

**STUDY ON IDENTIFICATION OF GAPS
IN INFRASTRUCTURE AND PROCESSING FACILITIES
TO DEVELOP POTENTIAL VALUE CHAIN OF AMLA**



NABARD Consultancy Services P. Ltd.
**Registered Office: C/O National Bank for Agriculture and Rural
Development, Head Office, III Floor, C Wing, C-24, G Block, Bandra-Kurla
Complex, Bandra (East), Mumbai**
Tel +91-22-26530037, 26539318, 26539396/ Fax +91-22-26520199
Email id: headoffice@nabcons.in

DISCLAIMER

This document has been prepared by NABARD Consultancy Services (NABCONS) on behalf of Ministry of Food Processing Industries based on the information collected from the Amla clusters in Madhya Pradesh, Tamil Nadu and Uttar Pradesh, various departments of State Governments, NABARD and other stakeholders of Amla value chain. The views expressed in the report are advisory in nature and do not represent or reflect the policy or views of National Bank for Agriculture and Rural Development (NABARD) on the subject. NABCONS / NABARD accepts no financial liability whatsoever to anyone in using this report.

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Team NABCONS

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ABBREVIATIONS

APMC	Agricultural Produce Market Committee
APEDA	Agricultural and Processed Food Products Export Development Authority
BCR	Benefit Cost Ratio
CAGR	Compound Annual Growth Rate
CFB	Corrugated Fibre Board
CSIR	Council of Scientific and Industrial Research
DI	Direct Interview
DMI	Directorate of Marketing and Inspection
FGD	Focus Group Discussions
FPO	Farmers Producer Groups
FSSAI	Food Safety and Standards Authority of India
HLEG	High level Expert Group
ICAR	Indian Council of Agricultural Research
IRR	Internal Rate of Return
KPIs	Key Performance Indicators
KVK	Krishi Vigyan Kendra
MIDC	Maharashtra Industrial Development Centre
MoFPI	Ministry of Food Processing Industries
MSME	Micro, Small & Medium Enterprises
NABCONS	NABARD Consultancy Private Limited
NPOP	National Programme for Organic Production
NPW	Net Present Worth
NRC	National Research Centres
NSSO	National Sample Survey Office
ODOP	One District One Product
PLW	Prader-Labhard-Willi syndrome
SHG	Self Help Groups
SWOT	Strengths, Weaknesses, Opportunities, and Threats
ZECC	Zero Energy Cool Chamber

EXECUTIVE SUMMARY

India is the second largest producer of fruits and vegetables in the world and a leader in the production of several fruits and vegetables. Despite the huge production, horticulture is still beset with many problems including huge harvest and post-harvest losses, lack of product development, issue relating to processable varieties, under developed agri-logistics and non-availability of processing facilities for value addition etc.,

In light of the above, Ministry of Food Processing Industries is implementing Operations Greens scheme with a longterm integrated value chain since November 2018. In line with the budget announcement, MoFPI intends to expand the scope of the scheme to cover 22 perishable commodities. Keeping this in view, MoFPI has bestowed on NABCONS to identify the gaps in infrastructure and processing facilities to develop potential value chain of Amla.

The study team covered 12 prominent Amla clusters spread across 3 states – Madhya Pradesh, Tamil Nadu and Uttar Pradesh. The team interacted with multiple stakeholders such as farmers, traders, owners of primary and secondary processing units, state and district horticultural department officials and state industrial development corporation. Qualitative survey was carried out for the farmers and processing units while quantitative survey was done with the department officials.

Major Findings

- As per the Final advance estimates 2019-20, Department of Agriculture and Farmers Welfare, the production of Amla in India was about 11,64,000 MT in an area of about 97,000 Hectares in the year 2019-20.
- Amla is a winter crop which is sown during the months of April to June across all states. However, the harvesting season varies as per the climatic conditions prevailing in each State
- N-7 and Chakaiya are the most popular varieties of Amla being grown on a high scale in the selected districts of Uttar Pradesh, Madhya Pradesh and Tamil Nadu.
- Amla products are available in different forms, powder, syrups and oils, dried and treated slices, crushed and pasty form (as in Chyawanprash). Amla is also consumed in raw form as a fruit it has medicinal values.

- Amla has a huge demand in both domestic and international markets. India exports a significant amount of Amla and Amla extracts to countries like the US, Japan, Nepal, Bangladesh, Malaysia, Germany and the Netherlands.
- Most of the farmers/growers sell their produce either through trade agents or the contractors at village level who sell to commission agents at the market. Amla is further sold to retailers and finally reaches the consumers.
- Major challenges at the various levels includes the following:
 - Low price realisation by the farmers for the Amla harvested by them
 - Due to lack of access to funds, the processors are not able to expand their processing capacity.
 - Information like source of Amla for procurement and information related to market and demand in both domestic and international markets is not available.
 - There is a lack of awareness among the various stakeholders regarding the benefits of various Central Schemes available for establishing the processing units

Recommendations

As per the study findings, a snapshot of recommendations is provided hereunder.

Proposed Intervention Component	Madhya Pradesh	Tamil Nadu	Uttar Pradesh	Unit cost (Lakh INR)	Total Investment (Lakh INR)
Pre-Production and Production					
Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	50	30	35	0.5	57.5
Promotion and training of GAP	36	31	48	0.5	57.5
Promotion and training on organic certification	36	31	48	0.5	57.5
Sub Total	122	92	131		172.5
Post-Harvest & Value Addition					
Integrated pack house (Private) Capacity - 01 TPD	7	3	8	50.00	900.00
Secondary processing units	5	3	2	31.50	315.00

Proposed Intervention Component	Madhya Pradesh	Tamil Nadu	Uttar Pradesh	Unit cost (Lakh INR)	Total Investment (Lakh INR)
Secondary processing unit for dry amla	1	1		6.50	13.00
Testing units	1	0	1	25.00	50.00
Expansion of units			7	29.00	203.00
Cold store	1		1	50.00	100.00
APEDA certified pack house	1		1	400.00	800.00
Sub Total	16	7	20		2381.00
Logistics Marketing and Brands					
Branding, Digital and Marketing Initiatives	9	6	12	5.00	135.00
Retail outlets in highway and markets	18	12	11	10.00	410.00
Sub Total	27	18	23		545.00
Total	165	117	174		3098.50

Cluster-wise findings and recommendations have been provided in Chapter 6 to 8.

Other general recommendations include

- Setting up of storage infrastructure
- Setting up of organized automatic and semi-automatic primary and secondary processing facilities
- Forward linkage for Amla in the clusters need to be strengthened
- Creation of entrepreneurship interests and skill development of youth for their engagement in Amla processing

Recommendations from Industrial Anchors and state officials

- Subsidy for export of value added amla products and not to fresh amla.
- Support should be given to small industries engaged in drying of amla.
- Cold storage is required to increase the self-life of amla products from four months to one year.
- Amla production is seasonal and amla is available from October to February.
- New cultivators are required so that industry can run throughout the year.
- Industry Anchor has informed that Dabur is coming up with a public education portal for Primary and secondary products of amla.
- Commodities specific portals need to be created for horti produce which can act as a platform to cater the needs of all stakeholders (e.g. www.mofpiamla.com)
- There is a need for subsidy on logistics and subsidy on export of amla products.

CHAPTER 1: INTRODUCTION

Amla or Indian gooseberry is a rich source of vitamin C. It has been given a prominent place in Ayurveda due to its immense health benefits. It has gained quite a number of followers throughout the world in the prevailing COVID-19 pandemic for boosting immunity. Amla, also known as Indian gooseberries are round and bright yellow-green in colour. They are quite sour in taste.

Apart from its medicinal use, it also finds an important place in traditional hair and skin care formulations.

1.1. Amla Production in India

As per NHB statistics, India has produced 1077 thousand MT of Amla in the year 2017-18 which is 3.48 per cent higher than the production in the year 2016-17.

Table 1. 1 Production of Amla in India (000 Tonnes)

2015-16	2016-17	2017-18
972	1075	1077

Major producing states are Uttar Pradesh, Madhya Pradesh, Tamil Nadu, Gujarat, Chhattisgarh, Assam, Bihar and Maharashtra. The details of production in these states in indicated in the table below.

Table 1. 2 State-wise Production of Amla in India (000 Tonnes)

S No	State	Production in Year 2017-18	Share (%)
1	Uttar Pradesh	384.32	35.79
2	Madhya Pradesh	302.18	28.14
3	Tamil Nadu	152.87	14.24
4	Gujarat	81.9	7.63
5	Chhattisgarh	43.29	4.03
6	Assam	17.76	1.65
7	Bihar	14.92	1.39
8	Maharashtra	12.25	1.14
9	Jammu & Kashmir	12.1	1.13

S No	State	Production in Year 2017-18	Share (%)
10	Rajasthan	11.19	1.04
11	Andhra Pradesh	10.76	1.00
12	Haryana	10.75	1.00
13	Punjab	7.7	0.72
14	Nagaland	2.88	0.27
15	Uttarakhand	2.65	0.25
16	Himachal Pradesh	1.97	0.18
17	Jharkhand	1.49	0.14
18	Mizoram	1.32	0.12
19	Telangana	0.71	0.07
20	Karnataka	0.68	0.06
Total		1,073.69	100

(Source: https://agriexchange.apeda.gov.in/India%20Production/India_Productions.aspx?cat=fruit&hscod=1039)

1.2. Production of Amla in the World

Gooseberries are mostly cultivated in Southeast Asian countries such as Indonesia, Philippines, Sri Lanka and Vietnam. A significant portion is also being cultivated in South American countries like Brazil, Papua New Guinea and Mexico. However, Amla or Indian gooseberry is indigenous to Indian sub-continent. India ranks first in the world in area and production of this crop.

The production details of gooseberry in the year 2013 is given in the table below.

Table 1. 3 Amla Production in the World

S. No	Country	Production (in Tons)
1	Indonesia	18,300,000
2	Philippines	15,354,334
3	Brazil	2,890,286
4	Sri Lanka	2,513,000
5	Viet Nam	1,303,826
6	Papua New Guinea	1,207,500

7	Mexico	1,170,988
TOTAL		42,739,934

(Source: <https://www.worldatlas.com/articles/world-leaders-in-gooseberry-production.html>)

1.3. Amla Extract Based Products

Rising health consciousness as well as the growing demand for antioxidant-rich products is expected to increase the growth. Rising awareness regarding numerous benefits of Amla extract to improve body composition, weight loss, metabolism, immune and digestive system, liver and heart health is expected to drive the product demand. The global Amla extract market size was valued at USD 35.39 billion in 2018 and is expected to grow at a CAGR of 4.9% during the period 2019 to 2025.

Rising demand for various Amla extract-based products such as juices, candies, capsules, pickles, shampoos, conditioners and hair oils among others is projected to move the market. The extract is a rich source of vitamin C and carotene and as a result, it can be used for the treatment of various skin and hair problems.

Food and beverage generated a revenue of USD 12.40 billion in 2018. Rise in product innovation to cater to changing consumer demand is projected to fuel the growth. Companies such as Patanjali Ayurved is one of the largest consumer goods providers of various products such as Amla Aloe-Vera Juice with Litchi Flavour, Amla Amrit, Amla Candy, Amla Chatpata Candy, Amla Churna, Natural Amla Juice, Amla Murabba, Amla Pickle, Amla Aloe-Vera with Wheatgrass Juice, Arjun Amla Juice, Giloy Amla Juice, Divya Amla Rasayan, and Karela Amla Juice. In 2018, Amla extract in the form of powder led the global market with a value of USD 22.61 billion.

1.4. Impact of COVID-19 on the Amla market and demand in India and globally

With the outbreak of the COVID-19 pandemic, the world has seen various drastic changes such as nationwide lockdown or the travel ban across the globe. This crisis situation has affected every single domain of society. Due to the pandemic, people have shifted their preference towards natural, nutritious and healthy food products. Many experts and doctors have suggested people to change their dietary pattern. Thus, the demand for nutritious food and immunity boosters has witnessed a huge spike.

Amla extract has a wide range of benefits and is one of the immunities boosting products available in the market. So, people are consuming Amla extract in various forms to boost their immunity and maintain a healthy lifestyle. Hence, the covid-19 pandemic has positively impacted the global Amla extract market and is estimated to continue this upsurge in the coming days.

Based on application, the market is segmented into Food & Beverages, Personal Care & Cosmetics, Pharmaceuticals, Nutraceuticals, and Others. By application, the food & beverage segment dominated the market with the highest revenue share in 2020. It is due to the factors like increasing product innovations to fulfill the shifting demand of the consumer. In addition, the growing global population along with the boosting demand for healthy products is estimated to fuel the growth of the Amla extract market.

CHAPTER 2: APPROACH AND METHODOLOGY

In this chapter, the approach and methodology taken up in the study has been discussed.

2.1. Objectives

MoFPI is implementing the Operation Greens scheme with a long-term integrated value chain component since November 2018 with the objective of to boost value addition in agriculture and allied products and their exports. The scope of Operation Greens Scheme, presently, is applicable to tomatoes, onion and potatoes and it would be enlarged to another 22 perishable products.

In line with the Budget announcement, MoFPI intends to expand the scope of the scheme with more focused approach on value chain development for 22 perishable products. A focused value chain can address the challenges in agri-food sector to a large extent through:

- a) Creating higher levels of processing/ preservation capacity
- b) Reducing agri wastages
- c) Augmenting income of growers/farmers/processors
- d) Creating additional job opportunities and off farm employment
- e) Linking growers/processors to high-end domestic market
- f) Boosting share of agri-food exports and increasing global share of Indian agri-food exports.

2.2. Scope of Work

- i. The study details out production and surplus quantity of produce in the agriculture areas concentrated in the cluster for the agricultural produce for which the value chain being studied.
- ii. Modes of transportation of the produce, details and gaps of such modes of transportation within the district and outside markets.
- iii. Details of primary and secondary processing facilities available in the district
- iv. Details of appropriate testing facilities including standalone testing facility in the cluster or nearby, their utilization and adequacy.

- v. Availability of agricultural markets within the district/ cluster & outside, their utilization for trading of the agricultural produce, adequacy of agri logistic and storage facilities, containers for handling agricultural produce in such markets, etc.
- vi. Support facilities being provided by the State and Central agencies in value chain of the agriculture produce with details of infrastructure and other support being provided.
- vii. Details of FPOs, Cooperatives, SHGs and other groups engaged in various parts/ particulars of the value chain of the agricultural produce, their level of operations, etc.
- viii. Prominent market places in the country and outside where the agriculture produce and processed food products are being transported and details therein.
- ix. Gaps / inadequacy of infrastructure in the entire value chain for the agricultural produce.
- x. Appropriateness of varieties and quality of agriculture produce being grown in the selected cluster for food processing and suggestions for adoption of appropriate varieties.
- xi. Assessment of interest of the industry and trade to make investment in the gaps being identified in the value chain in the cluster.

2.3. Approach and Methodology of the study

a. Approach

The study team adopted multiple approaches to accomplish the objectives of the study. A detailed analysis of value chain of the identified crop was carried out in all the clusters. The step wise approach followed is presented as under:

- i. Analysis of district specific secondary data pertaining to area and production of the perishable commodity carried out to understand trends in production and availability of raw materials.
- ii. Analysis of secondary data on trade of the identified commodity
- iii. The team prepared the questionnaires in consultation with the MoFPI

- iv. The survey team was led by district level coordinators for each crop. A training programme was organized for the field supervisors and enumerators to develop understanding of the entire questionnaires, process of filling the questionnaires, (such as; coding, filling up the codes as per the requirement of questionnaire, etc.), do's and don'ts, triangulation/ validation of numbers, documenting questionnaires and data entry aspects.
- v. The survey was conducted in all districts of the identified clusters under the continuous supervision of and overall guidance of the Team Leader.
- vi. The cleaned and finalized responses were consolidated and data entry was done online through Google Forms.
- vii. The analysis of the data was taken up and report was prepared after analysis.

b. Methodology

The study comprised of both primary and secondary research. The primary research was focused on collection of data from various stakeholders such as farmers, traders, APMC, processing and exporting units located in all districts of the crop cluster.

Secondary research

In depth literature, scanning was carried out to collect both qualitative and quantitative information on the objectives of the assignment. The websites of various agencies relevant to the assignment will be surfed to extract useful information.

Table 2. 1 Secondary Sources of Information

S. No.	Agency	Information	Outcome
1.	State Department of Horticulture	<ul style="list-style-type: none"> • District-wise statistics on area, production and productivity of selected commodity • Post-harvest and marketing infrastructure • Schemes and programmes 	<ul style="list-style-type: none"> • Value chain identification • Cost of production • Identification of stakeholders • Value chain mapping

2.	APMC Markets	<ul style="list-style-type: none"> • Arrival of selected commodity • Prices of selected commodity 	<ul style="list-style-type: none"> • Market infrastructure • Price variation with seasonality
3.	APEDA	<ul style="list-style-type: none"> • Data of exports for the selected commodity 	<ul style="list-style-type: none"> • Assessment of share of exports coming from the sample district
4.	Research Institutes like State Agri University/ KVKs/ ICAR/ CSIR institutes like NRC etc./Previous NABCONS reports	<ul style="list-style-type: none"> • Research articles on value chain • Studies/ reports on value chain analysis of identified crops • On-going research projects • Research mythologies 	<ul style="list-style-type: none"> • Detailed literature review on respective value chains

Primary research

The primary study was carried out to gather first-hand information from various stakeholders involved in production and marketing of the identified crop. The Direct Interview (DI) was conducted using structured questionnaire. The team collected the data from the following data sources.

Table 2. 2 Primary Stakeholders covered in the Study

Stakeholders	Data/information	Key performance indicators (KPIs)
Farmers	Details of land holding	Size of land holding, ownership
	Details of plantation	Area under cultivation, Source of irrigation, type of planting materials, type of orchard, varieties planted, age of trees, average yield

Stakeholders	Data/information	Key performance indicators (KPIs)
	Cost of production	Cost of seeds, irrigation, manure, fertilizer, labour, marketing
	Major constraints in production	Low yield, lack of infrastructure, unseasonal rain, pest attack
	Harvesting and post-harvest management	Activities performed during harvesting stage – sorting, grading, cracking, packing, transporting, marketing
	Price realization	Major buyers, market channel, price realization during lean and peak season
	Schemes and subsidies	Financial support available to growers
Traders	Type of trading activity	Retailer, wholesaler, collectors, agent
	Forward and backward linkage	Number of buyers and sellers
	Seasonality with respect to purchase and selling of the commodity	Identification of Lean and peak season
	Market information	Variety dealt with, quantity handled, purchase price, sales price
	Cost of operating	Transaction cost – loading, storing, packing, transporting
	Challenges	Identification of major constraints – infrastructure, demand, government policy
Processing and Exporting Units	Products handled	Quantity handled and price realization
	Forward and backward linkage	Procurement of the selected commodity, major buyers
	Government support	Scheme and subsidy
	Constraints	Tax structure, infrastructure, high imports

2.4. Sample selection and Size

The list of cluster was given by MoFPI. Purposive sampling technique was used for market functionaries, state and district level officials, processing units. Other stakeholders such as farmers, traders, FPO etc. were selected through snowball sampling technique. Study team conducted 1-2 FGDs in each cluster. Overall, the study team covered 33 stakeholders in each cluster.

CHAPTER 3: PRE AND POST HARVEST MANAGEMENT IN AMLA

A pre-harvest system may be defined as a system of existing technologies for agricultural raw materials production. Thus, the term describes the fundamental technical and economic relations within agriculture. The post-harvest system, on the other hand, is concerned with the post" agricultural agro-industries sphere and includes technologies of storage, transportation, and processing of agricultural raw materials into food products. ¹ In this chapter the pre and post-harvest management of Amla has been discussed.

3.1. Pre-Harvest Management of Amla

3.1.1. Varieties of Amla cultivated

The table below indicates the varieties grown in each of the production states. N-7 and Chakaiya are the most popular varieties grown on a high scale.

Table 2.4.1: Varieties of Amla cultivated across states

State	Varieties grown
Uttar Pradesh	Indra, N-7, Francisi, Lakshmi , N 10 ,Kanchan ,N6, Chakaiya and Hybrid
Madhya Pradesh	NA 7, N-7, Chakaiya, Desi Junglee, Banarasi and Hybrid, Desi Junglee
Tamil Nadu	NA 7, Kanchan, Krishna, Chakaiya, Desi Junglee, Banarasi

3.1.2. Seasonality of Crop

By and large, Amla is a winter crop which is sown during the months of April to June across all states. However, the harvesting season varies as per the climatic conditions prevailing in each State. The table below indicates the seasonality of Amla in each of the three states.

Table 2.4.2: Seasonality of Amla across states:

State	Sowing season	Harvesting Season
Uttar Pradesh	April - June	October to January
Madhya Pradesh		Katni, Chhindwara and Rewa - November to January
		Shahdol - August- September

¹ <https://archive.unu.edu/unupress/food/8F072e/8F072E02.htm>

3.1.3. Land Preparation

Amla plants need sandy loamy to clay type of soil to grow efficiently and strong. Waterlogged, heavy and sandy kind of soils does not support Amla plantation and its growth. Amla can sustain in the drought condition but not in waterlogged. pH ranging from 6.5 to 9 is required to grow Amla plants. Farmers prepare the land by ploughing, harrowing, levelling and removing weeds. They also add zinc to the soil to get rid of the termites.

3.1.4. Sowing, planting and Cultivation

Amla is propagated by budding or softwood grafting. Planting of Amla is mainly done in July-August. Grafted or budded plants are planted 4-5 meter apart under square system of layout during July-August or February.

Pits of 1-1.25 m. size are dug two months prior to planting. In each pit 3-4 baskets of well rotten farmyard manure and 1 kg neem cake or 500 gm bone-meal are mixed with soil and filled in the pits. Gypsum in 5-8 kg along with 20 kg sand is filled in the pit. Intercropping is performed wherein ber, guava and lemon are usually planted in the centre of each square of Amla plants. The square and rectangular planting method is used at the space of 5 x 5m or 5x 6 m.

3.1.5. Climate and Soil requirement

Amla being a sub-tropical crop prefers dry sub-tropical climate. Heavy frost during the winter season is not suitable for its cultivation.

3.1.6. Nutrients Management

A dose of 10 kg farmyard manure, 100 gm N, 50 gm P and 100 gm K is given to one year old plants. This dose is increased on yearly basis up to tenth year and thereafter a constant dose is given. Full dose of farmyard manure and P and half of N and K is given in tree basin during January-February. The remaining is given in the month of August.

3.1.7. Water Management

Right after transplanting, Amla plants are watered and it continues at an interval of 15-20 days in dry summer. No irrigation is required during rainy and winter season. Further irrigation is not provided during the flowering period as well.

3.1.8. Pests and Disease Management

Common pest and disease infecting Amla plants are bark eating caterpillar, shoot gall maker, hairy caterpillar, aphid, mealy bug, plat bug, stone borer, and anthracnose etc. These pest and disease are controlled by using 1 per cent Bordeaux mixture, 0.3 per cent mancozeb, 0.1 per cent carbendazim and 0.3 per cent copper oxychloride.

3.1.9 Cost of Production and net value accruals to producers

The study team discussed the cost of production of Amla in different stages with the growers. **Error! Reference source not found.** 2 indicates the cost of production of Amla a cross years of planting. The plants of less than 03 years of age are considered new plants which do not give fruits. The plants start to bear fruits from fourth year onwards. Therefore, the cost of clearing of lands and planting are only applicable to new plants. Year-wise cost of cultivation is indicated in Table 4.1 for six years.

Table 4. 1 Cost of production (in Rs. /Ha)

Year	Cost	Percentage of Total (%)
1.	75589	42
2.	15978	9
3.	17577	10
4.	20606	11
5.	24245	13
6. onwards	26834	15
Total	180829	100

The cost during the initial year of a plantation was about Rs.75,589 per hectare and this came to about 42 per cent of the total cost of the life period. Total costs are estimated for a period of 06 years per hectare of land under the Amla cultivation. Labour costs include wages paid to labour, imputed wages of family labour and the cost of non-monetary benefits given to

labour. The normal wage rates in the area were Rs. 300 per day. Majority of the farmers cultivate Amla on their own land and therefore, rent for land is not included in the cost of cultivation. The cost of the plant was Rs.120 per plant. A hectare of orchard has, on an average 50 Amla plants.

All orchards had an average productivity of 2500 kg per hectare in the fourth year of the plantation, which shot up to 10000 kg from sixth year onwards. Largely, an Amla plant bears fruits until 70-80 years.

Gross returns from Amla cultivation are also presented in Annexure. On an average, the farms had Rs.37,500 return in fourth year and Rs.1.5 lakh from sixth year onwards.

An analysis of capital productivity for all farms as a whole was done by working out the Benefit Cost Ratio, Net Present Worth, and Internal Rate of Return (IRR) in respect of the sample farms as a whole. The discount rate was 15 percent and details are presented in Annexure. NPW came to about Rs.-(1226) per hectare with a BCR of 1.45. The IRR was found to be 15 per cent.

3.2. Post-Harvest Management of Amla

3.2.1. Amla Processing

Amla products are available in different forms, powder, syrups and oils, dried and treated slices, crushed and pasty form (as in Chyawanprash). Amla is also consumed in raw form as a fruit it has medicinal values as it is considered good for skin, it is good for digestion and offers cure for diabetics in controlling sugar level. Some of its products like Chyawanprash and oils have a fairly large market with well-established companies like Dabur, Zandu, Charak Baidyanath etc. competing to capture larger share of the market. The advertising by these companies have created the requisite consciousness about the product but the prices of these products are sometimes beyond the reach of the common man. A small unit thus catering to its local area and keeping the prices with reach as well as maintaining the purity and quality of the product will be able to survive. The price and the quality are two important factors. There are also small units with limited manufacturing capacity wherein its products are homemade and cater to demand only. The unit can also seek franchise from the reputed

manufacturers to cater to their requirement in the area. The area selection for marketing and its pricing and quality are of utmost importance to capture a market.

Amla processing is a well-established process and in fact it is readily processed in many households. Fresh fully grown Amla is cleaned and washed. They are then cooked in pressure vessels for making pasty products or are sliced and dried in sun to make chewable slices. Once the fruit has been boiled seeds are removed before drying. The fruit is also sometimes crushed to extract its juice. Spices and other ingredients are added. The products are properly packed and dispatched. Know how is available with Central Government research Laboratories. The machinery is all indigenously available.

Amla fruit is highly perishable and has a short shelf life of 5-6 days as fruit is sensitive to bruises, browning, desiccation and various post-harvest diseases. It is available for few months from October-January. Appropriate storage and processing methods can curtail the post-harvest losses to 30% and make the fruit available for longer period. A few post-harvest technologies that exist are complex and are unaffordable to the marginal and small farmers at the farm level. Extension of storage life may be possible by checking the rate of transpiration, respiration and microbial infection. Plant growth regulators, certain chemicals and fungicides play a great part in increasing the storage life. Processing into value added product will not only reduces the post-harvest losses but also provides higher returns to the growers.

3.2.2. Harvesting and Chemical Treatments

There is a linear increase of quality parameters from 35 days old to fully matured fruit (120 days) of Amla and hence, it is ideal to harvest fruits at 120 days after fruit set particularly for processing. Chemical treatments play an important role in increasing the shelf life of Amla.

Pre-harvest sprays (twice) of 1% calcium nitrate+0.1% Topsin-M decreased the weight loss (11.09%) and decay loss (14.43%) and prolonged shelf-life to up to 20 days compared with 10 days in the control at ambient temperature.

Further treatment with Topsin-M and Bayleton controlled *Penicillium oxalicum* for 10 days and *Aspergillus niger* for 20 days and extended shelf life. It was also found that fruits treated with 1.5% CaCl₂ and stored in ZECC (Zero Energy Cool Chamber) recorded least PLW (16%),

spoilage loss (16.5%), respiratory activity (83 mg CO₂ kg⁻¹ h⁻¹) and exhibited 11 days of shelf-life, while untreated (control) had 6 days economic life. It was closely followed by 1% CaCl₂+ZECC treatment.

3.2.3. Post-harvest Treatment

Post-harvest treatment with calcium nitrate (1%) minimized the weight loss during the storage period and no pathological loss was observed with Borax (4%) up to 9 days of storage.

Post-harvest treatment with 6% waxol+1% Ca(NO₃)₂ followed by 6% waxol+400 ppm CCC recorded lower PLW and moisture loss throughout the storage period. The treatment with 6% waxol+0.1% carbendazim was found effective in reducing decay loss. Treatment with 6% waxol+100 ppm GA₃ resulted in maximum retention of ascorbic acid followed by treatment 6% waxol+400 ppm CCC.

Also, some studies have shown to use calcium nitrate (1%), GA (40 ppm), CCC (400 ppm) and kinetin (10 ppm) for experiment. After treatment, they packed fruits in perforated polythene bags and stored at ambient temperature. The PLW and rotting percentage increased with the increase in storage period. It was inferred that calcium nitrate (1%) was the best treatment to minimize the weight loss of fruits. No rotting was observed up to 9 days of storage in kinetin (10 ppm) treated fruits. GA (40 ppm) treatment gave better retention of vitamin C during storage of Amla fruits.

3.2.4. Packaging and Storage

At present, proper packaging is inadequate in case of Amla. Amla fruits can be packed in gunny bags of 50-100 kg capacity. But problem is that the fruits got impact, vibration and compression injuries during transportation in these gunny bags. The corrugated fiber boxes are better as these provide appropriate atmosphere and ventilation inside the box, printable information at low cost and

recyclable also. Newspaper lining should be provided inside the CFB cartons. Minimum spoilage (16.0%) was noticed in corrugated fiber board boxes with newspaper liner package followed by CFB boxes with polythene liner (17.0%), where as it was highest in gunny bag without any liner (30.19%) after 13 days of storage. It was also found that wooden crate with polythene liner is most suitable for packing and long-distance transportation of Amla fruits. Percent weight loss and bruising were minimum in this container as compared to gunny bag. Certain studies observed that packaging of fruits in perforated PE bags had remarkable effect in reducing PLW, retention in moisture and acceptable physio-chemical qualities. The shelf life of Amla fruits was extended up to 15 days at room temperature when fruits were treated with 6% waxol+400 ppm CCC and packed in perforated PE bags. This treatment combination recorded the maximum score for marketability. The physio-chemical changes were faster in untreated fruits (control) packed in nylon net bags.

Amla fruits are highly perishable in nature as its storage life in atmospheric conditions after harvesting is very limited. Storage facilities such as cold storage and controlled/modified atmospheric storage are very expensive and not in the direct reach of poor farmers. It was reported that the decay loss was minimum (26.56%) in modified storage condition on 24th day of storage whereas it was maximum (48.70%) in zero energy cool chamber. The fruits may be kept in cold storage for 7-8 days at 0-2°C and 85-90% relative humidity.

3.2.5. Machinery and Processing

The major primary processing activities taken up sample farmers were collection, cleaning, sorting & grading and packaging. Around 55 per cent of the farmers took up collection, 11.2 per cent took up cleaning, 5.6 per cent of them took up sorting & grading and 12.9 per cent of them took up packaging of Amla.

Major quantity of Amla is used in making Chyawanprash, ayurvedic medicines, cosmetic products and other value-added products like preserve, juice, ready-to-serve drink, sherbet, jam, fruit bar, dehydrated Amla whole or powder, mouth fresheners, etc. Chyawanprash is generally considered as health tonic in all respects whereas ayurvedic products like TRIFALA

is used for constipation and cosmetic products like hair oils or creams are useful for keeping hair and skin healthy respectively. The food products as enlisted are considered healthy and huge source of vitamin C.

Mature Amla fruits are washed thoroughly to remove dirt, dust and unwanted material. Cleaned and washed Amla are cut through a special machine, followed by pulping with filtration post which it is standardized and pasteurized for storage. It is also converted into other value-added food products either by boiling the pulp or by direct cooking of Amla fruits (no pulping) for making products like Amla preserve, candy, pickle or mouth freshener. The pulp or extract is used in making Chyawanprash, juices, ready-to-serve beverages, fruit bar, Amla sauce, cosmetic products, etc.

Processing of Amla in large scale requires processing machinery/equipment's and infrastructure. The main link between the farm produce to consumer for Amla are processors.

Following are the machineries used for processing Amla.

1. Amla washing machine capacity ranges from 500Kg to 2 Tons depend upon the unit size.
2. Amla cutting machine to cut the raw Amla in to pieces the size ranges from 25 kg / hr to customer requirement.
3. Boiler tank to boil Amla variable capacity boilers are available in the market.
4. Boiled Amla breaking machine
5. Amla shredding machine for pulp extraction capacity 250 kg to 1000 kg/hr.
6. Hydraulic juice press
7. Amla Prickling machine
8. Amla Candy processing equipment
9. Boiler
10. Food grad plastic packaging machine

Machinery Suppliers

Various machinery suppliers for the processing machinery are:

- M/S Sujata Enterprises Laxmi Road Pune.
- M/s Techno Equipment, Parekh Street, Girgaon Mumbai.

- M/S Hildon Packaging Machine P. Ltd. 16, MIDC, Chakala Andheri, Mumbai

3.2.6. Post-Harvest management of Amla in cluster

Post-Harvest Management in Tamil Nadu Cluster

- Fresh Amla: Farmers harvest the Amla in their farms. The harvested Amla is either sold at the mandis to the traders or the traders themselves bring their vehicles in the farms itself and aggregate Amla from a number of farmers. These traders then further sell the Amla to different stakeholders such as wholesalers /retailers, exporters and processing units.

Post-Harvest Management in Madhya Pradesh Cluster

- Drying of Amla: The Amla being collected by farmers from the jungles is being cleaned, sorted and boiled. The seeds are removed and then the Amla is dried under the sun. This practice is being followed by the majority of the farmers. This post-harvest practice helps increase the shelf life of the Amla and gives time to the farmer to find suitable buyers.
- Fresh Amla: The availability of fresh Amla in the districts in Madhya Pradesh is limited, as a huge amount of Amla is dried and then further sold in the market. In case of fresh Amla, the Amla is sorted, washed and sold in the local markets.

Post-Harvest Management in Uttar Pradesh Cluster

- Secondary processing Amla: The Amla being collected by farmers is being cleaned, sorted and graded. The Amla is then sold to aggregators so that they are further sold to processing units to make products like murabba, Amla candy, laddu, Amla burfi, pickle, chutney, powder, juice to not only India but exported out to USA and some other countries.
- Fresh Amla: The availability of fresh Amla in the districts in Uttar Pradesh is abundant as Pratapgarh is the hub for Amla farming, a huge amount of Amla is sold in the market which is then picked up by processors. In case of fresh Amla, the Amla is sorted, washed and sold in the local markets.

CHAPTER 4: SUPPLY CHAIN OF AMLA

Amla is found in the winter season in India. The harvesting season starts from October and goes up to December or January, with the south enjoying the longest duration. Once the monsoon season subsides, Amla are found in all the major producing areas. Availability of fresh Amla is found in its peak season. In the other seasons, Amla is available in various other processed forms. The seasonality of the Amla fruit affects the supply chain and the market dynamics.

4.1 Market Demand

Amla has a huge demand in both domestic and international markets. A huge portion of the market demand of Amla is by domestic consumers in the country.

Due to high astringency and high acidity, consumers do not relish the fruits in the raw form. This creates a huge scope for processing of Amla by making a variety of products.

Fresh Amla and the various products of Amla including the extracts are very useful in various food and beverage applications such as nutritional bars, preserve (*murabbas*), pickles, candy, jelly and jam, powder drink mixes, yogurts and dietary supplements. The wide gamut of products indicates the potential for the market.

Use of Amla in the nutraceuticals and the potential for Amla extract as a food ingredient is increasing substantially. Amla is used in the indigenous medicines (Ayurvedic system) viz. *triphala* and *chyawanprash*. The increasing demand for Amla products in the industry is due to the fast-growing global market for nutraceuticals and functional foods on account of increased consumer awareness, increasing health consciousness as well as growing popularity of alternative medicine and herbal products. This is intensifying the requirement of Amla both in domestic and international markets.

Amla applications are not just limited to food application and as nutraceuticals, its extracts have also found applications in skin protection against heavy metals due to its anti-oxidant properties and other cosmetics and pharmaceuticals. Thus, the market for Amla extract is expected to grow at a good CAGR throughout the next decade.

The demand in the international market also supplements the industry. India exports a significant amount of Amla and Amla extracts to countries like the US, Japan, Nepal,

Bangladesh, Malaysia, Germany and the Netherlands. Many pharmaceutical companies and herbal medicine companies are utilising Amla and its extracts to produce a wide range of supplement and herbal products.

The market demand for Amla and its products can be boosted by effective production, processing and targeted marketing. A huge proportion of Amla is exported in the international market. The major countries where India exports its Amla are mentioned below along with the quantities exported in the year 2020:

Country of export	Export Value (USD million \$)	Export Quantity (MT)	Share in Export (in %)
Saudi Arabia	8.70	9270	27.27
United States	5.27	2310	17.29
Netherlands	4.45	3080	14.23
United Kingdom	1.52	998.09	4.67
Belgium	1.28	944.12	4

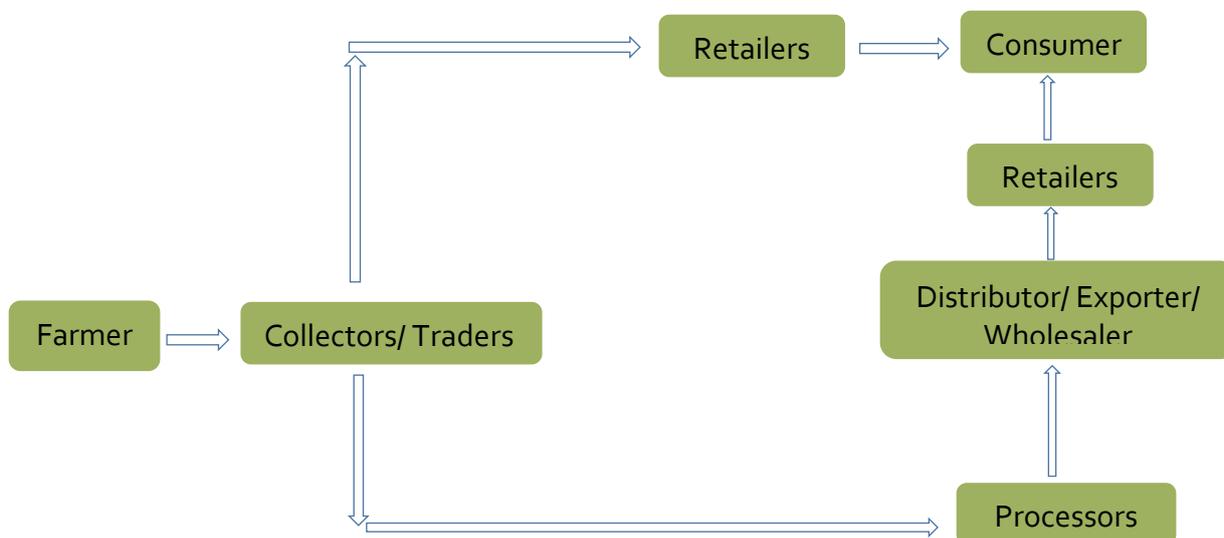
(Source: <https://www.tridge.com/intelligences/indian-gooseberry/IN>)

4.2 Market Arrival and Prices in Major Markets of Identified Clusters

Due to the highly perishable nature of Amla, careful harvesting and post-harvest management is required. A huge amount of Amla fruit is damaged during harvesting which makes them less marketable. Timely harvesting of the Amla is a must as delay in harvesting results in heavy dropping of fruits particularly in cultivars like Banarasi and Francis.

In the selected cluster districts, manual harvesting is done and is preferred to minimize the losses. In some states, such as in the state of Madhya Pradesh, huge amounts of Amla are found in the jungles and the harvesting is done by locals by shaking twigs of the trees. The fruits in that case get damaged when they fall on the ground.

Once the fruit is harvested, the supply chain starting from the farmers till the consumers is shown below:



4.3 Factors Affecting the Price

Amla season is very limited from October to February. So, it becomes important to process maximum quantity during this season and make Amla pulp available for the rest of months to produce value added products. The seasonality has a major impact on the prices of Amla in the market. Various other factors are affecting the prices of the crop:

4.3.1 Locational Effects

The prices of Amla are observed to be much lower in the intermediate mandis/ markets which are located near the production areas. Amla in the local markets are priced much lower than in the far distanced markets (where production of Amla is scarce). Prevailing prices of Amla in the districts range between - Rs 20-40/ kg. However, in the markets away from these clusters, the prices range are higher such in Delhi prices of fresh Amla is between - Rs 40-60/kg while in nearby states of the selected cluster districts the prices range between 25-40/ kg

4.3.2 Quality/ Variety

The variety and the quality of Amla affect its prices in the market. The specific varieties cultivated in the regions which are preferred more by the processors fetch better prices than the local desi varieties.

Another factor influencing the price seems to be the presence of physical impurities or damage in the traded Amla fruits. Due to manual plucking or harvesting, a huge portion of Amla is damaged. In many areas, the twigs of the trees are shaken to harvest the Amla which makes the fruit drop on the ground and damages the surface of the Amla. The damaged portions readily turn into black patches leading to acceptability in the market and ultimately reducing the prices.

4.3.3 Seasonality of Production

There is a definite season for harvesting of mature Amla from the trees from the wild/ jungles as well as from cultivated sources. This seasonality of production results in arrival of the harvested Amla in large quantities in the mandis bringing their prices down often to the lowest level for the year. In many districts of the selected cluster, such as in the districts of Madhya Pradesh, Amla is dried after harvesting. This gives the farmer the time to find the buyer and also the dried Amla fetches better prices. Further, the drying operation results in reduction in weight necessitating raising of prices at the time of forward trading.

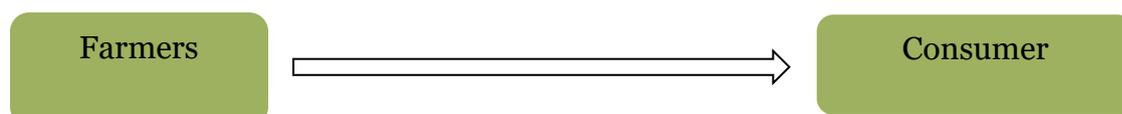
4.3.4 Scale of Production and Bulk Purchase:

Production of Amla, whether obtained from wild or from cultivation, fluctuates from year to year directly impacting their prices. One of the factors for this fluctuation is cited to be climate and another factor for this fluctuation in production seems to be the regulations in place for harvesting from the forests. Also, the prices are influenced by the size of procurement orders.

4.4 Existing Marketing Channels

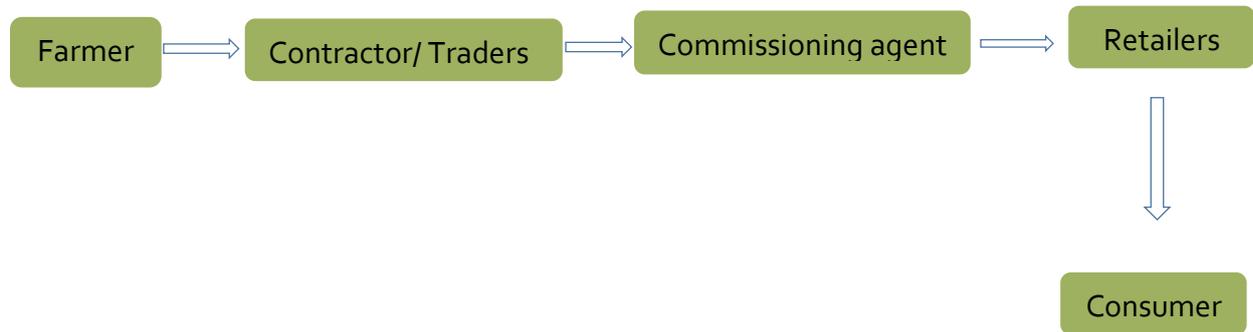
The existing market channels in the selected clusters include the following stakeholders:

Channel I:



- Few small farmers sell directly in the nearby markets to the consumers (direct marketing).

Channel II:



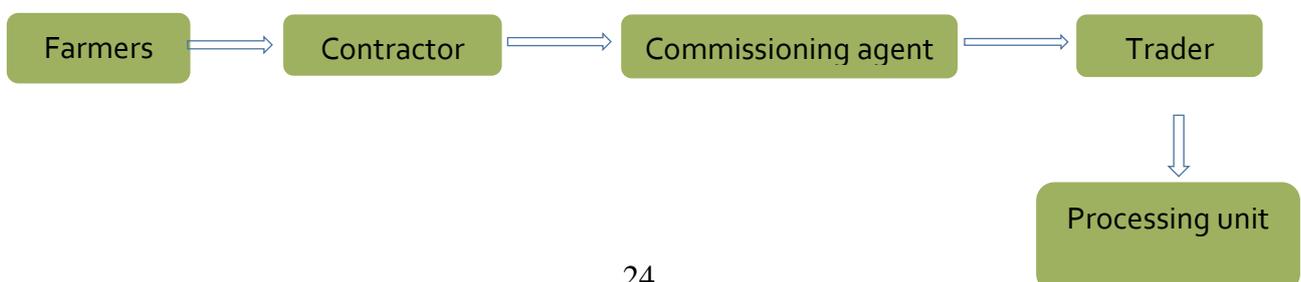
- Most of the farmers/growers sell their produce either through trade agents or the contractors at village level who sell to commission agents at the market. The Amla is further sold to retailers and finally reaches the consumers. This channel is the most used channel in the selected cluster in the 3 states. In this channel traders take advance contracts and harvest Amla employing their own labour.

Channel III:



- Another common channel is selling of Amla by farmers by coming to the mandis and selling it to the commission agents in the mandis. The Amla produce is sold through commission agents to retailers in respective mandis. The produce reaches the consumer through retailers.

Channel IV:



- In the other channel, the farmers sell the Amla fruit to contractors or commission agents which further sell to big traders. The big traders have tie up with the processing units, thus the fruit is then sold to processing units instead of being sold in retail markets. Most of the primary and secondary processing units in the selected cluster districts follow this channel.

These channels have great influence on marketing costs such as transport, commission charges, etc. and market margins received by the intermediaries such as trader, commission agent, wholesaler and retailer. Finally, this decides the price to be paid by the consumer and share of it received by the farmer producer. That channel is considered as good or efficient which makes the produce available to the consumer at the cheapest price and also ensures the highest share to the producer.

4.5 Direct Marketing

Direct marketing is very common in the selected district clusters in Madhya Pradesh, Uttar Pradesh and Tamil Nadu. Direct marketing of Amla is done through different channels, the details of which are given below:

- Direct Selling in local markets to Distant Buyer:** Amla is usually directly sold in local markets to the traders.
In the cluster of districts selected in Madhya Pradesh and Tamil Nadu, the trading takes place in the local markets directly between the farmers and the traders.
- Direct selling in distant markets:** Amla is directly sold in other states/ districts as well. The regional aggregators or the traders sell the produce through the commission agents based out of these markets. The transportation cost till the produce arrives at the commission agents is borne by the aggregator.
- Direct selling to the processors:** In many states, processors directly procure the Amla from the farmers. Many processors in the cluster districts directly procure the Amla from the farmers or a group of farmers or from the aggregators.

4.6 Constraints at Market Level

The fragmented marketing system and lack of infrastructure are the serious constraints and are acting as challenges against effectiveness of Amla marketing. It is essential that the farmers are linked with the markets having state-of-art infrastructure. The availability of logistics, infrastructure and quality maintenance will help facilitate the proper functioning of the effective supply chain.

For example, by improving the rural infrastructure or establishing collection centers to reduce the transaction costs involved in sourcing from small scale farmers.

The various constraints at market level in the cluster districts in the supply chain are as follower:

a) Lack of proper storage facilities- Amla fruits are highly perishable in nature as it's storage in atmospheric conditions after harvesting is very limited. The fruits may be kept in cold storage for 7-8 days at 0-2 degree Celsius and 85- 90% relative humidity. Due to its perishable nature, it is difficult to store or transport Amla fruits over long distances which limits the sale in distant markets. Therefore, due to unavailability of cold storage facilities for Amla, it is immediately sold in the market at the current rates.

The Amla cultivars 'Desi' and 'Banarasi' could be stored for up to twelve days at low temperature (2 °C to 5 °C). Cold storage at 10 °C has been reported as the best storage in terms of the highest marketability and the lowest percentage of damaged fruits, better retention of vitamin C and the lowest physiological loss in weigh

b) Lack of satisfactory transportation infrastructure and packaging materials-

Keeping in view the highly perishable nature of Amla, long distance transportation is not very common in case of fresh Amla. Lack of satisfactory transportation infrastructure affects the market of Amla.



Figure 5. 1 Transport of raw Amla in gunny bags in Chhindwara, Madhya Pradesh

At present, proper packaging is inadequate in the case of Amla. Gunny bags and baskets are common packaging materials for this fruit, in spite of the fact that they have poor dimensional stability and stacking strength. Baskets lined with newspaper (as cushioning material) with 40-45 kg capacity are used. The capacity of gunny bags is 50 kg to 100 kg. In these bags, however, the fruits are injured by impact, vibration and compression during transportation. Significant high losses are found in gunny bags. Corrugated Fibre Board (CFB) boxes are a better way for packaging of Amla with minimum spoilage.

- c) **Lack of proper market in the vicinity:** in the selected clusters of districts in Madhya Pradesh and in few districts of Tamil Nadu, the trading of Amla takes place in local markets and due to lack of proper trading mandis for Amla, farmers are unable to fetch competitive prices.

- d) **High fluctuation in marketing prices:** The fruit availability period of Amla is very short; about 2 to 3 months. Therefore, the prices are very unstable during the whole period for Amla fruit. Prices are relatively low during the peak season. In such a scenario, storage of fruits at an appropriate temperature is essential to extend the availability period and to stabilize the price in the market.

- e) **Other Constraints:** Various other constraints affect the marketing of Amla such as unpopular cooperative marketing system, malpractices of middle men in the supply chain and Lack of scientific knowledge in the market.

CHAPTER 5: VALUE CHAIN ANALYSIS OF AMLA

A value chain is “a *sequence of related business activities (functions) from the provision of specific inputs for a particular product to primary production, transformation, marketing, and up to the final sale of the particular product to consumers (the functional view on a value chain)*” or “*the set of enterprises (operators) performing these functions i.e., producers, processors, traders and distributors of a particular product*”. Enterprises are linked by a series of business transactions in which the product is passed on from primary producers to end consumers. According to the sequence of functions and operators, value chains consist of a series of chain links (or stages)². A value chain encompasses information regarding the flow of products, knowledge and information, finance, payments, and the social capital needed to organize producers and communities. Hence, analysis of a value chain helps in identification of weak points in the chain and actions to add more value. In this chapter, the value chain analysis of Amla in selected clusters in Tamil Nadu, Madhya Pradesh and Uttar Pradesh has been discussed

5.1 Value Chain Mapping

Value chain for crops consists of all the stakeholders who participate in the coordinated production and value-adding activities that are needed to make various products. The value chain of Amla was studied in the selected cluster of districts. The value chain in each state is detailed below:

5.1.1 Value Chain in Uttar Pradesh

Value chain of Amla in the cluster districts of Uttar Pradesh follow 2 different chains. Both the chains are detailed below:

The value chain in the districts of Pratapgarh and Allahabad is very well developed. Farmers in contrast to the general practice of harvesting crops themselves sell their entire orchard (means all the Amla of the trees) to the aggregators. These aggregators then perform the function of harvesting of the Amla and then sell the produce to the wholesalers in the local and APMC mandis within the district as well as to the other districts. Retailers and Processing units then purchase the Amla from these wholesalers.

²ValueLinksManual - The Methodology of Value Chain Promotion, GTZ Eschborn, 2007

Farmers → Aggregators → Market → Wholesalers (at mandi) → Retailers/ Processing Units

↓
Other districts

In the districts of Chitrakoot and Banda, the value chain is very small and not as well developed in comparison to other 2 districts. Similar to the previous value chain, the aggregators purchase the orchard and harvest themselves. These aggregators then directly sell all the produce to the markets of Allahabad.

Farmers → Aggregators → Market of Allahabad

5.1.2 Value Chain in Madhya Pradesh

Value chain of Amla in the cluster districts of Madhya Pradesh follow different chains. The most common chains are detailed below:

- A few small farmers do not have contacts with the traders and the produce is also in small quantities which further limits their trading options. The value chain is very small in such cases. The farmers harvest the Amla/ collect the Amla from the jungles (in case of districts Katni and Chhindwara, where major produce is sourced from jungles) is directly sold in the local village markets by the farmers. The value is not fully developed in the districts

Farmers (Cultivators of Locals collecting Amla from jungles) → Consumers

- In districts such as Rewa, Siddhi and Shahdol, most of the farmers are selling their produce to traders who come to their farms during various stages (from flowering to fruit starts ripening of Amla fruit). Traders with prior experience of procurement from a particular farmer (and expected demand from market) purchase (take on lease) the whole crop. The cost of the Amla is decided at this stage.

Traders from nearby districts such as Nasik and Pune are also procuring Amla from these districts through this channel.

The traders further sell the fruit to the big wholesalers and retailers. The traders can also sell the fruit to distant market retailers.

Farmers → Farm Gate → Traders/ commissioning agents/Wholesaler → Retailers → Consumers

- In all the district, some traders after purchasing the Amla fruit from the farmers, sell it to the processing units in the district or nearby district processing units.

Farmers → Farm Gate → Traders/ commissioning agents/Wholesaler → Processing Unit→ Distributor → Retailer of Processed products → Consumer

- In Katni and Chhindwara districts of Madhya Pradesh, some pre-processing operations such as cleaning, sorting, grading and sun drying are also carried out by farmers.

The farmers then sell the dried Amla to the traders. Due to the highly perishable nature of Amla, farmers are unable to negotiate with the traders and are not able to explore other marketing opportunities. The drying of Amla increases the shelf life of the Amla and also increases the value, this gives time to the farmer to find the trader which offers better prices. The traders further sell this dried Amla to various processing units mainly manufacturing the triphala or Amla powder.

Farmers → Pre-processing (Boiling, seed removal and drying) → Traders/ Commissioning agents/ Wholesaler → Processors

5.1.3 Value Chain in Tamil Nadu

Value chain of Amla in the cluster districts of Tamil Nadu follow different chains. The most common chains are detailed below:

[Farmers \(Amla growers\)](#) → [Farm Gate](#) → [Traders](#) → [Wholesalers and markets](#)

Farmers in the district of Theni after harvesting sell their produce (Amla) at the farm gate to the various traders including wholesalers and small middlemen. These traders then further sell the produce to the markets and wholesalers of other districts and states. Small quantities of Amla are traded to Dindigul and majority to Chennai Markets.

[Farmers \(Amla growers\)](#) → [Traders](#) → [Retailers/ Processing units/ Exporters](#)

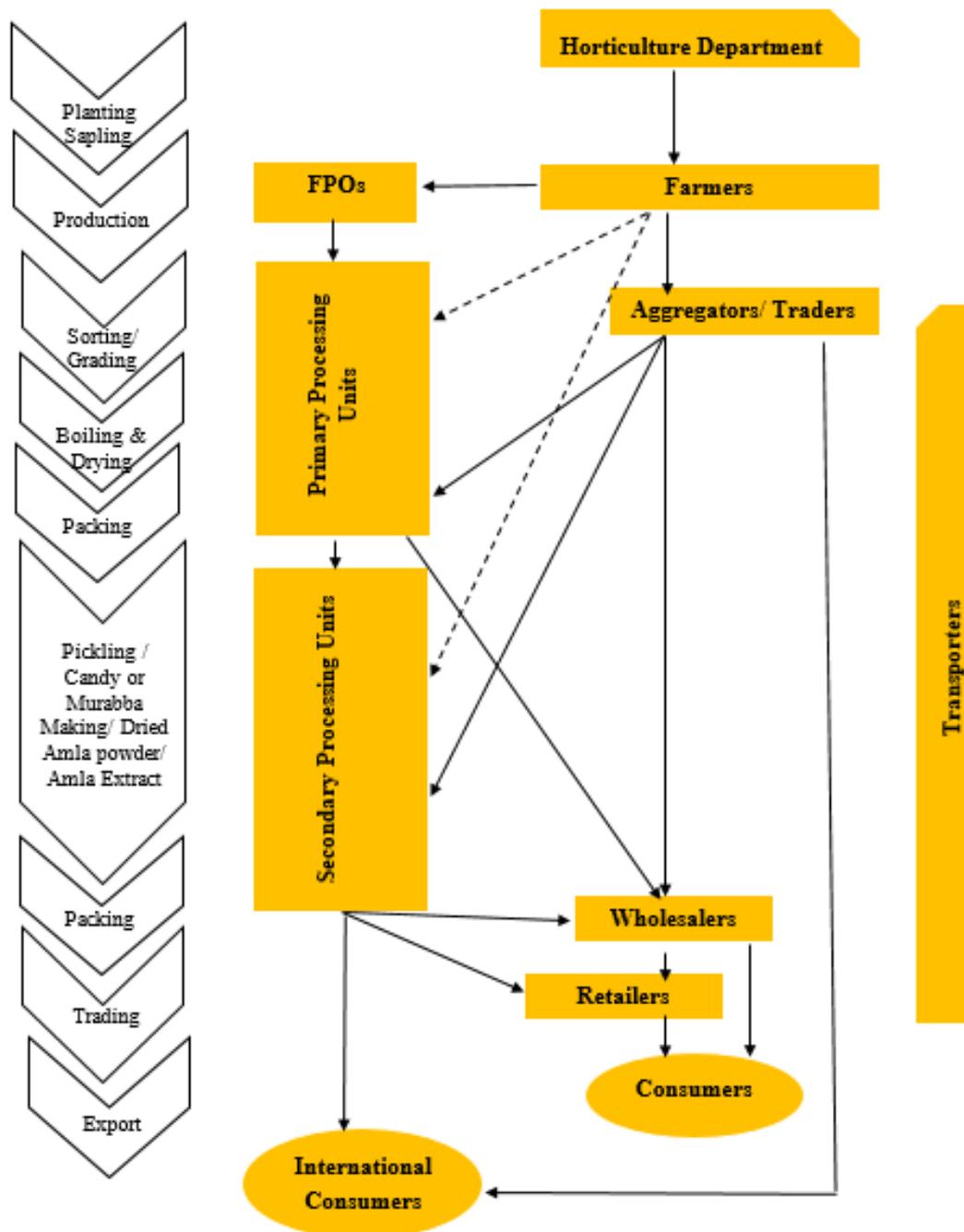
In the district of Tirunelveli, Traders including Wholesalers and aggregators from the field itself aggregates the harvested Amla from multiple farmers by grading the produce on the

basis of size and weight. Traders further sell the Amla to the various retailers, processing units and exporters from the Kerala State.

Farmers (Amla growers) → nearby markets → Traders → Retailers

Amla growers in Tirunelveli district after harvesting performs the operation of grading the produce in 2 grades. Farmers then sell their produce at the nearby market. From these markets, Traders including Commissioning Agents and Wholesalers purchase the Amla and then sell it to retailers within the districts/ other districts and States.

Figure 5.1.1: Typical value chain in 12 Amla clusters



5.2 Actors involved in the Value Chain and their Roles

The value chain of Amla in the selected clusters of districts in states of Uttar Pradesh, Madhya Pradesh and Tamil Nadu involves the following actors.

1. **Farmers-** They are the most important stakeholders as the initiation point of any value chain is farmers. The farmers growing/ planting Amla trees sell Amla to the traders or in some cases farmers directly sell the produce in the local markets. The traders directly contact the farmers at the farm gate. Contract farming is also common in the districts such as Pratapgarh and Allahabad district of Uttar Pradesh. In some districts of Madhya Pradesh (such as Katni and Chhindwara), farmers are also engaged in pre-processing activities such as sorting, grading and drying of Amla. The Amla is boiled, the seeds are removed and then the Amla is dried under the sun.

The major varieties grown by farmers in Uttar Pradesh are Chakaiya and NA 7; in Madhya Pradesh majorly grown as desi jungle variety Varieties, local, Hybrid from nursery, Banarasi, Chakaiya and Naren-7 and in Tamil Nadu the varieties grown are NA 7, Krishna and Kanchan.

2. **FPO/ SHG/ Cooperatives-** In the selected cluster districts various Farmer Producer Organisation, SHG and small groups of farmers are emerging and are engaging in the Amla value chain.

3. **Traders/ middlemen/ wholesalers/ retailers/ commissioning agents-**

The traders/ wholesalers/ commissioning agents are a key link between the farmers and the consumers. In the cluster districts selected for the study, the commissioning agents or traders are key players connecting the farmers to the consumers (retail consumers or the processors). In some districts of UP, contractors take contract of the farm produce for Amla. The harvested Amla is directly sold to the traders. The different channels followed in the marketing are shown in section 6. The traders also supply the raw materials to the primary and secondary processing units.

4. **APMC Mandi/ Local Mandis-** In all the cluster districts selected in the 3 states, the trading of Amla does not take place in the APMC (Agricultural Produce Market Committee) Mandis. In APMC mandis, trading of cereals and major fruits and vegetables takes place. The trading of Amla usually takes place in the local markets.

In many districts, the traders directly contact the farmers at the farm gate and procure the Amla at competitive prices.

5. **Primary Processing Unit-** The primary processing units involve activities such as sorting, grading and packing. Grading of fruits is mostly done based on fruit colour and size and for any damage /injury to the fruit. Generally, damaged and cracked fruits are sorted and rest are packed as a bunch along with twigs and leaves. The type and size of packaging depends on market preferences and availability. As a usual practice, Amla is mostly packed in baskets or gunny bags. Some growers also use cardboard boxes. The required packing material is usually supplied by the traders, except the bamboo baskets which are manufactured locally.

In the selected cluster of districts, there are very few organised primary processing units. The primary processing activities are usually carried out by the farmers or the traders at their level. The details of the primary processing units are given in table ___.

6. **Secondary Processing Unit-** Secondary processing units of Amla manufacture a variety of products such as Amla powder, chyawanprash, triphala, candy, juice, pickles, murabba etc.
7. **Exporting Units-** A huge proportion of Amla is exported in the international market. India exports a significant amount of Amla and Amla extracts to countries like the US, Japan, Nepal, Bangladesh, Malaysia, Germany and the Netherlands. In the selected districts, there are only a few exporting units from where the Amla produced in the districts are exported to various countries. The details are under:
8. **Transporters-** Transporters/ transporting agencies are one of the value players in the value chain of Amla. They are involved in transportation of raw Amla from farms/ port or dried Amla from primary processors or farmers to the secondary processing units as well as transportation of processed Amla products from the processing units to domestic markets/ ports for export. Only tempo and trucks are used for transporting Amla within the district and for inter district/state. Reefer vans and Trains are not being utilized for transportation of Amla.

The usual capacity of the tempo for transportation is 2-3 MT and for trucks it is about 25 MT. Usual distance of about 200-500 km is covered in a single transit (24- 48 hrs) by the transporters for Amla movement. In some cases of transportation to far states, a distance of 800- 1000km is also covered by trucks carrying Amla products.

9. **Testing lab-** To meet the standards of quality, Amla products are tested for various quality parameters. The testing is carried out in the government laboratories. There are private laboratories as well. However, in the selected districts of Madhya Pradesh, no testing laboratories were found for testing of Amla products. The secondary processing units have their in-house laboratories as per FSSAI compliances.

In the selected districts of Tamil Nadu, AGMARK laboratories for testing of Amla products are present in Theni and Tirunelveli district and FSSAI lab is also available in the district

10. **Storage Units-** Due to the highly perishable nature of Amla, its storage in atmospheric conditions after harvesting is very limited. The fruits may be kept in cold storage for 7-8 days at 0-2 degree Celsius and 85- 90% relative humidity. It was observed that Amla is stored at ambient temperature in most of the district and cold storages are available in few districts such as Theni and Tirunelveli districts of Tamil Nadu.
11. **Certification Centers-** Certification centres are involved in analysing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected districts, there were no certification centers for the Amla products.
12. **NGO-** Non-Governmental Organizations working are actively involved in development of various sectors. In the Amla value chain also, various NGOs are supplementing the existing chain by providing various inputs such as spreading awareness regarding potential of Amla, awareness regarding various value-added products of Amla, supporting farmers and groups in starting various economic activities (primary processing units or pack houses etc.). The NGOs working in this sector were interviewed in the selected cluster of districts in the 3 states.

13. **District Horticulture Officer-** District Horticulture Department is the facilitator for implementation of various horticulture programs and schemes. They play a key role in upgradation and development of the horticulture sector in the district. In the selected districts, all the District Horticulture Officers gave insights on the value of Amla in the districts. In the districts, the Horticulture Department is motivating farmers for MIDH, RKVY, Drip irrigation, Plastics mulches, green houses and shade net houses etc. Various plantation drives for Amla have also been undertaken by the Horticulture Department in the districts. In addition, it was observed that in the districts of Katni and Chhindwara, Amla crops are predominantly procured from jungles and therefore, the Forest Department of the districts are actively involved in the Amla chain in the districts.

CHAPTER 6: AMLA CLUSTERS IN UTTAR PRADESH

6.1 Pratapgarh



The Pratapgarh district is one of the districts of Uttar Pradesh state of India, and Pratapgarh city is the district headquarters. Pratapgarh district is a part of Allahabad division. The total area of Pratapgarh district is 3730 Sq. Km. According to the 2011 census Pratapgarh district, Uttar Pradesh had a population of 3,209,141.

6.1.1 Production and Marketable surplus

Pratapgarh alone grows 80% of the state's Amla production. The details of area and production of Amla is given in the table below.

Table 6.1.1: Area and production of Amla in Pratapgarh

2018-19	
Area (Ha)	Production (MT)
17181	188303

Source: State Horticulture Department

As per field data, farmers in Pratapgarh keep 1.14% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 6.1.2: Quantity of Production, Self-use and Sale of Amla in Pratapgarh (MT)

Quantity of raw Amla produced in 2018-19	Average quantity of Amla kept for self-use	Marketable surplus
188303	2149.50	186153.50

6.1.2 Storage facilities

Cold Stores/ Godowns are not being used for storage of fresh Amla in the district but godowns are used for storage of both fresh and processed amla. After harvesting fresh Amla is sold in the local market to the traders or directly to processors. Traders are directly buying from the farmers where they are able to procure fresh Amla and then the same is being supplied to processing units.

There are integrated cold storages available which are linked to the secondary processing units which are used to store only Amla pulp. The pulp is further used to prepare Chyawanprash and juice, candy, pickles and murabba. Although there are multiple cold stores located in Pratapgarh, however there are no such cold stores which have Amla related items.

For transit purpose, dried Amla is stored at various godowns located in Pratapgarh district. As per the primary research conducted in the district, around 390 MT of dried Amla was stored in the godowns for the year 2019-20 for an average six months.

6.1.3 Modes of transportation

Only tempo and trucks are used for transporting Amla within the district and for inter district/state. Reefer vans and Trains are not being utilised for transportation of Amla. The products are being exported outside the country but the same is first transported by road to the export hubs and then exported further. No reefer containers for movement. Plastic crates are used for transportation of Amla in the Tempo. Also gunny bags are used for short distance transportation.

6.1.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1	Indica	Automated	Proprietorship	2	Sorting, grading, packing	2	9
2	Shivam	Manual	Proprietorship	1	Sorting, grading, packing	2	17
3	Omprakash	Manual	Private	1	Washing, sorting, grading, packing	7	13

6.1.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Markets
1.	Puspanjali	Small	3	Murabba, candy	Puspanjali	Delhi, NCR, Lucknow, Kanpur
2.	Khandewal food product	Micro	1.5	Murabba, candy	Khandewal	50% domestic 50% export to Bangladesh and USA
3.	Harsh food product	Micro	1	Amla Laddu, Murabba	Harsh	Delhi, NCR, Lucknow, Kanpur
4.	Kishori food Production	Micro	1	Amla Laddu, Murabba	Kishori	Delhi, NCR, Lucknow, Kanpur
5.	Maharaja food product	Micro	0.2	Amla Murabba, Amla barfi	Maharaja	Delhi, NCR, Lucknow, Kanpur
6.	Maya Industry	Micro	1	Murabba, candy	Maya	Delhi, NCR, Lucknow, Kanpur
7.	Ravi Food product	Micro	0.15	Murabba, candy	Ravi	Delhi, NCR, Lucknow, Kanpur

8.	SDM Foods	Micro	1	Murabba, candy	SDM	Delhi, NCR, Lucknow, Kanpur
9.	Satkar Food products	Micro	0.7	Murabba, Amla powder	Satkar	Delhi, NCR, Lucknow, Kanpur
10.	Sri ram Gram Udyod	Micro	0.25	Murabba	Sri ram	Delhi, NCR, Lucknow, Kanpur
11.	Shubham food product	Micro	0.2	Murabba, candy	Shubham	Delhi, NCR, Lucknow, Kanpur
12.	Ambika food product	Micro	1	Murabba	Ambika	Delhi, NCR, Lucknow, Kanpur
13.	Aadarsh food product	Micro	0.2	Murabba	Aadarsh	Delhi, NCR, Lucknow, Kanpur
14.	Anand Gram Udyog	Micro	0.2	Murabba, candy	Anand	Delhi, NCR, Lucknow, Kanpur
15.	Jagriti food product	Micro	0.3	Murabba, candy, pickle	Jagriti	Delhi, NCR, Lucknow, Kanpur
16.	JP Food product	Micro	0.5	Murabba	JP Food	Delhi, NCR, Lucknow, Kanpur

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Pickle	125.00
2.	Amla Juice	6.50
3.	Amla powder	1.80
4.	Amla laddoo	33.00
5.	Murabba	501.60
6.	Candy	202.95
7.	Amla Barfi	18.40

6.1.6 Testing facilities and certification centers

Certification centres are involved in analysing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers and testing labs for the Amla products.

6.1.7 Agricultural markets

There is only one mandi where Amla gets traded. From the primary data, around 90,000 MT of Amla was arrived at Mahila Mandi Pratapgarh.

6.1.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed by FPO	Quantity procured (MT)	Items	Market
1	Aashreya FPC	FPC	Primary Secondary processing	7-8	Juice – 6000 litre Murabba – 0.5 MT	Delhi, Faizabad, Lucknow

6.1.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Pre-Product ion and Product ion (under convergence involvin g MoA, SAUs & other institute s)	Limited number of Farmer Producer Organisations (FPOs) or Self help groups (SHGs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (two per block in 5 blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. 1. FPO- Ashray Farmer Producer Company Limited 2. SHG- Rajiv Gandhi Ganga Mahila Samooh
	GAP certification	Promotion and training of GAP	17 programs (one per block in all 17 blocks)	0.50	8.50	MoA (Scheme)	Proposed GAP certification programs for progressive / willing farmers in all blocks

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
	Organic certification	Promotion and training on organic certification	17 programs (one per block in all 17 blocks)	0.50	8.50	MoA (Scheme)	Farmers are following organic cultivation in Pratapgarh district but some amla farms are certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, storage and packing)	Integrated pack house in 4 blocks to facilitate the supply chain of Amla	4 (1 TPD handling capacity)	50	200	MOFPI	As per the field discussions and keeping in view the production of amla in the district, there is a requirement for pack house in at least 4 blocks of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The proposed units requires an investment of Rs 50 lakh each, as per MoFPI cost norms.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
	Secondary products (Pickle, moraba and candy production units)	Expansion of units	4 processing units (varying capacity)	29	116	MOFPI	No scope for processing as already a lot of units are present in Pratapgarh. Amla is also the ODOP, thus new units are sponsored through that scheme. Instead of new units, expansion of existing units is proposed. A new line for candy, murabba, juice, pickle can be installed for increased capacity for various units. The units that have shown interest are given below: 1. Satkar food product Ghode Pratapgarh 2. Jagriti food product khambhar Tala Pratapgarh http://odopup.in/en/article/Pratabgarh (as per MoFPI cost norms)
	Storage of Pulp (Secondary form)	Cold Store	1 (416 MT Capacity)	50	50	MoFPI	Cold store for Amla products to extend shelf life. Cold storage capacity is required to be increase the self-life from 4 months to 12 months. Amla is available from October to Feb only, new cultivators are required so that industry can run round the year. Structure PEB

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
	Testing of raw material & finished products	Right now integrated with the secondary units. For smaller units, no testing is done	Basic testing facility	25	25		No testing lab in the district or in nearby district for raw material and finished goods testing. One unit in the cluster is proposed for the existing and proposed units' product testing. The testing unit can be utilised for testing of other commodities as well. Taking the cost of basic equipment required for testing of commodities, an investment of Rs 25 Lakh is proposed.
	Lack of export promotion infrastructure	APEDA certified packhouse	1 (70 MT capacity)	400	400	APEDA	As per the list of APEDA certified packhouses for July 2021, there are no APEDA certified packhouses in the district or nearby. (https://apeda.gov.in/apedawebsite/Announcements/Active_Pack_House_list_updated_July_2021.pdf) Thus, one packhouse can be set up catering to the other nearby districts also. As of now, individual traders are sending their products to Kolkata and the produce is then exported from there. As per the link given, a typical packhouse with 60 MT storage and 10 MT pre cooler costs around Rs 3.9 cr. On the same basis, a packhouse to promote export of fruits and vegetables including amla is proposed for Rs 4 cr. http://apeda.gov.in/apedawebsite/Latest_initiatives/Infrastructure_Development.htm

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	4 individual brands for respective units	4	20		The units surveyed expressed interest in the help for better branding and marketing.
	Retail outlet to market amla and amla products	Retail outlets in highway and markets	2 outlets for 2 units	10	40	MOFPI	Secondary processing units are willing to establish a chain of retail units especially in the highways and market places. 1. Harsh Food Products 2. Kishori Food Products
Total					873.00		

6.2 Chitrakoot



Chitrakoot is well known for its beautiful hill ranges, historical caves, perennial streams and varied flora and fauna. Presently, 84 species of plants are being used as an ethno medicine on different diseases (pyretics, skin, diabetes, ulcer, gastrointestinal, diarrhoea and dysentery) by the tribal and rural peoples of study area.³ The medicinal plants also include Amla which is grown in a prevalent manner.

6.2.1 Production and marketable surplus

Table 6.2.1: Area and production of Amla in Chitrakoot

2018-19	
Area (Ha)	Production (ooo' MT)
347	3760

Source: State Horticulture Department

Average price received by farmers was Rs.1200 per quintal. As per field data, farmers in Chitrakoot keep 1.80% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

³ Source -

https://www.researchgate.net/publication/280976779_Study_on_some_medicinal_plants_used_by_the_tribal_and_rural_people_of_Chitrakoot_Satna_District_Madhya_Pradesh_India

Table 6.2.2: Quantity of Production, Self-use and Sale of Amla in Chitrakoot (MT)

Average quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
3760	67.54	3692.45

6.2.2 Storage facilities

Cold Stores/ Godowns are not being used for storage of fresh Amla in the district. After harvesting fresh Amla is sold in the local market to the traders or directly to processors. Some processors also have their own Amla cultivation. Traders are directly buying from the farmers where they are able to procure fresh Amla and then the same is being supplied to processing units.

Processed Amla items are also not stored in either of cold stores or godowns.

6.2.3 Modes of transportation

Only tempo and trucks are used for transporting Amla within the district and for inter district/state. Reefer vans and Trains are not being utilised for transportation of Amla. The products are being exported outside the country but the same is first transported by road to the export hubs and then exported further. No reefer containers for movement. Plastic crates are used for transportation of Amla in the Tempo. Also gunny bags are used for short distance transportation.

6.2.4 Primary Processing activities

There is no standalone primary processing activities present in the district. All primary processing activities is being undertaken by the secondary processing units located in the district.

6.2.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Markets
1.	Chitrakoot Organic	Micro	0.05	Murabba, Dried	Chitrakoot Organic	Delhi, Lucknow

				Amla, candy, Amla powder		
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Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Amla powder	0.5
2.	Murabba	3.5
3.	Candy	0.5

6.2.6 Testing facilities and certification centers

Certification centres are involved in analysing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers and testing labs for the Amla products

6.2.7 Agricultural markets

Amla does not get traded in any of the Chitrakoot APMCs. Traders procure Amla directly from the farmers at farm level only.

6.2.8 Details of FPO/SHG

There is no FPO or cooperative in the cluster which deals either in cultivation or processing of Amla.

6.2.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) or Self help groups (SHGs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in all 5 Blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. No existing FPO in the district for amla.
	GAP certification	Promotion and training of GAP	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	Proposed GAP certification programs for progressive / willing farmers in all blocks
	Organic certification	Promotion and training on organic certification	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	Farmers are following organic cultivation in Prayagraj district but are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, storage and packing)	Integrated pack house in 1 block to facilitate the supply chain of Amla	1 (1 TPD handling capacity)	50	50	MOFPI	As per the field discussions and keeping in view the production of amla in the district, there is a requirement for pack house in 1 block of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
							especially in the off season of amla. The proposed unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	New organised unit to be established	One (0.5 TPD)	31.5	31.5	MOFPI	Unorganised Pickle, moraba and candy production unit is in district, which can be brought to the organised sector. (as per MoFPI cost norms)
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	1 processing unit	5	5		The unit proposed will need support for better branding and marketing.
	Retail outlet to market amla and amla products	Retail outlets in highway and markets	2 outlets in district	10	20	MOFPI	Retail units can be set up in strategic positions to facilitate the market
Total					116.50		

6.3 Banda



6.3.1 Production and marketable surplus

Table 6.3.1: Area and production of Amla in Banda

2018-19	
Area (Ha)	Production (ooo' MT)
338	3658

Source: State Horticulture Department

As per field data, farmers in Banda keep 0.52% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 6.3.2: Quantity of Production, Self-use and Sale of Amla in Banda (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
3658	19.05	3638.9

6.3.2 Storage facilities

Cold Stores/ Godowns are not being used for storage of fresh Amla in the district. After harvesting fresh Amla is sold in the local market to the traders or directly to processors. Some processors also have their own Amla cultivation. Traders are directly buying from the farmers where they are able to procure fresh Amla and then the same is being supplied to processing units.

Processed Amla items are also not stored in either of cold stores or godowns.

6.3.3 Modes of transportation

Only tempo and trucks are used for transporting Amla within the district and for inter district/state. Reefer vans and Trains are not being utilised for transportation of Amla. The products are being exported outside the country but the same is first transported by road to the export hubs and then exported further. No reefer

containers for movement. Plastic crates are used for transportation of Amla in the Tempo. Also gunny bags are used for short distance transportation.

6.3.4 Primary Processing activities

There is no standalone primary processing activities present in the district. Currently at the household level, primary processing is carried out to prepare pickles and Murabba for local consumption. All other primary processing activities is being undertaken by the secondary processing units located in the district.

6.3.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Markets
1.	Gaon Grih Udyog	Micro	4	Honey Amla, candy, Amla powder, chyawanprash, pickle	Madhu Amla, Gaon Grih	B2B

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Amla powder	0.5
2.	Madhu Amla	4
3.	Candy	4
4.	Chyawanprash	3
5.	Pickle	1

6.3.6 Testing facilities and certification centers

Certification centres are involved in analysing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers and testing labs for the Amla products

6.3.7 Agricultural markets

Amla does not get traded in any of the Banda APMCs. Traders procure Amla directly from the farmers at farm level only

6.3.8 Details of FPO/SHG

There is no FPO or cooperative in the cluster which deals either in cultivation or processing of Amla.

6.3.9 Proposed investments

Value Chain Activity+A1:H10	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre- Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	9 programs (one per block in all three blocks)	0.50	4.50	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	3 programs (one per block in all three blocks)	0.50	1.50	MoA (Scheme)	8 to 9% of farmers are availing certification. Hence, proposed GAP certification programs for progressive / willing farmers.
	Organic certification	Promotion and training on organic certification	3 programs (one per block in all three blocks)	0.50	1.50	MoA (Scheme)	Farmers are following organic cultivation in Banda district but amla farms are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.

Value Chain Activity+A1:H10	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Post-harvest Management and Value Addition	Primary processing (Cleaning, sorting, grading)	Integrated pack house (Private)	One (1 MT)	50	50	MOFPI	As per the field discussions and keeping in view the production of amla in the district, there is a requirement for pack house in 1 block of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The proposed unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	Small units	One (1 MT)	31.5	31.5	MOFPI	One Pickle, moraba and candy production unit proposed in the district (as per MoFPI cost norms)
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	1	5	5		The unit proposed will need support for better branding and marketing.
	Retail outlet to market amla and amla products	Retail outlets in highway and markets	3	10	30	MOFPI	Secondary processing units are willing to establish a chain of retail units especially in the highways and market places in Banda and Kanpur districts.
Total					124.00		

6.4 Prayagraj



Prayagraj is known for its horticultural production of Amla production. L-49 and Allahabadi Safeda varieties of guava and Narendra-5 and Narendra-7 varieties of Indian gooseberry (amla) through organic farming. The details of area and production of Amla is indicated in the table below.

6.4.1 Production and marketable surplus

Table 6.4.1: Area and production of Amla in Prayagraj

2018-19	
Area (Ha)	Production (ooo' MT)
3058	33525

Source: State Horticulture Department

As per field data, farmers in Prayagraj keep 0.11% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 6.4.2: Quantity of Production, Self-use and Sale of Amla in Prayagraj (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
33525	36.03	33488.9

6.4.2 Storage facilities

Cold Stores/ Godowns are not being used for storage of fresh Amla in the district. However the godowns are being used for transit storage of fresh amla and amla products. After harvesting fresh Amla is sold in the local market to the traders or directly to processors. Some processors also have their own Amla cultivation. Traders are directly buying from the farmers where they are able to procure fresh Amla and then the same is being supplied to processing units.

6.4.3 Modes of transportation

Only tempo and trucks are used for transporting Amla within the district and for inter district/state. Although some Reefer vans are used for transportation but not frequently while the trains are not being utilised for transportation of Amla. The products are being exported outside the country but the same is first transported by road to the export hubs and then exported further. Plastic crates are used for transportation of Amla in the Tempo. Also gunny bags are used for short distance transportation

6.4.4 Primary Processing activities

There is no standalone primary processing activities present in the district. All primary processing activities is being undertaken by the secondary processing units located in the district.

6.4.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Market
1.	Raj Herbal center	Micro	0.5	Murabba, candy, chutney		Domestic, Sold to retailers and wholesalers
2.	Rahul gram udyog	Micro	0.4	Murabba, laddoo		

3.	Gaytri matka Achar	Micro	0.5	Murabba, pickle	Gaytri matka Achar	
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Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Pickle	0.6
2.	Amla laddoo	0.3
3.	Murrabba	2.57
4.	Candy	1.11
5.	Chutney	0.17

6.4.6 Testing facilities and certification centers

Certification centres are involved in analysing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers and testing labs for the Amla products

6.4.7 Agricultural markets

There are two APMCs where Amla gets traded. From the primary data, around 20,430 MT of Amla was arrived at Mundra APMC and Jasra APMC.

6.4.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed by FPO	Quantity procured annually (MT)	Items
1	Korapur organic products company	FPO	1. Primary processing 2. Selling of Fresh Amla to Allahabad canning Ltd and Purva Pvt. Ltd. 3. Secondary processing	2 (Primary) 7-8 (Secondary)	Shivan chyawanprash, Murabba, candy and pickle Annual production – 10 MT

2	Rajlaxmi SHG	SHG	Secondary processing	3-4	Murabba, Laddoo
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6.4.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) or Self help groups (SHGs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	6 programs (two per block in 3 blocks)	0.50	3.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. 1. Dharavats bio energy producer company 2. Raj laxmi SHG 3. Jodhapur organic products producer company
	GAP certification	Promotion and training of GAP	23 programs (one per block in all 23 blocks)	0.50	11.50	MoA (Scheme)	Proposed GAP certification programs for progressive / willing farmers in all blocks
	Organic certification	Promotion and training on organic certification	23 programs (one per block in all 23 blocks)	0.50	11.50	MoA (Scheme)	Farmers are following organic cultivation in Prayagraj district but are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, storage and packing)	Integrated pack house in 2 blocks to facilitate the supply chain of Amla	2 (1 TPD handling capacity)	50	100	MOFPI	As per the field discussions and keeping in view the production of amla in the district, there is a requirement for pack house in at least 2 blocks of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The proposed units requires an investment of Rs 50 lakh each as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	Expansion of units	3 processing units (varying capacity)	29	87	MOFPI	No scope for processing as already 10-12 units are present in Prayagraj. Instead of new units, expansion of existing units is proposed. A new line for candy, murabba, juice, pickle can be installed for increased capacity. The units that have shown interest for expanding their units are: 1.Raj Harbal center, Prayagraj 2.Gayti matka Achar, Prayagraj (as per MoFPI cost norms)
Logistics, Marketing	Limited branding	Branding, Digital and Marketing Initiatives	6 processing units	5	30		The units surveyed expressed interest in the help for better branding and marketing.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
and Branding	Retail outlet to market amla and amla products	Retail outlets in highway and markets	2 outlets for 1 unit	10	20	MOFPI	Secondary processing units are willing to establish a chain of retail units especially in the highways and market places. Only one unit has an existing retail chain, one more unit (Gayti matka Achar, Prayagraj) has expressed interest in setting up retail outlets.
Total					263.00		

CHAPTER 07: AMLA CLUSTERS IN MADHYA PRADESH

7.1 Katni



The details of Amla cultivation in the Katni district of Madhya Pradesh is mentioned subsequently.

7.1.1 Production and marketable surplus

Table 7.1.1: Area and production of Amla in Katni

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
1848.5	40851.85	1849	40862.9	1849.1	40865.11

Source: State Horticulture Department

As per field data, farmers in Katni keep 1.17% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 7.1.2: Quantity of Production, Self-use and Sale of Amla in Katni (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
40865.11	478.54	40386.56

7.1.2 Storage facilities

Cold Stores/ Godowns are available in the district but not being used for storage of Amla. Traders are directly buying from the farmers and then are selling to secondary processing units. During this portion of the supply chain, fresh Amla is stored at room temperature.

However, a few processed Amla products are stored in cold storages at the processor level only.

7.1.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

7.1.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	Virendra Jain (local processor, no brand name)	Manual	Private	2	Grading, sorting	1	

7.1.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Market
1.	Dabur India Ltd.	Large	Yet to be indicated	Chyawanprash,, Amla powder, juice	Dabur	Domestic and Export
2.	Durga Maa Mahila Grih Udyog	Small	1.2	Murrabba, Candy, Juice	B2B (30 MT candy per month)	Patanjali

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Amla Juice	50
2.	Murrabba	100
3.	Candy	50

7.1.6 Testing facilities and certification centers

No testing laboratories were found for testing of Amla products. The secondary processing units have their in-house laboratories as per FSSAI compliances.

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

7.1.7 Agricultural markets

Amla does not get traded in any of the Katni APMCs. Traders procure Amla directly from the farmers at farm level only

7.1.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed by FPO	Quantity procured annually (MT)	Items
1	Alternative livelihood in Village Entrepreneurship	FPO/NGO	Collection centre - They collect dried forest Amla brought by the farmers and they sell it to Dabur	20 at 125/kg	Loose

7.1.9 Proposed Investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in 5 Blocks)	0.50	5.00	MoA (Scheme)	Existing one FPO in the district (Tehsil Badwara)- Alternative Livelihood in Village entrepreneurship Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	6 programs (one per block in all six blocks)	0.50	3.00	MoA (Scheme)	No farmers are GAP certified. Hence, proposed GAP certification programs for progressive / willing farmers in all the blocks

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh)	Ministry	Remarks
	Organic certification	Promotion and training on organic certification	6 programs (one per block in all six blocks)	0.50	3.00	MoA (Scheme)	Major production in the district through forest collection. No farmers have organic certification, farmers are following organic cultivation practices. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and storage and packing)	Multi commodity pack house (Private)	Two (1 TPD each in 2 blocks)	50	100	MOFPI	No registered existing primary processing unit. Only local unregistered primary processing for amla in the district. In view of the production of amla in the district, there is a requirement for pack house in at least 2 blocks of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The unit requires an investment of Rs 50 Lakh for each unit (as per MoFPI cost norms)
	Secondary products (Pickle, moraba, candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Pickle, moraba and candy production units. The existing FPO (Alternative Livelihood in Village entrepreneurship) in the district have shown interest in making candy, pickle and murabba. One Dabur unit in the district manufacturing chawanprash and one more secondary processing unit in the district (Durga Maa Mahila Grih Udyog). There is a potential for more processing units in the district. Therefore, one processing unit of 0.5TPD capacity is proposed with an investment of Rs 31.5 Lakhs (as per MoFPI cost norms).

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh)	Ministry	Remarks
	Lack of export promotion infrastructure	APEDA certified packhouse	One (70 MT capacity)	400	400	APEDA	<p>As per the list issued by APEDA as on July 2021, there are no exporting unit/APEDA certified pack house (for export purpose) in the district or nearby (https://apeda.gov.in/apedawebsite/Announcements/Active_Pack_House_list_updated_July_2021.pdf). Thus, one unit is proposed in the district. The proposed unit can be utilised for multi fruits and vegetables for export purpose.</p> <p>Taking reference from APEDA case study, a typical packhouse with 60 MT storage and 10 MT pre cooler costs around Rs 3.9 cr. On the same basis, a packhouse to promote export of fruits and vegetables including amla is proposed with an investment of Rs 4 cr. (http://apeda.gov.in/apedawebsite/Latest_initiatives/Infrastructure_Development.htm)</p>
	Storage of Pulp (Secondary form)	Cold Store	1 (416 MT Capacity)	50	50	MoFPI	<p>Cold store for Amla products to extend shelf life. Cold storage capacity is required to be increase the self-life from 4 months to 12 months. Amla is available from October to Feb only, new cultivators are required so that industry can run round the year. Structure PEB</p>

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh)	Ministry	Remarks
	Testing of raw material & finished products	Part of the secondary processing unit / facilities in the neighbouring districts	1	25	25	APEDA	No testing lab in the district or in nearby district for raw material and finished goods testing. One unit in the cluster in Madhya Pradesh is proposed for the existing and proposed units' product testing. The testing unit can be utilised for testing of other commodities as well. Taking the cost of basic equipment required for testing of commodities, an investment of Rs 25 Lakh is proposed.
Logistics, Marketing and Branding	Limited branding and marketing	Branding, Digital and Marketing Initiatives	2	5	10		Branding support for existing unit in Katni (Durga Maa Mahila Grih Udyog) and for proposed unit for candy, pickle and murabba.
	Retail outlet to market amla and amla products	Retail outlets in nearby markets and nearby districts	4	10	40	MOFPI	Existing secondary processing units (Durga Maa Mahila Grih Udyog) are willing to establish a chain of retail units and retail chain can be established for the proposed unit, especially in the district and market places in nearby districts such as Indore/Bhopal.
Total					667.50		

7.2 Chhindwara

7.2.1 Production and marketable surplus

Chhindwara is one of the major clusters for Amla in Madhya Pradesh. The area and production of Amla for three years is indicated in the table below.



Table 7.2.1: Area and production of Amla in Chhindwara

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
800	16000	800	8000	715	7150

Source: State Horticulture Department

As per field data, farmers in Chhindwara keep 2.54% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 7.2.2: Quantity of Production, Self-use and Sale of Amla in Chhindwara(MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
7150	181.61	6968.39

7.2.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. Traders are directly buying from the farmers and then are selling to secondary processing units. During this portion of the supply chain, fresh Amla is stored at room temperature. However, a few processed Amla products are stored in cold storages at the processor level only.

The secondary processing unit (M/s Venkatesh Natural Extracts Pvt. Ltd.) has a cold storage unit of 200 MT capacity for all raw material and finished products (Vitamin C extract and Amla powder). Around 40 MT of Amla powder is stored annually by the promoter. Another

secondary processing unit in the district (Phalam Sampada producer Company Limited) is also having a cold storage unit of 20 MT capacity.

7.2.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

7.2.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	Bamhani Vandhan Kendra	Manual	Public Ltd.	0.8	Pack house	8	13

7.2.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity	Items	Brands	Market
1.	Venkatesh Natural Extracts Pvt Ltd	Small	2	Amla Powder, Vitamin C extracts	Venkatesh	Bhopal, Indore, Raipur, Alwar, Ajmer, Karnataka 50% exported to USA
2.	Phalam Sampada Producer Company Limited	Micro	1	Amla Powder	Natural	Local (sold to retailers and wholesalers)

7.2.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in 5 Blocks)	0.50	5.00	MoA (Scheme)	Existing two FPOs in the district : 1. Phalam Sampada Producer Company Limited, Tamia Tehsil 2. Patalkot Farmer Producer Company Limited, Tamia Tehsil Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	11 programs (one per block in all 11 blocks)	0.50	5.50	MoA (Scheme)	No farmers are GAP certified. Hence, proposed GAP certification programs for progressive / willing farmers in all the blocks
	Organic certification	Promotion and training on organic certification	11 programs (one per block in all 11 blocks)	0.50	5.50	MoA (Scheme)	Major production in the district through forest collection. No farmers have organic certification, farmers are following organic cultivation practices. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and storage and packing)	Multi commodity pack house (Private)	Two (1 TPD each in 2 blocks)	50	100	MOFPI	Only one primary processing unit in the district- Bamhani Van Dhan Kendra (under the scheme of Van Dhan Yojana) in Tamia block. In view of the production of amla in the district, there is a requirement for pack house in at least 2 blocks of the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The unit requires an investment of Rs 50 Lakh for each unit (as per MoFPI cost norms)
	Secondary products (Pickle, murabba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	The existing FPOs (Patakot Farmer Producer Company Limited, Tamia Tehsil and Phalam Sampada Producer Company Limited, Tamia Tehsil) in the district have shown interest in making amla powder, candy, pickle and murabba.
	Secondary products (amla powder production units)	Small units	One (1TPD)	6.5	6.5	MOFPI	2 existing processing units in the district manufacturing amla powder and extract. There is a potential for two more processing units in the district, one for Pickle, moraba and candy production units and the other for

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
							manufacturing amla powder and the units require an investment of Rs 31.5 Lakh and Rs 6.5 Lakh respectively (as per MoFPI cost norms. For amla powder, MoFPI cost norms for Aamchur powder has been considered.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	3	5	15		Branding support for one existing unit in Katni (Phalam Sampada Producer Company Limited) and for proposed units for candy, pickle, murabba and amla powder
	Retail outlet to market amla and amla products	Retail outlets in nearby markets and nearby districts	6	10	60	MOFPI	Existing secondary processing units are willing to establish a chain of retail units and retail units for the proposed unit can be established, especially in the district and market places in nearby districts such as Indore/Bhopal.
Total					229.00		

7.3 Rewa



This section describes the production and processing aspects of Amla taking place in Rewa district of Madhya Pradesh.

7.3.1 Production and marketable surplus

Table 7.3.1: Area and production of Amla in Rewa

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
2776	29148	2776	29148	2906	30513

Source: State Horticulture Department

As per field data, farmers in Rewa keep 2.40% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 7.3.2: Quantity of Production, Self-use and Sale of Amla in Rewa (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
30513	732.31	29780.68

7.3.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. Traders are directly buying from the farmers and then are selling to secondary processing units. During this portion of the supply chain, fresh Amla is stored at room temperature. Processed Amla items are also not stored in either of cold stores or godowns

7.3.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

7.3.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	Devendra	Manual	Individual		Grading, sorting	10	10
2.	Shambumani Sharma	Manual	Individual		Grading, sorting, drying		

7.3.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity	Items	Brand	Market
1.	Kesharwani (operational during peak season only)	Micro	1	Pickle, candy		Sold through franchise units

7.3.6 Testing facilities and certification centers

No testing laboratories were found for testing of Amla products. The secondary processing units have their in-house laboratories as per FSSAI compliances.

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

7.3.7 Agricultural markets

As per the discussion with mandi secretary, Baikunthpur APMC received 5000 MT of Amla in the year 2017.

7.3.8 Details of FPO/SHG

There is no FPO or cooperative in the cluster which deals either in cultivation or processing of Amla.

7.3.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in 5 Blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. No existing FPO in the district for amla.
	GAP certification	Promotion and training of GAP	9 programs (one per block in all 9 blocks)	0.50	4.50	MoA (Scheme)	No farmers are GAP certified. Hence, proposed GAP certification programs for progressive / willing farmers in all the blocks
	Organic certification	Promotion and training on organic certification	9 programs (one per block in all 9 blocks)	0.50	4.50	MoA (Scheme)	No farmers have organic certification, farmers are following organic cultivation practices. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and storage and packing)	Multi commodity pack house (Private)	One (1 TPD)	50	50	MOFPI	No registered existing primary processing unit. Only local unregistered primary processing for amla in the district. There is a potential and requirement for one pack house. The pack house can be utilised for various commodities including Amla especially in the off season of amla. The unit requires an investment of Rs 50 lakh as per MoFPI cost norms.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
	Secondary products (Pickle, murabba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Pickle, moraba and candy production units. Only one existing processing unit in the district (Kesharwani Masala and Achar). There is a potential for one more processing units in the district. Therefore, one processing unit of 0.5TPD capacity is proposed. The unit requires an investment of Rs 31.5 lakh as per MoFPI cost norms.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	2	5	10		Branding support for one existing unit in Katni (Kesharwani Masala and Achar) and for proposed units for candy, pickle, murabba and amla powder
	Retail outlet to market amla and amla products	Retail outlets in nearby markets and nearby districts	4	10	40	MOFPI	Existing secondary processing units are willing to establish a chain of retail units and retail units can be established for the proposed unit, especially in the district and market places in nearby districts such as Indore/Bhopal.
Total					145.50		

7.4 Siddhi



Siddhi is popular for the production of forest Amla. The details of production, marketable surplus and processing aspects are mentioned as hereunder.

7.4.1 Production and marketable surplus

Table 7.4.1: Area and production of Amla in Siddhi

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
930	17889	940	18095	2058	39616

Source: State Horticulture Department

As per field data, farmers in Siddhi keep 2.50% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units

Table 7.4.2: Quantity of Production, Self-use and Sale of Amla in Siddhi (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
39616	990.4	38625.6

7.4.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. Traders are directly buying from the farmers and then are selling to secondary processing units. During this portion of the supply chain, fresh Amla is stored at room temperature. Processed Amla items are also not stored in either of cold stores or godowns.

7.4.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. However, for transportation to other states such as Mumbai and Kolkata, heavy load vehicles such as 12 wheeler capacity (7.5 to 14 MT) vehicles are used for movement. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

7.4.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Items	Market	Quantity produced by the sample units annually (MT/kiloliter)
1.	Mukesh Sharma	Individual	Dried Amla	B2B	7
2.	Dabbu Singh	Individual	Dried Amla	B2B	

7.4.5 Secondary Processing activities

There are no secondary processing units in the district.

7.4.6 Testing facilities and certification centers

No testing laboratories were found for testing of Amla products. The secondary processing units have their in-house laboratories as per FSSAI compliances.

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

7.4.7 Agricultural markets

Amla does not get traded in any of the Siddhi APMCs. Traders procure Amla directly from the farmers at farm level only

7.4.8 Details of FPO/SHG

There is no FPO or cooperative in the cluster which deals either in cultivation or processing of Amla.

7.4.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in 5 Blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. No existing FPO in the district for amla.
	GAP certification	Promotion and training of GAP	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	No farmers are GAP certified. Hence, proposed GAP certification programs for progressive / willing farmers in all the blocks
	Organic certification	Promotion and training on organic certification	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	No farmers have organic certification, farmers are following organic cultivation practices. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and storage and packing)	Multi commodity pack house (Private)	One (1 TPD)	50	50	MOFPI	No registered existing primary processing unit. Only local unregistered primary processing for amla in the district. In view of the production of amla in the district, there is a requirement for one pack house in the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
							amla. The unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, murabba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Pickle, moraba and candy production units. No existing processing unit in the district. Keeping in view, the availability of amla in the district, one secondary processing unit is proposed of capacity 0.5 TPD. The unit requires an investment of Rs 31.5 lakh as per MoFPI cost norms.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	1	5	5		Branding support for one proposed units for candy, pickle, murabba and amla powder
	Retail outlet to market amla and amla products	Retail outlets in nearby markets and nearby districts	2	10	20	MOFPI	A chain of retail units can be established for the proposed unit, especially in the district and market places in nearby districts such as Indore/Bhopal.
Total					116.50		

7.5 Shahdol

This section describes the Amla production and Amla processing activities taking place in the Shahdol cluster falling under Madhya Pradesh.



7.5.1 Production and marketable surplus

Table 7.5.1: Area and production of Amla in Shahdol

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
830	14110.2	831	14427.7	865	14661.75

Source: State Horticulture Department

As per field data, farmers in Shahdol keep 4.10% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units

Table 7.5.2: Quantity of Production, Self-use and Sale of Amla in Shahdol (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
14661.75	601.55	14060.20

7.5.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. Traders are directly buying from the farmers and then are selling to secondary processing units. During this portion of the supply chain, fresh Amla is stored at room temperature. Processed Amla items are also not stored in either of cold stores or godowns.

7.5.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

7.5.4 Primary Processing activities

There are no primary processing units located in the district.

7.5.5 Secondary Processing activities

There are no secondary processing units located in the district.

7.5.6 Testing facilities and certification center

No testing laboratories were found for testing of Amla products. The secondary processing units have their in-house laboratories as per FSSAI compliances.

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

7.5.7 Agricultural markets

From the primary data, around 20 MT of Amla was arrived at Shahdol APMC

7.5.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed by FPO	Quantity procured annually (MT)	Items
1	Annapurna Samuh	SHG	Secondary processing	2.5-3	Dried Amla, Pickle – 0.6 MT

7.5.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (2 programs in 5 Blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc. Only one existing SHG in the district for amla- Annapurna Samuh
	GAP certification	Promotion and training of GAP	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	No farmers are GAP certified. Hence, proposed GAP certification programs for progressive / willing farmers in all the blocks
	Organic certification	Promotion and training on organic certification	5 programs (one per block in all 5 blocks)	0.50	2.50	MoA (Scheme)	No farmers have organic certification, farmers are following organic cultivation practices. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and storage and packing)	Multi commodity pack house (Private)	One (1 TPD)	50	50	MOFPI	No registered existing primary processing unit. In view of the production of amla in the district, there is a requirement for one pack house in the district (of about 1 TPD capacity). The pack house can be utilised for various commodities including Amla especially in the off season of amla. The

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
							proposed unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, murabba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	No existing processing unit in the district. Keeping in view, the availability of amla in the district, one secondary processing unit (Pickle, moraba and candy production units) is proposed of capacity 0.5 TPD. The proposed unit requires an investment of Rs 31.5 lakh as per MoFPI cost norms.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	1	5	5		Branding support for one proposed units for candy, pickle and murabba.
	Retail outlet to market amla and amla products	Retail outlets in nearby markets and nearby districts	2	10	20	MOFPI	A chain of retail units can be established for the proposed unit especially in the district and market places in nearby districts such as Indore/Bhopal.
Total					116.50		

CHAPTER 08: AMLA CLUSTERS IN TAMIL NADU

8.2 Dindigul

Amla is cultivated in some parts of Tamil Nadu like Tirunelveli, Dindigul, Sivagangai and Thoothukudi. This section describes the production and processing related activities taking place in the Dindigul cluster.



8.1.1 Production and marketable surplus

Table 8.2.1: Area and production of Amla in Dindigul

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
965	19988	1057	21893.28	931	23275

Source:<http://tnhorticulture.tn.gov.in/horti/tnhorticulture/statistics>

As per field data, farmers in Dindigul keep 2.54% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 8.2.2: Quantity of Production, Self-use and Sale of Amla in Dindigul (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
23275	591.18	22683.81

8.1.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. The fresh Amla does not require cold storage for storage. However a few processed Amla products are stored in cold storages for transit purpose for maximum two days.

8.1.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. However, for transportation to other states such as Mumbai and Kolkata, heavy load vehicles such as 12 wheeler capacity (7.5 to 14 MT) vehicles are used for movement. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

8.1.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	Appi Naicker	Manual	Proprietorship	0.05	Grading, sorting, drying	10-15	20-22

8.1.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity	Items	Brands	Market
1.	Nivi Amla Juice	Micro	200 litre/day	Amla Juice	Nivi Amla	Local retailers and wholesalers
2.	Gandhigram Khadi and Village Industries Public charitable trust	Micro	0.03 MT/day	Honey Amla, Candy, Amla juice		Local retailers and wholesalers

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Honey Amla	2.0
2.	Candy	3.0
3.	Juice	15.5

8.1.6 Testing facilities and certification centers

No testing facilities are available in the district.

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

8.1.7 Agricultural markets

Amla does not get traded in any of the Dindigul APMCs. Traders procure Amla directly from the farmers at farm level only

8.1.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed	Quantity procured annually (MT)	Items
1	Virupatchi Farmer Producer Organization	FPO	1.Primary processing – Manual grading and sell it to Ottanchatranam market 2. Collection of dry Amla from farmers and sell it to private players	1200 MT 1.5 MT	Fresh Amla Brand – Arun, Chithaiyankottai Dry Amla

8.1.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (two per block in 5 blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	14 programs (one per block in all 14 blocks)	0.50	7.00	MoA (Scheme)	8 to 9% of farmers are availing certification. Hence, proposed GAP certification programs for progressive / willing farmers.
	Organic certification	Promotion and training on organic certification	14 programs (one per block in all 14 blocks)	0.50	7.00	MoA (Scheme)	Farmers are following organic cultivation in Banda district but amla farms are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and packaging and storage)	Multi commodity pack house (Private)	One (1 TPD handling capacity)	50	50	MOFPI	Pack house for various commodities including Amla. A multicommodity packhouse has been proposed so that along with amla, other commodities in the off season can also be processed/ stored in the facility. The unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Manjalaru Sub Basin Famers Producer Organisation in the Dindigul district has shown interest in the setting up of a processing facility of amla products. Therefore a secondary processing unit has been proposed. The proposed unit requires an investment of Rs 31.5 lakh as per MoFPI cost norms.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	1	5	5		Branding support for the proposed unit at dindigul district
	Retail outlet to market amla and amla products	Retail outlets in highway and markets	2	10	20	MOFPI	Retail outlets for 1 proposed secondary units for candy, pickle and murabba (one in same district and another in nearby district)

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR lakh.)	Ministry	Remarks
Total					125.50		

8.3 Theni

Theni is one of the major cluster in Amla production as well as processing. Theni is a prominent hub of Amla pickle preparation.



8.3.1 Production and marketable surplus

The details of area and production of Amla for three years is indicated in the table below.

Table 8.3.1: Area and production of Amla in Theni

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
393	9825	422	10550	609	15225

Source:<http://tnhorticulture.tn.gov.in/horti/tnhorticulture/statistics>

As per field data, farmers in Theni keep 2.54% of the Amla produced for self-consumption. This indicates that a major portion of the produced is either sold to the traders or to the processing units.

Table 8.3.2: Quantity of Production, Self-use and Sale of Amla in Theni (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
15225	386.715	14838.285

8.3.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. The fresh Amla does not require cold storage for storage. However a few processed Amla products are stored in cold storages for transit purpose for maximum two days.

8.3.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

8.3.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	V.S.Pharma	Semi-Automated	Private	0.05	Grading, sorting, washing, packing	10	20
2.	Arvind Meera Herbals	Semi-Automated	Private	0.03	Grading, sorting, washing, packing	10	15-18

8.3.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Market
1.	Sri Ambika Brand Pickle company	Micro	0.2	Amla pickle	Amma pickle, Sri Ambush	Domestic (wholesalers)
2.	Arun pickle	Micro	0.3	Amla pickle	Arun	Domestic (wholesalers and retailers)

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Pickle	50

8.3.6 Testing facilities and certification centers

AGMARK and FSSAI laboratories for testing of Amla products are present in the district

Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products

8.3.7 Agricultural markets

Amla does not get traded in any of the Theni APMCs. Traders procure Amla directly from the farmers at farm level only.

8.3.8 Details of FPO/SHG

S. No.	Name	Category	Facilities provided/ Activities performed	Items
1	Mullai Amla Producer	SHG	Cultivation of amla	No processing
2	Kurichi Amla Producer	SHG	Cultivation of amla	No processing

8.3.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Self Help Groups (SHGs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (two per block in 5 blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	8 programs (one per block in all 8 blocks)	0.50	4.00	MoA (Scheme)	Proposed GAP certification programs for progressive / willing farmers in all 8 blocks
	Organic certification	Promotion and training on organic certification	8 programs (one per block in all 8 blocks)	0.50	4.00	MoA (Scheme)	Farmers are following organic practices for cultivation in the district but amla farms are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying)	Multi commodity pack house (Private)	One (1 TPD handling capacity)	50	50	MOFPI	Pack house for various commodities including Amla. A multicommodity packhouse has been proposed so that along with amla, other commodities in

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Lakh.)	Ministry	Remarks
	and packaging and storage)						the off season can also be processed/ stored in the facility. The proposed unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Pickle, moraba and candy production units. The 2 SHG (Mullai Amla producer SHG and Kurichi Amla production SHG) requires the support for the establishment of the processing units. Therefore, 2 units (1 primary i.e. packhouse and 1 secondary unit) have been proposed. The proposed unit requires an investment of Rs 31.5 lakh as per MoFPI cost norms.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	3	5	15		Branding support for 2 existing units and for 1 proposed unit for candy, pickle and murabba.
	Retail outlet to market amla and amla products	Retail outlets in the market	6	10	60	MOFPI	Retail outlets for 2 existing units and for 1 proposed unit for candy, pickle and murabba (one in same district and another in nearby district)
Total					169.50		

8.4 Tirunelveli

Among various trees, Amla is widely grown in various agroforestry systems by farmers for profitable income and other benefits in the Tirunelveli district of Tamil Nadu.



8.4.1 Production and marketable surplus

This section describes the production and processing related activities with respect to the Amla crop in Tirunelveli cluster.

Table 8.4.1: Area and production of Amla in Tirunelveli

2017-18		2018-19		2019-20	
Area (Ha)	Production (MT)	Area (Ha)	Production (MT)	Area (Ha)	Production (MT)
2287	48383	1750.57	37024.54	1190	28560

Source:<http://tnhorticulture.tn.gov.in/horti/tnhorticulture/statistics>

Table 8.4.2: Quantity of Production, Self-use and Sale of Amla in Tirunelveli (MT)

Quantity of raw Amla produced	Average quantity of Amla kept for self-use	Average quantity of Amla sold
28560	1012.25	27547.75

8.4.2 Storage facilities

Cold Stores/ Godowns are available in the districts but not being used for storage of Amla. The fresh Amla does not require cold storage for storage. However a few processed Amla products are stored in cold storages for transit purpose for maximum two days.

8.4.3 Modes of transportation

Reefer vans and Trains are not being utilized for transportation of Amla. Tempo capacity 2-3 MT is the only means of transportation that is currently being utilized for transportation of

Amla for local transport. Plastic crates, cartons and gunny bags are used for transportation of Amla in the Tempo.

8.4.4 Primary Processing activities

The details of primary processing units visited by the study team are as under.

Sr. No.	Primary processing units	Type	Ownership	Installed Capacity (MT/day)	Activity	PH Loss (%)	Margin (%)
1.	Jeejee Products	Manual	Proprietorship	2	Packing	20	
2.	Jaycee Organics LLP	Semi-Automated	LLP	0.1	Grading, sorting, drying	1	

8.4.5 Secondary Processing activities

The details of secondary processing units visited by the study team are as under.

Sr. No.	Secondary processing units	Category	Capacity (MT/day)	Items	Brands	Market
1.	Amla 100 (Menaka Cards)	Micro	0.5	Amla Juice	Amla 100	

Sr. No.	Items	Quantity produced by the sample units annually (MT/kiloliter)
1.	Amla Juice	45

8.4.6 Testing facilities and certification centers

AGMARK and FSSAI laboratories for testing of Amla products are present in the district. Certification centers are involved in analyzing the quality of the product and then issuing the certificates. These certificates are highly useful for gaining customer confidence and are also a mandatory requirement in exports. In the selected district, there were no certification centers for the Amla products.

8.4.7 Agricultural markets

Amla does not get traded in any of the Theni APMCs. Traders procure Amla directly from the farmers at farm level only.

8.4.8 Details of FPO/SHG

There is no FPO or cooperative in the cluster which deals either in cultivation or processing of Amla.

8.4.9 Proposed investments

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Pre-Production and Production (under convergence involving MoA, SAUs & other institutes)	Limited number of Farmer Producer Organisations (FPOs) involved in Amla	Sensitization programs for stakeholders and existing FPO to facilitate better production, processing and marketing of Amla	10 programs (two per block in 5 blocks)	0.50	5.00	MoA (Scheme)	Role of institutions like ICAR institutes, KVK, Agricultural University, Training Centres, NGOs, etc.
	GAP certification	Promotion and training of GAP	9 programs (one per block in all nine blocks)	0.50	4.50	MoA (Scheme)	8 to 9% of farmers are availing certification. Hence, proposed GAP certification programs for progressive / willing farmers.
	Organic certification	Promotion and training on organic certification	9 programs (one per block in all three blocks)	0.50	4.50	MoA (Scheme)	Farmers are following organic cultivation in Banda district but amla farms are not certified. Programs on Organic certification are proposed for farmers willing to adopt organic cultivation.

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
Post-harvest Management and Value Addition	Primary processing (Cleaning/washing, sorting, grading, weighing, drying and packaging and storage)	Multi commodity pack house (Private)	One (1 TPD handling capacity)	50	50	MOFPI	Pack house for various commodities including Amla. A multicommodity packhouse has been proposed so that along with amla, other commodities in the off season can also be processed/ stored in the facility. The proposed unit requires an investment of Rs 50 lakh as per MoFPI cost norms.
	Secondary products (Pickle, moraba and candy production units)	Small units	One (0.5 TPD)	31.5	31.5	MOFPI	Based on the discussions with the FPOs, 2 FPOs (Valliyur Vattara Mahendraki paarambariya Vivasaaayikal Sangam and Thamira Farmer Producer Company) are interested to set up the amla processing units Therefore, 2 units secondary units have been proposed.
	Secondary products (Amla Powder)	Small units	One (1 TDP)	6.5	6.5	MOFPI	There is a potential for two more processing units in the district, one for Pickle, moraba and candy production units and the other for manufacturing amla powder and the units require an investment of Rs 31.5 Lakh and Rs 6.5 Lakh respectively (as per MoFPI cost norms. For amla powder, MoFPI cost norms for

Value Chain Activity	Gaps Identified	Recommended Component	Units (MT, Ha, Sqm, set, participants etc.)	Indicative Per unit cost in INR Lakh (B)	Indicative Cost of Interventions C=A*B (INR Cr.)	Ministry	Remarks
							Aamchur powder has been considered.
Logistics, Marketing and Branding	Limited branding	Branding, Digital and Marketing Initiatives	2	5	10		Branding support for 2 proposed units
	Retail outlet to market amla and amla products	Retail outlets in highway and markets	4	10	40	MOFPI	Retail outlets for 2 proposed units for candy, pickle and murabba (one in same district and another in nearby district)
Total					152.50		

CHAPTER 09: GAPS AND CONSTRAINT ANALYSIS

9.1 Challenges and constraints as perceived by stakeholders

9.1.1 Farmers

Uttar Pradesh

- Low price realisation by the farmers for the Amla harvested by them. Due to this reason, the farmers have shifted from Amla to other crops and therefore, the production of Amla has decreased over the years.
- One of the processors at the Banda District is reluctant to take the benefit of the Government Schemes due to a very demanding and back-breaking documentation process.

Madhya Pradesh

- Fresh Amla has a very short shelf life which gives farmers very little time to find buyers with good prices. Also, there is no proper mandi or APMC mandi for Amla trading the districts, which further limits the trading.
- The prices offered to farmers are low due to no structured mandis or trading.
- There are no cold storage or warehouses in the districts for storing fresh Amla, thus farmers have to sell the Amla immediately after procuring.

Tamil Nadu

- Shortage of agricultural Labourers
- Steep increase in agricultural Inputs like Fertilizers, Pesticides, Micronutrients
- Difficulty being faced in marketing as no minimum support price available.
- Due to poor technical knowledge, farmers are facing difficulty in maintenance of Micro irrigation (Drip irrigation) techniques like Fertigation
- Price realisation by farmers is low for the raw Amla produced by them. According to them the margin they are receiving with respect to the cost incurred is low.
- In the district of Tirunelveli, there is a problem related to the presence of Wild animals as these animals destroy the harvest of Amla. Although the Department of Forest gives compensation to the farmers for their damage, there is always a delay in

payment of compensation. Also, according to the farmers, the compensation they are receiving is low and not equivalent to the amount of damage done by the wild animals.

- During the harvesting, rotting of fruit is the major problem as about 20 % of the fruit is lost due to this reason in Theni district.
- Due to Covid 19 situation, a lot of small 1 room processing units have become non-operational.

9.1.2 Processors

Uttar Pradesh

- Most of the processors are using manual and semi-automatic set up for their processing units and hence are not able to fully able to utilize the large production available in the districts of the Pratapgarh and Prayagraj
- Access to loan subsidies is another major constraint- As per the processors, they are no schemes except ODOP for them and thus are unavailable to access funds.

Madhya Pradesh

- Shortage of skilled labour
- Due to lack of access to funds, the processors are not able to expand their processing capacity. Also, for the setting up of their existing units, majority processors have invested their own capital.
- The Amla is currently being grown in the Forests and therefore there are no farms as such for Amla cultivation. Due to this reason, processors find it difficult to procure the raw material for their units and procure Amla from other states (major import from Pratapgarh, Uttar Pradesh).

Tamil Nadu

- Processors are facing challenges related to technical aspects. For e.g., in the case of Tirunelveli district, one of the units faced a problem while designing the packaging for their product. Therefore, non-availability of the information related to the type and design of the packaging for the food products is one of the gaps being identified at processor level.

- Lack of awareness and no access to subsidy related information.
- Challenges related to Consumer preference. For e.g., in case of one of the processing units of Amla juice, the processor reported that consumers are less inclined to purchase the juice. Since, the fresh Amla is already available, the consumers are not willing to spend the money on buying the Amla juice.
- Processors are not receiving any intimation regarding the changes in FSSAI regulations.

Challenge related to Information system- Information like source of Amla for procurement and information related to market and demand in both domestic and international markets is not available. Access to trade related information is one of the requirements for expanding the business especially overseas.

9.1.3 Traders

Traders are facing problems related to transportation of Amla and thus require reefer vans in the states of Uttar Pradesh. Traders are not interested in going ahead with the processing of Amla due to their lack of interest in setting up Amla processing units.

In Madhya Pradesh, there are no proper mandis or APMC mandi for Amla trading the districts, which limits the trading opportunities. There are no cold storage or warehouses in the districts for storing fresh Amla, therefore, traders do not prefer trading fresh Amla as it has low shelf life

In Tirunelveli district of Tamil Nadu, according to the traders, the price realisation is low. While in the Theni district, traders are facing problems related to lack and high cost of manpower.

9.1.4 Transporters (for all 3 states)

Due to low price realisation by all the stakeholders in the entire value chain of Amla as well as increasing price of fuel and spares, the transporters are finding their profit margin decreasing.

9.1.5 Other stakeholders

- According to the Farmers Producer Groups (FPOs) and Self-Help Groups (SHG) in all the three states, there is a lack of awareness among them regarding the benefits of various Central Schemes available for establishing the processing units. Further, the groups that are providing the processing services to their farmer members are facing problems related to the marketing of their products.
- Amla is not the notified crop in APMC, Tirunelveli district, Tamil Nadu, and hence they are not dealing with Amla in APMC.
- Projection of Demand and Issues in procurement of raw material/finished item are the major challenges faced by the Stakeholder related to the Amla Storage.
- Unavailability of Certification Centre in all the selected districts.

9.2 SWOT analysis of the indicative value chain of Amla

Strengths

- Availability of Amla (Indian Gooseberry) in the country. As per the Final advance estimates 2019-20, Department of Agriculture and Farmers Welfare, the Indian production of Amla in 2019-20 was about 11,64,000 MT in an area of about 97,000 Hectares (<https://agricoop.nic.in/hi>)
- In terms of nutrition, Amla is the second richest natural source of vitamin C (ascorbic acid) with approximately 600 to 700 mg/fruit. (Goraya, R.K. and Bajwa, U., 2015). *Enhancing the functional properties and nutritional quality of ice cream with processed Amla (Indian gooseberry). Journal of food science and technology, 52(12), pp.7861-7871.*)
- Due to the COVID 19 pandemic, the demand for the Amla has increased due to its nutrition properties.

Weakness

- Low/ No value addition at the farmers' level.
- There are very few number of Amla processing units at the district level.
- Lack of market access

Opportunities

- Potential for setting up micro level industries at the district level.
- Opportunity to target the export market for Amla primary and secondary processed products.
- Through value addition, employment for both the skilled and unskilled labour can be created.
- Organic Farming of Amla
- Changing lifestyle and increasing trend of health consciousness among the masses resulting in creation of more demand for Amla and its products thereby boosting the entire value chain.

Threats

- In the case of an external trade scenario, there is always uncertainty. Therefore, utmost care must be taken while going for exports.
- Due to low /no infrastructure and unavailability of special assistance available, farmers may deviate from Amla to other crops.

CHAPTER 10: SUPPORT PROVIDED BY GOVERNMENT

10.1 Centrally Sponsored Schemes

10.1.1 Ministry of Health & Family Welfare Government of India Department of AYUSH

1. Norms of assistance for nurseries and cultivation

	Programme	Estimated Cost	Admissible Assistance
1.	NURSERY		
	Production of planting material		
	a) Public sector		
	i) Model nursery (4 ha.)	Rs. 25 lakhs	Maximum of Rs. 25.00 lakhs
	ii) Small Nursery (1 ha.)	Rs. 6.25 lakhs	Maximum of Rs.6.25 lakhs
	b) Private Sector (initially on Pilot basis)		
	i) Model nursery (4 ha.)	Rs. 25 lakhs	50% of the cost limited to Rs. 12.50 lakhs
	ii) Nursery (1 ha.)	Rs. 6.25 lakhs	50% of the cost limited to Rs. 3.125 lakhs
2.	CULTIVATION		
	i) Species that are highly endangered and in high demand by AYUSH industry	As per Annexure – II	75% of the cost of cultivation

	Programme	Estimated Cost	Admissible Assistance
	ii) Species that are endangered and sources of supply are declining	As per Annexure – II	50% of the cost of cultivation
	iii) Other species in demand by AYUSH industry and for exports	As per Annexure – II	30% of the cost of cultivation

2. Post Harvest Management

	Programmes	Estimated Cost	Admissible Assistance
1.	POST HARVEST MANAGEMENT		
	i) Drying sheds	Rs. 10.00 lakhs	100% assistance for Govt. / Semi-Govt. / Public Sector and 50% for SHGs / Cooperatives/ Private sector
	ii) Storage godowns	Rs. 10.00 lakhs	100% assistance for Govt. / Semi-govt. / Public Sector and 50% for SHGs / Cooperatives/ Private sector
2.	PROCESSING AND VALUE ADDITION		
	i) Processing unit	Rs. 400 lakhs	100% assistance in case of Govt / Semi-govt. / SHGs / Cooperatives / Public Sector limited to Rs. 400 lakhs / unit
	ii)Marketing infrastructure:-	<ul style="list-style-type: none"> • Rs. 10.00 lakhs for rural collection center. • Rs. 200 lakhs for district collection center. 	Project based. 100% assistance to Public Sector and 50% assistance to Private Sector /SHGs / Cooperatives

	Programmes	Estimated Cost	Admissible Assistance
	iii) Organic/GAP certification	Rs. 5 lakhs for 50 ha.	Assistance up to 50% of the cost limited to Rs. 10,000/ha for maximum area of 4 ha/ beneficiary spread over a period of three years would be provided for organic / GAP cultivation. For certification Rs. 5.00 lakhs for 50 ha. will be provided
	iv) Demonstration plots	-	Project based depending upon species cultivated and infrastructure created limited to Rs. 10.00 lakhs / plot of minimum 2 acres
	v) Setting up of seed/ germ plasm centres	-	Rs. 25 lakhs/ centre

3. Activities under the flexible component of Medicinal Plants

Sr.No	Activities
1	<p>1. Market Promotion: There is already provision for 50% financial assistance. The Committee was of the view that sources of the balance 50% of the projects cost should be specified before approval of the projects. After discussions, it was decided that:-</p> <p>1.1 Initially the project on Market promotion would be approved, 'in-principle' only.</p> <p>1.2 50% of NMPB share (i.e. 50% of the project cost) as first instalment to be released.</p> <p>1.3 Balance 50% may be released on re-imburement basis after the event is over.</p> <p>Note:- For advertisement, DAVP guidelines shall be followed and for advertisement in newspaper, only National daily with all India circulation shall be selected.</p>

	<p>2. <u>Market Intelligence:</u> 100% assistance may be provided to Implementing Agencies. The number of projects to be taken-up in each state would, however depend on number of clusters of cultivation. After detailed discussions, following was decided by the Committee:</p> <p>2.1 Number of projects to be taken up in each state will not exceed 10 numbers.</p> <p>2.2 Financial assistance would be provided on 100% basis.</p> <p>2.3 Financial assistance would be limited to Rs.10.0 lakhs per project including recurring expenditure restricted to Rs. 5.0 lakhs / year.</p> <p>2.4 No regular staff would be taken up for market intelligence but implementing agency would implement the programme by hiring services of Marketing Consultancy organizations.</p> <p>2.5 One project should cover minimum of 200 hectares cultivation.</p> <p>3. <u>Buy-back Intervention:</u> In addition to growers / farmers and organizing buyerseller meeting, there should be some incentive to industry so that their procurement of raw material from growers/farmers remains economically beneficial. The percentage of financial assistance may be linked with quantum of procurement but would not exceed 10% of the procurement cost which will be shared as 75% by growers / farmers and 25% by Purchasers / Industry</p> <p>4. <u>Market Infrastructure:</u></p> <p>4.1 Rural centres for collection and sale: The Rural centres for collection and sale may work on weekly basis and basic facilities like Auction Platforms, Storage godown; Drying shed with supporting</p>
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	<p>services may be provided. Land would be provided by respective Public /SHG / Cooperatives and would not form part of the project cost. The guidelines in brief would be as under:</p> <ol style="list-style-type: none"> a. Maximum assistance per Rural centres for collection and sale - Rs. 20.0 Lakhs / unit. b. Rural centres for collection and sale may be basically collection centre in production areas. c. No. of Rural centres for collection and sale may depend on number of clusters of production. d. These centres to be linked with District centres /whole sale markets. e. Basic infrastructure like Auction Platform, Drying shed, Storage Godown and supporting services to be provided. f. Land to be made available by respective SHG/ cooperative society
2	<ol style="list-style-type: none"> 1. Reimbursement of Testing charges – 50% of Testing charges subject to maximum of Rs. 5,000/- per test 2. Crop insurance – 50% of the premium payable

10.1.2 Mission for Integrated Development of Horticulture

<u>Sr.no</u>	<u>Component</u>	<u>Unit cost</u>	<u>Assistance</u>
<u>1</u>	Pack house	Rs. 4.00 lakh/unit with size of 9Mx6M	50% of the capital cost. Credit linked back-ended subsidy @ 35% of the cost of project in general areas and 50% of cost in case Hilly & Scheduled areas for individual entrepreneurs.
<u>2</u>	Integrated pack house with facilities for conveyer belt, sorting, grading units, washing, drying and weighing.	Rs. 50.00 lakh per unit with size of 9Mx18M	
<u>3</u>	Pre-cooling unit	Rs. 25.00 lakh / unit with capacity of 6 MT.	
<u>4</u>	Cold room (staging)	Rs. 15.00 lakh/ unit of 30 MT capacity	
<u>5</u>	Mobile pre- cooling unit	Rs. 25.00 lakh	
<u>6</u>	i) Cold storage units Type 1 - basic mezzanine structure with large chamber (of >250 MT) type with single temperature zone	Rs. 8,000/MT, (max 5,000 MT capacity)	

10.1.3 Ministry of Food Processing Industries

Name of the Scheme	Components	Scheme Details (%)
Integrated Cold Chain and Value Addition Infrastructure.	Storage infrastructure including Pack House and Pre cooling unit, ripening chamber and transport infrastructure, value addition and processing infrastructure including frozen storage/ deep freezers associated and integral to the processing, irradiation facilities	Financial assistance (grant-in-aid) under the scheme is limited to a maximum of Rs 10 crore per project in relation to technical civil works and eligible plant & machinery subject to the following: grant-in-aid @ 35% for General Areas and @ 50%-75% for North East States, Himalayan States, ITDP Areas &

Name of the Scheme	Components	Scheme Details (%)
		Islands, of the total cost of plant & machinery and technical civil works will be provided.
Creation/Expansion of Food Processing/ Preservation Capacities (Unit Scheme)		The Scheme envisages grants-in-aid @35% of eligible project cost in general areas and @50% of eligible project cost in the North East States including Sikkim and difficult areas namely Himalayan States (i.e. Himachal Pradesh, Jammu & Kashmir and Uttarakhand), State notified ITDP areas & Islands subject to max. of Rs. 5.00 crore per project.
Infrastructure for Agro-processing Clusters.	<p>Basic enabling infrastructure: Includes site development, development of industrial plots, boundary wall, roads, drainage, water supply, electricity supply including power backup, effluent treatment plant, parking bay, weigh bridges, common office space etc.</p> <p>Core infrastructure: Includes food testing laboratory, cleaning, grading, sorting and packing facilities, steam generation boilers, dry warehouse, cold storage, pre-cooling chambers, ripening chambers, IQF, specialized packaging, other common processing facilities, etc.</p>	<p>The Scheme envisages grants-in-aid @ 35% of eligible project cost in general areas and @50% of eligible project cost in the North East States including Sikkim and difficult areas namely Himalayan States (i.e. Himachal Pradesh, Jammu & Kashmir and Uttarakhand), State notified ITDP areas, Islands and SC/ST entrepreneurs subject to max. of Rs. 10.00 crore per project.</p> <p>The grants-in-aid is credit linked but not back-ended.</p>

Name of the Scheme	Components	Scheme Details (%)
Creation of Backward and Forward Linkages.	<p>Backward Linkage:</p> <ul style="list-style-type: none"> • Integrated Pack-house(s) (with mechanized sorting & grading line/ packing line/ waxing line/ staging cold rooms/cold storage, etc.) • Machinery & equipment for minimal processing and/or value addition such as cutting, dicing, slicing, pickling, drying, pulping, canning, waxing, etc. <p>Transport:</p> <ul style="list-style-type: none"> • Refrigerated/ Insulated transport / Reefer Vans in conjunction with backward and forward linkages. 	<p>The maximum grant extended per project is Rs 5.00 crore @ 35% of the eligible project cost for general areas and @ 50% for North East States, Himalayan States, ITDP Areas and Islands respectively. The grant is provided only in respect of technical civil work and eligible plant & machinery.</p>
Food Safety and Quality Assurance Infrastructure.	<p>Under the scheme, Central/ State Government and their organizations/ Government universities (including deemed universities) and all other implementing agencies/private sector organizations/universities (including deemed universities) are eligible to receive financial assistance for setting up of food testing laboratories.</p>	

10.2 State government schemes

1. Madhya Pradesh :

Name of the Scheme	Department	Scheme Details (%)	Components Covered
MP MSME Development Policy 2021 https://mpmsme.gov.in/mpmsmecms/Uploaded%20Document/Documents/MP%20MSMED%20Policy%202021%20Booklet%20English.pdf	Department of Micro, Small & Medium Enterprises	Assistance for food processing industries is provided (1.5 X Basic assistance to other industries). Basic assistance @ 40% on the eligible investment made by them in Plant & Machinery and building. Assistance for all sectors of industries shall be limited to maximum Rs. 150 crores	Applicable to food processing units with investment of more than Rs. 10.00 crores and up to Rs. 50.00 crores in the plant and machinery.
		Power consumption Support: Subsidy of Rs. 1 per unit or 20 per cent, whichever is less, for a period of 5 years from the date of production / business operation for food processing units.	Applicable to food processing units with investment of more than Rs. 10.00 crores and up to Rs. 50.00 crores in the plant and machinery.
		Exemption from Mandi Fee: exemption from the Mandi Fee for maximum 50% of investment	Exemption to food processing units with investment of more than Rs. 10.00 crores and up to Rs.

Name of the Scheme	Department	Scheme Details (%)	Components Covered
		in plant and machinery or 5 years (whichever is less).	50.00 crores in the plant and machinery. And applicable for those food processing units who shall purchase agricultural produce from the state.
		<p>Special assistance for establishing food parks:</p> <ul style="list-style-type: none"> - Infrastructure Development Assistance- as per Guidelines for the setting up of Mega food park by MoFPI. , an assistance of 15% of project cost (maximum Rs. 5 crores) in establishing mega food park by a private investor. - Stamp Duty Support: Stamp duty reimbursed for transferring land to Special purpose vehicle for establishing mega food park. 	Applicable to food processing units with investment of more than Rs. 10.00 crores and up to Rs. 50.00 crores in the plant and machinery.
Industrial Promotion Policy https://foodprocessingindia.gov.in/state/madhya-pradesh	Directorate of Industries, Madhya Pradesh	Subsidy amount Rs 1 crore or 50% of cost of primary processing center.	Primary processing center in rural areas.
Van Dhan Vikas Kendra Bamhani			

Name of the Scheme	Department	Scheme Details (%)	Components Covered
<p>A group of farmers collect Amla from the jungles, sort it and boil it collectively. The seeds are then removed from the Amla and it is dried under the sun. Van Dhan Vikas Kendra Bamhani is set up by Government of India under 'Van Dhan Yojana'. The unit allows tribals/locals to utilize the 'Van Dhan' (forest produce), to process it (primary processing- dried Amla) and then sell the dried Amla to vendors/ secondary processors. Dried Amla produced at Van Dhan Vikas Kendra is sold to many secondary processing unit such as Vindhya Herbals at Bhopal, Baidyanath, etc. About 11 quintals have been sold to Baidyanath by Van Dhan Vikas Kendra Bamhani in the last season. It has been recently set up in the year 2020. And, about 11 Tonnes of fresh Amla was sorted, graded and washed and then sold to Vindhya Herbals, Bhopal in the year 2020. Van Dhan Vikas Kendra Bamhani has also received training from the Forest Department and TRIFED</p>			

2. Tamil Nadu

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
1	Land Allotment	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	<p>Priority to Food Processing units in SIPCOT/ SIDCO lands and Industrial Complexes as per TN Industrial Policy, 2014.</p> <p>Mega Food Processing Enterprises with investment above Rs. 10 crores are eligible for long lease of upto 99 years of SIPCOT/ SIDCO lands for establishment of food processing parks.</p> <p>Small and micro enterprises are eligible for outright sale or lease based sale as per extant SIDCO policy.</p>	Lease of Land
2	Provision of Water Supply		Water will be made available on priority basis	Food Processing Industries
3	Provision of Power Supply		Govt of TN to supply 24 x 7 reliable quality power	Food Processing Industries

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
4	Extension of Capital Subsidy		Capital subsidy will be provided as per the Tamil Nadu Industrial Policy in Vogue	
5	Provision of Interest Subsidy	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Government of Tamil Nadu will provide interest subvention of 3% per annum on the term loan availed for fixed capital investment. If GOI's interest subsidy is also available, the food processing industry may avail either the GOI subsidy or the state subsidy according to the suitability	Food Processing Units, Cold chain infrastructure, Primary processing centers
6	Increased Interest subsidy for women or Scheduled Caste/ Scheduled Tribes Entrepreneurs		Additional interest subvention of 2% on the term loan availed for fixed capital investment.	New Enterprises led by women or Scheduled Caste/ Scheduled Tribes Entrepreneurs
7	Tax Incentives-SGST		The Govt of Tamil Nadu will reimburse the gross SGST paid. But in the case of units with higher investment, Tax incentive policy adopted for larger industries under TN industrial policy 2014 shall apply..	New Industrial Units with an investment of above Rs. 10 crores excluding the land cost for processing of fruits, vegetables, medicinal plants, minor millets, meat, poultry and Fish for 3 years from the date of commencement of business.

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
8	Stamp Duty Exemption		Stamp Duty Exemption in the Tamil Nadu Industrial Policy 2014 will be applicable	Food Processing Industries in the notified Food Parks and also in the other notified Industrial Parks.
9	Market Fee Exemption	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Exemption from Market Fee	Fruits and Vegetables purchased directly from FPOs and brought Food Parks for Processing
10	Marketing Assistance	Department of Agriculture Marketing and Agri Business (DAM&AB)	Technical Assistance will be provided	Food Processing Industries in branding, packaging, training etc.
		Department of Industries and Commerce	<ol style="list-style-type: none"> 1. Exemption in Earnest Money Deposit (EMD) for participation of Tenders. 2. Granting 50 % subsidy for hall rent for participation in exhibitions 	Subsidies to Micro Small and Medium Enterprises (MSME)

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
		Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Reimbursement of 50 % of cost of participation	Participation in Trade fairs and Exhibitions in Tamil Nadu
11	Quality Certification / Patent Registration facilitation	Dept. of Agriculture marketing and Agri business, GOTN	Dept. of Agriculture marketing and Agri business, GOTN will assist the Food Processing Industries in getting quality certification as per MSME norms or as per other applicable norms in vogue	Food Processing Industries
12	Transport Assistance	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	The Govt of TN will facilitate subsidies provided under the Ministry of Food Processing Review (MoFPI), National Horticulture Mission (NHM) and Mission for Integrated Development of Horticulture (MIDH).	Purchase of reefer vehicles to food processing units

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
13	Export Incentives	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Export incentives offered to MSMEs under the Dept of Industries and Commerce as per other applicable norms in vogue are eligible for food processing units	Food Processing Units
14	Skill Development Initiatives for worker in the Industry	Department of Agriculture Marketing and Agri-Business (DMA&AB) is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Eligible to avail the financial support for providing skill building training to the new employees under State Skill Building Mission.	Food processing units within the food processing parks
15	Research and Development and Testing Labs to be Facilitated	Department of Agriculture Marketing and Agri-Business (DMA&AB)	The Government of TN shall endeavor to set up the laboratories. Prioritize the latest technology developed by TN	Research and Development Laboratories as a common facility in Food

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
		is the Nodal agency to implement the policy and will coordinate with other Departments, GOI and other agencies	Agricultural and other State Universities will also for these laboratories.	Parks
16	NHM	Tamil Nadu Horticulture Development		

3. Uttar Pradesh

Uttar Pradesh Food Processing Industry Policy-2017

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
1	Capital Investment Subs		A subsidy amounting to 25 percent of incurred expenditure on plant machinery and technical civil work	A subsidy amounting to 25 percent of incurred expenditure on plant machinery and technical civil work in respect of setting up, expansion and modernisation/up gradation of the food processing units in the state is provided, subject to a maximum of Rs. 50 lakh in all the districts of the state
2	Interest Subsidy	Uttar Pradesh State Industrial development authority		<p>(A) Cent-percent of the rate of interest accrued on the loan taken from banks/financial institutions for meeting the expenditure on plant machinery, technical civil work and spare parts for establishing the micro and small food processing industries reimbursed for a maximum period 05 years.</p> <p>(B) Other food processing units setup in the state reimbursed the amount of interest accrued on the loan taken for the banks/financial institutions for meeting the expenditure on plant machinery, technical civil works and spare parts, at the rate of</p>

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
				07 percent for a period of 05 years. Its maximum limit will be Rs. 50 lakh per year per unit.
3	Interest Subsidy for Purchase of Reefer Vehicles & Mobile Pre-Cooling vans	Uttar Pradesh State Industrial development authority		For the purchase of reefer vehicle, reimbursement of the amount of interest accrued on the loan taken from banks/financial institutions done at the rate of 07 percent or the actual interest rate, whichever is less, for a period of 05 years. Its maximum limit is Rs. 50 lakh.
4	Skill Development in Food Processing:	Uttar Pradesh State Industrial development authority		Entrepreneurship development programmes organised in the institutes, research & development institutes of the Central and State Governments for training of entrepreneurs/participants for the establishment of industries. Practical training to the selected entrepreneurs for setting up of the food processing units imparted at premier institutions of the country at actual training costs.

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
				<p>Technology transfer done by organising three day food processing training/camp in the Nyaya Panchayats of the state.</p> <p>After training in Nyaya Panchayats, the participants desirous of further training selected for a month long district level training at Government Food Processing Training Centres. Setting up of the small food processing units in the rural areas promoted through new scheme. For this purpose, subsidy at the rate of 50 percent of the unit cost, subject to a maximum limit Rs. 01 lakh per unit provided.</p> <p>The Government Food Science Training Centres strengthened and developed as Centres of Excellence of Food Processing. These centres will be run on PPP model, if needed.</p>
5	Food Processing Promotional Facilities:	Uttar Pradesh State Industrial development authority		Seminars/Symposiums/buyer-seller conferences etc. organised at the state/division/district/block levels with a view to disseminate information about

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
				schemes/ facilities/ concessions and new technology related to the sector for entrepreneurs/horticulturists/youths.
6	Promotion of Standardisation	Uttar Pradesh State Industrial development authority	The state government will provide 50 percent as fee reimbursement subject to a maximum of Rs. 1.50 lakh.	For the purpose of standardization of products as per internationally accepted quality norms, environmental certification and accreditation such as ISO:14001, ISO:2200, HACCP, Phytosanitary certification etc., the state government will provide 50 percent as fee reimbursement subject to a maximum of Rs. 1.50 lakh.
7	Provision for Patent/Design Registration	Uttar Pradesh State Industrial development authority		75 percent of the fees paid by food processing units to the authorised organisations/institutions subject to a maximum of Rs. 1.50 lakh reimbursed as subsidy as a onetime support to the food processing industries for registering their patent/design.

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
8	Provisions for Marketing Development and Brand Promotion	Uttar Pradesh State Industrial development authority		<p>The following concessions and subsidies available for marketing development and brand promotion to the food processing units set up in the state:</p> <p>(1) Subsidy to the tune of 50 percent of the unit cost subject to a maximum of Rs. 02 lakh per beneficiary provided for transport of samples of the processed food products for marketing in other countries. This subsidy admissible for one country and one sample only to a unit.</p> <p>(2) With a view to promote the export of processed food products from the state to other countries, 25 percent of the actual transportation cost of the product upto the sea port/airport subject to a maximum of Rs. 10 lakh per year provided for a period of three years to a beneficiary.</p> <p>(3) With a view to promote the export of processed food products from the state to other countries, 20 percent of F.O.B. price of the products subject to maximum limit of Rs. 20 lakh per year provided for a period of three years.</p>

S.No	Name of the Scheme	Department	Scheme Details / (%)	Components Covered
9	Assistance towards preparation of bankable projects for setting- up of the Food Processing Industries	Uttar Pradesh State Industrial development authority		Assistance provided to entrepreneurs for preparing bankable projects for setting up of the food processing and related industries. The 50% assistance admissible for preparation of Detailed Project Report (DPR) of actual expenditure to a maximum of Rs. 05 lakh per beneficiary.
<p>Amla cluster (intensive) is promoted by NABARD in Pratapgarh district of Uttar Pradesh. Pratapgarh district is known for being the largest producer of Amla in the country. About 2,00,000 tonnes of Amla is annually produced in the district from nearly 20,000 ha of Amla orchards in the district. Most of the orchards are located in a cluster (Gondey, Chilbilia and Makoopur villages) in the district about 15 km away from the district head quarter. Major chunk of the production is supplied to big industrial houses like Dabur, Baidyanath etc.</p> <p>An Intensive Cluster Development Programme for Amla in Pratapgarh district of Uttar Pradesh was sanctioned by UP RO, NABARD to the Centre for Technology and Entrepreneurship Development (CTED). A Common Facility Centre (CFC) was established of capacity 1 MT per day with facilities for shredding, punching, pulping, juice making, pickle mixing, boiling and powder making. Since fresh Amla is available for only 3 months, the centre was running at low capacity utilization of only 20%.</p>				

ANNEXURE 1: MEETING WITH STAKEHOLDERS

Sr. No.	State	Date	Department	Met with	Mode	Minutes
1	Madhya Pradesh	23-Aug-21	MP Industrial Development Corporation Limited	Shri John Kingsly (IAS)	Physical	Discussed about the study on value chain of amla and support to food processing units from Government of Madhya Pradesh. Maximum capital subsidy is extended by GoMP (60%) for food processing units in Madhya Pradesh. Amla processing units were established by Dabur in Katni and Indore districts of MP with the support of GoMP.
2	Madhya Pradesh	23-Aug-21	MP State Agro Industries Development Corporation Ltd Headquarters	Shri M.K. Agrawal	Physical	Discussed about various varieties of Amla, collection of amla from forest areas and scope for processing of Amla in various parts of Madhya Pradesh. Director emphasized the need to reduce exploitation of forest and need for drying and pulverising units in the cluster areas where forest amla collection is more common.
3	Madhya Pradesh	23-Aug-21	Indian Institute of Forest Management	Dr. Bhaskar Sinha, Faculty	Physical	Discussed about the value chain of amla in Madhya Pradesh, various activities of IIFM and amla products produced by Minor Forest Produce Processing Centre at Bhopal.
4	Madhya Pradesh	15-July-2021	Department of Horticulture and food processing, Madhya Pradesh	Shri Aruj Hajela, Senior Horticulture Development Officer	Virtual	- Project details and plan was shared with the State Horticulture department.
5	Madhya Pradesh	15-July-2021	District Horticulture Office, Katni	Shri Suryabhan Sing, District Horticulture Officer	Virtual	- Discussion on facilitation in collection of secondary data and reports for Amla crop - Discussion regarding complete value chain of Amla in the selected districts in Madhya Pradesh

Sr. No.	State	Date	Department	Met with	Mode	Minutes
6	Madhya Pradesh	15-July-2021	District Horticulture Office, Rewa	Shri Yogesh Pathak, Distric Horticulture Officer	Virtual	- Nomination of District Officers for further coordination by State Horticulture Department.
7	Madhya Pradesh	15-July-2021	District Horticulture Office, Sidhi	Shri Sant Kumar Tripathi, Distric Horticulture Officer	Virtual	
8	Madhya Pradesh	15-July-2021	District Horticulture Office, Shahdol	Shri Madanlal Paraste, Distric Horticulture Officer	Virtual	
9	Madhya Pradesh	15-July-2021	District Horticulture Office, Singrauli	Shri H L Nimoria, Distric Horticulture Officer	Virtual	
10	Madhya Pradesh	05-Aug-2021	District Horticulture Office, Chhindwara	Shri R K Kori, Distric Horticulture Officer	Physical	<ul style="list-style-type: none"> - Discussion regarding the production, processing and supply chain of amla in the district. - Discussion on shemes for plantation of amla in the district. - Discussion regarding various stakeholders involved in the supply chain of amla in the districts. Identification of FPOs in the district working on amla.

Sr. No.	State	Date	Department	Met with	Mode	Minutes
11	Madhya Pradesh	05-Aug-2021	Forest Department, Chhindwara	Shri Alok Pathak, District Forest officer South	Physical	<ul style="list-style-type: none"> - Forest Department official indicated that production of amla in Chhindwara is mainly from the jungles, proper farms/ cultivation areas are not common for amla in the district - It was discussed that amla in the jungles comes under the jurisdiction of District Forest Department. Department informed that some areas of jungles have been demarcated and fenced for amla plantation. - Discussion was also held regarding the support of the department to farmers under the Van Dhan Yojana by GoI, and implementation of Van Dhan Vikas Kendra in the district for farmers collecting forest produce including Amla.
12	Madhya Pradesh	06-Aug-2021	District Industry Center, Chhindwara	Sh Keshav Raw Uikey	Physical	<ul style="list-style-type: none"> - Discussion regarding processing units for amla in the district. - It was informed by the officials that no such data is available with DIC for amla processing units. - It was further informed that the department has data related to only those units that have received any grant /subsidy/ support by the state government. Only such units are routed through DIC.
13	Uttar Pradesh	31-Aug-21	Regional Food Research and Analysis Centre Department of Horticulture and Food Processing	Dr. S.K. Chauhan, Director	Physical	Discussed about the lab testing services and capacity building programs provided by the institute to farmers and innovative food products developed by the institute. Scope for amla products and testing facilities available in the centre were also discussed.

Sr. No.	State	Date	Department	Met with	Mode	Minutes
14	Uttar Pradesh	31-Aug-21	Commissioner & Director Of Industries	Shri Manish Chauhan, IAS	Physical	Discussed about the amla value chain and support of state government for food processing activities in Uttar Pradesh. It is ascertained that the share of amla processing units is negligible in the state. However, the support of GoUP is available for all processing activities including amla.
15	Uttar Pradesh	31-Aug-21	ODOP Cell	Shri Sunil Kumar Joint Commissioner	Physical	Discussed about ODOP and scope for support in amla cluster of UP. Under One District One Product scheme, Amla is the product identified for Pratapgarh district and amla processing units were established under ODOP in Pratapgarh. Besides, a few units expanded with the support under ODOP.
16	Uttar Pradesh	31-Aug-21	Department of Horticulture and food processing	Shri RK Tomar, Director	Physical	Discussed about the availability of surplus amla for processing in the state and reliability of production data collected from various sources in the state. Director emphasized the need for geo-scanning / remote sensing based estimation of production of major crops in the identified clusters to estimate the production (reported to be reliable to the extent of >90%).
17	Uttar Pradesh	11-Aug-21	District Horticulture Office, Chitrakoot	Dr. Baldev Prasad, District Horticulture officer	Physical	<ul style="list-style-type: none"> - Discussion on Pre and post harvest Management of Amla cultivation - Production of Amla in the district and various schemes for plantation of Amla - Discussion on processing units status of Amla in the district - Forward and backward linkage for Amla in the district
18	Uttar Pradesh	11-Aug-21	APMC, Chitrakoot	Shri Vipul Kumar, APMC Secretary	Physical	- Discussion on arrival trends of Amla in the Mandi in last 3 years

Sr. No.	State	Date	Department	Met with	Mode	Minutes
19	Uttar Pradesh	12-Aug-21	APMC, Banda	Shri Pradeep Ranjan, APMC Secretary	Physical	<ul style="list-style-type: none"> - No of farmers bringing amla to the Mandi - APMC view on Amla production in the District - Discussion on forward linkages of Amla - Reason for reduction in Amla production and discouragement of farmers to grow Amla
20	Uttar Pradesh	13-Aug-21	District Horticulture Office, Banda	Shri Rajendra Prasad, District horticulture officer	Physical	<ul style="list-style-type: none"> - Production statistics of Amla in the district in last three years - Post harvest management of Amla in the district - Storage and processing infrastructure in the district along with the marketing linkages - MIDH schemes for plantation of Amla to motivate farmers - Forward and backward linkages of Amla in the district - Amla processing and value addition status in the district
21	Tamil Nadu	15-Jul-21	Department of Agriculture Marketing and Agri Business	Ms. Carol Samuel , ADA and other department officials	Virtual	<ul style="list-style-type: none"> - Project details and plan was shared with the State department. - Discussion on facilitation in collection of secondary data and reports for Amla crop - Discussion regarding complete value chain of Amla in the selected districts in Tamil Nadu - Nomination of DDAs of the selected 3 districts as District Officers for further coordination by State Department.
22	Tamil Nadu	05-Aug-21	District Industry Center, Tirunelveli	Mr. Ganesan, Project Manager	Physical	Discussion was held regarding the existing processing units of amla and amla products. The official had informed that they have data related to only those units that have received any grant /subsidy/ support by the state government. Only such units are routed through DIC. For amla

Sr. No.	State	Date	Department	Met with	Mode	Minutes
						related processing industries, there was no such data available with DIC.

ANNEXURE 2: ANALYSIS OF COST OF CULTIVATION

Particulars							
Land	1 hectare						
No of plants	50						
Wage rate	Rs 300/ day						
						(Amount in Rs.)	
Economics of Amla cultivation		Years					
		1	2	3	4	5	6
Material cost							
Cost of planting materials (@ Rs 120/-)		13200	0	0	0	0	0
FYM		2000	3000	4000	5000	6000	6000
Fertilisers		1620	3240	4820	6480	8100	9720
PP chemicals		1000	1000	1000	1000	1000	1000
Cost of drip irrigation - installation		35000					
Subtotal – Material cost		52820	7240	9820	12480	15100	16720
Operating Costs							(Amount in Rs.)
Operation and Labour	Years						
		1	2	3	4	5	6

Clearing of site	2000					
Fencing	1000					
Pit making	3000	300				
filling pits	3000	300				
planting/ staking/ mulching	4000	400				
Manuring	3000	4000	4000	4000	5000	5000
Inter crop	3000					
PP operation	600	600	600	1000	1000	1000
Inter cultural operations	2000	2000	2000	2000	2000	3000
Irrigation	1000	1000	1000	1000	1000	1000
Miscellaneous	169	138	157	126	145	114
Sub Total (Operation and Labour)	22769	8738	7757	8126	9145	10114
Total cost	75589	15978	17577	20606	24245	26834
Years----->	1	2	3	4	5	6
Yield per unit KG/hectare	0	0	0	2500	5000	10000
Price per kg	15					
Total Income per Unit area/produce	0	0	0	37500	75000	150000
Expenditure	75589	15978	17577	20606	24245	26834
Net Income	-75589	-15978	-17577	16894	50755	123166
BCR					1.45	
NPW @ 15% DF					₹ -1,226.93	
NPW Cost @ 15% DF					₹ 1,24,805.07	
NPW Benefits @ 15% DF					₹ 1,23,578.14	
IRR					15%	

ANNEXURE 3: CASE STUDIES

Dabur Chyawanprash

Dabur India is one of the largest FMCG in India and has a legacy of over 100 years. It was established by Dr S K Burman in 1884. The main motive for setting up of the manufacturing unit was the manufacture of Ayurvedic drugs.

Chyawanprash, an Ayurvedic formulation, is the largest selling Ayurvedic Medicine with over 65 per cent of market share. As a proven and rich source of vitamin C and antioxidants, Dabur Chyawanprash provides multitude of health benefits.

Dabur Chyawanprash was the first packaged and branded Chyawanprash in India, when it was launched in 1949. Over the years the Dabur Chyawanprash has undergone several repositioning to to accommodate the changing taste and

preferences of consumers and to retain its strong hold among consumers across all age groups and at all times.



Venkatesh Naturals Private Ltd, A case study from MP

Venkatesh Naturals Pvt Ltd is a secondary processing unit manufacturing various fruits and vegetables juice powder (by spray drying) and extracts. Amla juice powder and Amla extract (Vit C) are one of the main products manufactured by the unit. The total production of Amla juice powder and Amla extract (Vit C) is about 40-45 MT per year. Out of this production, about 50% (about 20 MT) is exported to the USA.

For producing amla juice powder, spray drying technology is used and for amla extracts, solvent extraction technology is used. The capacity of the spray dryer is about 12 Tonnes per day and for solvent extraction it is 5 Tonnes per day.

The amla fibre obtained after extracting the juice is also utilised by drying and is sold as fiber to many companies. Belt driers are used for the fibre drying. The belt dryer capacity is 20 Tonnes per day.

The unit is used for manufacture a wide variety of products such as fruits and vegetable powders (apple powder, beetroot powder etc.), dehydrated products, herbal extracts (Amla extract, ashwagandha extract etc.), natural food colors etc. They are a supplier of ingredients of many other processing companies. Their products are not available in retail market. Their products are sold with brand name 'Vee Naturals'.

The unit has in built testing laboratory and a cold storage of capacity 200 MT, however only 30-40 MT is being utilised at present for raw materials and finished goods.

The unit is also having HALAL Certificate, ISO 22000:2018 Certificate, Kosher Certificate, Organic EU certificate and NPOP Organic Certification.



Uttarnand Road, Ajaniya, Madhya Pradesh 486223, India		
	Decimal	DMS
Ajaniya Madhya Pradesh India	Latitude 22.089844	22°5'23" N
	Longitude 78.989798	78°59'23" E

Amla 100, A case study from Tamil Nadu

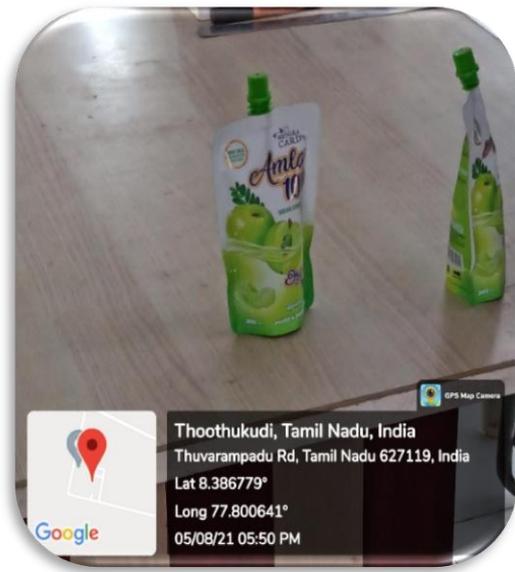
Amla 100 is the farm division of Menaka Card Private Limited and is located at No:1-2-3/5, Thuvarampadu Road, Sanganankulam, Thisaiyanvilai (TK), Tirunelveli District, Tamil Nadu - 627118. Amla Juice is the final processed product by the company.

They have their own farm of amla (NA 7 and Kanchan Variety) and are running a unit with line capacity of 500 L/Hour. They are storing the amla in their own refrigerator at the unit. The shelf life of the product is 6 months.

Currently, they are selling their product in 5 districts of Tamil Nadu, Chennai, Tirunelveli, Kanyakumari, Tuticorin and Tenkasi.

Challenges faced

- **Marketing-** The product which is Amla juice is currently being marketed to 5 districts of the state but the demand is less as people are not ready to pay the price for the juice since fresh amla is already available to them.
- **Packaging of the product:** The unit faced a problem while designing the packaging for their product. Therefore, non-availability of the information related to the type and design of the packaging for the food products is one of the gaps being identified at processor level.
- No intimation regarding the changes in FSSAI regulations.
- Lack of awareness and no access to subsidy related information.
- **Challenge related to Information system-** Information like source of amla for procurement and information related to market and demand in both domestic and international markets is not available. Access to trade related information is one of the requirements for expanding the business overseas.
- Non-availability of cold storage within the 50 km of the processing unit.



They are now planning to cater to the international market for Amla by exporting Amla processed products to Europe and Dubai. According to the processor, farmers should be encouraged for further production in the region to promote the Amla cultivation. But since farmers have to wait for 4-5 years for Amla cultivation, a solution for the same is required to encourage the farmers.

The demand for Amla has increased due to the Covid 19 pandemic situation. Brokers are selling Amla to Kerala for ayurvedic purposes.

