be there to guide

4. Unable to reach out new opportunities and market

Proposed Intervention

- a) Technology up-gradation
- b) Awareness of government schemes and projects for craftsman which might benefit them
- c) Marketing of handloom products,
- d) Brand building, training and skill up-gradation

Teaching them about latest trends, colors, pattern and designs. Adopting new materials, techniques and development of new and creative products will help them penetrate the market easily. Learning social media platforms and active presence on it will help them market their product, approaching new ways for collaboration and creating business accounts on ecommerce platforms like amazon, Myntra, flip kart etc. will give access to a wider market. Active participation with business groups or trades will increase sales opportunity.

Who will do it – National institute of fashion technology, Invest India (ODOP)

The textile ministry should focus a bit more towards this sector. They are the real needy and besides this, handloom products are having very good future in the textile industry.

Sr. No	Proposed solutions	Agency
1	Quarterly seminars to educate artisans	Ministry of Textile
2	Market their product on right platforms	organization like NIFT and Invest India
3	Awareness of new trends and colours	Ministry of Textile and organization like NIFT
4	Aware of new opportunities and market	Ministry of Textile

The Covid-19 lockdown hits silk weaver

Silk products manufactured in Bhagalpur were sold elsewhere in India and exported to various foreign countries “annual volume of business had been over RS 600 crore. However, manufactured products of more than RS 100 crore are lying dumped here” said Alim Ansari, secretary of Resham bunker khadi Evam gram Udyog Sangh (RBKEGS)

Kumar Rajesh / TNN / Aug 5, 2020, 04:00 IST

Read more at:

http://timesofindia.indiatimes.com/articleshow/77357986.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

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Pudukkottai Cashews

The cashew (*Anacardium occidentale* L.), commonly known as the "wonder nut," is one of the most expensive processed nuts sold on global commodities markets and a lucrative cash crop. It has the potential to offer a source of income for cashew farmers, to empower rural women in the processing industry, to create jobs, and to earn foreign currency via exports.

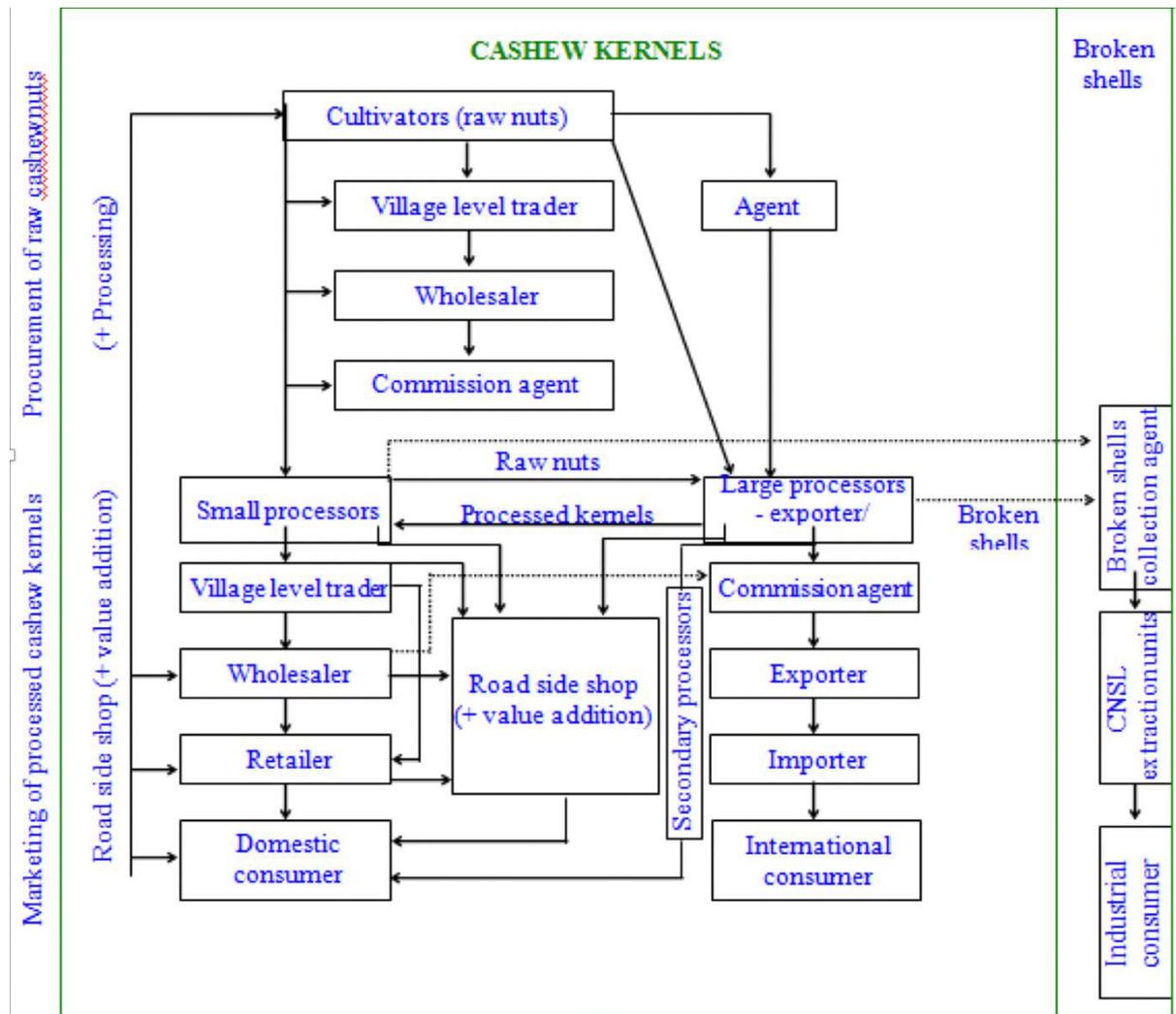
Varieties

Variety	Type	Country	Salient Feature
Vengurala-2	Common	India	High yielding, desirable nut and apple qualities, tolerant to major disease and insect pests.
Sulabha (K- 10-2)	Common	India	High yielding, desirable nut and apple qualities, tolerant to major disease and insect pests.

State	Salient Feature
Tamil Nadu	VRI 1 - It is a clonal selection from germplasm accession maintained at Regional Research Station, Virdhachalam. The average annual yield is 7.12 kg per tree in a year. It yields 1700 kg nuts/kg, having a nut weight of 5g, shelling percentage of 20 % and 5 to 7 fruits/panicle. It is an intensive branching type. The kernels are of high quality (240 W. counts)
Tamil Nadu	VR1 5 - It is a selection from Kattupalli village in Chengalpattu district. The parents are the seedling progenies of M.44/3 of the high yielding tree No.1668. It yields 1750 kg of nuts/ha, which is 14.2% higher yield than VRL.1. Nuts are big with a high shelling percentage of 28%. It is resistant to tea mosquito bug and drought. The nut weight is 5g with 5-8 fruits per panicle. Single tree yield is about 8 kg per year. Exhibits less variation on seed propagation. The nut size is 3.4 x 2.6 cm. One hundred nuts weigh 512g. The nuts contain 32.5% protein, 10.3% sugars, 28.7% starch and 47% fat.

Cashew Products

- 1. Raw Nuts**
- 2. Cashew Kernels** - The primary product of cashew nuts is the kernel, which is the edible portion of the nut
- 3. Cashew Nut Shell liquid**- The liquid inside the shell (CNSL) represents 15 percent of the gross weight and has some attractive possible medicinal and industrial uses. CNSL is one of the few natural resins that is highly heat resistant and is used in braking systems and in paint manufacture.
- 4. Cashew Apple** - The cashew "apple" or false fruit is an edible food rich in vitamin C. It can be dried, canned as a preserve or eaten fresh from the tree. It can also be squeezed for fresh juice, which can then be fermented into cashew wine (Feni), which is a very popular drink



The distribution channel begins from cultivators and there are two ways in which the farmer can move ahead. Producers either can sell their unprocessed produce to the village level trader or they can move to the small processors for processing their produce. Moreover, processors are further bifurcated as small and large processors. Small processors generally take care of domestic demand and large processors take care of export demand. Local nut production is not sufficient to meet the requirements of the existing processing units.

Problems

1. Low yield due to disease, pests

In India there are 200 insect pests reported on cashew crops. Among the pests, a sucking pest namely, tea mosquito bug and a chewing pest viz., cashew stem and root borer are the two major pests infecting cashews. These two pest attacks are very severe in nature having the potential of causing even total yield loss.

Proposed Intervention

Developing a mobile app through which farmers can upload images of the infected leaves or the pest. The app should provide relevant knowledge for dealing with pest attacks and recommend appropriate disinfectants along with the availability, procurement facilities for the same.

2. Loss of quality during storage

It has been observed that due to lack of quality storage infrastructure the quality of the cashew deteriorates, rendering the product unsuitable for export purposes.

Proposed Intervention

Cashews inshell and kernel are stored in dry (<65% relative humidity), dark cool (<10 °C/50°F) and well-ventilated conditions. Cashew Kernels moisture should be maintained at 5% or less, exposure to strong odours avoided, and storage conditions should protect them from insects and pests.

Availability of large storage facilities is required in a cluster format, which would allow producers to store their produce in the best possible way. The facility can be developed in collaboration with the government and private players.

3. There is ample cashew nut production in the district. However, no dedicated programme for cashew nut has been introduced by the government and hence, it is not prioritized. On the other hand, Ground Nut and Black Gram are the top two prioritized crops and coconut will be the next on the priority list due to thrust from the Government and high community involvement.

Proposed Intervention

The local MLA/MPs should initiate conversations with the ministry to prioritize Cashew Farming . Moreover, they could take up this issue with state government, which will fast track the way forward. MLA/MPs have to be informed about the benefits of large-scale cashew production, and the bottlenecks that are preventing cashew becoming an exportable product.

4. Several families are manually involved in Nut Processing

Nut processing usually happens manually which starts with Sun Drying and storage. At the Producer level raw cashew nuts are sun dried for several days. The raw cashew nut is stored in either gunny or sisal bags. The quality of the raw cashew nut is determined by three key tests before processing: Moisture test, Nut Count Test and Nut turn-out test. The kernels are also graded according to their size

Proposed Intervention

The government should provide the necessary tools, machines and training to ensure that farmers are well equipped to perform post-harvest operations. It will allow better sorting and grading of the produce. Also the error rate will decrease.

5. Labour is scarce especially during harvest

Proposed Intervention

This is a very serious issue that the government should look into. The rate of production of cashews is also on a decline and there is large scope for improvement. Labourers should be adequately compensated (at least the minimum wage). If domestic labour is not enough then the provision for inter-district or inter-state labour migration should be looked into.

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Soft toys – Jhansi

Jhansi is a historic city in Uttar Pradesh. Jhansi is well connected to all other major towns in Uttar Pradesh by road and railway networks. The city is known for its handcrafted knitted or crocheted soft toys which came up as one of the most potential industry to promote local artisans and economy of Jhansi.

A stuffed toy or soft toy is a toy with an outer fabric sewn from a textile and then stuffed with a flexible material. The materials used for making these toys include polycloth, nylax cloth, fiber etc. Stuffed toys are made in many different forms, often resembling real animals, legendary creatures, cartoon characters or inanimate objects. They can be used as comfort objects, for display or for collecting; or given as gifts. Presently, there are over 50 soft toys manufacturing units in Jhansi which have led to the creation of jobs. The toys made in Jhansi are supplied to major cities such as Delhi for sale.

Problems

1. Unavailability of raw materials

- There are problems in getting different types of stuffing material- synthetic toy filling, natural toy fillings, eco-friendly toy stuffing, organic toy stuffing, blending materials (synthetic and natural mixed materials). At present micro enterprises purchase materials from Delhi, design toys and in turn supply them to artisans for tailoring.

Proposed Interventions

- (a) Creation of raw material banks are needed as the artisans require regular supply of raw materials.
- (b) If the production of raw material is done within the city the cost can be reduced and the profit margin can be increased by 20-25 %. Therefore, raw material bank is much essential for growth prospective of the Cluster.

2. Lack of Financial Assistance

- The artisans have not been successful in obtaining bank credit. Bankers are not satisfied without adequate securities. There are a very few proposals that get sanctioned by the bank.
- Low sanctioned rate is due to improper project proposal from promoters, inadequate information, insufficient source of revenue etc. So,
- It has been observed that technical guidance along with proposal preparation is also very essential.

Proposed Interventions

- (a) Improvement in loan availability is required through the involvement of financial institutions to help the individual artisans.

- (b) Establishment of dedicated branches of lead banks for artisans which can understand the problems and assist them in getting funds for purchase of improved technology equipment and also the working capital.

3. Technology:

- Presently all the operations are handled manually and ladies are able to stitch in their home with the help of tailoring machines.

Proposed Interventions

- (a) Since the artisans operate from their home, they have the tendency to use only domestic meters and the electricity companies insist on commercial meters as they impose penalty. Government duty can be exempted and the amount can be credited to their accounts directly.
- (b) Technical guidance along with proposal preparation can be provided. The technical know-how can also guide on the Modern Plant & Equipment's, Tools, new market opportunities, essential requisites, licenses for export.
- (c) Skill development facilities both for quality development as well as product development need to be strengthened. There is no such facility available in Jhansi, artisans get trained while working and making toys by their own experience.

4. Lack of market and global awareness

- It has been found that toys made of outer covering with fur have a tendency to capture germs and bacteria. Therefore, preference for soft toys made of fabric is growing.
- Soft toys manufacturers at Jhansi specialize in soft toy manufacture with fabric material. This indicates the prospects of continued and rapid growth of this industry.

Proposed Interventions

- (a) Indian exporters of soft toys have to develop strong linkages with Hyper/ Super markets, E-commerce companies, discount stores, hobby and craft stores, toy shop chain.
- (b) They can even focus on festive toys for special occasions to expand their market.
- (c) Standardisation and brand creation can be done as there is no standardization or any brand for the products manufactured in Jhansi. Products are locally sold in market.

5. Lack of Innovation

- Innovation and new design development are major concern for the customers as per today's market demand for children in soft toys industry. Manufacturers are facing this problem due to non-awareness of new designing methods and techniques.

Proposed Interventions

- (a) Making available latest/ new designs as per international/ national market scenario based upon customer demand.
- (b) Continuous up gradation in design technology by research and development process at development centre to produce fine quality products.

6. Non- availability of buyers

- It is one of the major concerns for soft toys cluster. Therefore, common market outlet would be opened to grab the opportunities. Common market outlet will have following benefits.

Proposed Interventions

- (a) Direct access to customers without individually having to interact with their clients through distributors/ wholesalers and other intermediaries.
- (b) The margins that they surrender to intermediaries, who are often large, and affecting their own margins would be effectively controlled.
- (c) Identification of common places/exhibitions being market outlets for soft toys products of Jhansi Cluster.
- (d) Facilities like Designing Centre, cutting machine, stitching machine, pattern making machine, pressing machine etc. should be provided. In order to improve the quality & productivity, capacity building and training is required.
- (e)

Sl. No	Proposed solutions	Agency
1	Skill development & modern-day trends	Export Promotion council of Handicraft/ NID and other fashion institutes.
2	Product Marketing / Digital Marketing/ Customer engagement/ exhibitions	Export Promotion council of Handicraft/ Digital India/ NID/ IIMs/ Private digital marketers
3	High dropouts from the training institutes.	Export Promotion council of Handicraft/ Ministry of Textiles / Cooperative societies /Skill India
4	Raw materials	Ministry of Environment, Forests, Science and Technology, Telangana

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Invest India
One District One Product

KARGIL PASHMINA SHAWL, Ladakh

Kargil Pashmina Shawl is one of the most luxurious and classic textiles found in India. It is a product of consummate skill and artistry applied to one of the most delicate fibers. Pashmina essentially signified 'royalty' and was considered the 'gold' fiber. The wool used to make these shawls comes from the goats found in the Himalayan region and are called 'Pashmina or Changthangi'. These shawls command high value due to their extreme softness, elegance and luster. The growth of this shawl was stimulated by the intense winter and low temperatures in the high altitudes of Ladakh.



Problems:

1. Threat to Pashmina goat rearing:

Change in climate and extreme summer and winter are causing the goats to die of starvation or of hypothermia. Local people are migrating out of Ladakh and hence there are lesser families involved in the rearing of these goats. According to data available roughly 2,500 families are managing 200,000 goats in Changthang.

Proposed solutions:

- Provide incentives to the local people to stay back in Ladakh and not migrate to other regions. The nomads can be given tent shelter and food facilities.
- Budget should be allocated to create a stock feed in fodder banks which can be utilized in the winter.
- Mini-farms can be created for the locals and allotted to them in order to raise goats and sustain the production of Pashmina wool.

2. India- China Conflict:

The conflict has led to loss of valuable grazing land for the Changpas. Despite repeated requests they have not been given access to grazing field, nor have they been provided alternatives. This has also led to locals migrating and opting for alternative occupations.

Proposed solutions:

- Provide access to alternative feeding grounds for the locals to access
- Collaborations with Ministry of Animal Husbandry and Dairying can be to train the locals and encourage them to rear the goats and look after their nutrition and welfare
- Locals should be kept in loop with relations with China and given remedial solutions

3. Threat to skilled artisans:

The shawls were earlier woven by hand to maintain its purity but now there has been machine intervention which has caused it to be mixed with nylon or angora to endure the strain of the machine. The artisans are shifting from handwoven to processing the shawls in machines as the pay per shawl is better and the time taken is also less.

Proposed solutions

- To promote and encourage artisan to weave by hand protection can be given to them in terms of financial incentive. Bans can be put on machine production of pashmina to protect its authenticity.
- Inspection of production units can be done to analyze how many artisans are equipped with machines and penalties should be levied on them.
- Pashmina products should be properly labelled to indicate its constituency and whether it is hand-made or machine made should be mentioned. This will help to differentiate the hand-made pashmina and educate the customers better.
- Women were considered to be experts in weaving Pashmina threads, but they are hardly available to work 3-4 days a month. Hence women-centric employment plans should be conducted to induce them to come forward and work.

4. Explosion of fake Pashmina Shawls:

The market is infested with shawls which look identical to the original Pashmina and are sold at half-price which causes customers to fall prey to these fake copies.

Proposed solutions:

- Quality assurance tags can be put to differentiate fake and hand-made pashmina
- Increase R&D on pure pashmina designs and patents on the designs can be given exclusively to Pashmina shawl manufacturers.
- Product diversification and introduction of new Pashmina products can help to tap into a new customer segment and generate more revenue.

5. Hardship involving in weaving:

The needle work involved in weaving the pashmina shawls is highly tedious. It impacts the vision of the weavers. Moreover, the revenue generated per day ranges from Rs. 300-400 for such a backbreaking job. Hence, the trade is not attracting younger generation and they are opting for alternative means of livelihood like construction work etc.

Proposed solutions:

- Economic incentives such as government grants and subsidies can be given to the artisans involved in weaving.
- Trainings and Skill enhancement sessions can be conducted to ensure the artisans are aware of the best practices and the environment they should weave in.
- The heritage significance of the art of weaving should be publicized so that locals view it as a part of their culture and tradition, and are encouraged to indulge in it.

6. Impact of covid:

There has been steady fall in the export and domestic demand of pashmina shawls. Lack of exhibitions and shows, have reduced the work of the artisans. Moreover, the inflow of tourists has also reduced.

Proposed solutions:

- Export promotion of the textile can be done to create awareness of the fabric in collaboration with the Ministry of Commerce
- Training of the locals should be done to enable them to handle export documents and negotiate deals.
- Virtual seminars and exhibitions can be conducted to instigate the customers to buy this product.
- Online platform can be created to take orders and cater to a larger customer segment

Proposed Interventions

Serial no.	Type of Intervention	Proposed solution	Agency
1.	Credit Support	Financial incentive should be given to the locals to rear the Pashmina goats	Ministry of Textiles

2.	Supply chain	Access to grazing pastures for goat rearing	Ministry of Animal Husbandry
3.	Certification	Protection of handloom pashmina shawl artisans	Ministry of Textiles
4.	Training and Development	Vocational training of pashmina shawl manufacturers	Ministry of Textiles
5.	Market linkages	Creation of online platform for Pashmina artisans	Ministry of Electronics and Information Technology
6.	Branding and Marketing	Better trade promotion of Pashmina Shawl	Ministry of Commerce

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Tripura – Khowai Rubber

Tripura ranks second in rubber production of India, next to Kerala. The quality of rubber produced in Tripura is superior. Rubber (*Hevea brasiliensis*) plantation was introduced in this state on a trial basis by the forest department, Tripura Government in 1963. The introduction of rubber plantations started to utilize the degraded forestland of Tripura as a soil conservative initiative. Low elevation regions of the Northeast, with near tropical climate soon emerged as the principal rubber growing zone within this country. Rubber Board was established in 1967. Later, State Government adopted rehabilitation of degraded forests through rubber plantation as its primary objective. Rubber products is primarily produced in sheets, elastics and latex.

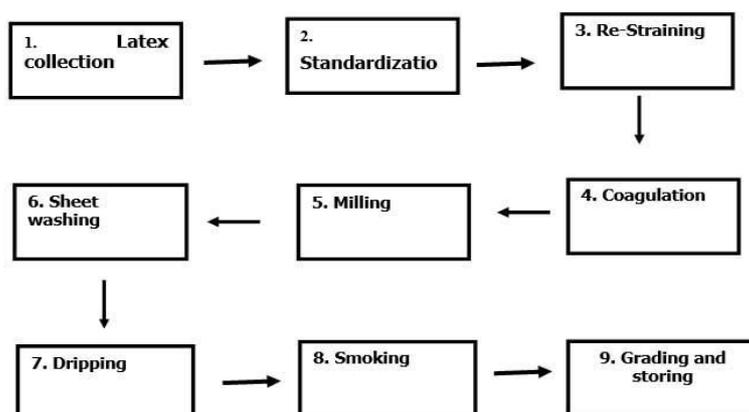


Figure 1: Unit operations of manufacturing process of RSS

Problems :

1. RSS 4 and RSS 5 grade and Ungraded rubber is produced in abundance.

Proposed Intervention

- a) Production of quality RSS 1 grade rubber should be the primary focus.
- b) Quality should be focused over quantity.
- c) Latex, surgical goods and exporters require RSS1 grade only.

2. Modern Rubber Smoke Houses are few in number

Proposed Intervention

- a) More rubber smoke houses should be established in Tripura.
- b) Common Facilitation Centers can be an alternative.

3. MSP was discussed at very less rate earlier

Proposed Intervention

- a) MSP should be set above INR 140 so that the farmers do not suffer losses.
- b) They will be motivated to grow better crop if they are economically secured.

4. Rubber producers are not well aware of Government Schemes available

Proposed Intervention

- a) Formal boards in Tripura should train farmers and micro enterprises to avail Govt. schemes.
- b) Schemes like TIIPIS and NABARD should be well promoted.

5. Companies across India are not well promoted to invest/procure rubber from Tripura

Proposed Intervention

- a) Companies should be promoted to procure rubber from Tripura
- b) CSR – Corporate Social Responsibility benefit should be provided to the companies.

6. Farmers/ Producers are not formally registered, hence not registered on E-Commerce websites.

Proposed Intervention

- a) Farmers should be trained about the benefits of registering with companies.
- b) Once farmers acquire GST number, they can be listed on websites like Indiamart.

7. Producers lack basic technique training for instance – Tapping.

Proposed Intervention

- a) Training for advanced tapping mechanism, forming of sheets, coagulation and other processes should be provided.
- b) Sheet washing should be done with utmost care.

Sr. No.	Type Of Intervention	Proposed intervention	Agency
1.	Training and Development (Upskilling)	Trainings & Skill Development	Ministry Of Commerce And Industry
2.	Research and Development	Improvising Crop	Tripura Rehabilitation Plantation Corporation Limited (TRPC)
3.	Credit Support	Form Formal Micro Enterprises	Ministry of MSME

4.	Credit Support	Subsidy on Machinery	Central Government
5.	Technology upgradation	Innovation of Machinery and Setting Up Incubation Centers	Government Of Tripura with North East Centre for Technology Application and Research (NECTAR)
6.	Branding and Marketing & Credit Support	Promotion & Trade Fairs	Ministry of MSME
7.	Credit Support	MSP on Rubber Crop	Central Government
8.	Technology upgradation	Common Facility Centers, especially Modern Smoke Houses	Ministry Of Commerce And Industry
9.	Supply Chain	Better connectivity of transports/ cost efficient logistics	Ministry Of Commerce And Industry

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Fisheries- Krishna, Andhra Pradesh

Krishna district is one of the nine districts in the Coastal Andhra region of the Indian state of Andhra Pradesh. Machilipatnam is the administrative headquarters and Vijayawada is the most populated city in the district. It has an area of 8,727 km² (3,370 sq mi) and had a population of 4,529,009 as per 2011 census of India. It is bounded by West Godavari on the east, Bay of Bengal on the South, Guntur and Suryapet districts in the west and a portion of it also borders with the state of Telangana.

<https://www.thehindu.com/news/national/andhra-pradesh/krishna-chosen-as-best-marine-district-in-country/article33136935.ece>

Problems

1. *Lack of fishes near the sea since the inshore fisheries has reached a saturation level*

Proposed Intervention

- a. State and central government should incentivize the fishers operating in inshore waters to go for off shore fishing through introduction of new intermediary vessels or upgrading existing vessels for offshore fishing¹
 - b. Authorities can encourage the fishers to go ahead with offshore fishing by providing subsidies and micro-loans for buying the specialized equipment²
2. *As a result of over fishing and unsustainable practices such as trawling, the aquatic ecosystem has suffered and there have been ecological imbalance*

Proposed Intervention

- a. A comprehensive fishery policy to solve the problems of fisheries is the need of the hour which entails development of good management practices, conservation of resources, value addition to fish catch, hygienic fish processing for domestic market, development of adequate infrastructure for fishing and aquaculture operation
- b. Leasing of common water bodies such as panchayat tanks, reservoirs and temple tanks can be streamlined

3. *Informational asymmetry and lack of local centers/experts which can train fishers for offshore fishing challenges*

Proposed Intervention

- a. Collaboration with fishing experts and introducing call center or local training center by state or central government could upskill the fishers for offshore fishing
- b. Centralized training center specifically for fisheries methodology

4. *Most of the sellers are not organized due to poverty, lack of digital literacy and small market size*

Proposed Intervention

- a. A unified platform for seller's registration and administrative support can onboard sellers to the formal economy
- b. Associations of fishers (Andhra Pradesh) can reach out to the fisherman communities for registration and certifications checks

5. *Due to illiteracy and lack of exposure to foreign markets the producers have not been able to exports. Unavailability of a common platform for all the administrative and logistical requirements for exporting*

Proposed Intervention

- a. There must be information centers and helpdesk for the fishers to aware them about export related information. Authorities should create a common platform within the district where producers can get all the export related certifications done
- b. EXIM and other export related certifications are hard to obtain for the producers, administrative support from authorities can ease out the processes for the producers

6. *Over the years, the market for fishes has shrink due to the change in consumer preference and presence of different sellers eventually resulting into poverty and decrease in people involved in the sector*

Proposed Intervention

- a. Exposure to intra-national and international markets can help sellers to reach out to the larger markets and eventually increasing the sale of produce
 - b. Increased offshore fishing would increase the stocks of fishes and ultimately would result in larger sales
7. *Lack of exposure to foreign buyers, international selling standards and little idea of buyer's preferences*

Proposed Intervention

- a. Frequent global BSMs (Buyer-seller's meetings), administrative and logistical support from authorities and a well-researched and elaborate about foreign consumer preferences can help rectify the issue of foreign market penetration

Sr. No	Type of Intervention	Proposed solutions	Agency
1	State level	Upgraded technology in inland fish farming	Fisheries department, Vijayawada
2	Central level	Promotion of Indian marine products	MPEDA
3	Central level	Enhancement of fish production	National fisheries development board
4	Central level	Formulation of policies and schemes	Ministry of fisheries, Animal husbandry and dairying
5	Central level	Value added products/Product diversification	Ministry of commerce and Industry
6	Central level	Cold storage facility	Ministry of food processing Industries
7.		Support of fisheries education and scientific research	Fisheries college and research institute
8.	Central level	Development of unique fishery methods	Central Marine fisheries research institute

Araku Coffee, Visakhapatnam, Andhra Pradesh

Andhra Pradesh, especially Visakhapatnam, is very proud of its 'Araku Coffee'. Right from the time one sets foot into the city, there are restaurants, coffee shops, food stalls selling the world-famous 'Organic Araku Coffee'. The bittersweet scent of this coffee is all-pervasive. The origin of this award-winning coffee lies in the lush hills of Andhra's reserve forest area. Over 100 kilometres away from Vizag, as one drives through the dense forest areas at an altitude of nearly 1000 metres above sea level, the roads are dotted with coffee plants and pepper creepers on either side. Most of these coffee plants grow under the shade of jack fruit and silver oak trees. In fact, this organic coffee earned global recognition when it won a gold medal at the Prix Epicures OR 2018 Award in Paris, a first for an Indian coffee brand.

Problems

1. *Farmers have been slowly losing interest in coffee cultivation as the selling price dropped to almost half*

Proposed Interventions

- a. Government should step up to ensure farmers get competitive price for their quality product and efforts
- b. Government should try to minimise the middlemen and purchase the products directly to ensure transparency (further the products can be diverted to several parts of the country and exported as well)
- c. Incentives should be given by the government as part of initial investment (at least) to the farmers
- d. There should be some institution close by to the farmers which should be able to give them money in times of need as the amount required is very less (5-10 thousand INR)

2. *Chinese and other states' products (coffee) are big threat to the traditional tribal products*

Proposed Interventions

- a. Sellers should target less penetrated areas like northern India to increase the sales
- b. The coffee produced at Araku Valley needs better marketing strategy to grab market share as the popularity of the product is less compared to its competitors
- c. E-commerce platforms should be utilised for both, selling and marketing to increase the brand value of the product

3. *Concentrated penetration on world map, as the demand is high only in European countries*

Proposed Interventions

- a. Government and private players should target Latin America and Asia-Pacific countries as well to export
- b. Identify niche marketplaces wherein Araku coffee is demanded the most and hence try to establish a dedicated channel for distribution
- c. Franchise system can be opted to promote the Araku coffee brand on both national and international platform
- d. Established cafes should be targeted to increase Araku coffee's presence

4. *Farmers struggle to store, manage and handle the product properly from cultivation till selling*

Proposed Interventions

- a. Central warehousing technique can be adopted by covering a few square kilometres area for storage purposes
- b. Government should intervene and monitor regularly and procure goods on an ongoing basis to reduce farmers' burden
- c. Farmers should make sure that products are sold within adequate timeline to ensure fresh beans reach the market

5. *Lack of adequate research and advance farming technology*

Proposed Interventions

- a. Farmers specifically from tribal areas should be onboarded and skilled better to do farming
- b. Advance farming techniques like biodynamic farming should be taught to the farmers
- c. Teach techniques to farmers to enriched the soil and increase the productivity
- d. Farmers should be given practical knowledge such as field demonstration on soil sampling, use of new techniques to dry coffee, etc.
- e. Experiments can be conducted in the nursery to enhance the product quality and perform research activities

6. *Lack of forward market linkage*

Proposed Interventions

- a. The transportation services need immediate aid as the farmers struggle to maintain the finished goods for a longer time, adding it to extra expenses
- b. The Araku coffee brand should be marketed and positioned well within the country through various channels like digital advertisement, social media and strategic partnerships
- c. Northern part of the country should be targeted in order to increase the sales. Mediums like coffee outlets, franchise and retail stores can be chosen

Sr.	Proposed intervention	Agency
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No		
1	Ensure competitive pricing to farmers	Ministry of Commerce & Industry, Coffee board of India
2	Initial financing aid to be provided for farmers through multiple small channels	Ministry of Commerce & Industry, Girijan Co-operative Corporation (GCC)
3	Expanding business in lesser penetrated areas like northern India	Ministry of Commerce & Industry, service providers, Invest India, Coffee Board of India
4	Better marketing strategies to increase brand awareness	Ministry of Commerce & Industry, Coffee Board of India,
5	New regions across the globe to be identified to increase exports	Ministry of Commerce & Industry, GCC, Invest India
6	Better storage and warehousing techniques	Andhra Pradesh State Forest Development Corp. (APFDC), Integrated Tribal Development Agencies (ITDA)
7	Advance farming techniques like biodynamic farming to be utilised	Ministry of Food Processing Industries, Coffee Board of India,
8	Nurseries should be used to conduct research and experiments focusing productivity enhancement	Coffee research Institute, Invest India
9	Better transportation services are required	Ministry of Road Transport and Highways, ITDA

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Ballia Bindi – Uttar Pradesh

Maniar is known for its Bindi (Indian ladies putting on their forehead) industry and major supplier. The district is known for bindi (Tikuli) industry in the Maniar block of the district. The product is traded locally as well as to other states.

The city of Ballia, the district headquarters, is believed to be the birthplace and workplace of Maharshi Bhrigu. Ballia City is district headquarters and commercial Market of this district and Rasara is second major commercial town. Land of Ballia is rich from Industrial point of view. The major industry at Ballia is of Bindi. The product is supplied in Uttar Pradesh as well as across the country. This industry plays an important role in revenue generation of district.

Problems

1. Limited Packaging and Distribution channels

- The packaging and distribution channels of the final products are very limited.

Proposed Interventions:

- (a) Setting up of retail or wholesale channels through which artisans can ship bindis to large distances without breakage.
- (b) Business and entrepreneurial training of artisans so that they become self-aware about different avenues through which they can sell the bindis, both B2B and B2C.

2. Lack of marketing and awareness

- There are hardly any online methods to contact artisans of the product.

Proposed Interventions:

- (a) Proper marketing through various offline and online channels can increase the demand for the bindis. Some examples are trade fairs, exhibitions, social media advertisement, online marketplaces etc.
- (b) Major countries that import bindis can be targeted for custom marketing opportunities and bulk orders can be customized to their need.
- (c) The gap between the artisans and customers can be decreased if we increase the online literacy of the artisans. Artisans can directly sell and promote their products on large ecommerce websites like Amazon and Flipkart and directly connect with consumers from India and abroad.

3. Lack of new technologies and designs

Proposed interventions:

- (a) Provide sustained and vocational training by setting up local centres for skill training.
- (b) In the skill training centres free material made available, activities for entrepreneurship development be done.

(c) Infusion of new and contemporary designs through design intervention as well as product diversification and Technology up-gradation.

4. *Declining number of the artisans:*

- Younger population are not willing to take up the profession due to poor remunerations.

Proposed interventions:

- (a) Providing entrepreneurship training and promote new entrepreneurs.
- (b) Creating awareness about market.
- (c) Skill training to develop younger generations as designers.

Sl. No	Proposed solutions	Agency
1	Incentivizing adoption of new technology	Ministry of Medium and Small-Scale Enterprises
2	Import Barriers	Ministry of Commerce
3	Upskilling workers	Ministry of Skill Development and Entrepreneurship
4	Exhibitions and fairs for awareness	Development Commissioner (Handicrafts), Ministry of Textiles

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Bengaluru Machine Tools (Karnataka)

Bengaluru is the capital and the largest city of the Indian state of Karnataka. It has a population of more than 8 million and a metropolitan population of around 11 million, making it the third most populous city and fifth most populous urban agglomeration in India. Located in southern India on the Deccan Plateau, at a height of over 900 m (3,000 ft) above sea level, Bangalore is known for its pleasant climate throughout the year. Its elevation is the highest among the major cities of India.

Bangalore is a favourable destination for industrial developments. United Breweries Group and many other companies are headquartered in Bangalore. The city is an automobile hub. Bangalore is also emerged as an electronics & hardware manufacturing hub of India. It has an ideal connectivity for any manufacturing sector, however the city suffers from congestion and due to high level manufacturing hubs present and it being regarded as the Silicon Valley of Asia, it diverts the focus from the under performing Machine Tools cluster which used to have a good productivity in the past.

Problems

1. *Lack of proper infrastructure in the cluster to upscale production as the annual turnover and export currently is not sufficient to keep up with the rising debt. Since the cluster is connected with the main city, often prices of raw materials and other utilities are spiked leading to higher expenditure.*

Proposed Interventions

- a. Expand Bangalore Machine Tools Manufacturers Network which consists of 12 members currently to include more diverse profiles in order to expand the scope of production and innovation.
 - b. Build a CFC (Common Facility Centre) whose singular aim is to work towards long term benefits like technological advancement for the hub.
 - c. Invest in the low hanging fruits first, like conversion of the manual to automated processes, increasing the output and the productivity of the hub.
 - d. Reduction of fixed costs for the debt-ridden cluster:
 - a. Electric Duty Exemption for initial years.
 - b. Stamp Duty exemption for lease/ deeds for companies' set-up in lands earmarked for the industry itself.
 - c. Power Subsidy till a certain level
2. *Marketing of the products is a major drawback of the industry relegating the products only to the low-end usages. This is of paramount importance as the metropolitan is dominated by big brands, hence without marketing the product exports and sales are being affected negatively.*

Proposed Interventions

- a. Since it might not be possible to compete on the market budget level with bigger companies, forming long term contracts at market level rates could stabilize the demand to some extent.

- b. Increase social media (LinkedIn and others) presence of the hub, even though the hub has been operating for years, awareness about the hub is extremely low, hence lack of investors.
 - c. Introduce sales teams whose primary purpose is to form collaborations, as direct door-to-door sales is ineffective in modern age, newer ways must be explored.
3. *Regulatory processes extremely complicated, hence scaring away probable investors, both domestic and foreign.*

Proposed Interventions

- a. Use connectivity to nearby airports to facilitate more on ground monitoring for investors, prepare concise reports about the sector and showcase positive initiatives.
 - b. A singular committee set-up which is completely responsible to provide one stop clearances to potential investors. This committee will assist investors throughout the investment lifecycle spanning from proposal application to approval of licenses/clearances and finally incentives disbursement in manufacturing sector.
 - c. Update the existing Policy Implementation Unit with renewed targets to implement the new features of the policy.
4. *Huge imports of cheaper products from China, this especially affects Bengaluru cluster since their niche is providing low end cheap instruments*

Proposed Interventions

- a. Subsidize the industry to allow it to compete on cost-leadership with cheap imports.
 - b. Instead of importing the complete instrument, Government should facilitate the importing of individual parts through subsidies, allowing the manufacturers to make the final products at a lower cost.
 - c. Diversify the product mix with a focus towards catering low end requirement with specific contract based high end products instead of trying to do both.
5. *Due to low scale production, high manufacturing costs. Even with lower labour costs, the additional costs of transport, water and electricity contribute to increasing costs, this is especially due to the fact, manufacturing clusters are not geographically close and organized. Small scale manual production hampers the industry image, relegating it to smaller and cheaper instruments only, especially in the eyes of big firms which want a faster production time through automated machines.*

Proposed Interventions

- a. Increase the scale of production by replacing manual work with automated processes, and introduce other industry 4.0 factors like CAD, 3D Printing for the hub, which upskilling the labourers into more maintenance tasks rather than manual production.
- b. Provide consistent power supply, ensuring maximized productivity, Government could exempt the hub from mandatory power cuts as well.

- c. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.
6. *Lack of skilled labour. Due to low growth of the sector, the connection between academia and the sector is very low, further stagnating the productivity. High level of employee attrition in recent years, due to hub's inability to pay employee wages on time. Another issue is the employee migration to other opportunities due to tendency to shift to more urbanized areas*

Proposed Interventions

- Formalize the work force, by designing a clear career progression path with yearly retention and performance bonuses to incentivize the employees.
- Collaborate with tier-2 and tier-3 engineering institutes to form internship programs to inject fresh blood into the industry.
- Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
- Train and certify certain number of trainers from all over India to provide consistent level of training to the entry level employees
- Hire talents from top institutes to work towards the development and introduction of modern technologies and industry 4.0

Sr. No	Type of Intervention	Proposed solutions	Agency
1	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training & Development	Training and development of the workforce and the development of new trainers	Bangalore Machine Tools Manufacturers Network
3	Infrastructural support with information	Construction of common facility centre	Karnataka Government
4	Supply Chain	Better quality assurance standards, safety compliances	Karnataka Government
5	Market Linkages	Value Added Products - product diversification	Ministry of Commerce & Industry
6	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Bangalore Machine Tools Manufacturers Network

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Darbhanga Makhana (Bihar)

Makhana, Gorgon nut or Foxnut and grown in stagnant perennial water bodies like ponds, Oxbow lakes, and swamps. Makhana plant is considered as a native of South-East Asia and China. In general, its distribution is extremely limited to tropical and sub-tropical regions of South-East. In India, it is distributed in West Bengal, Bihar, Manipur, Tripura, Assam, Jammu & Kashmir, Eastern Odisha, Madhya Pradesh, Rajasthan and Uttar Pradesh. However, it's commercial cultivation is limited to North Bihar, Manipur, parts of West Bengal and Madhya Pradesh.

In the state of Bihar, major Makhana producing districts include Darbhanga, Sitamarhi, Madhubani, Saharsa, Supaul, Araria, Kishanganj, Purnia and Katihar. Approximately, 80% of the total production of processed Makhana comes from Darbhanga, Madhubani, Purnia, and Katihar districts alone. Area under Makhana cultivation is about 13,000 ha. As per the estimates of the National Research Center for Makhana, Darbhanga (ICAR), total area under makhana cultivation in India is estimated to be 15000 Ha. It yields 120,000 MT of makhana seeds, which after processing yields 40,000 MT of makhana pop. The estimated value of the production at farmers end is Rs. 250 Crore and it generates revenue of Rs. 550 Crore at trader's level.

Problems

- 1. A large no. of insect pests attack makhana plants during cultivation and farmers apply various chemicals to get rid of them. In North-Eastern Bihar approximately 60% of makhana growers were found to apply Benzene Hexachloride (BHC). Several fungicides like Manzat, Companion, Hexaconazol, Sectin etc. were found to apply by the farmers to control the fungal diseases. These measures of controlling the insect pests and fungal diseases are health and environmental hazards and also enhance the production cost of makhana.*

Proposed Interventions

- Availability of pesticides and other pest repellents at subsidized rates and easily at the local markets or horticulture departments.
 - Appointing a team of experts to guide farmers for use of pesticides and fertilizers
 - Promote the use of **biotechnological methods** for developing new virus free, high yielding, biotic or abiotic stress-tolerant planting material.
- Lack of ownership of the pond or field is the major constraints faced by cultivators. Hence, makhana cultivators are unable to get assurance regarding their profits. The allocation system of ponds is besieged with numerous inefficiencies and bottlenecks due to which cultivators of the cluster pay more than the prescribed rate.*

Proposed Interventions

- a. Optimize the allocation system of government by forming a dedicated committee for the specific task.
 - b. The lease rate should be low in order to increase participation of poor farmers.
 - c. Provide low interest agricultural loan to boost the participation of cultivators.
 - d. Irrigation facilities need to be provided sufficiently. Also, we need to develop cost effective technology for the purpose
3. *Increased competition from overseas suppliers. The competition from foreign suppliers, especially from China, is expanding quickly.*

Proposed Interventions

- a. The Government on its part can help the traders by reducing and checking multiplicity of taxes.
 - b. More players like Too Yum to introduce packed fox nut snacks including chatpata masala and classic homestyle flavours that has undoubtedly changed the consumption for fox nut in the region
 - c. R&D on development of ready-to-eat products from makhana and suitable packaging techniques
 - d. Channels of distribution can be evolved by providing broader access to the Internet, improvements in delivery services, and higher levels of online impulse buying.
4. *Foxnut farmers are experiencing a lack of skilled workforce on the ground. Workers need to spend hours in water to cultivate and harvest foxnut.*

Proposed Interventions

- a. Special packages should be introduced by the government for securing better working conditions and to raise the living conditions of walnut workers.
 - b. Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
 - c. Encouraging entrepreneurs to carry out this trade in order to develop local supply chains.
 - d. Proper medical care in the nearby areas to ensure to emergency is left unattended.
5. *No proper infrastructure in place. There is an urgent need for proper warehouses, transportation system, logistics, water supplies in absence of rain etc.*

Proposed Interventions

- a. Proposed projects that include warehouse for storage, processing and packing facilities of makhana pop and snacks.
- b. This unit will be equipped with modern machineries for cleaning, sorting, grading, processing and packing equipment.
- c. Makhana will be packed for different consumer and aesthetic and standard packaging will be done to retain the quality of the product and increase shelf life and will fetch better price of the produce.

d. After processing, the products would be supplied to the market through distributors/ wholesalers/ retailers

6. *The industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc. Lack of appropriate marketing of the products leading to less visibility of the processed products pan India.*

Proposed Interventions

- a. Distribution network shall be given extra emphasis, it is planned to sell the product through the identified marketing channel, franchise model, marts etc
- b. Over the years, an image of high-quality products should be cultivated.
- c. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.
- d. Contacts with retailers of similar kinds will be made and products would be sold in the market with help of them.
- e. Sharing more profits with the distributors and retailers

Sr. No	Type of Intervention	Proposed solutions	Agency
1.	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2.	Research & development	Training and development of the young generation	Indian Centre of Agricultural Research
3.	R&D	Understanding benefits and best practices for makhana plantations	Research Center for Makhana, Darbhanga
4.	Supply chain	Ensure the availability of raw material before the season starts	Ministry of Food Processing Industries
5.	Infrastructural support	Construction of water canals, warehouses, logistics	Government of Bihar
6.	Allocation of leased ponds etc	Provision allocation system for government lands, ponds etc	Government of Bihar
7.	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Agricultural and Processed Food Products Export Development Authority (APEDA)

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East Khasi Hills Mandarin Orange – Meghalaya

Khasi Mandarin or the Khasi oranges is known as the king of oranges and ranked amongst the most loved oranges around the world. It is also called *Soh Niamtra* or *Soh Myntra* in Khasi. It has high nutritional value, vibrant golden fruit color & sweet tanginess. This is the most important commercial fruit of Meghalaya, grown in both northern and southern slopes of Meghalaya. However, those grown in Southern parts are sweeter and more sought after. In 2014, the Meghalaya government obtained the GI tag for the Khasi mandarin successfully. The Mandarins make up for 43.6% of the total Citrus fruits produced in India. The fruit, its peel, pulp, bark, flowers and seeds are used in Ayurvedic medicines.

Problems

1. Lack of proper manuring
 - The lack of proper manuring in mandarin orange plantations is one of the main reasons for low production as well as decline of orchards.

Proposed Interventions

- i. Application of gibberellic acid (GA) - certified for use in organic production- during the period of flora initiation in a season when a heavy blossoming is expected reduces the number of flowers and increases better fruit set, which further helps in regulating the next crop.
 - ii. This approach seems to be highly acceptable. Commercial flower thinning can be done by spraying of GA at 100-300 ppm in the pre-blossom and 50-100 ppm in the post blossom period.
 - iii. Mandarin orange starts flowering in March in this region and fruits ripen in about nine months after flowering in November and December in the warmer hills, while in the colder high altitudes of Meghalaya, fruit harvesting is delayed by about 2-3 months.
2. Poor water retention capacity of soil
 - As the area under cultivation comes under high rainfall and is primarily hilly/mountainous, often the soils become highly leached, acidic and are generally poor in fertility and water holding capacity.

Proposed Interventions

- (a) Use of liming materials: Addition of lime neutralizes soil acidity, increases microbial activity & nutrient availability and improves the physical condition of soil. Among the naturally occurring lime sources calcite and dolomite are important.
- (b) Training for farmers to use suggested fertilization methods:
 - i. Before applying any fertilizer, a regular application of preferably dolomite/lime at the rate of 2-3 kg tree⁻¹ depending upon initial soil pH must be applied in the month of September-October.
 - ii. After 20 years of orchard age, the amount of lime should be doubled as 4-6 kg tree due to expansion of root zone and concurrent neutralization of soil acidity.

- iii. The various nutrients such as N, P, and K may be supplied using calcium ammonium nitrate/urea, rock phosphate single super phosphate, and muriate of potash, respectively.
- (c) The micronutrients such as zinc sulphate and borax may be used for supplying Zn and B, respectively.
- (d) Use of organic manures: Regular application of well decomposed organic matter in acid soils is essential to prevent sudden fluctuation of soil pH as it improves the buffer capacity of soils. Moreover, it increases the availability of P and reduces the toxicity of Fe and Al in acid soils. Fresh mulches (mostly weed biomass) of Ambrossia, Lantana etc. also reduces the adverse effect of soil acidity substantially.

3. High rainfall, prolong high humid conditions:

- The high rainfall with favourable temperature regime and cultivation and / or occurrence of a number of wild and cultivated species of citrus harbours largest number of fungal, bacterial and viral diseases of Citrus in Meghalaya.

Proposed Interventions

- Regular spray against insect pest particularly in nursery for leaf miner and scab should be scrupulously followed.
- Traditional Ecological Knowledge (TEK): Trunk borer was established as the prime reason amongst insect pests for citrus decline in Meghalaya. Its control was ably demonstrated by a tribal old woman by injecting water extract of old tobacco leaves.
- Gum oozing portion of the plants infested with Phytophthora causing foot and root rot diseases should be treated on priority.

4. Limited product diversification and processing of mandarins

- The current extent of product diversification and processing of mandarins to create value added products has been limited to some juices, jams and spreads.
- Packaging branding and marketing also needs a boost.

Proposed Interventions

- a. Skill training and capacity building for producers so that they become aware of the need for product diversification and the processes that can be used for the same.
- b. They can also be trained in methods of preservation.
- c. Technology interventions through the provision of small usable machinery for processing and training to use them.
- d. Collaborative interventions to support private entrepreneurs in branding and packaging of their products and to onboard them on to e-commerce.

Sl. No.	Proposed Interventions	Agency
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1	Use of liming materials- Training for farmers to use suggested fertilization methods	Indian Council of Agricultural Research (ICAR), Directorate of Horticulture (Meghalaya)
2	Use of organic manures	Indian Council of Agricultural Research (ICAR), Directorate of Horticulture (Meghalaya)
3	R&D for Pest & Disease Control	Indian Council of Agricultural Research (ICAR)
4	Implementation of better pest management practices	Indian Council of Agricultural Research (ICAR), Directorate of Horticulture (Meghalaya)
5	Application of gibberellic acid (GA) - certified for use in organic production	Indian Council of Agricultural Research (ICAR), Directorate of Horticulture (Meghalaya)
6	Skill training and capacity building for producers	Indian Council of Agricultural Research (ICAR), Directorate of Horticulture (Meghalaya)
7	Technology interventions	Ministry of Food Processing Industries, Rural Technology Action Group (RuTAG)
8	Branding & Packaging help	Ministry of Commerce & Industry
9	Supporting small entrepreneurs through arranging buyer-seller meets, expediting applications, etc.	Ministry of Commerce & Industry
10	Better marketing strategy – On boarding brands or startups onto e-commerce	Ministry of Commerce & Industry

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Product: Kutch Embroidery, Kutch (Gujarat)

The Kutch Embroidery is a handicraft and textile signature art tradition of the tribal community of Kutch District in Gujarat, India. This embroidery with its rich designs has made a notable contribution to the Indian embroidery traditions. The embroidery, practiced normally by women is generally done on fabrics of cotton, in the form of net using cotton or silk threads. In certain patterns, it is also crafted over silk and satin. This embroidery product of Kutch has been registered for protection under the List of Geographical indication of the Trade Related Intellectual Property Rights (TRIPS) agreement. In March 2013, it was listed as "Kutch Embroidery" under the GI Act 1999 of the Government of India with registration confirmed by the Controller General of Patents Designs and Trademarks under Class 24 Textile and Textile Goods, and its logo registered in November 2015 vide application number 509 for the dated 8 January 2012. It is rightly said that Gujarat has given India the greatest heritage in embroidery work and craft through its famous and versatile Kutch embroidery. The hub of the Kutch embroidery work is basically located in the regions of Kutch and Saurashtra wherein the local artisans churn out the most creative and exquisite designs. From mirror and bead work to Abhala embroidery along with the usage of silk threads of bright colors, the Kutch embroidery basically ornate the entire fabric and embellishes it completely. The impeccable design of Kutch embroidery is a tribute to Rabaris, a nomadic tribe that crafted the art of Kutch embroidery which is now an artwork of international repute.

Interesting Facts:

- There are many legends behind the origin of Kutch embroidery dating back to the Ramayana and Lord Krishna.
- Kutch embroidery was primarily a hobby of the women in Kutch who would make wedding trousseaus for their daughters.

Problems:

“The art of Kutch Embroidery is losing its gleam”

1. *Change in lifestyle and Modernisation reduced demand pushing craft to the brink.*

Proposed Intervention

“Mechanization is good when hands are too few for the work intended to be accomplished.”

- a. Moreover a machine cannot emulate the finesse of a human hand.
- b. Kutch embroidery is just an example of one such instance where the work of hand is easily distinguished.
- c. Insist Designers to include original handmade Kutch embroidery fabrics in their designed clothing's and accessories.

2. *GST and demonetisation eating into the earnings artisans.*

Proposed Intervention:

Inform artisans about GST and Return policy:

- a. Here is a list of all the returns to be filed as prescribed under the GST Law along with the due dates.
- b. QRMP (Quarterly Return filling and Monthly Return) scheme.
- c. According to the policy 22nd of month next to the quarter for taxpayers in category X states/UTs and 24th of month next to the quarter for taxpayers in category Y states/UTs
- d. Gujarat lies in X state category.

3. *They are forced to either give up the family legacy or make changes in their work to make it viable.*

Proposed Intervention:

Pahchan Initiative:

- a. It was launched in 2016 by the then Union Minister of Textiles.
- b. It is an initiative of Ministry of Textiles to register and provide Identity (ID) cards to handicraft artisans and link them to a national database.
- c. Pahchan cards scheme is a new upgraded ID card for artisans that will be linked with their Aadhaar numbers and bank accounts so that they can receive direct cash transfer benefit.
- d. It has the information of handicrafts artisans' viz. name & address, Aadhaar Card number, mobile number and craft practiced.
- e. The ID card will enable the artisans to avail easy loan at nominal interest rate.

4. *Artisans fear that duplication of their traditional hand-woven textile designs may soon edge them out of the market.*

Proposed Intervention:

Awareness about Geographical Indication (GI) tag to Kutch Embroidery:

Embroidery product of Kutch has been registered for protection under

List of Geographical indication of the Trade Related Intellectual Property Rights (TRIPS) agreement. There is need to inform the artisans about the benefits of GI tag listed below:

- Enhances Economic growth.
- Prevents Duplication of product.
- Expands Business.

5. *Leading to many artisans who depend on the sale of traditional Kutch-embroidered clothing/accessories items being out of business in the next few years.*

Proposed Intervention

Ambedkar Hastshilp Vikas Yojana:

The salient features of the Yojana are as follows:-

- Ambedkar Hastshilp Vikas Yojana (Base Line Survey & Mobilization of Artisans)
- Design & Technology Up-gradation
- Human Resource Development
- Direct Benefit to Artisans
- Infrastructure and Technology Support
- Research and Development
- Marketing Support & Services

Sl. No.	Proposed Interventions	Implementing Authorities
1.	Insist Designers to include original handmade Kutch embroidery fabrics in their designed clothing's and accessories.	Ministry of Textiles Government of India
2.	QRMP (Quarterly Return filling and Monthly Return) scheme	Government of India
3.	Awareness about Geographical Indication (GI) tag to Kutch Embroidery	State Government of Gujarat
4.	Pahchan Initiative	Ministry of Textiles Government of India
5.	Ambedkar Hastshilp Vikas Yojana	Ministry of Textiles Government of India

Hamirpur Shoes – Hamirpur

Hamirpur district is a part of Chitrakoot Dham Division of Uttar Pradesh. It is located on the confluence of two rivers; Yamuna and Betwa.

Sumerpur town of the Hamirpur district has been known for production of leather shoes or Jooti which is completely handmade. Technical training and financial aid is required for ensuring high quality production and promotion of this industry.

Problems

1. Marketing problems

- No advertisement and branding of the shoes

Proposed interventions:

- (a) Steps should be taken to save the artisans from the exploitative clutches of middlemen by purchasing handicrafts at remunerative prices from artisans by giving payments promptly.
- (b) Design registration of the shoes should be done so that others cannot copy them.
- (c) Financial support can be provided to the artisans to help them in participating in trade fairs and exhibitions
- (d) Introduction of attractive packaging can help in branding and increasing the sale of the shoes.

2. Economic Barriers

- The artisans have to bear high cost of capital and inflation. A substantial amount of capital is tied up in work-in-progress.

Proposed Interventions:

- (a) Special schemes can be floated for small and medium enterprises to encourage them to increase their scale of operations and benefit from the economies of scale.
- (b) Financial support can be given to the artisans to induce them to adhere to environmental norms.
- (c) Subsidies can be given on chemicals required for making the shoes.
- (d) Low interest loans and discount on premium can be given to those who follow the regulations.

3. Exploitation of artisans

- The artisans are switching their profession due to low profits.

Proposed interventions

- (a) Specific norms for the wages of the artisans. Minimum wages should be set in the industry as payment is not on per day basis but per piece basis.
- (b) CSR funds can be provided to the artisans.

- (c) Conducting training sessions for the artisans can help them in increasing their efficiency.

4. No concept of incentives and medical insurance

Proposed Interventions

- (a) Promoting benefits of identity cards to certifies artisans.
 (b) Providing access of health insurance cards.
 (c) Improving the working conditions of artisans

Serial No.	Type of Intervention	Proposed Solution	Agency
1.	Branding and Marketing	Eco-labelling of products	Ministry of Commerce
2.	Training and Development	Vocational training to increase skilled labour	Ministry of Labour and Employment
3.	Credit Support	Financial Assistance and schemes	Ministry of Finance
4.	Branding and Marketing	Improve Marketing and Branding of products, introduce new designs and incorporate product differentiation	Ministry of Commerce

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Ambala Scientific Instruments (Haryana)

Ambala's scientific instrument manufacturing industry is probably the oldest and biggest conglomeration of scientific instrument manufacturing units in the country. The industry manufactures a range of products from microscopes and rheostats to devices used in laboratory experiments on heat, sound, magnetism, plant physiology, biology and pharmacy. The industry caters to the requirements of educational institutions in a big way, though their contribution to diagnostic centres and medical practitioners remains minimal. Though many firms serve as vendors to high-end multi-national brands such as Nikon and Zeiss, the strength of this cluster remains low-end instruments sought by schools and colleges.

Problems

1. *Marketing of the instruments is a major drawback of the industry relegating the products only to the low-end usages.*

Proposed Interventions

- a. Increase social media (LinkedIn and others) presence of the hub, even though the hub has been operating for years, awareness about the hub is extremely low, hence lack of investors.
 - b. Introduce sales teams whose primary purpose is to form collaborations, as direct door-to-door sales is ineffective in modern age, newer ways must be explored.
2. *Huge imports of cheaper products from China, this especially affects Ambala cluster since their niche is providing low end cheap instruments*

Proposed Interventions

- a. Instead of importing the complete instrument, Government should facilitate the importing of individual parts through subsidies, allowing the manufacturers to make the final products at a lower cost.
3. *Due to low scale production, high manufacturing costs. Even with lower labour costs, the additional costs of transport, water and electricity contribute to increasing costs, this is especially due to the fact, manufacturing clusters are not geographically close and organized. Small scale manual production hampers the industry image, relegating it to smaller and cheaper instruments only, especially in the eyes of big firms which want a faster production time through automated machines.*

Proposed Interventions

- a. Provide consistent power supply, ensuring maximized productivity, Government could exempt the hub from mandatory power cuts as well.
- b. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.
- c. Increase the scale of production by replacing manual work with automated processes, and introduce other industry 4.0 factors like CAD, 3D Printing for the hub, which upskilling the labourers into more maintenance tasks rather than manual production.

4. *Lack of skilled labour. Due to low growth of the sector, the connection between academia and the sector is very low, further stagnating the productivity. High level of employee attrition in recent years, due to hub's inability to pay employee wages on time.*

Proposed Interventions

- a. Collaborate with tier-2 and tier-3 engineering institutes to form internship programs to inject fresh blood into the industry.
 - b. Introduce award/ promotion-based systems through ASIMA for the present employees to incentivize them.
 - c. Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
 - d. Formalize the work force, by designing a clear career progression path with yearly retention and performance bonuses to incentivize the employees. ASIMA can invest in certification programmes to professionally empower the employees as well.
 - e. International research and scholar programmes: Fund and encourage researchers, both from India and overseas working towards development of the ESDM Sector in Haryana.
 - f. Train and certify certain number of trainers from all over India to provide consistent level of training to the entry level employees
 - g. Hire talents from top institutes to work towards the development and introduction of modern technologies and industry 4.0
5. *Low penetration of advanced technologies in the sector, resulting in low operating margin due to low productivity, thus lagging further behind its global counterparts.*

Proposed Interventions

- a. Build on the existing ESDM Policy set up by the Haryana Government in 2017 to dedicate a particular section towards the scientific instruments taking into account the present COVID scenario.
 - b. Implement complementary programmes at a state-level to already set-up programs like ODOP to ensure certain products are not ignored completely and some gradual development is going on in sectors which are getting relatively less focus.
6. *Safety compliance not followed correctly, leading to multiple fire related disasters per year.*

Proposed Interventions

- a. Make safety compliances mandatory for each organization present in the hub, with extreme penalties for violation, promoting mandatory maintenance and supervision on a timely basis. Set up hard target like single digit casualties in the hub annually to ensure the compliances are being followed diligently.
- b. Train employees on safety values through workshops, and involve the local community in the same to ensure maximum involvement and accountability.

- c. Introduce special incentive packages for the companies investing in these safety certifications, and Government can help with increasing brand awareness of the companies following the same.

7. *Lack of proper infrastructure to upscale production as the annual turnover and export currently is not sufficient to keep up with the rising debt*

Proposed Interventions

- a. Build a CFC (Common Facility Centre) whose singular aim is to work towards long term benefits like technological advancement for the hub.
- b. Invest in the low hanging fruits first, like conversion of the manual to automated processes, increasing the output and the productivity of the hub.
- c. Reduction of fixed costs for the debt-ridden cluster:
 - a. Electric Duty Exemption for initial years.
 - b. Stamp Duty exemption for lease/ deeds for companies' set-up in lands earmarked for the industry itself.
 - c. Power Subsidy till a certain level
 - d. Provide additional package of incentives for bigger projects undertaken – especially the ones that aim for a technology upgrade and go for long-term value generation.

8. *Regulatory processes extremely complicated, hence scaring away probable investors, both domestic and foreign.*

Proposed Interventions

- a. A singular committee set-up which is completely responsible to provide one stop clearances to potential investors. This committee will assist investors throughout the investment lifecycle spanning from proposal application to approval of licenses/clearances and finally incentives disbursement in ESDM sector.
 - b. Setting up international desks with special incentives to attract foreign investors.
 - c. Update the existing Policy Implementation Unit with renewed targets to implement the new features of the policy.
9. *Raw Material shortage due to COVID-19 induced lockdowns. Main source of raw material for the manufacturing hub was nearby cities like Delhi, Chandigarh, which has affected the timely supply of the same.*

Proposed Interventions

- a. Offer collateral free loans to MSMEs to alleviate the issues with the working capital
- b. Incubate/ Incentivise start-ups specialising in 4PL services like Sumpap Logistics, allowing a more streamlined approach in procurement, manufacturing and distribution and preparing the industry for future cases of abrupt supply/ demand problems.

- c. Focus on Intellectual Property value cells which promote innovation, and assist start-ups in identification of their Intellectual Property Rights and their commercialization

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the workforce and the development of new trainers	Haryana State Electronics Development Corporation Limited (HARTRON)
3	Curriculum alignment of schools and universities with regards to ESDM sector	NSDC, NASSCOM
4	Better quality assurance standards, safety compliances	Government of Haryana
5	Incubate start-ups and IPR identification	Haryana State Council for Science and Technology
6	Value Added Products - product diversification	Ministry of Commerce & Industry
7	Simplified Regulations regarding investment	Haryana Enterprise Promotion Board
8	4PL Assistance to existing manufacturers	Government of Haryana in collaboration with start-ups like Sumpap Logistics, Synchronised and other similar start-ups in the NCR region

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Sugarcane – Kaithal, Haryana

Known for its rich heritage in the production of sugarcane-based products, Kaithal is one of the biggest suppliers of sugarcane, and after products across the country. Jaggery, Khoi, White sugar, and other outcomes of these sugar mills. The natural sweetener retained essential minerals and vitamins and did not contain any synthetic additives. sugarcane is recommended by health experts and has been traditionally considered as an effective way to boost immunity, improve digestion, regulate body temperature - particularly in winters, prevent deficiencies, and keep skin healthy.

Problems

1. Monoculture of sugarcane i.e. lack of crop rotation in some areas leads to depletion of nutrients in the soil and adversely affects cane productivity.

Proposed Interventions

- The government and the standing authorities should enforce farmers to rotate crops in the given sequence to get ideal soil quality and an increment in productivity.
- 1. In heavy rainfall areas sugarcane is rotated with rice.
 2. In low rainfall areas sugarcane is rotated with cotton.
 3. For long rotation purposes cane is rotated with banana and turmeric.
 4. Mung / did / soybean – pre. Seasonal cane – ratoon – summer groundnut.
 5. Cotton/tur – sugarcane – ratoon – summer groundnut.
 6. Onion, coriander, potato may be taken as intercrops in sugarcane which gives additional income to the farmer.

2. Inadequate availability of quality seed of new sugarcane varieties and poor seed replacement rate adversely affect the realization of potential cane yield of varieties.

Proposed Interventions

- The Cooperative sugar mills must prepare good quality seeds that will help in increasing the yield of cane farmers.
- The government should give free seeds for cane farmers to have a better yield.

3. The technology used by sugar mills is obsolete and old which make sugar mills economically unviable and due to this farmers benefit get affected.

Proposed Interventions

- The government should create a buffer stock of 3 million metric tonnes (LMT) of sugar for one year at an estimated cost of Rs 1,175 crore. The reimbursement

under the scheme should be made quarterly, which would be directly credited to farmers' accounts (on behalf of sugar mills) against their dues.

- Augment capacity of sugar mills through upgrading existing distilleries attached to these mills. For this, the government should plan to install incineration boilers and new distilleries in sugar mills. It should be done through a bank loan to the tune of Rs 4,440 crore. The Centre should bear the interest subvention of a maximum of Rs 1,332 crore over five years, including a moratorium period of one year, for this loan amount.
4. The small crushing season lasts only for 4 to 6 months especially in North India due to lesser availability of water or occurrence of frost, etc.

Proposed Interventions

- Proposal of crop rotation in the sectors where sugarcane is grown leading to better productivity and higher income with better labor requirements.
 - Recycling facilities for water by factories.
 - One possible method to increase the crushing season is to sow and harvest sugarcane at proper intervals in different areas adjoining the sugar mill. This will increase the duration of the supply of sugarcane to sugar mills.
5. The political ownership or their large share in cooperative sugar mills cause delays in payment to farmers. The corruption due to political ownership further cause higher prices and poor productivity in sugar mills.

Proposed Interventions

- The concerned authorities are supposed to pay the dues of sugar cane farmers to support them. Initiatives have been taken previously to support sugar mills for the same. This has to be made available for every mill and sugarcane farmer.
6. The high cost of sugarcane, inefficient technology, the uneconomic process of production, and heavy excise duty result in the high cost of manufacturing. The production cost of sugar in India is one of the highest in the world.

Proposed Interventions

Production cost can also be reduced through proper utilization of by-products of the industry.

- For example, bagasse can be used for manufacturing paper pulp, insulating board, plastic, carbon cortex, etc. Molasses comprise another important by-product that can be gainfully used for the manufacture of power alcohol.
- This, in its turn, is useful in manufacturing DDT, acetate rayon, polythene, synthetic rubber, plastics, toilet preparations, etc. It can also be utilized for conversion into edible molasses and cattle feed. Press-mud can be used for extracting wax.

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Invest India
One District One Product

Karnal RapeSeed/Mustard

In India, the mustard - rapeseed is the most important oil seed crop after groundnut accounting around 25 per cent of total oilseed production. It is one of the important oilseed crop of the Indo-Gangetic plains. Indian mustard (Rai) cultivation has occupied about 85-90 per cent of total area under cultivation of mustard - rapeseed. The traditional mustard-rapeseed grown in India contains high amount of erucic acid and glycosylates and this does not conform the international standard 'canola' quality. Hence, at present the government agencies in Punjab are promoting the cultivation of hybrid mustard rapeseed namely, 'Hyola' as a drive for the crop diversification programme. Punjab Agro initiated the contract farming of hyola in around 10,000 acres of Punjab during 2002-2003.

Problems

1. *Farmers doing farming of mustard and rapeseed sells their crops in the mandi and after that where it goes, they have no idea about that. So, there is a gap in the information system here.*

Proposed Interventions

- A. ADO (Agricultural Development officer) come to village to give relevant information regarding the farming to the farmers, so what ADO can do is that he only can tell the farmers that on what rate companies are buying the crops for processing. This will increase the awareness about the market dynamics.
 - B. Prepare a portal for farmers to use where relevant information regarding price, techniques etc can be shared with farmers.
2. *ADO is teaching and providing information to the farmers with all the relevant techniques that could be used in improve their crops and farming but there are no ways to check of farmers are really making use of it or not because a good number of farmers follows traditional methods.*

Proposed Interventions

- A. ADO can increase his/her visits to keep check on farmers if they properly understood the new techniques and using it.
 - B. Also, if farmers do need their help more than one visit, ADO can make a team of 3 or 4 people who all can help the farmer understand and use them properly.
3. *Rapeseed is primarily grown for its oil. A big challenge of profitable rapeseed production is the limited use and markets for the meal remaining after oil processing. In some areas, rapeseed, which contains more than 40 percent oil, becomes more profitable than soybeans, which contain 18 percent oil.*

Proposed Interventions

- A. To increase the profitability, we can directly deal with the companies and processing unit and set our own rate for the crops.
- B. Rapeseed also use for pencil making so we can explore that side of the market as well.

Under Type of Intervention: Branding and Marketing, Training and Development (Upskilling), Quality Assurance, Technology upgradation, Market linkages, Infrastructure Support, Research and Development, Data Collection and Analysis.

Sr. No	Type of Intervention	Proposed intervention	Agency
1		Skill development & decrease information gap	Agriculture Development and Farmers Welfare Department
2		Developing of portal for farmers	Ministry of Agriculture and ICAR
3		Visits to villages	Agriculture Development and Farmers Welfare Department
4		Team to help farmers in technology intervention	Agriculture Development and Farmers Welfare Department
5		Direct partnerships with big companies	Ministry of Commerce & Industry
6		Product Diversification	Ministry of Commerce & Industry and ICAR

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Tourism, Kurukshetra, Haryana

Kurukshetra is a city in the north Indian state of Haryana. It's known as the setting of the Hindu epic poem the Mahabharata. To most visitors, Kurukshetra is the land where the great Mahabharata war was fought between the righteous Pandavas and their cousins, the Kauravas. Other than the Mahabharata, the place has various other tourist sites to attract visitors. For instance, Sri Krishna Museum, set up by the Kurukshetra Development Board, depicts the life of Lord Krishna. The Panorama Science Museum, with the help of science and technology, tells Mahabharata stories.

Problems

1. *There is a lack of proper infrastructure development*

Proposed Interventions

- a. Strong infrastructure planning, tourism development needs to be done by taking both the public and the private stakeholders into account. Increasing both intercity and intracity connectivity, maintenance of tourist places, encouraging new projects, etc.
- b. There should be constant development to preserve the inherited culture and heritage of Kurukshetra at the prominent tourist places; and should be felt to the tourists distinctively
- c. As tourism industry is all about serving people; look and feel of the city in general should be made welcoming - maintaining proper lightning, greenery on the roads, etc.

2. *Kurukshetra lacks to appeal wider audience – very few things to offer apart from history and cultural places, hence difficult to attract wider audience*

Proposed Interventions

- a. Adventure sports, trekking spots, game zones and similar activities should be introduced within the city to attract visitors. This will create a good mix of historic and fun place for tourists
- b. e-bikes, bicycle renting start-ups should be encouraged to create an infrastructure in the city for tourist attraction. This will also enable people to follow green travel practice
- c. Haryana has primarily an agrarian economy; therefore, the concept of farm tourism can be implemented to attract several tourists

3. *Less penetration of technology in the overall infrastructure of tourism industry*

Proposed Interventions

- a. Introduce electronic boards and hoardings to provide general information about the city at railway and bus station. This can also be implemented at major tourist places

- b. Local tour guide application should be introduced for tourists with basic information about the places and in-built map of the city
 - c. Social media platforms to be utilised effectively to promote and advertise tourist places. Inclusion of social media influencers will be helpful to attract younger crowd
 - d. Digital payments' use should be increased at all tourist places, hotels and restaurants for ease of use and doing business
4. *Lack of awareness about sustainable tourism practices among both, the travellers and tour operators. Untrained tourist operators and guides*

Proposed Interventions

- a. Awareness-raising campaigns, workshops to be arranged to encourage tourists and tour operators, hoteliers and other service providers to adopt sustainable tourism/green travel practices
 - b. Millennial travellers are expected to rise to the occasion and act as the leaders of the 'green travel' revolution, hence students, various NGOs should be targeted in order to adopt responsible practices
 - c. Sustainable tourism alternatives should be made available for the tourists to adapt in their trip
 - d. Tour guides and operators to be trained for free in order to attend travellers better and provide correct information
5. *Undeveloped marketing techniques - Even after emerging technologies like digital marketing, more than 50% hoteliers and other service providers use old promotion techniques.*

Proposed Interventions

- a. Hoteliers and similar service providers should use technology to expand their reach to a wider audience through mediums tech start-ups (Oyo, TripAdvisor, MakeMyTrip, Swiggy, etc)
 - b. Service providers need to become more organized by adapting better resource planning and business strategy to attain efficient, sustainable and profitable business
 - c. Local taxi providers are available in huge number. They should be channelized properly and brought on e-commerce for ease of use to the tourists
 - d. The nearest airport is about 100km away from Kurukshetra, hence marketing channels should be stretched there to grab audiences' attention
6. *With more than 13 lakhs+ tourists visiting every year; use of plastic and fuel consumption has increased a lot. Moreover, heritage places are getting damaged and stolen (littering, unhygienic practices, destruction)*

Proposed Interventions

- a. Regular practice of eco-friendly architecture, viable alternatives to conventional energy, proper solid waste management, checks and balances in ecotourism need to be followed
- b. Initiatives like Swachh Bharat, green travel should be implemented and followed aggressively
- c. Use of cycles, e-bikes should be promoted for tourists for travelling purposes as majority places of attraction lie within 3-5sqkm area

Sr. No	Proposed intervention	Agency
1	Skill development for labours	Ministry of Tourism, Haryana Tourism
2	Awareness-raising campaigns to adopt sustainable tourism	Ecotourism Society of India (ESOI), WWF-India, Environmentalists, Pacific Asia Travel Association – India (PATA)
3	Increase use of e-commerce platform	Ministry of Commerce & Industry, service providers, Invest India
4	Diversifying existing tourism projects	State Tourism Development Corporation, Ministry of Tourism, Haryana Tourism
5	Technological advancement in tourism infrastructure	Ministry of Electronics and Information, Haryana Tourism, service providers
6	Strong infrastructure development	Infrastructure Development Division, Ministry of Road Transport and Highways, Archaeological Survey of India, Ministry of Tourism
7	Take care of heritage places and practice eco-friendly environment	Environmentalists, State Tourism Development Corporation, students and NGOs

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Stakeholder 1: Gagan, Geet & Company, Kurukshetra. Ph: +91-989677126

Product: Jammu Cricket Bats(J&K)

A **cricket bat** is a specialized piece of equipment used by batsmen in the sport of cricket to hit the ball, typically consisting of a cane handle attached to a flat-fronted **willow-wood** blade. It may also be used by a batter who is making their ground to avoid a run out, if they hold the bat and touch the ground with it. The length of the bat may be no more than 38 inches (96.5 cm) and the width no more than 4.25 inches (10.8 cm). Its use is first mentioned in 1624. Since 1979, a law changes stipulated that bat can only be made from willow wood.

Problems

“The cricket bat industry in Jammu has gone for a toss”

1. Once the workhorse of the cricket bat industry, the Jammu willow is now being battered by a perfect storm of prices, taxes, unrest and dwindling raw material cluster plant “nonfunctional.”
2. Manufacturers incurred the loss of over INR 1000 CR loss in around three years.
3. The sports activities remained suspended after the abrogation of special status of JK in 2019 and later two back-to-back lockdowns in the wake of Covid-19 brought the sales down.
4. The situation has gone bad to worse for the bat manufacturers. The demand has fallen considerably. Unsold bats worth Crores of rupees are lying in our warehouses. The losses will surely be more than Rs 1000 Crore.”
5. The passionate and educated youth who had invested to set up units in recent years are in distress as they have to clear the debts now.
6. The manufacturers have demanded tax relief and waiving of interest on loan so that they could revive their business.
7. The manufacturers are now worried about the wear and tear of the raw material and finished bats in their warehouses. *“This year we were expecting that we would get a bit of breather but the second Covid wave dashed all of our hopes. The industry is literally on crutches.”*
8. The manufacturers have demanded tax relief and waiving of interest on loan so that they could revive their business. *“The 12 percent GST has also hit the industry hard.”*
9. Low demand and the dearth of raw material are making things difficult for the bat manufacturers.
10. The sector is grappling with challenges in the absence of a modern seasoning cluster plant. In the absence of this facilities most of the bat manufacturers have to rely on open air drying of willow clefts, which is slow and not up to the world standards.
11. The Jammu willow has high levels of moisture as compared to the English willow thus the bats made out of this willow are comparatively heavy.

Proposed Interventions

Government to grant GI (Geographical Indication) tag for Jammu willow bats

Waking up to the problems, the government is now working to get GI tag for Jammu willow so that the locally made cricket bats could be marketed at the international level. This should be implemented soon. *“Planning has been there for a long time to promote Jammu willow bats. There is a huge demand for Jammu willow, but plastic is gradually overtaking it. So, willow bats need immediate branding so that the industry is preserved.”*

Manufacturing best quality cricket bats

Makers should take care of the following with knowledge provided by experts:

- a. After grading and seasoning, the cricket bat makers carefully select each cleft to the natural spring in willow.
- b. The size blades should be pressure treated carefully to retain some of the natural air pockets in the timber to create lively and responsive bats.
- c. For this purpose, the bat is passed underneath the roller of the cricket bat press and the face and edges are compressed to ensure salience and provide a hardened surface capable of withstanding the impact of a cricket ball.
- d. To achieve this, the blade should be pressed four times by applying up to 2000 pounds of pressure per square inch.
- e. After pressing, a processed cane handle (boiled in oil and dried in the sun), cut to the right length with faces being planned to ensure a good gluing surface.

Setting up a Cricket Bat Cluster (CBC) for Modernization best quality cricket bats

- a. Jammu Willow is renowned worldwide and is second only to the famous English Willow for manufacture of the best cricket bats.
- b. The state government should set up a cluster for manufacturing cricket bats in Jammu, where manufacturers will be able to utilize common facilities, to modernize and promote the industry in the state. ***“A Cricket Bat Cluster (CBC) is under construction for modernization of the cricket bat industry in Jammu and to give a boost to this industry, which received a setback during insurgency,”***
- c. The unit was sanctioned by the Government of India under the central assistance scheme and the CBC is being constructed in Jammu ***“The common facility centre is a main attraction of the program.”***

Branding and popularizing the Jammu cricket bats

- a. With an annual turnover of more than Rs 100 crore, the cricket bat industry provides livelihood to thousands of people in J&K. Low demand and the dearth of raw material are making things difficult for the bat manufacturers.
- b. In absence of proper branding, the price of the Jammu cricket bat ranges between Rs 250 to 1200 whereas English willow bat, which is mostly used by national and international players, however, is sold at Rs 35,000 to 50,000.
- c. There's a need to set up a hub to modernise cricket bats for popularizing for International market.

J&K Government for making Jammu willow Cricket Bats a Global Brand

Government to establish manufacturing unit in Jammu for making **Jammu cricket bats** as Global Brand.

Agencies for proposed Interventions

1. **GI (Geographical Indication):** Government of India
2. **Manufacturing best quality cricket bats:** State Government of J&K
3. **Setting up a Cricket Bat Cluster (CBC):** State Government of J&K
4. **Branding and popularizing the Jammu cricket bats:** State Government of J&K
5. **J&K Government for making Jammu willow Cricket Bats a Global Brand:** State Government of J&K

Saffron, Kishtwar, Jammu and Kashmir

Kishtwar is also known as the "Land of Sapphire and Saffron", as there mine a huge mine of Sapphire in Paddar area and rich cultivation of Saffron in Pochhal area in Kishtwar district. The soils of Kishtwar district are appropriate for the saffron cultivation. Kishtwar is a unique land of saffron. In Jammu province, Kishtwar is the only Saffron producing district. Kishtwar saffron is very famous due to its fine flavour, colour and medicinal value. It is a very popular crop in the region and is considered as the costliest crop for the farmers of the area. It is low volume cash crop. The saffron is one of the oldest commodities of Kishtwar district

Problems

1. Lack of proper cultivation methods

Proposed Interventions

- a. Need to constitute special policies to strengthen the saffron cultivation to enhance income and employment among the farmers
- b. Adoption of a shorter 4-5 years planting cycle instead of typical 10-12 years
- c. Integrated use of chemical, organic and bio-fertilizers for improvement of soil health
- d. Appropriate time, method and spacing between corms for sowing along with efficient irrigation methods
- e. Rodent management, proper weeding and hoeing; improved skill and technology including use of improved machinery and devices for hygienic picking of flowers, separating the stigma and drying, packing and storage of saffron

2. Improper credit system, mostly through informal ways, especially Dalals or local traders

Proposed Interventions

- a. Government should try to purchase the end products and try to remove the intervention of middlemen and resellers, thereby assuring good prices to the farmers
- b. Efforts need to be made by state and central government to make the overall Saffron market systematic and organized
- c. Government needs to provide incentives and similar financial aid to the farmers before start of the season

3. Poor linkage between the farmers, extension workers and scientists/technology

Proposed Interventions

- a. Recommendations should be taken and implemented from bodies like SKUAST J/K for standard production of crop

- b. Enhancing productivity of quality saffron by overcoming the bottlenecks of longer planting cycle, low seed rate of unsorted seed corms, infestation of corm rot disease, poor soil health, and rain fed cultivation and traditional post-harvest practices.
- c. Government to outsource the underutilized and unutilized public assets and infrastructure to supervise, guide and monitor the farming process
- d. Technical education should be prioritized for farmers containing material and sources derived from gathered field experiences, human resource development, workshops, technical training, hands-on training

4. *Less penetration within international market*

Proposed Interventions

- a. International market should be analysed and targeted well to explore new allies apart from the existing ones like UAE, USA, etc. as the demand for Saffron is huge
- b. Appropriate channels to be made open by government for local traders to expand their businesses
- c. The product should be marketed and positioned well through various channels like digital advertisement, social media and strategic partnerships
- d. E-commerce should be utilised well to increase the sales

5. *Very poor (non-existent) marketing techniques*

Proposed Interventions

- a. Better packaging methods should be adopted to make the product aesthetically appealing
- b. Understanding wide use of Saffron, various markets like food, pharmaceutical, cosmetic and perfumery should be targeted well in order to increase the sales
- c. Local vendors should expand their capabilities by utilising digital resources like social media, advertisements to increase the awareness of product
- d. Government and sellers to use e-commerce in order to penetrate the unexplored market across India and globe
- e. Strategic partnerships can be made with large scale businesses

6. *Lack of Certification, Regulation, and Quality Guarantee in saffron market*

Proposed Interventions

- a. Appropriate measures should be taken by government to ensure good quality material is being cultivated
- b. Scientists and relevant industry experts should be onboarded to monitor the well being of land and overall production
- c. ISO certifications should be brought into place to decrease the adulteration and quality degradation
- d. Transfer of improved technologies by continuing to undertake testing, training and demonstration on farmers' fields and using all established extension methods

7. Underutilised land

Proposed Interventions

- a. Average land size of farmers should be increased either by collaborations or expansion to enhance productivity
- b. Unutilised land should be adopted by government and should be supervised and monitored well to carry out Saffron farming
- c. Women and self-help groups/tribes should be encouraged to work on unutilised land to generate additional revenue and strong social support
- d. Proper irrigation system should be made available in order to cultivate more and better crops

Sr. No	Proposed intervention	Agency
1	Skill development for farmers	National Crop Insurance, Department of Agriculture
2	Farmers and scientists to work hand in hand	SKUAST J/K, Jammu and Kashmir government, Invest India
3	Increase use of e-commerce platform	Ministry of Commerce & Industry, service providers, Invest India
4	Initial financing aid to be provided for farmers through multiple small channels	Ministry of Agriculture, Ministry of Commerce & Industry, National Crop Insurance, NITI Ayog
5	Expanding business in lesser penetrated areas	Ministry of Commerce & Industry, service providers, Invest India, Jammu and Kashmir government
6	Better marketing strategies to increase brand awareness	Ministry of Commerce & Industry, local vendors
7	New regions across the globe to be identified to increase exports	Ministry of Commerce & Industry, Invest India
8	Certification, Regulation, and Quality assurance techniques	ACFS, AGMARK, Department of Agriculture

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Walnuts- Kupwara, Jammu & Kashmir

Kashmir is a land of **walnuts**. Walnuts are grown in plenty in areas falling between the elevations of 5000 feet to 8000 feet from sea level. The tree is propagated from seeds and grafting is also done. The tree is protected under government legislation and liberal felling is not allowed. A walnut tree gives first fruit after 6 years of plantation. The tree matures for crop after 12 years. This time lag has made people to shift to apple tree plantation where the crop is fast and returns are **stable**. During 2016-17, the total walnut production in Kashmir was 2.66 lakh metric tonnes; in 2017-18 the production did not increase by much and touched 2.75 lakh metric tonnes, and in 2018-19, the production sluggishly inched towards 2.79 lakh metric tons. (<https://www.thequint.com/voices/opinion/jammu-kashmir-walnut-industry-trade-sick-industrial-units-californian-walnuts-chinese-industry#read-more>)

Mainly three varieties of walnuts are grown in valley. These varieties are locally called **WONTH, KAGAZI AND BURZUL**. The Wonth is a hard Nut to crack and has thick and large outer shell and small kernel. It is mostly sold locally and used for extracting oil. The **Kagzi** is a better sized walnut and has thin outer shell but thick and good-sized inner kernel. one can crack Kagzi in hands only. The inner kernel of the Kagzi variety is white. The Burzul is a medium size variety a little dark and with a little thicker outer shell. The inner kernel is not so white but tasty. This walnut too breaks easily. It is presently acid washed to make it look like Kagzi

Problems

- 1. Import of walnut from other countries ex:US*
(https://www.youtube.com/watch?v=c_DVT2f0AB0)
 - **Proposed Interventions:**
 - a) The emphasis upon quality improvement would also help to get better prices for walnut produce in the global markets.
 - b) Establishment of modern nurseries by using modern methods and standards can meet the local demand.
- 2. Decrease in walnut production: There is shortage of quality planting, poor orchard management and long gestation period. A typical walnut tree in Kashmir takes about 13-15 years to fetch the first crop*(<https://www.greaterkashmir.com/news/opinion/kashmir-walnut-industry-challenges-holding-us-back/>)
 - **Proposed Interventions:**
 - a) Need to bring more areas under walnut cultivation with high yielding varieties.
 - b) Techniques like grafting could give us a uniform type of walnut and contribute a lot to overcoming this problem
 - c) Need to rejuvenate the sick orchard to increase the production.
 - d) Focusing on making nurseries to grow walnut grafting plants which will increase the production level

- e) Old and senile walnut trees which are there 100 to 150 years needs to be replaced by the new varieties of walnut trees having the capacity of voluminous production and productivity.

3. Lack of infrastructure like transport, power supply, roads, mandis and packaging and processing facilities.

- **Proposed Interventions:**

- a) Modern grading and packing houses need to be established near the farms.
- b) Farmers have to be provided technical assistance right from planting to harvesting
- c) Irrigation facilities need to be provided sufficiently. Also, we need to develop cost effective technology for the purpose
- d) Establishment of the cold storage needs the utmost attention.

4. Lack of export-oriented policies: No knowledge on export criterion of products to outside states and countries

- **Proposed Interventions**

- a) Encouraging entrepreneurs to carry out this trade.
- b) Adopting international standards when it comes to grading, processing and packing for better market outreach

5. Poor marketing mechanism

- **Proposed Interventions:**

- a) There should be the establishment of walnut Mandi in each district especially in the valley of Kashmir where from maximum production is realized. Additionally, growers should be allowed to sell their products in the other fruit markets of the country as well.
- b) Setting up of stores in malls, airports, railway station as well as big cities
- c) Encourage the Manufactures to take part in the various trade fare and financial support should also given to the participants.

6. Major insects, pests and diseases: Walnut trees are susceptible to pests and disease such as walnut weevil (*Alcides porrectirostris* Marsha), walnut blue beetle (*Monoleptaerythrecephale*), Sanjosescale (*Quadraspidotus perniciosus* Comst)

- **Proposed Interventions:**

- a) Prevention may be attained by using a soil with a pH above 6, avoiding excessive nitrogen, excessive wetness and allowing for good aeration by pruning.
- b) Appointing a team of experts to guide farmers for use of pesticides and fertilizers.
- c) Team of experts can be arranged for field visits to check crop quality from time to time.

Schemes:

Various schemes at JKEDI

- Seed Capital Fund Scheme
- **Giri Finance**”, the scheme is designed to provide adequate and hassle-free working capital finance to walnut traders for taking care of the expenses involved in procuring and sales of kernels and nuts. (<https://www.greaterkashmir.com/news/business/now-giri-finance-scheme-for-walnut-growers/>)

S.no	Type of Intervention	Agency	Proposed solution
1.	State level	Jammu and Kashmir Entrepreneurship Development Institute (JKEDI)	Training and financial support
2.	Central level	National Horticulture Board (NHB) -	For expert advice, Product development and marketing
3.	Central level	Ministry of Food Processing Industries (MOFPI) -	Product safety certification
4.	Central level	Agricultural and Processed Food Products Export Development Authority (APEDA)	Export promotion and development
5.	Centra level	Indian Centre of Agricultural Research (ICAR) - for expert advice	Coordinating agricultural research and education

Product: Kupwara Walnuts(J&K)

Walnut “The Royal Nut” has a rich history dating back thousands of years. Walnuts are the oldest tree food known to man, dating back to 7000 B.C. Walnut is the most important temperate nut grown in India. It is mainly grown in Jammu & Kashmir. Basically walnuts are available in four categories:

Hard Shelled, Medium Shelled, Thin Shelled and Paper Shelled.

Health benefits of walnuts

1. Walnuts may help preventing Cancer
2. Walnuts may help controlling Diabetes/risk of Diabetes.
3. Walnuts contain Omega 3 fatty acids.
4. Walnuts improve mental health.
5. Walnuts contain antioxidants to boost Immunity.
6. Walnuts help in dealing with Stress.
7. Walnuts help with Weight Management.

Problems

1. Most plantations are of seedling origin and are in scattered form which produces nuts of variable quality.
2. Breeders over the years have exploited the variation amongst these seedling trees to select superior genotypes with desirable traits.
3. Besides, improved cultivars were introduced from other countries and after evaluation, some Recommendations have been made.
4. On the whole, walnut has remained a low priority crop in otherwise apple dominated regions.
5. Walnut growing suffers from lack of suitable methods of propagation, inadequate vegetative propagated plants, lack of standard rootstocks/ cultivars, problems of re-establishment of nursery plant in the orchard, specific climatic requirements, pollination behavior and lack of suitable pollinizers, long juvenile period and harvesting.
6. The progress made in the recent years to overcome the above cultivation problems with a view to revive the walnut industry with export potential has been discussed.
7. Walnut leaves can be affected by a number of other pests and diseases, although none is as damaging as leaf blotch. **Bacterial leaf blight** is caused by the bacterium *Xanthomonas arboricola*, which produces numerous tiny, angular, brown spots on the leaves. Brown blotches may also develop on the fruit.

Proposed Interventions

- a. To estimate the performance of area and production of Walnut in Jammu and Kashmir.
- b. To explore the spatio-temporal trend of walnut across all districts in the study area.
- c. To find out critical problems faced by the walnut industry and to suggest some suitable measures.

Geographical Profile of Study Area

- a. Kupwara (Kashmir) is a mountainous state located in the Himalayan region of India. It is located between East longitudes.
- b. Having varied geo-climatic conditions mostly the temperate climate, found in several valleys of Kashmir.
- c. The rivers which form the drainage system of the state.
- d. Famous for horticulture it walnut of national and international repute. Most interesting Kupwara in J&K is the leading producer of walnuts in India.

Market Intervention Scheme(MIS)

M.I.S. for a particular commodity on the request of a State Government concerned. Loss suffered are shared on 50:50 bases between Central Government and the State.

The Market Intervention Scheme (MIS) is an ad-hoc scheme under which are included horticultural commodities and other agricultural commodities which are perishable in nature and which are not covered under the minimum price support scheme. In order to protect the growers of these horticultural/agricultural commodities from making distress sale in the event of bumper crop during the peak arrival period when prices fall to very low level, Government implements.

Soil Health Card Scheme

- a. The Scheme of “**Mission Soil Health Card**” has been launched by the Hon’ble Prime Minister of India on 19-02-2015, for implementation from the year 2015-16, under the scheme “National Mission on Sustainable Agriculture” (NMSA), with an aim to diagnose soil fertility related constraints with standardized procedures for sampling uniformly across the states and analysis and design fertilizer recommendations in targeted districts.
- b. It will also develop and promote soil test based nutrient management in the districts for enhancing nutrient
- c. use efficiency, and also helps to build capacities of district and state level staff and of progressive farmers for promotion of nutrient management practices.
- d. Under this scheme Soil Health card will be issued to all the farmers in this country once in 2 years.
- e. As per the instructions of the Government of India, every year December- 5th has been observed as “**World Soil Health Day**”, and a function is celebrated in our district on that day to create awareness to the farmers regarding the soil health. As a large number of farmers gather on the occasion, it is being utilized for the distribution of Soil Health Cards to the farmers.

Beneficiary

All farmers are Eligible to avail this benefit.

Benefits

It will diagnose soil fertility related constraints with standardized procedures for sampling uniformly across the states and analysis and design Taluk / Block level fertilizer recommendations in targeted districts.

Agricultural Technology Management Agency (ATMA)

The main objective (or) aims of this scheme is to converge the benefits to the farmers from all Agricultural and allied department scheme to the farmers.

The Second most important objective of this scheme is transfer of technologies to the farmers by which their production, productivity and income of the farmer has been increased the departments involved in this scheme are Agriculture & Agriculture Marketing.

Beneficiary

All farmers are Eligible to avail this benefit.

Benefits

Aim of these schemes is to converge the benefits to the farmers from all Agricultural and allied department Scheme to the farmers.

Proposed Interventions and Agencies

Methodology: Governmental agencies consulted for data collection.

Geographical Profile of Study Area: Governmental agencies consulted for data collection.

Market Intervention Scheme: Shared on 50:50 bases between Central Government and the State.

Soil Health Card Scheme: Government of India.

Agricultural Technology Management Agency (ATMA): Government of India.

Processed Trout Fish -Bandipora, J&K

Nature has been very kind to the people of Kashmir. State of Jammu and Kashmir, with its diverse climatic zones is bestowed with vast and rich expanse of natural water bodies in the form of snow fed streams, rivers, lakes, sars, springs, marshy areas besides high-altitude cold-water lakes located at an elevation of above 12000feet. These resources not only add to the splendor of unsurpassed beauty of the state but also form unrivalled rich and diverse fishery resources

Trout farming is one of the oldest forms of commercial fish production. Due to their popularity as a sport fish and as a food fish, trout have been widely distributed and are now cultured in waters around the world. The brown trout is a native of European waters.

Problems

1. **Illiteracy is prevalent among the fishers** of the valley in general and fisherwomen in particular

Proposed Interventions:

- a) Intense drive to promote education must be carried in fishing villages of all the districts
- b) Govt must take special measures to encourage female education. Female teachers must be posted in the fishing villages as females get encouraged and inspired by them

2. **Non-availability of proper markets, marketing channels and institutional credit:** Marketing of fish is mostly done by women fishers. Though district Bandipora has a fish market but it doesn't suffice the needs of the bigger fisher population.

Proposed Interventions:

- a) Fish marketers should form a co-operative society to enable them obtain loan from financial institutions so as to expand their marketing activities.
- b) Government and private organization should encourage fish marketers by building an organized market and effecting free trade within the study area.
- c) Providing processing places/spaces to enable those who want to engage in fish smoking to cope.
- d) There should be subsidy in price of fish by the government so that everybody will have access to fish, this is because majority of the consumers within the district are poor.
- e) Providing transportation facilities and good infrastructural facilities within the study area to encourage the fish marketers.
- f) Providing the proper fishing market will facilitate the fisherwomen in selling fish.
- g) Establishment of cooperatives will also help the fishers in selling fish at a reasonable rate throughout the year

3. No provision of Insurance and other insurances to the fishermen: Fishers hardly have any information about the various governmental schemes for the welfare of the disadvantaged section of the society.

Proposed Interventions:

- a) Providing life insurance policy to all fishers and all the license holders must be compensated irrespective of the place where they die.
- b) Fishers should be made aware about govt schemes through mass media (T.V, Radio, newspapers etc.). T. V and Radio programmes that are popular among the fishing communities can be identified and the fishers may be informed about the schemes through these programmes.
- c) Grassroots level workers should be made accountable in informing fishers about various government schemes

4. Low Participation in extension activities: Lack of participation in training programme, exposure visits and tours to other parts of the country have made these fishers remain restricted to just fish catch and sell. They are unaware of the potential of this sector that can be grabbed for their socio-economic upliftment.

Proposed Interventions:

- a) Extension programmes must be conducted on non-fishing days as fishers can't afford to miss the earning day.
- b) Technology disseminated through extension programmes should be need based, economical, compatible and less complex. As fishermen and fisherwomen are both involved in the occupation, principle of family approach should be taken into consideration while introducing technology.
- c) Programmes must be conducted off campus (Fishing villages)

5. Combating natural calamities: Fishers live around the lake and face trouble during the natural calamities like floods facing more losses. There is lack of proper warning systems, Also no temporary shelter to shift the families during the floods.

Proposed Interventions:

- a) Proper warning systems, temporary shelters to provide shelter to the fishers during floods,
- b) Training fishers to combat the ill-effect of floods and insurance of their property may be done for the relief of the fishermen.

Sr. No	Proposed solutions	Agency
1	Upgraded technology in inland fish farming	Department of Fisheries J&K
2	Promotion of Indian marine products	MPEDA
3	Enhancement of fish production	National fisheries development board
4	Formulation of policies and schemes	Ministry of fisheries, Animal husbandry and dairying
5	Value added products/Product	

	diversification	Ministry of commerce and Industry
6	Cold storage facility	Ministry of food processing Industries
7.	Support of fisheries education and scientific research	Fisheries college and research institute
8.	Development of unique fishery methods	Central Marine fisheries research institute

Product: Pulwama Pencil, Pulwama (Jammu and Kashmir)

We all started our education writing with pencils. The very sight of it as kids used to make us smile. But do you know where the wood for making these pencils comes from?

It comes from Pulwama district of Kashmir. The District has 17 units and employs 4000 people, contributing phenomenally to the pencil market.

Rightfully, it is termed “**Pencil District of India**”. India used to import wood and pencil slats from China, Sri Lanka and Germany, but in recent years all these slats are made in India. The wooden slats are then provided to pencil makers like Natraj among others. The raw material for making pencils is poplar wood. Earlier it was the Deodar wood. During the 1960s, Deodar forest wood was banned by the government which was initially used as a raw material for pencils. The poplar wood replaced Deodar in 1992-93 as raw material. It is also to be noted that, earlier, logs used to be supplied to manufacturers. But later, these were converted into bricks. Much recently, in 2013, it was Pulwama who started reducing them into slats.

They are packed in bags and sent to manufacturers. The business is indeed lucrative. The monthly turnover of the industry is Rs 3 crore. It is not only the locals but also the government that earns a lot from the taxes. Now, these owners seek more subsidies.

Problems

1. Pencil District of India’ Struggles to Run its Pencil Units Due to Electricity Issues.

- In the past few years, these factories have been suffering due to bad electricity supplies.
- There is the interrupted electricity supply in the area that affects the profits. Majority of the manufacturing hours are spent on using diesel generators which add to the manufacturing costs reducing the profit margins.
- Approximately 4000 people are employed in these units; however, the regular electricity has been recently one of the concerns for these units to survive.

Proposed Intervention

Solar power equipped units

Generating clean energy with solar power units while mitigating environment effects will ensure that the Pulwama Pencil units have adequate electricity for quality production.

Benefits of Solar Units:

- a. Cost savings
 - One of the greatest benefits of installing solar panels in the units that they provide cost savings.
 - The tariff quotes for solar powered units relative to industrial and commercial tariff rates are 17% and 27% lower, respectively.
 - With the trend in solar being that panels keep getting cheaper, industries opting for solar are bound to see gains in the next few years.

- b. Reduces carbon footprint
 - From the very initial process of installing the panels to the electricity generated by PV cells, no health hazards are involved and don't generate any heat trapping gases that contribute to global climate change.
 - It not only doesn't generate carbon dioxide but also none of the other harmful emissions or wastes associated with coal – nitrogen oxides, sulphur dioxides, and mercury is produced.
 - c. Reduction in electricity bills
 - Installing solar panels for home or office use can reduce your electricity bill.
 - A normal electricity connection relies on coal, oil, and natural gas to power homes across the country.
 - Installing panels will save economically as well as the environment.
 - d. Support from the government
 - The solar rooftop systems fall under the 5% tax bracket.
 - It is the most attractive tax rate (if one doesn't consider the 0% tax bracket) that the government offers.
 - This is one of the few goods in India that fall under this low tax category.
2. *The government needs to recognise the sector as a growing industry and allow subsidies or incentives.*
- It can further enable multifold growth employing thousands of youth in Pulwama.

Proposed Intervention

Tax incentives for SEZs (Special Economic Zones)

- a. Both developers and occupiers of SEZs can enjoy substantial long-term tax holidays and concessions that are worth exploring when establishing an operation in India, although these may be phased out under the direct tax code (DTC) for SEZs
 - b. Other benefits include a refund of integrated goods and services tax (IGST) on goods imported by units and developers of SEZs, easy refund procedure of input GST paid on procurement of goods and services if any, and minimal compliance requirement and return filing procedure.
 - c. Further, a refund is available on excise duty payable on specified value addition for 10 consecutive years.
3. *Lack of infrastructure support*
- The COVID-19 pandemic has added to the woes of the unit owners.
 - About Rs 4 crore of the ready stock is piled up in the storages since the lockdown, but it has been difficult to send it to the manufacturers.

- The industry member says that over 20,000 locals could get employment if the deadlock between the industry giants and the locals' end.

Proposed Intervention

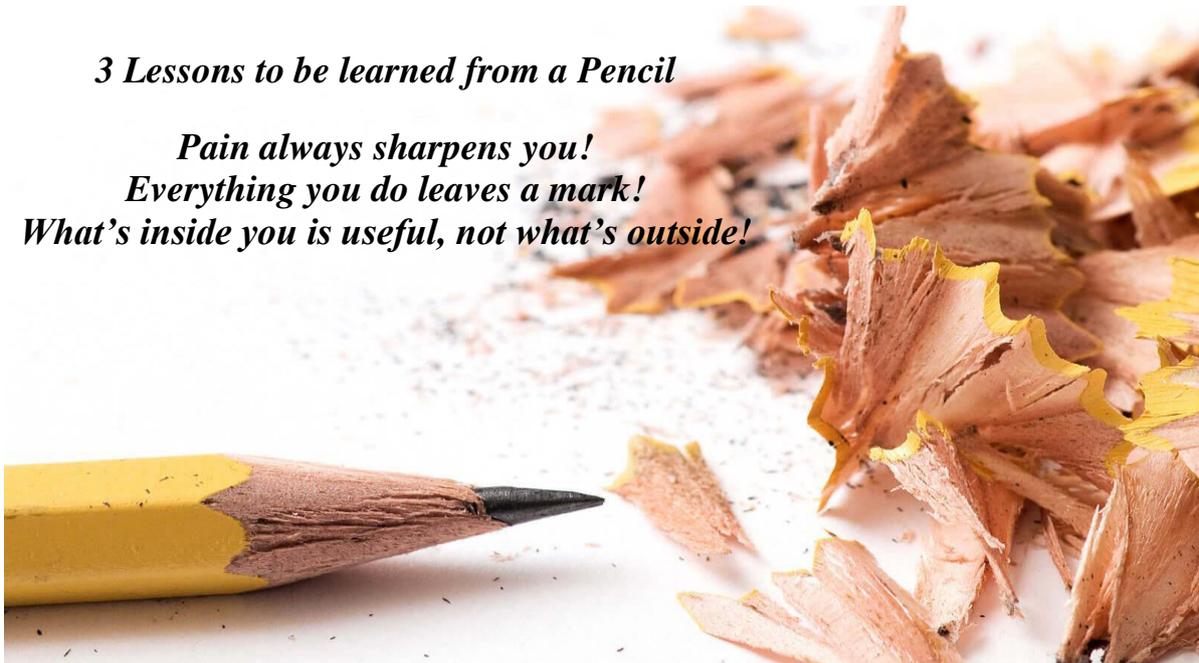
- a. With the support of Government Better infrastructure:
- With mass plantation poplar can be a brilliant economic prospect for farmers that will help the environment and also the industry.
 - The entire process of pencil manufacturing can be made possible from the valleys of Kashmir.
 - The cost of raw material is less and if the entire process of manufacturing happens in one place, its cost will reduce further and:

“India may even be able to export to the world”

Sl. No.	Type of Intervention	Proposed Intervention	Authorities
1	Value Addition	Solar power equipped units	Government of J&K
2	Training and Development (Up scaling)	=SEZs (Special Economic Zones)	Government of India
3	Infrastructure and Manufacturing	Better infrastructure	Government of J&K

3 Lessons to be learned from a Pencil

*Pain always sharpens you!
Everything you do leaves a mark!
What's inside you is useful, not what's outside!*



Sheep wool – Kulgam, Jammu & Kashmir

The State of Jammu and Kashmir is ideally suited for rearing of sheep owing to favorable agro-climatic and geophysical conditions, rich alpine pastures, and a host of other natural endowments. The presence of lofty mountains to low hills and vast meadows provides enormous scope and excellent atmosphere for sheep rearing. Sheep is one of the first animals to be domesticated for agricultural purposes. Sheep are raised for fleece, mutton, and milk. Wool obtained from sheep is the most widely used animal fiber and is usually harvested by shearing. Jammu and Kashmir is ideally suited for rearing sheep and goats owing to favorable agro-climatic and geo-physical conditions, rich alpine pastures and a host of other natural endowments. Nature has bequeathed this state with high elevations to low hills and vast pastures providing immense scope and excellent atmosphere for sheep rearing. **The pastoral areas of state are found both in the sub-tropical zone of Jammu and the temperate area of Kashmir. Sheep and goat rearing is the core activity of rural masses in the state and plays a vital role in socioeconomic upliftment of weaker sections of the society viz; Gujjars, Bakarwals, Chopans, Gaddies and Changpas.** The Gujjars and Bakarwals have adopted the sheep and goat rearing as their primary occupation from times immemorial and prefer to migrate in search of pastures to feed their livestock. The **Kashmir Merino breed** was evolved around 1960 at Govt. Sheep Breeding and Research Farm Reasi (Jammu) by crossing local Kashmir Valley ewes with Tasmanian Merino rams. bred ewes so obtained were then bred to Dalaine rams imported from U.S.A to produce a stock with 75% level of inheritance from two exotic breeds. This was followed by ~ among the 3/4th two breed cross-breeds and accompanied by a rigorous selection on the bas fleece weight, wool quality and body weight. This group of animals was given the name of Merino". The **Kashmir Merino Sheep are 3 to 4 times more productive** than the local she also comparable even to exotic fine wool breeds in economic traits, besides having an ad, being resistant to the adverse climatic conditions and diseases

Kashmir Merino is equivalent to some of the finest wool breeds of the world. This breed is found in every part of Kashmir valley and is well-adapted to geo-physical conditions of the state with a population of more than 11.15 lakh <https://www.jkanimalhusbandry.net/sheep.htm>

Problems

1.Lack of subsidised sheep units

Proposed Interventions:

- a) Focusing on increasing sheep extension centres, establishing a vital link between the department and the breeders
- b) Various training and development programmes should be conducted, organised and arranged for the departmental personnel with a view to sharpen their existing capabilities and acquiring new knowledge and skills in the field of sheep and goat rearing management.

- c) Making mandatory for all in-service Shepherds having the requisite qualification and direct recruits viz; Stock Assistants and Flock Supervisors to undergo and successfully complete the training programmes as their future promotion prospectus hinges on it.
- d) To improve the economic condition of sheep breeders by increasing the productivity of their sheep, providing them subsidized inputs and remunerative prices for their produce

2. Low productivity: The indigenous breeds of sheep produce small quantity viz; only around 0.900 Kg of coarse wool and have poor growth rate due to lack of genetic potential.

Proposed Interventions:

- a) Continuance of cross-breeding with dual purpose sheep breeds like Corriedale and Dorsat in orchard of Kashmir Valley.
- b) Up gradation of native goats with improved variety in selected areas only
- c) Improvement of Pashmina (Changra) Goat through rigorous selection process.
- d) Improvement of Changthangi Sheep breeds by selective breeding
- e) Organizing awareness programmes for promotion of scientific practices of sheep and goat rearing. publicity programmes are focused to rural masses in general and Gujjars, Chopans and Changpl particular who rear sheep .and goats as their primary occupation

3.Prevalent diseases among sheep in Kashmir: FMD is a prevalent disease among sheep in Kashmir. In J&K, sheep are particularly vulnerable to FMD.(Foot and mouth disease)

(<https://krishijagran.com/animal-husbandry/sheep-farming-in-jammu-kashmir-must-be-prioritised-by-the-government/>)

Proposed Interventions:

- a) Establishing mobile and first aid centres which are catering to the needs of the sheep and goat breeders.
- b) Focus should be laid on setting up of disease Investigation Laboratories.
- c) Focusing on vaccination of all sheeps under National animal disease control programme
- d) Educating young educated individuals to go into Sheep farming because it's a profitable business.
- e) Providing free training to entrepreneurs as how to breed and rear animals.
- f) Animals that are pregnant or become pregnant should be provided due care in relation to the requirement of feed and medical help. Ambulatory services have to be kept available for timely
- g) An upgradation in the disease surveillance programmes has to be made. Check posts at entry points to the State and Valley has to be kept strong for prevention of any kind of disease transmission. Such services though are being undertaken but needs stricter adherence to prevent losses

4.Lack of pasture lands: Over the year the pastures faced degradation due to continuous and indiscriminate grazing

Proposed Interventions:

- a) Efforts should be made to seek special financial dispensation for development of pastures by implementation of programmes like conduct of aerial/manual fertilization of pastures.
- b) Eradication of toxic and obnoxious weeds, reseedling of Clover and other fodder crops, and plantation of fodder trees.
- c) Focus should be laid on achieving higher level of fodder by adopting various agronomic practices, promotion of scientific management of breeding practices
- d) There is a need to increase shepherd awareness about new grass and legumes species for re-sowing of grazing lands. The social mobilization is essential among shepherds for grazing land improvement.

5.No skilled manpower for wool extraction is readily available: The shepherds follow the traditional method of shearing wool by traditional tools because they do not have idea about improved tools for this work. The farmers were selling their wool on head basis but after began this programme most of the farmers are getting their sheep shorn and sale wool in Mandies. Sheep breeders are highly un-organised and no functional farmer's organization exists to safeguard their interests, they are not able to get better prices for their products.

Proposed Interventions:

- a) Training institutions should organize training for rural poor women in sheep rearing practices and technologies and its importance for income generation.
- b) Efforts should be made by both research and development institutions to link up rural poor/women with funding agencies.
- c) Scheme for Social Security for Sheep Breeders; Insurance - The basic objective of the Sheep Insurance Scheme is to provide insurance cover to sheep in the case of accident including fire, lightning, storm, tempest, flood, inundation, earthquake, famine and diseases contracted or occurring during the period of the policy for project areas.
- d) Establishing Common facility centres for the rural sheep farmers.
- e) There is urgent need to bring the awareness among the shepherds about wool marketing and proper utilization.

<https://www.sheepfarm.in/demand-for-kashmir-sheep>

<https://www.researchgate.net/publication/341654167> A Brief Overview of Sheep Husbandry in Jammu and Kashmir

Sr. No	Proposed solutions	Agency
1	Skill development & capacity building for farmers	Indian Council of Agricultural Research (ICAR), NPTEL
2	Training and financial support	Jammu & Kashmir Entrepreneurship development Institute
3	Research and scientific interventions	SKUAST-Kashmir
4	Development activities	National Agriculture commission
5	Promoting sheep and goat development	Department of sheep husbandry, J&K
6	Export promotion	Wool and woollens export council
7	Skill development programs	Ministry of skill development and Entrepreneurship

Kupwara apples

Apple is one of the oldest fruits known to man. It has been found wild in most temperate parts of the world and cooler higher hills of sub-tropical areas. It was, probably first domesticated in the Caucasus, but fast spread all over Europe, even in pre-historical times. From Europe, apple spread to USA, Australia and South America. Apple is one of the most important horticultural produce and renowned worldwide for its health benefits. Jammu and Kashmir is one of the major apple producing zones in the north India and major portion of population is economically dependent on this industry. The present study will try to study the various sources of financing which are presently operational in this very industry.

Problem 1

The problem of citrus decline leading to alarmingly low yield.

Proposed Intervention

- a. Mother plant selection from authentic sources with well-known ancestry with respect to health, vigour, regular bearing, high yield with good fruit quality
- b. Promote the use of biotechnological methods for developing new virus free, high yielding, biotic or abiotic stress-tolerant planting material.
- c. Foundational block should be obtained from STG (shoot tip grafting) plants.

Problem 2

Unseasonal snowfalls damage the fruit-laden apple tress in the region. The trees crack under the weight of the snow and get uprooted. It also leads to the discoloration of the surviving apples.

Proposed Intervention

- a. Measures like bunding, terracing, plugging and strengthening of slides of gullies can be adopted to preserve nutritious soil.
- b. Keep a check on the timely warnings issued by the IMD and by properly following it the whole crop growing and harvesting seasons could be fastened up.

Problem 3

Difficulty in cultivation in hilly terrains as the traditional farming methods are not applicable as it is to these areas and some specialized farming practices are at work here.

Proposed Intervention

- a. Refrain from practicing shifting agriculture to provide food and nutritional security
- b. Practice Zabo system i.e., impounding of water
- c. Water regulations through design of drainage network for surface runoff.
- d. Soil and water conservation through watersheds water harvesting initiatives

Problem 4

Lesser availability of orchards in the region leading to lesser potential to meet domestic and international market demands.

Proposed Intervention

- a. Intercropping of orchards - will help in maintain the soil nutrients & generate additional income for farmers.
- b. Following proper spacing requirements in these orchards
- c. Plant protection actions against major pests and diseases.

Problem 5

Problem of transportation of harvested material.

Proposed Intervention

- a. Proper building of road networks connecting orchards and main markets
- b. Subsidized rent for freight vehicles to be provided by government for easy and low-cost transportation of farmer's yield.

Problem 6

Lack of marketing strategies to create awareness.

Proposed Intervention

- a. Advertising the nutritional as well as medicinal benefits of Apples through small ads in local channels pan India
- b. Print ads in local newspapers and magazines in the native languages.

Problem 7

High initial investment, costly planting material & non-availability of credit facilities

Proposed Intervention

- a. Provisions of subsidies for the farmers during the initial planting seasons in the procurement of planting materials
- b. Promotion of development of co-operative credit societies
- c. Land development banks for provision of low-interest loans on the mortgage of farmer's land
- d. Loans by Regional Rural Banks to marginal farmers, landless laborers etc.

Problem 8

Lack of adequate storage facilities making farmers prone to exploitation & distress sale.

Proposed Intervention

- a. Cold storage and small processing units in these areas should be established
- b. MSP should be set up for apples & strictly followed in the local markets to avoid exploitation of farmers.

Sr. No	Type of Intervention	Proposed solutions	Agency
1	Infrastructure support	Mother plant saplings, healthy rootstock, STG plants	Ministry of Agriculture & Farmers welfare
2	Training & Development	Promotion of biotechnological methods	Department of Biotechnology Ministry of Science & Technology, Government of India.
3	Infrastructure support	Replenish fertilizers & nutrients, provide crop protectants	Ministry of Agriculture & Farmers welfare
4	Training & Development (Upskilling)	Skill development of farmers to follow best practices	Ministry of Skill Development & Entrepreneurship + Ministry of Agriculture & farmers welfare
5	Infrastructure support	Construction of roads for ease in access	J&K Public Works Department
6	Credit support	Easy carrier freight vehicles at subsidized charges	J&K Transport Department
7	Branding & Marketing	Advertisements highlighting the nutritional & medicinal benefits of Apples	Ministry of Information & Broadcasting, GoI
9	Credit support	Subsidies, loans, RRB (regional rural banks), cooperatives	NABARD
10	Market Linkage	MSP for Apples	Ministry of Agriculture & Farmers' Welfare
11	Packaging	Cold storage and local processing units establishment	Ministry of Agriculture & Farmers' Welfare
12	Quality Assurance	Availability of proper pesticides and insecticides for the crops	Ministry of Agriculture & Farmers' Welfare

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Jammu processed walnut

Kashmir is a land of **walnuts**. Walnuts are grown in plenty in areas falling between the elevations of 5000 feet to 8000 feet from sea level. The tree is propagated from seeds and grafting is also done. The tree is protected under government legislation and liberal felling is not allowed. A walnut tree gives first fruit after 6 years of plantation. The tree matures for crop after 12 years. This time lag has made people to shift to apple tree plantation where the crop is fast and returns are **stable**. During 2016-17, the total walnut production in Kashmir was 2.66 lakh metric tons; in 2017-18 the production did not increase by much and touched 2.75 lakh metric tons, and in 2018-19, the production sluggishly inched towards 2.79 lakh metric tons.

PROBLEMS

There is much need for bringing more area under the walnuts so that the production may increase. With their immense potential for expansion and productivity, Jammu and Kashmir can act as a catalyst for the growth of the walnut industry in India. The state enjoys the topmost position and is the largest producer and exporter of walnut in India. Here are some problems and suggestions which may be helpful in the overall nourishment and development of the Walnut industry in Jammu and Kashmir.

1. Low productivity due to lack of quality planting material, poor pollination, high-yielding varieties, and uneven yields. The Indian variety takes 12 years to grow from root to a full grown tree, whereas the hybrid version takes 2 years. Provision of hybrid seeds to the farmers is extremely important to enhance the cultivation of walnuts.

Proposed Interventions

- a. There is a significant need to introduce high-yielding strains/varieties of walnut and adopt modern technologies. Provision of hybrid seeds to farmers by the Horticulture Department of Jammu and Kashmir is extremely important and should be provided on an urgent basis.
 - b. Besides, distribution of walnut plants, farmers should be provided technical assistance from planting to harvesting.
 - c. Rejuvenating old and sick walnut orchards and adopting site-specific and scientific management techniques can accelerate walnut production.
 - d. Expansion of area under walnut by convincing and motivating farmers, by providing them good quality grafted plants and identification of sites which are highly suitable for quality walnut production.
 - e. Adopting scientific cultural and management practices canopy management by training and pruning and planting and popularizing low stature cultivars will excel the growth of area and production.
2. Low tree density per unit area, the poor success of grafting, predominant terminal bearing, climatic fluctuations.

Proposed Interventions

- a. Provision of Cold Storage facilities can be provided near major Walnut processing areas. These facilities can be Eco Friendly and should run on low power consumption.
- b. HDP technology can be implemented to enhance productivity.
- c. Open high-technology poly- houses to increase the production
- d. Currently, most of the plantations have old and senile walnut trees, which are there 100 to 150years, need to be replaced by the new varieties of hybrid walnut trees having the capacity of the voluminous output and productivity.
- e. Jammu and Kashmir walnut industries are far from technical know-how that needs to be improvised through the training. They facilitate tours including all stakeholders from growers to exporters to other countries to address the training issues.
- f. Domestic and foreign demands will accelerate shortly, so high-density walnut plants should be established with better-grafted varieties.
- g. The domestic and foreign markets will accelerate shortly, so high-density walnut plants should be installed with better-grafted types.

3. Increased competition from overseas suppliers. The competition from foreign suppliers, especially from California and Chile, is expanding quickly.

Proposed Interventions

- a. Ingredient users are demanding quality, logistics, and service, but they are generally more open to new sources than packers and retail brands. So, better promotions will help in growing walnut sales.
- b. Indian growers can consider producing walnut oil as the Indian produce often qualifies for it because of less premium-price and dark-color kernels suitable for walnut oil. Having walnut milk as an added product can also be considered.
- c. Government can increase taxes on these imported qualities in order to promote the domestic variety within our country. This can be taken up as an initiative by the Make in India campaign to promote Indian variety of walnuts within India and abroad.
- d. Channels of distribution can be evolved by providing broader access to the Internet, improvements in delivery services, and higher levels of online impulse buying.

4. Tighter domestic supplies encouraged walnut imports leading to a drastic fall in prices. There is only one mandi for the entire production located in Jammu, and no other mandi has been established in any other part of the state. Unregulated market, low import duty.

Proposed Interventions

- a. The marketing mechanism is not justified with only one Mundi. There should be the establishment of walnut Mundi in each district, especially in the valley of Kashmir, where maximum production is realized. Additionally, growers should be allowed to sell their products in the other fruit markets of the country as well.
- b. Creating new opportunities for the farmer such as new markets and new sources of income.

5. Lack of government export-oriented policies and weaknesses of intervention leads to reduced export levels. The exports are not growing at a comfortable rate due to the diminishments in production. Most importantly, the absence of the export-oriented strategies brings this walnut industry on the back foot.

Proposed Interventions

- a. Tie up and Utilize the services of startups like AgriBazaar, Crofarm, KrishiHaat, Ninjakart to enhance the supply chain and expand markets.
 - b. Government must launch campaigns for farmers to train them in pruning techniques to produce adequate yields.
 - c. Enhance food safety and quality assurance by fostering the adoption of enhanced processing methods.
 - d. Farmer field schools can be established to demonstrate improved agricultural techniques through practical training.
 - e. Need to enable greater involvement of women in the walnut value chain. Tailored support services must be provided to women to improve the quality of outputs at the post-harvest levels.
6. Packaging and branding lag significantly behind its major global competitors in packaging, marketing, and branding capacity.

Proposed Interventions

- a. Reclaim J&K's prominent global reputation through improved packaging and sound market insertion strategies. Efficient marketing schemes can be implemented to propagate the benefits of walnuts, walnut oil. Creative packaging can also be used to attract consumers.
 - b. Industry players must monitor the consumer concern for fat levels in the walnuts. This trend can be observed and adjusted accordingly by revising and adapting their packaging and marketing strategies.
7. Lack of access to facilities and aid from the Horticulture Department

Proposed Interventions

- a. While talking to one of the cultivators, it was understood that they are not receiving sufficient aid from the Horticulture Department. They are in need of the hybrid variety of walnut seeds.
 - b. The plans of the J&K Horticulture department must be timely monitored to ensure the supply of aid to farmers.
 - c. Need to conduct primary research with cultivators on a one-on-one basis to understand their requirements.
8. Lack of government export-oriented policies and weaknesses of intervention leads to reduced export levels. The exports are not growing at a comfortable rate due to the diminishments in production. Most importantly, the absence of the export-oriented strategies brings this walnut industry on the back foot.

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- e. Need to enable greater involvement of women in the walnut value chain. Tailored support services must be provided to women to improve the quality of outputs at the post-harvest levels.

9. Lack of awareness about hygienic protocol conditions to handle nuts.

Proposed Interventions

- a. Create technical awareness among farmers.
- b. Popularise dwarf varieties. Alongside, there is the need to introduce high-yielding strains/types.
- c. Making technological interventions as required helps walnut growers keep the hygiene in handling walnuts.
- d. Walnut grower associations can help formulate a strategy and ensure the walnut farmers across regions follow protocols.

10. Lack of processing, storage, orchard management facilities. There is no proper mechanism of well-crafted orchard management; in addition, less consideration is paid towards this industry by the horticulture department of Jammu and Kashmir. Lack of an integrated handling system to manage nuts.

Proposed Interventions

- a. Lean automation systems can be implemented in Walnut Processing Plant.
- b. Develop cost-effective technology.
- c. The gradual shift from sun-drying techniques to more sophisticated technologies such as freeze-drying (lyophilization). There is significant demand from the bakery and breakfast cereal industries for freeze-dried fruits.

11. Pests causing a lot of damage to walnut produce and Low level of Infrastructural development becomes another impediment like unavailability of transport facilities and developed packing houses are nowhere available.

Proposed Interventions

- a. Disease and pest control measures further the diffusion of credit and financial schemes, better infrastructural facilities in the form of well-connected roads and transport, the establishment of cold storage needs the utmost attention.
- b. Adopt site-specific nutrient management techniques.

12. The wood of the walnut trees is in great demand because it is considered very strong and durable hence this wood is used for construction and furniture. The same wood is used for paneling and decorative purposes in the newly constructed houses; moreover, the wood of the same tree is also used to carve out different kinds of toys. In this capacity, numerous trees were cut down recently. This challenge is tacking pace with time.

Proposed Interventions

- a. The indirect problem of growing the produce of walnuts. The walnut wood should be managed well before the product is planned. An alternative of the wood product should be prepared, and the replacement of walnut wood should be taken up.
- b. NGOs should be asked to carve out a plan to check on trees being cut for different kinds of toys. The upper limit of tree cut should be strictly followed, and reasonable restrictions should be implemented. NGOs should be asked to carve out a plan to check on trees being cut for different kinds of toys.

13. Packaging and branding lag significantly behind its major global competitors in packaging, marketing, and branding capacity.

Proposed Interventions

- a. Reclaim J&K’s prominent global reputation through improved packaging and sound market insertion strategies. Efficient marketing schemes can be implemented to propagate the benefits of walnuts, walnut oil. Creative packaging can also be used to attract consumers.
- b. Industry players must monitor the consumer concern for fat levels in the walnuts. This trend can be observed and adjusted accordingly by revising and adapting their packaging and marketing strategies.

S.no	Type of Intervention	Proposed solution	Agency
a)	State level	Training and financial support	Jammu and Kashmir Entrepreneurship Development Institute (JKEDI)
b)	Central level	For expert advice, Product development and marketing	National Horticulture Board (NHB) -
c)	Central level	Product safety certification	Ministry of Food Processing Industries (MOFPI) -
d)	Central level	Export promotion and development	Agricultural and Processed Food Products Export Development Authority (APEDA)
e)	Centra level	Coordinating agricultural research and education	Indian Centre of Agricultural Research

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Anantnag Bats (J & K)

Anantnag also called Islamabad, is the administrative headquarters of the Anantnag district in the Indian union territory of Jammu and Kashmir. It is located at 53 kilometres (33 miles) from the union territory's capital Srinagar. It is the third largest city in Jammu and Kashmir after Srinagar and Jammu with an urban agglomerate population of 159,838 and municipal limit population of 109,433. In 2010 Anantnag was declared as major City of Export excellence with a total GDP of 3.7 billion \$. The high GDP of Anantnag is due to the centralised position and presence of high concentration of troops and migrant labours in it. Anantnag has a strategic position lying on the main North-South Corridor Road and with the highest number of tourist destinations it an economic hub of Kashmir Valley.

The cricket bat industry in Kashmir has incurred a loss of more than Rs 1000 crore during the past three years. The sports activities remained suspended after the abrogation of special status of JK in 2019 and later two back-to-back lockdowns in the wake of Covid-19 brought the sales down. President Kashmir Cricket Bat Manufacturers Association Nazir Ahmad Salroo said the industry has suffered huge losses and the unit holders are battling for survival.

Problems

- 1. Many production activities require the entire household to participate in production in some capacity. In many cases, production of these bats also serves as a seasonal source of income for agricultural households. This means that children miss school, resulting in low education levels for the family overall. The lack of education makes it difficult to access government schemes and market information and bargain with traders and middlemen.*

Proposed Interventions

- a. State Government can take help of rising cricket-based start-ups like “**Spektacom Technologies**” involved in providing D2C services connecting the manufacturers with better technologies and a wider range of customers.
 - b. Provide storage spaces with proper monitoring system at lowest of costs to avoid the tendency of distress selling.
 - c. Introduce minor regulations in the market by setting a minimum selling price, to avoid exploitation of the artisans through external parties.
 - d. Government could fund national programs to distribute bats to under privileged children on festivals or occasions like high profile cricket games generating surplus revenue for the sector itself and creating extra demand in seasons when the demand is less.
- 2. Market research into bats for the region is negligible, if not non-existent. New trends and designs, new integral ways to feel the pulse of the market need to be determined and disseminated. Production and Manufacturing units, which are mostly run by individuals with sole proprietary form of organization can't afford to have separate and well-organized marketing system.*

Proposed Interventions

- a. Utilize events like India Toy Fair to explore the possibility of e-marketing of the products across the country and the world.
 - b. Government could provide certain of electricity to the households for free, incentivizing them to upgrade their workstations and reducing the utility overhead costs.
 - c. It is essential that due care is devoted to different, and crucial, aspects of quality, consistency, sustainability—with an eye on packaging, presentation as well as explanatory information on the characteristics of the product and the manufacturer. Likewise, brand promotion needs to be focused as a major component to replace the poor perception of India as a supplier of low-quality goods.
 - d. Currently the willow industry is dominated by Australian manufacturer, experts can hired from that sector to oversee the production considering the current constraints to add a third party view to the sector.
 - e. The Government could provide financial assistance to compensate Rebate extended to customers to promote the sale of bats by reducing the price considerably so as to compete with other forms of decorations in the market. This scheme not only enables the primary manufacturer's co-operative societies in liquidating their stock, but also aims at protecting the industry from severe competition.
 - f. Follow a cluster development approach to assist them as a group through
 - a. Cluster Development Programme
 - b. group approach for development of processes used
 - c. assistance for Manufacturers Organisations
 - d. assistance for Innovative ideas and Publicity, Monitoring, Supervision, Training and Evaluation of Scheme
 - g. Provide organizational assistance to alleviation of the problem of improper financial facilities and irregular supply of raw materials.
3. *The manufacturers are unable to estimate the exact cost, of production due to several reasons. Hence, they find it difficult to fix the price basing on cost of production. The manufacturers have said that they fix prices of bats basing on its market acceptance and basing on the price offered by master manufacturers, dealers and co-operative societies.*

Proposed Interventions

- a. Spread awareness about GST and Return Policy, saving them from the exploitation from middlemen due to GST and demonetization effects
- b. Recommendations can be shared with manufacturers through periodic training programs wherein they can compare their current working conditions to potential improvements. Implementation of such training programs will also provide opportunities to monitor the implementation and regular practice of recommendations.
- c. Through Cluster Development Programme invest in following sections to make the industry more lucrative - skill upgradation, purchase of new work stations and accessories, setting up of finishing units, common facility centres, opening of showrooms, conducting exhibition/fairs, publicity, providing of design inputs

- d. As the Societies considered 'Lack of modernized equipment's' as their prime problem, the effort towards modernization of the technologies used is most important in increasing the productivity of operation and ensuring first rate products.
 - e. Government can set targets to increase the digital literacy amongst young generation allowing them to use various technical assistance devices available already used by their market counterparts.
4. *Lack of market linkages – While consumers of bats are increasingly becoming urbanized, bats continue to be sold through local markets or at inflated prices through local sports shops; producers themselves have few opportunities to reach new consumers through relevant retail platforms such as department stores and shopping malls. Further, due to their rural orientation, manufacturers are often unable to access training and technology to supply their products to online markets.*

Proposed Interventions

- a. Train the artisans to diversify their portfolio to increase their margins, training can be given in producing specific bats like Mongoose bats or other bats providing more power being inline with the current T20 trends.
 - b. Set up markets twice per week, with allotting various clusters one particular day to reduce the traffic and the congestion. Promote the products more on the digital platforms like IndiaMart and other such platforms to ensure better reach and avoid market inefficiency.
 - c. They could sell the products through multiple channels. The first channel, producers may sell their bats directly to their customers. Second channel, producers may sell to private dealers, who in turn, sell to galaxy of customers. The third channel, handicraft producers may sell to Kashmir Cricket Bat Manufacturers Association, which in turn, sells to customers through its sales emporia and State-owned emporia.
5. *The producers suffer greatly from lack of working capital and access to credit and loan facilities. Banks cite poor recovery rates, wrong utilization of funds, lack of marketing facilities for finished products and lack of education on part of the borrowers as reasons for the low proportion of loans made to artisans. In general, this forces manufacturers to borrow from their local moneylender or trader at high interest rates.*

Proposed Interventions

- a. Design registration of bats should be done. That means whatever designs any producer has introduced on any item should be registered. Then no one can copy it.
- b. Absence of systematic marketing network has been a discouraging factor in this region. In my opinion, the producers must be organized by themselves under the co-operative umbrella for marketing their products by themselves. For this more and more linkages must be developed with outside parties.

- c. Many are not aware about various new schemes like loan at concessional rates, free tools, and chemical, work shed-cum-housing facilities. They should be made aware about the various welfare schemes and its implementation process.
6. *With the breakdown of these traditional structures, along with competition from organized industry, producers find it challenging to buy quality raw materials at affordable prices. In the absence of raw material banks, they are often forced to rely on local traders who provide them with raw materials against orders, albeit at high prices, or switch to non-traditional raw materials.*

Proposed Interventions

- a. Encourage formation of SHGs. SHGs serve as a form of social collateral, enabling artisans to establish linkages with input providers such as raw material suppliers, microfinance institutions and banks, and downstream players such as aggregators and retailers.
- b. Government can take up the raw material procurement, hence creating more employment opportunities and providing the artisans one stop shop for their raw material needs.
- c. Providing small credits like the Raw Material Assistance Scheme of Start Up India could help these poor artisans avoid loan sharks. But this would require some sort of registration of the artisans through some cooperative groups.

Sr. No	Type of Intervention	Proposed solutions	Agency
1	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training & Development	Training and development of the workforce and the development of new trainers	Kashmir Cricket Bat Manufacturers Association
3	Infrastructural support with information	Construction of common facility centre	Government of Jammu and Kashmir
4	Supply Chain	Better quality assurance standards, safety compliances	Government of Jammu and Kashmir
5	Market Linkages	Value Added Products - product diversification	Ministry of Commerce & Industry
6	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Kashmir Cricket Bat Manufacturers Association

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Walnuts and walnut wood carving- Anantnag, Jammu Kashmir

Walnut wood carving is an ornamental and delicate craft process that is unique to Kashmir due to the concentration of walnut trees in this region.

Carved walnut wood-work is among the most important crafts of Kashmir. Kashmir is now one of the few places in the world where walnut is still available at an altitude of 5500–7500 feet above sea level. The wood is hard and durable, its close grain and even texture facilitating fine and detailed work. It also presents visually interesting effects with mere plain polished surfaces.

The Kashmir craftsman rejoices in carving intricate and varied designs. A variety of carved products bear recurrent motifs of the rose, lotus, iris, bunches of grapes, pears and chinar leaves. Dragon motifs and patterns taken from Kani and embroidered shawls all find their place in wooden objects with deep relief carving.

The material used in walnut woodcarving is obtained from walnut tree (*Juglans regia*) locally known as Dhoon Kul. The wood used can be from root, stem or branch. The colour, grain and sheen of walnut wood is unique. The wood derived from root is almost black with the grain more pronounced than the wood from the trunk which lighter in colour. Branches have the lightest colour almost blond with no noticeable grain. The value of the wood differs with the wood from the root being most expensive. The smooth, satiny surface of the walnut wood makes it easy to handle. Walnut wood does not easily warp or shrink or splinter and is light in proportion to its strength. The tree, which is found only in Kashmir region (i.e., in India), is of four varieties; categorized on the basis of the fruit the tree bears namely:

- Khanak or wild walnut whose tree is diminutive in size
 - Wantu or Vont Dun, the fruit has a hard shell Dunu
 - • **Kakazi** which is considered to bear the best fruit with the lightest shell
- Wantu, Dun and Khakazi are cultivated while as khanak is found in the wild.

Problems:

1. *Raw material issue: Walnut wood is used by craftsmen for carving. Due to the high price range of Deodar and walnut wood mostly customers prefer Bhudal wood Khatam band craft. But problem is that walnut wood is not available in sufficient quantity in the market.*

Proposed Interventions.

- Permission should be granted to craftsmen for cutting old trees as well as trees that were fallen on the ground due to natural calamity.
 - Walnut trees mostly found in the forest but in some areas, people are also growing such trees on their own land. So, encouraging them to grow more trees on their land.
 - Some facilities like free pesticides etc. should be provided to them for the growing of walnut trees.
 - A Free maintains scheme should be started for increasing the numbers of trees on private land. Under this scheme Rs, 200- 400 yearly should be provided to tree growers to maintain
2. *High cost of raw material* Inrecen years walnut tree wood has also become expensive.

Proposed Interventions.

- Steps should be taken to reduce the price of wood.
 - The subsidy should be given to craftsmen on purchase of Bhudal tree wood
 - The stores should be opened to low quality and good quantity wood.
3. *No concrete scheme by the government.*:During my research, I found that only one government policy is available by the government under that policy government provides forest wood to craftsmen at low prices as compare to market price. But under this scheme government provide only 4 quantal of wood to per person which is not sufficient for craftsmen.

Proposed Interventions.

- Limitation on forest wood should be increased.
4. *No export being done by craftsmen*:As we know that most craftsmen using Bhudal tree wood because it is less expensive than a walnut tree and Dedar tree. But this wood is not suitable for warm areas. Therefore, craftsmen are not exporting it to other parts of the country.

Proposed Interventions.

- Walnut wood is not suitable for the warm area, so focus should be laid on exporting such craft to European's countries.
- Craftsmen also use Walnuts and Dedar tree wood but due to the high cost, they are not using it frequently. But these tree woods are suitable for warm areas too. So, wood of

these trees should be provided to craftsmen on subsidy so they will become able to export craft in different states.

- Guidance should be provided to craftsmen by the team of experts for exporting their craft.

Sr. No	Proposed solutions	Agency
1.	Raw materials	JK Forest Department
2.	Skill development plan for new generation craftsmen	JK skill Development Department
3.	Pension and insurance scheme for craftsmen.	The handicraft department Jammu and Kashmir
4.	J&K Handicrafts Sales & Export Promotion Corporation	Development of handicraft sector
5.	Craft council of India	Product development and marketing
6.	Indian Institute of Carpet Technology and Craft Development Institute	Degree programs in crafts and design
7.	J&K Small Scale Industries Development Corporation (SICOP)	Development of small-scale industries
8.	Handicraft department, Kashmir	Establishing Training centres for artisans

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Doda Walnut (Jammu and Kashmir)

Doda is a district in eastern part of Jammu region. It is located at **33.13°N 75.57°E**. Doda town after which the district is named is situated at an altitude of 5000 feet above the sea level. Kashmir is a land of walnuts. Walnuts are grown in plenty in areas falling between the elevations of 5000 feet to 8000 feet from sea level. The tree is propagated from seeds and grafting is also done. The tree is protected under government legislation and liberal felling is not allowed. A walnut tree gives first fruit after 6 years of plantation. The tree matures for crop after 12 years. This time lag has made people to shift to apple tree plantation where the crop is fast, and returns are stable.

Mainly three varieties of walnuts are grown in valley. These varieties are locally called Wonth, Kagazi and Burzul. The Wonth is a hard Nut to crack and has thick and large outer shell and small kernel. It is mostly sold locally and used for extracting oil. The Kagzi is a better sized walnut and has thin outer shell but thick and good-sized inner kernel. One can crack Kagzi in hands only. The inner kernel of the Kagzi variety is white. The Burzul is a medium size variety a little dark and with a little thicker outer shell.

Problems

1. *Decrease in walnut production: There is shortage of quality planting, poor orchard management and long gestation period. A typical walnut tree in Kashmir takes about 13-15 years to fetch the first crop.*

Proposed Interventions

- a. Adopting scientific cultural and management practices canopy management by training and pruning and planting and popularizing low stature cultivars will excel the growth of area and production.
 - b. Need to bring more areas under walnut cultivation with high yielding varieties.
 - c. Techniques like grafting could give us a uniform type of walnut and contribute a lot to overcoming this problem
 - d. Need to rejuvenate the sick orchard to increase the production.
 - e. Focusing on making nurseries to grow walnut grafting plants which will increase the production level
2. *Lack of infrastructure like transport, power supply, roads, mandis and packaging and processing facilities.*

Proposed Interventions

- a. Provide consistent power supply, ensuring maximized productivity, Government could exempt the factories from mandatory power cuts as well.
- b. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.
- c. Modern grading and packing houses need to be established near the farms.
- d. Farmers have to be provided technical assistance right from planting to harvesting
- e. Irrigation facilities need to be provided sufficiently. Also, we need to develop cost effective technology for the purpose
- f. Establishment of the cold storage needs the utmost attention.

3. *Increased competition from overseas suppliers. The competition from foreign suppliers, especially from California and Chile, is expanding quickly.*

Proposed Interventions

- a. Establishment of modern nurseries by using modern methods and standards can meet the local demand.
 - b. Government can increase taxes on these imported qualities in order to promote the domestic variety within our country. This can be taken up as an initiative by the Make in India campaign to promote Indian variety of walnuts within India and abroad.
 - c. Channels of distribution can be evolved by providing broader access to the Internet, improvements in delivery services, and higher levels of online impulse buying.
4. *Lack of skilled labour. Due to low growth of the sector, the connection between academia and the sector is very low, further stagnating the productivity. High level of employee attrition in recent years, due to sector's inability to pay employee wages on time.*

Proposed Interventions

- a. Special packages should be introduced by the government for securing better working conditions and to raise the living conditions of walnut workers.
 - b. Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
 - c. Formalize the work force, by designing a clear career progression path with yearly retention and performance bonuses to incentivize the employees.
 - d. Encouraging entrepreneurs to carry out this trade.
 - e. Adopting international standards when it comes to grading, processing and packing for better market outreach
5. *Major insects, pests and diseases: Walnut trees are susceptible to pests and disease such as walnut weevil, walnut blue beetle.*

Proposed Interventions

- a. Availability of pesticides and other pest repellents at subsidized rates and easily at the local markets or horticulture departments.
 - b. Prevention may be attained by using a soil with a pH above 6, avoiding excessive nitrogen, excessive wetness and allowing for good aeration by pruning.
 - c. Appointing a team of experts to guide farmers for use of pesticides and fertilizers.
6. *The industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc. Lack of appropriate marketing of the products leading to less visibility of the processed products pan India.*

Proposed Interventions

- a. The industry could only succeed if they build a dominate brand name for their value-added products. Once the domestic market is captured then it could try to market its value-added products in the international market.

- b. The marketing and branding of different walnut products should made more consumer oriented, as of now, the diversified products of the industry of J&K is categorized to be less demanded.
 - c. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.
 - d. Provision of proper screening package and practices to create awareness about market requirements
 - e. Formation of co-operative organizations may further help in safeguarding the interest of the producer/growers and enable them to control the marketing of their products.
 - f. Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market, latest practices in grading, packing and consumer preferences.
7. *Lack of government export-oriented policies and weaknesses of intervention leads to reduced export levels. The exports are not growing at a comfortable rate due to the diminishments in production. Most importantly, the absence of the export-oriented strategies brings this walnut industry on the back foot.*

Proposed Interventions

- a. Government must launch campaigns for farmers to train them in pruning techniques to produce adequate yields.
- b. Enhance food safety and quality assurance by fostering the adoption of enhanced processing methods.
- c. Farmer field schools can be established to demonstrate improved agricultural techniques through practical training.
- d. Need to enable greater involvement of women in the walnut value chain. Tailored support services must be provided to women to improve the quality of outputs at the post-harvest levels.

Sr. No	Type of Intervention	Proposed solutions	Agency
1.	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2.	Research & development	Training and development of the young generation	Indian Centre of Agricultural Research
3.	Infrastructural support with information	Investment in the marketing infrastructure of the products	Jammu and Kashmir Entrepreneurship Development Institute (JKEDI)
4.	Supply chain	Ensure the availability of raw material before the season starts	Ministry of Food Processing Industries
5.	Infrastructural support	Construction of common facility centre	Ministry of Food Processing Industries
6.	Market Linkages	Provision of proper screening package and practices to create awareness about market requirements	Ministry of Information & Broadcasting, Gol

7.	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Agricultural and Processed Food Products Export Development Authority (APEDA)
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Papier Mache, Srinagar, Jammu & Kashmir

Papier-mâché is a composite material consisting of paper pieces or pulp, sometimes reinforced with textiles, bound with an adhesive, such as glue, starch, or wallpaper paste.

Today papier-mâché sculptures are used as an economical building material for a variety of traditional and ceremonial activities, as well as in arts and crafts.

Problems:

1. The *number of artisans* involved in the art has *decreased* over the years due to reduced income and are switching to other jobs which pay higher wages.
2. The art is done in small villages and the goods reach the customers only through *middlemen* who make most of the profits, exports are also through the middlemen and the *artisans get paid very less*.

Proposed Interventions

- a. The dying art needs some handholding to survive. Producer organizations and co-operative societies have to be setup to leverage the number of artisans and help them bypass the middlemen and connect them to the consumers directly. This will also solve the wage problem as well.
3. *Though it has received the GI tag the number of people and artisans who are aware of the same is very less.*

Proposed Interventions

- a. Artisans and citizens should be made aware of the product to protect its heritage.
- b. The increased awareness also helps build a brand for the product and helps in its marketing.
- c. Expos and exhibitions across the country should also help make the product popular.

4. The *design* for the product is still done *manually* thus increasing the time and effort to finish the product. Most of the *coloring* is done *manually*.

Proposed Interventions

- a. Training has to be provided to the artisans to make designs on computers, this will help reduce the time and effort of the artisans.
- b. Paint spraying machines can help reduce time and cost.

5. **Winters** affect the time required for the **drying process** and makes the process longer. Since the **artisan** is **paid per product** and not on time the longer the process, the lesser he earns.

Proposed Interventions

- a. Temperature stabilizers or heaters have to be provided at subsidized rates to the artisans to help speed up the drying process during the winters.
6. **Packaging** and transportation are a problem as the item is very **delicate** but artisans think that the packaging would increase the costs beyond a reasonable rate.

Proposed Interventions

- a. Better, cheaper methods of packaging should be adopted which will make transporting easy.

Sr. No	Proposed solutions	Agency
1.	Co-operative societies and Producer Organizations.	State Administration
2.	Increasing awareness among Artisans.	DC Handicrafts/ State Administration
3.	Increase in expos & exhibitions.	DC Handicrafts
4.	Training artisans in Computer Designs and switching to paint spraying machines.	NIFT
5.	Providing Temperature stabilizer machines at subsidized rates.	DC Handicrafts/ state administration
6.	Better packaging	Indian Institute of Packaging

Kanchipuram Silk Saree- Kanchipuram, Tamil Nadu

The Kanchipuram silk sari is a type of silk sari made in the Kanchipuram region in Tamil Nadu, India. These saris are worn as bridal & special occasion saris by most women in Tamil Nadu, Kerala, Karnataka & Andhra Pradesh. It has been recognized as a Geographical indication by the Government of India in 2005–2006.

The saris are woven from pure mulberry silk thread. The pure mulberry silk and the Zari used in the making of Kanchipuram saris comes from South India. To weave a Kanchipuram sari three shuttles are used. While the weaver works on the right side, his aide works on the left side shuttle. The border colour and design are usually quite different from the body. If the *mundhi* (the hanging end of the sari) has to be woven in a different shade, it is first separately woven and then delicately joined to the Sari. The part where the body meets the *mundhi* is often denoted by a zigzag line. In a genuine Kanchipuram Silk Sari, body and border are woven separately and then interlocked together. The joint is woven so strongly that even if the saris tears, the border will not detach. That differentiates the kanchivaram silk saris from the others.

Problems

1. There is **lack of labor** and the new generation does not want to take up weaving as a profession since the income in the private sector is low.

Proposed Intervention

- a. Handloom weaving should be part of college curriculum, once students qualify, they can be brought in clusters to factories with 50-100 handlooms to do korvai weaving.
 - b. Introducing pneumatics into the machines can reduce the burden and hence attract the new generation.
2. The **number of designers** in the industry has come down in the past few years since there is **no regular high paying income** and hence independent weavers continue with the same design for a few months.

Proposed Intervention

- a. Independent Women weavers should be taught CAD designing. This will help them make designs themselves when required and save on costs.

3. The weight of the jacquard is too heavy and has to be changed regularly based on the design and slows down the process.

Proposed Intervention

- a. Pneumatics which has already been introduced is still not available to many weavers. Pneumatic equipment should be made easily available through subsidy.
4. The handloom industry faces stiff competition from the power loom industry. Dharmavaram sarees are available at cheaper rates which affects the Kanchipuram saree sales.

Proposed Intervention

- a. Local showrooms sell Dharmavaram sarees as they are cheaper. Local showrooms should be mandated to buy some cheaper Kanchipuram sarees from local weavers.
5. A lot of sarees with lower quality zari and cheaper saress made elsewhere are sold as Kanchipuram saree.

Proposed Intervention

- a. Kanjivaram label should be mandated on sarees on the silks made in Kanchivaram.
- b. Testing of sarees for purity should be made available in every showroom with information to identify originals.
 - i. Kanchipuram sarees customarily have a differentiating zari outskirts. This is an element that recognizes these sarees from numerous sorts of silk sarees made in India.
 - ii. Another technique used to test the purity of the saree is by culling out a couple of strings from the end twists of the saree and lighting it on fire. Once the fire has died out, you will discover cinder left behind. If the smell released from the cinder resembles burnt hair or cowhide, you are looking at an unadulterated Kanchipuram silk saree. On the other hand, if there is no debris after the flames consume the thread, it means the saree has been made using counterfeit zari.

Sr. No	Proposed intervention	Agency
1	Weaving as a college curriculum	State Govt. / Ministry of Textiles
2	Introducing Pneumatics into the machines and subsidizing the parts	Ministry of Textiles/ state govt./ Silk board
3	Training women weavers in CAD for designing	NIFT
4	Mandating Local showrooms to buy from local weavers	State Govt.
5	Creating awareness of the original saree	Silk board/ State Govt.

Rapeseed and Mustard, Karnal, Haryana

Karnal, widely regarded as the impeccable manufacturer and supplier of Rapeseed and Mustard. Rapeseed is bred to have very low levels of erucic acid and is especially prized for use for human and animal food. On the other hand, mustard is an important spice in many regional foods.

Problems

1. Cropping sequences differ according to climate and soil types. In rainfed areas, it is desirable to select a crop and variety, which produce fairly a good yield under limited soil moisture conditions.

Proposed Interventions

- The productivity of rapeseed – mustard can be increased substantially by incorporating crops in the existing cropping systems at the farmer's field.
 - Moreover, mustard can be intercropped successfully with wheat, barley, gram, and lentil under rain-fed conditions and with potato as irrigated conditions.
2. Maintenance of optimum organic matter level is imperative to avoid multiple nutrient deficiencies. Among micronutrient disorders, Zn deficiency in soils is the most common. The Zn deficiency ranges from 21% in the soils of Rajasthan to as high as 60% in the soils of Haryana.

Proposed Interventions

- Under such situations, organic manures can be exploited to boost the production of rapeseed-mustard and to improve fertilizer use efficiency.
 - The present emphasis on the production and promotion of fertilizers containing N, P, and K has to be modified to include the fourth major plant nutrient.
3. These crops are highly vulnerable to a large number of insect pests.

Proposed Interventions

- Crops should be sown at the optimum time recommended for the particular area.
- The mustard is sown before 15th October in north India often escapes aphid damage.
- Use a balanced dose of fertilizers. Overuse of fertilizers particularly nitrogen attracts more aphids.
- Plucking and destruction of infested twigs/plants at the initial stage of the attack are very useful.

- Plucking the infested leaves and bury them in the soil helps in the reduction of the pest.
 - Microbial pesticides have been widely used in the management of insect pests and avoiding the development of resistance.
4. The rapeseed-mustard varieties/hybrids contain 40-45 percent oil. But its recovery, realized by the mechanical crushing processor (oil expeller) – the largest segment of edible oil processing industries –, is up to 35 percent only. Under this process of oil extraction, a substantial amount of oil (5-10 percent) is left in the rapeseed-mustard-seed meal.

Proposed Interventions

- Even if 3-4 percent of this leftover oil can be extracted by modernizing the mechanical crushing units, then at least 0.5 lakh tonnes of additional edible oil could be made available.
 - The industry requires modern technology and also appropriate technology to reduce the content of erucic acid and pungency to make the oil more acceptable among consumers and tap export potential.
5. There is a strong need to focus on the marketing of mustard oil. It helps to segment and position the product in line with the need and demand. Marketing also creates a channel for products to reach consumers. Mustard oil has an extensive demand in northern and north-eastern States.

Proposed Interventions

- Mustard oil is viscous, dark, and highly pungent. The double refinement technique reduces its viscosity, makes it translucent, and reduces its pungency.
- Further making it available in attractive bottles, tetra-packs, and cans of different sizes will fetch different needs of the people. This will draw the interests of the consumers towards the product.

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Product: Davangere Fuel Briquettes, Davangere (Karnataka)

About Fuel Briquettes: *A smokeless Fuel*

A **briquette** is a compressed block of coal dust or other combustible biomass material (e.g. charcoal, sawdust, wood chips peat or paper) used for fuel and kindling to start a fire. The term derives from the French word “brique” meaning “brick”.

Types of Briquettes:

- White Coal Biomass Briquette
- Charcoal Briquettes
- Bio-fuel Briquettes
- Coconut Shell Charcoal Briquettes
- Mustard Stalk Briquette
- Sawdust Briquette
- Coal Briquettes
- Bio Coal Briquettes

Added value through Briquettes:

When residues are returned to the production process or further processed, it is not only the environment that benefits. Briquette presses allow metal, aluminum and wood chips, as well as grinding swarf, biomass and many other residual materials to be compacted into high-quality briquettes – the ideal alternative to the expensive disposal of production residues.

Advantages of briquetting:

- Reduction in volume.
- Saves space, time and costs for handling, storage and transport.
- Lower disposal costs.
- Higher revenues from the sale of briquettes.
- Recovery of expensive cooling lubricants when briquetting metal and aluminum chips
- Higher smelting yield
- Defined qualities
- Cleanliness and Environment Friendly.

Problems

1. *The major challenge with using briquettes as a fuel is the low bulk density, making it difficult to handle, store, transport, and use.*

- Biomass briquetting is a densification process that increases the bulk density of biomass up to 600 Kg/m³.
- These briquettes are considered as a potential alternative to fossil fuel as well as firewood. But storage, handling, transportation lack of knowledge of usage.

Proposed Intervention

The development of a product wholly depends on the availability of its infrastructural facilities. Infrastructure plays a vital role in the improvement of the country's standard of living. It also plays an important role in contributing to a higher rate of economic growth.

Economic infrastructure refers to the facilities, activities and services which support operation and development of other sectors of the economy. These facilities, activities and services help in increasing the overall productivity of the economy. They also play an essential role in facilitating the smooth running of all the sectors of the economy.

In addition, infrastructures are such basic requirements like railways, roads, ships, airways, communication etc. They also include energy, banking, science, technology, health, education and other public utility concerns. Without the existence and presence of economic infrastructures, the growth and fast pace of the economy is impossible. Moreover, infrastructures of an economy are also termed as '*social and economic overheads*'.

There are 2 broad classifications of economic infrastructures. They are as follows:

- a. **Social infrastructure.** They concern with the supply of such services as to meet the basic needs of a society. In simple words, social infrastructures refer those basic services such as education and training. It also includes health and sanitation, drinking water, housing, sewerage, etc. Social infrastructures are also termed as 'social overheads'. These social overheads indirectly support the economic systems. They indirectly increase the productivity and the economy sees the impact after some time. Social infrastructures lead to growth in the long run.
- b. **Physical infrastructure.** Physical infrastructure is those infrastructures which directly concern themselves with the needs of such production sectors as agriculture, industry, trade, etc. In simple words, physical infrastructure directly supports the economic production. They also directly support the process of production and distribution in the economy. A few such examples are energy, irrigation, transportation, telecommunication, banking, insurance, technology, finance, etc. Physical infrastructures, however, directly increase the productivity and the economy sees the impact immediately. They also lead to an immediate growth in the short run.
- c. Information and benefits of Briquettes as mentioned above.

2. *No Source of Fuel Feeding Automation*

- The solid fuel can either be fed with automatic feeding systems or manually.
- The manual feeding of the fuel requires solid fuel, such as briquettes, to be fed to the furnace in a labour-intensive manner.
- Though labour is often cheap in India, the job itself is hazardous. There is a danger of serious accidents, such as back-fire, over-heating, etc.

Proposed Intervention

State Government should propose Schemes for Briquette

- a. What can the subsidy available under this scheme?
20% of the machinery cost or 4 Lakh (whichever is minimum)
- b. Who will be the beneficiaries?
Entrepreneurs, Individuals, SSI, Partnership companies/company etc.
- c. What will be eligibility criteria for availing subsidy?
 - Beneficiary (or 51% stake in case of partnership firm)
 - Should be domicile of Karnataka
 - Subsidy will not applicable for old or second hand equipments

3. Challenges in wet Briquetting Technology

- The conventional briquetting technologies are capital intensive and unfriendly for smaller scale production.

Proposed Intervention

- a. There is a technique called wet briquetting which involves less capital and very low technical machinery which can suit the rural Environment for production of briquettes. It is possible to form briquettes from waste crop residues, using a wet process with a hand operated press. First of all suitable biomass is selected. The briquettes are decomposed under control environment which is later on pressurized to briquettes. The steps are given below :
 - Selection of suitable biomass.
 - Decompose biomass.
 - Pressurization to form wet briquettes.
 - Sundried wet briquettes.

Sl. No.	Type of Intervention	Proposed Interventions	Authorities
1.	Infrastructure and Manufacturing	Social and Physical Infrastructure	State Government of Karnataka
2.	Credit and product improvement	State Government should propose Schemes for Briquette	State Government of Karnataka
3.	Training and Development (Up- skilling)	Techniques and Knowledge about Briquetting Technology	State Government of Karnataka with Industry Experts

“Be a Part of SOLUTION not Part of POLLUTION”

Kodagu Coorg Green Cardamom, Karnataka

An exotic variety of green cardamom, often known as the 'Queen of Spices' has been cultivated in Coorg, on the eastern slopes of the Western Ghats on the Karnataka – Kerala state border for centuries. This native variety known locally as malay yalakki is a variety of the Malabar category and is grown by a sizeable number of small and marginal farmers in over 11,000 hectares of land. The total production from Coorg amounts to 800 mt which is roughly 40.5 percent of total production from the state.

Though this yelaki is grown in Coorg, Chikmagalur, Hassan and Uttara Kannada districts of Karnataka, the aroma, taste and volatile oil content of the variety grown in Coorg is far superior than any found in the country. The green cardamom variety (*Elettaria cardamomum*) thrives in the evergreen forests of Coorg that is at an elevation of 3000 to 5000 feet above mean sea level.



Problems

- 1. It is a very labour-intensive crop to produce. Only skilled labours could recognize the precise time of harvest and distinguish the matured capsules. A study of cardamom growers in Coorg district indicated that the farmers identified some changes in labour availability patterns in the district and local labour was turning scarce in recent years due to escalation in wages.*

Proposed Interventions

- a. Training workshops should be organized by the Spice Board in the district so that the demand for skilled labour can be met.*
- 2. Majority of growers faces the problem of insufficient irrigation facility. They have to depend on the natural facilities in the form of ponds, check dams etc. Marginal growers*

are using rain, while small growers depend mainly on rain and wells. Similarly, large growers are using the facility of check dams.

Proposed Interventions

- a. Financial assistance to the cardamom planters for meeting irrigation facilities through commercial banks, co-operative banks and primary agricultural and rural development bank can be provided with assistance from central government.

- 3. *All most of the farmers are of the opinion that they are not getting reasonable price for their product because of the auction method. The farmers have no voice in deciding the price of their product.*

Proposed Interventions

- a. Despite being a major crop of the district and affecting the economy of farmers to significant scale, cardamom has no open market facility.
- b. Shifting into the open market system would help farmers acquire a reasonable price for their commodity.

- 4. *The research support to small and marginal growers is inadequate. Plants used are genetically inferior, low yielding and resistant to the varying climatic conditions. Research wings support is weak in this regard. Productivity cannot be increased unless high yielding, high resistant and hybrid varieties are developed by the research wing.*

Proposed Interventions

- a. Research & development should be done on high yielding, hybrid varieties to increase productivity.
- b. Awareness campaigns should be organized on how to cultivate these varieties.

- 5. *Small and marginal growers are not able to bear the increasing cost of fertilizers and plant protection chemicals so they reduce the consumption of fertilizers and insecticides. All these adversely affect the hectare productivity.*

Proposed Interventions

- a. Fertilizers and other chemicals used for plant protection should be supplied to the marginal, financially weak and small growers on credit basis and that too at a subsidised rate.

Sr. No	Type	of Proposed intervention	Agency
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	Intervention		
1	Training and Development (Upskilling)	Training workshops should be organized in the district so that the demand for skilled labor can be met.	Spices Board
2	Credit	Financial assistance to the cardamom planters for meeting irrigation facilities through commercial banks, co-operative banks and primary agricultural and rural development bank can be provided with assistance from central government.	Ministry of Commerce & Industry
3	Logistics-Distribution	Establishment of an open market system	Ministry of Commerce & Industry
4	Product Improvement	Research & development should be done on high yielding, hybrid varieties to increase productivity.	Indian Cardamom Research Institute (ICRI) / Cardamom Research Centre
5	Product Improvement	Awareness campaigns should be organized on how to cultivate these varieties.	Spices Board
6	Credit	Fertilizers and other chemicals used for plant protection should be supplied to the marginal, financially weak and small growers on credit basis and that too at a subsidised rate	Ministry of Commerce & Industry

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Raichur Rice

India has the largest area under the rice accounting for 28.5 per cent of the global rice and India produce 22% of world production. Rice is India's pre-eminent crop, and it is the staple food of the people of the eastern and southern parts of the country. In India, the major paddy growing states are Uttar Pradesh, West Bengal, Orissa, Chhattisgarh, Andhra Pradesh and Karnataka, In Production wise West Bengal, Andhra Pradesh, Uttar Pradesh and Karnataka (Anon., 2013). Karnataka is one of the major paddy growing states in India. It was grown on an area of 13.40 lakh ha with an annual production of 40.53 lakh tonnes and the average yield of paddy is around 3103 kg/ha during 2013-14 (DES Bangalore-2013-14). The major paddy growing districts in Karnataka are, Raichur, Ballari, Haveri, Uttar Kannada, Dharwad, Koppal, Mysore, Hassan, and Chitra Durga. Paddy in the state is grown under different agro-climatic (upland, low land and rain fed) conditions. In Raichur district comprising area 1, 78,356 ha, production 5,72,963 tones and yield was 3,377 kg/ha. The crop is damaged by more than 100 species of insect pests of which about dozen are of significance. The state loses 30 per cent yield every year on this account. However, out of all inputs, pesticides play key role in increasing agriculture production by controlling agriculture pests and diseases.

Problems

1. ***Lack of technical know-how on machine usage and lack of timely availability of harvesting and threshing machines. Approximately 35 bags of paddy (each bag = 75 kgs) are harvested per hectare with a loss of approximately 2 to 3 bags***

Proposed Interventions

- a. Scheduled trainings should be organized and farmers should be trained by machine OEMs (Original Equipment Manufacturers) on how to operate the machine
- b. Regulations regarding supply of harvesting equipment should be strictly applied by the state government. Delayed supplies should be penalised.
- c. National OEMs manufacturing rice harvesting equipment should be mapped and supply tenders should be released in a timely fashion by the district agricultural department

2. ***Many mills are not modernized and operate without rubber hullers, which are important to minimise losses from milling***

Proposed Interventions

- a. Agricultural research institutes should replicate best-in-class machinery used by benchmark rice cultivators
- b. Local financial institutions, in coordination with Ministry of Agriculture, should launch schemes regarding upgradation of capital equipment
- c. Auction of old machinery and equipment should be facilitated by the Ministry of MSME to support unorganized and owner-driven rice mills in the district to get the fair salvage value

3. ***Manual drying of rice grains in open environment expose them to birds and impurities such as dust and stones, which contribute to grain breakage during the milling operation***

Proposed Interventions

- a. Funds should be allocated by state government to construct sheds to protect adulteration of rice grains in specific drying areas of the district
- b. State government should encourage organizations and corporate industries should dedicate a part of their CSR funds towards construction of drying sheds
- c. Drying sheds should be subsidized and supplied to local farmers under a uniform central government scheme

4. *Loss of quality of rice grains because of **suboptimal storage conditions at the warehouses**, leading to moisture loss, discoloration and grain breakage. For example, in a warehouse with storage capacity of nearly **400,000 rice bags**, **2.1% bags are lost due to improper storage***

Proposed Interventions

- a. Periodic quality checks should be carried out at allocated storage locations in the district by Central Warehousing Corporation (CWC) members
- b. Standard storage procedures should be printed and installed at local storage units in local (Telugu language)
- c. Storage related trainings to be provided by FSSAI team to local workers and warehouse owners

5. ***Pilferage losses due to sales of rice in unpackaged form***

Proposed Interventions

- a. Local manufacturers should be encouraged to supply rice grains in packaged form to the shopkeepers.
- b. Government should subsidize rice packaging machinery heavily to encourage rice mills to adopt packaging and branding practices
- c. Government should absorb packaging and branding costs to ensure stability of end consumer price
- d. FSSAI and Invest India should encourage rice mill owners to venture into branding and packaging by conducting local workshops and demonstration sessions
- e. FSSAI should revisit current tenure of licensing and registration of rice brands and ensure quick approvals for rice mills venturing into packaging

Proposed interventions and respective agencies

Sr. No	Intervention type	Proposed intervention	Agency
1	Training and development	Scheduled trainings should be organized and farmers should be trained by machine OEMs (Original Equipment Manufacturers) on how to operate the machine	Department of Agriculture
2	Credit support	Funds should be allocated by state government to construct sheds to protect	Department of Agriculture

		adulteration of rice grains in specific drying areas of the district	
3	Research and development	Research institutes should replicate best-in-class machinery used by benchmark rice cultivators	Indian Agriculture Research Institute (ICAR)
4	Credit support	Drying sheds should be subsidized and supplied to local farmers under a uniform central government scheme	Department of Agriculture
5	Upskilling	Encourage rice mill owners to venture into branding and packaging by conducting local workshops and demonstration sessions	FSSAI Invest India
6	Certification	FSSAI should revisit current tenure of licensing and registration of rice brands and ensure quick approvals for rice mills venturing into packaging	FSSAI
7	Quality Assurance	Periodic quality checks should be carried out at allocated storage locations in the district by Central Warehousing Corporation members	Central Warehousing Corporation
8	Credit Support	Subsidize rice packaging machinery heavily to encourage rice mills to adopt packaging and branding practices	Department of Agriculture
9	Quality Assurance	Standard storage procedures should be printed and installed at local storage units in local (Telugu language)	Invest India
10	Credit Support	Auction of old machinery and equipment should be facilitated by state government to support unorganized and owner-driven rice mills in the district to get the fair salvage value	Ministry of MSME

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Product: Kannur Monsoon Malabar Arabica Coffee (KERALA)

“Monsoon Malabar Arabica Coffee: A distinguished variety from Kannur District in Kerala”

Synopsis

Heavy rains lashing the western coast and a rough sea spell trouble for most exporters, but not those who ship **Monsoon Malabar Arabica Coffee**.

Monsoon Malabar Arabica Coffee is the name that first comes to mind when people think of Indian Specialty Coffee and this coffee is certainly unique. With earthy notes, this big bodied coffee finishes nutty with minimal acidity and notes of spice is best enjoyed as an espresso.

Monsoon Malabar Arabica Coffee is a processing technique that involves exposing beans to monsoon rain and winds for extended periods of time. The humidity changes the characteristics of the beans and creates a unique flavour profile. This interesting process came about when coffee being carried on ships traveling from Britain to colonial India was exposed to rain and winds leading to coffee that had lost almost all of its original acidity.

The green Monsoon Malabar Coffee beans absorb moisture, bloat and start to turn pale yellow. After a few weeks, they are packed in bags and kept in rows so as to effect good mixing and expose them to more winds. These beans are again spread out on the floor and the next lot is put in bags and this is done alternatively,

Problems

1. Earlier, somewhere between 70% and 80% of all Monsoon Malabar Arabica coffee was exported.
2. Common destinations include Italy (which accounts for almost 30% of Monsoon Malabar Arabica Coffee exports), Germany, Russia, and Spain.
3. Monsoon Malabar Arabica Coffee has played an important role in India’s economy for many years.
4. However, in recent years, domestic economic growth as well as international consumer interest in “new” specialty coffee origins have brought on a change.
5. Compared to coffee from recognized specialty origins like Colombia and Ethiopia, Monsoon Malabar Arabica Coffee has historically been considered “inferior” in quality.
6. To the query of the growth in exports, India has been witnessing an annual growth of around 5% for this Specialty Coffee.
7. In terms of price, this special coffee demands 10-15% premium in the export market compared to the normal coffee.

Proposed Interventions

Educating and promoting health& other benefits of Monsoon Malabar Arabica Coffee

“The unusual cup of Coffee”

- a. Monsoon Malabar Arabia Coffee is a process applied to coffee beans. The harvested coffee seeds are exposed to the monsoon rain and winds for a period of about three to four months, causing the beans to swell and lose the original acidity, resulting in a flavor profile with a practically neutral pH balance.
- b. Malabar has always been a choice of all coffee fanatics out there. It is a medium-dark roasted whole coffee, well regarded as being perfect for Espresso style.
- c. It is one of India’s finest and best-loved coffees. Exceptionally smooth with a sweet, spicy kick. This coffee is unique to the lush Malabar Coast of Kerala, where it has protected status. The typical varietal Arabica beans get washed by the pale gold steamy storms of the monsoon season after being exposed to the end- the secret behind this coffee’s distinctive taste profile.

- d. Considering the process, it's hardly surprising that the resulting coffee is unlike any other. Monsoon Malabar Arabia Coffee is intensely flavourful and is hugely full-bodied. The monsoon exposure and aging process remove almost all the usual acidic qualities of the coffee. This lack of acidity gives the coffee a thick, almost grainy quality and a complete absence of brightness.

GI (Geographical Indication) and its benefits

- a. The Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce and Industry, Government of India has recently awarded Geographical Indication (GI) to Monsoon Malabar Arabia Coffee.
- b. The GI tag is a name or sign used on certain products corresponding to a specific geographical Location or Origin. The GI tag conveys quality assurance and distinctiveness of the products.
- c. Installation of various stalls at airports and various public places since GI tagged stuffs can be sold at airports & other public places.
- d. The recognition and protection that comes with GI certification will allow the coffee producers of India to invest in maintaining the specific qualities of the coffee grown in that particular region. It will also enhance the visibility of Indian coffee in the world and allow growers to get the maximum price for their premium coffee.

Explore the world market for importers of Monsoon Malabar Arabia Coffee

- a. Monsoon Malabar Arabia Coffee has a loyal following in the U.S. & Europe.
- b. However, there's huge demand of Green Coffee Beans in entire World and Monsoon Malabar Arabia coffee is absolutely fulfill the requirement.
- c. Market of the countries like Sri Lanka, Saudi Arabia, Japan, Australia, UAE, South Korea, Spain and many more can be explored or analyzed for Monsoon Malabar Arabia Coffee.

Proposed Interventions and Authorities

Educating and promoting health& other benefits of Monsoon Malabar Arabica Coffee:
State Government of Kerala

GI (Geographical Indication) and its benefits

The Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce and Industry,
Government of India

Explore the world market for importers of Monsoon Malabar Arabia Coffee
State Government of Kerala

Kollam, Cashew Products (Kerala)

Kollam, earlier known as Quilon, is one among the 14 districts of Kerala state, India, is very famous with the cashew nut Industries. One of the oldest ports on the Malabar Coast, Kollam was once the port of international spice trade. Big amount of cashew exports are carried over each year. Kollam mainly focusing on processing the cashews. The categorization of cashews are carried out manually with those peoples who works there. The process starts from peeling the cashew to packing. Cashew nuts are available in different size categories. 180,210,240,320,450etc. Size categorization of cashew nuts follows in pound units. That is, if we take a 180-category cashew nut. the number of cashew nuts is 180 per pound unit.

Cashew and coir are the two other names for which Kollam is famous, that is why it is called as Kollam- the land of cashews. Both provides employment to the people in rural Kollam. Kollam is the main central of India's cashew trading industry. India holds second position in cashew production industry and Kollam plays a noticeable role in this. the cashew is a versatile health food with rich of proteins, fats and vitamins to a high degree. Indian cashews are natures proven finest diet. It's an all-time all place snack.

Problems

1. *Kerala has almost 800+ registered cashew factories, almost all of them in Kollam. And over 80 per cent have to shut shop in the past few years due to huge operational costs that eventually led to accrued loss of these firms.*

Proposed Interventions

- a. Provide consistent power supply, ensuring maximized productivity, Government could exempt the factories from mandatory power cuts as well.
 - b. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.
 - c. Increase the scale of production by replacing manual work with automated processes, and introduce other industry 4.0 factors like CAD, 3D Printing for the hub, while upskilling the labourers into more maintenance tasks rather than manual production.
 - d. Reduction of fixed costs for the debt-ridden cluster:
 - a. Electric Duty Exemption for initial years.
 - b. Stamp Duty exemption for lease/ deeds for companies' set-up in lands earmarked for the industry itself.
 - c. Power Subsidy till a certain level
2. *Kerala due to its fall in cashew cultivation had been facing many setbacks in the cashew industry. Kerala State Agency for Expansion of Cashew Cultivation was established in order promote the domestic production. The demand for cashews at the global level is escalating, this rise makes the cashew industry desperate to improve and attain self-sufficiency in domestic production.*

Proposed Interventions

- a. Invest in technologies like big data analytics – capturing experience of local and experienced farmers and their conditions to understand the impact points to design the policy around them to regulate the process.
 - b. Kerala State Agency for Expansion of Cashew Cultivation can be empowered through subsidies and exemption from basic costs and governed through a proper MRV system.
3. *The industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc. Lack of appropriate marketing of the products leading to less visibility of the processed products pan India.*

Proposed Interventions

- a. The cashew industry could only succeed if they build a dominate brand name for their value-added products. Once the domestic market is captured then it could try to market its value-added products in the international market.
 - b. The marketing and branding of different cashew products should made more consumer oriented, as of now, the diversified products of the cashew industry of Kerala is categorized to be less demanded.
 - c. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.
 - d. Provision of proper screening package and practices to create awareness about market requirements
 - e. Formation of co-operative organizations may further help in safeguarding the interest of the producer/growers and enable them to control the marketing of their products.
 - f. Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market, latest practices in grading, packing and consumer preferences.
4. *The import of raw cashew nuts has become more costly over the years due to high competition from Vietnam. And the domestic production of cashew has been facing a steady decline over the years. The current production rate could not run the cashew industry of Kerala for not more than 30 days. The number of working days of both private and public factories have been reduced due to lack availability of raw materials. The development of substitute products like almond, walnut in the international setup has affected the demand of cashew industry of Kerala. The indigenous development of these products in their domestic market has made a negative impact over the demand.*

Proposed Interventions

- a. Governmental support for stage-by-stage mechanization of the cashew factories. As now the mechanization process being in a stagnant path. And due to the lack of mechanization the brand value of Indian cashews gets lowered. More productivity and mechanization would ensure the quality Indian cashews.

b. Government should provide ample measures to regenerate the cashew industry for sustaining the socio-economic conditions of women cashew workers.

5. *Regulatory processes extremely complicated, hence scaring away probable investors, both domestic and foreign.*

Proposed Interventions

- a. A singular committee set-up which is completely responsible to provide one stop clearances to potential investors. This committee will assist investors throughout the investment lifecycle spanning from proposal application to approval of licenses/clearances and finally incentives disbursement in the sector.
- b. Setting up international desks with special incentives to attract foreign investors.
- c. Update the existing Policy Implementation Unit with renewed targets to implement the new features of the policy.

6. *Lack of proper infrastructure to upscale production as the annual turnover and export currently is not sufficient to keep up with the rising debt*

Proposed Interventions

- a. Build a CFC (Common Facility Centre) whose singular aim is to work towards long term benefits like technological advancement for the hub.
- b. Invest in the low hanging fruits first, like conversion of the manual to automated processes, increasing the output and the productivity of the hub.
- c. Alternative employment program at Kottiyam unit of KSCDC and Value addition unit of KSCDC Ayathil. These ensure to break the trend of seasonality in the employment and provide a more sustainable source of income.
- d. Special packages should be introduced by the government for securing better working conditions and to raise the living conditions of cashew workers.

Sr. No	Type of Intervention	Proposed solutions	Agency
1.	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2.	Research & development	Training and development of the young generation	Government of Kerala
3.	Infrastructural support with information	Investment in the marketing infrastructure of the products	Kerala State Planning Board
5.	Supply chain	Ensure the availability of raw material before the season starts	Ministry of Food Processing Industries

6.	Infrastructural support	Construction of common facility centre	Government of Kerala
7.	Credit support	Provisions of subsidies, loans for the farmers and support from co-operatives	NABARD
8.	Market Linkages	Provision of proper screening package and practices to create awareness about market requirements	Ministry of Information & Broadcasting, Govt of Kerala
9.	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Cochin University of Science & Technology

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Marayoor Jaggery -Idukki, Kerala

Marayoor is a place in the Idukki district of Kerala, 42Kms north of Munnar on Munnar-Udumbalpetta road. Aside from its natural sandal forests and immnumerable locations of scenic beauty, Marayoor is best known for its extensive sugarcane cultivation, the major crop of Marayoor and Kanthalloor. Here, more than 2500 acres of land is under sugarcane cultivation.

A product of such cultivation is the world-famous delicacy called Marayoor Jaggery. Jaggery is the term for dark brown sugar balls made of condensed sugar cane juice. In sugar cane farms, manufacturing units are set up and the Jaggery is manufactured by the farmers, who mostly belong to the Muthuva tribe.

The peculiar geographical location of Marayoor, which nestles amid the forests of the Western Ghats gives the sugar cane a distinct geographical identity. Added to this, the age-old specialized skill of the local people in making the jaggery in the farm itself, make it a unique product. It is therefore in great demand in households across the country for the preparation of sweet dishes.

Over more than 1,000 farmers in Marayoor area engaged in sugarcane cultivation. A few years ago, places near Marayoor, like Pattam Colony, Mashi, Koodavayal and Meladi, too, started cultivating sugarcane widely.

With fake products taking over the market, the number of farmers in the sector has reduced, so has the sugarcane farming area. From 2,700 acres, it has reduced to 1,200 acres.

The quality of Marayoor jaggery is attributed to low temperature prevailing in the area, soil characteristics, quality of water used for irrigation and jaggery production, the traditional methods of production and sugarcane varieties used in cultivation.

Another speciality of this jaggery is that it is not made in factories using modern equipment, but in the jaggery production sheds located in the farm itself, in a traditional manner. The jaggery produced from the geographical area has a higher market demand than that produced from other regions since it is very sweet in taste and is of good quality

Problems

1. Continuous decrease in the price of Marayoor jaggery in the recent years: Due to the price fall, many farmers in Marayoor gave up sugarcane farming and have started cultivating vegetables and other crops or have engaged in daily wage work.

Proposed Interventions:

- a) Specific trademarks should be used.
- b) Using GI tags on the products.

- c) Fixing common wage rates for farmers.

2. One of the major challenges these farmers have been facing is the sale of fake jaggery from Tamil Nadu, which are being sold with the tag of Marayoor jaggery. This has led to the constant fall in the price of the original jaggery, thus forcing several farmers not to take up sugarcane cultivation anymore.

Proposed Interventions:

- a) There must be proper verification to handle such fake products at check posts.
- b) Agencies should focus on taking steps to promote pure Marayoor jaggery in shops and markets especially during Onam season, it will provide a big opportunity to the farmers in Marayoor and assure them a suitable market and income.
- c) The GI tag will help the Marayoor farmers get more market and price. Moreover, with the GI Tag, only the natives of the area can now produce and market the Marayoor jaggery exclusively.

3. Farmers are not getting required support from concerned departments in **marketing the Marayoor jaggery**

Proposed Interventions:

- a) The state's department of agriculture, need to conduct workshops with farmers to make them aware of the existing opportunities in both domestic and international market
- b) Information regarding Marayoor jaggery is needed to be presented on the district website, as of now there is negligible information about the qualities of Marayoor jaggery.
- c) CoE and Dept. of Agriculture can organize fairs and food expos where farmers can showcase Marayoor jaggery to make buyers, both national and international, aware of qualities of this jaggery.

4. **No organized effort to modernize or improve** the manufacturing process.

Proposed Interventions:

- a) There is a need of modern evaporators and concentrators in the region to make the process a bit easier.
- b) Promotion of innovative and modern technology as per latest advances

5.Lack of marketing: Due to lack of solid marketing strategy, Marayoor jaggery farmers suffer a lot

Proposed Interventions:

- a) We can use the social networking sites as a platform to promote Marayoor jaggery
- b) We can make small documentary on Marayoor and spread through various social networking sites
- c) Setting up of stores in malls, Airport's, railway station as well as in big cities
- d) Encourage the farmers and manufacturers to take part in the various trade fairs and financial support should also given to the participants.
- e) We can pack our product in beautiful boxes which can give competition to the packing of any big brand.
- f) We can write the stories and uniqueness behind the making of this jaggery.

Sr. No.	Proposed interventions	Agency
1.	Standards and guidelines of food safety	FSSAI
2.	Export of agro products	APEDA
3.	To develop low cost, energy efficient jaggery production and storage technology from sugarcane.	Indian Institute of sugarcane research
4.	Conservation of forests	Kerala forests and wildlife department
5.	Mechanized grading	Ministry of Food Processing Industries
6.	Skill development & capacity building for farmers	Indian Council of Agricultural Research (ICAR)
7.	Trade fair participation grant	Ministry of Commerce & Industry

Source:

<https://www.thenewsminute.com/article/idukkis-special-marayoor-jaggery-faces-threat-knockoffs-falling-prices-95054>

<https://timesofindia.indiatimes.com/city/kochi/marayoor-jaggery-makers-hit-a-sweet-spot/articleshow/82235335.cms>

<https://www.thehindu.com/news/national/kerala/marayur-jaggery-facing-the-covid-crisis/article31955691.ece>

District: Pathanamthitta (KERALA)

Pathanamthitta District, the thirteenth revenue district of the State of Kerala, nestles its head on the slopes of the Western Ghats and stretches to the low-lying rice fields. The District came into existence as a separate administrative unit on the 1st November, 1982.

Pathanamthitta Tourism

Pathanamthitta district is known as the Headquarters of Pilgrimage, Eco & nature lover tourism.

Gavi Eco Tourism

1. This ambitious eco-tourism project of the Kerala Forest Development Corporation, Gavi has caught the eye of the world for its excellent model and use of local people for conservation & tourism.
2. A place which is full of breathtaking sceneries, wildlife, amazing people, and great activities is the epitome of everything that tourism in Kerala represents.
3. The eco-tourist lodge at the village is located conveniently in front of a magnificent lake providing great views of a lake and the adjoining forest.
4. Trekking, Wildlife Watching, Camping and Night Safaris and Canoeing are the activities one can indulge in here.

Worship & Traditional Tourism

There are plenty of religious places including Temples, churches and Shrines attractions naming a few like:

1. Nannuvakadu Shiva Temple
2. Brethren Church Nannuvakadu
3. Pathanamthitta Marthoma Church
4. Sree Dharmasastha Temple
5. Poovanpara Malangott Hindu Shrine

For Nature Lover

1. There are plenty nature reserves like:
2. Perunthenaruvi Waterfall
3. Achankovil River
4. Konni Forest Reserve
5. House boats in Back waters with Dream Heaven Holidays

Problems

Tourism gems of Pathanamthitta still under wraps:

- a. The authorities have prepared several tourism projects, but all of them are still on paper.
- b. Some attractions like waterfall come alive only during a certain period every year.
- c. Another project that has been stuck for long is related to the Panangudantha waterfalls.
- d. If a tourist finally finds his or her way to the spot, there will be no facilities to make the trip.

No follow-up actions:

- a. The travel through the forest area and the coracle ride at Adavi was introduced but there's been NO follow up.
- b. A publicity film highlighting the tourist attractions of the district was also prepared.
- c. Though the film became viral on social media, NO follow-up action took place on the ground.

Information gap:

- a. Adavi and Konni ecotourism centers offer tremendous opportunities to boost tourism in Pathanamthitta
- b. A treetop hut made of bamboo close to the forest at Adavi can be used by tourists.
- c. New accommodation is being set up near the coracle ride.
- d. But Facilities to provide information regarding such options to people outside the district to be arranged.
- e. Unfortunately, no contact number which can offer guidance to tourists is functional in Pathanamthitta.

Proposed Interventions

Introduce Prospective Tourism Packages and Promotion

- a. Among the prospective tourism packages is one in which visitors can enjoy the elephant settlement & elephant rides. Coracle trip and spend the night in the bamboo hut.
- b. Activities like Trekking, wildlife watching, camping and night safaris and canoeing can be included.
- c. A day tour to Twin Kallar.
- d. This package will also help reduce the rush to Gavi.
- e. Tourists wishing to visit Gavi along with this package can do that.

Connecting all historically important places in the district

- a. Under this tour, a visitor can reach the cave temples and other unique religious sites.

Set up Planting Tourism

- a. Plan to set up a cable-car facility connecting Chuttippara in Pathanamthitta town as Chuttippara holds good promise for plantation tourism.

Promotion through Social Media & Travel Websites

- a. Promote travel packages on Social media platforms & traveling websites.
- b. Display of beautiful scenic beauty of the district through picture over social media
- c. Connecting measures for Indian and foreign Tourists through these platforms.
- d. Measures to establish where tourists can get in touch with establishments

Proper Guidance & Transportation for Tourists

- a. Hire Tour Guides and proper transportation for tourists to travel between different establishments.
- b. Travel desk with experts for proper guidance to be established.

Facilities and Necessities

- a. Proper internet/wifi facilities for tourists to be established.
- b. Establishment and promotion of restaurants/café/facility stores for the comfort of the tourists.
- c. Establishment of proper Security for the tourists and establishments.
- d. To have medical facilities ready for any mishap.
- e. To hire expert translators for any language barrier.

Making sure all Covid-19 regulations are followed

- a. Guiding tourists and staff/owners about social distancing,
- b. Encouraging Wearing masks.
- c. Making sure Availability of hand wash and sanitizers at all times.
- d. Give information about medical assistance if required.

Proposed Interventions and Authorities

Introduce Prospective Tourism Packages and Promotion	State Government with support of Ministry of Travel and Tourism.
Connecting all historically important places in the district	State Government with support of Ministry of Travel and Tourism.
Set up Planting Tourism	State Government with support of Ministry of Travel and Tourism.
Promotion through Social Media & Travel Websites	State Government with support of Ministry of Travel and Tourism.
Proper Guidance & Transportation for Tourists	State Government with support of Ministry of Travel and Tourism.
Facilities and Necessities & Making sure all Covid-19 regulations are followed	State Government of Kerala

Kasaragod mussels

Mussel farming has a long history that dates back to the thirteenth century. Mussels are farmed in many areas of the world with the most common species cultured being the blue mussel, *Mytilus edulis*. The main producers of mussels are countries such as China, Korea, Spain, Netherlands, Denmark, France and New Zealand. In 2012, 1.829 million tonnes of mussels were produced worldwide valued at 2.053 billion US Dollars (FAO). The Indian mussel production is relatively small and the production is around 10,000 tonnes for the past few years. In India, mussel culture (*Perna viridis*) is becoming popular in the Malabar area since 1996 following the success achieved by CMFRI in rearing and popularizing green mussel in the backwaters. The simple methods employed for mussel farming was transferred to progressive farmers who took up mussel culture in the backwaters. Soon they found the venture profitable. Demands came from new entrepreneurs for training and mussel farming spread from Kasaragod to Ponnani. Mussel culture in the backwaters of Kerala was first started in Padanna and Cheruvattur Panchayats in Hosdurg Taluk of Kasaragod district. Later it was taken to Elathur in Calicut district and Vallikunnu and Ponnani in Malappuram district.

Problems

1. Availability of seed

Proposed Intervention

- a) The seeds required for culture is presently collected from traditional fishing areas and these are often causing conflicts between farmers and mussel fishermen. Hence it is essential that additional spat collectors has to be established along the coast to ensure supply of seeds to the farmers.

2. Season of harvest

Proposed Intervention

- a) The harvesting seasons of cultured mussels is mostly during April – May months and farmers are at times forced to sell their crop before the onset of Monsoon.

3. Storage facility

Proposed Intervention

- a) If sufficient cold storage facility is provided, cultured mussels can be depurated, shucked and stored not only for export market but also for local market throughout the year. This will increase the profitability of the culture operation.

4. Post-harvest technology

Proposed Intervention

- a) Value added products of longer shelf life need to be developed from mussel meat to increase the revenue realization from cultured mussels. Mussel fry, mussel pickle etc. are some of the best examples for value added products. More studies are needed to develop ethnic cuisines with longer shelf life.

5. Siltation of backwaters

Proposed Intervention

- a) Some areas in the backwater system have very high siltation levels especially during rainy season. This often results in mortality of mussels in the farms. Hence scientific feasibility studies are required to demarcate potential culture sites.

Srl No	Type of intervention	Proposed intervention	Agency
a	Logistic Distribution	Availability of seed	
b	Infrastructure	Storage facility	
c	Product improvement	Post-harvest technology	
d	Infrastructure	Siltation of backwaters	

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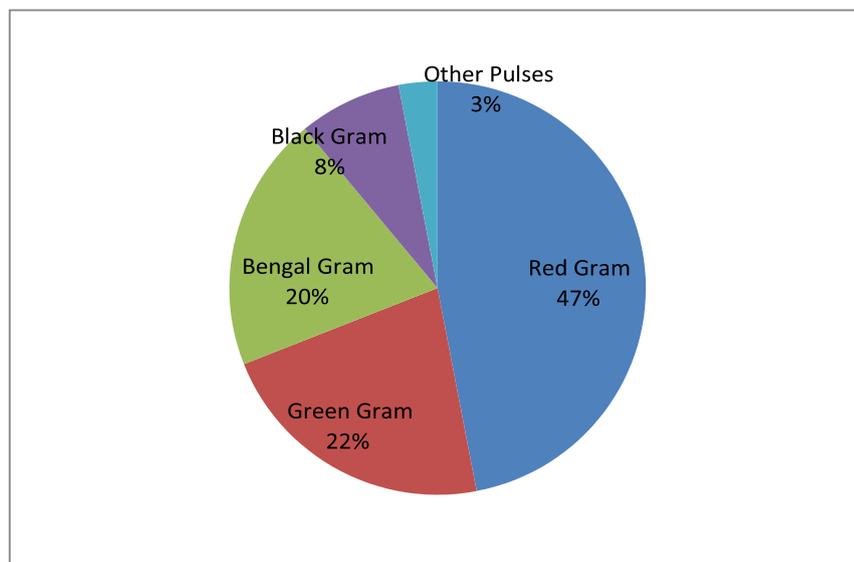
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Komaram Bheem Asifabad Pulses (Telangana)

“India is the world's leading producer, user, and importer of pulses. India contributes around 90 percent of the entire world area under pigeonpea, 65 percent under chickpea, and 37 percent under lentil.” Pulses are cultivated on 5.6 lakh hectares in the state (2013-14), yielding 4.7 lakh MT per year. Pulses are cultivated in nearly all of Telangana's districts. The state's main crops include red gramme, green gramme, Bengal gramme, and black gramme.



Pulses	Asifabad	Telangana	%age share
Red gram	251121	6413	
Green gram	95524	985	
Black gram	31221	131	
Bengal gram	80766	1517	
Total			

Problems

1. LOW PRODUCTIVITY

Pulses yields in Telangana are poor since they are primarily produced under rainfed conditions with residual moisture. The productivity of total pulses is 774 kg per hectare, which is somewhat below than the national average of 788 kg per hectare. In comparison to many other states, the pulse productivity is much too low.

Proposed Intervention

- Support for the development of high yielding, location specific varieties in pulses is essential.

- Thrust on research on Hybrid development and commercialization, especially in crops like Red gram (The first red gram hybrid in the world was developed and commercialized by ICRISAT in 2013)

2. SECONDARY CHOICES

Pulse crops are the state's second-best option for farmers, and growing pulses under poor management methods with less inputs, as well as competition from dominating commercial crops like as cotton and chillies, are the main causes for low production levels.

Proposed Intervention

- The ministry should incentivize the farmers pulses crop by subsidizing the seed and fertiliser.
- The govt already has MSP imposed on the pulses, the ministry can increase the MSP to further motivate the farmers.

3. PROCESSING UNITS

Pulse processing is carried out in a few areas throughout the state. Rangareddy's Tandur and Basheerbad mandals are densely packed with medium and small-scale dal mills. However, there is no information on the combined capacity of these units. Currently, pulses from key producing areas such as Mahabubnagar and Adilabad are sent to Tandur and Basheerbad in the Rangareddy district and sold as "Tandur Dal."

Proposed Intervention

- Modernization of the existing pulse processing units in the state by supporting technology upgradation
- Encourage establishment of new pulse processing units in the State, especially in Mahabubnagar, Adilabad and Asifabad.
- Establishment of mini dal mills as cottage industries or dal/flour mills entrepreneurs have vast potential.

4. No proper distribution and marketing channel

There was no secondary literature accessible in the relevant area for optimising distribution and marketing channels. The paucity of academic literature indicates that formal logistic routes do not exist. According to the 2018 NITI Aayog rating, the present district is also India's second most backward district.

Proposed Intervention

- A structural supply chain model has to be developed and implemented by 3rd party consulting services or by the government agency.

5. Post-harvest losses

Post-harvest losses of Red gram, green gram and Bengal gram are 9%, 2.8% and 9.5% respectively. Storage losses due to pest and disease infestation contribute to the majority of the post-harvest losses.

Proposed Intervention

- Creation of bulk and specialized storage structures for the benefit of the traders and processors
- Promote farm level and community level storage structures also could be undertaken

6. Traditional Machinery

Traditional machinery with conventional processing technologies and poor output recovery are the major characteristics of the existing pulse processing units in the State. Low Dal recovery emerged as major concern during milling process. Presently, the Dal recovery is very poor (65-75%) which could be improved up to 85-87% by adopting new machineries.

Proposed Intervention

- Farmers are unaware of the potential cost they are paying by using conventional equipment to process their product. More promotional efforts are needed to educate manufacturers about the increased profitability that may be achieved by using new equipment.
- On the other side, the government should propose a subsidy programme that would enable farmers to purchase new equipment. Lowering the interest rate or providing them the machinery on reduced EMIs are two options.

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Dairy Products and rice, Kurukshetra, Haryana

Kurukshetra houses a reliable hub of manufacturers, wholesalers, distributors, and suppliers of Desi Ghee, Skimmed Milk Powder, Pure Cow Ghee, Dairy Whitener, etc. Products are processed hygienically and packaged well using strong food-grade materials meeting the requirements of national and international clients with brilliancy. Kurukshetra is also known for its traditional rice cultivation, being one of the largest producers in Haryana.

Problems

1. Continuous use of traditional varieties due to the non-availability of seeds and farmers lack awareness about high yielding varieties (Upland, rainfed lowland, and deepwater areas)

Proposed Interventions

- Emphasis may be given to a cropping system approach rather than a single crop development approach.
 - Replacement of low potential/pest susceptible old varieties by new high yielding varieties with promising yield potential. Also encouraging the cultivation of hybrid rice through demonstrations and making seed available to the farmers.
2. Poor crop plant population in case of broadcast sowing method resulting in uneven germination (upland and direct-seeded lowlands). Delay in monsoon onset often results in delayed and prolong transplanting and sub-optimum plant population (Mostly in rainfed lowlands).

Proposed Interventions

- More emphasis on the adoption of non-monetary inputs like timely sowing, maintaining optimum plant population, timely irrigation, efficient use of fertilizers, need-based plant protection measures, and timely harvesting of the crop.
 - Propagation of location-specific crop production technologies in different agro-climatic zones through demonstrations on farmers' fields and organizing of training for farmers including women in improved crop production technology.
3. Often rice crop suffers from soil moisture stress due to erratic and inadequate rainfall. rainwater flows down quickly and farmers are not able to conserve the soil moisture. There is also no facility for life-saving irrigation particularly in upland and drought-prone rainfed lowland areas.

Proposed Interventions

- The popularization of line sowing in upland rice areas through suitable seeding devices establishment of the desired level of plant population, easy weed control, and the application of other management techniques.
 - Adoption of run-off rainwater management practices suited to the conditions of the individual farm holding as well as watershed as a whole, motivating the farmers to provide life-saving irrigation to the crop wherever possible during long dry spells.
4. Due to a lack of proper heat detection mechanisms, Indian dairy farmers incur significant losses and loss of productivity in their farms. The calving intervals often get increased, which results in a decline in animal performance.

Proposed Interventions

- improvements in genetic trends for fertility, numerous other future developments are likely in the near future.
These include: i) development of new and novel fertility phenotypes that may be measurable in milk; ii) specific fertility genomic markers; iii) earlier and rapid pregnancy detection; iv) increased use of activity monitors; v) improved breeding protocols; vi) automated inline sensors for relevant phenotypes that become more affordable for farmers; and vii) capturing and mining multiple sources of “Big Data” available to dairy farmers.
5. Lack of hygiene directly affects the health of animals. With no proper shelters and space to rest, animals get exposed to harsh climatic conditions. There is always a fear of the milk quality getting affected in unhygienic conditions.

Proposed Interventions

- Educatory sessions must be conducted by the government inviting all the farmers to attend and there must be a workshop to demonstrate hygiene practices.
- The location of farmstead is selected giving due consideration to the supply of potable water, adequate sun exposure and efficient drainage. Other factors like uninterrupted power supply, topography and road, transport and market facilities also contribute to the selection of site. The aspects of drainage in animal houses must receive utmost attention. The soil should be porous and the slope in the land gentle so that water accumulation or logging is prevented and the farm premises remain dry. Well drained sites maintain the animals in good health.

PRODUCT: APRICOT LEH & KARGIL (LADAKH)

Fresh, Organic & Scrumptious: Why Ladakh is Home to the World's Sweetest Apricots!

Packed with vitamins but low on calories, Raktsey Karpo (as these apricots are known) is also rich in sorbitol – a natural glucose substitute that can be consumed by diabetics. And that's not all. The oil from its seed is known to relieve back aches and joint pain.

Apricot fruit is known for its high content of Vitamin A and C, calcium, iron, carbohydrates, amino acids, sugar and potassium. For decades the people of Leh and Kargil- Ladakh have consumed the humble apricot. An integral part of the local culture, dry and fresh apricots are served as desserts, particularly during traditional festivals.

Apricots are the main fruit trees of Leh and Kargil-Ladakh and are widely grown in the warmer and lower reaches of Ladakh, particularly in Leh and Kargil. Traditionally, the apricots are sundried on the roof of houses or on large stones and sold in markets in Leh and Kargil.

Problems

Perishable and limited market demand

1. Apricots that grow in Leh and Kargil are highly perishable within the short summer season.
2. Therefore, the fresh fruits need to be transported to the markets soon after the harvesting in July and August.
3. However, due to limited market and demand, many of the fruits products go to waste.

Yellow-Tail Moth

1. Apricots in Leh and Kargil ripe in late July to early September. The yellow-tail moth's larvae (caterpillars) emerge in early May after overwintering and voraciously feed on the apricot crop, causing complete defoliation of trees from May to June.
2. Their impact is so devastating that from a distance, it appears like entire apricot trees have been burnt down, leaving behind only the unripe infested fruits.
3. The leaves emerge again after July when the caterpillar goes into pupation and enters its adult stage.
4. The extent of damage to apricot trees in Leh and Kargil ranged from 15 to 90%.
5. The annual income from the sale of dried and fresh apricot without pest infestation was around Rs 3.44 crore.
6. The economic loss due to defoliating caterpillars and yellow tail moths affected was Rs 2.32 crore.

Climate change

1. In the last few years, the impact of global climate change has been increasingly visible in Ladakh downright in Leh, Kargil.
2. For the apricot tree to grow, farmers need colder climates.
3. During the crop growing season, the average maximum temperature is 18-19 degrees Celsius.
4. The tree goes dormant during harsh winters and blooms in spring.
5. Another critical climatic component is dryness /drier the conditions, the better the quality of apricot.

Ban on export of Apricots

1. Apricot is the primary cash crop for the farmers of Kargil and its export to different states and foreign countries will provide a major boost to the local farmers.
2. According to the Ladakh Autonomous Hill Development Council (LAHDC), nearly 62 per cent of India's apricots are produced in Ladakh.
3. The export ban not only limits area expansion under temperate fruits but also makes them weaker economically, because at present, the district Leh, Kargil is leading in the production of Apricot with 9033 MT annually from about 16 sq km cultivated area.
4. However, surviving nearly 50 years export ban, a consignment of 150 kg, the sweetest apricot, was sent to an international market in Dubai.

Proposed Interventions

Explore foreign Market for Export of Apricots from Leh and Kargil.

- a. After 50 Year Long Ban on Export Of Fresh Apricots From Ladakh Lifted Apricot is the primary cash crop for the farmers of Kargil and its export to different states and foreign countries will provide a major boost to the local farmers.
- b. Exploring foreign market for the best quality, fresh, organic and sumptuous Apricots will boost the economy.
- c. The first commercial consignment of Apricots from Ladakh has been exported to Dubai, opening up the prospect of other temperate fruits and organic products from the region being shipped to Middle-east countries.
- d. The fruit for the shipment was harvested, cleaned and packed by local entrepreneurs who were provided technical assistance by APEDA on the requirements of the export value chain, said the Ministry of Commerce & Industry on Thursday.
- e. APEDA has been working to establish an export value chain for Ladakh Apricot in association with an importer Group based in Dubai.
- f. A few sample shipments of fresh apricots were earlier sent from Leh to Dubai by air in August. Ladakh produces approximately 15,789 MT of Apricots.

Exploring and Educating about sumptuous and long lasting products of Apricot

“Livelihood Initiatives Based on Apricots in LADAKH”

- a. Apricot processing in the form of jam, juice, oil and dried-apricots will allow the farmers to preserve the apricot from rotting and to add value to the product.
- b. These can be sold for better prices in the markets to locals, tourists and foreign markets.
- c. With the support of LEDeG (Ladakh Ecological Development and Environmental Group), the farmers can try to improve the market access and reduce the market intermediaries.
- d. Technologies and skills of farmers to be upgraded so that they can supply high value-added products in the markets.

Integrated Management of Yellow-Tail Moth

- a. Involve all government departments working on agriculture-related issues, research institutes, village heads, the local community and the NGOs working in the district.
- b. Only a combined effort would address this problem in a time-bound manner.
- c. Adopt an Integrated Pest Management (IPM) approach.
- d. IPM approach involves a “science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies.”

How does IPM translate in these districts?

a. Raising Awareness:

This is probably the most crucial step. The general assumption amongst farmers was that the evolution of the yellow tail moth (from larvae to adult moth) was the end of pest infestation since the leaves emerge again.

“There’s a need to build awareness among the farmers about the pest’s complete life cycle.”

b. Community Engagement:

Another critical step in the process is convincing entire farming community about the need to involve each household in pest management.

“For initiatives like these, we have to mobilize the entire community. Otherwise, there is no way we can manage this pest infestation.”

c. Orchard Sanitation from November to March:

Here’s where we come to the meat of the matter. The most effective and economical way to avoid many pest problems is to create an environment that discourages pests or reduces the tree’s susceptibility to damage.

It's fundamental to understand that pests overwinter and survive on tree parts and debris. What farmers do is gathering and destroying the fallen fruits and fruits remaining on trees after harvest and remove dead leaves from trees by shaking/bearing with a stick, preferably after mid-November.

“They can collect/rake fallen leaves from the orchard floor and put them either in a compost pit or over an active compost pile. What follows is pruning and destroying the dead and injured twigs and branches, and finally removing the pile of wood and other debris where insect larvae may find shelter during the winter,”

d. Use of organic methods:

The most common organic method of control of the defoliating is the application of Bt. (*Bacillus thuringiensis*) is a bacterium that releases a protein called ‘endotoxin’ that poisons the insect digestive system. To work, it must be digested by the yellow tail moth.

Request Government of India to grant GI (Geographical Indication) tag

A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place.

Apricot is important fruit crops of Ladakh. Looking at its health /nutritional benefits. It is demand of the time to give it much waited GI (Geographical Indication) tag.

Here are some health benefits of Apricots.

- a. Very nutritious and low in calories.
- b. Apricots are very nutritious and contain many essential vitamins and minerals.
- c. High in antioxidants.
- d. May promote eye health.
- e. May boost skin health.
- f. May promote gut health.
- g. High in potassium.
- h. Very hydrating.
- i. May protect your liver.

Proposed Interventions and Authorities

Proposed Interventions	Authorities
Explore foreign Market for Export of Apricots from Leh, Kargil.	Ministry of Commerce & Industry APEDA
Exploring and Educating about sumptuous and long lasting products of Apricot	LEDeG(Ladakh Ecological Development and Environmental Group)
Integrated Management of Yellow-Tail Moth	Government officials and NGO of Ladakh
Government of India to grant GI (Geographical Indication) tag	Government of India

Mustard and vegetable oil, Mahendragarh, Haryana

Mustard and vegetable oil, which is produced from the seeds of the mustard plant grown locally in mahendragarh, is a common ingredient in Indian cuisine. Known for its strong flavor, pungent aroma, and high smoke point, it's often used for sautéing and stir-frying vegetables in many parts of the world. A type of essential oil produced from mustard seeds using a steam distillation process. Vegetable oils, or vegetable fats, are **oils** extracted from seeds or, less often, from other parts of fruits.

Problems

1. The plight of the packaging industry, which was only recently allowed permission for movement. Hence, securing required packaging materials such as ready-to-use caps, pet jars, bottles, tin, pouches, labels, and corrugated boxes remained a challenge.

Proposed Interventions

- Collaborate with local vendors and plastic industries across Haryana. This would include but is not limited to Local manufacturers, privately established industries, and independent owners.
 - Another breakthrough could be the usage of glass bottles in the supply chain to keep the process intact. The bottles would be returned to the Regional warehouses. The producers must need to supply barrels of oils to the states, and the preceding process would involve the flow of bottle filling and supply.
2. The back-end sourcing of raw material and labour problem persists even for the manufacturers and suppliers of packaging material.

Proposed Interventions

- Using Glass bottles and recycling bottles might be a viable solution for this problem.

- Collaborating with other industries to hire unskilled laborers.
 - Outsource your **labour** hire requirements
 - Re-evaluate whether different departments are working synergistically
3. Some of the challenges faced by the Indian farmers are lack of quality seed, insect pests like aphids and sawfly which cause considerable losses and reduce the yields of mustard crop, fungal diseases like *Sclerotinia* stalk rot, *Alternaria* leaf blight & white rust, and weeds which cause significant damage if not controlled during the critical period of crop weed competition.

Proposed Interventions

- Offering farmers a combination of seeds, crop protection, services, and application technologies. The fungicide can be used to control major Mustard diseases –White Rust, *Alternaria*. For broad-spectrum disease control, industries could collaborate with companies including the core brands Nativo[®], Antracol[®], and Quintal[®] /Derosal[®] respectively.
 - To manage weeds, mainly Orobanche, mustard farmers remove them manually. To control insect pests like Aphids, Pod borer, Saw Fly, etc., mustard farmers use Confidor[®], Fame[®], and Decis[®].
4. Lack of infrastructure is still in place and could be a challenge for the government when it comes to implementing new plans for increasing production.

Proposed Interventions

- Creation of state-wise centralized warehouse and supply of barrels of oils
 - An initiative under the government to build adjunct factories in abandoned government properties.
5. Crops such as rapeseed are perishable products and easily destroyed in conditions such as cold weather

Proposed Interventions

- there need to be policies to ensure the crops are purchased and delivered to the factories before they go bad, which is around 20 days from harvesting for rapeseed.
6. Lack of supply chain interventions leads to dilutions of vegetable oil and counterfeiting.

Proposed Interventions

- Create a supply chain in which crops are sold to factories under government supervision.
- There is also an insurance mechanism that compensates for possible losses incurred by farmers.

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TAPIOCA, NORTH GARO HILLS, MEGHALAYA

Tapioca plays a significant role in ensuring food security in India and is also utilized in other industries for producing various food products. It is used as a major animal feed product in Meghalaya. It is available for consumption nearly eight months in the year and is produced in 6300 ha. It nearly accounts for 3.2% of total area under cultivation in the state. Meghalaya is the second largest producer of this product. The cultivation of this crop is dominated by small farmers. Women farmers are more indulged in this crop than men. The crop is very labor intensive and requires close to 400-420 labor days/ha of land to harvest. The different parts of the plant are used to produce different food products, they are also used as feed stock and as fuel.

The cultivation of this crop happens in three ways majorly, Jhum (traditional shifting crop), individual holdings and homestead. Jhum has maximum area followed by, individual holdings and homestead.



PROBLEMS:

1. Lack of proper marketing of the products:

Meghalaya is a hilly land locked area, there is limited access to market due to its topography. The farmers are dependent upon their local sale, they are unable to increase their production to commercial scale and reap better prices for their products.

Proposed solutions:

- Organized marketing can be with help of formation of agricultural markets. The products should be made to cross the borders of North Garo Hills and should reach the state capital Shillong which can act as a major market place.

- There should be value chain development in terms of direct connection between producer and consumer. The number of middlemen should be reduced. This will help to secure better prices.
- Alternate uses of the food item should be publicized, the crop can be in silk worm rearing on its leaves, it can be used as pig feed also. Hence, new uses should be highlighted to open a new market.

2. Low Value addition before sale:

When the crop is processed before selling to the consumer it helps to secure better prices. Farmers currently sell a small portion of their harvest in the form of chips and boiled tapioca. Though these fetch better prices, they currently have a small market.

Proposed Solutions:

- Skill enhancement sessions should be organized to teach the farmers the kind of food products that can be made from the crop.
- One should encourage farmers to do the primary processing into flour and dried chips, this can be stored on a house and community level and then be sold as a purely organic food in metro cities and even be exported.
- In order to facilitate large scale processing of crop, technology intervention is necessary. Community/cottage, medium and small scale, production units can be established for this purpose.

3. Minimal motivation to indulge in commercial scale production:

Due to limited access to markets and lack of financial support and incentives available from the government the farmers are also reluctant and not enthusiastic to increase their scale of operations.

Proposed Solutions:

- It is essential to make the farmers entrepreneurial, they should understand the scope of increase in the product. For this purpose, training of farmers regarding new markets and technologies should be done.
- Currently farmers tend to utilize the savings from the profits made in their previous harvest. They rarely indulge in loans from traders or banks to increase their scale of production. Hence, subsidies and incentives should be given to them.
- Testing should be done and high-quality variant should be tapped. Currently, most farmers use their own seeds hence, better quality seeds and organic pesticides usage should be highlighted.

4. Lack of storage space:

The crop is vulnerable to exploitation and cannot be stored for long spans of time. There is a lack of storage space which causes the farmers to worry about fluctuating demand and prices.

Proposed Solutions:

- Technological intervention and testing can help in developing variants that last longer and are able to remain fresh for consumption. Crop can also be processed in the form of chips to increase its shelf life.
- Storage facilities can be formed in regions near the market, to ensure easy access to the market. This will also help to control the supply of tapioca in the market and thereby prices can be maintained.
- Cold storage facilities can also be explored, where excess production can be stored for short periods of time.

5. External threat to quality production:

Tapioca is almost free from pests and diseases except very few incidences of stem borers. However, it faces severe damage from rats and wild boars, especially in Jhum fields causing about 15-20% damage.

Proposed solutions:

- Traps and fences should be put up across the farm to prevent wild boars from entering and rodents from attacking the crops.
- Routine biological rodent control mechanisms should be adopted to deter rodents from visiting the farms.
- The surroundings of the farm should be kept hygienic and clean, banks can be built around the farm.

Serial no.	Type of intervention	Proposed Solution	Agency
1.	Branding and Marketing	Creation of organized market place, improving transportation to the capital city, establishing direct contact between producers and consumers	Ministry of Agriculture and Farmers Welfare
2.	Training and Development	Increase in value addition to tapioca before sale, in the form of making chips or other food products from it.	Ministry of Skill Development and Entrepreneurship
3.	Technology Upgradation	Setting up medium and small-scale plants to process food and reach commercial scale of	Ministry of Skill Development and Entrepreneurship

		production	
4.	Infrastructure Development	Establishing community level storage space to overcome price fluctuations and regulate the supply of tapioca in the market	Ministry of Food Processing Industries
5.	Training and Development	Educating farmers to do routine rodent control and indulge in practices like putting a fence around their farms to reduce wild boars from entering	Ministry of Skill Development and Entrepreneurship
6.	Research and Development	Testing and identifying high nutrient variant and distributing seeds among farmers to ensure healthy produce	Ministry of Food Processing Industries

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SOUTH WEST KHASI HILLS BLACK PEPPER, MEGHALAYA

Black Pepper is a plant that grows in humid tropics and requires high rainfall and humidity. It is known as the 'king of spices' and 'black gold' and has extensive use as a spice and for medicinal purposes. It is one of the most important and earliest known spices produced and exported from India.

As one walks past the field of black pepper, the trees are tall and towering and they have a strong aroma. It is a climbing evergreen plant and grows to a height of 10 m or more. Pepper can be grown in a wide range of soils such as clay loam, red loam, sandy loam and lateritic soils with a pH of 4.5 to 6.0, though in its natural habitat, it thrives best on virgin soil rich in organic matter.



Problems

1. Lack of access to market:

South West Garo Hills, has poor connectivity in terms of network and physical roads. The farmers do not possess the knowledge of market and target customers to sell their product. They are forced to sell their products to local traders who in turn resell their produce in the market. There is a need to reduce dependence on middlemen so that farmers can get better prices.

Proposed Solutions:

- Direct link should be established between farmers and customers. Farmers should be skilled in technical training and given financial and transportation facilities. They should indulge direct selling in online and offline mode.

- The Ministry of Commerce and State Government can hold awareness campaigns to enable farmers and encourage them to increase their scale of operations. There is a need to create a brand image for the product in the market.
- The spice is grown organically in Meghalaya, without the use of any pesticides, this can be promoted and eco-labelling of the products can be done.

2. Poor knowledge of planting and harvesting techniques:

Plantation of black pepper involves several important steps ranging from soil levelling, seed quality, mulching, composting to timely harvesting of crops. If there is water stagnation for more than 24 hours the seeds can get infected with diseases. Hence, there is a need to create awareness about the best practices and skill development sessions should be organized.

Proposed Solutions:

- Intercropping method can be adopted, other trees such as coconut, jackfruit, areca nut trees can be planted on the same land as black pepper. This can act as an additional source of income and can also keep the land fertile. Training sessions should be given by district agencies, and Ministry of Agriculture to encourage farmers to follow this method of cultivation.
- Currently, most of the seeds used by the farmers are their own. The farmers cannot afford the high-quality seeds available in the market. There is a need to indulge in research and testing, to identify the high-quality variant and these seeds should be available at subsidized prices for the farmers.
- The farmers should be encouraged to use a thresher machine to hasten the process of separating berries from spikes.

3. Improper knowledge about pest control methods:

Pepper is exposed to pest infestation and proper measures should be undertaken to reduce impurities in the berries. Judicious and proper manuring is necessary to get good yield. Since, the crops is grown organically bio-pesticides and organic compost measures should be adopted to protect the trees.

Proposed Solutions:

- Use dry cow dung manure, vermicompost and compost (10-20 kilos per plant) should be done as this will help to improve the quality of produce.

- The quality of black pepper can be improved upon by soaking the mature berries in boiling water for a minute before drying. It gives a uniform color, reduces the microbial load and removes impurities like dust.

4. ***Lack of awareness about government schemes:***

The farmers are not aware about the help present from the government and the various financial support present. Handholding needs to be done and pilot programmes should be initiated to set an example. The farmers are not able to reap the benefit of the support due to asymmetric information.

Proposed Solutions:

- Government awareness campaigns needs to initiated and publicity of the schemes should be done.
- Each problem needs to be addressed in an isolated manner and attention to minute details like increasing access to market, technical know-how, better quality seeds, best practices should be focused upon.

Serial No.	Type of Intervention	Proposed Solution	Agency
1.	Branding and Marketing	Creating direct link between buyers and sellers, removing middlemen, creating a brand for organically grown pepper, creating online presence for the buyers	State government, Ministry of Commerce, Ministry of Skill Development
2.	Training and Development	Teaching farmers how to do intercropping and use tools that can ease the process of harvesting. Creating awareness about how to treat pesticides	Ministry of Agriculture, Ministry of Skill Development
3.	Research	Testing and identification of high-quality variants and making the seeds accessible to the farmers at subsidized prices.	Ministry of Agriculture

4.	Financial Support and Technological Development	There is a need to create awareness about the government schemes so that the farmers can benefit from them.	Ministry of Agriculture and Ministry of Commerce
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Matta Rice -Palakkadan, Kerala

RoseMatta rice (also known as **Palakkadan/Kerala Matta rice**, or **Kaje Rice**) is an indigenous variety of rice grown in the Palakkad district of Kerala India. It is known for its coarseness and health benefits. It is popular in Kerala and coastal Karnataka in India and Sri Lanka where it is used on a regular basis for idlies, appams and plain rice; it is different from brown rice. The robust and earthy flavour of Red Matta makes it suitable to accompany lamb, beef or game meats. Kerala Matta rice has been historically popular due to its rich and unique taste. It is used in preparations of rice-snacks like Kondattam, Murukku etc.

The grains are yellowish pink (from being parboiled) with reddish outer layers. Rose Matta rice maintains its pink hue as well as its flavour on cooking. Like all brown or parboiled rice, red Matta has a lengthy cooking time and requires extra water.

Palakkadan Matta rice is more nutritious than white polished rice because parboiling before milling retains some nutrients. One serving cup of 1/4 size can contain 160 calories and 1 gram of fibre. White rice doesn't contain any fibre. The brown outer layer of the Matta rice contains many nutrients and white rice is made by polishing away this valuable layer. One cup of Matta rice can contain 84 milligrams of magnesium and one gram of calcium. It also contains vitamins.

Problems

1. **Acute shortage of agriculture workers:** seasonal shortage of agricultural labour is a major challenge facing rice cultivation in Kerala today.

Proposed Interventions:

- a) Proper mechanization will reduce the labour shortage which in turn leads to higher production
- b) The price of the paddy should be increased to a reasonable level, which makes the farmers to cultivate paddy to a greater extent.
- c) Labour wage rates should be fixed for both men and women.

2. **Competition from Other Crops:** Over the years, large tracts of paddy fields in Kerala have been converted into land for the cultivation of crops such as coconut, banana and rubber. The area under rice cultivation as a proportion of the gross cropped area in the State declined

Proposed Interventions:

- a) Paddy needs to be procured from farmers at reasonably high prices if paddy cultivation has to be a profitable activity for them
- b) Minimum support prices announced by the government greatly influence the rate at which farmers are able to sell their crop. While the Central Government announces MSP for various crops, State governments can decide to procure a crop at a price higher than that announced by the Central Government.

3. Farmers, in past years have faced was the issue of **marketing and distribution of the Matta rice**. Further, the presence of the middlemen has worsened the situation. The result was farmers started to shift away from the Matta rice.

Proposed Interventions:

- a) With new farm laws and the Digital India initiative, the state government can ensure that farmers get reasonable prices for their cultivation and supply chain is untouched by mediators.
- b) The government can also try to make self-help groups and provide adequate training to the farmers on how to navigate the supply chain.
- c) A centralized system can be created under the supervision of DM of the area, ensuring that farmers get the total value of their cultivation. Existing FPOs can be given recognition to organize sellers

4. **No timely information about trade fairs and Kisaan melas:** Farmers need timely and updated information about trade fairs/ Kisaan Mela or Expos' As of now they get such information very late and are not able to attend those events.

Proposed Interventions:

- a) A centralized centre can be established equipped with skilled people and digital resources, that would give timely information about such local, national or international events to farmers or FPOs, so that they can plan stall exhibitions accordingly.

b) This step will not only provide market visibility to Matta rice farmers but will also connect them to the mainstream market such as e-commerce.

Sr. No	Proposed intervention	Agency
1	Scheduled trainings should be organized and farmers should be trained by machine OEMs (Original Equipment Manufacturers) on how to operate the machine	Department of Agriculture, Government of AP
2	Funds should be allocated by state government to construct sheds to protect adulteration of rice grains in specific drying areas of the district	Department of Agriculture, Government of AP
3	Research institutes should replicate best-in-class machinery used by benchmark rice cultivators	Indian Agriculture Research Institute (ICAR)
4	Drying sheds should be subsidized and supplied to local farmers under a uniform central government scheme	Department of Agriculture, Government of Kerala
5	Encourage rice mill owners to venture into branding and packaging by conducting local workshops and demonstration sessions	FSSAI Invest India
6	FSSAI should revisit current tenure of licensing and registration of rice brands and ensure quick approvals for rice mills venturing into packaging	FSSAI
7	Periodic quality checks should be carried out at allocated storage locations in the district by Central Warehousing Corporation members	Central Warehousing Corporation
8	Subsidize rice packaging machinery heavily to encourage rice mills to adopt packaging and branding practices	Department of Agriculture, Government of Kerala
9	Standard storage procedures should be printed and installed at local storage units in local (Telugu language)	Invest India
10	Auction of old machinery and equipment should be facilitated by state government to support unorganized and owner-driven rice mills in the district to get the fair salvage	Ministry of MSME

value	
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Peddapali – Wooden Furniture

Peddapalli district is a district located in the northern region of the Indian state of Telangana. Ramagundam city is an educational and industrial hub. Ramagundam city is well known for its Multi cultural and linguistic diversity. Peddapalli Town is also an educational hub and also famous mostly for agricultural occupation

Problems

1. *The raw material used in the furniture are wood, cane, metal, leather, and fabrics. Popular wood types used in India include Walnut, Sandalwood, Teak, Sheesham, Deodar, Ebony, Redwood, Rosewood, Red Cedar and Sal. The non-availability/shortage can be a major challenge for the furniture industry at large*

Proposed Intervention

- a. Special focus on afforestation and planting trees which can be further utilized in the furniture markets
 - b. Removing import barriers for raw wood is important as it can rectify the issue of shortage of raw material
2. *The contemporary designs and market demand has changed over the years from conventional models to newer ones. Lack of exposure and design skills does inhibit the corresponding demands against the existing products*

Proposed Intervention

- a. Design training and development of the workers by organizing workshops by skilled designers from across the country
 - b. Exposing the workers with contemporary markets through digital mediums
 - c. Providing special training on digital design skills and software used in the current industry
3. *Lack of adoption of technology has led to reduced productivity and efficiency in the market*

Proposed Intervention

- a. Leveraging newer technologies like automation in woodwork machinery and robotic woodworking machines can significantly increase the efficiency of the production
 - b. Collaboration with top tech institutes to support the industry from tech end might result in substantial traction
4. *Due to major problems of high costs, unreliability, infrastructure bottlenecks, inadequacy of trade information system, supply problems and institutional rigidities the exporters face structural issues everyday*

Proposed Intervention

- a. Providing a support infrastructure through specialized people in the industry to ward off and develop strategies for such complex problems
 - b. Setting up an innovation committee at the state level specifically for furniture industry for recommendations and inputs
5. *International competition from multinational brands like IKEA and others have brought the prices*

Proposed Intervention

- a. Creation of state's specific luxury markets for special buyers by providing special discounts
 - b. Onboarding sellers on luxury item selling websites
 - c. Organizing Buyer seller meets for understanding the market's requirements
 - d. Exporters should be facilitated with different administrative processes and there must be ease in obtaining licenses and certifications
6. *Despite the presence of exporters in the area, the furniture producers hardly have established buyers majorly due to very high competition with relatively cheaper products available in the market*

Proposed Intervention

- a. Carefully curating designs, increasing the production potential, adoption of new technologies and leveraging innovation to design relevant and contemporary products can increase the traction
 - b. Regular promotion and reaching out to the target buyers can establish buyer base
7. *The lack of understanding and knowledge among foreign buyers, trader's exposure to the foreign markets and lack of a platform for interaction among buyers and sellers has created the huge gap*

Proposed Intervention

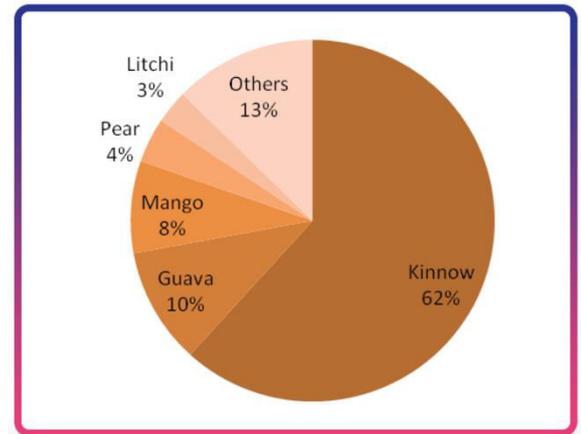
- a. Organizing Buyers Sellers meetings leveraging digital platforms
- b. Targeting niche markets across the world to sell these expensive products
- c. Providing platforms for interactions among buyers and sellers

Intervention Table

Problems	Interventions
Shortage of quality raw material	Increased afforestation and importing wood
Changing designs and contemporary demands	Design training and development
Lack of adoption of technology and inefficient processes	Leveraging technology like automation in manufacturing
International competition	Tapping domestic luxury markets
Lower reach in the domestic markets	Promotion and branding
Lack of exposure to foreign markets	Establishment of platforms for interactions between buyers and sellers

Fazilka Kinnow

Citrus, guava, mango, litchi, pear, peach, and ber are the most common fruit crops produced in Punjab. The citrus fruit Kinnow is the most popular among these citrus crops. Fruit output in Punjab was 1738 million tonnes in 2016-17, covering an area of 82.0 thousand hectares. Kinnow output was 1108.62 million tonnes in 2014-15 from a land area of 48.18 thousand hectares, rising to 1246.8 million tonnes in 2018-19 from a land area of 53.05 thousand hectares in the state.



Kinnow is a high-yielding mandarin hybrid that was created by crossing two citrus cultivars: "king" (*Citrus nobilis*) and "willow leaf" (*Citrus delicosa*). Because of its flavour, attractive colour, and rich source of vitamins and minerals such as Vitamin "C," Vitamin "B," B-Carotene, Phosphorous, and Calcium, Kinnow, which ranks first among the citrus fruits grown in India, can be used for processing into medicinal products, a variety of beverages, and industrial uses. Due to its increasing exports to nations such as Bangladesh, Saudi Arabia, Russia, Iran, Bahrain, Singapore, Nepal, Switzerland, Kuwait, Sri Lanka, Qatar, and others, it is a significant foreign currency generating crop.



By products of Kinnow fruit apart from Juice

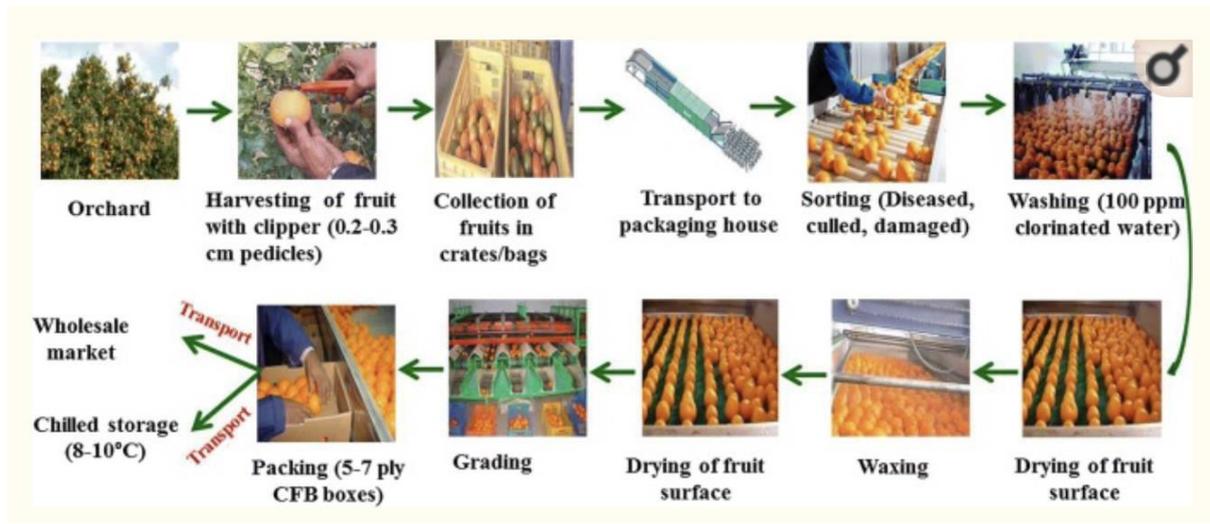
From Juice	TSS, acidity, ascorbic acid, limonin, carotenes, pectin
From pomace	Pectin
From seed	Seed Number, Limonin, seed oil
From peel	Limonin, carotenes, pectin, peel oil

Major Kinnow growing districts in Punjab

- Fazilka
- Hoshiarpur
- Sri Muktsar Sahib
- Bathinda

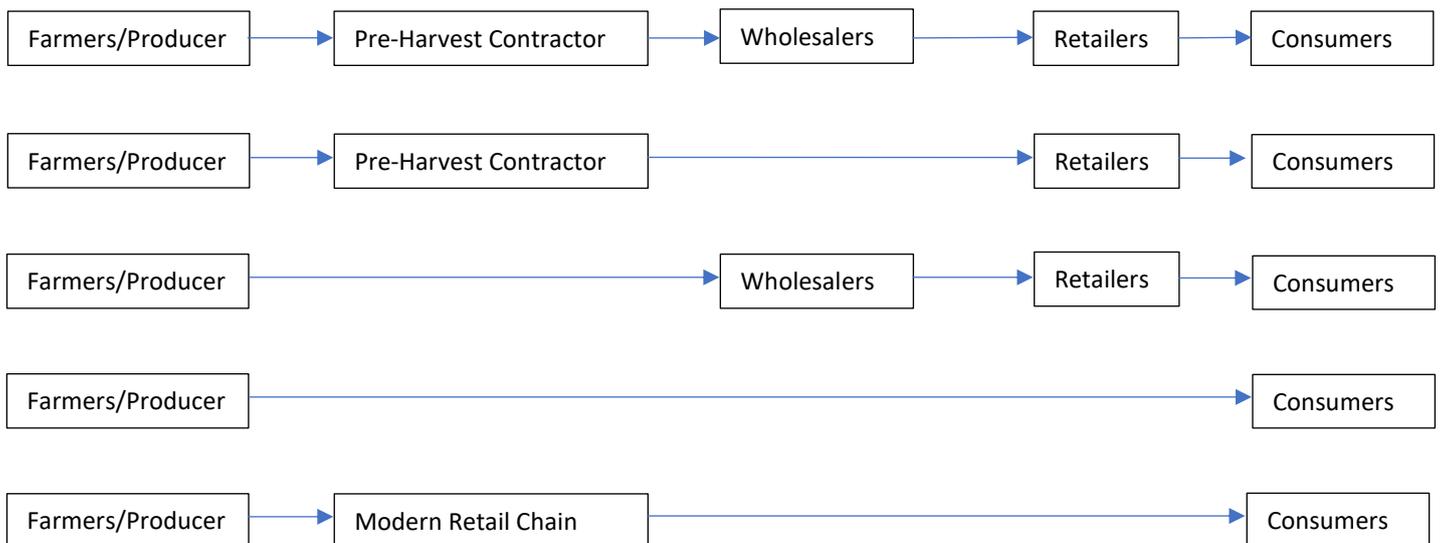
Packhouse Operations

After harvesting, the general pack house operations involved in handling of kinnow includes (a) collection (b) pre-sorting (c) washing (d) grading (e) waxing (f) postharvest treatments (g) packaging.



Understanding the Value Chain of Kinnow (Fazilka)

Five value chains are found to exist in the study area; through which kinnow reaches market and eventually to consumers

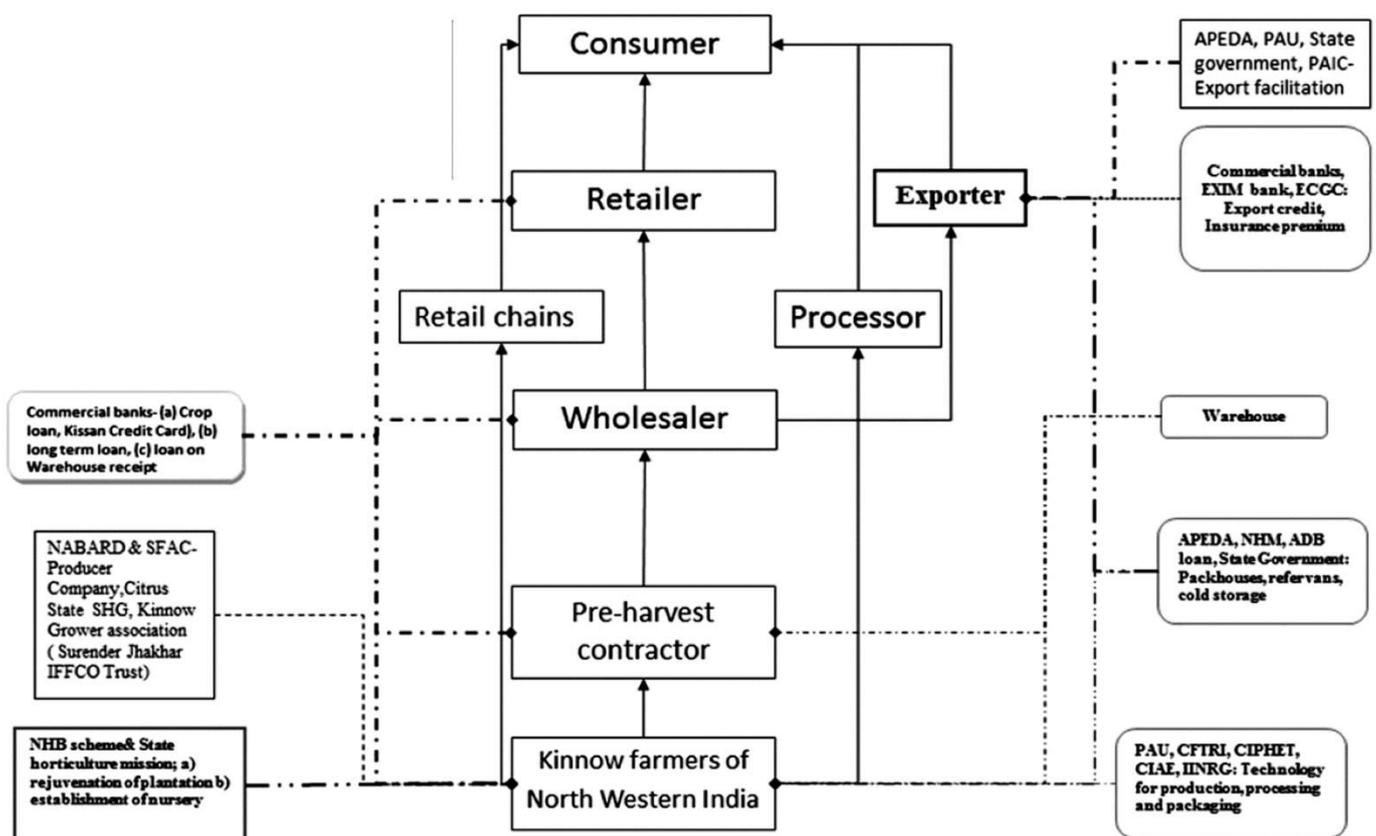


Kinnow farmers of Punjab mostly sell their produce to pre harvest contractors or in local Mandis (APAMC, wholesalers) through various intermediaries and rarely receive the fair value.

It is observed that kinnow growers realise lower return by selling produce to pre-harvest contractors while, it is higher on direct marketing. The emerging marketing channels (EMC) of kinnow involving modern retail chains provide 20% higher price than that in traditional marketing channel (TMC) involving pre harvest contractors

However, the modern marketing channels pose a number of constraints like problems in terms of rejections of low grade produce, procurement according to indent and lack of knowledge of grading

Various Stakeholder Engagements



Every dotted line can be altered to generate more surplus for the farmers as well as for the consumers. We can exploit every stakeholder that is engaged in the process to deliver the exceptional service.

Problems

1. Currently, post-harvest management facilities are solely utilised for potato crops; other horticultural products are not stored. In terms of cold storage, packing, grading, and cold chain transportation infrastructure, there are significant gaps in the commercialization of kinnows.

Proposed Solution

- The development of main processing centres, transportable centres, and ripening chambers is urgently needed as a key safeguard against fruit spoilage.
 - Expanding the area of operation and number of current plant health clinics, as well as disease forecasting units, and improving available storage facilities.
2. Distant Sales - India is projected to have a scarcity of reefer transportation trucks, with less than 10,000 vehicles compared to an estimated 62,000. Because the cost of transporting products in India is considerably higher than the value of the commodity, farmers frequently find themselves in a risk trap when it comes to transporting their production.

Proposed Solution

- Investing in pre-cooling and cold storage, as well as refrigerated vehicles for transportation at distribution centres, is required for a comprehensive cold chain solution.
 - The Railway Ministry should be contacted about supplying refrigerated waggons from Abhor, Bathinda, and Hoshiarpur railway stations, thereby covering the state's Kinnows centres.
3. Comprehensive Processing Plant - Only by establishing comprehensive processing facilities in the citrus producing region that deal with every component of the kinnow fruit will the processing business be sustainable and farmers will see excellent returns.

Proposed Solution

- A private establishment by a well-rooted drinks and food company, taking kinnows directly from the farmers and producing value-added products under their brand
- A PPP establishment for processing Kinnow in a top 5 producing region that may generate raw materials for other companies such as Real, B-natural, and others, or they can sell their product directly to the consumer

4. Marketing the product

Proposed Solution - Orchard Tourism

- Kinnow tourism is now a reality in the states of Ganganagar, Rajasthan, and Punjab, and it entails staying in vast Kinnow farms surrounded by orange-colored kinnows hanging from tiny trees. It's not only about being in the middle of Kinnows and plucking them as the farmers do, but also about learning about how they're processed into nutritious juices. The vast Kinnow farms have given a new dimension to the allure of vacationing in Rajasthan and rural Punjab in line with the rustic ways of living.

- Online distribution avenues should be used, at least for B2B setup.

5. Lack of knowledge and Non availability of tools-

- Lack of appropriate information on availability of good quality versus scummed planting material
- Plant to plant gap is not maintained
- Non availability of post-harvest tools like plastic crates, cutters
- farmers lack the information concerning plant protection, early warning of pest and disease attack and climate forecast.

Proposed Solution - Collectivisation of kinnow farmers into producer organization

The promotion of kinnow producer organisations is critical. This will assist players in developing plans to take advantage of input and output marketing, orchard insurance, credit, and contractual agreements between farmers and traders/processors in their respective areas of strength. The government should take the necessary measures to enhance the cooperative marketing system and self-help group formation.

6. Certification – Farmers are not availing the facilities of organic certificates

Proposed Solution – Government facility and collective unions to promote organic farming and GAP certification for export of produce.

7. Area Expansion and Requirement of Planting Material (Financial Assistance also)

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Jodhpur Furniture and Handicraft products

Jodhpur (in Rajasthan State), is India's major woodcraft cluster and is known for its export excellence. This former princely state has emerged as a hub of wooden artistic furniture and handicrafts inspired by centuries old traditions and legacy. The wooden handicrafts industry forms a 75% share of the total handicraft industry in Jodhpur. The three decades old business has shown an exponential growth. This industry is largely controlled by young entrepreneurs. Europe and USA are the major export markets of the wood products manufactured in Jodhpur, these include small gift articles, carved items, toys, small utility items and furniture products. Jodhpur is the biggest woodcraft industry of the country providing employment to more than one lakh people, and generating exports of more than 400 crores. The majority of the people (almost one lakh) are artisans working either at their homes or in the big manufacturing units. The other categories of the people include handicraft manufacturers (medium and large firms), timber traders and other raw material suppliers, exporters and other office staff at these units.

Problem 1

*The local artisans face challenges because of the **lack of basic facilities and exposure to hazardous working environments** for longer durations.*

Proposed Intervention

- a. Strict implementation of norms for healthier working conditions by providing properly ventilated and lighted workspaces.
- b. Artisans and other types of workers should use safety gears in the form of masks and gloves while doing their daily routine work.
- c. Fix the average number of working hours and the minimum remuneration to avoid the chances of workers getting exploited due to overtime.
- d. Set up special sections in the existing public as well private hospitals for these people so that they are provided with good health facilities at minimal costs.

Problem 2

*Income plays a vital role in the socio-economic condition of any person. A majority of artisans are just living on a subsistence level and the **economic condition of the artisans is not satisfactory**. They are getting **very low wages and remunerations**.*

Proposed Intervention

- a. Governments should ensure that the minimum wages are ensured to the artisans and workers for their share of work and later on depending upon the work and the time devoted it should be kept increasing.
- b. Income generation project should be developed in which women should be trained as artisans. Women artisans were not involved in wood carving, chiseling, engraving etc. they were engaged in very small and less work like priming (fill the gaps and defects of goods) which is done before polishing. Whereas, they can also be involved in polishing, inlay and outlay work.
- c. The artisans should be brought under the protective cover of the social security programs.

Problem 3

Lack of Awareness of new technologies. Due to lack of information, a majority of artisans are not able to access these facilities and most of them are not aware of smart phone application, social media, and internet. They do not know that how to access internet for design advancement, to make new prototypes and to learn new techniques for wood craft.

Proposed Intervention

- a. There should be specialized and advanced program for the artisans in which various issues would be addressed separately by creation of some skill development program that would teach and help the artisans practice the new, advanced and technological way of carrying forward their art. This would help them to be aware about the changing trend of consumers' tastes, and facilitate their participations in national trade fairs.
- b. Government/authorities should propose the exemption on import of duty-free items as an incentive to exporters of handicraft items to give a boost to the sector.
- c. Easy access to the internet and smart phone devices by subsidizing their costs for these poor artisans so that they are connected through technology and can learn new skills.

Problem 4

Lack of awareness of contemporary marketing techniques. Most of the artisans are not aware of smart phone application, social media, and internet for increasing their business reach and gain information about new age customer demands.

Proposed Intervention

- a. There should be awareness program for the artisans which would educate them about technological advancements, the changing trend of consumers' tastes, and facilitate their participations in national trade fairs.
- b. Promotional events and reward system should be implemented on different level like town, city, state, National and International level so that the new generation of artisans will be exposed in craft sector and the art will remain relevant and alive.
- c. A social interaction platform should be provided to artisans where they meet their consumer face to face and understand their need. For this purpose stalls, shops, and traditional market-places must be set up where craftsmen can themselves sell their products which should be rent free.

Problem 5

Lack of Awareness of Government Schemes related to Artisans and Skill Development and Technology Up gradation Program

Proposed Intervention

- a. Local government authorities should ensure that they transfer the necessary knowledge to the local artisans from time to time so that they can take benefit of various government schemes.

- b. These government schemes should be properly highlighted and published in the local language newspapers as well as the local language TV channels to provide maximum benefits to the beneficiaries.

Problem 6

The problem of dearth of good quality raw material exists due to acute shortage of high-quality wood.

Proposed Intervention

- a. The core dependence on sheesham should be shifted to shared dependence on a variety of species such as *papdi, kikar, jamun* and primarily mango.
 b. The local farmers should be explained the importance of the good quality raw materials required and they should be aptly compensated for the raw materials they provide.

Problem 7

The woodcraft industry has remained badly hit due from the after effects of demonetization and GST. Majority of the workforce of skilled crafts persons have quit and joined other professions.

Proposed Intervention

- a. Some parts of the supply chain activities should be exempted from the taxation so that it gives a boost to the traders and marketers associated with this industry.
 b. Create more and more avenues for high grade export materials by making the export channels transparent and free from the elements of commission or bribery.

Sr. No	Type of Intervention	Proposed solutions	Agency
1.	Infrastructure support	Provision of safety gear and healthier working environments	Department of health & family welfare
2.	Infrastructure support	Set up of special sections in public and private hospitals for low-cost healthcare facilities and checkups of local workers	Department of health & family welfare
3.	Minimum wages support	Governments should ensure that the minimum wages are ensured to the artisans and workers for their share of work	Handicrafts Development and Marketing Corporation Ltd.
4.	Skill development & training	Women should also be trained under this and promotion of social safety programmes	Ambedkar Hastshilp Vikas Yojna
5.	Branding & Marketing	There should be awareness programmes for the artisans	Marketing promotion schemes under Ministry of micro, small,

		which would educate them about technological advancements, the changing trend of consumers' tastes, and facilitate their participations in national trade fairs	and medium enterprises
6.	Branding & Marketing	These government schemes should be properly highlighted and published in the local language newspapers as well as the local language TV channels to provide maximum benefits to the beneficiaries.	Ministry of Information & Broadcasting
7.	Supply chain	Some parts of the supply chain activities should be exempted from the taxation so that it gives a boost to the traders and marketers associated with this industry.	Ministry of micro, small, and medium enterprises
8.	Market analysis	A social interaction platform should be provided to artisans where they meet their consumer face to face and understand their need.	Ministry of Information & Broadcasting

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Product: Pratapgarh garlic, Pratapgarh (Rajasthan)

11 Proven Health Benefits of Garlic

“Let food be thy medicine and medicine be thy food.”

Those are famous words from the ancient Greek physician Hippocrates, often called the father of Western medicine. He actually used to prescribe garlic to treat a variety of medical conditions. Modern science has recently confirmed many of these beneficial health effects.

Here are 11 health benefits of garlic that are supported by human research.

1. Garlic Contains Compounds with Potent Medicinal Properties:

- Summary Garlic is a plant in the onion family that’s grown for its distinctive taste and health benefits.
- It contains sulfur compounds, which are believed to bring some of the health benefits.

2. Garlic is highly nutritious and has very few Calories:

- Garlic is low in calories and rich in vitamin C, vitamin B6 and manganese.
- It also contains trace amounts of various other nutrients.

3. Garlic Can Combat Sickness, Including the Common Cold:

- Garlic supplements help prevent and reduce the severity of common illnesses like the flu and common cold.

4. The Active Compounds in Garlic Can Reduce Blood Pressure:

- High doses of garlic appear to improve blood pressure for those with known high blood pressure (hypertension).
- In some instances, supplements may be as effective as regular medications.

5. Garlic improves cholesterol levels, which may lower the risk of Heart Disease:

- Garlic supplements seem to reduce total and LDL cholesterol, particularly in those who have high cholesterol.
- HDL cholesterol and triglycerides do not seem to be affected.

6. Garlic Contains Antioxidants That May Help Prevent Alzheimer’s Disease and Dementia:

- Garlic contains antioxidants that protect against cell damage and aging.
- It may reduce the risk of Alzheimer’s disease and dementia.

7. Garlic May Help You Live Longer

- Garlic has known beneficial effects on common causes of chronic disease, so it makes sense that it could also help you live longer.

8. Athletic performance might be improved with Garlic Supplements:

- Garlic may improve physical performance in lab animals and people with heart disease.

9. Eating Garlic May Help Detoxify Heavy Metals in the Body:

- Garlic was shown to significantly reduce lead toxicity and related symptoms in one study.

10. Garlic May Improve Bone Health:

- Garlic appears to have some benefits for bone health by increasing estrogen levels in females, but more human studies are needed.

11. Garlic Is Easy to Include in Your Diet and Tastes Absolutely Delicious:

- Garlic is delicious and easy to add to your diet. You can use it in savory dishes, soups, sauces, dressings and more.

Problems

1. Garlic glut, price crash leave Pratapgarh farmers in distress

- Farmers in the District took to garlic farming in a big way as canal-fed irrigation and rivers ensured plenty of water required for the crop.
- Because of deficient rainfall, farmers had to set up tube wells for irrigation which added to the production cost of garlic. And the price crash left the farmers in distress.

Proposed Intervention

a. Market Intervention Scheme (MIS)

- Market Intervention Scheme (MIS) is a price support mechanism implemented on the request of State Governments for procurement of perishable and horticultural commodities in the event of a fall in market prices.
- The Scheme is implemented when there is at least 10% increase in production or 10% decrease in the ruling rates over the previous normal year.
- Market Intervention Scheme works in a similar fashion to Minimum Support Price based procurement mechanism for food grains, but is an adhoc mechanism.
- Its objective is to protect the growers of these horticultural/agricultural commodities from making distress sale in the event of bumper crop during the peak arrival period when prices fall to very low level.
- Thus it provides remunerative prices to the farmers in case of glut in production and fall in prices.

- Further, the extent of total amount of loss shared is restricted to 25% of the total procurement value which includes cost of the commodity procured plus permitted overhead expenses.

Implementation of MIS

- The Department of Agriculture & Cooperation is implementing the scheme. Under MIS, funds are not allocated to the States.
 - Instead, central share of losses as per the guidelines of MIS is released to the State Governments/UTs, for which MIS has been approved, based on specific proposals received from them.
 - Under the Scheme, in accordance with MIS guidelines, a pre-determined quantity at a fixed Market Intervention Price (MIP) is procured by NAFED as the Central agency and the agencies designated by the state government for a fixed period or till the prices are stabilized above the MIP whichever is earlier. The area of operation is restricted to the concerned state only.
2. *Less garlic export and fewer garlic-processing units*
- A large number of farmers took agricultural land on lease on a high rent in the hope of making profit and recovering the cost, but increase in cost leads to losses.

Proposed Intervention

- a. Price Stabilisation Fund (PSF)
- Price Stabilisation Fund (PSF) refers to any fund constituted for the purpose of containing extreme volatility in prices of selected commodities.
 - The amount in the fund is generally utilized for activities aimed at bringing down/up the high/low prices say for instance, procurement of such products and distribution of the same as and when required, so that prices remain in a range.
 - PSF mechanism is apart from the Minimum Support Price (MSP) based initiatives already existing in the country for certain agricultural goods.
 - The MSP system has some price tempering properties, but it is from the perspective of the growers / farmers and becomes operative when prices fall below the cost of production. The output thus procured by the Government at MSP is later distributed at affordable rates through the public distribution system.
 - Another parallel to PSF are the Consumer Federations (known commonly as Consumerfeds) which undertake distribution of consumer goods at reasonable and affordable rates. They undertake bulk procurement of consumer goods, essential goods, and supply to affiliated and/or other Co-operatives Societies and arrange for proper storage, packing, grading and transport of such goods.
 - While tempering the prices of such goods, these entities save the public from the exploitation by retail / middleman and continually operate throughout the year irrespective of the movement in the market prices of these goods.
 - Some consumer-feds establish and run manufacturing and processing units for production of consumer goods in collaboration with other entities or directly by itself.

- In contrast to MSP and consumer fed operations, a PSF is generally conceived to be operative in both directions of price movement, subject to prices crossing some threshold level.

b. Kisan Credit Card Loan Scheme

- The Kisan Credit Card scheme is a Government of India scheme which provides farmers with timely access to credit. The Kisan Credit Card (KCC) scheme was launched in 1998 with the aim of providing short-term formal credit to farmers and was created by NABARD (National Bank for Agriculture and Rural Development).
- The KCC scheme was introduced to ensure that the credit requirements for farmers in the agriculture, fisheries and animal husbandry sector were being met. This was done by helping them avail short-term loans and provide them with a credit limit to purchase equipment and for their other expenses as well.
- Moreover, with the help of KCC, farmers are exempt from the high interest rates of the regular loans offered by banks as the interest rate for KCC starts as low as 2% and averages at 4%. With the help of this scheme, farmers can repay their loans depending on the harvesting period of their crop for which the loan was given.

Top Kisan Credit Cards by Banks

Credit Card	Credit Limit	Maximum Tenure
Axis Kisan Credit Card	Up to Rs.2.50 Lakh (in the form of a loan against the card)	Up to 1 year for cash credit Up to 7 years for term loans
BOI Kisan Credit Card	Up to 25% of the farmer's estimated income (but not exceeding Rs.50,000)	N/A
SBI Kisan Credit Card	Based on the crop cultivation and cropping pattern	5 years
ICICI Kisan Credit Card	As per the bank's terms and conditions in accordance to RBI guidelines	5 years
HDFC Kisan Credit Card	Credit limit of up to Rs.3 Lakh	5 years

How to Check Kisan Credit Card Balance

- Farmer can apply for a Kisan Credit Card from any bank that is issuing KCCs and this process has now been made online.
- In order to check your Kisan Credit Card balance, farmer need to contact the customer care of the bank from where you have gotten the Kisan Credit Card.
- Farmer can also log into the bank's portal and check the balance of your Kisan Credit Card via the website.

Sl. No.	Type of Intervention	Proposed Intervention	Authorities
1.	Training and Development(up-skilling)	Market Intervention Scheme (MIS)	Department of Agriculture & Cooperation GOI
2.	Credit and Product improvement	Price Stabilisation Fund (PSF)	Government of India
3.	Credit	Kisan Credit Card Loan Scheme	Government of India with support of National Banks

Garlic can transform dull food into a delight.



Rajsamund Teracotta (Rajasthan)

Terracotta is an age – old craft of Rajasthan. Terracotta art in Rajasthan is very significant in the State because for these villagers, the worship of their terracotta deities is as basic and essential for survival .

Molela is a small village in the Rajsamand district of Rajasthan, settled on the banks of the Banas River. Approximately fifty families in Molela are engaged in this art of clay. They make terracotta plaques which are supplied across the country and abroad.

There is a legend behind this unique craft that claims that there was a blind potter, who dreamt of God Devnararyan (Dharmaraja). The God asked him to dig clay at a particular place and make his image. The next morning, his sight was restored. He made the God's image to fulfil his promise. Thus the future generations took to this craft. The traditional design is an image of Dharamaraja on a horse.

Like most crafts, Murtikala has been passed from generation to generation, through the sons of the family, evolving with each generation. Typically the women do the hard work of getting the clay ready while the men make the murtis and decorate them.

In the process, first donkey dung powder is spread on the ground. After removing impurities from the clay, the slab is cut, with the help of an iron tool, into the shape that forms the surface to support the relief figure. The slab is beaten with the pindi. While making the slab, the pindi is cleaned with the tool called baldi. When the slab becomes 1.5 inch thick, a wooden tool called patiya is used for beating. After this, approx measurement are taken with the palm and the surface is smoothened by hand. Having cut the main shape, thick coils are made, flattened and added to the main slab to make a shape.

Molela clay is muddy in colour. It is dug from the banks of Banas river, 2 Kms away from Molela on Nathdwara Road Near Udaipur. Each potter has his own spot for digging based on his own previous experiences. For the colours, they use natural stone and mineral colours. Palewa is the clay slip and makes different colours when mixed with other elements.

Unlike the usual icon & model made elsewhere, this craft is unique in design.

Once a year the tribals also buy the brightly painted terracotta plaques from these potters. The most important figures are that of Devnarayan (Dharmaraja) and Nagaraja (the snake God). The tribals prefer bright colours for Gods and there are specific colours to depict each God. For instance, Blue is used for Kaladev and Orange is used for Goradev. The tribals usually change these votive every year. They consider these Gods as their protectors.

Problems :

1. *Clay is not available throughout the year. The growing pace of urbanisation in and around the temple town and beyond has led to large scale brick-making. The clay for the terracotta artisan used to be free as a common property resource and was accessed by all within reasonable limits. The new capital in realty business has started buying and occupying the resource which has become scarce for the artisans.*

Proposed Intervention :

- a. Clay (Mitti) can be procured by Government agency and provided to the artisans as per their need throughout the year.
 - b. The price of the clay per trolley should be fixed for financial year.
2. *Quality of clay has degraded especially in the last two decades.*

Proposed Intervention :

- a. Research and development for enhancing the quality of clay for better products manufacturing should be done. This would help the artisans make bigger sized products with ease.
3. *Non Biodegradable products (Thermocol and Plastic Bubble Wrap) are used for packaging the artifacts.*

Proposed Intervention :

- a. Straw (Parali) and shredded waste paper can be used for packaging.
 - b. Training workshops should be organised for artisans to help them with better packaging skills.
4. *The artisans still make conventional products. They lack of awareness of market across India and abroad if they make innovative designs/ products.*

Proposed Intervention :

- a. Training/ workshops can be held so that different prototypes or theme based products can be made.
 - b. Various specialized organizations, like DC (handicrafts), may help the local units to produce various value added items which would not only help to penetrate the local market, but also help in exporting of such items to foreign countries.
5. *Lack of trust (financial) among the artisans. Hence the cluster and association could not function for a longer tenure.*

Proposed Intervention :

- a. Financial transactions can be monitored better on a portal customised for artisans as per their need, which would be easy accessible for the artisans.
 - b. The per order monetary distribution can be assured as per hierarchy of manufacturing and fixed amounts can be set as per each process.
6. *Conventional machinery (0.5 HP Motor, Round rotating wheels) for initial shape formation and firewood kilns for heat treatment are used.*

Proposed Intervention :

- a. Machinery of the artisans should be upgraded as per latest technology available.
 - b. Gas kilns should be further introduced which would decrease the production time significantly.
 - c. Regular training for usage of upgraded machinery should be provided by the concerned departments.
7. *The artisans are less aware about Government schemes (Credit facility, Land/ Shed facility, Trade fair participation etc)*

Proposed Intervention :

- a. The artisans should be made aware about the current schemes related to their products through training workshops.
 - b. They should be made aware of HSN of their product and potential their products have for exports.
 - c. Videos of their progress (from scheme benefits) can be further promoted to motivate the artisans to further expand their product range.
8. *The artisans are not formally registered (GST IN), less aware to use e commerce portals (List the products, Process orders further)*

Proposed Intervention :

- a. Artisan enterprises should be formally registered (GST)
- b. Workshops for listing and processing e commerce orders should be introduced.

Sr. No	Type Of Intervention	Proposed Intervention	Agency
1.	Raw Material Support	Availability of Raw Material (clay) throughout the year	Rajasthan Small Industries Corporation
2.	Training and Development	Skill development training programs	1. Rajasthan Small Industries Corporation (RSIC) 2. Ministry of MSME
3.	Technology upgradation	Establishment of better machinery equipment.	Ministry of MSME
4.	Credit Support	Credit support for artisans.	Ministry of MSME

5.	Branding and Marketing	Promotion and trade fairs	Ministry of MSME
6.	Infrastructure Support	Land to be provided with industrial shed	RIICO
7.	Certification	GST Registration and Brand Registration	District Industries Centre, Rajasamund
8.	Packaging	Packaging training/ workshops	1. MSME 2. IIP
9.	Training and Development (Upskilling)	Export Assistance	1. Trade Promotion Council Of India 2. Export Promotion Council for Handicrafts

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South Garo Hills Cashew - Meghalaya

Cashew crop is a native of Brazil. Throughout India, this was first introduced by the Portuguese in the sixteenth century to combat soil erosion and, later on, it acquired business value for the cashew kernel, which is actually the main item of the cashew tree. In the year 1960-61, the Assam Department of Soil Conservation introduced cashew at Meghalaya to Garo Hills. Cashew trees are grown mostly under the West Garo Hills and South Garo hills districts of Meghalaya across the undulating terrain. The majority of the land accessible in the South and West Garo Hills is currently being utilized to grow cashews and it provides an ample scope for area expansion of this crop in the districts of Meghalaya.

Problems

1. Poor transport networks:

- Limited communication infrastructure increase transaction costs for bulking affecting profit margins and the prices given to farmers by traders.
- Poor storage facilities reduce the quality and undermines faster bulking and consolidation of surplus in the supply chain

Proposed Interventions

- (a) Improve road network and other communication systems: Increase investment in road construction and maintenance in order to increase accessibility of farmers to marketing centre all year round.
- (b) Allocation of funds to maintain the feeder roads in their localities and resources to maintain the roads.
- (c) There are no nurseries that are available to the cashew growers. Hence, it is very important to establish cashew nursery in South Garo Hills so that quality planting material can be made available to growers.

2. Limited business skills and competences:

- The key areas are:
 - i. knowledge of premiums price available for better quality;
 - ii. regional/international quality standards;
 - iii. knowledge of improved packaging options;
 - iv. current international prices and markets, sources of finance, and
 - v. knowledge of better/improved technologies for use.
- The others which were also severely in short supply were: knowledge of value-adding and (further) processing opportunities and business planning.

Proposed Interventions

- (a) Increased investment in storage facilities and ware house: The Government of Meghalaya to focus and encourage farmers to upgrade their storage facilities and promote establishment of community storage facilities.
- (b) Increase Agricultural Extension Services: Government of Meghalaya to consider proposals for increasing enterprises promotion in cashew cultivation and processing by facilitating the extension services.
- (c) Establish market and trade information centre: Establish market and trade information centre in South Garo Hills and strengthen the centers financially through increased budgetary allocation to enable them collect, store and disseminate market information. Government of Meghalaya should establish an effective agricultural marketing information system so as to boost both domestic and export marketing.
- (d) Establish credit linkage: Government of Meghalaya may establish commodity specific credit financing schemes in order to mitigate the financial constraints arising out of the existing financing systems – which are currently dominated by private money lenders.

3. Limited knowledge on technology options:

- This has resulted in a slow rate of technology adoption which in turn has limited processing efficiency and the production of new and improved products.

Proposed Interventions

- (a) Developing effective technology for Cashew Shell Nut Liquid (CSNL) and extraction of Cardol and Cadanol which is used for base paints, water proof materials
- (b) Organize producers and processors meet and trade fairs on cashew at District and State Level.
- (c) Initiate online information centres to provide local market information to local producers and suppliers as well as those at National and International Level.

4. Inadequate enforcement of quality:

- Inadequate enforcement of quality standards, weights and measure and lack of premium prices has undermined crop quality improvements in the supply chain.

Proposed Interventions

- (a) Promote high density cashew plantation in Garo Hills with 4m×4m spacing for first 11 years, then subsequently 8m×5.6m×5.6m by removing alternate tree after 11 years of planting. Rejuvenation of senile cashew orchard should be immediately initiated by cashew growers.
- (b) Developing customised capacity building support program on basic agronomy, disease control, pest management and primary processing would also help increase the quantity of cashew.

- (c) Training of Micro and Small Cashew Processors in processing, entrepreneurship development and business management.

5. *Extortion threats:*

- Some believe that cashew processors have to pay a heavy tax to the extortion threats posed by militant groups. This is one of the reasons for not expanding the business to higher volume.

Proposed Interventions

- (a) Re-organize and re-establish Farmers Interest Group and promote federation: The government can encourage and support the formation of farmer groups and cooperatives as an important strategy for improving cashew marketing and facilitated in terms of finance and human capital to promote cooperatives.

Sl.No.	Proposed Intervention	Agency
1.	Varieties for cold tolerance	Department of Biotechnology, Indian council of Agricultural Research
2.	Automation in cashew industry	The Cashew Export Promotion Council of India (CEPCI)
3.	Development of industrial cluster	Ministry of micro,small and medium enterprises
4.	Soil and water conservation techniques	Ministry of Environment and Forest.
5.	Management of plant canopy architecture	Ministry of Agriculture
6.	Encouraging automation and upskilling workers	TN Department of MSMEs/TIDCO
7.	Assess introduction/ marketing of cashew nut by/ end-products	Invest India/ Ministry of Commerce

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Kanyakumari Fisheries– Kanyakumari, Tamil Nadu

Kanyakumari District is situated in the southernmost part of the Indian subcontinent. It is bounded by a coastal line of 72 km. The district has 42 fishing villages along the coastline and fishing is their main occupation. The fishing population of the district is 143388 with 73471 men and 69917 women.

The main fish species of the state quantitatively are sardines, ribbon fish, silver bellies, anchovies, half-beak and gar fish, skates and rays, polynemids, seer and other mackerel, perches, carangids and catfish. These species constituted 66% of the total marine landings.

Also, the Fisheries sector plays a significant role in providing subsistence and livelihood, food and nutritional security. Fisheries sector also contribute a major share to the Indian economy by providing employment, alleviating poverty and offering foreign exchange.

Problems

1. *Fishermen in general do not have adequate **finance** to change the traditional fishing methods to modern growth orbits.*

Proposed Intervention

- a) Setting up of regulated markets wherein interference of middlemen and their exploitation can be avoided and the fishermen themselves can sell their own products to customers at reasonable prices.
- b) Eliminating middlemen in marketing channels and substituting them with agencies like cooperatives providing services at reasonable rate
- c) Setting up regulated fish markets which might pave way to overcome many difficulties and limitations arising from unfair trade practices prevalent in the fishing industry.
- d) Alternative job opportunities during the fishing ban period and during the time of natural disturbances like cyclones and rain can be thought of.
- e) Provision of financial assistance to the fishermen community from private or public sector banks to redeem them from the clutches of commission agents and money lenders to eradicate linked credit.

2. Lack of infrastructural facilities: *Due to lack of proper harbour or other infrastructural activities, fishermen migrate to other cities.*

Proposed Intervention

- a) Provision of financial assistance in the form of loans and subsidy in the scheme of mechanization of fishing craft as well.
- b) There is a need for infrastructural facilities like refrigerators, storage facilities, processing units, etc to minimize credit marketing linkage
- c) Educating, informing, and executing welfare schemes to fishermen community through radio and television programmes, so that they can avail the benefits of welfare schemes.
- d) Need of Training programmes in fiscal management and household budgeting for the benefit of fishermen and their spouses by the NGOs so as to minimize the consumption adventure

3.Higher fuel prices: *Hike in the cost of diesel fuel is one of the major issues for fishing vessels all over the country.*

Proposed Intervention

- a) Focus on invention of alternative and less cost methods like solar methods or recharge batteries or kerosene lamps for fishing.
- b) There is a need to fix a minimum price for both marine and inland fishes to provide incentives and marketing support in the interest of fishermen
- c) Establishing large storage facilities in the fish landing areas for minimal rent so as to help fishermen to preserve their catch.

4. Lack of safety measures for fishermen in India

Proposed Intervention

- a) Motivating fishermen by issuance of certificates, award of fishing licenses or subsidies for those who register, enforcing safety aspects related to the vessel itself.
- b) National guidelines and regulations should be established for free design of construction and equipment of small vessels.
- c) Installation of monsoon forecast predicting information centres and provision of life jacket to every sea going fishermen.
- d) Focus on training of building boats and vallams

5. **Lack of marketing infrastructure:** Fish being perishable product requires immediate disposal of the catch. The fishermen do not have adequate transport and storage facilities. Hence marketing becomes major problem for the fishermen to sell their catch to the final customers.

Proposed Intervention

- a) Cooperative institutions have to strengthen their role in the area of marketing in order to solve some of the burning problems spelt out by fishermen.
- b) More and more cooperative societies need to be established throughout the coastal villages.
- c) Focus should be laid on organizing fishing stalls in nearby areas where people live, so that the demand for fish can be increased.
- d) Adequate market infrastructure such as modern and wholesale retail fish markets in every district headquarters and metro cities should be created.
- e) Creating awareness among people through mass media about various health benefits of eating fish food.
- f) Fisheries graduates and diploma holders must be encouraged to take up fisheries marketing as a profession.

6. **Unemployment** among fishermen during ban on fishing practice:

Proposed Intervention

- a) They must be provided with alternative and supplementary occupations, especially during the ban period, like mariculture, seaweed culture and production of value-added products.
- b) They must be trained for off-fishing employment opportunities in other fields related to fishing such as construction of boats, repairing the engines and equipments, fish marketing and export, etc
- c) Entrepreneurial motivation and training shall be organized for them so that the entrepreneurial avenues in allied industries such as net making, value added product manufacturing, ice plants, cold storage, mariculture and seaweed culture, etc., shall be explored.

Sr. No	Proposed solutions	Agency
1	Upgraded technology in inland fish farming	Fisheries training research centre, Parakkai
2	Promotion of Indian marine products	MPEDA

3	Enhancement of fish production	National fisheries development board
4	Formulation of policies and schemes	Ministry of fisheries, Animal husbandry and dairying
5	Value added products/Product diversification	Ministry of commerce and Industry
6	Cold storage facility	Ministry of food processing Industries
7.	Support of fisheries education and scientific research	Fisheries college and research institute
8.	Development of unique fishery methods	Central Marine fisheries research institute

Source: <https://shodhganga.inflibnet.ac.in/handle/10603/26770>

Karur Home textiles – Karur, Tamil Nadu

Karur, known for home textiles is one of the oldest towns in Tamil Nadu with a significant history and culture. With headquarters at Karur, home textiles are one of the centrally located clusters in Tamil Nadu. It is bounded by Namakkal cluster in the north, Dindigul cluster in the south, Tiruchy cluster in the east and Erode cluster in the west.

Karur has a niche in five major product groups - bed linens, kitchen linens, toilet linens, table linens and wall hangings. About 750 MSME units in the town are involved in manufacturing and exporting tablecloths, kitchen towels, bed sheets, curtains, and other home furnishing products. Annual exports from the town are valued at between ₹3,500 crore - 5,000 crore. The industry employs about 1.50 lakh employees directly and provides indirect employment to an equal number. Importantly, it employs a large number of semi-skilled and unskilled workers. A major part of the textiles is exported to the USA and European countries such as Italy, Spain, and France.

Problems

1. Lack of Product & Process Innovation: Innovation is key in the industrial sector. Without innovation, the products will be monotonous and unsought for in the market

Proposed Intervention

- a) More research and development institutions must be established exclusively for the textile export trade.
- b) State Government should introduce innovative schemes for augmenting production, planning the market strategies, imparting training to the personnel involved in export trade, creating designs and forecasting for different seasons keeping in mind the dynamic changes of the fashion industry to withstand global competition.
- c) Research in respect of design inputs, infrastructure inputs, process upgradation, technology inputs to suit to Indian conditions should be conducted by Textile Research Associations, Technological Universities and other research forums with the active support of Government of India and Export Associations of the respective clusters.

2. Absence of advanced technology and infrastructure:

Proposed Intervention

- a) Improving Infrastructure is a factor that has an impact on export performance which includes expansion of ports, provision of uninterrupted power supply, and expansion of warehouse facilities

3. Unavailability of skilled manpower

Proposed Intervention

- a) Introducing sector specific training to impart employable skills
- b) Skill mapping to facilitate the creation of a pool of skilled human resources
- c) Revising the existing training curriculum to meet the current requirements of the industry
- d) Introduction of measures to impart relevant training in skill development through premier fashion and design institutions like National Institute of Fashion Technology and other institutions of repute in related areas to overcome the shortage of skilled manpower.

4. **Supply from the cluster is erratic** and often does not fulfil orders.

Proposed Intervention

- a) Increase in information flow to meet market demands and fulfil orders.
- b) Skill development to remove procedural inefficiencies that lead to slow manufacturing
- c) Promoting digital literacy for connecting the cluster through internet and language training

5. Lack of **marketing and poor packaging**: These items need appropriate marketing and platforms in India and abroad.

Proposed Intervention

- a) Setting up dedicate stores in malls and hotels
- b) Popularize the story of this traditional weaving art with the help of content writers and social media influencers
- c) Fancy and attractive packaging with pictures of artisans and weaving art
- d) Financial support to participate in trade fairs and exhibitions

6. **Decrease in the number of young artisans**: Due to the low income, time-consuming production, young artisans are migrating to other employments

Proposed Intervention

- a) Training more artisans and popularizing the art which shall attract the young generation to get engaged
- b) Luxury Marketing training programs: Increasing the market understanding among the artisans will cut the middlemen profits and more income for the weavers
- c) Machine up-gradation, if possible, with the help of NIFT and NID students to reduce manual efforts and modernization of old looms

Sr.	Proposed intervention	Agency
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No.		
1	Micro Chips, GI Tags (Logos), BlockChain	Ministry of Textiles, Ministry of Electronics and Information Technology
2	Co-branding with luxury products	Ministry of Textiles, Ministry of Commerce & Industry
3	Shelf Space in Emporium	Central Cottage Industries Emporium (CCIE) - Ministry of Textiles, Ministry of Commerce & Industry
4	Machine Technology Upgradation	National institute of design, Tamil Nadu
5	Obsolete Designs	National Institute of Design National Institute of Fashion Technology
6	Product development and marketing	Craft council of India
7	Trade fair participation grant	Ministry of Commerce & Industry Ministry of Textiles

<https://www.thehindu.com/news/cities/Tiruchirapalli/pandemic-leaves-karur-textile-exporters-reeling/article31390349.ece>

<https://timesofindia.indiatimes.com/city/trichy/textile-units-in-karur-may-work-but-wont-sustain-sans-new-orders/articleshow/75498446.cms>

<https://shodhganga.inflibnet.ac.in/handle/10603/40220>

Krishnagiri Mango (Tamil Nadu)

Krishnagiri Mango is known as **Mango Capital of India** where over 40,000 hectares is used for mango cultivation. Krishnagiri's mango produce is the most sought after in countries like Russia, Singapore, Australia, and France. A wide variety of mangoes like Totapuri, Alphonso, Neelam and Sendura are Cultivar.



Problems

1. This year's mango cultivation has been severely affected by pest attack during the flowering season. This, coupled with unfavorable climate and untimely fertilizing, has resulted in most farmers facing a 50 per cent decline in yield.
2. Farmer who cultivate mango in his two-acre orchard said that on average the orchard would have produced up to four to six-tonne yield per acre.

Mango pulp industries

1. The pulp industries had cut down procurement because of losses. "Pulp industries are offering Rs 10,000 per tonne. There are over four cycles of pesticides sprayed every season and this price merely helps break even with the cost of pesticide.
2. Farmers said that most of the locals were ignored by pulp industries and that they were procuring from Karnataka, Telangana and Andhra Pradesh for lower prices. He further said those mangoes were of poor quality and that this trend could hurt Krishnagiri's reputation and exported.

Plea for Aid

1. The farmers collectively urged that the Horticulture department should bring in more innovation into mango cultivation to protect yield from insect attack and improve fructose content.
2. Senior officials in the Horticulture department, they said, "As far as the retail market is concerned, we provide the best price in Uzhavar Sandhai. But, we cannot interfere with private industries and their rates. We can offer advice, but at the end of the day the decision is with the farmers.
3. Officials also added that farmers leasing out their land to private cultivators and the maintenance of orchards have drastically reduced. They noted a decrease in mango cultivation area by almost 4000 hectares.
4. On pulp industries choosing mangoes from other states, officials cited that mango season starts early in other states and that their prices were competitive.

Proposed Interventions

Pradhan Mantri Fasal Bima Yogna (PMFBY)

- a. PMFBY scheme is sensitized and popularized among all the farmers.
- b. Farmers voluntarily insured and participated in PMFBY scheme to protect their farms from natural calamities like flood, drought etc.
- c. PMFBY sensitization and awareness created resulted in insurance coverage of 5376 farmer's voluntary enrollment in this scheme.
- d. All Mango farms cultivated in Krishnagiri district based on cropping pattern covered insurance scheme.
- e. As per recommendations of District Level Monitoring Committee the Individual farmer based crop compensation may be paid to the farmers, Crop Cutting Experiments based on yield.

Soil Health Card Scheme

- a. The Scheme of "**Mission Soil Health Card**" has been launched by the Hon'ble Prime Minister of India on 19-02-2015, for implementation from the year 2015-16, under the scheme "National Mission on Sustainable Agriculture" (NMSA), with an aim to diagnose soil fertility related constrains with standardized procedures for sampling uniformly across the states and analysis and design fertilizer recommendations in targeted districts.
- b. It will also develop and promote soil test based nutrient management in the districts for enhancing nutrient use efficiency, and also helps to build capacities of district and state level staff and of progressive farmers for promotion of nutrient management practices.
- c. Under this scheme Soil Health card will be issued to all the farmers in this country once in 2 years.
- d. As per the instructions of the Government of India, every year December- 5th has been observed as "World Soil Health Day", and a function is celebrated in our district on that day to create awareness to the farmers regarding the soil health. As a large number of famers gather on the occasion, it is being utilized for the distribution of Soil Health Cards to the farmers.

Beneficiary

All farmers are Eligible to avail this benefit.

Benefits

It will diagnose soil fertility related constrains with standardized procedures for sampling uniformly across the states and analysis and design Taluk / Block level fertilizer recommendations in targeted districts.

Agricultural Technology Management Agency (ATMA)

- a. The main objective (or) aim of this schemes in to convergence the benefits to the farmers from all Agricultural and allied department scheme to the farmers.
- b. The Second most important objective of this scheme in transfer of technologies to the farmers by which their production, productivity and income of the farmer has been increased the departments involved in this scheme are Agriculture & Agriculture Marketing.

Beneficiary

All farmers are Eligible to avail this benefit.

Benefits

Aim of these schemes in to convergence the benefits to the farmers from all Agricultural and allied department Scheme to the farmers.

Agencies and Contact Details

<u>Possible Interventions</u>	<u>Department</u>	<u>Contact number</u>	<u>Email Address</u>	<u>Address</u>
PMFBY	Agriculture department Krishnagiri (GOI)	9443906424	dakrishnagiri2015@gmail.com	Integrated Agriculture Extension centre, Collector campus, (Krishnagiri)
NMSA	Agriculture department (State) Krishnagiri	9361112438	dakrishnagiri2015@gmail.com	Integrated Agriculture Extension centre, Collector campus, (Krishnagiri)
PMFBY	Agriculture department (Government of India) Krishnagiri	9443006664	dakrishnagiri2015@gmail.com	Integrated Agriculture Extension centre, Collector campus, (Krishnagiri)
ATMA & NMSA	Agriculture department (Federal Trade commission) (Krishnagiri)	9443906424	dakrishnagiri2015@gmail.com	Integrated Agriculture Extension centre, Collector campus, (Krishnagiri)
ATMA	Agriculture Collector (Krishnagiri)		agri.krishnagiri@gmail.com	Collector Office, (Krishnagiri)
ATMA & NMSA	Agriculture department (Quality Control) (Krishnagiri)	8072245916	dakrishnagiri2015@gmail.com	Integrated Agriculture Extension centre, Collector campus, (Krishnagiri)
ATMA & NMSA	Assistant Director of Agriculture department (Krishnagiri)	8072245916	dakrishnagiri2015@gmail.com	Agriculture Extension Centre, (Krishnagiri)

Product: Madurai Sungudi(Tamil Nadu)

Madurai Sungudi is a cotton fabric of Madurai in the Indian State of Tamil Nadu, which is an exclusive textile product traditionally, produced using tie and dye (using natural dyes) method by:

The Saurashtrians who migrated to Madurai under the patronage of King Thirumala Naicker in the 17th century. The fabric's traditional popular use is as a saree the fabric is now also used to make shirts, salwars, shawls, handbags, bed sheets and pillow cases. The product has been given protection under the GI registration act.

History

Maratha Kings set up mercantile silk-weaving guilds throughout Southern India and were involved in the trade of silk clothes and diamonds to the royal families of ancient South India as the silk became the attire of royal families after the period of:

Gupta Dynasty.

Some of them settled down in Madurai, where the local king of the Nayak dynasty welcomed them. Here, they came to be known as

"Patnūlkarars"(Silk Thread People).

In order to please the local kings, the **Saurashtrians** of Madurai who were craftsmen in fabric weaving and trade of silk garments, created a gift item of cotton fabric suited for use in the tropical conditions, and called it the "**Madurai Sungudi**".

In Saurashtra, the word "Sungudi" relates to the Sanskrit word "sunnam" meaning "Round", representing the circular dots that are on the fabric. Printed on the fabric as a prominent and special motif.



Problems

“A Nation stays alive when its culture stays alive.”

1. From more than 30,000 weavers and dyers six decades ago, we're reduced to 150 trying to keep the tradition alive. Youngsters are not keen to take up the labor-intensive community work,” says secretary of the Madurai Sungudi which is looking to revive the craft.
2. Today, the market is flooded with chemically-dyed or screen-printed imitations.
3. Only those with a discerning eye can tell the difference. (Fakes star ₹500, but an original will cost upwards of ₹12,000).
4. While attempts have Collaborative initiatives with designers and entrepreneurs will help open new avenues of business and empower artisans, believes Crafts Council of India been made in the past decade to save it, **Sungudi** hasn't turned the corner.
5. To integrate disciplines like fashion, design and craft, we can foster the latter through innovation- says textiles researchers.
6. If state government and designers have helped in reviving silks like Ikat, Upada, Banarsi silks, then why not **Madurai Sungudi**?

Proposed Interventions

- a. But for that, it needs national attention. Our designers, who are mostly from the North, need to understand and value the South Indian cultural ethos.
- b. The best way to bring Madurai Sungudi back to fame is by having exhibitions of all the original designs collected from the people who own it.
- c. We need to showcase the history to be able to value its worth.
- d. Defining a new aesthetic is also imperative to help the crafts persons access the global market.
- e. It can be achieved with the help of E-commerce and active social media platform

Brief Artisans to change their outlook

“Unless they share the skills, it will die with them.”

- a. The authentic craft and patterns are known to very few and are guarded by the community members.
- b. We have to give them dignity and esteem, and make them realize they hold the living *“Treasure of our Cultural Heritage.”*
- c. There is also the responsibility to ensure their work can be carried forward by future generations.
- d. A public-private engagement and encouraging the youth to Pursue **Sungudi** as a hobby.
- e. Currently, several stakeholders are working to revitalize the art. The artisans are diversifying from saris, too, creating dupattas, stoles, bags, table covers and shirts.

Textile Parks

Photographs and any other related material. The idea of a textile park with natural dyeing Unit and sales showroom can also be explored.

Geographical Indication (GI) Registration

Installation of various stalls at airports and various public places since GI tagged products can be sold at airports & other public places.

Implementation of Welfare Schemes

- a. Handloom Weavers Savings and Security Scheme.
- b. Group or Self Insurance Scheme for Handloom Weavers.
- c. Prize Award Scheme for Best Exporters.
- d. Prize Award Scheme for Best Weavers for New Designs.

Agencies and Contact Details

<i>Possible Interventions</i>	<i>Departments</i>	<i>Contact no.</i>	<i>Email Address</i>
Collaborative initiatives with designers and entrepreneurs will help open new avenues of business and empower artisans and exhibitions	Craft council of India	9940194997	Info@craftcouncilofindia.in
GI registration	PIIT (GOI)	24132735 24123322	cgoffice-mh@nic.in
Textile Parks	Commissionerate of Handlooms and Textiles Kuralagam	25341517 & 25340518	handloom@md4.vsnl.net.in
Implementation of Welfare scheme	Commissionerate of Handlooms and Textiles Kuralagam	25341517 & 25340518	handloom@md4.vsnl.net.in

Mayiladuthurai Coconuts Tamil Nadu

India is the second largest producer of coconut in the world; contributed 24.24 per cent in production, first in productivity and third in area under cultivation (16%). According to the Government of India, the total India's coconut area was 2088.47 thousand hectares under coconut cultivation, 22167.45 million nuts produced and productivity nut per ha.10614 in 2015-2016 (Coconut Board). Among the states in India, Tamil Nadu ranked first in productivity during 2015-16. Coconut is a perennial source for raw materials to a number of other industries like oil milling, coir and coir-based industries. Much potential exists for shell charcoal, shell powder, coconut milk powder and so on. Coconut processing and allied industries provide continuous employment to nearly 8 Lakh workers, of which 80 per cent are women. Among the coconut based industries, coir manufacture, copra making and oil milling are significant and coir products are to export every year. Coconut occupies a place of importance in the social and religious functions of the people of India.

Problems

1. *Low Seedling problem as Coconut is a perennial crop and the adequate water supply as nearly 250 litres of water is required for a week per palm in summer*

Proposed Intervention

- a) Raising coconut seedlings for distribution to farmers under state government's flagship project should be implemented. The procurement should be facilitated after a single visit to these farms and promoting dwarf varieties and cross breeds across the state. Hybrids should be made to resist disease and lesser water requirements.
2. *The coconut growers in the sample area are lacking in availing the institutional credit for their regular maintenance of coconut gardens*

Proposed Intervention

- a) To cultivation of coconut crop land played a key role, in addition to that, financial background is required. Due to lack of financial support, SCs were

unable to cultivate coconut crop more in selected villages. Government of Tamil Nadu has to provide some facilities to them.

b) Due to his current low yields and income, the average coconut farmer has no capital to invest in production improvements and in processing and marketing. This is compounded by limited government support in terms of extension services, farm facilities and infrastructures, production credit and marketing interventions. Agricultural policy support meant to benefit the coconut farmers seldom made their desired impact. Subsidized loans should be provided to support the coconut industry.

3. *Heavy price fluctuation causes unexpected loss in fix expected income.*

Proposed Intervention

- a) Heavy price fluctuation causes unexpected loss in fix expected income. To stabilize the price of the coconut and its products the Government should come forward for the implementation of price guarantee scheme.
- b) MSP should be fixed for coconut so that the farmers can recover their expenditure of cultivation to prevent two way exchange entitlement failure.

4. *Absence of coconut based processing industries in the study area is one of the reasons for the heavy price fluctuation in the coconut industry*

Proposed Intervention

- a) Majority (68%) of the coconut farmers were not having shed facilities. Because of this reason farmers had to sell their coconut production immediately. Due to this reason, some of the coconut farmers were getting low prices/income. To avoid the loss, government will provide some subsidies to construct the shed for coconut farmers. Hence, Government should come and take necessary steps to promote coconut based cottage and village industries and small scale units
- b) Available infrastructure, trained man-power and wide range of climatic conditions available in the country are indicative of best capabilities. At the same time, these resources have to be effectively utilized to harness the best for making coconut industry more competitive and dynamic.

5. *Marketing support is essential for the traditional and non-traditional coconut products emanating from the state.*

Proposed Intervention

- a) Marketing support is essential for the traditional and non-traditional coconut products emanating from the state. Apart from those products which can find domestic markets, there are some which could be successfully introduced in the export markets
- b) Consumer preference around the world is changing in favour of natural health foods and beverages. Tender coconut is gaining acceptance in the developed, countries as a natural source of nutritious food and beverage. The consumer demand for this natural drink is now on the increase particularly in the context of the propaganda and awareness against artificial carbonated beverages like cola. This opportunity should be made use of by GOI for export.

6. *The coconut farmers informed that there is a transportation problem in their place to the market.*

Proposed Intervention

- a) Govt can create small warehouses in the nearby area of the coconut field and can directly buy the crop from the farmers surpassing the middlemen in between. This will reduce transportation cost of farmers which will help them to increase their profit as well as with the increase in per capita income of the farmers, they will be more eager to invest in new technologies related to farming which will ultimately increase the production quantity as well as quality.
- b) On the other hand, from the govt end, with the removal of middlemen and direct dealing with the farmers. Govt can get the same crop at the lower price as compared to earlier. They can also make the farmers aware about the market demand of the coconut and ask them to produce accordingly.

7. *Lack of awareness of the farmers on recent developments related to crop improvement, crop protection production and cropping system*

Proposed Intervention

- a) Farmers are expected to receive extension services from horticulture department. If farmers get extension services in time, they get more production and increase the productivity and this leads to increase in the farmers' income. On account of the peculiar nature of agriculture, unless some sort of support and assistance is received by cultivators, it will not be a promising enterprise. This is because in a country like ours agriculture is very much exposed to the vagaries of nature. Coconut cultivation is not an exception to this because crop

failure takes place every now and then not only due to the failure of Monsoon but also due the occurrence of diseases and pests. All these may lead to frequent ups and downs in the prices of coconuts. Training and awareness program should be set up to minimize the knowledge gap.

8. *Pest problems and diseases caused by fungi and phytoplasma result in different degrees of crop loss*

Proposed Intervention

- a) Capacity development programmes including training programmes to enhance awareness and knowledge of farmers and labourers on identification and integrated management of the disease.
- b) Arranging demonstrations on Integrated Disease Management (IDM) practices for the control of diseases in farmers' gardens which should also include demonstrations on management of nutrient deficiencies in coconut. These demonstrations can be taken up in selected localities as part of ongoing technology transfer initiatives under ATMA with technical support from research organisations like ICAR-CPCRI.
- c) Making available service of skilled labour force who will be able to render their service to coconut growers for adopting IDM measures against diseases through Agro Service Centres managed by Department of Agriculture.
- d) Grass root level interventions on farmer participatory disease management by Coconut Producer Societies/Federations with support from Coconut Development Board can also be implemented.
- e) A sustainable mechanism for disease surveillance needs to be evolved so as to streamline the field level implementation of interventions on IDM practices against various pest problems and disease.
- f) Efforts are to be made to ensure stakeholder synergy while formulating and implementing interventions for the management of various diseases in coconut gardens. Coordination among different stakeholders including coconut farmers organizations, local self-governments, department of agriculture, CDB, CPCRI etc is to be ensured.

Srl_ No	Proposed Intervention	Agency
a	Raising coconut seedlings for distribution to farmers under state government's flagship project should be implemented.	Coconut Development Board (CDB), Ministry of Agriculture
b	Social imbalances will reduce in selected villages	Rural Development and Panchayat Raj Department
c	Subsidized loans should be provided to support the coconut industry	Agriculture and Farmers Welfare department
d	Government should come forward for the implementation of price guarantee scheme	Department of Agriculture
e	MSP should be fixed for coconut so that the farmers can recover their expenditure of cultivation to prevent two way exchange entitlement failure	Department of Agriculture
f	Government should come and take necessary steps to promote coconut based cottage and village industries	Ministry of micro, small and medium enterprises

	and small scale units	
g	Marketing support is essential for the traditional and non-traditional coconut products emanating from the state	National Agricultural Cooperative Marketing Federation of India, Domestic and Export Market Intelligence Cell
h	Govt can create small warehouses in the nearby area of the coconut field and can directly buy the crop from the farmers surpassing the middlemen in between	Tamil Nadu Coconut Welfare Board
i	Farmers are expected to receive extension services from horticulture department.	Horticulture Division, Ministry of Agriculture
j	Capacity development programmes including training programmes to enhance awareness and knowledge of farmers and labourers on identification and integrated management of the disease	Coconut Development Board

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Product: Nilgiri Tea, Nilgiris (Tamil Nadu)

1. Nilgiri tea is a drink made by infusing leaves of *Camellia sinensis* that is grown and processed in the Nilgiris district in Tamil Nadu, India.
2. The leaves are processed as black tea, though some estates have expanded their product offerings to include leaves suitable for making green, white and oolong teas.
3. It is generally described as being a brisk, fragrant and full-bodied tea.
4. The region produces both rolled and crush, tear, curl tea and it is predominately used for blending. Nilgiri tea is also used for making iced tea and instant tea.
5. Nilgiri Tea's Commercial production commenced in the 1860s, where the industry would evolve to include a mixture of many small growers with a few large corporate estates and the government-owned Tamil Nadu Tea Plantation established for the purpose of assisting in repatriating Indian Tamilians.
6. Its fertile, soils located on well-drained slopes with geography that brings two monsoons per year with periods of fog and humid, cold weather, allow the *sinensis* variety to thrive.
7. The tea is of sufficient quality and uniqueness to warrant being a registered geographical indication.

What Are the Health Benefits of Nilgiri Tea?

Lose Weight with Nilgiri Tea

With the right amount of caffeine, this low-calorie beverage helps you to lose weight. The antioxidants present in the tea not only contributes to weight loss management, but also helps in boosting metabolism and in burning the fats of the body.

It Reduces LDL Cholesterol and the Risk of Heart Attacks

Nilgiri tea is a rich source of flavonoids and so it helps in maintaining the blood sugar levels. Being a good source of potent antioxidants, it also helps in disabling free radicals and improving the cardio health. What's more, Nilgiri tea fights inflammation and protects from various diseases including arthritis, heart disease and diabetes. Drinking Nilgiri tea can decrease the risk of heart stroke and attack.

It Fights Diabetes

Since Nilgiri tea is a Black tea, it consist of effective polysaccharides, a type of carbohydrates which aids in slowing down blood sugar absorption – a major advantage to people who are battling with diabetes. According to one of the latest research, it has been discovered that countries like Great Britain and Ireland that drink black tea the most have the lowest occurrence of type two diabetes.

Bust Your Stress with Nilgiri Tea

A stress buster, Nilgiri tea has the ability to lower the stress hormone cortisol in the body. It accentuates the process of recovering from stress when consumed in moderate quantity on a regular basis.

Increases Your Immune System

Since Nilgiri tea has alkylamine antigens, it helps in boosting our immune system. Besides, it also contains tannins which help in fighting viruses – thereby keeping us protected from common viruses in everyday life such as stomach flu, common cold and influenza.

Takes Care of Your Oral Health

Black tea such as Nilgiri tea not only reduces plaque formation but also restricts bacteria growth that promotes tooth decay and cavities. Polyphenols present in it surpasses and kills cavity-causing bacteria. What's more, it also restricts the growth of bacteria that forms plaque in the teeth.

It Controls Ageing and Makes you Look Young

Are you worried of ageing? Do you hate wrinkles? Is losing skin elasticity one of your biggest nightmare? Then switch from normal tea to Nilgiri tea or any other black tea because the antioxidants present in this tea can make your skin look younger and better.

It Increases Your Bone Density

With age, our bones become thinner and weaker. It loses mass and tends to become fragile. However, studies say that people who consume Black tea (Nilgiri tea is a black tea) regularly have strong bone strength and Bone Mineral Density – BMD.

Problems

1. Crisis brewing

- Collapse of the former Soviet market and an indifferent attitude to quality clips Nilgiris tea industry. Tea prices have fallen cataclysmically in the last few years, affecting small farmers.
- In few years, one kilogram (kg) of green tea leaf fetched as much as Rs 2 and it was possible to make Rs 80 from one kg of processed tea at auctions.
- Today, prices of green tea leaves have fallen to a paltry Rs 3 to Rs 5 for a kg the price of the processed tea has gone down to Rs 30-Rs 43 per kg
- The labour and fertilizer costs were much less and NilgirisTea farmers could make a small profit. The same price today spells doom for them.

Proposed Intervention:

Factory improvement program

- a. Initiatives to improve quality are highly concentrated at the farm level.
- b. Initiatives to improve quality are highly concentrated at the farm level.
- c. Shoot analysis is a common index used to assess the percentage of finer growth in a batch of green tea leaf, and is usually performed at the factory level.

2. Working conditions

- Working conditions for these tea workers have been quite bad for the last 150 years, since cultivation first began.
- The employees' wages, workload, safety, health, and living conditions are miserable, due to the lack of labour codes and local and national levels of government supervision.

Proposed Intervention:

Quality Up- gradation Program (QUP)

- a. Applying a more comprehensive supply chain approach to quality improvement.
- b. The QUP combines farm-level extension activities and the empowerment of village self- help groups, with the active participation of the BLF sector.
- c. The project thus possesses two operational FOCI (Foreign Owned, Controlled or Influenced) village awareness programs for growers concentrated on pruning and plucking techniques.

3. Wages

- The minimum wage for tea plantation workers in Tamil Nadu is INR 305, and the estates pay INR 314 per day.
- It would therefore seem as though estates pay higher than the minimum wage.
- However, following a petition by estate unions several years ago, INR 550 was ruled as the minimum wage for the region (also called 'collector's wage').

- This was based on a calculation of tea workers' workload and living expenses.
- The collector's wage is yet to be implemented, and its implementation is being resisted because the minimum wage mandated by the state is much lower.
- This difference, between the minimum wages declared by the state and the collector's wage, shows that the wages the workers receive do not meet their needs adequately.
- Their wages are insufficient in order to establish decent living conditions and to sustain workers' families, even when both husband and wife work at the estate.

Proposed Interventions:

Self-help groups (SHGs)

- a. The SHGs generally consist of up to about 50 members and in terms of supply chain structures, have tended to replace agents.
- b. Previously, factories provided operational credit to agents to source tea from the villages, although with improved access to micro credit through government banking assistance, this is now rarely performed.
- c. By segregating tea into grades (coarse and fine leaf), these groups are able to add a premium of between 1 to 4 Rps/kg

4: Workload

- The workload in tea plucking is estimated to be heavier than the workload in any other kind of plantation work. Workers are normally able to pluck 30-35kg of tea leaves in a day but the estate management forces them to pluck up to 70kg in a day.
- During the yielding season, workers are forced to pluck up to 100kg in day.
- The plucking work is mainly assigned to women workers, who are physically and mentally drained as a result of the workload.
- Continuous work in the fields without proper rest and without holidays, and the requirement to carry heavy loads of tea baskets on their heads, cause several health issues.
- Women workers in the plantations suffer from pain in the neck, back, legs, and joints, and many undergo hysterectomies as a result of work-related health issues.

Proposed Interventions:

Farm Mechanization by National Bank for Agriculture and Rural Development (NABARD)

- a. NABARD's Vision: Development Bank of the Nation for fostering rural prosperity.
- b. NABARD's Mission: Promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.

5. Quality of Life

- Workers demand safety measures so as to protect their lives, but these are not typically provided by the estate management.
- The condition and quality of the safety equipment are inadequate, and when the equipment is not replaced in time, it is used by assigned workers in the field who work with chemicals and pesticides that cause allergies and infections.
- Housing is very limited and poorly maintained in the estates, and there are a number of houses that were built more than 80 years ago, that are now damaged but yet to be renovated.
- During the monsoon and winter seasons, workers and their children suffer due to bad weather and poorly maintained houses.
- This poor maintenance and lack of infrastructure in the houses creates the risk of wild animal and snake attacks. Neither the estate management nor the government has been able to resolve these issues.
- The standard of education that their children receive is below their expectations.
- Additionally, 80% of the workers are indebted to local banks and their estate management as a result of expenses related to education.

- These workers spend their entire tenure working to repay their loans. There is also very little scope for the development and improvement of skills for children in these estates.
- Workers spend a third of their lives at the estate with marginal benefits and their children are disconnected from the estate work because of the limited scope for upward mobility this work provides.
- Workers' children usually prepare to move away from the estate for education or to find alternate jobs with better living conditions.

Proposed Interventions:

“After getting the Geographical Indication (GI). It's time for the Nilgiri tea to take centre stage.”

- The specific geographical origin of tea plays an important role in identifying its qualities and developing its reputation.
 - In the case of tea, how do you differentiate between an authentic tea that comes to you straight from a reputed tea growing region, and a generic tea that claims to be from the same region?
 - An expert can differentiate between qualities but for a consumer, the GI tag proves authenticity and allows producers who own the tag to stop others from selling low quality products.
 - More benefits of GI tag :
 - Enhances Economic growth.
 - Prevents Duplication of product.
 - Expands Business.
6. *Life post-retirement*
- Most of the retired workers choose not to leave the estates after their retirement, as they have no shelter elsewhere. The housing provided on the estates is a major resource for workers.
 - During their work tenure, they are unable to buy their own houses with their low wages, which are spent instead on the education of their children and on healthcare.
 - Some retirees continue to work in the tea estates as contract employees, as this work provides housing and food.
 - Overall, retired tea estate workers are left disillusioned, feeling that they have not lived a life worth living.

Proposed Interventions:

Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY)

It is an old age pension scheme for all land holding Small and Marginal Farmers (SMFs) in the country.

- It is a voluntary and contributory pension scheme for the entry age group of 18 to 40 years. The farmers will have to make a monthly contribution of Rs.55 to Rs.200, depending on their age of entry, in the Pension Fund till they reach the retirement date i.e. the age of 60 years. The farmers will have to make a monthly contribution of Rs.55 to Rs.200, depending on their age of entry, in the Pension Fund till they reach the retirement date i.e. the age of 60 years.
- The monthly contributions will fall due on the same day every month as enrolment date. The beneficiaries may also choose an option to pay their contributions on quarterly, 4-monthly or half-yearly basis. Such contributions will fall due on the same day of such period as the date of enrollment
- The spouse is also eligible to get a separate pension of Rs.3000/- upon making separate contributions to the Fund.
- The Life Insurance Corporation of India (LIC) shall be the Pension Fund Manager and responsible for Pension pay out.
- In case of death of the farmer before retirement date, the spouse may continue in the scheme by paying the remaining contributions till the remaining age of the deceased farmer.
- If the spouse does not wish to continue, the total contribution made by the farmer along with interest will be paid to the spouse.
- If there is no spouse, then total contribution along with interest will be paid to the nominee.
- If the farmer dies after the retirement date, the spouse will receive 50% of the pension as Family Pension.
- After the death of both the farmer and the spouse, the accumulated corpus shall be credited back to the Pension Fund
- The farmers, who are also beneficiaries of PM-Kisan Scheme, will have the option to allow their contribution debited from the benefit of that Scheme directly.

Sl. No.	Proposed Interventions	Authorities
1	Factory improvement program	State Government of Tamil Nadu
2	Quality Up- gradation Program (QUP)	Tea Board : Ministry of Commerce and Industry Government of India
3	Self-help groups (SHGs)	Government of India
4	Farm Mechanization by National Bank for Agriculture and Rural Development (NABARD)	Reserve Bank of India in association with Government of India
5	Geographical Indication (GI)	Government of India
6	Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY)	Life Insurance Corporation of India (LIC) in association with Government of India

Nagapattinam Fishery Products, Tamilnadu

Fisheries are a source of cheap and nutritious food around the world. Indian fisheries are an essential component of the global fisheries market. The Indian Fishery sector's contributions to foreign exchange earnings are substantial, and the earnings constitute 1.4 percent of the GDP. Nagapattinam district lies on the eastern coast of Tamil Nadu. It has a coastline of 187 km. Marine fishery is the economic backbone of this district, offering huge income and employment opportunities.

Problems

1. **Monsoon, trade winds, and cyclones** often affect the fishing environment making fishing risky during these seasons; Rising sea temperatures reduce the growth in plankton which is major fish food, impacting the catch.

Proposed Intervention

- Fishermen are mostly dependent on wild catch directly from the sea. Whenever there's a cyclone warning or high tide, the government advises fishermen against going to sea. This disrupts the supply and negatively impacts their livelihood as well.
 - Aquaculture is a technique of growing fishery in controlled conditions. This gives control over the quality and production processes. Aquacultural produce should be encouraged.
 - Reduce uncertainty of the catch, and better control the supply based on market demand
2. Fishery products are **highly perishable** goods. **Lack of proper cold storage facilities** is a major obstacle. Fishermen are forced to sell at lower prices to avoid spoilage. Ice is the main commodity for storage, and Nagapattinam district faces a lack of ice factories due to the non-availability of fresh water. This also reduces the catch capacity.

Proposed Intervention

- Governments should establish cold storage facilities at feasible locations and enable access to all the fishermen.
- Proper transportation facilities to the storage units, docking, and undocking at the facility should be arranged.

- Facilities for testing and quality control can also be put in place at these facilities.
3. Nagapattinam has a rich mangrove forest cover which hosts vast biodiversity. Along with other industries, over-fishing and aquaculture industries are taking a toll on this ecosystem. These industries across the coast are a threat to the mangroves and marine life.

Proposed Intervention

- Responsible fishing should be encouraged to avoid over-exploitation of resources.
 - This can be done by making the fishermen accountable and monitoring the catch they make.
 - ID tags for the boats and the fishermen can be given against which their catch can be monitored and controlled.
4. Most of the fishermen are operating at a small scale except for a few prominent players. They sell their catch to **middlemen** who direct it to the markets. Lack of storage facilities forces these fishermen to sell their catch at lower rates than market rates to the middlemen.

Proposed Intervention

- Many Fishermen cooperative societies are already established in the region. However, these societies are mostly used to access and implement government schemes.
 - These societies can be trained to collect the catch and trade directly with markets, eliminating middlemen's need.
 - This increases the margin of the products for fishermen and enables a tool for quality and standards control.
5. Even though the financially rich fishermen use relatively modern equipment and technology, they are still a small portion of the total fishermen. The majority of the fishermen are still using crude and outdated equipment. This is due to a lack of capital support and financial assistance.

Proposed Intervention

- Government can offer subsidies over the usage of modern equipment and technology.
- Fishermen can be educated about the benefits of using modern equipment and efficient ways of fishing.
- Modern equipment increases the efficiency of the catch while putting less stress on the marine ecosystem. They are reducing the cost of catch and increase net profits.

6. Market reach is one more important issue affecting the fishery industry in Nagapattinam. The markets within the district are approximately 30Km far. Fishermen have to transport the catch through private buses, Autos, etc.

Proposed Intervention

- Facilities for bulk transportation of the catch to the market need to be instated. Facilities like exclusive shuttle services, etc.
- This reduces the transportation costs of the fisheries and increases the margin. Faster transfers to the market can be made possible.

Sl.No.	Proposed Solutions	Agency
1	The aquacultural fishery industry should be encouraged to reduce the uncertainty of the catch	1.Nagapattinam Fisheries Department 2. Department of Fisheries and Fisherman Welfare, Tamilnadu
2	Cold storage facilities to be established and made accessible by all the fishermen	1.Nagapattinam Fisheries Department 2. Department of Fisheries and Fisherman Welfare, Tamilnadu

3	Responsible fishing should be encouraged to avoid over-exploitation of the resources by making the fisherman accountable and monitoring the catch they make.	1.Nagapattinam Fisheries Department 2. Department of Fisheries and Fisherman Welfare, Tamilnadu
4	Fishermen cooperative societies are already established. Through these societies, catch can be directly marketed to the open markets without the interference of middlemen	District Fisherman Cooperative Societies
5	Subsidies over modern equipment and technology usage can be offered to fishermen	1.Nagapattinam Fisheries Department 2. Department of Fisheries and Fisherman Welfare, Tamilnadu
6	Facilities for bulk transportation of the catch to the market need to be instated. Facilities like exclusive shuttle services, etc.	1. District Fisherman Cooperative Societies 2. Nagapattinam Municipality 3. Tamilnadu State Government

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Namakkal Poultry, Tamilnadu

Namakkal district comes under the North Western Agro-climatic zone of Tamil Nadu. The main occupation of the district is agriculture. Namakkal district is a well-known poultry and dairy producer. It supplies poultry products in bulk to neighboring industries. Namakkal district produces 65% of the egg output of Tamilnadu. Namakkal is popularly known as the egg city of Tamilnadu.

The poultry industry offers earning and employment opportunities in rural areas of the country. Poultry products are considered forever-demand products.

Problem 1:

Frequent disease outbreaks in the chicken drastically reduce the production and incur heavy losses to the farmers. There are 15-17 well-known infectious diseases that are known to impact production.

Proposed Intervention:

- Vaccinations are available for some of the diseases. Vaccination drives are to be conducted by the local poultry associations to avoid outbreaks.
- However, for a majority of diseases, hygiene and maintenance are of prime importance. Training guidelines can be issued to all the farmers regarding maintenance and hygiene. Restriction of unauthorized entries and proper disposal of deceased flock to be followed.
- Farmers' training sessions can be organized regarding maintenance and hygiene practices during breeding, feeding, and disposal.

Problem 2:

Poultry is an excessively water-heavy industry. It takes approximately half a gallon of water for every pound of bird grown, apart from the feed. The water is used to reduce heat stress in birds during the hot season. The water is also used for cleaning and maintenance of the farm. Namakkal district receives lower annual average rainfall than the average rainfall of Tamilnadu. Since the poultry industry is an allied agricultural industry, they are exempted from getting NOCs to use groundwater. This leads to overexploitation of groundwater. A

case was filed in the National Green Tribunal against poultry farms in Namakkal for over-exploitation groundwater.

Proposed Intervention:

- Encourage the use of Sprinkler technologies in the farms to reduce heat stress. These sprinkler systems efficiently reduce heat stress in the flock and are also proven to improve water efficiency.
- Rainwater harvesting systems can be put in place to reduce the stress on surrounding groundwater and reduce dependency on the groundwater.
- Instead of exempting from getting NOCs for groundwater usage, the government can subsidize the sprinklers and rainwater harvesting kits installed at these farms. This improves water efficiency as well as the accountability of farmers for water usage.

Problem 3:

Most of the poultry farmers are operating on a small scale except for a few prominent players. These small sellers are not very well organized to exercise any significant power on the market prices or the uniformity of the quality standards of the product. Whenever there is a disruption in the supply, the small players who are bearing most of the brunt are not able to alter market prices according to the supply.

Proposed Intervention:

- District-level poultry associations can be formed with support from the local governments. This association then deals with the traders and exporters to improve the outflow.
- The association can also decide on uniform quality standards that meet the expectations of international target markets.

Problem 4:

Most of the poultry farmers are operating on a small scale except for a few prominent players. These sellers sell the produce to the traders. The traders then decide on the action plan for exporting the produce. This leaves the farmers blindsided by the requirements of the

international markets. There will be no uniformity in the quality standards of the product reducing the export reliability.

Proposed Intervention:

- District-level poultry associations can be formed with support from the local governments. This association can directly deal with farmers' sourcing, collecting, and exporting products to target markets.
- The association can educate the farmers regarding the quality requirements of the target markets and encourage uniform quality standards across the industry.

Problem 5:

Most of the manual labor involved are migrant workers from Bihar and Bengal. These workers are not permanent employees, and they tend to leave the job uninformed at will. This increases uncertainties in labor force requirements.

Proposed Intervention:

- Fixed-term labor contracts can be enforced. This reduces the labor uncertainty in the farms.

Sl.No.	Proposed Solutions	Agency
1	Vaccination drives are to be conducted by the local poultry associations to avoid outbreaks.	Poultry Farmers & local poultry associations
2	Farmers' training sessions can be organized regarding maintenance and hygiene practices during breeding, feeding, and disposal.	1.Poultry Farmers & local poultry associations 2. Central Poultry Development organization 3. State Agricultural ministry
3	Government can subsidize the sprinklers and rainwater harvesting kits to be installed at the farms.	1. Central Poultry Development organization 2. State Agricultural ministry

4	District-level poultry associations can be formed with support from the local governments.	1. State Agricultural ministry
5	Establish a uniform quality standard that meets the expectations of international target markets.	Poultry Farmers & local poultry associations
6	Fixed-term labor contracts can be enforced to reduce the labor uncertainty in the farms.	Local poultry associations

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Shallots, Perambalur, Tamil Nadu

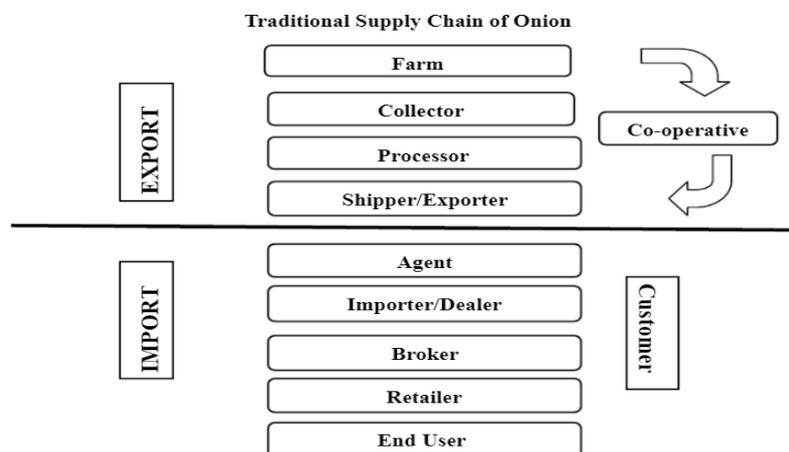


Shallots also known as small onions are widely grown in the Perambalur district of Tamil Nadu. They are one of the most commercial vegetable crops grown in Southern India. The other major shallot producing districts are Dindigul, Tiruppur, Trichy and Namakkal. The medium sized bulbs are sowed during April- May and October – November. It requires sufficient soil moisture during its growing period but heavy rains during bulb germination and bulb formation affects the crop growth. 1000 kg/ha is required.

There are 5 varieties, CO1, CO2, CO3, CO4 and MDU 1 and CO (On) 5 free flowering and seed setting type are commonly cultivated. CO (On) 5 is the most preferred type for exports.

Few of the major problems faced by the district are disease pest and weed infestation, high cost of quality seeds, high cost of fertilizers, exploitation by market intermediaries, lack of credit, lack of market information etc.

Supply Chain



Problems

1. High Price of Onion Seeds

Lack of enough rain, climatic changes and export of seeds are few primary reasons for the availability of seeds. This shortage in seeds leads to shooting up of the price of the seeds.

Proposed Intervention

In such times when there is shortage due to less rains the government can provide input subsidies to the farmers so that they can purchase seeds at subsidized rates. Temporary restriction on exports will also ensure availability of seeds. High investment in R&D to develop new methods of seeds production.

2. *High Cost of fertilisers*

India is one of the largest growers of onion variety but the yield and productivity is low. To enhance the productivity good soil fertility is an important component. High cost of fertilisers increases the input cost of farmer.

Proposed Intervention

The government can provide fertilizers subsidies to reduce the input cost of farmers. Apart from the use of chemical fertilisers, other sustainable farming techniques like crop rotation, tilling can be used to increase soil fertility.

3. *Shallot Price fluctuations*

High cost of seeds, lack of storage facilities disrupts the supply demand cycle. When farmers procure seeds the cost of seeds are high, but due to bad pre- and post harvest manufacturing practices there is fluctuation in prices.

Proposed Intervention

We can plant sets or transplant to reduce the cycle and harvest at the right time. For this certain technological improvement and investments have to be adopted from the western countries. Use of advanced technological equipment like Milton precision planters can also be used to improve farming practices. With this the technique the harvest time period can be adjusted ensuring maintenance of supply-demand balance.

Construction of cold storage facilities would also contribute significantly in controlling the price fluctuations.

4. *Twister attacks, rottings, weeds*

In recent news, there have been reported increased incidences of twisters attacks, weed attacks or rottings leading to huge losses.

Proposed Intervention

Subsidies on the procurement of pesticides can help combat this problem. Better use of pesticides can help solve this problem. To combat these losses increased adoption of irrigation facilities can help.

Drip irrigation can be utilised to optimise onion quality while avoiding water stress on the onion. Because of the direct, subsurface delivery of water, drip can also support bigger yields and larger bulbs, lowering the risk of disease within the onion. Drip irrigation can reduce fungicide usage and costs in this way. Weed control is also more efficient with drip irrigation since less water is supplied between onion beds to suffocate weeds, reducing herbicide use and expenses. With its precision, drip irrigation combined with fertigation can limit the usage of extra nitrogen fertiliser.

5. *Wastage of Onion and lack of storage facilities*

There is a lot of onion wastage in the months of July , August and September 2020. Poor pre-harvest and post harvest practices can lead to higher wastage of onions during these three months.

Proposed Intervention

Increased investment in producing dehydrated onions products such as onion powder. Such products can be used as an alternative to fresh onions. Setting up of multiple onion processing centres in the district.

Awareness and encouragement for the use of such products needs to be created. Need to invest in R&D to find optimum solutions for onion storage is needed.

6. *Lack of educated people in the industry*

Yes, there is a lot of scope for improvement. Most of the onion growers in the district are not educated. They have only elementary level education.

Proposed Intervention

Young and educated graduates need to pursue onion farming. They should be made aware about the business potential of the product and should be encouraged to pursue Shallot farming . Educated people can learn advanced farming skills and techniques and implement the same which would lead to better productivity and yield.

7. *Exploitation by Market intermediaries*

The traditional onion value chain involves Producer, Agents, Brokers, Whole salers, Sub-wholesalers, Retailers and end users. Usually, the commission for wholesalers is roughly 5-6 % whereas for a retailer it is 7%. The agents and brokers would charge additional commissions.

Proposed Interventions

- Removal of Intermediaries would lead to an increase in the net margin of producers.
- Organising trade exhibitions would help the producers reach and build network to sell and negotiate for their produce without involving the brokers or agents would help the farmers increase their profitability.
- Onion Procurement Centre's may be located at the mass production area with price details of onions to avoid middlemen exploitation.
-

8. *Lack of Market Information*

According to surveys, the farmers believe that they do not have proper guidance to marketing of onion. The farmers lack market and price information.

Proposed Intervention

They must be advised to get the marketing assistance from the radio, newspapers, magazines and special app designed for farmers. Local agriculture personnel may give proper guidance by conducting camps and exhibitions.

By incorporating more literate and skilled men, learning and analysing market information would be easier. This will help remove the middle men and the growers will be able to extract the full potential of the product.

Sr.No	Proposed Solution	Agency
1	Input subsidies for seeds	Ministry of Farmers and Agricultural welfare
2	Fertilisers subsidies	Ministry of Farmers and Agricultural welfare, Ministry of Chemical and fertilisers
3	Application for GI tag	Controller General of Patents, Designs and Trade Marks- who is the Registrar of Geographical Indications
4	Building of cold storage facilities	Ministry of food processing industry, FSSAI
5	Investment in R&D facilities for seeds and fertilisers	Ministry of Farmers and Agricultural welfare
6	Trade fair organisation	Ministry of Commerce
7	Temporary restriction on exports	Export Council of India, Ministry of commerce
8	Setup Onion processing centres	Ministry of Food processing Industries
9	Proper management of water resources	Ministry of Jal Shakti

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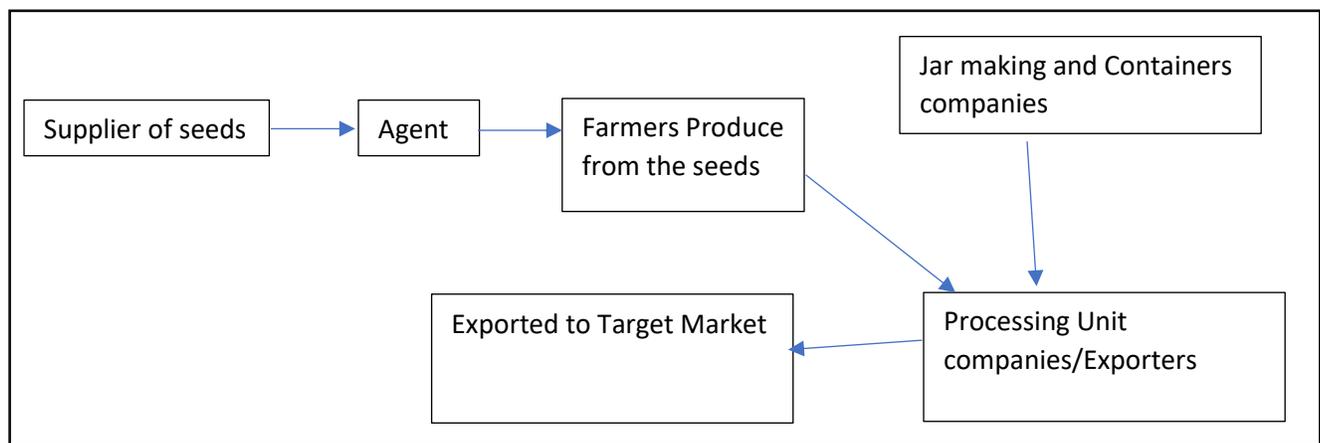
Invest India

One district One Product

Sivaganga Gherjubs(Miniature Cucumber), Tamilnadu

A crop from the district of a Southern state (Tamil Nadu). It is not of the staple crops in India but it is kind of a commercial crop. These are the smaller in size and that's their specialty. In India they are consumed as a cucumber but in European market , USA and Russia they are consumed in the form of Gherkins and pickled forms. Once the exports associated with the product had exports over 1000 crores. Final processed and preserved products are consumed to keep the body warm. They are one of the good quality products from India compared to the other competitors like Vietnam. Once gherkins were quite popular in the exports from India and their exports started in 90s and the business was on rise but due to decline in Rubal ,lesser support from government and other factors industry witnessed a decline.

Supply chain for the product till it reaches the target market :



Problems

1. Gherjubs (Miniature cucumber) if not preserved it can become waste or lose crispiness which may not be considered good quality by the consumers , hence it has to be transported on time to the processing unit. Overall, it has to get processed on the same day or preserved at a colder place.

Proposed Solutions:

- a. Cold storage facilities can be setup if the produce has to be transported to the farther units.
2. It is labor and water intensive product , hence availability of water plays a key role in its production

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Invest India

One district One Product

Proposed Solutions:

- a. Water availability under irrigation schemes so that farming is not affected due to non-availability of water.
- b. Awareness of the produce and farming among the farmers by agents so that farmers are encouraged to grow miniature cucumber.
3. Decrease in government support via schemes like production-based incentives and other subsidies.

Proposed Solutions:

- a. Including gherkins farmers under different subsidy schemes by the government of Tamilnadu.
- b. Including the business owners under the schemes like production-based incentives by the agricultural ministry under the government of Tamilnadu.
4. Availability of financing option for the business owners.

Proposed solutions:

- a. Facilitating the financing options like loans via banks. Making the process of getting loans easier and amount comparable to the private loan facilities. This can be done by the ministry of agriculture and ministry of commerce & trade.
5. Non-availability of insurance policies to the farmers of this product.

Proposed Solutions:

- a. As farmers of other crops like staple crops gets the benefit of insurance in the same way farmers of gherjubs can also be provided with the insurance benefits incase they are suffering from losses.
6. Input prices, farmers production prices and overhead prices are going up for the whole supply chain.

Proposed Solutions:

- a. As the farming is done on the closed fields which decreases the chances to achieve economies of scale hence it can be encouraged to perform the farming practices in open fields and this can be done by the export companies or the agents deployed by them.
7. Declining profit margin for the farmers and bigger players in the market eating up most of the profits and this becomes one of the reasons for declining interest of the farmers.

Proposed Solutions :

Soma basu , "Go gherkin!" The Hindu, August 07,2014 ,"
<https://www.thehindu.com/features/metroplus/society/go-gherkin/article6291788.ece>

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- a. Setting up the best practices and standards associated with prices by the government or by the private players.
8. To generate more profits or reach the breakeven point it needs to get cultivated more often than presently done as most of the time it is cultivated only once during the year.

Proposed Solutions:

- a. Once the farming and best practices are in place , government and agents can encourage the farmers to cultivate the produce more than once given the resources are available for the farming.
9. Industry inclining towards monopolistic competition as small business owner are driven out of the business because of the influence of the bigger exporters in the industry.

Proposed Solutions:

- a. Providing subsidies for the new entrant so that more number of players are entering in the market and making the market efficient.
10. Outdated information related to the product as we can see that association for gherkins is in place but the information related to it outdated so it poses a challenge to the new and smaller business owners to keep up with the overall industry.

Proposed solutions:

- a. Making the data available at government websites and association sites so that information is public.
11. Yield is low as adoption of modern farming techniques is slow.

Proposed Solutions:

- a. Adoption of different farming techniques like drip mulching which is proven technique for increasing the yield and this can be executed by the government and the agents deployed by the exporters and other organizations.
12. Rejections of the products for not meeting the standards or bad quality product due to fruit fly.

Proposed solutions:

- a. Awareness about the standards and expected quality to the grassroot level so that farming is performed considering the quality and standard.

Soma basu , "Go gherkin!" The Hindu, August 07,2014 ,"

<https://www.thehindu.com/features/metroplus/society/go-gherkin/article6291788.ece>

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- b. Use of pesticide to exclude the involvement of fruit flies.

S.No	Proposed Solutions	Agency
1.	Cold storage facilities can be setup if the produce has to be transported to the farther units.	Ministry of Food Processing Industries
2.	a. Water availability under irrigation schemes so that farming is not affected due to non-availability of water. b. Awareness of the produce and farming among the farmers by agents so that farmers are encouraged to grow miniature cucumber.	Ministry of Agriculture (Tamil Nadu)
3.	a. Including gherkins farmers under different subsidy schemes by the government of Tamilnadu. b. Including the business owners under the schemes like production-based incentives by the agricultural ministry under the government of Tamilnadu.	Ministry of commerce & trade, Ministry of agriculture
4.	Facilitating the financing options like loans via banks. Making the process of getting loans easier and amount comparable to the private loan facilities. This can be done by the ministry of agriculture and ministry of commerce & trade.	Ministry of agriculture and farmers welfare Ministry of commerce & trade
5.	As farmers of other crops like staple crops gets the benefit of insurance in the same way farmers of gherkins can also be provided with the insurance benefits in case they are suffering from losses.	Ministry of agriculture and Government of Tamil Nadu
6.	As the farming is done on the closed fields which decreases the chances to achieve economies of scale hence it can be encouraged to perform the farming practices in open fields and this can be done by the export companies or the agents deployed by them.	Ministry of agriculture and private players
7.	Setting up the best practices and standards associated with prices by the government or by the private players.	Ministry of agriculture, Ministry of commerce & trade, Exporters
8.	Once the farming and best practices are in place,	Ministry of agriculture and

Soma basu, "Go gherkin!" The Hindu, August 07, 2014, "

<https://www.thehindu.com/features/metroplus/society/go-gherkin/article6291788.ece>

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	government and agents can encourage the farmers to cultivate the produce more than once given the resources are available for the farming.	welfare
9.	Providing subsidies for the new entrant so that more number of players are entering in the market and making the market efficient.	Ministry of agriculture and ministry of commerce & trade
10.	Making the data available at government websites and association sites so that information is public.	Invest India and Ministry of electronics & Information technology
11.	Adoption of different farming techniques like drip mulching which is proven technique for increasing the yield and this can be executed by the government and the agents deployed by the exporters and other organizations.	Private organizations, ministry of agriculture and regional administrations
12.	Awareness about the standards and expected quality to the grassroot level so that farming is performed considering the quality and standard. Use of pesticide to exclude the involvement of fruit flies.	Exporters and private organizations in the business

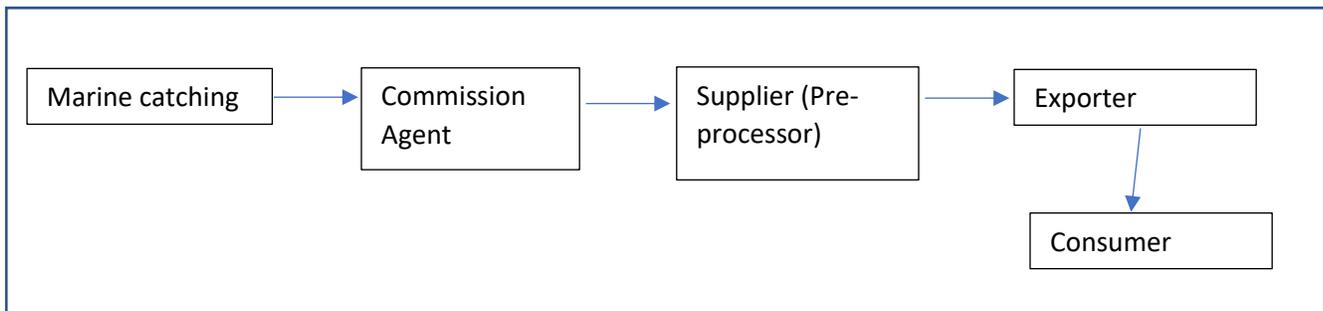
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Tuticorin Marine Products, Tamilnadu

India having one of the largest coastlines of around 8000 KM and the marine products exports shows a great potential in the export. Marine products industry has a share of almost 6 percent in world exports in which India is the fourth largest exporting country after China, Peru and Japan. As of 2015-2016 the marine exports were 1.2 percent of total GDP. Among many coastline districts , one is Tuticorin in Tamilnadu which has coastline of around 163.5 km. Export from VOC port has increased in the previous years and it shows a great potential to contribute heavily in the Indian export. Shrimp, aquaculture products , frozen fish , fish paste , frozen squid , frozen cuttlefish and dried items form a major part of the marine products from the district. Tuticorin is one of the leading districts in terms of fish production in India , it was the second most fish producing district with 55K tonnes of annual production.

Supply chain in general :



Problems associated with the Tuticorin marine products :

1. Inadequate transport facility

Proposed solution:

- a. Government or MPEDA can identify and setup commercial vehicles facility near the catching facilities so that fresh catchment reaches to the supplier.
2. Availability of cold storage facility plays key role in keeping the catchment/products fresh which is necessary for the sale. Incase the products is not fresh then it has higher chances of getting rejected.

Proposed solution:

- a. Government can incentivize the farmers or the medium producers to open the cold storage facilities near the areas contributing more in getting marine products. Incase there

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is a challenge with the transport at-least it can be made sure that the life of the product has increased by keeping it at a colder temperature.

- b. As cost associated with the cold storage is on the higher side , it would be a better option to incentivize it to encourage the industry

3. Delay in reaching the destinations

Proposed solutions :

- a. Technology upgradation would be needed here to transport the products with the best available transport facility
- b. Ministry of transport can work out to repair the roadways and the route associated with it as delay in reaching the destination can cost lot of products getting wasted and rejected annually.

4. Over exploitation by the commission agent (middle-men)

Proposed solutions :

- a. Encouragement to the e-commerce like Fish chain and licious to procure the raw material directly at the time point of where middlemen come in the supply chain. This can affect the employment and livelihood of some which can be overcome by skilling the middlemen and the others who has the potential risk of losing their employment/livelihood. As they can get employed in the outlet and stores associated with it.
- b. Apart from that , government can setup facilities where farmers can sell their products at a reasonable price or government agents can directly buy the catchment from the fishermen at a reasonable price.

5. Fluctuation in price (Unpredicted supply and demand)

Proposed solution :

- a. Government and MPEDA can upgrade their technology to forecast the demand and passed the information to the players down the chain so that there is not much gap between supply and chain
- b. Sector is more of a disorganized in nature because of which it would make difficult to control the supply so one of the first step which government can take is to move the actors from disorganized to organized.
- c. Implementing catch shares can be fruitful to resolve this issue which can be dependent on the health of the marine ecosystem and the environment and then based on that there can be provisions of license distribution

6. Poor brand image in the target market

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Proposed solution :

- a. Most of the import countries do not consider the quality of the product comparable to the product from the other market. To increase the visibility and reputation , ministry of commerce and trade in collaboration with MPEDA should conduct trade fairs.
- b. Apart from that Government of India should collaborate with the players (who procures the products from India) in the importer countries to encourage them to make customers aware about the supply chain (this can be considered as one of the sustainability initiatives as to be transparent)
- c. Proper branding and marketing for the products by the processors, exporters and government to support and increase the share of exports in the target market.

7. Changing quality standards by the importing countries

Proposed solutions:

- a. Increase the reliability and visibility of the product by the means of trade fairs and increasing collaboration with different markets , this will help them to diversify the importers portfolio and increase the chances of increased exports and reduce the risk of wastage due to change in the quality standards.

8. Government regulations and compliances

Proposed solutions :

- a. At times government regulations regarding the extent to which farmers go for the catchment affects the farmers/fishermen negatively and environment friendly policies/ regulations. In this case government should relax some of the regulations based on the scenario in the global market.
- b. Products can be packaged and exported under the brand names (can be single or multiple), and they can be certified by third party vendors to increase their reliability and quality

9. Lack of training and technology

Proposed solutions:

- a. Training programs can be conducted/arranged by the exporters, MPEDA and government to spread the awareness and decrease the information gap in the players down the chain . This will equip them with the latest technology and information.

10. Lack of government support for the fishermen

Proposed solutions:

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- a. Government can support by providing them with the subsidies and making this more of a organized sector which will eventually benefit the fishermen as their employability risk decreases.

S.NO	Proposed solutions	Agency
1	<i>Government or MPEDA can identify and setup commercial vehicles facility near the catching facilities so that fresh catchment reaches to the supplier.</i>	Ministry of road and transport, Ministry of commerce & trade
2	<i>Government can incentivize the farmers or the medium producers to open cold storage facilities near the areas contributing more to getting marine products. In case there is a challenge with the transport at-least it can be made sure that the life of the product has increased by keeping it at a colder temperature.</i> <i>As the cost associated with the cold storage is on the higher side, it would be a better option to incentivize it to encourage industry.</i>	Local administration under the guidance of government of tamilnadu. Basic research can be provided by the team of Invest India
3	<i>Technology upgradation would be needed here to transport the products with the best available transport facility</i> <i>Ministry of transport can work out to repair the roadways and the route associated with it as delay in</i>	Ministry of road and transport, Technological recommendation by the team of Invest India and Ministry of Electronics and IT

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	<p><i>reaching the destination can cost lot of products getting wasted and rejected annually.</i></p>	
4	<p><i>Encouragement to the e-commerce like Fish chain and licious to procure the raw material directly at the time point of where middlemen come in the supply chain. This can affect the employment and livelihood of some which can be overcome by skilling the middlemen and the others who has the potential risk of losing their employment/livelihood. As they can get employed in the outlet and stores associated with it.</i></p> <p><i>Apart from that , government can setup facilities where farmers can sell their products at a reasonable price or government agents can directly buy the catchment from the fishermen at a reasonable price.</i></p>	Government of Tamilnadu, MPEDA
5	<p><i>Upgrading the technology to forecast the demand and supply.</i></p> <p><i>Making the sector more organized in nature</i></p> <p><i>Implementing catch shares</i></p>	Ministry of commerce and trade and MPEDA
6	<p><i>Conducting trade affairs domestically and globally</i></p>	Ministry of external affairs, Ministry of commerce and trade, MPEDA

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	<p><i>Information of the supply chain on the final product reaching out to the target customers by collaborating with the players in the import countries (this can be done by implementing barcodes which have the information of the whole supply chain)</i></p> <p><i>Proper marketing and branding of the products</i></p>	
7	<p><i>Increasing the reliability and quality of the product</i></p> <p><i>Increasing the number of import countries to diversify the portfolio</i></p>	Ministry of commerce & trade , MPDEDA and associated tamilnadu agencies
8	<p><i>Regulation relaxation or provisions of subsidies or government supported agencies directly buying from the producers</i></p> <p><i>Packaged and exported under the brand names</i></p>	Government of Tamilnadu , Ministry of agriculture and marine
9	<p><i>Training programs can be conducted/arranged by the exporters, MPEDA and government to spread awareness and reduce the information gap</i></p>	Exporter agencies , MPEDA and Invest India can consult with the program design
10	<p><i>Reducing the employability risk by making it more organized sector and</i></p>	Ministry of agriculture, ministry of marine products and fisheries

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	<i>reducing the part of middlemen who normally tends to over exploit the producer</i>	
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Product: Adilabad Nirmal Toys (Telangana)

Nirmal toys are world famous traditional wooden toys that are exclusively made in the town of Nirmal in Adilabad district of Telangana, India. Nirmal Art is 400-year-old rich tradition that encompasses soft wood toys and attractive paintings as well as furniture, occupying its pride and place in the larger world of handicrafts.

The toys are made of finely carved wood. The town of Nirmal in Adilabad district has always been famous as a production centre for many items, especially war cannons and toys. The foundries established here supplied ammunition to Nizam army of Hyderabad state while the Naqqash craftsmen as well as artists contributed their skill in the form of the exquisite wooden toys and duco paintings which is collectively named as Nirmal Art. Hence, the legacy of Hyderabad Nizam's is also one of the reasons why this art flourished extensively.

There are many elegant toys and paintings which are produced by these Naqqash artisans in this town which is located close to National Highway No. 7 and situated at a distance of nearly 220 km from Hyderabad. According to local traditions, the Naqqash families of Rajasthan migrated here during 17th century and it is they who brought this art. The Naqqash artisans initially produced these toys from the local variety of softwood. These are called poniki or even white sander. Since they also make use of the duco colours, the Nirmal paintings are known for a typical shine. The Nirmal toys are even painted in enamel colours, which bring a unique identity to them.

The novel talent of the Nirmal artists especially in synthesizing the Indian and Moghul schools of art is admired very much. The actual origin of the Nirmal craft can be dated back to the Kakatiya era. The motifs which are used in Nirmal craft are derived from the floral designs and frescoes found in Ajanta and Ellora art forms and the Mughal miniatures. There are many utilitarian and decorative articles created in Nirmal style. Nirmal toys are also painted with an herbal extract, imparting golden sheen. Nirmal toys are popular as they are embellished with exclusive and rich oil colours. The Mughal miniatures' painting on the white wood poniki is considered as very attractive and is sold widely to collectors of art.

Nirmal paintings and toys have received a good market and impetus in Hyderabad over last few decades. The 'Nirmal Industry' which comprises of Nirmal paintings, and handicrafts, today commands the international market with good prices being fetched for the artisans and others who are involved in this trade. In fact, Nirmal toys are considered the pride of Telangana and the town has become synonymous with quality art, toys, paintings and furniture. The toys made in Nirmal are considered to be ideal for gifts and souvenirs and hence they are widely popular.

The Nirmal Toys Industrial Cooperative Society established in the year 1955 is home to many artisans and it is the principal toy making unit. It is said that a visitor to the Northern part of Telangana state wouldn't return without buying something from Nirmal. The strategic location of the town connecting North and Central India with South India from several centuries has also contributed for the variety and exclusivity as well as the popularity of this art. The Nirmal toys and paintings are believed to be a perfect attribute for creative living spaces, office spaces and art galleries. The tradition of toy making by the local artisans is a matter of academic interest for craftsmen from all over the world and these toys are a brand in itself, which makes it appealing and attractive for everyone.

Problems:

"Far from a happy toy story"

1. *Traditional toy makers face competition with Chinese goods.*
 - The assembly line production of Chinese toys makes them far less expensive than the Nirmal toys, which are hand-crafted and hand-painted.

- Even though Nirmal toys are said to be more durable and safer for children (as they are coloured with vegetable dyes), the Chinese varieties rule the market.

Proposed intervention:

Indian Toy fair

- Artisans to explore the possibility of e-marketing of Nirmal toys across the country and the world, during the India Toy Fair.
 - Advise the artisans to make use of advanced information technology (IT) technology to popularize toys across the world.
 - This move aligns with the government's efforts towards making India a self-reliant economy and attracting foreign investments in the sector.
2. *GST and demonetisation eating into the earnings artisans.*

Proposed Intervention:

Inform artisans about GST and Return policy:

- Here is a list of all the returns to be filed as prescribed under the GST Law along with the due dates.
 - QRMP (Quarterly Return filling and Monthly Return) scheme.
 - According to the policy 22nd of month next to the quarter for taxpayers in category X states/UTs and 24th of month next to the quarter for taxpayers in category Y states/UTs
 - Telangana lies in X state category.
3. *Inadequate training plagues the traditional industry.*

Proposed Intervention:

National Action Plan

- Comprehensive action plan to boost local manufacturing and incentivise toy manufacturers to make India the next global hub by following:
 - Setting up toy production clusters.
 - Launching central government schemes to incentivise manufacturing and exports.
 - Promoting innovation & design and up-skilling artisans
 - Creating a working group for 'Ek Bharat Shreshtha Bharat' Meeting crowd sourcing procurement needs to boost demand.
 - Utilising analytics and digital marketing tools for targeted brand promotions.
 - Organizing hackathons and grand challenges to encourage design and innovation.
 - Building toy repository centers.
4. *Business is yet to pick up for the famed Nirmal toys after a lockdown.*

Proposed Intervention:

National Action Plan

- Promoting to boost Nirmal toys on digital/social media platforms.
 - Airing special program on toys and games on public broadcast channels such as Doordarshan (DD) and All India Radio (AIR) and social media platforms.
 - Promoting toys made with recycled and up-cycled materials.

- Developing an e-commerce platform to provide a centralised direct marketing portal to handicraft artisans.
- Building ‘Toy Museum’ all around India.

5. *Lack of innovation and funds*

Proposed Intervention:

Informing artisans about GI (geographical Indication) tag

a. Objectives and Benefits of GI tag.

- Given GI protection and the increased demand for eco-friendly toys, there is potential for these rural clusters to develop.
- GI protection is aimed at empowering local communities.
- It is a ‘collective right’ that is granted to associations of manufactures or organisations that represent the interest of such manufacturers.
- Through GI registration, local toy manufacturers can brand their toys with a GI tag.
- The tag is reflective of the craftsmanship, environment and heritage of a particular region. This makes the toys exclusive and exotic.
- The owners of the GI control the marketing of the toys and also benefit from the increased sale.
- It is therefore in the interest of the local communities to register GIs in a collective capacity as associations of manufactures.
- It is, however, surprising to see that artisans from most of these toy-making clusters haven’t formed their own associations to register, control and directly benefit from the use of their GI tags. Instead, state government has registered and is therefore in control of the GIs.
- Since producers themselves may not own/control their GI tags, it is not clear how the objectives of a GI registration as a ‘collective right’ will be fulfilled if quality varies, the credibility of GI bearing toys may be impacted.
- Informing the artisans about benefits can boost and empower them for enhance their income and better lifestyle.

“Hoping for a happy Indian toy story”

Type of Interventions	Proposed Intervention	Authorities
Branding and Marketing	Indian Toy fair	State Government of Telangana
Training and Development (Up Scaling)	Inform artisans about GST and Return policy	State Government of Telangana
Training and Development (Up Scaling)	QRMP (Quarterly Return filling and Monthly Return)	State Government of Telangana
E-commerce and Branding and Marketing	National Toys Action Plan	Government of India
Quality Assurance and Branding and Marketing	Informing artisans about GI (geographical Indication) tag	Government of India

Jangaon Brass Artifacts, Pambarthi Metal Craft (Telangana)

Metal craft is not only among the finest, but also one of Indian's most ancient crafts, dating back to more than 5,000 years. Pambarthi village in Andhra Pradesh has a history of outstanding workmanship of its Metal workers or "Vishwakarma's", which can be traced back to the grandeur and glory of the Kakatiya Kingdom. It is located 65km away from the medieval capital of the Telugus and is a tree-lined and industrious agglomeration of skilled craftspeople with a famous pedigree: Vishwakarma. Metal and alloys like bronze & brass are used in societies to make vessels for storage or for decoration, that cover a whole range of objects from the commonest utensils to the most intricately crafted masterpieces, coveted by connoisseurs of art all over the world.

Although it is primarily known for its high skill and detail in brassware, Pambarthi extends to the Pancha loha, or 5 traditional metals of Gold, Silver, Copper, Iron, and Brass (which are frequently combined). In fact, silver coating is most commonly used for decorative items, particularly for temples. Over 60 families are estimated to be dedicated to maintaining and passing on this ancient craft.

Problems

- 1. With the breakdown of these traditional structures, along with competition from organized industry, artisans find it challenging to buy quality raw materials at affordable prices. In the absence of raw material banks, they are often forced to rely on local traders who provide them with raw materials against orders, albeit at high prices, or switch to non-traditional raw materials.*

Proposed Interventions

- a. Encourage formation of SHGs. SHGs serve as a form of social collateral, enabling artisans to establish linkages with input providers such as raw material suppliers, microfinance institutions and banks, and downstream players such as aggregators and retailers.
 - b. Government can take up the raw material procurement, hence creating more employment opportunities and providing the artisans one stop shop for their raw material needs.
 - c. Providing small credits like the Raw Material Assistance Scheme of Start Up India could help these poor artisans avoid loan sharks. But this would require some sort of registration of the artisans through some cooperative groups.
- 2. Many crafts require the entire household to participate in production in some capacity. In many cases, crafts also serve as a seasonal source of income for agricultural households. This means that children miss school, resulting in low education levels for the family overall. The lack of education makes it difficult to manage inventory, access government schemes and market information and bargain with traders and middlemen.*

Proposed Interventions

- a. Provide storage spaces with proper monitoring system at lowest of costs to avoid the tendency of distress selling.

- b. Introduce minor regulations in the market by setting a minimum selling price, to avoid exploitation of the artisans through external parties.
 - c. State Government can take help of rising start-ups like “PickMyCloth” involved in providing D2C services connecting the weavers and other artisans with the customers.
 - d. Government could fund national programs to distribute cloths (dhotis on festivals, uniform to school children) to the less fortunate generating surplus revenue for the sector itself and creating extra demand in seasons when the demand is less.
3. *Craft producers suffer greatly from lack of working capital and access to credit and loan facilities. Banks cite poor recovery rates, wrong utilization of funds, lack of marketing facilities for finished products and lack of education on part of the borrowers as reasons for the low proportion of loans made to artisans. In general, this forces artisans to borrow from their local moneylender or trader at high interest rates.*

Proposed Interventions

- a. Design registration of handicrafts should be done. That means whatever designs any artisan has introduced on any item should be registered. Then no one can copy it.
 - b. Absence of systematic marketing network has been a discouraging factor in this region. In my opinion, the artisans must be organized by themselves under the co-operative umbrella for marketing their products by themselves. For this more and more linkages must be developed with outside parties.
 - c. Many artisans are not aware about various new schemes like loan at concessional rates, free tools, and chemical, work shed-cum-housing facilities. The artisans should be made aware about the various welfare schemes and its implementation process.
 - d. The various specialized organization, like Development Commissioner (Handicrafts), may help the local units to produce various value added items with would not only help to penetrate the local market, but also help in exporting of such items to foreign countries.
4. *Market research into crafts is negligible, if not non-existent. New trends and designs, new integral ways to feel the pulse of the market need to be determined and disseminated. Handicraft units, which are mostly run by individuals with sole proprietary form of organization can't afford to have separate and well-organized marketing system.*

Proposed Interventions

- a. Government could provide certain of electricity to the households for free, incentivizing them to upgrade their workstations and reducing the utility overhead costs.
- b. For the crafts culture to be appropriately propagated and its commercial potential duly explored, development of tourism can go in tandem with the development of crafts. There is a great deal of scope for craft-centered tourism possibilities to be explored. An urban haat within the city may develop as a nucleus. The

- urban haat can be supplemented with an exhibition-cum-display centre and/or common facility centre for a crafts cluster.
- c. Likewise, around a rural haat, a complex of tourist interests can come up, where authentic and rural life along craftsmanship of the region can be displayed, crafts persons actually seen at work, providing a glimpse of how the rural crafts persons live, how they work, and how they turn out things of beauty and aesthetics.
 - d. It is essential that due care is devoted to different, and crucial, aspects of quality, consistency, sustainability—with an eye on packaging, presentation as well as explanatory information on the characteristics of the product and the craftsman. Likewise, brand promotion needs to be focused as a major component to replace the poor perception of India as a supplier of low-quality goods.
 - e. The Government could provide financial assistance to compensate Rebate extended to customers to promote the sale of artifacts by reducing the price considerably so as to compete with other forms of decorations in the market. This scheme not only enables the primary artisan's co-operative societies in liquidating their stock, but also aims at protecting the industry from severe competition.
 - f. Follow a cluster development approach to assist them as a group through
 - a. Cluster Development Programme
 - b. group approach for development of processes used
 - c. assistance for Craft Organisations
 - d. assistance for Innovative ideas and Publicity, Monitoring, Supervision, Training and Evaluation of Scheme
 - g. Provide organizational assistance to alleviation of the problem of improper financial facilities and irregular supply of raw materials.
5. *The craftsmen are unable to estimate the exact cost, of production due to several reasons. Hence, they find it difficult to fix the price basing on cost of production. The craftsmen have said that they fix prices of articles basing on its market acceptance and basing on the price offered by master craftsmen, dealers and co-operative societies. Sales tax is not only high on handicrafts but also varied from craft to craft.*

Proposed Interventions

- a. Recommendations can be shared with weavers through periodic training programs wherein they can compare their current working conditions to potential improvements. Implementation of such training programs will also provide opportunities to monitor the implementation and regular practice of recommendations.
- b. Through Cluster Development Programme invest in following sections to make the industry more lucrative - skill upgradation, purchase of new work stations and accessories, setting up of finishing units, common facility centres, opening of showrooms, conducting exhibition/fairs, publicity, providing of design inputs
- c. As the Societies considered 'Lack of modernized equipment's' as their prime problem, the effort towards modernization of the technologies used is most important in increasing the productivity of operation and ensuring first rate products.

d. Government can set targets to increase the digital literacy amongst young generation allowing them to use various technical assistance devices available already used by their market counterparts.

6. *Lack of market linkages – While consumers of crafts products are increasingly becoming urbanized, crafts continue to be sold through local markets; artisans have few opportunities to reach new consumers through relevant retail platforms such as department stores and shopping malls. Further, due to their rural orientation, artisans are often unable to access training and technology to supply their products to online markets.*

Proposed Interventions

- a. Set up markets twice per week, with allotting various clusters one particular day to reduce the traffic and the congestion. Promote the products more on the digital platforms like IndiaMart and other such platforms to ensure better reach and avoid market inefficiency.
- b. They could sell the products through multiple channels. The first channel, handicrafts producers may sell their articles directly to their customers. Second channel, handicraft producers may sell to private dealers, who in turn, sell to galaxy of customers. The third channel, handicraft producers may sell to All India Handicraft Development Corporation, which in turn, sells to customers through its sales emporia and State-owned emporia. The fourth channel, handicrafts producers may sell their articles to co-operative society which, in turn, may sell to All India Handicrafts Development Corporation which may sell to State owned emporia which, in turn, may sell to customers.
- c. It is suggested that the Government may exempt handicrafts from sales tax, as it is already done in States like Bihar, Madhya Pradesh and Kerala. The absence of sales tax on handicrafts will result in reduction of handicrafts prices and thereby increase the sales. It's quite difficult for artisan to survive in market unless government protect them.
- d. Train the artisans to diversify their portfolio to increase their margins, training can be given in producing Metal and Jewellery products etc

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the young generation	Government of Telangana
3	Investment in the marketing infrastructure of the products	Development Commissioner (Handicrafts)
4	Better quality assurance standards, safety compliances	Development Commissioner (Handicrafts)
5	Promote certifications	All India Handicraft Development Corporation
6	Construction of common facility centre	Government of Telangana
7	Collaboration with local start-ups	Ministry of Commerce & Industry

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Product: Karimnagar Granite(Telangana)

1. Granite is an igneous rock, which means it was once molten and formed as it cooled deep within the earth.
2. Minerals within granite typically appear as small flecks throughout the stone, once creating a “salt and pepper” look.
3. Other types have veining similar to marble.
4. Granite is a dense-grained, hard stone.
5. It can be highly polished or finished in a variety of other ways.
6. A broad spectrum of color is available.
7. Granite is one of the most popular natural stones in the market

Problems

“Granite industry losing its sheen in Karimnagar”

1. Granite industry in Karimnagar district, which is known for its huge reserves of Tan brown, Maple Red and Coffee Brown varieties, is losing its sheen following the steep decline in exports to China, which is the main consumer.
2. Following the restrictions imposed by China, the granite exports have plummeted considerably over the last few years. Gone are the days when more than 1,00,000 cubic meters of granite per month was exported from Karimnagar district to China.
3. Now, it is not even reaching 10,000 cubic meters per month.
4. Against a total of 160 quarries, hardly around 60 of them are excavating Granite now.
5. The industry, which used to provide employment to over 1.5 Lakhs skilled/unskilled workmen have dwindled to less than 60,000 and they too were employed in the granite polish units on a temporary basis.
6. The crisis in the granite sector had cast its shadow on other sectors such as hotel industry, owners of Lorries and dumpers, and also railways.
7. Several star hotels, which were occupied by the representatives of China to purchase the local granite, have also lost business with steep decline in occupancy ratio.
8. The decline in the export of granite to China has become a cause for concern for owners.
9. More than 70 per cent granite quarries have stopped production and the machinery remains idle causing huge loss to the owners as they were unable to repay loan.

Plea for Aid

1. Request the government to further reduce the royalty tax from the existing ₹1,850 and ₹2,000 per cubic meter to ₹1,500 per cubic meter.
2. They are operating only one shift to excavate granite following the slump in the exports, when compared to three shifts a few years ago.
3. The industry is reeling under acute crisis and the government should help the sector.

Proposed Interventions

Royalty tax reduction

As the Granite industry is whirling under acute catastrophe,

Request the government to further reduce the royalty tax from the existing ₹1,850 and ₹2,000 per cubic Meter to ₹1,500 per cubic meter

Funds released by Ministry of Micro, Small & Medium Enterprises (MSME)

Indian economy thrives through the means of enterprise creation as one of the prime movers of the economy. In this direction, “Make in India and Made in India” movement is integral to entrepreneurship development across the country. Therefore, Micro, Small and Medium Enterprises (MSMEs) play a vital role for strengthening the Indian economy.

Providing proper information regarding how to export Granite & Documents to Export Granite.

How to Export Granite from India

1. The first thing entrepreneurs need to do to export granite from India is to incorporate their business as a legal entity in India. They can choose from a variety of options provided by the Indian government and choose a business structure that suits them perfectly.
2. Once they have registered their company with the Ministry of Corporate Affairs, they must apply for and obtain a company PAN. Next, business owners will have to open a bank account in the name of the company to process all financial transactions.
3. Next, entrepreneurs will need to register with the Director-General of Foreign Trade and obtain an import-export code. The last step of registration involves getting all the other documents required to clear customs.
4. Business owners can then make use of government agencies in importing nations to find interested buyers and vendors. Additionally, companies must register with export promotion councils and commodity boards to avail various benefits provided by the government.
5. Once they have enough potential buyers, they can start negotiating a fair deal for themselves
6. Next, the entrepreneurs will need to contact a reputed shipping or freight agency to ensure their product reaches the buyers on time.
7. The last step involves customs clearance which can be made easier by availing the services of a customs housing agency.

Documents required to Export Granite from India

1. Incorporation Certificate.
2. Company PAN.
3. GST and other tax registrations.
4. Import Export Code.
5. DGFT registration certificate.
6. Registration-cum-membership certificate from the EPCs.
7. Customs clearance documents, such as Bill of Lading and packing list.

Exploring the market Worldwide

Apart from China, Karimnagar Granite Industry with the support of State Government should explore increasing Trade with other counties majorly with:

1. United States of America
2. United Kingdom
3. Vietnam
4. Saudi Arabia
5. Algeria

These are some major Granite importing countries from India. Industry specialists must explore other major Importing Granite countries worldwide.

Proposed Interventions and Authorities

Royalty tax reduction: Government of India

Funds released by Ministry of Micro, Small & Medium Enterprises (MSME):

Government of India (Ministry of Micro, Small & Medium Enterprises)

Providing proper information regarding how to export Granite:

Government of India (Ministry of Corporate Affairs)

Documents required to Export Granite from India

Government of India- DGFT (Director-General of Foreign Trade)

Exploring the market Worldwide

State Government officials

Mancherial Coal, Telangana

Mancherial is a district in the state of Telangana. It was an earlier part of the Adilabad district and is situated on the banks of the Godavari River. Even though rich in forest reserves, the area remained economically insignificant for decades. The industrialization of the area started with the establishment of the Singareni Collieries Company. The Singareni Collieries company, which is the largest supplier in southern India, operates many coal mines in the Mancherial district. As of 31.03.2020, the Mancherial district accounted for 3557 million tons of coal reserves.

Problem 1:

Ministry of Environment and Forests has faulted the company for producing more than the permitted capacity. Further capacity expansion plans of the field are put on hold.

Proposed Intervention:

- a. As it is an issue of environmental concern and ecosystem degradations, nothing much can be done to expand the production capacity without the permission of the concerned authorities.
- b. However, the Reconstruction of existing mines for optimum production and improving productivity by optimal utilization of the equipment can be explored.
- c. Conversion of shallow underground workings to the opencast method for extraction of balance coal reserves to increase production

Problem 2:

Dust Pollution is one of the causes of major concern in the region. The dwellers in the area are already facing lot of respiratory issues due to the emissions by vehicular movement and the dust generated due to coal mining by opencast projects. During monsoon seasons, the coal ash flows into nearby water bodies polluting drinking water and irrigation systems causing severe threats to Humans and Animals alike.

Proposed Intervention:

- a. Water spraying arrangements along the coal transfer route are to be installed to suppress the particulate matter in the air.

- b. The permanent coal transport routes can be blacktopped to reduce dust pollution, which also increases the efficiency of vehicles.
- c. Coal Ash containment zones to avoid the overburden runaway in monsoons be constructed and properly sealed to avoid leakages and seepages

Problem 3:

Overburden is the material that lies above an area that lends itself to economic exploitation, such as the rock, soil, and ecosystem that lies above a coal seam or ore body. Overburden soil is generated at an average rate of 4Cum/MT in the Singareni collieries. This soil is a waste byproduct and causes environmental degradation through runaways and dumps.

Proposed Intervention:

- a. Large volumes of geostatistical data are available along with Satellite and Remote-sensing technologies
- b. These data can be interpreted to create models of the mine occurrences, and optimized drilling operations can be planned accordingly.
- c. This reduces the overburden wastage and increases the output efficiency of the mine, along with the reduction in stress on the surrounding ecosystems.

Problem 4:

As mentioned earlier, the Overburden is a major wastage in coal production. This Overburden is stored in heaps close to the mine to be later used as a backfill in the mines after coal extraction is done. Meanwhile, this Overburden poses serious risks to not just the environment but also financially, owing to challenges in storage.

Proposed Intervention:

- a. A technique of processing the Overburden to convert it to construction material and for stowing is available.
- b. Depending on the production capacity, Overburden processing facilities should be established close to the mines to convert this Overburden into construction material and backfill material.
- c. This way, the wastage can be converted to a revenue-generating source and further helps reduce stress on surrounding ecosystems.

Sl.No.	Proposed Solutions	Agency
1	Reconstruction of existing mines for optimum production and improving productivity by optimal utilization of the equipment can be explored	1. The Singareni collieries company limited 2. Mines & Geology Department, Telangana
2	Conversion of shallow underground workings to the opencast method for extraction of balance coal reserves to increase production	1. The Singareni collieries company limited 2. Mines & Geology Department, Telangana
3	Water spraying arrangements along the coal transfer route to be installed to suppress the particulate matter in the air and blacktopping the permanent coal transport routes.	1. The Singareni collieries company limited 2. Ministry of Environment and Forests (MoEF)
4	Coal Ash containment zones to avoid the overburden runaway in monsoons be constructed and properly sealed to avoid leakages and seepages into the surrounding ecosystems.	1. The Singareni collieries company limited 2. Ministry of Environment and Forests (MoEF)
5	Large volumes of available geostatistical data can be interpreted to create models of mine occurrences and drilling operations to reduce wastage.	1. The Singareni collieries company limited 2. Mines & Geology Department, Telangana 3. Ministry of Mines
6	Depending on the production capacity, Overburden processing facilities should be established close to the mines to convert this Overburden into construction material and backfill material.	1. The Singareni collieries company limited 2. Mines & Geology Department, Telangana 3. Ministry of Environment and Forests (MoEF)

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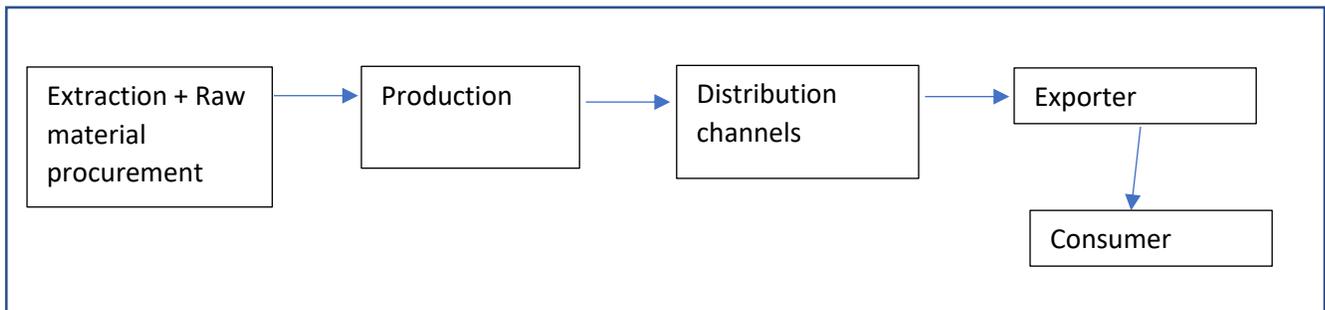
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Mancherial Cement , Telangana

Indian cement industry has evolved significantly in the last two decades , moving through the cyclical growth phases and post the period of over supply , country is in a consolidation phase and it is facing growth in demand of the cement. Apart from that Government of India is trying to bring many policies through Atmanirbhar Bharat, which is driving lot of initiative and development in the country. To bring expected development, country has to build lot of infrastructural changes which would be needing the cement industry to fulfill country's demand. In cement production, south Indian states play a major role, out of them Andhra Pradesh and Telangana are the major cement producing states. It is due to the geographical condition and regional advantage of the districts and states which aid in cement production. Mancherial in telengana has been one of the districts which can play a major role in India's export of cement as it is situated on the north of Godavari river and it is full of forest reserves.

Supply chain in general :



Problems associated with the Tuticorin marine products :

1. Transporting cement, a bulk commodity is uneconomical over long distances

Proposed solution:

- a. Government can look to export manufactured cement to nearest countries via port like Srilanka. GOI can try to increase their exports to these countries.
- b. Government can take initiatives to improve rail transport like including wagon .

2. Getting a clearance (environmental and regulatory) is a tedious process and overall capital cost is needed

Proposed solution:

- a. Setting up the independent body/association to look into the process of getting clearance.

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- b. Digitalizing the process as much as possible. Creating a knowledge document to understand the process as efficiently as possible.

3. Manufacturing plants not yet utilizing the full capacity

Proposed solution :

- a. Promotional activities for the mancherial cement could aid in creating more demand which would aid in utilizing more capacity of the plants
- b. During the trade fairs with potential export countries , mancherial cement could be promoted to increase the demand and gain more reliability.

4. Accessing the limestone reserves

Proposed solution :

- a. Key factor for any cement producing region is the distance between plant and the limestone reserves, it should be made sure that the plants are nearer to the reserves and government should aid in the same process.
- b. Government could identify the reserves and it can be transparently auctioned or a tender to get the reserves could be made on the government website detailing all the documents and processes ahead.

5. High import duty on the inputs required for the cement production

Proposed solutions:

- a. Reducing the import duty (but keeping the limit on the import as India should not become a dumping ground for the exporting countries)on the inputs required by the cement production as it would lead to the reduction in the overall price of the cement which could be a factor to increase the export potential as the products would be able to compete with the products from Chinese player in terms of price.

6. Energy and power needed is quite high and fluctuations in the same hampers the production

Proposed solutions :

- a. Use of the renewable sources of the energy to compensate for the fluctuations in the energy and power.
- b. Coordinating with these industries and understanding the need of the energy and power for the plants and distributing the same as per the requirements keeping all other stakeholders in mind.
- c. Plants in itself could identify the areas where they can use energy efficiently by hiring an independent consultant.

7. Royalty payment and cess payment to state and central government

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Proposed solutions:

- a. To increase the export potential , government could subsidize the manufacturing the cement as royalty and cess payments to government is a fixed cost incurred by the organization.
8. Inadequate availability of wagons : Today, 70% of the cement movement worldwide is by sea compared to 1% in India.

Proposed solutions:

- a. Government can support by including more wagons and even organization could get the license to procure more number of wagons.
- b. Plants can distribute the cement by collaborating with the warehousing bodies.
9. Cost competition with the Chinese players in the foreign market
 - a. Promotional activities in the export countries which could possibly improve the reliability of the Indian exports.
 - b. Reduction in the overall cost of procuring and manufacturing the cement , would allow to charge lesser price in the foreign market.
10. Environmental emissions and regulatory reforms: With climate change talk going upward and countries taking initiatives to mitigate the risk of climate change. Cement industry is adapting to it.
 - a. One of the cement plant has been already shut down in mancherial due to the non-compliant issues. Government should issue a roadmap for the regulatory reforms on the side of emissions so that industry can adopt to it .

S.NO	Proposed solutions	Agency
1	a. Export manufactured cement to nearest countries via port like Srilanka.	Ministry of road and transport, Ministry of commerce &trade
2	a. Digitalizing the process. Creating a knowledge document to understand the process as efficiently as possible. b. Setting up the independent	Consulting can be provided by the team of Invest India with the help of Ministry of Information technology and services

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	body/association.	
3	<p>a. Promotional activities for the mancherial cement</p> <p>b. During the trade fairs with potential export countries , mancherial cement could be promoted to increase the demand and gain more reliability.</p>	Ministry of commerce and trade and state government
4	<p>a. Key factor for any cement producing region is the distance between plant and the limestone reserves, it should be made sure that the plants are nearer to the reserves and government should aid in the same process.</p> <p>b. Government could identify the reserves and it can be transparently auctioned or a tender to get the reserves could be made.</p>	Plants management and Government of Telengana and their ministry of commerce & trade
5	<p>a. Reducing the import duty (but keeping the limit on the import as India should not become a dumping ground for the exporting countries).</p>	Ministry of commerce and trade and state government
6	<p>a. Use of the renewable sources of the energy to compensate for the fluctuations in the energy and power.</p> <p>b. Coordinating with these industries and</p>	Ministry of new and renewable energy and ministry of power with collaboration with State government

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	<p>understanding the need of the energy and power for the plants and distributing the same as per the requirements keeping all other stakeholders in mind.</p> <p>c. Plants in itself could identify the areas where they can use energy efficiently by hiring an independent consultant.</p>	
7	<p>a. To increase the export potential , government could subsidize the manufacturing the cement.</p>	Ministry of commerce & trade ,
8	<p>a. Government can support by including more wagons and even organization could get the license to procure more number of wagons.</p> <p>b. Collaborating with the warehousing bodies.</p>	Government of tamil nadu , Ministry of transport Invest India consultants could advise for the collaboration
9	<p>a. Promotional activities in the export countries.</p> <p>b. Reduction in the overall cost of procuring and manufacturing the cement.</p>	Ministry of commerce and trade. Invest india could consult the ministry for arranging the fairs and webinars
10	<p>a. Government should issue a roadmap for the regulatory reforms on the side of emissions so that industry can adopt to it .</p>	Government of telengana and Central government

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Nalgonda Cotton, Telangana

Telangana is the third largest cotton producing state in the country. Districts like Karimnagar, Nalgonda, Adilabad, Mahabubnagar are the largest cotton producing districts of Telangana. Statistics from ILO suggest that over 17.13 lakh hectares of cotton is grown in Telangana making it the 3rd largest producer of cotton in India.

The following picture depicts the usage of cotton after ginning:

(Ginning -separating cotton fibres from their seeds)

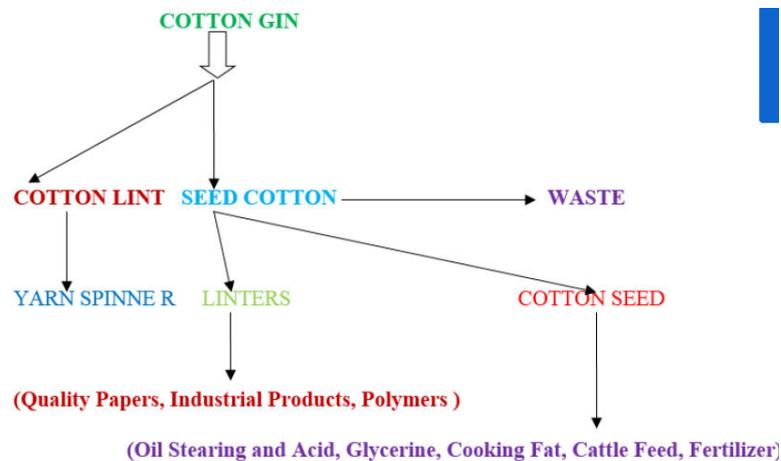


Fig. 3: Various Byproduct and Usage of Cotton after Ginning

The various stakeholders involved in the production and commercialisation of cotton are farmers' organizations and trade unions, state officials, academic researchers, seed companies and non-governmental organizations (NGOs), retailers, ginners, spinners, traders, large independent cotton farmers.

Problems

1. *Lack of good quality/ Fake cotton seeds for cotton farming. The companies providing cotton seeds are providing low quality/ fake seeds . This leads to low yield and productivity that has caused huge losses to the farmers.*

Proposed Intervention

- Seed businesses should be subjected to stringent regulations and penalties for selling phoney seeds and making fraudulent claims.
- Farmers should be able to verify the authenticity of seed purchases using new label technology. (A case study in Kenya)

- Through an Act, India can employ QR codes with Randomized unique codes (URC) to be printed on all seed packs that are marketed in India.
 - The entire procedure can be made foolproof in preventing counterfeit seeds by including good security measures and time-tested software.
 - Farmers will have more confidence in investing in genuine seeds, resulting in greater agricultural output and income for smallholder farmers.
2. *Contamination of cotton during picking leading to cultivation of low-quality cotton*

Proposed Intervention

- Manual picking of cotton leads to impurity as well as labour charges are high. Mechanical picking of cotton should be implemented to improve the quality of cotton
 - Educating farmers by teaching them cotton harvesting practices such as better house keeping practices will help avoid contaminants.
 - Avoid use of hessian bags for transport at farms and ginning.
3. *Higher moisture in cotton than the permissible limit. The proper control, and measurement to allow for control, of cotton moisture is essential to maintaining and preserving fiber quality. Higher moisture content leads to reduction in MSP (Minimum Support Price). The maximum permissible limit is 12%, post which the cotton is rejected. For every 1 percent increase in cotton moisture till 12 % there is a 1 percent reduction in MSP.*

Proposed Intervention

- Farmers should be well educated on the permissible moisture limit in cotton.
 - Better drying techniques should be deployed during the process of cotton cultivation so as to avoid rejection during procurement of cotton by concerned authorities
 - Testing metres should be calibrated by the Central Institute for Cotton Research, and officials should double-check with Market Committee metres if in doubt.
4. *Increased cost of production due to expensive use of pesticides and fertilisers*

Proposed intervention :

- Organic farming of cotton without chemicals that destroy the fertility of soil.
 - People can be skilled better by educating them on various sustainable practices about cotton farming. Use of green pesticides, less use of fertilisers.
 - Implementation of better cotton production technologies can help in reducing the cost of production and reducing emission of green house gases, GIS, GPS, GSM remote sensing technologies, integrated pest management system, information retrieval system, integrated weed management system.
5. *Expensive Labour for cotton picking*
There is a shortage of labours for manual plucking of cotton and hence there is a rise in the wage of labour. Due to the highly subsidised cost of grains through the Public Distribution System (PDS), farm labourers don't want to toil in the fields. This is

fuelling the rising labour costs in the state. There are more people in the market than in the field

Proposed Intervention

The cost of the labour is rising due to decrease in the number of workers. People are not willing to work in fields.

5.Lack of market information and market access to the local farmers.

Proposed Intervention

They should be instructed to use radio, newspapers, magazines, and a specific app intended for farmers for marketing help. To cut out the intermediaries, Texprocil can help cotton producers gain entry to numerous trade shows.

Learning and analysing market data would be easier if there were more literate and talented men in the workforce. This will let growers get the full potential of the product by removing the middlemen.

Sr.No	Proposed Solution	Agency
1	Introduce digital solutions (label technology for cotton farming)	Ministry of Farmers and Agricultural welfare, Cotton corporation of India(CCI)
2	Calibration of testing meters to measure moisture content in cotton accurately.	CICR (Central institute of Cotton Research)
3	Application for GI tag(As it Is not GI tagged) It will improve the commercial value of the product	Controller General of Patents, Designs and Trade Marks- who is the Registrar of Geographical Indications
4	Trade events and exhibitions (domestic and international)	Ministry of Commerce, Texprocil
5	Deployment of digital cotton producing technologies such GPS, IPMS, IWMS	ICAR, Indian council of agricultural research, Ministry of Agricultural welfare.

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Sangareddy Engineering Products (Telangana)

Situated in the northern region, Sangareddy is a developing residential area that has witnessed plotted development. Sangareddy is placed adjacent to the National Highway-65. Sangareddy shares boundaries with Medak, Medchal, Vikarabad, Kamareddy, and Rangareddy districts. Proximity to the Nehru Outer Ring Road (ORR), Patancheruvu industrial area and smooth connectivity is a key driver for residential development. Subhagruha Sukrithi Samyuktha, Alekhya Elite County are some of the residential projects in this area. Sangareddy is home to the houses the renowned educational institution Indian Institute of Technology Hyderabad (IIT-Hyderabad)

The city has three large-scale public sector industries in its constituency. These are BHEL (Bharat Heavy Electricals Limited-One of the MAHARATNA companies of Govt. Of India), BDL (Bharat Dynamics Limited, where one of India's most powerful missile PRITHVI was produced), Ordnance Factory Medak (which manufactures the Sarath tanks for the Indian Army).

Problems

1. *Marketing of the products is a major drawback of the industry relegating the products only to the low-end usages.*

Proposed Interventions

- a. Increase social media (LinkedIn and others) presence of the hub, even though the hub has been operating for years, awareness about the hub is extremely low, hence lack of investors.
 - b. Introduce sales teams whose primary purpose is to form collaborations, as direct door-to-door sales is ineffective in modern age, newer ways must be explored.
2. *Huge imports of cheaper products from China, this especially affects Ambala cluster since their niche is providing low end cheap instruments*

Proposed Interventions

- a. Instead of importing the complete instrument, Government should facilitate the importing of individual parts through subsidies, allowing the manufacturers to make the final products at a lower cost.
3. *Due to low scale production, high manufacturing costs. Even with lower labour costs, the additional costs of transport, water and electricity contribute to increasing costs, this is especially due to the fact, manufacturing clusters are not geographically close and organized. Small scale manual production hampers the industry image, relegating it to smaller and cheaper instruments only, especially in the eyes of big firms which want a faster production time through automated machines.*

Proposed Interventions

- a. Provide consistent power supply, ensuring maximized productivity, Government could exempt the hub from mandatory power cuts as well.

- b. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.
 - c. Increase the scale of production by replacing manual work with automated processes, and introduce other industry 4.0 factors like CAD, 3D Printing for the hub, which upskilling the labourers into more maintenance tasks rather than manual production.
4. *Lack of skilled labour. Due to low growth of the sector, the connection between academia and the sector is very low, further stagnating the productivity. High level of employee attrition in recent years, due to hub's inability to pay employee wages on time.*

Proposed Interventions

- a. Collaborate with tier-2 and tier-3 engineering institutes to form internship programs to inject fresh blood into the industry.
 - b. Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
 - c. Formalize the work force, by designing a clear career progression path with yearly retention and performance bonuses to incentivize the employees.
 - d. Train and certify certain number of trainers from all over India to provide consistent level of training to the entry level employees
 - e. Hire talents from top institutes to work towards the development and introduction of modern technologies and industry 4.0
5. *Safety compliance not followed correctly, leading to multiple fire related disasters per year.*

Proposed Interventions

- a. Make safety compliances mandatory for each organization present in the hub, with extreme penalties for violation, promoting mandatory maintenance and supervision on a timely basis. Set up hard target like single digit casualties in the hub annually to ensure the compliances are being followed diligently.
 - b. Train employees on safety values through workshops, and involve the local community in the same to ensure maximum involvement and accountability.
 - c. Introduce special incentive packages for the companies investing in these safety certifications, and Government can help with increasing brand awareness of the companies following the same.
6. *Lack of proper infrastructure to upscale production as the annual turnover and export currently is not sufficient to keep up with the rising debt*

Proposed Interventions

- a. Build a CFC (Common Facility Centre) whose singular aim is to work towards long term benefits like technological advancement for the hub.
- b. Invest in the low hanging fruits first, like conversion of the manual to automated processes, increasing the output and the productivity of the hub.
- c. Reduction of fixed costs for the debt-ridden cluster:

- a. Electric Duty Exemption for initial years.
 - b. Stamp Duty exemption for lease/ deeds for companies' set-up in lands earmarked for the industry itself.
 - c. Power Subsidy till a certain level
7. *Regulatory processes extremely complicated, hence scaring away probable investors, both domestic and foreign.*

Proposed Interventions

- a. A singular committee set-up which is completely responsible to provide one stop clearances to potential investors. This committee will assist investors throughout the investment lifecycle spanning from proposal application to approval of licenses/clearances and finally incentives disbursement in manufacturing sector.
- b. Setting up international desks with special incentives to attract foreign investors.
- c. Update the existing Policy Implementation Unit with renewed targets to implement the new features of the policy.

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the workforce and the development of new trainers	Engineering Export Promotion Council of India
3	Construction of common facility centre	Government of Telangana
4	Better quality assurance standards, safety compliances	Government of Telangana
5	Value Added Products - product diversification	Ministry of Commerce & Industry
6	Simplified Regulations regarding investment	Government of Telangana

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Cement, Suryapet, Telangana

Suryapet district has been carved out of erstwhile Nalgonda district, and shares boundaries with Nalgonda, Yadadri, Khammam, Hanamkonda, Mahabubabad districts as well as the state of Andhra Pradesh. Suryapet has been historically associated with the movement against Razakars during Telangana Armed Struggle. The district is spread over an area of 3,374.41 square kilometres. According to 2011 Census of India, the district has a population of 1,099,56

India is the second largest producer of cement in the world. It accounts for more than 7% of the global installed capacity. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is expected to largely benefit from it. Some of the recent initiatives, such as development of 98 smart cities, is expected to provide a major boost to the sector. Suryapet is a rapidly developing region with flourishing cement industries. Due to its vast expanse of Krishna River basin, agriculture is widespread while the Nagarjuna Sagar left canal is its chief source of irrigation.

Problems:

1. **Inadequate Production** The main factors responsible for shortfall in production are less superior and costly machinery, drastic power cuts ranging from 20 to 75 % in various cement producing states, shortage of coal, inadequate availability of wagons and limited availability of furnace oil.

Proposed Interventions:

- a) Encouraging setting up of captive power plants for cement industry by ensuring appropriate coal linkages and abolition of all types of duties on generation of power for captive use
- b) Allotment of more coal blocks to cement plants on priority basis.
- c) Ensuring 80% of the fuel requirement of cement industry by coal companies through linkages/ Fuel Supply Agreements (FSAs)

2. **Infrastructural Problems:** The fewer infrastructure facilities is one of the main problems faced by the cement industry. The infrastructure facilities mean the facilities of availability of adequate quantity and quality of coal, railway wagons regularity of power supply, sea-port, bridges, roads and canals, which is of very essential for optimizing capacity utilization in cement industry. It is because the cement plants are located in close proximity to the lime stone deposit regions, which are not appropriately linked with rail, road, power and communication services which affect to the cement industry

Proposed Interventions:

- a) Increasing infrastructural investments.

- b) Required infrastructure should be developed by providing suitable connections from landlocked cement plants to the river systems

3. **Administrative Problems:** Administrative problems include the workers problems, sales, distribution of cement, work environment and maintenance of safety measures problems etc

Proposed Interventions:

- a) Duty free import of pollution control and energy efficiency improving equipments should be allowed
- b) The BIS should develop quality standards so as to allow manufacture of composite cement using various sorts of waste products, in line with the international practices.
- c) Governments should create new avenues for cooperation both among cement producers and along supply chains to promote the development and diffusion of novel products.

4. **Logistic related issues:** Logistics cost for cement is also high since a lot of cement is transported through road transport which pushes the cost of cement.

Proposed Interventions:

- a) Railways need to provide for transporting of at least 50% of cement and clinker both for the existing production and the targeted additional production.
- b) To encourage transportation of bulk cement by railways, appropriate incentive schemes should be worked out on long-term basis, besides making the existing schemes effective and user friendly
- c) Railways need to improve the handling and storage facilities at major terminals by providing proper platform, sheds and facilities for loading and unloading
- d) Govt. should permit setting up of port based bulk terminals for bulk transportation of cement.

5. The lack of exposure to **foreign markets** and manufacturers have resulted into minimal penetration of the product. Very few common platforms for manufacturers to network and collaborate

Proposed Interventions:

- a) Organizing global trade fairs with access to foreign buyers at a larger level
- b) Facilitation to the Indian exporter/manufacturer with logistical and administrative issues to showcase their products
- c) Customization of products according to the needs of buyers located in other countries

- d) Exporters should be facilitated with different administrative processes and there must be ease in obtaining licenses and certification

<https://www.insightssuccess.in/cement-manufacturing-opportunities-challenges/>

https://niti.gov.in/planningcommission.gov.in/docs/aboutus/committee/wrkgrp11/wg11_cement.pdf

<https://www.ibef.org/industry/cement-india.aspx>

Sr. No	Proposed Interventions	Agency
1.	Achieving self-sufficiency in cement production	Cement corporation of India Ltd
2.	Formulation and implementation of promotional and developmental measures	Department for Promotion of Industry and Internal Trade (DPIIT)
3.	Promote research and scientific work	National council of cement and building materials
4	Development and growth of capital goods	Ministry of heavy industries
5	Export Promotion	Ministry of commerce and Industry

Vikarabad Red Gram (Telangana)

Red Gram is an important pulse crop in India. It is also known as Arhar and Tur Daal.

Red Gram is widely grown in India. India is the largest producer and consumer of Red gram in the world. Red Gram is a protein rich staple food. It contains about 22% protein, which is almost three times that of cereals.

Red Gram supplies a major share of protein requirement of vegetarian population of the country.

Red Gram is mainly consumed in the form of split pulse as Dal, which is an essential supplement of cereal based diet.

The combinations of Dal-Chawla (pulse & rice) or Dal-Roti (pulse & chapatti) are the main ingredients in the average Indian diet.

The biological value improves greatly, when wheat or rice is combined with Red gram because of the complementary relationship of the essential amino acids.

It is particularly rich in lysine, riboflavin, thiamine, niacin and iron.

In addition to being an important source of human food and animal feed.

Red gram also plays an important role in sustaining soil fertility by improving physical properties of soil and fixing atmospheric nitrogen.

Being a drought resistant crop, it is suitable for dry land farming and predominantly used as an intercrop with other crops.

Problems

1. Red Gram farmers have been facing hardships waiting for more than six days at the market yard here to get their produce weighed in the absence of required weighing machines, labourers and other equipment.
2. The farmers are doubling up as hamalis (porters) as the hamalis appointed by the market yard officials are reluctant to work after evening.
3. There are no drinking water facilities in the market yard.
4. The farmers have exhausted their money brought from home.
5. They were forced to sleep in the market yard braving chill weather. But the market yard officials have turned a blind eye to the problems of farmers.
6. Some women farmers, whose families have no male members, brought red gram to the market yard on their own only to wait for the past six days to get their commodity weighed. They are exposed to the chill weather and waiting for their turn in the grip of fear.
7. Red Gram farmers complain of apathy from officials as well as people's representatives and express anguish over the 'treatment' they receive at their hands.
8. Red Gram farmers in the state are facing problems with no clarity on the purchase of their produce with Minimum Support Price (MSP).
9. The market federation has decided that Rs 6000 per quintal can be paid, but since 15 days after harvest, no efforts are made by the government for the purchase.
10. In Vikarabad 1, 50,000 metric tonnes produce is expected. But officials have plans to purchase only 18,000 from Vikarabad.
11. Farmers say "If this is the way, we have no option but do distress selling."

Proposed Interventions

The losses of Red Gram can be minimized in the process of:

1. Threshing and winnowing
2. Better storage and processing
3. Better handling and transportation

Better equipments for Threshing and Winnowing:

The loss at threshing yards to be reduced by doing threshing and winnowing operations in short while with Better and improved equipments.

Better storage and processing

1. Due to improper and inefficient methods of storage, the loss up to 7.5% is estimated during storage.
2. Quantitative losses result from spoilage, drainage, infestation by insects, rodents or birds.
3. Therefore, improved storage facilities should be adopted to reduce the losses.
4. Due to using old and outdated methods of red gram processing, the loss at this stage is up to 1%.
5. To reduce the processing losses and to increase the output, improved red gram processing method should be adopted.

Better handling and transportation

During transportation, the losses are reported to be extent of 0.5 % and necessitating quick transportation to Reduce the losses.

Educate farmer about avoid post-harvest losses, following preventive measures to be considered

1. Harvest timely to reduce losses.
2. Use proper method of harvesting.
3. Avoid the losses in threshing and winnowing by adopting modern mechanical methods.
4. Use improved techniques of processing.
5. Adopt grading for getting remunerative prices inter-alia to avoid financial loss.
6. Use good packaging materials for storage and transportation like jute bags or HDPE bags.
7. Timely and proper handling while loading or unloading at farms and markets.

Grading under AGMARK

1. The Agricultural Produce (Grading and Marking) Act, 1937 was enacted to maintain the quality of Agricultural produce in India.
2. The Act authorises the Central Government to frame rules related to the fixing of grade standards and the procedure to be adopted to grade the agricultural commodities.
3. According to this Act, Specifications have to be drawn up for Red Grams.

Grading for Procurement by NAFED (National Agriculture Cooperative Marketing Federation Of India ltd.

1. NAFED is the nodal agency of the Government of India for procuring Red Gram in different states under the Price Support Scheme (PSS).
2. The concerned State Co-operative marketing Federations are the procuring agents for NAFED.
3. Only one grade i.e. Fair Average Quality (FAQ) is prescribed every season for procurement of pulses including Red Gram under the Price Support Scheme (PSS).

Foreign trade Matters: Information regarding foreign trade to be informed

The grade standards specified for Red Gram whole and split notified by the Directorate of Marketing and Inspection is given below:

Grade specification and definition of quality of Red Gram (Tur/Arhar) whole-under A-Mark Special Requirements:

Grade Designation	Moisture	FOREIGN TRADE MATTERES	
		ORGANIC	NON-ORGANIC
Special	10.0	0.10	NIL
Standard	12.0	0.50	0.10
General	14.0	0.70	0.25

Proposed Interventions and Authorities

Better equipments for Threshing and Winnowing:

Government of State (Telangana)

Better storage and processing:

Government of State (Telangana)

Better handling and transportation:

Government of State (Telangana)

Educate farmer about avoid post-harvest losses, following preventive measures to be considered:

Government of State (Telangana)

Grading under AGMARK

Government of India

Grading for Procurement by NAFED (National Agriculture Cooperative Marketing Federation of India Ltd.)

Government of India

Foreign trade Matters: Information regarding foreign trade to be informed

Government of State (Telangana)

Jogulamba Gadwal Groundnuts

Groundnut, any of several plants that bear edible fruit or other nutlike parts. Three are members of the family Fabaceae (or Leguminosae): *Arachis hypogaea*, the peanut, the fruit of which is a legume or pod rather than a true nut; *Apois americana*, also called wild bean and potato bean, the tubers of which are edible; and *Lathyrus tuberosa*, also called earth-nut pea.

Problems

1. *Deplorably low productivity in India mainly due to non-availability of improved seeds, high cost of seeds and high yielding varieties*

Proposed Intervention

- a. Importing quality seeds from competitive markets are the best way to significantly increase the production. Reduction on import duty, easy access to these quality seeds to the producer would eventually rise the production
 - b. Investment in agricultural researches in specialized institutions can result in high yielding varieties
 - c. Authorities should promote replacement of old and traditional seeds for increasing production
2. *The concerns related to pest management and excess uses of pest result in degradation of groundnut*

Proposed Intervention

- a. Leveraging integrated pest management techniques to reduce and limit excess use of pests in the farms
 - b. Increasing awareness among farmers regarding managed use of pests can reduce bad use of pests
 - c. Uses of organic fertilizers and sustainable harvesting techniques such as proning can prove useful
3. *The high cost of labor during harvesting and non-existence of cost-effective technologies increases the cost burden*

Proposed Intervention

- a. Government should promote adoption of cost-effective techniques for harvesting leveraging newer technologies like interlock farming and mechanization
- b. Authorities should provide financial incentive at different levels to the farmers in order to reduce the cost burden from farmers
- c. Availability of gypsum and fertilizers for the life cycle of groundnut is very important in context of quality of produce

4. *Lack of access to capital and credits for groundnut farmers inhibits the real growth of crops since the farmers are not able to invest*

Proposed Intervention

- a. Despite the availability of different credit policies and financial institution the credit ecosystem still lacks in reaching the eligible set of farmers. Utilizing the present infrastructure, government should collaborate with cooperative and private banks for credit disbursement
- b. Specialized schemes for groundnut farmers would help the farmers for increased access of capital

5. *There are increasingly high concerns regarding natural calamities like flood, drought and erosion*

Proposed Intervention

- a. Crop insurance for such scenarios (natural calamity) can be an effective solution to these issues
- b. Developing a community trading platform for groundnuts in order to delimit the risks is very important
- c. Leveraging the online future markets and selling the produce before harvesting can protect from undesired risks

6. *Despite the presence of exporters in the area, groundnut have not been able to make its appropriate place in the global markets due to lack of definite and committed export policies*

Proposed Intervention

- a. APEDA and other horticulture and agro based authorities should come together to catalyze the groundnut industry in Telangana
- b. Regular promotion and reaching out to the target buyers can establish buyer base
- c. Providing easy access to the administrative offices and facilitating exporters in paper work and other formalities can remove the barrier of low export in groundnut industry

7. *Despite the increased demands farmers are not able to get fair price for their crops majorly due to the existence of middlemen*

Proposed Intervention

- a. Direct procurement by government, MSP provision and reaching out to the farmers can solve the issue of middlemen
- b. Bringing efficiency to the public markets by taking administrative measures is very important
- c. Enabling producers to sell directly can eventually lower the cost burden

8. *The lack of understanding and knowledge among foreign buyers, trader's exposure to the foreign markets and lack of a platform for interaction among buyers and sellers has created the huge gap*

Proposed Intervention

- a. Organizing Buyers Sellers meetings leveraging digital platforms
- b. Targeting niche markets across the world to sell these expensive products
- c. Providing platforms for interactions among buyers and sellers

Srl_No	Type of Intervention	Proposed Solution	Agency
a	Product Improvement	Importing quality seeds	Agriculture & cooperation (agri.ii) department, ICAR-Indian Institute of Pulses Research
b	Quality Assurance	Pest management techniques	Ministry of Agriculture & Farmers Welfare
c	Training and development	Cost effective techniques for harvesting	Govt of Telangana
d	Logistics Distribution	Facilitation of exporters in administrative issues	Agriculture & cooperation (h&s) department
e	Logistics Distribution	Procurement by government	GOI
f	E-commerce	Organizing BSMs and trade fairs	Govt of Telangana

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Medak Maize

Maize is the second most important cereal crop globally in acreage and is called the 'Queen of Cereals'. Global maize production touched approx. One thousand forty million MT in 2016-17, US has been the leading producer, followed by China, accounting for about 38% and 23%, respectively. India contributes around 2% of this production chart with a quantum of 26 million MT in 2016-17. The maize is cultivated throughout the year in all states for various purposes, including grain, fodder, green cobs, sweet corn, baby corn, popcorn in peri-urban areas. The predominant maize growing states that contributes more than 80% of the total maize production are Andhra Pradesh (20.9 %), Karnataka (16.5 %), Rajasthan (9.9 %), Maharashtra (9.1 %), Bihar (8.9 %), Uttar Pradesh (6.1 %), Madhya Pradesh (5.7 %), Himachal Pradesh (4.4 %). Andhra Pradesh is one of the large maize-producing states in India. In Telangana, maize is cultivated in all the districts (except Hyderabad) in the Kharif and Rabi seasons. The total maize production doubled in the state within the past ten years (DES, 2014). The maize production in the state has been primarily influenced by increasing demand from the feed industries and various industrial uses (Ranjit Kumar et al., 2014). Major maize growing districts in Andhra Pradesh are Karimnagar, Warangal, Mahbubnagar, Khammam, and Medak. Area and production of maize have increased manifolds in the state during the previous decade. In most of the maize growing districts in Telangana, maize occupies some of the other crops like Jowar, Millets, Cotton, and low-value crops due to attractive markets and remunerative prices and the fewer requirements of irrigation practices as compared with the high-value crops. Poor and unprecedented rainfall, improper power supply, and availability of high-yielding hybrids are critical reasons for the increase in maize area and production in the state.

Problems

1. *Slow adoption of **Hybrid Maize seed** due to increased cost by 10-15%*

Proposed Intervention

- a) In order to address productivity concern mentioned in earlier sections, adoption of single cross hybrids (SCH) at faster pace is requisite. In India, only 30% area under maize is sown with SCH. Adoption of such hybrids is higher in South India, where seed production is concentrated and hence availability is not an issue. Private Seed industry thus has to be incentivized to expand in other agro ecologically suitable regions, where hybrid seed production is possible. Evolving around ICT enabled extension would play a major role in technology adoption and dissemination till last mile reach.

- b) The private seed companies for maize are located majorly in Telangana, Andhra Pradesh, Karnataka and Maharashtra, where the farmers have turned into seed producers on contract basis and the entire stretch of villages has been converted into “Seed Production Hubs” and “Seed Production Villages”. Such initiatives must be promoted.

- c) With high impetus on promotion of FPOs / FPCs in the Union Budget 2018, crop as well as seed production clusters in select pockets of the country, could emerge as formal institution like Maize Producers’ companies (MPCs) / Maize Seed Producers’ Companies (MSPCs). Once a formal institution is created, it could be facilitated by both public and private players in more effective manner. Successful business models around industry FPO linkages could be explored, implemented and scaled up.

2. ***Better infrastructure to minimise the loss due to improper storage and processing***

Proposed Intervention

- a) Government should incentivize seed storage infrastructure companies to take up initiative in seed cold storage infrastructure for certified as well as foundation seeds. To support seed cold storages, Power tariff subsidy and warehouse receipt financing in seeds stores needs to be promoted. Such dedicated storage facilities are more needed in the seed consuming states, where because of lack of such infrastructure, reverse logistics cost is immense.

- b) Manual handling and poor storage infrastructure at farm level lead to increase in moisture content of Maize up to 20%, which should ideally be up to 13%. Private players have to be incentivized to install maize dryers in the proximity of farm, which could be utilized for reducing moisture before storage. In addition to this, State governments may also plan to subsidize portable maize dryers to growers on its purchase.

- c) Modern silos are not only required to add the storage facility for meeting the storage requirement but also to modernize the existing storage system to reap the benefits of the scientific methods of storage. This will also reduce the intermediaries in supply chain and increase the overall efficiency of supply chain. State governments may devise and promote initiatives similar to the ‘Maize Silo Scheme’ of the Government of Bihar.

- d) Considering the high nutritional value of Maize, Maize based silage-making units could be promoted around dairy farmers with end-to-end mechanization. The feed industry is growing at a cagr of 8%, with poultry, cattle, and aqua feed sectors emerging as major growth drivers. Similarly, Scope of expanding product portfolio from Indian Maize starch, improving recovery percentage, and rising consumption from the beverage and biofuel industry would certainly provide a significant push to Maize processing and value addition. Although Industrial policies of state governments enable establishment of such units, additional fiscal and non-fiscal supports could be extended to provide necessary fillip.

3. *Educate local farmers to best practices to increase productivity of the crop*

Proposed Intervention

- a) All the sample villages adopt a combination of two crops, such as paddy-pulses (red gram); paddy-jowar; cotton-pulses (red gram); and paddy-maize. There have been no major changes in the cropping pattern in recent years. Only paddy and a few vegetables are grown during rabi season and the crop intensities are about 120%. Reallocation of water may help increasing the crop intensities. At present, the area under vegetable crops is very marginal; the scope for increasing the area under vegetable, especially in the peri-urban locations, needs to be assessed and promoted for improved incomes. There is a clear opportunity for reallocating water to increase farm income through choosing appropriate crops and methods of irrigation. A shift away from paddy to low water-intensive crops with micro irrigation could substantially improve the area under protective irrigation and crop yields. Even the existing crops of cotton and maize could be provided with one or two irrigations, which would enhance their productivity substantially.
- b) Present input use is highly biased toward chemical fertilizers with nominal organic (FYM) applications. Farmers are not familiar with using other organic manures, such as vermicomposting, green manure, or biochar. There is a clear need to increase the application of organic matter (at least doubling). Promoting vermicomposting and green manure preparation activities at the household level for self-consumption as well as a business model could be explored.

4. *No proper govt interventions or policy framework to unify farmers under same roof*

Proposed Intervention

- a) Need based adoption of Price Deficiency Payment (PDP) system, scaling up of Pradhan Mantri Krishi Sanchaya Yojana (PMKSY), Scaling up of Pradhan Mantri Fasal Bima Yojana (PMFBY), and quality-based customization of maize derivative contract post e-NAM integration would be possible avenues for industry and government to intervene and would provide a lateral push to the sector.
- b) Important policy decisions like Rastriya Krishi Vikas Yojana (RKVY), National Food Security Mission (NFSM) and National Food Security Act, taken up by the GoI have significant impact on maize production. The National Food Security Act, 2013 aims at

ensuring legal rights to food and nutritional security to every citizen of the country. This may boost up the demand for maize grain, particularly for QPM. Smooth implementation and grounding of such ambitious scheme will not only benefit the ecosystem at large, but will also bring in desired benefits to the Maize value chain.

- c) Improved policy towards bio-fuels, investment promotion in Maize industries, better regulatory framework, IPr protection methods and ways to tackle the grey markets in seed supply chain have tremendous potential to support the maize sector. Devising practical ways to implement PDP (Price Deficiency Payment systems) and enhanced MSP (Minimum Support Prices) in maize will further corroborate the crop uptake amongst farmers. This also needs to be supported through future and derivative market development which would support the development of transparent price discovery mechanism and alternate commodity markets.

5. *The linkage between farmer and the market is riddle with middlemen who take up lot of the cut leaving the farmers with less profit*

Proposed Intervention

- a) Access to markets in the sample villages continues to be traditional (high dependence on traders and middlemen). Very few farmers use public market yards for good reason. Farmers neither use nor are aware of e-markets or linked directly to urban markets/supermarkets. There are no FPOs functioning in the region. In the absence of evolved market systems, it is difficult to promote new crops, such as vegetables. Establishing better market linkages with improved price realization is critical for improving farm incomes.

6. *Lack of water due to climatic conditions and unreliable Govt power supply forcing farmers to use diesel pump increasing cost of production*

Proposed Intervention

- a) Land is not a constraining factor, while water is a constraint. Water use efficiency is low, since most farmers allocate their water to water-intensive paddy and adopt flood irrigation. Though some farmers use micro irrigation, it is mainly due to the subsidies they receive and the area covered is marginal. There is good scope for improving water use efficiency and crop production through promotion of less water-intensive crops. Given the water scarcity coupled with a heavy dependence on groundwater, there is potential to promote micro irrigation in the sample region.
- b) Though state power supply for agriculture is totally free, still its not reliable for continuous supply for running pumps as maize is a water incentive crop. As a results farmer use diesel pump which increase cost of production and also create a lot of pollution. Govt should put efforts to make power supply across the agricultural sector of the state uniform.

7. *Labour issues across the sector due to low profitability*

Proposed Intervention

- a) Labor is the single largest component of the cost composition. Lately, labour has become a constraining factor in the labour surplus economy. Any crop changes or technology interventions need to take this into account. Labor-intensive (even marginally) crop practices may not be acceptable or sustainable. Profit gains must be substantial in order to make them adoptable.
- b) Analysis of labor contribution in crop production confirms the “feminization of agriculture” argument, as women labor account for two-thirds of total labor use in crop production. Some of the villages also have substantial number of women farmers. Women farmers/workers face different problems when compared to their male counterparts, and hence, their needs are expected to be different. Understanding their requirements and providing exclusive support (training and technologies) to them is critical for improving their conditions.

8. *Lack of adoption of newer methods, organic fertilizer and Technology to increase the yield of the crop*

Proposed Intervention

- a) Factors explaining the variations in yield rates suggest that better soil nutrition and pest management practices could help enhance yields and incomes from crops like cotton. Overall, there is potential for improving input management for enhanced crop performance. GOI need to focus on soil nutrition and pest management practices. At the same time, labour and water are the main constraints and, hence, adoption of labour- and water-saving methods and approaches would be acceptable to the farming communities.

Srl_No	Proposed Intervention	Agency
a	Incentivising Hybrid seed production to increase yield rate	Agriculture & cooperation (agri.ii) department, AP
b	Creating “Seed Production Hubs” and “Seed Production Villages”	ICAR-Indian Institute of Pulses Research
c	Business models around industry FPO linkages should be explored, implemented and scaled up	Agriculture & cooperation (h&s) department, AP
d	Government should incentivize seed storage infrastructure companies to take up initiative in seed cold storage infrastructure for certified as well as foundation seeds	Govt of Andhra Pradesh
e	State governments may also plan to subsidize portable maize dryers to growers on its purchase	Ministry of Agriculture & Farmers Welfare
f	Promoting vermicomposting and green manure preparation activities at the household level for self-consumption as well as a business model	Ministry of Agriculture & Farmers Welfare
g	Need based adoption of Price Deficiency Payment	Ministry of agriculture,

	(PDP) system, scaling up of Pradhan Mantri Krishi Sanchaya Yojana (PMKSY), Scaling up of Pradhan Mantri Fasal Bima Yojana (PMFBY)	GOI
h	Devising practical ways to implement PDP (Price Deficiency Payment systems) and enhanced MSP (Minimum Support Prices) in maize will further corroborate the crop uptake amongst farmers	Ministry of agriculture, GOI
i	Establishing better market linkages with improved price realization is critical for improving farm incomes	Agricultural Marketing Department, Govt of AP
j	Promote micro irrigation in the sample region	Andhra Pradesh Micro Irrigation Project Department
k	Govt should put efforts to make power supply across the agricultural sector of the state uniform	Andhra Pradesh Electricity Regulatory Commission

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Rajaana Silcilla handloom

The craftsmanship of the Indian weaver has been refined to a fine art and these fabrics woven from superior yarns are now being manufactured on powerlooms. Indeed, the colours of life itself are reflected in their exquisite designs and startlingly with beautiful colours. The decentralized powerloom sector has widened the scope of products and fabrics manufactured because of the modernization process undertaken by the sector itself. The phenomenal success of the powerloom sector can be traced to certain distinct advantages it possesses. The comparatively low costs, the flexibility and adaptability of production techniques and heterogeneous production structure of the industry have enabled it to supply large and small quantities as per requirements⁴. The Textile town Sircilla is one such example of Powerloom industry which provided the ample work to the weavers, so much so that it was called the “Sholapur of Andhra Pradesh”. But with boom came the depression and the success story of Sircilla has unfolded into crisis followed by indebtedness and suicides of weavers.

Problems

1. The weavers are plagued by occupational health hazards like - weakened eyesight, early cataract, loss of vision, high or low blood pressure, heart problems, lung damage, filaria, arthritis, etc. It has been found that handloom weavers look much older than their actual age because of malnourishment, and continuous body movements in a constrained position. Special importance should be given in alleviating the lower back pain.

Proposed Interventions

- a. Need for further research regarding the postural strain of weavers and also suggests the implementation of ergonomic design into weaver workstations to minimize the adverse effect of their current working postures. Improving upon the weaver’s work-posture could improve their quality of life.
 - b. The problem is compounded by longer durations of work and over the years. Hence, it’s important to allow weavers to retire, since all the weavers are registered with some cooperative society, they can be provided pension plans. Similarly advanced machinery involving more automation to reduce the manual work required.
 - c. Regulations mandating safety features in the workstations. Simple features like proper lumbar support to be implemented in the existing workstations.
 - d. Awareness about these diseases and medical conditions amongst the workers so that they could take preventive steps to protect their future generation. In addition to this, regulating the working hours by organizing the sector to prevent exploitation.
2. Weavers often face the problem of maintaining the inventory forcing them to distress sell their products for significantly lower margins compared to the market rate.

Proposed Interventions

- a. Provide storage spaces with proper monitoring system at lowest of costs to avoid the tendency of distress selling.
 - b. Introduce minor regulations in the market by setting a minimum selling price, to avoid exploitation of the weavers through external parties.
 - c. State Government can take help of rising start-ups like “PickMyCloth” involved in providing D2C services connecting the weavers and other artisans with the customers.
 - d. Government could fund national programs to distribute cloths (dhotis on festivals, uniform to school children) to the less fortunate generating surplus revenue for the sector itself and creating extra demand in seasons when the demand is less.
3. Despite large scale modernisation in recent years, industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc.

Proposed Interventions

- a. It is possible for the handloom societies to stress the 'Unique Selling Proposition' of their products as 'Handloom', 'hand-woven', 'handmade', 'handcrafted', 'natural fibres', 'natural dyed', 'eco-friendly' etc to evade the competition from power loom and mill made clothes.
 - b. As the Handloom Societies in the study area are producing only the conventional products like saree, dhoti, bed sheets, home furnishings etc, it is recommended for the handloom societies to diversify their product line to nonconventional products like shirting, tie, stole, scarf, bags, pouches, kurtas, Kurtis, yoga mat etc. to capture the market share.
 - c. For benefit of weavers as well as for whole handloom sector, it is very essential to organize awareness programmes in popularizing the “Handloom Mark” to create unique brand image for genuine Handloom Products.
 - d. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.
4. Weaver Cooperative Societies are plagued by administrative problems arising due to insufficient working capital, low disbursement of credit for the handloom Societies, insufficient subsidies to Handloom Products.

Proposed Interventions

- a. Government could provide certain of electricity to the households for free, incentivizing them to upgrade their workstations and reducing the utility overhead costs.
- b. The Government could provide financial assistance to compensate Rebate extended to customers to promote the sale of handloom cloth by reducing the price considerably so as to compete with mill made cloths in the market. This scheme not only enables the primary weaver’s co-operative societies in liquidating their stock, but also aims at protecting the Handloom

Industry from severe competition to safeguard the handloom weavers from the onslaught of the Mill Sector.

- c. Follow a cluster development approach to assist them as a group through
 - a. Cluster Development Programme
 - b. group approach for development of Handlooms
 - c. assistance for Handloom Organisations
 - d. assistance for Innovative ideas and Publicity, Monitoring, Supervision, Training and Evaluation of Scheme
 - d. Provide organizational assistance to alleviation of the problem of improper financial facilities and irregular supply of yarn.
 - e. Under the component of Strengthening of Handloom Organisations, provide financial assistance towards restructuring of National and State Level Handloom Organisations such as Handloom Corporations, Apex Handloom Co-operative Societies etc., with a view to make them viable by enhancing their credit limit / working capital.
5. Lack of infrastructure and training facilities has led to lower productivity levels due to obsolete production techniques and high attrition rate of the younger generation.

Proposed Interventions

- a. Recommendations can be shared with weavers through periodic training programs wherein they can compare their current working conditions to potential improvements. Implementation of such training programs will also provide opportunities to monitor the implementation and regular practice of recommendations.
 - b. Through Cluster Development Programme invest in following sections to make the industry more lucrative - skill upgradation, purchase of new looms and accessories, setting up of dyeing units, common facility centres, opening of showrooms, conducting exhibition/fairs, publicity, providing of design inputs
 - c. As the Societies considered 'Lack of modernized loom equipment's' as their prime problem, the effort towards modernization of the looms is most important in increasing the productivity of weaving operation and ensuring first rate handloom products.
 - d. Government can set targets to increase the digital literacy amongst young generation allowing them to use various technical assistance devices available already used by their market counterparts.
6. The market to sell the textile products is highly inefficient. This is due to two factors – demand is much more than supply, second being the market is set up only on one day a week and that too in a highly congested area, decreasing the operational efficiency of the process. Other than this marketplace, the weavers have little to no contact with actual customers, forcing them to go through middlemen.

Proposed Interventions

- a. Set up markets twice per week, with allotting various clusters one particular day to reduce the traffic and the congestion. Promote the products more on the digital platforms like IndiaMart and other such platforms to ensure better reach and avoid market inefficiency.
 - b. Marketing Incentive can be granted on the sale of handloom products to maintain price competitiveness in the market.
 - c. Train the weavers to diversify their portfolio to increase their margins, training can be given in producing dress materials, furnishing, tablecloth, floor mat, stole, shirting, sarees, kitchen linen, towels etc
 - d. The fabrics produced can be converted into value added products. It is being done through surface ornamentation such as embroidery, different kinds of embellishments etc.
7. Lack of reliable data with respect of number of craftsmen, their socio-economic conditions, livelihood conditions, details of families involved and their productivity, is a major shortcoming that affects planning and policy.

Proposed Interventions

- a. Invest in technologies like big data analytics – capturing experience of local and experienced weavers and their conditions to understand the impact points to design the policy around them to regulate the process.
- b. Partner with local banks to provide life insurance for these weavers safeguarding their family against any odd accidents
- c. Provide scholarships to wards of registered weavers to incentivize them to pursue higher studies and explore more career options

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the young generation	Government of Telangana
3	Investment in the marketing infrastructure of the products	Power loom Development & Export Promotion Council
4	Better quality assurance standards, safety compliances	Department of Handlooms and Textiles
5	Promote certifications	Department of Handlooms and Textiles
6	Construction of common facility centre	Government of Telangana
7	Collaboration with local start-ups	Department of Handlooms and Textiles

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Erode handloom & fabrics (Tamil Nadu)

The Textile Industry of Tamil Nadu has its significant presence in the National and State economy. It is the forerunner in Industrial development. Handloom, Power loom, Spinning, Processing, Garment and Hosiery are the various sectors of the Textile Industry in Tamil Nadu and known for the largest economic activity next only to Agriculture in providing direct and indirect employment.

Erode is an agricultural, textile and a BPO hub and among the largest producers of turmeric, hand-loom and knitwear, and food products. Erode has the country's largest textile market one is Abdul Gani Textile Market and another one is Texvalley. PDEXCIL (Power loom Development & Export Promotion Council) has set up its regional office in Texvalley under the Ministry of Textiles, Government of India. It is a non-profit organisation working for the development of Power loom Industry and promoting export of Fabrics and made ups from Power loom Manufacturers. Erode has changed over the years from a back-of-beyond place to a bustling textile centre which draws buyers from as far away as Tripura and Gujarat.

Problems

- 1. The weavers are plagued by occupational health hazards like - weakened eyesight, early cataract, loss of vision, high or low blood pressure, heart problems, lung damage, filaria, arthritis, etc. It has been found that handloom weavers look much older than their actual age because of malnourishment, and continuous body movements in a constrained position. Special importance should be given in alleviating the lower back pain.*

Proposed Interventions

- a. Need for further research regarding the postural strain of weavers and also suggests the implementation of ergonomic design into weaver workstations to minimize the adverse effect of their current working postures. Improving upon the weaver's work-posture could improve their quality of life.
 - b. The problem is compounded by longer durations of work and over the years. Hence, it's important to allow weavers to retire, since all the weavers are registered with some cooperative society, they can be provided pension plans. Similarly advanced machinery involving more automation to reduce the manual work required.
 - c. Regulations mandating safety features in the workstations. Simple features like proper lumbar support to be implemented in the existing workstations.
 - d. Awareness about these diseases and medical conditions amongst the workers so that they could take preventive steps to protect their future generation. In addition to this, regulating the working hours by organizing the sector to prevent exploitation.
- 2. Weavers often face the problem of maintaining the inventory forcing them to distress sell their products for significantly lower margins compared to the market rate.*

Proposed Interventions

- a. Provide storage spaces with proper monitoring system at lowest of costs to avoid the tendency of distress selling.
- b. Introduce minor regulations in the market by setting a minimum selling price, to avoid exploitation of the weavers through external parties.
- c. State Government can take help of rising start-ups like “PickMyCloth” involved in providing D2C services connecting the weavers and other artisans with the customers.
- d. Government could fund national programs to distribute cloths (dhotis on festivals, uniform to school children) to the less fortunate generating surplus revenue for the sector itself and creating extra demand in seasons when the demand is less.

3. *Despite large scale modernisation in recent years, industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc.*

Proposed Interventions

- a. It is possible for the handloom societies to stress the 'Unique Selling Proposition' of their products as 'Handloom', 'hand-woven', 'handmade', 'handcrafted', 'natural fibres', 'natural dyed', 'eco-friendly' etc to evade the competition from power loom and mill made clothes.
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- c. For benefit of weavers as well as for whole handloom sector, it is very essential to organize awareness programmes in popularizing the “Handloom Mark” to create unique brand image for genuine Handloom Products.
- d. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.

4. *Weaver Cooperative Societies are plagued by administrative problems arising due to insufficient working capital, low disbursement of credit for the handloom Societies, insufficient subsidies to Handloom Products.*

Proposed Interventions

- a. Government could provide certain of electricity to the households for free, incentivizing them to upgrade their workstations and reducing the utility overhead costs.
- b. The Government could provide financial assistance to compensate Rebate extended to customers to promote the sale of handloom cloth by reducing the price considerably so as to compete with mill made cloths in the market. This scheme not only enables the primary weaver’s co-operative societies in liquidating their stock, but also aims at protecting the Handloom Industry from severe competition to safeguard the handloom weavers from the onslaught of the Mill Sector.
- c. Follow a cluster development approach to assist them as a group through

- a. Cluster Development Programme
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 - e. Under the component of Strengthening of Handloom Organisations, provide financial assistance towards restructuring of National and State Level Handloom Organisations such as Handloom Corporations, Apex Handloom Co-operative Societies etc., with a view to make them viable by enhancing their credit limit / working capital.
5. *Lack of infrastructure and training facilities has led to lower productivity levels due to obsolete production techniques and high attrition rate of the younger generation.*

Proposed Interventions

- a. Recommendations can be shared with weavers through periodic training programs wherein they can compare their current working conditions to potential improvements. Implementation of such training programs will also provide opportunities to monitor the implementation and regular practice of recommendations.
 - b. Through Cluster Development Programme invest in following sections to make the industry more lucrative - skill upgradation, purchase of new looms and accessories, setting up of dyeing units, common facility centres, opening of showrooms, conducting exhibition/fairs, publicity, providing of design inputs
 - c. As the Societies considered 'Lack of modernized loom equipment's' as their prime problem, the effort towards modernization of the looms is most important in increasing the productivity of weaving operation and ensuring first rate handloom products.
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Proposed Interventions

- a. Set up markets twice per week, with allotting various clusters one particular day to reduce the traffic and the congestion. Promote the products more on the digital platforms like IndiaMart and other such platforms to ensure better reach and avoid market inefficiency.
- b. Marketing Incentive can be granted on the sale of handloom products to maintain price competitiveness in the market.

- c. Train the weavers to diversify their portfolio to increase their margins, training can be given in producing dress materials, furnishing, tablecloth, floor mat, stole, shirting, sarees, kitchen linen, towels etc
 - d. The fabrics produced can be converted into value added products. It is being done through surface ornamentation such as embroidery, different kinds of embellishments etc.
7. *Lack of reliable data with respect of number of craftsmen, their socio-economic conditions, livelihood conditions, details of families involved and their productivity, is a major shortcoming that affects planning and policy.*

Proposed Interventions

- a. Invest in technologies like big data analytics – capturing experience of local and experienced weavers and their conditions to understand the impact points to design the policy around them to regulate the process.
- b. Partner with local banks to provide life insurance for these weavers safeguarding their family against any odd accidents
- c. Provide scholarships to wards of registered weavers to incentivize them to pursue higher studies and explore more career options

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the young generation	Government of Tamil Nadu
3	Investment in the marketing infrastructure of the products	Power loom Development & Export Promotion Council
4	Better quality assurance standards, safety compliances	Department of Handlooms and Textiles
5	Promote certifications	Department of Handlooms and Textiles
6	Construction of common facility centre	Government of Tamil Nadu
7	Collaboration with local start-ups	Department of Handlooms and Textiles

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Ramanathapuram Fisheries (Tamil Nadu)

Ramanathapuram district is situated in the southeast corner of Tamil Nadu State falls in the rain shadow region and it is a highly drought prone district and most backward in development. The unique feature of this district is the longest coastal line measuring about 237 km accounting for nearly 1/4th of the total length of the coastal line of the State. In Ramanathapuram TNRTP block, 54 panchayats out of total 143 panchayats, are coastal panchayat and most of families are involved in fisheries and allied activities. Nearly 38% of panchayat in TNRTP blocks are doing fishery activity, so the focus on fishery and allied activities promotion is paramount for this district.

Ramanathapuram district has extensive fish resources along the north side of the coast. It possesses immense fish production potential. The fish resources comprise of Pelagic fishes, Demersal fishes, crustacean fishes and Molluscan fishes. These resources provide plenty of opportunities to fishermen. Among three types of fisheries (marine, inland and brackish water), the marine fishery operation is very dominant in this district. This district had the natural advantage of having its fishing ground in Palk Bay and the Gulf of Manner.

Problems

1. *Ecological sensitive parameters like Oxygen, Heavy metals, petroleum hydrocarbon are at optimal level at present, however there has been a large increase in the recent years and is projected to be increasing soon.*

Proposed Interventions

- a. More extensive use of multi-season pre- and post-dredging biological surveys to assess animal community impacts.
 - b. Increased use of landscape-scale planning concepts to plan for beneficial use projects most suitable to the area's landscape ecology and biotic community and food web relationships, like planting of trees and estuary associated species.
 - c. Regulating usage of plastic bags, avoid dropping of industrial and sewage waste in and around seashore areas.
2. *Due to abundance of free coast and lack of proper implementation of regulations, overfishing is an increasing concern with marine resources reaching their carrying capacity. As overfishing takes place over time, these species become depleted and fisherman begin "fishing down the food chain," shifting focus from catching predators to species lower in the food web, like sardines and squid. Removing these prey species from the marine environment impact predators and the aquatic ecosystem. Due to poor infrastructure, trawling is a common form of catching the fish. And these bottom trawls are capable of destroying anything in their paths. And this doesn't just mean fish and sea animals; when coral, sponges, and plants are destroyed, the sea life depending on the habitat that they've provided lose shelter, food sources, and safe places to breed.*

Proposed Interventions

- a. Create more protected areas, and start training existing fishermen for different occupations like jasmine farming which has increased considerably recently in the district as a secondary means of employment, allowing them to have a stable income in off-seasons

- b. Trawling is one of the most common practices in over-fishing. Not only they are extremely harmful for the marine ecosystem, they also promote reckless fishing where all kinds of catch are considered to have an economic potential.
 - c. Implement Catch Shares - Catch shares is a system of fishing management that is proven to allow fish stocks to replenish, while saving the livelihoods of fishing communities by preventing a sudden collapse. A total allowable catch is established, using scientific data about the health of fish stocks and the environment in a certain area, and catch shares are licensed out to each fishing business telling them exactly how much of each seafood species they're allowed to catch.
 - d. Promote sustainable fisheries with extra incentives, by ensuring such fisheries have sufficient resources and are not cannibalised by local fishermen going through illegal means.
3. *Fishing is being carried out using mechanized boats that are being operated from Rameswaram and Pamban at present due to non-availability of adequate landing and berthing facilities.*

Proposed Interventions

- a. Construct sturdy fish landing centres to alleviate natural disasters and develop a breakwater and wharf to provide fishermen access all through the year.
 - b. Conduct an EIA and feasibility Study to ensure minimal impact of such a structure on the marine ecosystem
4. *While inter-caste or inter-religious friction between the local traditional fishermen has not been at the fore, the region is characterised by conflict between local and migrant fisherfolk, small-scale and trawl fishers over fishing resources, and fishers and the state over wildlife conservation laws. Consistent level of conflicts and exploitation with Sri Lankan naval forces and fishermen.*

Proposed Interventions

- a. Formalize the fishing process by providing a clear body to report to in case of disputes. Currently panchayats see over marriage and other social issues but fishing related incidents are seen by fishermen unions, which leads to escalation of such conflicts.
- b. Form a district jury to allocate property rights properly between local and migrant fisherfolk by allocating various areas for each with penalties in place for a breach.
- c. Completely ban trawl fishing to promote sustainable fishing.
- d. Teach fishing activities to the young generation as a part of vocational training and induce sustainable practices from an early age.
- e. International research and scholar programmes: Fund and encourage researchers, both from India and overseas working towards development of the Food Processing Sector in Tamil Nadu.
- f. Properly update and enforce Tamil Nadu Marine Fisheries Regulation Act to ensure that mechanized fishing boats should not fish within three nautical miles from the coasts.

- g. Form a monitoring and supervising committee formed with the members from both the stakeholders to ensure a peace treaty is formed.
 - h. Joint patrolling and provide GPRS support around the maritime boundaries should reduce the arrest and killing incident of border crossing
5. *An increase in bycatch due to the profitability of reduction fisheries. Reduction fisheries refers to the use of fish catch to produce fishmeal and fish oil that are used as high-protein feed, largely by the aquaculture and poultry industries. The feed is usually sourced from small pelagic fish species, such as sardines and anchovies. Unchecked harvesting of these species for reduction fisheries can put enormous pressure on marine habitats, food webs and can endanger the sustainability of commercial fish populations.*

Proposed Interventions

- a. Promote certifications like MSC - Bycatch can be reduced through certification to the MSC Fisheries Standard. Fishing activity is often improved during and after certification. Improvements can include contributions to research, modifications to fishing methods or measures to build up fish populations. If fishing managers do not comply with their certification requirements and/or no longer meet the MSC Fisheries Standard, their certificate is suspended and seafood from that source can no longer be labelled and sold with the blue MSC label.
 - b. Set a state level acceptable mark for reduction fishing – depending on the fish species and its existing population. Partner with companies like SeaFood Watch to ensure the level is maintained, and enforce the same through strict regulations.
6. *Lack of proper infrastructure and digital intervention in the district reducing the overall efficiency of the fishing process and as a result, promoting reckless fishing. Similarly, it also affects their safety, due to fishermen only relying on intuition and Government warnings to prepare against natural disasters like cyclone.*

Proposed Interventions

- a. Collaborate with local start-ups like Odaku and helping them scale their operations catered to local producers. The navigation system provided by the start-up could match expensive navigation systems provided by foreign companies like the US company Garmin or Japanese company Furuno
- b. Government can set targets to increase the digital literacy amongst young generation allowing them to use various technical assistance devices available already used by their foreign counterparts.
- c. Invest in technologies like big data analytics – capturing experience of local and experienced fishermen to understand the hotspots for fishing and using them to regulate the fishing process.
- d. Generate awareness about the new technology, healthy fish feed and provide efficient financial support from government to brought new equipment.
- e. Partner with data analytics firms already having hands-on experience with coastal regions like Numer8 Analytics Pvt Ltd, a data science firm. The firm analysed changes in the cyclical pattern of potential fishing zones in 2018. It found that nearshore fishing zones had drifted away further into the deeper seas. It also

analysed the coastal vulnerability index for Kerala and Odisha post-2018 Kerala cyclone and Cyclone Fani in 2019. Following this, it developed an app, 'OFish', which provides fishermen with weather updates.

7. *Illegal fishing - As fish species become more depleted and demand for product rises, there have been increases in illegal fishing. This takes many forms, including: keeping undersized fish, fishing in territories without permission, catching fish off-season, failing to record catch information, and using illegal procedures.*

Proposed Interventions

- a. Promote certifications and sustainable fishing through rising awareness against these factors.
- b. Educate local consumers to –
 - a. Avoid big fish, which have been overfished for years, like marlin, tuna and shark.
 - b. Buy Local
 - c. Go wild, not farmed
 - d. Use seafood guides like Seafood Watch

8. *Lack of marketing infrastructure: Fresh fish is a perishable product requires immediate disposal and cold storage. However, the fishermen do not have adequate transport and storage facilities, hence they have to rely on middlemen to find the end buyer, severely undercutting their profits.*

Proposed Interventions

- a) Ministry of food processing industries schemes related to branding and marketing of local produce can be implemented properly in the district through cooperatives, NGOs
- b) Developing a common brand and packaging including standardization to participate in common packaging; Vertical products at the national level could also be provided support for branding & marketing on the same lines as described above for ODOP focus. Such support for common branding/packaging and marketing would be provided at the national level.
- c) Marketing tie-up with national and regional retail chains and state-level institutions
- d) Quality control to ensure product quality meets the required standards.
- e) Onboard the products onto Government mandated e-commerce channels and introduce cold storage facilities into the supply chain, cutting down the dependence on middlemen.

9. *While the literacy rate of the district has increased significantly over the last two decades, attrition rate of the young people is high. And due to lack of upskilling, if banned from fishing most of the people in the district don't have another means of income.*

Proposed Interventions

- a) Combat the entitlement exchange failures by promoting alternate means of living. Especially incentivize seasonal crops like gingelly, chilli, ground nut etc.
- b) Form a long-term plan to divert population away from fishing, as to bale to automate the process, instead of manual process right now

Sr. No	Proposed solutions	Agency
1	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training and development of the young generation	Ramanathapuram Centre for Sustainable Aquaculture
3	Investment in the marketing infrastructure of the products	Ministry of Food Processing Industries
4	Better quality assurance standards, safety compliances	Fisheries Department, Government of Tamil Nadu
5	Promote certifications	Fisheries Department, Government of Tamil Nadu
6	Construction of fish-landing centre	Fisheries Department, Government of Tamil Nadu
7	Collaboration with local start-ups	Ministry of Commerce & Industry

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GOMATI RELIGIOUS TOURISM, TRIPURA

Gomati District, Tripura was created in the year 2012 and has its headquarters in Udaipur. The district is one of the most important and much venerated attraction of Tripura. It is famous for its Mata Tripura Sundari Temple, which is located 3km away from Udaipur, in Matabari. The temple is among the 51 Mahapithasthans of India. There is a placid *Kalyansager* situated on the back of the lake, that is a home to tortoises and adds to the aura of the temple. Gomati is often mentioned in Tripura's folklore, religious texts and scriptures. The district is also adorned with lush green and fertile Gomati valleys.



PROBLEMS

1. Tourism Infrastructure Development:

Even after being a prime religious location for the state, the temple has mostly local visitors and less visitors from other parts of the country. There is a need to build infrastructure to encourage more visitors to visit the temple. Better facilities in terms of road, transportation, hotel and restaurants will act as an incentive and increase the revenue for the locals as well.

Proposed solutions:

- a. Department of Tourism should collaborate with State Govt. Departments like Urban Development, PWD, Transport and Tripura State Electricity Corporation amongst others for continuous improvement and maintenance of basic infrastructure like road, power, sanitation, transport, solid waste management etc.
- b. Budget should be allocated on priority to set up standard restaurants, hotels, parking areas, entertainment centres etc.
- c. Fairs and festivals should be promoted, functions should happen in the temple from time to time to create a buzz and generate inquisitiveness about the temple among the visitors. Department of Information and Cultural Affairs can be asked to devise plans for the same.
- d. Effort can also be made to develop the small-scale handicraft industry by setting up stalls near the temple area. Department of Handloom and Handicrafts can work upon educating and training the local people, to enhance their skills and help them meet the industry standards.

2. Improving Connectivity:

Tripura faces the problem of easy connectivity to other main cities. The inter-city transportation is poor and desists people from visiting the state. Not only physical but there also exists network connectivity issues.

Proposed Solutions:

- a. Direct flights from major cities should be started to Tripura. The tourism department should delve into how travelers can easily access the temple. Direct buses or taxi service from airport to temple can be started.
- b. Tripura has good connectivity in terms of helipads. They can be used to visit the temple. This will also give the elder population and people with disabilities a chance to visit the temple. ‘Gomati Hawai Darshan’ can be started as an initiative.
- c. Collaboration with the Indian Railway to provide affordable travel packages to Gomati.

3. Marketing and Promotion:

In today's era to promote a venue, marketing is the key. It is only when a destination is visible and enriching that a person would like to visit it, hence the role of marketing has enhanced greatly. Currently, there is meagre marketing done to the target population.

Proposed Solutions:

- a. Social media and digital media should be used to mass advertise the destination. They can be considered as the primary source of communication.
- b. Short films, brochures and posters surrounding the history of the temple, cultures and traditions of the people and land can be made. This will help to catch the attention of the people. This can be done by the Department of Tourism and Tripura Tourism Development Corporation Limited.
- c. National and International Tourism fairs can be tapped to strategically market the destination
- d. Destination Management Organizations can be contacted to publicize the destination. They are non-governmental professional bodies who market a destination by attracting the right quantum of tourists and synergize activities to entertain the tourists.

4. Safety and Security:

Being a remote region Gomati, does raise concerns in terms of safety and security in the region. Lack of road connectivity and network problems cause issues in smooth travelling experience.

Proposed Solutions:

- a. Disaster Management team should be formed to handle the crowd around the temple region. A special toll-free helpline number can also be created for the tourists exclusively.
- b. Proper ramps and rest rooms can be created for specially challenged individuals.

- c. To assist the tourists in and around Gomati an app can be launched with all the relevant details and to give more clarity to the tourists.
- d. Tourist Department can negotiate with mobile operators to enable smooth connectivity in the region.

5. Investor Facilitation and Promoting Private Partnerships:

Many of the projects currently in Tripura are undertaken by the government hence, there is lack of competition and public monopoly is prevalent.

Proposed Solutions:

- a. Tripura Tourism Development Corporation Limited (TTDCL) can act as a nodal agency and invite private investors to give quotations and incentivize them to undertake the project.
- b. The state can grant permissions, registrations, and licenses to investors for establishment of tourism projects in and around Gomati

Sr no.	Type of Intervention	Solution	Agency
1.	Infrastructure support	Development of Tourism Infrastructure	Department of Tourism, Urban Development
2.	Branding and Marketing	Fairs and festivals around the temple and its rituals should be promoted	Department of Information and Cultural Affairs
3.	Branding and Marketing	Setting up of small-scale shops around the temple	Department of Handloom and Handicrafts
4.	Market linkages	Improving connectivity of the state (road, rail, flight and helicopter)	Indian Railways, Tourism Department

Kommentar [SM1]: Add type of intervention column

5.	Branding and marketing	Preparation of short films, posters and videos about the temple and its significance	Tourism Department, Tripura Tourism Development Corporation Limited.
6.	Branding and marketing	Publicize the destination and propose entertainment synergies for the tourists	Destination Management Organizations
7.	Research and Development	Improvement of safety and security in the district	Disaster Management team, police force
8.	Infrastructure support	Smooth network connectivity	State government, Tourism department
9.	Infrastructure support	Incentivize private players to take up developmental activities	Tripura Tourism Development Corporation Limited

References:

- <http://www.tripuratourism.gov.in/religious-tourism-spots>
- <https://newsfile-online.com/2020/12/05/web-portal-on-mata-tripura-sundari-temple-launched-to-boost-spiritual-tourism/>
- <https://tourism.gov.in/sites/default/files/2020-04/tripura.pdf>

Unakoti Agarbatti – Tripura

Unakoti district is a district of Tripura, India. This district was created on 21 January 2012 when four new districts were created in Tripura. Unakoti derives its name from the Unakoti hill. Unakoti literally means, one less a koti in Bengali. In India, the main method of burning incense with agarbatti, commonly known in England as an incense stick. Incense sticks are bamboo sticks with paste and perfumed ingredients. Typically, the perfumed ingredients are made from a mixture of various ingredients. In creating incense, some incense makers use Ayurvedic principles and the five different classes. These classes are ether (fruits – e.g. star anise), water (stems and branches e.g. – frankincense), earth (roots – e.g. turmeric), Fire (flowers – e.g. clove), and air (leaves – e.g. patchouli).

Problems

1. Lack of global awareness

Proposed Interventions

- a. Subsidies can be granted to manufacturers willing to export, to increase exports of Agarbattis.
- b. Buyer seller meets can be organised.
- c. Majority of the producers feel it is better to sell under a brand because incense sticks with a brand name run very well in the market. Consumers prefer branded products to unbranded ones because it symbolizes quality and status, especially now consumers are demanding for more quality than quantity and this can be ensured through branding. It also differentiates their product amongst others and customers are liberal towards payment if the product is branded.
- d. Set an Indian Standard for Indian Agarbatti that is being exported, so as to enhance exports by improving the quality and creating a brand name worldwide for Indian bathis.

2. Shortage of Labour

- Most of the women now prefer to work in Garments, Railway station and malls. As a result, many companies have stopped rolling of bathis and buy raw bathis from other companies.

Proposed interventions

- a. Make it mandatory for the manufacturers to give crèche facilities to the labourers instead of advance payment so that the labourers are able to serve for a longer period. However, this should be done on fair grounds.
- b. Various schemes can be provided to make the work as attractive as the work done in garments, railway stations and malls.
- c. Landowners can share a part of their produce with daily workers to attract more labour.

3. Shortage in the availability of Bamboo

- Due to forest laws, and so bamboo is imported from other states. However, during the rainy seasons, bamboo cannot be procured and there is scarcity. The prices keep fluctuating according to demand and the manufacturers get fewer margins due to increase in cost.

Proposed Interventions

- a. The much-needed raw material bamboo can be cultivated locally as a homestead crop as a part of waste land development or as a private initiative of the manufacturers through a community of small farmers.
- b. Appropriate policies and technology transfer mechanism are needed to promote bamboo cultivation as a part of farming systems practiced by general farmers.
- c. Both measures could well reduce the cost of production, the establishment of these alternatives could well come as development interventions from the government, saving major outlay to small manufacturers who lack the collaterals for loans.
- d. Large manufacturers should be mandated to organize the raw materials from private firms.

4. Unavailability of raw materials

- There are some species of herbal and aromatic plant which are in danger of getting extinct, which has been used in the Agarbatti making process for years; hence there is unavailability of that product.

Kommentar [SM1]: which species?
Please specify.

Kommentar [HP2]: India's perfume tree agarwood

Proposed Interventions

- a. A committee could be set up to monitor the requirements of industry involving Department of Industries and Commerce, Forest Department and Association.
- b. Present availability of forest-based materials and the requirement needs to be studied.
- c. Biotechnology, Tissue culture, horticulture may be requested to work on requirements of Agarbatti industry.
- d. Plantation of basic raw materials producing trees/vegetation to be implemented.

5. Inefficient Infrastructure

Proposed Interventions

- a. The provision of workshop sheds to facilitate drying of sticks especially during rainy seasons can be provided.
- b. As private transporters charge exorbitantly, facilitating the manufacturers with special goods train to overcome this problem

6. Lack of Ecommerce Presence

- Unakoti Agarbattis are not available on websites like amazon, only the large-scale manufacturers are present on websites like IndiaMart.

Proposed Interventions

- a. Small businesses, entrepreneurs and trading agencies need to be exposed to modern business management methods and philosophies.
- b. A systematic market survey would help them to identify consumer tastes and preferences.

Sr. No.	Proposed Intervention	Agency
1.	Mechanization	Min. Of Agriculture
2.	Planning buyer seller meets to boost trade	Ministry of Commerce & Industry
3.	Onboarding to e-commerce	Min. Of commerce
4.	Increasing number of processing centres	State govt./MoFPI
5.	GI application and tagging	Ministry of Commerce & Industry
6.	Marketing ties	Ministry of Commerce & Industry

Kommentar [SM3]: Add type of intervention column

References: -

- <https://unakoti.nic.in/>
- <https://www.tbm.org.in/tbm-clusters/>
- <https://www.sjcc.edu.in/pdf/RUQSANA.pdf>
- <https://www.businesswire.com/news/home/20200423005353/en/India-Incense-Stick-Market-2020-to-2025---ResearchAndMarkets.com>

Banda Shazar Stone crafts

Banda is one of the districts of Bundelkhand region of Uttar Pradesh having a rich historical tradition going back to the remote antiquity. It is prominently known for its Shazar stone, which is used for making jewellery and the historically and architecturally significant sites Khajuraho and Kalinjar. Along the bank of the river Yamuna and Bhaga sand is available which is used in construction of permanent houses and few minor stones are also found in the rocky mountain which is used by the Public Work Department for road construction in and nearby districts.

Shazar Stone is obtained from Ken River which flows in the west of Banda district Bundelkhand region. From obtaining the Shazar stone to trimming and shaping it, the craft involves a lot of hard-work and expenditure. This stone is used for making jewellery and other decorative item.

Problems

1. High-cost polishing finishing material is also countable factor with artisans.

Proposed Interventions

- a) Daily wages for the artisans should be fixed by the government, so that the artisan are not exploited and can earn actual earning against their labour
2. *Lack of advanced Technology: Artisans at Banda have been learning the trade on hereditary basis and use old machinery. Tools are not readily available and have to customize the tools since the activity is unique*

Proposed Interventions

- a) More training centers should be established to impart training to youth involved in handicraft sector so as to upgrade the skills of artisans for enhancing their productivity.
- b) Bring in new technology for the craft manufacturers and provide them training to handle the updated tools
- c) Train and develop new and existing skilled, semi-skilled and unskilled manpower in order to update them for business environment

3. *No proper Financial Assistance: Artisans are not financially sound, so they face problems in obtaining loan, also bank does not provide loan to the artisans.*

Proposed Interventions:

- a) Improvement in loan availability through the involvement of financial institution wherever they exist is required and even to the individual artisans.

- b) Establishment of dedicated branch of lead bank for artisans which can understand the problems and assist them in getting funds for purchase of improved technology equipment and also the working capital.
- c) This branch should organize financial literacy camps for the artisans so that they can understand the banker's point of view

4. Poor Infrastructure: The area is going through acute shortage of power supply. So, if the light goes, it is really stressful for the eyes of the families to keep doing the work on a kerosene lamp and that can be extremely painful

Proposed Interventions:

- a) Focus on devising policies to ensure a steady power supply in the industrial estate
- b) Social welfare schemes should be strengthened for ensuring better living conditions for weavers and artisans.

5. Marketing issues: Artisans are still using the conventional method of selling. Due to a lack of knowledge of digital marketing, they are not able to compete with the world. They are not able to sell their products directly to customers because of involvement of middlemen.

Proposed Interventions:

- a) To attract more and more buyers both within and outside the country, promotional and marketing organizations must give due emphasis on wide publicity of various local products
- b) Frequent buyers and sellers meet can be organized by promotional organizations.
- c) Keeping in view the globalization and competition, establishment quality control centers to test the quality of handicraft items.
- d) Exhibitions, printing of brochures and participation in fairs will help in boosting this traditional industry
- e) Uniformity in prices is also an important tool for the growth of this industry

S.no	Type of Intervention	Agency	Proposed Intervention
1.	Central level	Export Promotion Bureau	Export Promotional Schemes
2.	Central level	Ministry of Textiles, Ministry of Commerce &	Co-branding with luxury products

		Industry	
3.	Central level	Ministry of Skill Development & Entrepreneurship	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
4.	State level	National institute of design, Lucknow	Machine Technology Upgradation
5.	State level	Obsolete Designs	National Institute of Design National Institute of Fashion Technology
6.	Central level	Department of MSME & Export Promotion	MSME Schemes
7.	Central level	Ministry of Commerce and Industry, Department of Commerce	Foreign trade policy

Chikankari- Lucknow, Uttar Pradesh

The craft of Chikan work, often referred to as Lucknow *Chikan*, is over 400 years old with a firm presence in the Indian and global fashion arena. The technique of its creation is called *Chikankari* and its unique sensibility flaunts grace and elegance as subtly as the wearer pleases.

Originally Chikan work was done on Muslin or sheer cotton cloth with white thread. Over time, more colors have been incorporated including pastels and fluorescents. The fabrics used for this craft must be soft as hand stitching is required. They include: Silk, Chiffon, Georgette, Net, Voile, Kota, Doriya, Organza, Cotton and faux fabrics.

There is a tremendous variety of garments that come adorned with this type of work, for men as well as women. This includes everything from long and short *kurtas*, tunics, *sarees*, *Anarkalis*, *palazzos* and Capri pants to a range of accessories such as shoes, bags, belts, lamp shades, table cloths and cushion covers.

Problems:

1. Marketing problems in Handicraft sector : No advertisement and branding of industry

Proposed interventions:

- a) The Corporation may increase advertising and publicity for all the crafts. The Corporation should save the artisans from the exploitative clutches of middlemen by purchasing handicrafts at remunerative prices from artisans by giving payments promptly.
- b) Design registration of handicrafts should be done. That means whatever designs any artisan has introduced on any item should be registered. Then no one can copy it.
- c) Financial support to participate in Trade fairs and exhibitions
- d) Help of the services of professionals should be taken in designing of product. Global Style Products should be introduced; it will help in increasing the exports as well as sale in the domestic market.
- e) Introduction of attractive packaging can help in branding, increasing confidence at the time of purchase and increasing sale.

2. Exploitation of artisans as No regular work to artisans, very less wages to artisans, Bad workplace of the artisans

Proposed interventions:

- a) Specific norms for the wages of the artisans. Minimum wages should be set in the industry as payment is not on per day basis but per piece basis.
- b) CSR activities from manufacturers can be beneficial.
- c) Increasing the rate of literacy and then level of education and socio-economic status of the artisans could help increase professionalism and ways of working in the industry

3. Lack of skilled people- *People move to another profession due to low profits. Due to lack of technical expert team and lack of training centers new generation avoid this profession.*

Proposed Interventions

- a) We can appoint the technical expert team for training
- b) We can also start online training programs for artists
- c) Application of updated technology and collaborations for technological, marketing and financial strength should be made
- d) CSR activities from manufacturers can be beneficial. They should arrange Training Centers and Programs for Artisans to enhance their skills.
- e) Having specific embroidery in the course curriculum can help.
- f) Introduction of some diploma or certificate courses can be highly beneficial.

4. No designer input *as there is not much change in the design of products available now compared to those available a decade ago.*

Proposed interventions:

- a) Help of the services of professionals should be taken in designing of product. Global Style Products should be introduced
- b) Buyer seller meets should be organized in various cities across India. Proper use of the newly constructed Lucknow expo mart should be made, Lucknow haat can be used in organizing exhibitions. Active participation in international fairs and events can help increasing product awareness

5. Washing related issues *as rivers getting contaminated*

Proposed interventions:

- a) Methods need to be devised for eco- friendly washing, so that the chemicals used do not affect the quality of water of river Gomti.
- b) Water should be available along with space for the drying of clothes

6. Duplication of designs: E-Commerce websites copying original designs and selling at cheaper rates

Proposed Interventions

- a) Use of copyright materials
- b) Awareness among people regarding original products and fake products
- c) Specific trademarks should be used
- d) Using GI tags on the products

7. No concept of incentives and medical insurance:

Proposed Interventions:

- a) Promoting benefits of identity cards to certifies artisans.
- b) Providing access of health insurance cards.
- c) Improving working conditions of artisans

S.no	Type of Intervention	Agency	Proposed Intervention
1.	Central level	Export Promotion Bureau	Export Promotional Schemes
2.	Central level	Ministry of Textiles, Ministry of Commerce & Industry	Co-branding with luxury products
3.	Central level	Ministry of Skill Development & Entrepreneurship	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
4.	State level	National institute of design, Lucknow	Machine Technology Upgradation
5.	State level	Obsolete Designs	National Institute of Design National Institute of Fashion Technology
6.	Central level	Department of MSME & Export Promotion	MSME Schemes
7.	Central level	Ministry of Commerce and	Foreign trade policy

		Industry, Department of Commerce	
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Product: Ayodhya (Faizabad) Jaggery (Uttar Pradesh)

Jaggery: A super food sweetener!

Jaggery is a type of unrefined sugar made from sugar cane or palm. Much of the world's production takes place in India. About 70% of the world's Jaggery production takes place in India, where it is commonly called "GUR".

How is it Made?

Jaggery is made using traditional methods of pressing and distilling palm or cane juice. This is a 5-step process:

1. **Extraction:** The canes or palms are pressed to extract the sweet juice.
2. **Clarification:** The juice is allowed to stand in large containers so that any sediment settles to the bottom. It is then strained to produce a clear liquid.
3. **Concentration:** The juice is placed in a very large, flat-bottomed pan and boiled.
4. During this process, the Jaggery is stirred and the impurities are skimmed off the top until only a yellow, dough-like paste remains.
5. This "dough" is then transferred to molds or containers where it cools into Jaggery.

Some additional facts about Jaggery

The color can range from light golden to dark brown. This is important, since the color and texture are used to grade the Jaggery. Interestingly, Indians value lighter shades more than darker ones. This lighter, "good quality" Jaggery generally contains more than 70% sucrose. It also contains less than 10% isolated glucose and fructose, with 5% as minerals. It is most often sold as a solid block of sugar, but it's also produced in liquid and granulated forms.

Is It More Nutritious Than Sugar?

Jaggery contains more nutrients than refined sugar because of its molasses content.

Molasses is a nutritious by-product of the sugar making process, which is usually removed when making refined sugar.

Including the molasses adds a small amount of micronutrients to the final product.

The exact nutrition profile of this sweetener can vary, depending on the type of plant used to make it (cane or palm).

According to a source, 100 grams (half a cup) of Jaggery may contain:

1. **Calories:** 383.
2. **Sucrose:** 65–85 grams.
3. **Fructose and glucose:** 10–15 grams.
4. **Protein:** 0.4 grams.
5. **Fat:** 0.1 grams.
6. **Iron:** 11 mg, or 61% of the RDI.
7. **Magnesium:** 70-90 mg, or about 20% of the RDI.
8. **Potassium:** 1050 mg, or 30% of the RDI.
9. **Manganese:** 0.2–0.5 mg, or 10–20% of the RDI.
10. Jaggery may also contain small amounts of B vitamins and minerals, including calcium, zinc, phosphorus and copper.
11. It is more nutritious than refined white sugar. It is also claimed to have various health benefits.
12. Some common health claims include improved digestive health, anemia prevention, liver detoxification and improved immune function.

Problems

Price fluctuation, quality and packaging related issues

1. Sugarcane is the main raw material required in the preparation of sugar and jaggery. India is the largest producer of the sugar and jaggery in the world. Since ancient times, jaggery has been an important item of food and even today.
2. However, trend analysis shows sugarcane production was increases but in the year 2007–08 slight variation, further results have shown that the price of jaggery is directly related with the production of sugarcane in the study area.
3. At the same time by using the power function it is expected the jaggery price for years 2895.375 per quintal to 2972.589 quintal.
4. There are some quality factors which determine the price of the jaggery from both wholesaler and trader point of view and from wholesalers point of view it was observed that, color, packaging and uniformity were major factors to determine jaggery prices.
5. Further the major problems faced by the different stakeholders i.e. jaggery producers, traders and exporters also observed that most severe problem faced by jaggery producers and traders was high fluctuation in prices, followed by high commission charges, malpractices during transportation and delay in payment.
6. From exporter point of view, most severe problem was price fluctuation in international market, followed by lack of quality products, and fluctuation in international demand.

Traders irked by ban on jaggery export

1. Jaggery (Gur) manufacturers have lamented the lack of government focus on the sweetener's production and imposition of ban on its export, stressing that its production and export can benefit small scale farmers.
“Sugar industry is pressurizing the government not to focus on jaggery units,”
2. Last year, the government announced a subsidy of Rs11 billion on the export of sugar while jaggery manufacturers (farmers) were not permitted to export their produce.
3. Jaggery manufacturing fell in the informal sector of economy, hence, there were also issues pertaining to quality of the final product.
4. Use of chemicals in the final product.

Proposed Interventions

Inform jaggery manufactures about value addition of organically processed jaggery

To fetch the high prices and considering the health issues, the following products additions in the jaggery may be abetted:

Giloy	Antioxidant, Cardio protective, Neuroprotective, Anti-diabetic, Anti-ageing
Ajwain	Digestive Health, Lowers Blood Pressure, Cough and Congestion Relief
Fennel Seeds	Laxative, Antacid, Good source of Potassium, controls Cholesterol level
Linseed	Got Omega-3, May Reduce Cancer Risk, Dietary Fiber, Improves Cholesterol
Fenugreek	Reduce the risk of diabetes, Improve weight loss. Reduce inflammation
Ginger	Treats diarrhea, act as Detox, improves health of the heart, controls blood sugar
Moringa	Improves immunity, Good for the Brain, Anti Bacterial Properties
Tulsi	Lowers cholesterol, Combat Stress ,Boosts Immune system, Help curing Flu/Cold
Cashew nut	Reduces risk of Diabetes, Boosts Immune system, promotes development of RBC
Also many other healthy ingredients in powder form can be used in jaggery cubes.	

Million Rupees Model

- a. By all means of sugarcane production and supply to the sugar mills, a farmer is earning only Rs 164154/ ha of income.
- b. The roadmap to achieve the higher income by sugarcane farmers is paved by efficient post-production management viz. processing and marketing. This also makes a farmer self-reliant.
- c. Preliminary objectives to enhance the income of farmers along with maintaining the sustainability of the production system the concept of crop diversification was introduced.
- d. This concept led to the inclusion of several intercrops with sugarcane depending on the consumers' preferences, market demand, and resource availability/use.
- e. The concept proved a foolproof avenue for enhancing the income more than double.

Jaggery plays an important role in meeting the sweetener demand of the nation.

- a. This has many nutritive advantages over white sugar. After Pandemic Covid-19, consumers focussed on the use of jaggery as a component of many of the food and beverages like Chyawanprash and decoctions (Kadha), predominantly used as immunity-boosting sequels.
- b. Now the concept of product diversification as jaggery making may prove another avenue for further increase in farmer's income.

Better quality and Packaging

- a. The traditional jaggery fetches very low prices in the market due to improper use of clarificants and accumulation of high impurities results in poor quality.
- b. Subsequently, fallacious shaping and packaging, inadvertent to food safety norms, and unorganized marketing further adds to its disparagement. Hence, by using this model a farmer can earn more than 10 Lakh rupees from one hectare of land in a particular season.

Awareness of AGMARK (Agriculture Mark) to jaggery producers

AGMARK is a certification mark employed on agricultural products in India, assuring that they conform to a set of standards approved by the **Directorate of Marketing and Inspection** an attached Office of the **Department of Agriculture, Cooperation and Farmers Welfare under Ministry of Agriculture & Farmers Welfare** an agency of the Government of India.

Awareness of FSSAI act (Food Safety and Standard Authority on India) to jaggery producers

- a. **Food Safety and Standards Authority of India** is established to exercise the powers granted to, and to perform the functions assigned to, it under the Food Safety and Standards Act.
- b. The Food Authority is a body corporate, having perpetual succession and a seal with power to acquire, hold and dispose of property, both movable and immovable, and to contract.
- c. FSSAI sets globally benchmarked standards and practices; ensures consistent and transparent enforcement and credible food testing; facilitates hassle free food imports; improves compliance through training and capacity building of regulatory staff and food businesses, educates citizens by nudging social and behavioural change. FSSAI performs these functions through its several divisions:-

- ✓ SCIENCE & STANDARDS DIVISION
- ✓ REGULATION DIVISION,
- ✓ QUALITY ASSURANCE DIVISION
- ✓ REGULATORY COMPLIANCE DIVISION
- ✓ HUMAN RESOURCE & FINANCE DIVISION
- ✓ GENERAL ADMINISTRATION AND POLICY COORDINATION DIVISION
- ✓ INFORMATION TECHNOLOGY DIVISION
- ✓ SOCIAL AND BEHAVIOURAL CHANGE DIVISION
- ✓ TRADE AND INTERNATIONAL COOPERATION DIVISION
- ✓ TRAINING DIVISION

Table of Difference between FSSAI and AGMARK

Basis	AGMARK	FSSAI
Meaning	AGMARK is a certification made for all the agricultural products in India.	FSSAI is established as a regulatory body under the Food safety and standard act of 2006 for inspecting the quality of food products.
Establishment	Established under agriculture produce i.e. grading and marking the act of India, 1937.	Established under the Food safety and standard Act, 2006.
Role	It is employed on agricultural products in India assuring that they conform to a set of Standard approved by Directorate of Marking and Inspection an agency of the government of in India	It lays down science-based standards for articles food to regulate their manufacturing, storage, distribution, sale, and import to ensure availability of safe and wholesome food for human consumption.
Basic	Certification	Inspection of Agency
Allotment	The allotment is done after various analyses.	The allotment is done on the basis of turnover and activity
Coverage	The present AGMAR standards cover quality guidelines for 205 different commodities spanning a variety of Jaggery and other processed items, Pulses, Cereals, essential oils, vegetable oil, etc.	It covers all the food products for some standards have prescribed while a lot of them have to abide by the different provisions of law.

Proposed Interventions and Authorities

Proposed Interventions	Authorities
Inform jaggery manufactures about value addition of organically processed jaggery.	Industry specialist in association with Government of Uttar Pradesh
Million Rupees Model	Government of Uttar Pradesh
Awareness of AGMARK (Agriculture Mark) to jaggery producers	Government of India
Awareness of FSSAI act (Food Safety and Standard Authority on India) to jaggery producers	Government of India

Ghaziabad Engineering Goods

Ghaziabad is famous worldwide for the manufacture of engineering goods. There are a number of engineering industries in the industrial city of Ghaziabad. There is a huge market of engineering goods here as large number of units manufacturing automobile spare parts, sugar mills, machinery parts, lift, and furnishing are present here. Ghaziabad is one of the biggest supplier of engines of various capacities across the nation. The region is known for the manufacture and export of machinery parts and machines. Rolls, gears, shafts, steels tubes etc. are produced by various forging units present in the district.

Problems

1. *Lack of proper infrastructure in the cluster to upscale production as the annual turnover and export currently is not sufficient to keep up with the rising debt. Since the cluster is connected with the main city, often prices of raw materials and other utilities are spiked leading to higher expenditure.*

Proposed Interventions

- a. Expand Machine Tools Manufacturers Network to include more diverse profiles in order to expand the scope of production and innovation.
 - b. Build a CFC (Common Facility Centre) whose singular aim is to work towards long term benefits like technological advancement for the hub.
 - c. Invest in the low hanging fruits first, like conversion of the manual to automated processes, increasing the output and the productivity of the hub.
 - d. Reduction of fixed costs for the debt-ridden cluster:
 - a. Electric Duty Exemption for initial years.
 - b. Stamp Duty exemption for lease/ deeds for companies' set-up in lands earmarked for the industry itself.
 - c. Power Subsidy till a certain level
2. *Marketing of the products is a major drawback of the industry relegating the products only to the low-end usages. This is of paramount importance as the metropolitan is dominated by big brands, hence without marketing the product exports and sales are being affected negatively.*

Proposed Interventions

- a. Since it might not be possible to compete on the market budget level with bigger companies, forming long term contracts at market level rates could stabilize the demand to some extent.
 - b. Increase social media (LinkedIn and others) presence of the hub, even though the hub has been operating for years, awareness about the hub is extremely low, hence lack of investors.
 - c. Introduce sales teams whose primary purpose is to form collaborations, as direct door-to-door sales is ineffective in modern age, newer ways must be explored.
3. *Regulatory processes extremely complicated, hence scaring away probable investors, both domestic and foreign.*

Proposed Interventions

- a. Use connectivity to nearby airports to facilitate more on ground monitoring for investors, prepare concise reports about the sector and showcase positive initiatives.
- b. A singular committee set-up which is completely responsible to provide one stop clearances to potential investors. This committee will assist investors throughout the investment lifecycle spanning from proposal application to approval of licenses/clearances and finally incentives disbursement in manufacturing sector.
- c. Update the existing Policy Implementation Unit with renewed targets to implement the new features of the policy.

4. Huge imports of cheaper products from China, this especially affects Bengaluru cluster since their niche is providing low end cheap instruments

Proposed Interventions

- a. Subsidize the industry to allow it to compete on cost-leadership with cheap imports.
- b. Instead of importing the complete instrument, Government should facilitate the importing of individual parts through subsidies, allowing the manufacturers to make the final products at a lower cost.
- c. Diversify the product mix with a focus towards catering low end requirement with specific contract based high end products instead of trying to do both.

5. Due to low scale production, high manufacturing costs. Even with lower labour costs, the additional costs of transport, water and electricity contribute to increasing costs, this is especially due to the fact, manufacturing clusters are not geographically close and organized. Small scale manual production hampers the industry image, relegating it to smaller and cheaper instruments only, especially in the eyes of big firms which want a faster production time through automated machines.

Proposed Interventions

- a. Increase the scale of production by replacing manual work with automated processes, and introduce other industry 4.0 factors like CAD, 3D Printing for the hub, which upskilling the labourers into more maintenance tasks rather than manual production.
- b. Provide consistent power supply, ensuring maximized productivity, Government could exempt the hub from mandatory power cuts as well.
- c. Move the clusters geographically closer to decrease transportation costs and increase flexibility and reaction time to demand.

6. Lack of skilled labour. Due to low growth of the sector, the connection between academia and the sector is very low, further stagnating the

productivity. High level of employee attrition in recent years, due to hub's inability to pay employee wages on time. Another issue is the employee migration to other opportunities due to tendency to shift to more urbanized areas

Proposed Interventions

- a. Formalize the work force, by designing a clear career progression path with yearly retention and performance bonuses to incentivize the employees.
- b. Collaborate with tier-2 and tier-3 engineering institutes to form internship programs to inject fresh blood into the industry.
- c. Conduct training programs and job fairs in nearby cities to increase the skilled labour force.
- d. Train and certify certain number of trainers from all over India to provide consistent level of training to the entry level employees
- e. Hire talents from top institutes to work towards the development and introduction of modern technologies and industry 4.0

Sr. No	Type of Intervention	Proposed solutions	Agency
1	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2	Training & Development	Training and development of the workforce and the development of new trainers	Machine Tools Manufacturers Network
3	Infrastructural support with information	Construction of common facility centre	UP Government
4	Supply Chain	Better quality assurance standards, safety compliances	UP Government
5	Market Linkages	Value Added Products - product diversification	Ministry of Commerce & Industry
6	Data Intelligence & Analysis	Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market	Machine Tools Manufacturers Network

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Firozabad Glass wares (Uttar Pradesh)

Firozabad is a city near Agra in the state of Uttar Pradesh in India. It is the center of India's glassmaking industry and is known for the quality of the bangles and also glass wares produced there. Famous for all sorts of glass work, not only in India but also globally, Firozabad glass industry has a fair share in the sector: in 2012, according to ASSOCHAM, it was estimated to be around Rs 150 billion. City is home to at least 200 organized manufacturing units out of which 130 units are manufacturing bangles, about 40 are practicing mouth blown technique and rest are automated, either manufacturing bottle or glass tumblers.

Firozabad is the largest producer of glass bangles in the world. The Sadar Bazar of Firozabad is most famous for bangle shops and because of bangle industry development the economic life of Firozabad has been totally changed.

Problem 1

Firozabad has not been able to establish a strong reputation in the international market due to a clear lack of the availability of most modern technology, promotion and a lack of product innovation/ variation. There is a continued use of primitive technology in glass melting, forming and shaping.

Proposed Intervention

- a. In order to be competitive in the world market it has to improve its infrastructure.
- b. Undertake more rigorous marketing and brand building activities.
- c. The industry needs to be cost competitive as compared to other markets such as China and Thailand.
- d. There is great need for design development and quality improvement in the utility and decorative items.

Problem 2

Workers work in so much heat and high temperature that a normal person can't work. They do not get the wages according to the environment in which they work, people earn between Rs 250 and Rs 300 daily.

Proposed Intervention

- a. All such glass and bangle workers who fall in BPL Category can be enrolled under the Government Bima yojnas.
- b. Under the provisions of Minimum Wages Act, fix, review and revise the minimum wages of the workers employed in the Scheduled employments under their respective jurisdiction.
- c. Free education for the worker's children and access to schools in the nearby areas.

- d. Upgrading the technology & infrastructure to reduce human efforts.

Problem 3

Natural gas fuel price is another issue which businesses are fighting against.

Proposed Intervention

- a. New-efficient technology - Running an old, inefficient boiler or heating system, it may be wasting much of the energy it produces.
- b. Adequate insulation - natural gas heating system supplies will escape through cracks, doors, windows, and even the attic and garage.
- c. Discover other energy sources in your area that are more economical than natural gas or install efficient, affordable solar panels that help save as well.
- d. Check for Blockages - If air cannot flow freely, the heating system will expend precious energy trying to warm a machine that refuses to warm up.

Problem 4

Consumers are buying plastic over glass as it is easily available and is not expensive and, most importantly, unbreakable.

Proposed Intervention

- a. ASSOCHAM recommends that the people should be made aware about the benefits of using glass for various purposes through awareness campaigns
 - a. extremely energy efficient industry
 - b. every tonne of glass recycled saves 322KwH of energy, 246 kg of CO₂ and 1.2 tonnes of virgin raw material
- b. Decrease fixed costs which will eventually result in low overall costs to become competitive
- c. Government initiative to reduce use of plastic as part of environment protection programs
- d. Financial support by Government to promote the glass industry over plastics.

Problem 5

There is a shortage of skilled workers. As the working conditions are so harsh and the wages are low, people do not prefer working in this industry.

Proposed Intervention

- a. Basic facilities like toilets near the place of work, canteens, lunch break, recesses, leave and shift duties etc.

- b. Ministry could consider providing Primary Health care to these workers by sending paramedics from ESIC to undertake periodic health surveys of these workers and provide necessary medical relief to them
- c. Opening training institutes for upskilling and safety trainings.
- d. Strict laws for working conditions, proper wages, health monitoring and other measures are required to ensure workers are not exploited, and their health is prioritized.

Problem 6

One of the biggest challenges for the bangle market is to shift factories somewhere else as it falls in TTZ (Taj trapezium zone) region. TTZ is a defined area of 10,400 sq km around the Taj Mahal to protect the monument from pollution

Proposed Intervention

- a. Government should consider that Bangle industry already is using natural gas – the best possible nonpolluting fuel available in India.
- b. The priority should be other more polluting source in the TTZ region to be relocated first.
- c. Focusing on the fact that it has been proved by recent report by National Environmental Engineering Research Institute (NEERI) that city emissions do not even reach Taj Mahal
- d. Modernize the industry to further reduce its negative impacts on the environment.

Problem 7

The industry is facing lots of issues regarding marketing of the product, lack of knowledge towards the consumer preference and taste, inappropriate product mix etc. Lack of appropriate marketing of the products leading to less visibility of the processed products pan India.

Proposed Intervention

- a. Promote certifications for organically procured products to create a competitive advantage and avoid the problem of duplication.
- b. Provision of proper screening package and practices to create awareness about market requirements
- c. Formation of co-operative organizations may further help in safeguarding the interest of the producer/growers and enable them to control the marketing of their products.
- d. Strengthening of market intelligence network which may provide advice to the producers regarding demand/supply position in the market, latest practices in grading, packing and consumer preferences.

Sr. No	Type of Intervention	Proposed solutions	Agency
1.	Branding & Marketing	Marketing of the products and increasing brand awareness of success stories	Ministry of Commerce & Industry
2.	Research & development	Training and development of the young generation	Government of Uttar Pradesh
3.	Infrastructural support with information	Investment in the marketing infrastructure of the products	Ministry of Commerce & Industry
4.	Infrastructural support	Construction of common facility centre	Government of Uttar Pradesh
5.	Credit support	Provisions of subsidies, loans	Government of Uttar Pradesh
6.	Market Linkages	Provision of proper screening package and practices to create awareness about market requirements	Ministry of Information & Broadcasting, GoI
7.	Implementation & inspection of Labor law	Proper inspection & implementation of Labor laws to ensure dignified working conditions	Ministry of Labor

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Product: Gonda processed Food, Gonda (Uttar Pradesh)

Gonda being a lowland area is one of the major producers of horticultural crops and food grains like pulses, sugarcane, maize, paddy etc. in Uttar Pradesh that makes it a lucrative base for the food processing industries. This district has many food processing units that is why it is known nationwide for the manufacturing and exporting of optimum quality pulses and horticultural crops that has a huge domestic requirement. Lentils are cultivated here on a large scale. Many traditional dishes are prepared using pulses.

Problems

1. *Persistence of caste as an important feature of rural structure. Rural power structure being concentrated in the hands of dominant castes.*
 - The socio-economic structure revolves basically around the land ownership or ownership of productive assets and the asset less people.

Proposed Intervention

a. U.P. Zamindari Abolition and Land Reforms Act

- The state gave a lead to entire country in the matter of land reforms it was the first of its kind - after independence - to abolish Zamindari.
- The act also envisaged that the land vested in the Gaon Samaj would be allocated to landless people for agricultural and other purposes.
- However, the progress in this respect was not satisfactory largely because of non-availability of cultivable land.
- Thus, the main achievement of this measure was abolition of intermediaries and simplification of tenurial rights.
- But it has not been able to prevent the practice of self-letting. In fact, it provided a legal basis for the continuance of crop sharing system.

2. *Low Rate of Employment*

- The district is very well served by rail as well as roads, connecting remote places from all sides.
- Industrialisation is very poor, leaving agriculture and allied sector as only major sources of income.
- There are some small scale industries which provide employment to a very limited number of workers.

Proposed Intervention

Programmes for providing sustainable income and promoting entrepreneurship through self-employment.

a. Integrated Rural Development Programme (IRDP)

- The aim of the program is to provide employment opportunities to the poor as well as opportunities to develop their skill sets so as to improve their living conditions.

Objective of IRDP

- The objective of Integrated Rural Development Program is to help families who live below the poverty line to enhance their state of living and to empower the poor by helping them develop at every level.
- The program's objectives are met by providing productive assets and inputs to its target groups.

b. Training of Rural Youth for self-employment (TRYSEM)

- The main objective of this scheme was to provide technical and business expertise to rural BPL people who are in the 18-35 age groups.
- TRYSEM enables rural youngsters to take up self-employment opportunities.

c. Employment Assurance Scheme (EAS)

Objective of EAS

- The primary objective of the Employment Assurance Scheme is to provide gainful employment during lean agricultural season in manual work to all able bodied adults in rural areas who are in need and desirous of work, but cannot find it.
- The secondary objective is the creation of economic infrastructure and community assets for sustained employment and development.

3. *Maintenance of Quality Control*

- None of the sample processing unit was involved in direct export of their products while a 96 percent output was sold to the wholesalers.
- Over 84% units, largely un-registered units were facing one or the other form of maintaining quality of processed goods.

Proposed Intervention

Quality Council of India (*Working for "National Well Being"*)

a. National Board for Quality Promotion (NBQP)

- The board primarily endorses cognizance on standards such as QMS, EMS, FSMS, ISMS etc. as well as tools of quality.
- Consequently, it empowers businesses to compete for better quality standards. The board currently consists of 26 members and one of the main motives is to achieve the main objective of QCI to facilitate National Quality Campaign.
- The National Board for Quality Promotion is re-formed every four years and will include Federation of Indian Small and Micro & Medium Enterprises (FISME).
- The tools help the industries to follow to the code of conduct, quality standards and deal with the challenges.

- b. National Accreditation Board for Testing and Calibration Laboratories (NABL)
- The purpose of NABL is to provide the Industry and Government with third-party schemes for the assessment of the technical competence and quality of pertaining bodies.
 - Apart from being their signatory for accreditation of Testing, connections with International Accreditation Co-operation (ILAC) and Asia Pacific Laboratory Accreditation Co-operation (APLAC) are maintained by NABL.

4. *Problem Facing in Marketing of Produces*

- Lacking marketing network in local areas, getting un-reasonable prices for products, high taxes, over interference of local officials while selling products through different channels and late payment of produces from the part of buying were the main problems of marketing goods.

Proposed Interventions

a. Emerging Problems and Perspectives of Development

- Inadequacy in the supply of raw material from different sources and poorly developed marketing facilities, lacking financial facilities for running the units, irregular supply of power, access to only poor quality of raw materials, shortage of skilled labour are the important factor limiting the scope of development of this sector.
- 86% entrepreneurs recommended for making regularity in power supply in industrial areas.
- 66% entrepreneurs recommended for minimizing the cost of various machines though providing incentives in its purchases.
- .Providing financial support in capital investment, procurement of raw material and transportation of goods at selling, initiating protection policy to xvi reduce competition in selling goods, reduction in the rate of various taxes especially VAT and development of efficient marketing channels and proper marketing arrangements for selling industrial produces were the remaining recommendations of the entrepreneurs of sample units.
- 40% entrepreneurs were planning for undertaking expansion in their unit by one matter or the other.
- The nature of expansion of 25% units and 23% units would be in terms of installation of additional machinery and carrying out product specific diversification respectively.
- Financial investment in such expansion would be carried out mainly through borrowing from the commercial banks/NGOs.
- Perceptions of 71% entrepreneurs were that future growth of this sector will depend on maintaining regular supply of power.

- Initiating measures for timely supply of raw material has been noted as the second most factors for achieving increasing growth of this sector by 60% entrepreneurs.
- The measures of introduction of easy process in lending finances from the part of different financial institutions was the perception of another 50% of entrepreneurs for achieving further growth in this sector.

Sl. No.	Type of Interventions	Proposed Interventions	Authorities
1.	Value Addition	Uttar Pradesh Zamindari Abolition and Land Reforms Act	Government of Uttar Pradesh
2.	Training and Development (Up-skilling)	Integrated Rural Development Programme (IRDP)	Government of Uttar Pradesh
3.	Training and Development (Up-skilling)	Training of Rural Youth for self-employment (TRYSEM)	Government of Uttar Pradesh With NGOs
4.	Value Addition	National Board for Quality Promotion (NBQP)	Quality Council of India Government of India
5.	Credit	Employment Assurance Scheme (EAS)	Quality Council of India Government of India
6.	Branding and Marketing, Product Improvement	Emerging Problems and Perspectives of Development	Government of Uttar Pradesh

INVEST INDIA
ONE DISTRICT ONE PRODUCT
JALAUN HANDMADE PAPER ART, UTTAR PRADESH

District Jalaun is an important region, located in the Jhansi division under Bundelkhand region in Uttar Pradesh. It is adorned with River Yamuna on its north east side and many others are flowing in its western side. The two largest towns of the district are Konch and Kalpi. Before independence, Kalpi was among the few centres in the country, where the art of creating paper from waste material was prevalent. Many entrepreneurs as well as local artisans are engaged in manufacturing and supplying a superior collection of Handmade Paper in Kalpi since earlier times.

The paper is used to make a wide variety of diverse products like office files, carry bags, absorption papers, visiting cards, and many more items. The quality of the paper produced can be improved upon by using modern technology and methods. Jalaun is known for its specialization in providing handmade paper with different designs and patterns, in various thickness and sizes which can cater to a variety of decorative purposes.



Problem Areas:

1. Marketing and Branding:

The artisans have minimal knowledge about marketing and branding their products. Their products are purchased by local traders and then sold to other parts of the country and a small proportion is even exported. They don't have training as to how to leverage technology and modern marketing techniques.

Proposed Solutions:

- Information dissemination about modern marketing techniques, new/innovative designs and patterns, and market trends should be made available with the help of state government, NGOs etc.
- Artisans should be trained in the sphere of online marketing. There should be an online e-commerce platform specifically for handmade paper sold by Kalpi artisans. Producers should also showcase their products on websites like Amazon and Flipkart.
- There is a dearth of proper packaging and branding service providers in the region. The Ministry of Commerce in collaboration with the state government can hold training sessions to equip artisans to package and present their products up to export standards.

2. Outdated Technology:

The technology used by artisans in Jalaun currently is outdated and involves high dependence on human capital. There is a need for modern technology intervention. Due to small scale of operations the artisans are unable to afford the capital investment required to upgrade nor are they aware of different government schemes and programmes.

Proposed Solutions:

- Establishment of processing unit with latest technology which can cater to the needs of the artisans and can also train the manpower is essential. Community storage units can be established so that large scale orders can be executed.
- Awareness campaigns and publicity about the present government schemes and programmes relating to technology upgradation and financial support is essential. Subsidies and financial credit should be increased for technology upgradation as to increase the scale of operation this is essential, hence easy loans and low-cost EMI etc. should be readily available.
- Skill development and vocational training workshops should be held to equip the artisans to understand the potential of the technology available and to ensure they use it properly. The state government, technical institutes and handicraft department should conduct special technical training programmes for the workers.

3. Labour related problems:

Labourers suffer from low monthly wage; they are paid on a monthly basis and not on the basis of production. The working conditions are also poor which leads to health problems. They require skill development, marketing and technological trainings etc. Artisans and their families suffer from water problems. There is no proper transportation facility or technical and management institutes.

Proposed Solutions:

- The government should issue minimum wage policy and standard working conditions norm. The nodal department may be involved to ensure producers adhere to the guidelines. Government subsidies and incentives may be provided to boost the interest on workers and enable them to continue working and not shift to other occupations.
- Polluted water is a major issue and leads to a myriad of diseases. The Municipal Corporation should be contacted and access to clean water should be established. Special funds should be allocated for this purpose. Methods to reduce impurities in water like boiling, and straining of water should be publicized.
- Cluster Approach can be established where producers can get together and they can site their problems in an organized manner. This method has been useful in other states and can be experimented here as well.

4. Electricity issues:

The production of paper requires access to electricity. The district suffers from irregular electricity which directly impacts production levels and labor efficiency. Power cuts are unpredictable and lead to loss of time and manpower. Prior to the shift to complex modern technology, it is essential that there is enough power supply. Power is an essential pre requisite to modernization of technology.

Proposed Solutions:

- The Electricity Board should ensure the setting up of smooth power supply with less variations in quality. Artisans wish to have access to subsidized electricity and warnings before power cuts.
- Use of renewable energy can also be explored. Setting up of solar panels to be independent and self-produce the required electricity can also be considered.

5. Raw Material Procurement:

The manufacturers also face problems in procuring raw material for the production of handmade paper. Waste Cotton is the basic raw material for the industry which is procured from Kolkatta. There is no government agency for raw material stock and individual unit has to procure stock individually creating higher inventory costs.

Proposed Solutions:

- Government facilities should set up a storage unit for easy procurement of raw materials. This will also help to cater to changing needs of the buyers and keep the raw material prices stable.
- National Small Industry Corporation (NSIC) Kanpur and U.P. State Industrial Corporation (UPSIC) can help to regulate the supply and transportation of raw materials.

Serial Number	Type of Intervention	Proposed Solution	Agency
1.	Branding and Marketing	Marketing, skill development, branding training sessions should be organized. Offline and online marketing promotional methods should be taught to the manufacturers	MSME –Development Institute Kanpur, National Small Industry Corporation (NSIC) Kanpur, Ministry of commerce
2.	Technology Upgradation	New and modern technology should be installed to improve quality of paper produced	MSME –Development Institute Kanpur
3.	Labour	Improvement in wage rate, working condition, water conditions is essential	U.P State Industrial Development Corporation (UPSIDC), Kanpur
4.	Infrastructure (Electricity)	Smooth electricity is essential to upgrade the scale of operations and improve the working conditions.	U.P Power Corporation Ltd.
5.	Raw Material Procurement	Creation of government facilities to ease the process of raw material procurement for production	National Small Industry Corporation (NSIC) Kanpur, U.P State Industrial Corporation (UPSIC) Kanpur

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Product Kasganj Zardozi-Uttar Pradesh

History and Synopsis

Zardozi - A Timeless Embroidery

Zardozi is form of embroidery that came to India from Persia. Its literal translation, “zar” meaning gold and “dozi” meaning embroidery, refers to the process of using metallic-bound threads to sew embellishment on to various fabrics. This heavy and intricate style of design is said to have been brought to India with the Mughal conquerors.

Zardozi reached its pinnacle in the 17th century under the patronage of Mughal Emperor Akbar. But under the rule of Aurangzeb, royal aid for the traditional craft ended abruptly and it resulted in the craft’s decline. Owing to the high cost of the raw material, which craftsmen could not procure easily, work suffered. Disappointed, many artisans left the trade.

The craft witnessed another setback during the 18th and 19th centuries due to industrialization. The practice stabilized after India gained Independence in 1947 and the government took vital steps to promote certain crafts, including zari embroidery. Once again, it grew in popularity, and Zardozi products are now part of high fashion and in demand by export houses.

Zardozi garments not only look grand but also weigh a lot. Depending on the design, each work generally takes about 10 days to complete.”

Problems

High price with low profit margin

1. Pure gold was beaten into fine metal thread that was used to embroider motifs on the fabric. Zardozi involved making elaborate designs wherein precious gems such as diamonds, emeralds, pearls and precious stones were sown into the fabric as part of the embroidery which further enhanced the look of the garment.”
2. Craftsmen explain that today, “we use a combination of copper wire, coated with golden or silver polish and synthetic threads, as they are lightweight and durable. The question of using pure gold or silver just does not arise.”
3. Artisans claim that constructing a Zardozi pattern is quite expensive even now, not only because of the high-priced raw material but also because embroiderers are paid on an hourly basis for doing delicate and intricate work.

Traditional and time consuming methods

1. Explaining the method of embroidery, the fifth-generation artisan says: “The process begins by tracing out the design on a fabric like silk, organza, velvet or satin, by poking it with a needle and outlining the entire pattern.
2. The fabric is then fixed over the addaa (wooden frame) so that the fabric does not move.
3. It requires the craftsmen to sit cross-legged around the addaa with tools which include needles, curved hooks, wires, threads, sequins, gems and beads placed nearby to be picked up with ease.
4. The embroidery is done with the help of the needle that follows the basic design.
5. Artisans explain that one small motif takes a lot of time, depending on the complexity of design.

6. The primary data collected, from Zardozi artisans, through extensive questionnaire propped various issues, weaknesses, and challenges. These factors provided an insight into the dilapidated condition of artisans in Kasganj District. This condition can be mainly attributed to the security of regular income-source, educational background, and awareness level.

Issues and Challenges	Ranking & Priority
Lack of Modern technical & Infrastructural facilities.	9
Educational Background	3
Lack of information about marketing	2
Issue of Financing level	8
Lack of contemporary Consumer demands	7
Losing to new lifestyle	10

Proposed Interventions

GI (Geographical Indication) and its benefits

- a. A GI is a sign used on products that have a specific geographical origin and evolution over centuries.
- b. In the Zardozi context, it is not just a unique heritage of the region but also the only source of livelihood for hundreds of people in Kasganj district in Uttar Pradesh.
- c. The GI registration will be a major step forward in branding and promoting Zardozi, which will give a fillip to exports of Zardozi products.

Provide better facilities and infrastructure for Zardozi artisans

- a. The infrastructure and facilities are **important for faster economic growth and alleviation of poverty** in the country/district.
- b. The adequate infrastructure in the form of road and railway transport system, ports, power, airports and their efficient working is also needed for integration of the Indian economy with other economies of the world.
- c. Building of rural roads will benefit agriculture as the farmers are able to sell their products in towns where they can get remunerative prices.
- d. Besides, they can get some raw materials at relatively cheaper prices as their transport costs decline due to improved transportation.
- e. Besides, in many of infrastructural facilities, there are significant economies of scale and therefore they have the features natural monopoly.
- f. In other words, this will find market failure to achieve their socially optimal level.

Textile Parks and promoting in Fashion week with influencing designers

- a. Displaying Photographs and any other related material at public places and expos.
- b. The idea of a textile park with actual artisans and sales showroom can also being explored.
- c. The range of products using Zardozi today are endless; dresses, coats, purses, belts, stoles, shoes, etc. While there was a significant drop in the popularity of this craft, in the last few years it has seen a steady come back with large local fashion houses bringing it to the forefront at Fashion Weeks.

- d. Designers should source this art from villages that have been specializing in Zardozi for generations. This will help in bringing back ornate Zardozi fabrics that still retain their classic, old-world charm, albeit with newer designs.

Atmanirbhar Bharat Yojna

- a. Through this “YOJNA “the UP government can employ lost artisans of Kasganj Zardozi and will render monetary support to the small-scale industries in all the districts famous for some products.
- b. This Yojna is classified under the roof of Micro, Small and Medium Enterprises (MSMEs). In addition, employment opportunity will be given to unemployed youth via this Yojna.

Uttar Pradesh ODOP scheme

Objectives of The One District One Product scheme of Uttar Pradesh

- a. Protection and growth of local crafts and talents, as well as art promotion
- b. Increased state employment and earnings.
- c. Improvement in product quality.
- d. Creating an artistic transformation of the products (via different modes such as packaging, branding, and others).
- e. To address the challenges of regional inequity and economic disparity.
- f. Once the scheme gets successful, take it to the national as well as international level.

Innovations

- a. The major innovation in Zardozi has been seen in recent years with its major commercial popularity.
- b. With the help of modular machines and substitute material blends, Zardozi can be available far more commercially than ever before.
- c. Pocket-friendly options like copper and synthetic wires can be seen instead of gold and silk threads.
- d. The big advantage of this is to make Zardozi far more easily available and accessible to wider customer base, while still maintaining the traditional versions as novelty investments.

Type of Intervention	Proposed Interventions	Authorities
Branding and Marketing	GI (Geographical Indication)	Department For Promotion of Industry and Internal Trade Government of India
Infrastructure & manufacturing	Provide better facilities and infrastructure for Zardozi artisans	State Government of Uttar Pradesh
Branding and Marketing	Textile Parks and promoting in Fashion week with influencing designers	State Government of Uttar Pradesh
Training and Development (upscaling)	Atmanirbhar Bharat Yojna	Government of India
Training and Development (upscaling)	Uttar Pradesh ODOP scheme	State Government of Uttar Pradesh
Product improvement	Innovations	Information by industry experts with assistance of State Government of Uttar Pradesh

Metal Crafts- Moradabad, Uttar Pradesh

Moradabad is known as the 'Brass City'. The designs made on the brass products here display culture, heritage, history and diversity. The patterns and designs used for decorating these items are inspired from a variety of sources, varying from Hindu Gods and Goddesses to paintings of the Mughal Era. The district has domestic units as well as large industries engaged in the manufacture of metal goods. The work of washing, shaping and polishing handicraft metal items is carried out in the domestic units. The exporters in Moradabad have now begun to work with other metals like aluminum, stainless steel, iron etc.

Moradabad is home to one of the oldest brassware clusters in India and is also called 'Peetal Nagri', meaning Brass City. The cluster has an annual turnover of Rs 3,500 crore of which exports stand at approximately Rs 2,700 crore which in turn is approximately 20% of the total handicraft exports from India. According to local industry estimates, there are 1,200 registered exporters who outsource work orders to small scale manufacturing units who, in turn, employ the artisans

Problems

1. *Shortage of coal in the industry: Handicraft artisans in UP's Moradabad in dire straits due to coal shortage*

Proposed Interventions

2. *Labour compensation: Poor wages is a major deterring factor for newer workforce to join the production units. The artisans get paid a compensation of Rs 26 per kg for the final product. Lack of basic infrastructure like power, combined with pollution, health hazards and poor remuneration are forcing artisans to opt out of the traditional profession*

Proposed Interventions:

- a) Enhance the facilities in the warehouse/logistics center, so as to improve the responsiveness of the delivery process
- b) Suitable healthcare needs to be provided in collaboration with hospitals and insurance agencies through group insurance.
- c) Development of cost-effective printing and packaging services under common facility center

Inadequate and interrupted power supply has been a major cause of concern for operating the units at an optimal level. Electricity is essential for all stages of production-for scrapping, casting, sheet metal making, finishing and electroplating

4. Absence of formal credit channels to karkhanedars and artisans Higher raw material prices, costlier electrical power and an increasing volume of work have created an increased need for capital. However, there are no established lines of credit or capital available to the artisans and karkhanedars.

Proposed Interventions

- a) Develop ICT resources and train the unit holders and Artisans to facilitate in developing high end products to wide range of customers using ICT
- b) Increase the support for participation in international and national level trade fares and exhibitions.
- c) Upgrade vocational training center and provide required skills to large number of small unit holders and Artisans on regular basis

5. Marketing Moradabad is located close to the national capital and very well connected by road. However, in absence of any structured marketing platform to show case the products and with the city being very unorganized, buyers are hesitant to visit the place. Suppliers have to visit Delhi to showcase their products to the buyers and take orders

Proposed Interventions:

- a) Formation of consortium of handicrafts manufacturers, Artisans, R & D organisations and other stakeholders and network them with the professional organisations at national and international level which will help in improving sales and marketing.
- b) Develop appropriate and cost-effective direct market channels. For example, networking with tourism and cultural departments at state and international level
- c) Appropriate training and education on development of high-end products would enhance the adoptability on large scale. Further, this would help in direct marketing of the products in domestic and international markets at better price

S.no	Type of Intervention	Agency	Proposed Intervention
1.	Central level	Export Promotion Bureau	Export Promotional Schemes
2.	Central level	Ministry of Textiles, Ministry of Commerce &	Co-branding with luxury products

		Industry	
3.	Central level	Ministry of Skill Development & Entrepreneurship	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
4.	State level	National institute of design, Lucknow	Machine Technology Upgradation
5.	State level	Obsolete Designs	National Institute of Design National Institute of Fashion Technology
6.	Central level	Department of MSME & Export Promotion	MSME Schemes
7.	Central level	Ministry of Commerce and Industry, Department of Commerce	Foreign trade policy
8.	Central level	Council for Scientific and Industrial Research (CSIR)	Technological innovation

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Product: Prayagraj Moonj products (Uttar Pradesh)

Eco-Friendly and Attractive Moonj Grass Basketry items

As years passed and techniques refined, the evolution of the art can be seen in baskets. The art of basket weaving is as old as pottery or stone craft. In ancient time people prepared baskets to hold their food or other collectibles. Later, with the advent of different cultures, basketry took shape both for daily use and ritual purposes. Special patterns have evolved according to local traditions and techniques. Day by day it's improving to make them attractive and more organized with highly detailed patterns and designs with bright colors. It has been reformed and redesigned by Designers of Udaan Society connected with Ethnic Pip with a group of master craft people.

Moonj based communities:

India has several Natural Fiber (Moonj) based communities who live in villages in forest areas. It has been an integral part of their lives and livelihood. They use it for construction, fences, Roof thatches, daily utility items and crafts.

Origin of Moonj Grass: The art of spreading attractive and bio color

Small districts like Prayagraj of Uttar Pradesh. Prayagraj is famous for Moonj-wild grass products. Moonj and Kaasa/rara are the types of wild grass that grow near the banks of the rivers. Moonj is basically outer layer of 'Sarpat' grass. This layer is peeled and knotted as it is easy to store and dry. These knots are locally called as 'Balla' initially, the Kaasa grass is dried and it is wrapped with the Moonj grass by rolling around Kaasa. The motifs of basketry are created by adding colored grass in between to give an attractive look.

The Need of a Design Intervention:

Design intervention seen as an interface between traditional and modernity, that matches craft production to the needs of modern living.

Why use Moonj grass products?

The Moonj grass products are ideal to serve daily life purposes. These natural products can be used as containers, food storage devices and wall decorators. The baskets are used in the kitchen for storing flour and food grains. Food, especially rotis, flat bread, stored in them stays fresh

Problems

The Moonj crafts are however dying on account of various reasons like:

1. Lack of resources and infrastructure.
2. Low remunerations.
3. Restricted rural lifestyles.
4. Limited access to markets.
5. Economic backwardness.

Despite the growing awareness and initiatives on the part of the Central and State Governments along with support from various NGOs working towards upliftment of the Moonj crafts, there are several limitations that have existed that are hurdles to the development of this sector and the local artisans as a whole.

1. Marketing processes to enhance wages, ensures quality, and ensure demand.
2. Despite Moonj crafts occupy a unique place in India; they have not received their due on account of limited financing and marketing.

3. Limited and lacking awareness about markets is the main problem for enterprises to put their products before the markets that are largely urban.
4. The main failure of Moonj crafts are design that are poor, quality of materials often being poor and inefficient approaches to markets which limits it from the global markets as it is far from competition.
5. The diversity marketing in the craft industry necessitates regular market surveys to provide designs and workable solutions to cater to demand.
6. Strategic measures are essential to improve markets for local craftsmen due to scattered supply and insufficient and unsystematic data.

Proposed Interventions

It is evident that there are several interventions essential for empowerment but the major ones are listed below:

Need for Design Intervention

- a. It is evident that there is a dire need for design interventions to enhance the product range that would ultimately attract the urban and international buyers.
- b. Value addition by using a mix of materials helps in enhancing quality as it makes up for the limitations of the Moonj grass in terms of strength and appeal.
- c. These helps create everyday urban products which would ultimately increase demand for these products and enhance the incomes of the artisans by generating continuous and meaningful involvement and help sustain their livelihoods.

Up-skilling of Artisans

- a. There is also a need for up-skilling of the artisans to enhance and upgrade the products as well as in generating awareness and establishing marketing linkages to further sales.
- b. Due to need of innovative and contemporary designs, there is requirement to understand the usage of different materials for which skills would have to be developed.
- c. Exposure is crucial to help understand different applications and possibilities and also at the same time there is a need to facilitate the resources with the help of NGO.
- d. Skills need to enhance in terms of understanding the marketing process as well as valuation of their products in the markets to ensure that their efforts and hard work are not exploited.
- e. Regular exposure through collaborations with institutes through NGOs that collaborate with CSR initiatives and also through Government schemes is essential.

One District One Product Uttar Pradesh (ODOP UP)

- a. In a state as vast as Uttar Pradesh – a geographical expanse of 2, 40,928 sq km, a population of 204.2 million people – there cannot but be great diversity in all facets of life.
- b. There are diverse terrains, diverse crops and foods, diverse climates, and coming from all these, diverse community traditions and economic pursuits.
- c. Hence, comes the great and beautiful diversity of crafts and industries in Uttar Pradesh, in which even small towns and small districts are known for interesting and unexpected products typical of that area.

Knowledge about diversifying about different Moonj grass products

- a. A naturally growing perennial grass, known as Moonj in the local dialect, is found in the lowlands of the district.

- b. Locals here can make various types of decorative and household products from Moonj such as foot mats, carry bags, stools, ropes, pen stands, chairs, tables etc.
- c. The craftsmen can make these products without using any advanced equipment.



Proposed Interventions and Authorities

Type of Intervention	Proposed Interventions	Authorities
Training and Development	Need for Design Intervention	State Government along with industry specialists.
Training and Development	Up-skilling of Artisans	State Government along with NGOs
Product Improvement	One District One Product Uttar Pradesh (ODOP UP)	State Government of Uttar Pradesh
Branding and Marketing	Knowledge about diversifying about different Moonj grass products	State Government along with industry specialists.

Product: Sant Kabir Nagar Brassware, (Uttar Pradesh)

The Brassware of Sant Kabir Nagar is an ancient craft. The artisans engaged in this craft make various types of artistic utensils and pieces such as bowls, plates, glasses, vessels, jug, vase, bells and more. Brass Handicrafts produced here are very popular world over and they represent the true Indian craftsmanship and the old grandeur for which Indian Brass ware is well known. There are exclusive and elegantly crafted brassware is not only popular in national markets but is also in huge demand in international markets as well.

About Brass and Brassware

1. The brass is an alloy of copper and zinc.
2. Occasionally are added small quantities of other elements to promote someone of the characteristics of the alloy.
3. The first metals that the man used were the copper and the gold, soft and weak both in pure condition and with a limited usefulness.
4. In the particular case of the copper, this one has been present in the activities of the man since it discovered the fire and the metal could work with major facility.
5. Brass has long been a popular material for decoration due to its bright, gold-like appearance; being used for drawer pulls and doorknobs.
6. It has also been widely used to make utensils due to properties such as having a low melting point, high workability (both with hand tools and with modern turning and milling machines), durability, and electrical and thermal conductivity.

Problems

- a. UP's Sant Kabir Nagar – also known as *Peetal Nagari* – is on the Verge of Shutdown.
- b. With GST, demonetization and rising raw material costs, jobs are scarce in Sant Kabir Nagar, but now crisis-ridden brass industry.
- c. As a result, 50% of the people in the area, who were dependent on this industry, have migrated to Daman and Diu, and are now working in plastic units.

Sant Kabir Nagar's Brass Industry Fading into Oblivion

- a. The sound of tinkling copper and brassware from nearly 300 houses at in Sant Kabir Nagar was once the music of prosperity.
- b. Almost every house in the area once had an informal workshop where a group of artists used to beat bell metal into aesthetic utilitarian products.
- c. But today, it conveys a metallic message: the district's brass and bell metal industries are dying a slow death.
- d. Once the pride of eastern Uttar Pradesh for its world famous bell metal, copper and brassware, the cottage industry is struggling for its survival due to lack of remedial measures by successive governments.
- e. Beautifully crafted copper and brass utensils of this region were in great demand across the country as well as outside.
- f. However, the painstakingly-crafted wares are no more a common sight in the city of bell metal.
- g. But with many artisans switching jobs and others migrating to Daman and other cities in search of jobs, the industry is now on the verge of shutdown.

Other major problems

- a. Weak marketing network.
- b. Problem in getting regular supply of raw material.
- c. Age old manufacturing process.
- d. Lack of diversification.

Proposed Interventions

One District One Product Uttar Pradesh (ODOP-UP)

The objectives of the Programme are to:

- a. Secure preservation and development of local crafts / skills and promotion of the art.
- b. Provide employment to youth and promote the competitive ecosystem in District.
- c. Capacity building and promotion of local skills.
- d. Preventing migration by improving income and local employment in the District.
- e. Improvement in product quality and skill development.
- f. Increase overall exports of the selected products.
- g. Promote ODOP products to global level with the structured approach.

What are the ODOP Schemes?

- a. Common Facility Centre Scheme.
- b. Marketing Development Assistance Scheme.
- c. Finance Assistance Scheme (Margin Money Scheme).
- d. Skill Development Scheme.

Marketing Development Assistance (MDA) scheme

- a. The Market Development Assistance scheme is aimed at achieving fair pricing for the artisans, entrepreneurs and exporters through better marketing.
- b. This scheme provides financial assistance to participants of national and international fairs/exhibitions for display and sale of the products.

Skill Development scheme

- a. The Skill Development and Tool Kit Distribution Scheme aimed at fulfilling current and future requirements of skilled work force in the entire value chain of product.
- b. Additionally, the scheme intends to equip the artisans / workers through distribution of relevant advanced tool kits.

Common Facility Centre (CFC) scheme

To establish a CFC this would encompass following activities:

- a. Testing Lab.
- b. Design Development and Training Centre.
- c. Technical research and Development Centre.
- d. Product exhibition cum Selling Centre.
- e. Raw Material Bank / Common Resource Centre.
- f. Common Production / Processing Centre.
- g. Common Logistics Centre.
- h. Information, Communication and Broadcasting Centre.
- i. Packaging, Labeling and Bar-coding facilities.
- j. Other such facilities related to missing link of value chain.

Proposed Interventions and Authorities

Type of Intervention	Proposed Intervention	Authority
Product Improvement	One District One Product Uttar Pradesh ODOP-UP	Government of Uttar Pradesh
Branding and Marketing	Marketing Development Assistance (MDA)	Government of Uttar Pradesh
Training and Development (Upskilling)	Skill Development	Government of Uttar Pradesh
Infrastructure and	Common Facility Center (CFC)	Government of Uttar Pradesh

Product: Sitapur Carpet (Dari) – (Utter Pradesh)

Sitapur is a traditional production center of handmade rugs, durries and Bathmats dating as back as Mugal Regime in India". The district is well known for the cotton and woolen carpets made in Laharpur and Khairabad and exported to other parts of the country as well as abroad. These products have appealing and artistic designs. A carpet is a textile floor covering typically consisting of an upper layer of pile attached to a backing. The pile usually consists of twisted tufts which are typically heat-treated to maintain their structure. This district was famous for its textile industry since 17th and 18th century.

Problems

Sitapur 'blinding' set to be swept under carpet?

General issues

Lack of coordination between state government and agencies and individual enterprises.

1. Problem of continuous Power Supply, Drainage system Problem.
2. Non- availability of skilled Man Power
3. Non- Awareness of Government Schemes
4. Technological & Financial Support
5. Problems of Raw Material availability & Market Access
6. The problem of tax structure.
7. Weaker infra-structure (Road, Electricity & Transportation)

Proposed interventions

Pradhan Mantri Credit Scheme for Power-loom Weavers (PMCSPP)

- a. To provide financial assistance viz., Margin Money Subsidy and interest reimbursement as against the credit facilities (Term Loan) availed under Pradhan Mantri Mudra Yojana (PMMY) to the decentralized power-loom units / weavers.
- b. Margin Money Subsidy as against the credit facilities (Term Loan) availed under Stand-up India Scheme by the SC, ST and Women Entrepreneur of the decentralized power-loom units / weavers to meet their credit requirements such as for investment needs (Term Loan) and for working capital etc.
- c. There are two components in the Scheme
 1. Under Prime Minister MUDRA Yojana (PMMY) and
 2. Under Stand-up India Scheme.

GROUP WORKSHED SCHEME (GWS)

- a. To facilitate the establishment of work sheds for shuttle less looms in an existing or new cluster, which will provide required scale of economy for business operations.
- b. To organize power-loom units in a cluster and to provide improved working condition in terms of more space, work environment, improve the work efficiency to enhance their competitiveness in the global market.

INTERGRATED SKILL DEVELOPMENT SCHEME (ISDS)

- a. In-situ UP- gradation of Plain Power-looms
- b. Group Work-shed Scheme (GWS)
- c. Common Facility Centre (CFC)
- d. Solar Energy Scheme
- e. Facilitation, IT, Awareness, Market Development and Publicity
- f. Tex Venture Capital Fund

One District One Product UTTAR PRADESH (ODOP UP)

Objectives of ODOP UP:

- CFC (Common Facility Centre) Scheme.
- Market Development Assistance Scheme.
- Finance Assistance Scheme.
- Skill Development & Toolkit Distribution Scheme.

Proposed Interventions and Authorities

Type of Intervention	Proposed Interventions	Authorities
Credit	Pradhan Mantri Credit Scheme for Powerloom Weavers (PMCSWP)	Government of India
Training and Development (Upskilling)	Group Work-shed Scheme (GWS)	Government of Uttar Pradesh
Training and Development (Upskilling)	Intergraded Skill Development Scheme (ISDS)	Government of Uttar Pradesh
Product improvement and Quality Assurance	One District One Product UTTAR PRADESH (ODOP UP)	Government of Uttar Pradesh



Zari Zardori- Bareilly, Uttar Pradesh

Zari-Zardozi is a type of hand embroidery and usually done on apparels for embellishment with the help of needle, threads and metal wires. This handicraft work has been taken as patrimonial art in the artisan family. Even a strong presence of this art in the domestic and international market in last decade of 20th century and the first decade of the twenty first century, the plight of labourers was not improved and became so miserable. This descriptive research has been done on Zari-zardozi labourers of different villages of Bareilly, a western Uttar Pradesh's district famous for this handicraft. There was 150 rural household samples were collected randomly to depict Zari-zardozi labourers' present actual condition with their socio-economic background.

Zardozi: This is a heavy and more elaborate embroidery work which uses varieties of gold threads, spangles, beads, seed pearls, wire, and gota. It is used to embellish wedding outfits, heavy coats, cushions, curtains, canopies, animal trappings, bags, purses, belts, and shoes. The material on which this kind of embroidery is done is usually heavy silk, velvet and satin. The kind of stitches found are salma-sitara, gijai, badla, katori, and seed pearls, among others. The main centres are in Delhi, Jaipur, Banaras, Agra, and Surat. The old teach the young and the skill continues from generation to generation.

Kamdani : This is a lighter needlework which is done on lighter material like scarves, veils, and caps. Ordinary thread is used and the wire is pressed down with the stitching producing a satin-stitch effect. The effect produced is glittering and is called hazara butti (thousand lights).

Mina Work: This is thus called owing to its resemblance with enamel work. The embroidery is done in gold.

Kataoki Bel: This is a border pattern made of stiff canvas and the whole surface is filled with sequin edging. A variation of this border technique is lace made on net and filled with Zari stitches and spangles.

Makaish : This is one of the oldest styles and is done with silver wire or Badla. The wire itself serves as a needle, piercing the material to complete the stitches. A variety of designs are produced in this manner.

Tilla or Marori Work: This is the kind of embroidery where gold thread is stitched on to the surface with a needle.

Gota Work: The woven gold border is cut into various shapes to create a variety of textures in the patterns. In Jaipur the border of the material or sari is cut into shapes of birds, animals, and human figures, attached to the cloth, and covered with wires of silver and gold; it is surrounded by colored silks. The work resembles enameling.

Kinari Work: A small variation is kinari work where the embellishments are done only at the edges in the form of tassels. This is done mainly by men and women of the Muslim community.

Problems

1. Marketing problem in Zari zardori handicraft: Artisans face several problems in marketing. In view of shortage of financial resources and small scale of operation; advertising publicity cannot be undertaken by artisans.

Proposed Interventions:

- a) Corporation may increase advertising and publicity for all the crafts. The Corporation should save the artisans from the exploitative clutches of middlemen by purchasing handicrafts at remunerative prices from artisans by giving payments promptly.
- b) Artisans must be organized by themselves under the co-operative umbrella for marketing their products by themselves. For this more and more linkages must be developed with outside parties.
- c) Various specialized organization, like Development Commissioner (Handicrafts), may help the local units to produce various value added items which would not only help to penetrate the local market, but also help in exporting of such items to foreign countries.

2. Prevalence of old designs in the industry is another hindrance: Design of a handicraft product should be in accordance with the tastes and preferences of customers. There are three types of designs viz., conventional, modern, combination of conventional and modern which are usually adopted by artisans. Conventional designs are age-old and traditional designs. While modern designs are in keeping with the changes of consumer preferences and tastes. Conventional and modern is a combination of both types.

Proposed Interventions

- a) Design registration of handicrafts should be done. That means whatever designs any artisan has introduced on any item should be registered. Then no one can copy it.
- b) Design training of weavers with NIFT Delhi

3. No Price uniformity in handicraft: The prices of handicraft products are very much erratic and not uniform. There is significant difference in prices of the same article if purchase from two shops or from two places. In this situation the customer feels very much exploited and harassed.

Proposed Interventions:

- a) Pricing of the product should depend on categorization of art in each craft, skill exhibited and quality of raw materials.
- b) To attract more and more buyers both within and outside the country, promotional and marketing organizations must give due emphasis on wide publicity of various local products. For this frequent buyers and sellers meets may be organized by promotional organizations.

4. Lack of technological framework in designing: Product innovation and improvements in design as well as manufacturing technologies occur in the formal sector of economy on a routine basis. In the case of the informal sector, the concept of product innovation remains subdued. With an introduction of modern technologies of design and product innovation, the change is necessary in informal sector so that the economy can be uplifted

Proposed Interventions:

- a) In order to overcome the cultural inertia of change, it is necessary to provide an appropriate environment of training and education.
- b) Foreign master designers may be invited to the design centers to render guidance to the craftsmen.
- c) To create an environment of awareness through workshops on export marketing, procedures and documentation, packaging, design development, buyer seller meet, open house, interaction with central / state government and various other similar programmers.

5. Declining number of the artisans: Younger population are not willing to take up the profession due to poor remunerations.

Proposed interventions:

- a. Provide entrepreneurship training and promote new entrepreneurs
- b. create awareness about market
- c. Skill training to develop younger generations as designers
- d. Provide training in use of modern design tools

S.no	Type of Intervention	Agency	Proposed Intervention
1.	Central level	Export Promotion Bureau	Export Promotional Schemes
2.	Central level	Ministry of Textiles, Ministry of Commerce & Industry	Co-branding with luxury products
3.	Central level	Ministry of Skill Development & Entrepreneurship	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
4.	State level	National institute of design, Lucknow	Machine Technology Upgradation
5.	State level	Obsolete Designs	National Institute of Design

			National Institute of Fashion Technology
6.	Central level	Department of MSME & Export Promotion	MSME Schemes
7.	Central level	Ministry of Commerce and Industry, Department of Commerce	Foreign trade policy

INVEST INDIA

ONE DISTRICT ONE PRODUCT

AGRA LEATHER PRODUCT (FOOTWEAR), UTTAR PRADESH

In India, Uttar Pradesh is home to the largest and oldest leather industry, with Agra being the hub of leather footwear. This is because the state is rich in the resources required to manufacture leather products. Not only does it have the largest animal production, it also has the skilled labor required to engage in this industry. Leather is made from hides and skins of animals such as sheep, lamb, calf hides, goat and kid skins and calf skins.

Leather industry is labor intensive and provides employment opportunities to thousands of people directly and indirectly and thus, helps in eradicating chronic unemployment from the nation. There is immense export potential in this industry and can also act as a source of foreign exchange for the country.

PROBLEMS

1. Religious beliefs associated with animals:

Cows are considered religious in Hindu religion; hence the slaughtering of animals were banned in the state. This caused rise in price of raw material as well as scarcity of raw material. The GST and demonetization along with this hit the traders badly.

Proposed Solutions:

- Small farms can be created to rear animals for the purpose of providing raw materials to the leather industry
- Price cap can be put on the sale of hides and skins to desist traders from benefiting from the scarcity of raw material
- Restrict exports of hides and skins so that there is sufficient raw material for domestic producers
- Slaughterhouses should be established wherever possible and best practices in terms of flaying, curing and storage techniques should be taught

2. Environmental impact of the leather industry:

The leather industry is closely associated with the effluents it produces. The polluting nature of the industry can be well noticed from the stringent odour that the tanneries produce. Though the air pollution caused is known by all, the industry also produces a large amount tannery liquid effluents, which have a high amount of organic and inorganic suspended solid content.

Proposed solutions:

- Regulations should be put in place to prevent tanners from getting away with indulging in large scale water pollution
- Continuous monitoring of the production process should be done and reduction in corruption is pertinent to decrease effluents.
- Tanners should be charged on the basis of the amount of pollutant they produce. Measuring unit should be installed at the discharge pipe of the tanners. This will incentivize tanners to shift to cleaner production methods and install cleaning treatment plants.

3. **Technical Barriers:**

By nature, the leather industry is conservative. This is not because they are against change but because, minor changes in the production process can severely impact the quality of leather. Changes in the duration of the processes, chemical intake, temperature etc., all ultimately impact the quality. The adoption of low waste technology often requires radical alteration to the manufacturing process hence, producers resist it.

Proposed Solutions:

- Investment in waste treatment plants should be made to minimize environmental impact
- Technology intervention is necessary, but the leather quality should be maintained
- Import of foreign green technology can be done to benefit from the sustainable production techniques
- Eco-labelling of products should be done to distinguish those products which have been manufactured within environmental norms. The customers will understand the reason for change in quality and appreciate the adherence to regulations.

4. **Lack of skilled labor:**

Most of the tanneries are family operated, and work as medium or small scaled units. Tanners in such situations have no formal education about new processes and technology. Low waste technology requires skilled personnel and greater technical control in comparison to conventional techniques.

Proposed Solutions:

- Qualitative upgrades in terms of products and designs should be made to encourage youth to join the industry
- New industrial changes should be incorporated to create a hygienic manufacturing environment and those redundant to change should be relocated

- Vocational training should be given to ensure the tanners are well aware of the best standards and efficient practices.
- Techniques to brand the product, understanding the true value and pricing of the leather footwear should be taught

5. Economic Barriers:

Tanners suffer from large economic constraints. They have to bear high cost of capital and inflation. A substantial amount of capital is tied up in work-in-progress, and in chemical and machinery spare parts etc.

Proposed Solutions:

- Financial support can be given to tanners to induce them to adhere to environmental norms
- Low interest loans and discount on premium can be given to those who follow the regulations
- Special schemes can be floated for small and medium enterprises to encourage them to increase their scale of operations and benefit from the economies of scale.
- Subsidies can be given on chemicals required for tanning leather

Serial No.	Type of Intervention	Proposed Solution	Agency
1.	Supply Chain	Set up slaughter houses to avoid scarcity of resources	Ministry of Animal Husbandry
2.	Training and Development	Strict environment norms and penalties should be levied on tanners who flout it	Environment Ministry
3.	Technology Upgradation	Setting up treatment plants and continuous monitoring of production processes	Environment Ministry
4.	Branding and Marketing	Eco-labelling of products	Ministry of Commerce
5.	Training and Development	Vocational training to increase skilled labour	Ministry of Labour and Employment
6.	Credit Support	Financial Assistance and schemes	Ministry of Finance
7.	Branding and Marketing	Improve Marketing and Branding of products, introduce new designs and incorporate product differentiation	Ministry of Commerce

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Home Furnishing, Baghpat, Uttar Pradesh

The handloom business has been going on in Khekada for many years. The handloom units have now been converted into power loom. Curtains, kitchen towel, table cover, pillow cushions and other furnishing products are being manufactured in the Baghpat area.

Baghpat is an agriculturally enriched district. Due to the favourable soil condition and irrigation facility, which is very much conducive for agriculture, district enjoys good agriculture output. The main crops that are being produced here are sugarcane, wheat, paddy, potatoes, mustard & rapeseeds etc. It is a town of NCR and a Municipal board in western Uttar Pradesh, India. It is the administrative headquarters of Baghpat District. One among the 75 districts of Uttar Pradesh, Baghpat houses many small scale and major scale industries across the city. Along with its several tourists destinations Baghpat is mainly known for its Home Furnishing works across the country. Products like bed sheets, mattresses, towel, pillow and other products are being furnished from this city. Baghpat supplies the products of Home Furnishing across the country.

Problems

1. *Lack of Financial aid and less education of weavers*

Proposed Interventions

- a. Providing cheap financial facility to weavers so that they can scale up production
- b. Improving infrastructure of this sector by providing better machines etc
- c. Running proper education initiatives for weavers to enhance their knowledge

2. *Enhancing working conditions of weavers*

Proposed Interventions

- a. Agencies should ensure proper working conditions in workplace are given to weavers
- b. Proper credit facilities should be given them
- c. Agencies should ensure proper wage system is there in place for labourers

3. *Better Marketing*

Proposed Interventions

- a. Marketing ties with big companies such as amazon, flipkart etc
- b. International exhibitions and distribution of products at concessional rate
- c. Establishing trading centers for weavers

4. *Need for advanced equipment's for production*

Proposed Interventions

- a. Providing weavers with new equipment for production in the district and education them about it uses
- b. Providing subsidy to weavers on such equipment to make them easily accessible

5. Better credit facilities

Proposed Interventions

a. Providing cheap credit to home furnishing producers

Sr. No	Proposed solutions	Agency
1	Establishing new body to educate weavers	Ministry of Electronics and Information Technology, State government
2	Better Research	Indian Council of Agricultural Research (ICAR)
3	Monetary support to weavers	Ministry of Commerce & Industry / Government of Meghalaya
4	Better infrastructure	Ministry of Infrastructure
5	Credit facilities	Ministry of Commerce & Industry / Government of Meghalaya
6	Better Marketing	Ministry of Commerce
7	Providing better equipment	Ministry of Electronics and Information Technology, State government

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INVEST INDIA
ONE DISTRICT ONE PRODUCT
FOOD PROCESSING (PULSES), BALRAMPUR, UTTAR PRADESH

Balrampur is a city located in state of Uttar Pradesh, and is a lowland area where small lentil pulses are cultivated as cash crops. It is situated in the banks of river Rapti, and is known in the field of food processing. It is blessed with rich land for agricultural purposes, and produces five different varieties of small lentil. The high-quality lentil pulses from here are sold in other parts of the state and outside the state in regions like Bengal and Assam.



Problem Areas:

1. Small and fragmented Holdings:

The adoption of well proven technology is hindered as the size of holdings is small and farmers have poor resources. The small and the marginal farmers are risk averse and do not dare to invest in costly inputs. The purchasing power of the farmers is very low and limited, they are not entrepreneurial.

Proposed solutions:

- Subsidy given on costly inputs such as machinery, implements, fertilizers and pesticides should be increased to encourage farmers to adopt new techniques and methods of cultivation.

- Organization of more meetings with the farmers should be done and there should be skill enhancement sessions. They should avail new technology and have the technical expertise.
- Self-help groups and cluster groups can be formed so that they can purchase raw materials in bulk and this will reduce prices further. They can help each other to scale up their present state of operations.

2. Water Management Issues:

In spite of the fact that the eastern region of Uttar Pradesh is adorned with most of the rivers, close to 40% of the net sown area is rainfed. There is at times lack of water due to improper usage of roasters in canals and non-availability of power (electricity and diesel) constraints in the crop production area. Farmers prefer to wait for it to rain, rather than investing in a tube well irrigation due to poor economic conditions.

Proposed solutions:

- Watershed and water harvesting techniques should be developed to reduce the dependance on rain water as a sole source of water.
- Subsidies should be given for installation of irrigation wells and motor systems. This should be complemented with training sessions. To produce large scale crop and protect the farmers from variation in rain water received, this is essential.

3. Poor seed quality:

Farmers mostly use their own seed to cultivate crops. This is due to non- availability of improved and quality seed of lentils. The farmers also have a low purchasing power and are unable to pay the higher cost of quality seeds.

Proposed solutions:

- Adequate and timely availability of certified seeds of important pulses on subsidized rates must be assured by the government.
- Research and development can be done to identify the high producing variant. This will help to ensure that the produce is nutritious and healthy.
- Remunerative and assured M.S.P. (minimum support price) must be fixed for pulses. This will incentivize farmers to indulge in the production of pulses and procure better quality seeds.

4. Weed and blue-bull infestation management:

Weed management is a labor-intensive process. An appropriate strategy must be framed to tackle the problem of blue-bulls which is a regular menace across the state. It is essential to tap this problem to improve overall efficiency.

Proposed solutions:

- Agriculture scientists should evolve such type of pulses which are against consumption by blue-bulls. It is much required in the case of arhar and pea crops, as they are the most targeted ones.
- Financial help should be provided to farmers to purchase raw materials to use biological and chemical methods in pulse crops. Separate budget should be allotted for this purpose.
- There is a need to give proper awareness and skill enhancement training to farmers for the application of proper protective measures to check attack of blue-bulls. They should be properly equipped with the knowledge to curb infestation.
- The use of crackers to deter blue-bulls was found effective. Therefore, financial help should be given to the farmers to purchase these.
- The attack of blue-bulls usually happens at night time, hence they need tools like torch, umbrella, woolen clothes and raincoats to keep a check. This type of arrangement can be made on a panchayat level.

5. *Lack of marketing facilities:*

There is a lack of marketing/ industrial network present, due to which some pulses do have demand. Most of the production is sold in traditional regulated markets locally and a small proportion is transported to other states.

Proposed solutions:

- Processing costs are high when it comes to pulses, they amount for about half of the contribution in the final price. Hence, to offer better prices and increase demand more efficiency in processing is required.
- Various grading and quality assurance methods is not prevalent. Producer's grade on the basis of FAQ and visual inspection due to which there is no standard practice.
- Storage is also a problem and crops suffer from deterioration and physical losses. Community level storage units can be created to help farmers store for longer periods of time.
- There should be smooth transfer of market information, farmers should know the current prices and should not be solely dependent on local traders. Panchayats, farmers groups and NGOs can be tapped for this purpose. The farmers should be aware of which crop has higher demand and what the market trend is.

Serial number	Type of intervention	Proposed solution	Agency
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1.	Financial Assistance	Increased subsidy should be given on raw materials and inputs like seeds, machinery and tools.	Ministry of Agriculture
2.	Infrastructure development	Improved water management mechanisms like water harvesting techniques should be adopted to reduce dependance on rainwater	Ministry of Agriculture
3.	Technical Assistance	Skill and training should be given to farmers to adopt new technology in farming. Community processing units should be established to increase commercial production.	Ministry of Skill Enhancement and Entrepreneurship
4.	Skill Development	To curb exploitation by blue bulls, biological and chemical methods should be used. Training in this topic should be given to farmers	Ministry of Skill Enhancement and Entrepreneurship
5.	Marketing and Branding	Quality Assurance and certifications should be given. Storage units should be created on a village level. Smooth transportation of produce should be established to increase reach.	Ministry of Commerce and Trade

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INVEST INDIA

ONE DISTRICT ONE PRODUCT

HAPUR HOME FURNISHING, UTTAR PRADESH

Hapur district was recently established in Uttar Pradesh and is a part of NCR region of Uttar Pradesh. The district has a lot of potential and growth opportunity due to its close proximity to places like Delhi and Ghaziabad. After gaining district status, it has its own district establishment. It is a major industrial town, present in the western part of Uttar Pradesh. The city is famous for its paper and home furnishing materials. It is also called the 'power loom city' and is famous for its handloom made bed sheets in Pilkhua. Decorative and household items like curtains, kitchen towels, table covers, cushions etc. made here with handloom / power loom are quite in demand all over the world. Block printing, bed sheets etc. are made here. The industry has provided direct and indirect employment to 10,000 people.



Problems:

1. Upgradation and Modernization:

The technology used in the power loom and handloom sector in Uttar Pradesh is quite low and traditional. The central government had run a Technology Upgradation Fund Scheme but weavers were not aware and did not have access to the details of the scheme.

Proposed solutions:

- There is a need to create awareness about the new technology and best practices. A district awareness campaign and publicity campaign must be initiated by the state for familiarizing the people about the upgradation of technology.

- Skill development and vocational training workshops should be held to equip the weavers to understand the potential of the technology available and to ensure they use it properly. The Power loom Service Centre, technical institutes and textile department should conduct special technical training programmes for the workers.
- Subsidies and financial credit should be increased for technology upgradation as to increase the scale of operation this is essential, hence easy loans and low-cost EMI etc. should be readily available.

2. Poor working conditions:

Power looms and handlooms are usually owned by small scale workers and their families. Handloom requires one to sit for long hours in a particular position which can lead to deterioration in health conditions. Weavers do not have enough capital to invest in upgradation of their machinery and infrastructure. Private traders have the upper hand in controlling the wage as they can control the supply and marketing of the product to the market. Due to these reasons the youth is looking for better employment opportunities and opting out of this.

Proposed solutions:

- The Department of Handlooms and Textiles should look into issues related to wage and ensure that workers receive minimum wage for the work done by them. The nodal department may be involved to enforce minimum wage rates.
- Information dissemination about new designs, unique patterns, color combinations and bringing new dyeing technologies should be done by the state government or apex societies.
- Credit should be given to maintain the environment in the looms. This is essential to improve the working conditions in the loom.
- Basic amenities like ventilation, exhaust fans, to exclude dust and fumes, proper regular cleanliness, basic hygienic facilities, health and safety measures should be followed closely.

3. Financial Assistance and Entrepreneurial Training:

The producers have limited finance and hence limited scope of operations. Due to lack of information and their risk averse nature they are unable to scale up their operations. They do not have the capital to increase their current operations.

Proposed Solutions:

- Adequate, timely and cheap financial facilities should be provided by the financial institutions. On the guide lines of NABARD special financial institution for textile sector should be formed for the financial help of the sector.
- In order to improve the level of managerial and administrative skills of the weavers. There is a need to expand the services of power loom service centres. They should also

provide training to the proprietors/ weavers regarding entrepreneurship. Steps should be taken to provide basic entrepreneurial training to weavers.

- Efforts should be made to also extend long term investment loans in the sector in form of sales depot, dye houses, godowns for storage of raw material, semi-finished and finished stocks and mobile sales van.
- Clusters can be formed and one bank can lead one cluster. Continuous monitoring of this should be done by the government.

4. Marketing problems:

The weavers are unaware of how to market their products and which group should they target their products towards. They are dependent on traders for this purpose. It is the traders who acts as a middleman and reaps the benefit of asymmetric information between buyer and producer.

Proposed Solutions:

- Marketing of the home furnishing produce is one of the major problems of the weavers. They are exploited by the merchants & commission agents. So, the government should develop and encourage the Home Furnishing Marketing Complexes in which the government should control the pricing policies.
- Programmes should be conducted so that the producers are aware about e-marketplace and the power of the digital world. Technical training in regards, to website creation, securing and completing orders should be given to weavers to reduce the dependence on middlemen. This will also help to secure better prices for their products.
- Local schools, hospitals, Railways, Defence Establishments, hotels etc., should be encouraged to procure bed sheets, curtains, covers towels etc., from power loom sector. Government may think about providing incentive to such institutions for using the items. This would generate large local demand and in turn will generate rural employment.

5. Electricity:

With the shift in power loom from handloom and adoption of complex and modern technology proper and smooth electricity plays an important role. The electricity board should ensure to supply uninterrupted power supply to the handloom & power loom industry. The quality of the supply should also be constant. Because the voltage and frequency variations in Uttar Pradesh are stated to be very grave. The cost of the electric power is high for handloom & power loom industries.

Proposed solutions:

- Considering the predominance of small power loom weavers with weak capital and input capacity, the state government may consider provision of concessional power for small weavers.

- Solar lighting facilities may be installed due ensure reduction in the lighting cost and the state government can take initiative here and can finance the installation costs.

Serial no.	Type of Intervention	Proposed solution	Agency
1.	Technology Upgradation	Awareness and publicity about the government schemes for technology upgradation should be done, technical training should be provided and machinery should be available at subsidized rates	Ministry of Electronics and Information Technology, State government
2.	Infrastructure development	Workers should be given credit to improve their working conditions and minimum wage should be given to them	Ministry of Finance
3.	Financial Assistance	To instill entrepreneurial behavior and increase the scale of operations easy credit is essential	Ministry of Finance
4.	Branding and Marketing	The producers should be trained in marketing their products and creating an online and offline presence.	Ministry of Commerce
5.	Infrastructure Development	Power loom is dependent on smooth electricity for the production and this also acts as a major input cost. Hence cheap electricity and use of solar energy can be explored	State Government, Ministry of Power, Ministry of New and Renewable Energy

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West Khasi Hills Ginger – Meghalaya

Ginger is one of the important cash crops and spices grown in India and in many other tropical and sub-tropical regions of the world. The state of Meghalaya, which is termed as the Scotland of the East, is one of the important states of the North Eastern Region. Ginger is an important cash crop of Meghalaya state which in turn plays an important role in the farmer's economy. Meghalaya is the second largest producer of ginger in the north eastern region.

Problems

1. Low efficiency of hill agriculture

Proposed Intervention

- (a) Improved and innovative technology to enhance productivity.
- (b) Linking farmers with markets for remunerative prices harvest opportunity through niche commodities in the up markets.
- (c) Farming system approach to agriculture by integrating crops, livestock, fishery, forestry and bee-keeping etc. depending on the location specificities.

2. Poor Logistics and Connectivity

Proposed Intervention

- (a) Poor infrastructure in terms of roads and railways are the main constraints in the development of West Garo Hills. Due to hilly terrain, most of the farmers transport their saleable on head loads as the public transport in the region is expensive and mostly inaccessible from the production zones. Proper connected supply chain should be set up along with proper demand forecasting.
- (b) The estimated transportation loss from production zone to distant markets is approximately 15-20 percent and the farmers are able to get the price only for better quality produce.
- (c) Packaging should be focused upon to reduce or eliminate transportation losses.

3. Credit related issues

Proposed Intervention

- (a) The banks do not find it a very encouraging venture and are not sure about the recovery of loans because of the peculiar land tenure system, particularly in the tribal belts. Provision for microfinance should be set up to provide credit to farmer at a suitable rate of interest.
- (b) Subsidies can also be provided in order to help the farmers,

4. Lack of Processing Industries

Proposed Intervention

- (a) In Meghalaya, the success of growing perishables is closely linked to the success of processing units. The processing industry can help in sorting out the problem of proper disposal of perishable commodities. Initiative must be taken to set up cold storage facilities and processing units functioning up to the desired capacity.
- (b) Use of appropriate post-harvest practices is vital for the success of the crops and to provide good return to the growers. Value addition should be given top priority for ginger.

Sr. No	Proposed intervention	Agency
1	Availability of planting material	Ministry of Agriculture
2	Sustainable harvesting and improving quantity and quality of products	Ministry of Food Processing Industries
3	Providing know how support	Ministry of Commerce & Industry
4	Availability of Inputs	Ministry of Agriculture
5	Training facilities and package practises	Ministry of Commerce & Industry
6	Establishing trading centres for Ginger	Ministry of Commerce & Industry / Ministry of Food Processing Industries
7	Reducing intervention of middlemen	Ministry of Commerce & Industry
8	Encouraging farmers for commercial cultivation of Ginger	Ministry of Agriculture
9	Providing proper economic support to farmers	Meghalaya Government
10	Facilitating producers' organisations	Invest India, Ministry of Commerce & Industry

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West Tripura – Finished Bamboo Products

Tripura is home of 21 out of 130 Bamboo species in India. Bamboo plant is interwoven in socio-cultural fabric of the State. Approximately 2.5 lakh families in the state are engrossed in bamboo related vocations. The extent of bamboo bearing area in the forests of the state is 3,246 km². The world bamboo products market is currently worth USD 24 billion/year. In India, 13.47 million tons of bamboo is harvested annually of which 11.7 million tons is utilized industrially. Mainly the products produced are - Bamboo Bottles, Table Tops, Stools, Watch Stand, Religious Statues, Fishing rods, Toys, Trays, Lights, Baskets, Lamps, Curtain Blinds and Wall Hanging Scenery.

Problems

1. Rubber is considered more stable for plantation than bamboo. Recently, many artisans migrated to other occupations.

Proposed Intervention

- a) Promote farmers to grow bamboo and awareness of its benefits e.g. - food, cloth, roofing, biofuel etc.
 - b) Assure them fixed wages.
 - c) Provide formal training to the artisans overall increasing their skill acquisition.
2. Conventional way of production used by artisans and other manufacturers.

Proposed Intervention

- a) Improving overall training mechanism. Artisans should be trained to work on different machines – dyeing, stick making machines, power tools, finishing machines and better packaging.
 - b) Building incubation centers, to let workers innovate better and promote entrepreneurship.
 - c) Setting up more drying/ hot rooms.
3. Bamboo is infected by fungus during monsoon due to damp atmosphere.

Proposed Intervention

- a) Using better quality paints for better life of products.
- b) Improving the quality of bamboo crops for long term benefits.
- c) Training for storage of bamboo products and providing better storage facilities.

1. Price of transportation is high; train transportation is available only to metropolitan cities from Tripura. Also, the packaging of goods is not apt.

Proposed Intervention

- a) Subsidy on transportation for transporting finished bamboo products from Tripura.
 - b) Subsidy on transportation of material used whilst making bamboo products (For example – Copper and steel transported from Moradabad/ Delhi to make Bamboo Bottles)
 - c) Better train connectivity should be proposed to the Central Government.
 - d) Pack the goods in biodegradable packaging and promote the brand names via print on them.
2. Artisans/ Manufacturers of Bamboo Products are not listed on E-commerce portals. Most of the artisans are not formally trained.

Proposed Intervention

- a) Artisans need to be trained or provide account managers for uploading products cumulatively.
 - b) Training artisans related to bamboo products value chain to explain the importance of e-commerce in the current era.
 - c) Onboarding bulk manufacturers on products amazon.in, flipkart.com, tradeindia.com, indiamart etc. which would increase their product reach extensively.
 - d) Extensive promotion of www.vandhantripura.com, an initiative by Government of Tripura for finished bamboo products.
3. Poor waste management and unavailability of drying rooms.

Proposed Intervention

- a) Common hot rooms should be established.
 - b) Waste management training should be provided.
 - c) Machineries related to waste management (processing small pieces to sheet/ big pieces etc) should be done.
4. There are rare exhibitions/trade fairs in the area. Also, the bamboo product artisans have not attended any international bamboo trade fair.

Proposed Intervention

- a) Organising more trade fairs in Tripura region.

- b) Visit to international exhibitions of the manufacturers would broaden their horizons to compete with international enterprises

- 5. There is only one offline store (Tripura Emporium – Connaught Place, New Delhi) to promote and market finished bamboo products by the Central Government

Kommentar [SM1]: which store?

Kommentar [IS2]: have mentioned the store name.

Proposed Intervention

- a) Establishing more stores like Tripura Emporium – New Delhi and extensively advertising about the store.
- b) The spaces outside these stores should be advertised well with screens for a better display.
- c) Increasing reach of the products directly to the consumer.
- d) Regular visits of artisans to these stores for customer to artisan interaction.

- 6. There are very few brands established by Bamboo Product manufacturers.

Proposed Intervention

- a) Training artisans/manufactures to develop Brand Tripura for bamboo products.
- b) It would help them expand brand name over a period of time.
- c) Establishing trademarks for the newly established companies.
- d) Emboss batch code/artisan code on the product manufactured.
- e) Establish more micro enterprises.

Sr. No.	Type of Intervention	Proposed intervention	Agency
1.	Training and Development (Upskilling)	Trainings & Skill Development	Government Of Tripura (Tripura Livelihood Rural Mission, Tripura Bamboo Mission)
2.	Research and Development	Improvising Crop Production	Tripura Rehabilitation Plantation Corporation Limited (TRPC)
3.	Credit Support	Form Formal Micro Enterprises	Ministry of MSME
4.	Credit Support	Subsidy on Transportation	Central Government
5.	Technology upgradation	Innovation of Machinery and Setting Up Incubation Centers	Government Of Tripura with North East Centre for Technology Application and Research (NECTAR)

6.	Branding and Marketing & Credit Support	Promotion & Trade Fairs	MSME and MEA
7.	Certification	Effective Waste Management	Tripura Bamboo Mission
8.	Technology upgradation	Common Facility Centers (CFC'S)/ Clusters	Central Government (NBM)

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Invest India
One District One Product

Cuddalore – Cashew

Cuddalore District is located in the southern Indian state of Tamil Nadu. It is one of the ancient, historic district. Present Cuddalore district was newly bifurcated from South Arcot district on 30th September 1993. The city of Cuddalore is the district headquarters; The district was named after it. In purana this district is described as part of Sri. Rama Khetra. History says in the year 1801 Captain Graham was took charge of the District lying between Palar and Portonovo rivers and become the first Collector South Arcot. Agriculture and industries are main profession of this district peoples. Jackfruits and Cashew nuts are also famous in this district. World famous sugar and chocolates are being manufactured in this district.

In repetitive with lots of cultivators and small traders of cashew which is famous in cuddalore. The problems faced by them are listed below

Problems:

Have spoken with more than 5 Traders and Farmers from Cuddalore District. The Survey from them is They don't have any problem from planting to plugging of Cashews.

There are lot of exporters who are exporting cashews to different countries, So the small traders who do below 10tons they cannot afford so much of land and everything in bulk sizr