

Detailed Project Report on

**Establishment of a Primary Processing Unit for Non-Timber
Forest Produce in Madhya Pradesh**



Abbreviations

NTFP	Non-Timber Forest Produce
MFP	Minor Forest Produce
MP MFP Federation	Madhya Pradesh State Minor Forest Produce (Trade & Development) Federation, Bhopal
NCDC	National Cooperative Development Corporation
MAPs	Medicinal & Aromatic Plants
DSCR	Debt Service Coverage Ratio
IRR	Internal Rate of Return

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1. Introduction

Non-Timber Forest Produce (NTFP) also known as Minor Forest Produce (MFP) includes goods obtained from forests without harvesting whole trees and includes a wide range of products like bamboo, aromatic & medicinal plants (MAPs), wild fruits, vegetables, lac, honey. Different parts of different NTFPs are used like leaves, flower, fruit, root and stem. These NTFPs are available naturally in the forest area and are collected or harvested by the communities living in and around forest area. These NTFPs serve as food & medicine and also provide livelihood to these communities. The NTFP sector represents one of India's largest unorganized sector, but still roughly 100 million people of the country are either directly or indirectly dependent on this sector for their livelihoods and accounts for around Rs. 6000 crores per annum. Nearly half of the country's forest revenue and 70 per cent of export forest revenue comes from NTFPs. Today people are shifting from modern system of medicine to the traditional Indian system of medicine which has increased the demand of these NTFPs worldwide. The demand has also increased in the food & beverages industry, apart from it many species are used for direct consumption like Honey, aonla, Chironji. Similarly, aromatic & essential oils are in great demand like Eucalyptus oil, lemongrass oil, etc.

Madhya Pradesh state has a forest area of 30.71% of total area of the state in which Tendu leaves as one of the most important NTFP. Madhya Pradesh is the first state to nationalize Tendu leaves which has restricted it to be collected and traded only through M.P. State Minor Forest Produce (Trade & Development) Cooperative Federation while rest of the NTFPs are free to trade. MP MFP Federation is an apex organization for regulation of NTFP in M.P. state established in 1984. Federation distributes 60% of its profits to the collector, 20% on development of NTFPs & its regeneration and rest 20% on infrastructure development and payments. Currently there are more than 500 species major and minor NTFP species in Madhya Pradesh.



Figure 1: A collector involved in collection of Mahua

These NTFPs are gathered/ collected by the collectors and are sold in local markets or traders thereby realizing lower prices and exploitation from the traders. Therefore, in order to get more money, the collectors start collecting more and more NTFPs to increase the quantity of collection which results in unsustainable and destructive harvesting practices, contamination, adulteration, substitution. The NTFPs start declining in the area, it has been observed that many species which were abundantly available in the area have declined and some have extinct due to such practices. In order to fetch better prices, the Federation has established 1091 Primary Minor Forest Produce Societies across the state for collective trade but are not able to perform better because of poor support from the Federation in terms of marketing, investment for primary processing units at society level for value addition. Collective marketing, primary processing and value addition of NTFP and capacity building in terms of sustainable and non-destructive harvesting practices will reduce the transportation cost, increase value, increase bargaining power and better prices.

2. The Project & the Proposal

Currently the society is operational in the Vidisha district of Madhya Pradesh and works on the following NTFPs and the procedure adopted along with its uses are mentioned in the table 1 below.

2.1. Species, scientific name, uses & procedure involved

Seasonality has a drawback of availability of the species during a specific period but also provides a benefit of year-round collection of different NTFPs thereby resulting in livelihood round the year except during monsoon for regeneration and during May & June for collection of Tendu patta. Collection at right time provides high quality and high nutrition value NTFP which automatically increases the prices in the market. The availability of different NTFPs currently collected by the society is mentioned in the harvest/ collection calendar below:

Table 1: Species, scientific name, uses & procedure involved

Name of the Species (scientific name)	Picture	Uses	Procedure involved	
			By Collector	By Society (Unit)
Gudmar Leaves (<i>Gymnema sylvestre</i>)		Diabetes, cough, cardiac activities & blood circulation, jaundice.	Sorting, cleaning, Drying	Supply to the unit
Arjuna Bark (<i>Terminalia arjuna</i>)		Anti-oxidant, cholesterol, blood thinning, protection to the liver and kidney	Removal of bark, cut into pieces of 1 inch	
Giloy (<i>Tinospora cordifolia</i>)		Chronic fever, digestion, diabetes, reduces stress and anxiety, respiratory problems, Arthritis, Asthmatic Symptoms	Cut into small pieces	
Khareti (full plant) (<i>Sida cordifolia</i>)		Ache, blood disorders, piles, decreased urine output, inflammation, pain, aphrodisiac		
Bhringraj (full pant) (<i>Eclipta prostrate</i>)		Hair care, powerful liver cleanser		

The table 1 depicts the difference between the collection potential and the current collection even after sustainability is taken into account. The reason of less collection is the market availability, collection by outsiders in this area who have access to market. The society accepts only the quantity it can sell and in case of an advance order the collection increases.

Table 2: Harvest/ collection Calendar

Name of the Species	Quantity (in tons)		Price per kg.			Months of collection											
	Available	Collection	Collection	Sale unprocessed	Sale Processed	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NTFPs currently procured																	
Gudmar	20	10	30	60	100												
Arjuna	20	2.5	18	28	80												
Giloy	15	5	25	37	80												
Khareti	6	1	15	25	70												
Bhringraj	10	2	20	50	80												
Additional NTFPs available																	
Baheda shell	10	-	12	20	30												
Bhui Aonla	2	-	25	60	90												
Van Tulsi	5	-	15	60	90												
Adusa leaves	5	-	20	50	90												

The project is to establish a primary processing unit which will have an office cum godown, platform for drying and packaging, machinery for primary processing and capacity building of the collectors on sustainable & non-destructive harvesting practices. This unit can initially provide services only to the current members and market the processed NTFPs. Later on, in case of increase in demand the unit can procure NTFPs from adjoining areas and can process other NTFP species also.

2.2. Vision, Mission, Goals & Objectives

Vision

To provide better prices of the NTFPs collected by the members on a sustainable basis.

Mission

To make NTFP collection in the area sustainable & non-destructive and become the leader in trade of better quality NTFP in the district and provide better livelihood to its members.

Goal & Objectives

- To provide training to all the 50 collectors on sustainable & non-destructive harvesting practices and their primary processing and value addition.
- Encourage members to trade only through the society i.e. collective marketing in order to increase the negotiation power.
- To increase income by providing better prices for the potential NTFPs during different seasons.
- Increase number of collectors and number of NTFPs which can be traded by increasing the scope & area of operation.
- To establish a primary processing unit to add value to the collection, reduce transportation cost and increase margins.
- Market quality NTFPs without contamination, adulteration & substitution.

2.3. Proposed investment

The proposed investment as per the project and the requirement of the society is mentioned in the table 3 below. The block cost of the project is Rs. 20.30 Lakhs which includes the components like godown of 100 MT, platform for drying, machineries like dryer, pulveriser & shifter, other equipment & tools, racks weighing balance and capacity building.

Table 3: Proposed investment

Particulars	Amount (Rs. In Lakhs)
Building	
Godown (100 MT - 6x10x4.5 meter)	6.00
Drying Platform (10x10x0.5 meter)	1.50
Plant & Machinery	
Dryer	1.50
Pulveriser (Stainless steel - 5 kg to 1 ton; 5 HP to 50 HP)	2.50
Shifter (40 to 300 kg; 1 HP)	1.00
Equipment & tools	1.00
3 Racks (Iron rack - 12m X 2m X 3m)	4.50
Weighing Balance	0.30
Capacity building	2.00
25 participants X Rs. 4000 per participant = Rs. 1,00,000	
(Batches - 2 X Rs. 1,00,000/-)	
Block Cost	20.30

*The above costs are normative & subject to change as per actual need.

The society is a tribal (weaker section) society, therefore it eligible for loan up to 65% and a subsidy of 20% as Madhya Pradesh is a under developed state. The contribution of the society is 15% and in case the society is not able to contribute this amount, M.P. MFP Federation may provide the societies contribution. The proposed pattern of funding will be as mentioned in the table 4 below:

Table 4: Financial assistance pattern

Component	Amount (Rs. In Lakhs)
Term Loan (65%)	13.20
Subsidy (20%)	4.06
Financial Assistance required	17.26
Society contribution (15%)	3.05
Block Cost	20.30

Present scenario of similar projects

Every Primary Minor Forest Produce Society has been allocated an area by MP MFP Federation. The society can collect the MFPs of its area of jurisdiction. There are 13 Primary Minor Forest Produce Societies registered in the district of Vidisha. Presently no other society is involved in primary processing of MFPs.

Availability of statutory and other clearances required for the project

The society has passed the board resolution in the Annual General Meeting of the society for establishment of the primary processing unit and has also taken permission of the same from the Vidisha District Union which is the district body under MP MFP Federation. Since, there will be no emission of smoke or any other harmful effluent, therefore, the society does not require any other permission from the body.

Availability of utilities- water, electricity, fuel, etc.

The land which has been provided to the society has water connection. The area is already electrified and the society will take electricity connection for the unit.

Availability of land

The unit will be established on the land provided by the Vidisha District Union to the society for conducting business activities in the Forest Range Officer premises.

3. Feasibility Assessment

Technical Feasibility

- Madhya Pradesh has abundant NTFP resources of high quality & high value.
- NTFPs are already in high demands.
- The technology and procedure used is not highly specialised which make operations very easy.
- The machinery supplier will provide the training to the personnel involved in operating the machineries.

Commercial Feasibility

- The NTFPs will be procured from the forest area by collectors.
- The plant & machinery will be procured from the state level supplier while other required inputs will be procured from local suppliers.
- The local engineers & contractors will do the civil works.
- Storage facility will be created.
- Local transportation service providers will be hired.

Organizational Feasibility

- The collectors have been collecting the NTFPs required for the unit.
- The society is already involved in the trade of NTFP.
- The society will be easily available to market as it is already involved in the business.
- The society is under the jurisdiction of the M.P. MFP Federation which has full control on the NTFP regulation; therefore, legal obligations will be met.
- The collectors will get capacity building & skill development.

Financial Feasibility

- As per the annexure, the average income currently a collector is getting from the procurement (as per table 9) is Rs. 9,400/- per annum while after establishment of the unit the average income the collector will be Rs. 25,300/- per annum. Thereby an increase of around 30%.
- The society can avail the financial assistance along with subsidy of 20% from NCDC.
- The average Debt service coverage ratio (DSCR) of the project is 3.00 which states that the society will have enough amount of cash flow available to meet annual interest and principal payments on debt.
- The Internal Rate of Return of the project is 31.1% while the rate of interest on the proposed unit is 10.60%.
- Calculation of DSCR and IRR is mentioned in Annexure – 2.
- The cost estimates and the projections are near to reality.

Economic Feasibility

- The proposal has justifiable demands and as per the requirement of the society.

Opportunity & Feasibility Assessment

Table 5: Opportunity & feasibility assessment

Project	Resources	Inputs	Technology/ Processes	Output	Markets
What NTFP Primary Processing Unit	What/ Which NTFP naturally available	What/ Which Tools & equipment	What/ which Basic processing & value addition (Dryer, pulverizer, shifter)	Product service Value added, primary processed raw material	Which Market Ayurvedic & Herbal, Food & Beverages
Why Demand of 100% natural raw material	From Where Forest Areas	Source From local suppliers	Appropriate Latest technology/ cost effective	Market Orientation Local mandis only	Strength Opportunity 100% natural raw material
How Collection & Primary Processing	How do we source Collection by members	How do we source Lowest quotation	Access Available at district level	Packaging Offerings Solutions Gunny bags, polyethene, containers	Channels creating demand Timely delivery, high quality, form as per requirement
When Collection season	When Season of NTFP	RT, RQ, RQ, RC, RS Season, naturally available NTFPs, Sustainable harvesting, Marginal pricing	Sequence/ Scheduling As per Seasonal availability	Cycles seasonality As per season	Phases Pre-harvest orders, post-harvest supply
Who Collectors/ gatherers	Cost Benefit Collectors collect from forest area for free	Logistics Trucks	Cost-Benefit Low cost, better margins	Position USP 100% natural, high nutrition value	Partners MFP Federation, suppliers, customers

4. Business Model

Key Partners

- Members of the society involved in collection of NTFP.
- Society level primary processing unit to be established.
- M.P. State MFP Federation involved in regulation of NTFP can also provide exclusive collection rights to the collectors.
- Suppliers of machinery & equipments.
- Transport facility providers.
- Buyers like industries, traders who require NTFPs.

Key activities

- Capacity building & skill development
- Collection, cleaning, sorting, grading by the members.
- Primary processing, transportation, marketing by the society (Unit).

Key Resources

- Sunlight, dryer, pulverizer, shifter for processing.
- Racks, platform, office cum storage facility.
- The collectors who are well aware of the routes in forest areas, availability, locations and selection of better quality NTFPs.
- Financial assistance at low rate of interest.

Value proposition

- 100% natural and nutrient rich NTFP as raw material.
- Industries don't get right quality due to contamination, adulteration & substitution.
- May supply as per the demand of the buyers in the form of raw, small pieces, powdered, etc.
- Processed NTFPs will reduce the cost of transportation & further processing.
- Capacity building will reduce the risk of sustainable & non-destructive harvesting practices.

Customer relationship

- The customers will be kept updated about the collection of raw material and its processing.
- NTFP collected at right time and delivered on time to get maximum yield & nutrition.
- Customer relationship is the key to the complete project.

Channels

- Currently society is reaching them through the traders/ middleman.
- Logistics involved is the transport vehicle from the society to the customer.
- Society will make timely delivery in case of advance orders.

Customer segment

- Ayurvedic & herbal pharmaceuticals manufacturer.
- Food, beverages and cosmetic industry.

Revenue streams

- Customers need quality and nutritious NTFPs and can pay higher prices.
- Currently customers pay lower prices for un-ripened NTFPs, collection before the season and in unprocessed manner.
- They are paying after delivery of the collection.
- After gaining the confidence of the customers the society can get advance orders and can make advance payments to collectors also.

Cost Structure

- The most important cost inherent is the infrastructure development & plant & machinery.
- Most expensive key resources are the NTFPs.
- Most important key activity is the processing.

Value Chain Analysis

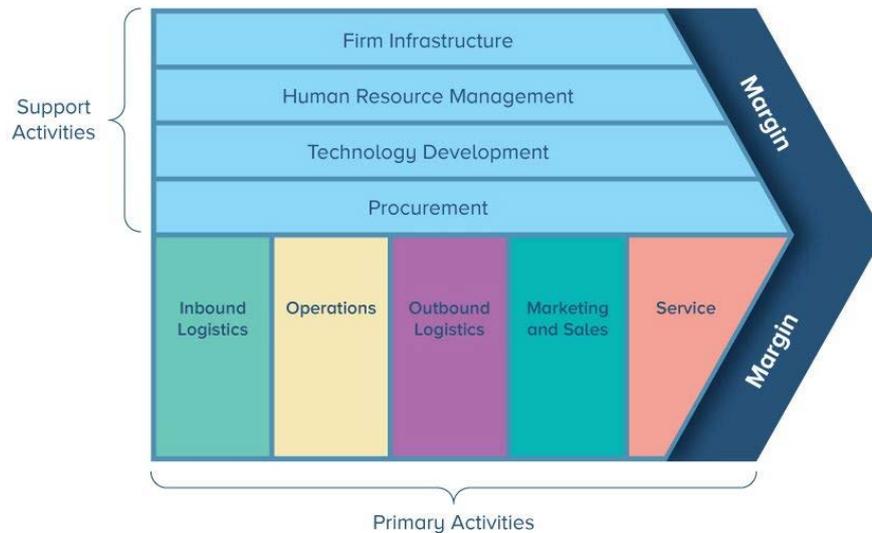


Figure 2: Value Chain model

Firm Infrastructure

The society will be fully equipped with the required infrastructure for the Primary Processing of the NTFP through sustainable & non-destructive harvesting practices. The infrastructure development in terms of building & civil work will be a godown for storage with racks of un-processed and processed NTFP and a platform for drying the NTFP in sunlight.

Human Resource Development

The capacity building & skill upgradation will be provided to the 50 collectors by developing a module of training highlighting importance of sustainable harvesting practices. The members will be provided field level training by textual & pictorial representation, documentaries, practical training on the following topics:

- Good collection practices
- Sustainable & Non-destructive Harvesting Practices
- Importance of seasonality in harvesting of NTFPs
- Cleaning, sorting & grading, Primary Processing and Value addition that can be adopted by the NTFP collectors
- Market information

Technology Development

The project does not involve high level of technology as it is just a primary processing & value addition unit. The core of the project lies in the traditional & scientific knowledge and studies related to the sustainable & non-destructive harvesting practices. The members will be provided the scientifically tested primary tools for sustainable & non-destructive harvesting practices of NTFPs. The society will be provided with the dryers, pulveriser (for making powder), shifter (strainer) and other required tools & equipment for primary processing & value addition.

Procurement

The members will be allocated the area/ tree/ resources in order to remove the conflict among the community members and to provide equitable allocation of resources. This will be done by the General Body Meeting. The members will collect the NTFP in the predefined month only in the form required. They will clean, sort, grade and pre-primary process the NTFP as per its requirement. The primary society will procure

the NTFP from the collectors and store it in their godowns. The society will then do primary processing & value addition as per the requirement of the NTFP.

The other resources like the tools, polythene bags, gunny bags, container etc. will be procured from the local suppliers. The machinery & equipment will be procured from the best manufacturer in the state of Madhya Pradesh.

Inbound & Outbound Logistics

The collectors supply the collection to the society over their heads, bicycle or on motorcycle. After processing the NTFPs will be transported to the customers on trucks. Later on, in case of expansion in other areas the society can purchase a transport vehicle to reduce the transportation cost.

Operations

The operations involved are primary processing and value addition by the society after collection from the collectors. The collectors may be provided marginal money in advance to get their confidence.

Marketing & Sales

In current scenario the members of the society sell their produce to the local traders and get lower prices. Therefore, the society will do marketing of the produce through participation in exhibitions, trade MoUs and through other mediums. The possible markets of the NTFPs are the Ayurvedic & Herbal Pharmaceutical manufacturing units, food, beverages & cosmetics industry, local markets, NTFP mandis in Neemuch, M.P. and Khari Bawli, Delhi. M.P. MFP Federation will also provide its continuous support in marketing of the produce.

5. Risk Management

The risk involved in the establishment and operations of this unit will be as follows:

- 1. Change in regulations:** Government may include other NTFPs as nationalized NTFP or may regulate or restrict the trade of NTFPs.
- 2. Unsustainable & Destructive Harvesting:** Since the unit will purchase the collection of the collectors and will provide right payment on right time. This may influence the collector towards the unsustainable & destructive harvesting practices which may lead to decrease in the production of the NTFPs thereby resulting in chances of very poor regeneration in the area.
- 3. Traders/ middleman influence:** The unit once becomes operational will procure almost all the quantity collected thereby resulting in non-availability of the NTFPs in the area. In order to influence the collectors, the traders/ middleman may pay a little higher price of the NTFPs which may make the collectors to sell the collection to the traders rather than the unit and in the case of non-availability of resources the operations/ production will get hampered and the unit may have to struggle for its repayment of loans and its existence.
- 4. Industries procure from other areas:** In case of collective marketing the society may demand higher prices and negotiate which may lead the industries and traders to shift to other areas for procurement.
- 5. Marketing:** The society does not have any marketing professional nor has any expertise in marketing in different areas. Therefore, the project may fail due to improper marketing.

6. Products & Markets

The products will be collected as per the season of their availability. The collected NTFPs will be supplied in the form of raw material. Currently the society trade the NTFPs like Gudmar leaves, Arjun bark, Giloy, Khareti (full plant) & Bhrangraj (full plant).

The markets available for these raw materials will be as follows:

- Ayurvedic & herbal pharmaceutical industry
- Food & beverages industry
- Local mandi

7. Plan Implementation; Monitoring & evaluation

The project will be planned and implemented in the following sequence:

- Consultation with the M.P. State Minor Forest Produce Federation & District Union.
- The backward & forward linkages will be created.
- Infrastructure development & machinery procurement.
- Capacity building & skill development.
- Operationalization of the unit.
- Monitoring & evaluation

The project will be monitored jointly by the Federation and the funding agency. The detailed criteria will be developed revolving around the sustainability, income generated by the unit and the collector.

Schedule/ Timeline

The project will start after the sanction and release of first instalment.

Table 6: Project Schedule/ timeline

Activity	Time duration
Construction of Godowns and Procurement of Machinery & equipments	4 months
Installation of Machinery & equipments and Capacity building	One month
Trail Run and commercial production	One month

8. Financials

DSCR

The average debt service coverage ratio of the project 3.00 and the calculation is at Annexure – 2.

Debt-Equity Ratio

On the basis of the financing pattern, the long-term loans will amount to Rs. 13.20 Lakhs and subsidy will be Rs.4.06 lakh while the contribution of the society is Rs. 3.05 Lakh. Therefore, the Debt-Equity Ratio will be 65:35 which is a very healthy ratio for a processing unit.

Table 7: Calculation of Debt Equity Ratio

(Rs. In lakh)	
Long term loans	0.00
Long term loans to be sanctioned	13.20
Total	13.20
Subsidy	4.06
Society's own funds	3.05
Net worth (including subsidy of Rs. lakhs)	7.11
Debt: Equity	65:35

Internal Rate of Return

The Internal Rate of Return of the project is 31.1% while the rate of interest on the proposed unit is 10.60% and the calculation is at Annexure – 2.

Repayment Schedule

The repayment schedule of the project will be as follows:

Table 8: Schedule of repayment of loan

Instalment No. (half yearly)	Outstanding loan	Principal	Interest (@10.60%)	Total Payment
1	13.20	0*	0.73	0.73
2	13.20	0*	0.73	0.73
3	13.20	0.94	0.73	1.68
4	12.25	0.94	0.68	1.63
5	11.31	0.94	0.63	1.57
6	10.37	0.94	0.58	1.52
7	9.42	0.94	0.52	1.47
8	8.48	0.94	0.47	1.42
9	7.54	0.94	0.42	1.36
10	6.59	0.94	0.37	1.31
11	5.65	0.94	0.31	1.26
12	4.71	0.94	0.26	1.21
13	3.77	0.94	0.21	1.15
14	2.82	0.94	0.16	1.10
15	1.88	0.94	0.11	1.05
16	0.94	0.94	0.05	0.99
		13.20	6.97	20.17

*There will be a moratorium of 1 year on repayment of principal amount.

9. Conclusion

There is a great need of to fill the gap between demand and supply of NTFP. By capacity building of the collectors, reducing the cost and adding value, society can realize better prices for the collection. The proposal is viable and the society will generate enough cash flows to repay the loan. Therefore, establishment of this primary processing unit may help in achieving the objectives and may result in upliftment of the community living in and around forest areas.

10. Assumptions

1. The Primary Minor Forest Society will be able to arrange the paid-up share capital (its contribution of 15%) amount to Rs. 3.05 Lakhs to become eligible for financial assistance or it arranges its contribution from its Apex level organization, MP MFP Federation.
2. The society will be able to arrange the security required to provide to the agency providing the financial assistance.
3. The collectors will not get involved in destructive harvesting practices which will lead to sustainability issue of the NTFPs and thereby the processing unit.
4. The collectors supply the collected NTFPs to the processing unit only and not to the traders/ middleman for marginal higher prices.
5. The participants trained don't get involved in other livelihood activities or migrate.
6. The processing unit will run on a single shift basis of 8 hours and 270 days a year.
7. The processing unit will get a constant supply of water through bore well.
8. The demand of Ayurvedic & Herbal products will increase gradually.
9. There will no restriction on collection and trade by state government.
10. Primary Minor Forest Produce Societies in other districts also don't get involved in collection, trade & processing of the same NTFPs resulting in increase in competition.
11. The proposal will be approved in the month of August 2018 and all the activities are completed in time thereby the plant gets operational in February 2019.
12. Proper & effective capacity building will be provided to the collectors.
13. The increase in the selling price of the NTFPs and the increase in expenditure is assumed at 5% annually.

Table 9: Procurement & sales projection

Current Procurement & Sales

*Amount in Lakhs

Species	Quantity (in tons)	Wastage percent	Wastage (in tons)	Net Quantity (in tons)	*Cost of Purchase (per kg)	*Purchase Amount	*Transportation (@ Rs. 3500 per ton)	*Total Salary @ Rs. 200/ day	*Total Packaging cost (@ Rs. 1600/ ton)	*Misc. Expenses	*Total Cost	*Sale Price (per kg)	*Sales Amount
Gudmar Leaves	10	10	1	9	30	2.70	0.32	0.30	0.14	0.05	3.51	60	5.40
Arjun Bark	2	10	0.2	1.8	18	0.32	0.06	0.06	0.03	0.01	0.49	30	0.54
Giloy	5	5	0.25	4.75	25	1.19	0.17	0.15	0.08	0.01	1.59	40	1.90
Khareti	1	5	0.05	0.95	15	0.14	0.03	0.03	0.02	0.01	0.23	25	0.24
Bhringraj	2	5	0.1	1.9	20	0.38	0.07	0.06	0.03	0.2	0.74	50	0.95
Total						4.73	0.64	0.60	0.29	0.28	6.55		9.03

Salary = Per ton 3 days required by 5 labors working @ Rs. 200 per day.

Proposed Procurement & Sales

*Amount in Lakhs

Species	Quantity (in tons)	Wastage percent	Wastage (in tons)	Net Quantity (in tons)	*Cost of Purchase (per kg)	*Purchase Amount	*Transportation (@ Rs. 3500 per ton)	*Total Salary @ Rs. 200/ day	*Total Packaging cost (@ Rs. 12000/ ton)	*Misc. Expenses	*Total Cost	*Sale Price (per kg)	*Sales Amount
Gudmar Leaves	15	10	1.5	13.5	39	5.27	0.47	0.90	1.62	0.10	8.36	80	10.80
Arjun Bark	12	10	1.2	10.8	23.4	2.53	0.38	0.72	1.30	0.10	5.02	55	5.94
Giloy	10	5	0.5	9.5	32.5	3.09	0.33	0.60	1.14	0.10	5.26	65	6.18
Khareti	3	5	0.15	2.85	19.5	0.56	0.10	0.18	0.34	0.10	1.28	55	1.57
Bhringraj	5	5	0.25	4.75	26	1.24	0.17	0.30	0.57	0.10	2.37	75	3.56
Total						12.67	1.45	2.40	4.97	0.50	22.29		28.05

Salary = Per ton 5 days required by 6 labors working @ Rs. 200 per day.

Packaging in food graded container = Rs. 600 per 50 kg container.

Increase in cost of purchase @ 30%.

Table 10: Cash Flow Statement

		CASH FLOW STATEMENT									(Rs. in Lakh)
S. No.	Items	Year	1	2	3	4	5	6	7	8	
	INVESTMENT	20.30									
1	Total Capacity (in tons)		80	80	80	80	80	80	80	80	
2	Capacity utilisation %		50%	60%	70%	70%	70%	70%	70%	70%	
3	Quantity stored (in tons)		40	48	56	56	56	56	56	56	
4(i)	Income from Gudmar Leaves		10.80	11.34	11.91	12.50	13.13	13.78	14.47	15.20	
4(ii)	Income from Arjun Bark		5.94	6.24	6.55	6.88	7.22	7.58	7.96	8.36	
4(iii)	Income from Giloy		6.18	6.49	6.81	7.15	7.51	7.89	8.28	8.70	
4(iv)	Income from Khareti		1.57	1.65	1.73	1.82	1.91	2.00	2.10	2.21	
4(v)	Income from Bhringraj		3.56	3.74	3.92	4.12	4.33	4.54	4.77	5.01	
A	Total Income		28.05	29.45	30.93	32.47	34.09	35.80	37.59	39.47	
	OPERATIONAL EXPENSES										
5	Raw Material		12.67	13.30	13.97	14.67	15.40	16.17	16.98	17.83	
6	Transportation		1.45	1.52	1.60	1.68	1.76	1.85	1.94	2.04	
7	Salary		2.4	2.52	2.65	2.78	2.92	3.06	3.22	3.38	
8	Packaging		4.97	5.22	5.48	5.75	6.04	6.34	6.66	6.99	
9	Miscellaneous Expenses		0.50	0.53	0.55	0.58	0.61	0.64	0.67	0.70	
10	Interest @ 10.60%		1.47	1.42	1.21	1.00	0.79	0.58	0.37	0.16	
11	Depreciation (@10% of Rs.20.30 lakh)		2.03	1.83	1.64	1.48	1.33	1.20	1.08	0.97	
B	Total Operational Exp.		25.49	26.33	27.09	27.93	28.85	29.84	30.91	32.07	
C	NET PROFIT (A-B)		2.56	3.12	3.83	4.54	5.25	5.96	6.68	7.40	
D	Salvage Value (Initial Cost-Total Depreciation)									8.74	
E	Cash Flow for IRR	-20.30	6.06	6.36	6.68	7.02	7.37	7.73	8.12	17.27	
F	IRR	31.1%									
G	DSCR		4.1	1.9	2.16	2.43	2.76	3.14	3.60	4.19	
H	Avg DSCR		3.0								