

**IDENTIFICATION OF RESOURCES AVAILABILITY:
BUILDING THE BASE FOR MICRO ENTERPRISES
CREATION IN NATHAM -DINDIGUL DISTRICT,
TAMIL NADU**

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ABSTRACT

India entered into the regime of liberalization, privatization, and globalization in the early 1990s. The merits are competitive with global markets, quality product; improve technology, promotion of quality human resources. The nature and extent of the changing structure of agro-food demand offer unprecedented opportunities for diversification and value addition in agriculture, particularly in developing countries. Among the world's poor, 75% live in rural areas, having agriculture as a major source of livelihood. Fighting poverty will require that economic growth and development are brought to rural areas. Agro-industries, as will be argued in the ensuing chapters of this book, are part of the answer to this challenge. The share of developing countries in world trade of non-traditional fruits and vegetables has increased rapidly in the recent past. The study was done at Natham Taluk in Dindigul district of Tamil Nadu state people are the occupation of a vast majority of the household in the agriculture activities. The Taluk has known for the sources of Mango cultivation is one of the main horticultural crops in that area is being cultivated in the large area is production is quite high and quality is also good. The aim of this study is to explore the base for microenterprise creation in Natham Taluk, highlighting both the likely benefits and the areas where caution is needed, and where critical actions can steer this process along the most beneficial path following key similarly Availability of raw material, Variety of the raw material, Continuous availability of raw material, Anticipated production, Availability of roads and transport, Availability of water, Market for the finished product and Return from the proposed unit. Certainly not the major industry is located in Natham Taluk a Small-Scale Coir Industries can be seen and plenty of opportunities are available for investment. The farmers in the region have a problem in marketing the mango; to address this issue the study has been conducted. However, data has been

collected from 13 villages according to the location of the proposed unit, availability of raw material and the willingness of the farmers. Hence 90 farmers have been survived randomly from the selected villages.

Keywords: Identification of Resources Availability of Mango Yield, Micro Enterprises Creation, and Trends in Mango Cropping Pattern.

I. INTRODUCTION

India entered into the regime of liberalization, privatization, and globalization in the early 1990s. Liberalization has merits and demerits. The merits are competitive with global markets, quality product; improve technology, promotion of quality human resource and so on. The demerits are the local industries especially the small and cottage industries get affected. All the farmers are likely to face threats when the agricultural produce is imported at a cheaper price. The farms may not be able to get the remunerated price. Under liberalization, it may not completely close the doors of the economy. It is an open and free market economy. Naturally, the country has to accept the product/produce from outsides. In the competitive and free economy of the farmers, especially the small and marginal farmers can survive only when they go in for value addition to the products. In other words, they need to process the produces before selling which would definitely get a better return for their products.

However, the current study reviewed the following papers and used the gaps of those studies as the raw materials constitute an integral part of the industrial base of any country. Such raw materials may form the source of the required input into other industries or they may be distinct. Where such downstream industries do not exist, manufacturing companies are faced with the sourcing and processing of the raw materials (Peter Azikiwe Onwualu 2015). The nature and extent of the changing structure of Agro-food demand offer unprecedented opportunities for diversification and value addition in agriculture, particularly in developing countries. As a reflection of changing consumer demand, the 1990s witnessed a diversification of production in developing countries into non-traditional fruits and vegetables. The share of developing countries in world trade of non-traditional fruits and vegetables has increased rapidly in the recent past (FAO, 2007).

The World Development Report 2008 (World Bank, 2007) called attention to the fact that some 800 million people are considered poor, subsisting with incomes of less than US\$1 per day. Among the world's poor, 75% live in rural areas, having agriculture as a major source of livelihood. Fighting poverty will require that economic growth and development are brought to rural areas. Agro-industries, as will be argued in the ensuing chapters of this book, are part of the answer to this challenge. Christy et al. (2009), "enabling business environments" are defined here as sets of policies, institutions, support services and other conditions that collectively improve or create a general business setting where enterprises and business activities can start, develop and thrive.

The study was done at Natham taluk in Dindigul district. The occupation of a vast majority of the household in the taluk is agriculture. The taluk has undulated terrain. The taluk is known for a horticultural crop. Mango is one of the main horticultural crops in that area. It is being cultivated in the large area. The production is quite high. The quality

is also good. No major industry is located in Natham. Small-scale Coir industries can be seen. Plenty of opportunities is available for investment. The farmers in the region have a problem in marketing the mango, to address this issue the study has been conducted. However, data has been collected from 13 villages according to the location of the proposed unit, availability of raw material and the willingness of the farmers. Hence 90 farmers have been survived randomly from the selected villages.

The aim of this study is to explore the base for micro enterprise creation in Natham taluk, highlighting both the likely benefits and the areas where caution is needed, and where critical actions can steer this process along the most beneficial path. In so doing, the study addresses following key questions:

- ❖ Availability of raw material
- ❖ Variety of the raw material
- ❖ Continuous availability of raw material
- ❖ Anticipated production
- ❖ Availability of roads and transport
- ❖ Availability of water
- ❖ Market for the finished product
- ❖ Return from the proposed unit

This chapter will discuss each of the factors in detail.

II. IDENTIFICATION OF LOCAL RESOURCE

This chapter makes an attempt to assess the identification of local resource to start mango processing unit. An analysis of the resource identification involves ascertaining the availability of the raw materials to meet the raw material demand of the proposed unit and continues the supply of the raw material throughout the life of the proposed unit. It further involves analysis of the demand for the finished product of the proposed unit. Besides the above, need to look into the return from the proposed unit and also the availability of the finance to meet the investment and working capital expenditure. The economic viability of the proposed unit is analysis with reference to the following aspects/factors.

III. AVAILABILITY OF RAW MATERIAL

The raw material for proposed processing unit is mango. The proposed unit is being promoted in Natham Block. The unit is likely to serve 13 villages which contiguous in nature. The total household in this village is 4900 of whom 44.38percent of mango growers. The area under cultivation is 9700acres of which 56.70percent in under mango and the total yield is 18150 (see the table1),

TABLE: 1 AREA UNDER MANGO YIELD

Sl.No	Village Name	No. Of House Hold	No. Of Mango Farmers	Total Cultivation (Acre)	Mango Cultivation (Acre)	OTHER crops (Acre)	Yield (Ton)
1.	Lingavadi	950	500	1500	500	1000	1000
2.	Vemparali	300	100	800	450	350	1100
3.	Pudukkottai	300	50	500	200	300	700
4.	ParaliPudhur	500	200	850	300	350	800
5.	Thethampatti	350	250	800	700	100	2000
6.	Alagapuri	200	50	550	200	300	600
7.	Kadumittanpatti	250	25	450	300	150	900
8.	Valaiyapatti	400	200	700	500	200	1800
9.	Reddiapatti	300	100	650	300	350	450
10.	Vathipatti	350	200	800	600	200	2000
11.	Kasampatti	450	250	850	700	150	1900
12.	Kavarayapatti	300	50	650	200	450	600
13.	Saranthangi	250	200	600	550	50	2300
Total		4900	2175(44.38)	9700	5500(56.70)	3950(40.72)	16150

Source: Horticulture department and Agriculture Universities in Tamil Nadu.

The proposed capacity of the unit is 18 tonnes of pulp per day. The unit to operate with full capacity is 36 tonnes of mango per day. Going by the yield, the unit can fully utilize its capacity throughout the year.

It must be noted that all varieties of mangoes may not be suitable for pulp extraction and processing. Only very few varieties will be used. Totapuri is on such variety which is preferred for its sweet and juicy pulp; making in the most suitable choice for pulp extraction.

TABLE: 2
THE DISTRIBUTION OF MANGOES TREES AND PRODUCTION PER YEAR AMONG THE MEMBERS

S.No	Mango Variety	Number of Trees	Percent	Production Yield Per Year	Percent
1.	Totapuri	11000	51.02	911.75	48.16
2.	Kasa	5021	23.28	471.05	24.88
3.	Senthuram	2280	10.57	208.80	11.03
4.	Vanganavali	2431	11.27	229.58	12.13
5.	Immapus	61	.28	6.3	0.33
6.	Other	766	3.55	65.85	3.48
Total		21559	100.00	1893.33	100

Source: Computed from primary data*Others Indicate Nadukai, Alphonesha

The farmers in the area cultivate a different variety of the mangoes. The popular variety is Totapuri, Kasa, Senthuram, Vanganavali, immapus etc. Of this variety, Totapuri is the most popular variety in terms of the number of trees and production. A survey among the 90 respondents reveals.

Totapuri is the most popular variety of the mango tree. Of the total number of 21559 trees owned by the respondents, 51.02 percent of the mango trees are Totapuri variety similarly, of the total yield per annum (1893.33), 48.16 percent is the yield from the Totapuri mango trees (see table 2). Thus, the variety of mango required for the proposed unit is available in adequate amount.

IV. CONTINUED AVAILABILITY OF RAW MATERIAL

The continued availability of raw material for the proposed processing unit depends on various factors. Important among them are the following

- Extent of the land owned by the respondents
- Size of the landholding
- Cropping pattern
- Trends in crop yield
- Experience in mango cultivation

V. EXTEND OF LAND

TABLE: 3
LAND POSSESSION DETAILS OF RESPONDENTS

S.No	Particular	Wet Land in Acre	Dry Land in Acre	Garden in Acre	Waste Land in Acre	Total	Percent
1.	Own Land	56.30 (78.08)	235.50 (52.94)	6	4.25	302.05	52.64
2.	Land Leased in	15.80 (21.91)	256 (57.78)	-	-	271.80	47.36
3.	Land Leased Out	-	47.50 (10.67)	-	-	47.50	8.28
4.	Total	72.10	444.80	6	4.25	573.85	100
5.	Percent	13.68	84.38	1.14	0.81	100	
6.	Land Under Cultivation	69.00 (95.70)	405.55 (91.16)	6	-	480.55	91.16

Source: Computed from primary data

The total land owned by the respondents is 527.15 acres. Of the total land, 13.68 percent is a wetland, 84.38 percent is dry land, 1.14 is garden land, and the wasteland is negligible. Mango can be grown in dry land (see the table 3).the pursue a large area of dry land provides vast scope for the cultivation of mango. This would ensure a continuous supply of raw material for the proposed unit. It must be noted that a vast majority of the respondents have their own lands

(52.64). A considerable number of farmers have leased in (47.36) lands for cultivation .the number of farmers who leased out land are negligible.

VI. LAND HOLDING

TABLE: 4 SHOWS THE SIZE OF THE LAND HOLDING

S.No	Land in Acre	<2.50	2.51-5.00	5.01-7.50	7.51-10.00	10+	Total No. of Respondents
1.	Own Land	53 (60.91)	8 (22.99)	7 (8.04)	4 (4.59)	3 (3.44)	87
2.	Land Leased in	9 (32.04)	8 (28.57)	2 (7.14)	5 (17.85)	4 (14.28)	28
3.	Land Leased Out	7 (70.00)	1 (10.00)	-	1 (10.00)	1 (10.00)	10
4.	Land Cultivation	39 (46.98)	26 (31.32)	4 (4.84)	5 (6.02)	10 (12.04)	83

Source: Computed from primary data

Around 75 percent of the respondents are marginal and small farmers. Of the total respondents, around 47 percent of them do marginal farmers owning less than the 2.5 acres of land. Around one-third of the respondents are small farmers owning 2.5 acres to 5 acres of land (See table 4).the rest are medium and large farmers; the average holding size of the sample respondents is 2.87 acres of the land. Thus, the proposed unit is likely to benefit large numbers of marginal and small farmers.

VII. CROPPING PATTERN

The trend in cropping pattern would help us to know whether there is increasing, decreasing or stable trend in the area under mango. An increasing trend would help in consists the supply of mango to the proposed unit at a reasonable price. A declining trend may have a negative aspect in the proposed unit. For example, a declining trend in the area may lead to lesser production which may lead to lesser supply at an increased price. This would ultimately result in the fall in capacity utilization of the proposed leading to a chain of effects such as lesser production, height cost, lesser sales, lesser profit and so on it is an against this backward trend in cropping pattern was analyzed. The respondents have to cultivate a wide variety of crops such as Paddy, Tomato, Brinjal, Onion Beans, Flower, Guava, Tamarind, Lemon, Sappota, Yam, Mango, etc. Of the various crops cultivated, paddy was the major food crop and mango was the predominant horticulture or an agroforestry crop for district details.

TABLE: 5 COMPARISON OF CROPS AND ACRE (2009 AND 2014)

S. No	Crops	Area Under Cultivation in Acres Before 5 years (2009)					Total	Percentage	Area Under Cultivation in Acres (2014)					Total	Percentage
		0.-2.50	2.51-5.0	5.01-7.50	7.51-10.00	10+			0.-2.50	2.51-5.0	5.01-7.50	7.51-10.00	10+		
1.	Paddy	16	1				17	18.89	15	2				17	18.89
2.	Tomato	1					1	1.11	1					1	1.11
3.	Brinjal	1					1	1.11	1					1	1.11
4.	Onion	1					1	1.11	3					3	3.33
5.	Beans	1					1	1.11	1					1	1.11
6.	Flower	5					5	5.56	5					5	5.56
7.	Mango	46	22	4	6	1	79	87.78	42	26	4	5	8	85	94.44
8.	Guava	3					3	3.33	3	2				5	5.56
9.	Papaya	1					1	1.11	1					1	1.11
10.	Tamarind	15					15	16.67	15					15	16.67
11.	Coconut	21	3	1			25	27.78	24	4	1			29	32.22
12.	Lemon	1					1	1.11	1					1	1.11
13.	Sappotta								1					1	1.11
14.	Yam	1					1	1.11	1					1	1.11

Source: Computed from primary data

A comparison cropping pattern between before 5 years and now clearly shows mango was the major horticulture crop cultivating by a vast majority (87.78%) of the respondents, followed by coconut (27.78) and paddy (18.89%). A similar cropping pattern could be seen ever now. In fact, the number of farmers who have been cultivating mango has increased over a period of 5 years. It must be noted that more than 50 percent of growers are marginal farmers and around 25 percent of the growers are small growers (see the table 5). The proposed unit is assured of the regular supply of mango. An interesting factor is that the supplier of the mangoes would be mostly marginal and small growers.

VIII. TREND IN CROP YIELD

TABLE: 6
COMPARISON OF CROPS AND YIELD (2009 AND 2014)

S. No	Crops	Before 5 year (production)						Total	Percent	Now						Total	Percent
		<5	6-10	11-15	16-20	21-25	>25			<5	6-10	11-15	16-20	21-25	>25		
1.	Paddy	15	1					16	17.78	16	1					17	18.89
2.	Tomato	1						1	1.11	1						1	1.11
3.	Brinjal	1						1	1.11	1						1	1.11
4.	Onion	1						1	1.11	3						3	3.33
5.	Beans	1						1	1.11	1						1	1.11
6.	Flower	4						4	4.44	3	1					4	4.44
7.	Mango	36	21	10	1	5	5	78	86.67	49	12	8	4	2	7	81	90.00
8.	Guava	3						3	3.33	5						5	5.56
9.	Papaya	1						1	1.11	1						1	1.11
10.	Tamarind	12						12	13.33	15						15	16.67
11.	Lemon	1						1	1.11	1						1	1.11
12.	Sappotta	1						1	1.11	1						1	1.11
13.	Yam	2						2	2.22	4						4	4.44

Source: Computed from primary data

The total yield is found to have declined over a period of time. 46.15 of the respondents had production of fewer than 5 tonnes of the mango per year. Five years ago, whereas at present, the percent of farmers having less than 5 tonnes of mango has increased to 60.49 (see the table 6)

TABLE: 7

CLASSIFICATION OF RESPONDENTS BASED ON YEAR WISE PRODUCTION OF MANGO

Sl. No	Year	<10	11-20	21-30	31-40	40+	No.of respondents	Percent
1	2003-04	38	3			4	45	50.00
2	2004-05	47	5	3	2	3	60	66.67
3	2005-06	65	5	5	1	3	79	87.78
4	2006-07	63	11	6	3	3	86	95.56
5	2007-08	70	7	3	2	1	83	92.22

Source: Computed from primary data

Thus, the total yield has come down over a period of time. However, this phenomenon will not affect the proposed unit as the numbers of farmers who cultivate mango have registered an increase over a period of five years (see table 7). Thus, the area under mango, the yield of mango, trends in mango cultivation and production would assume uninterrupted supply of mango to the proposed unit.

IX. PRODUCTIONS PROPOSED:

TABLE: 8

PROPOSED CAPACITY AND RAW MATERIAL REQUIRED FOR PRODUCTION

S.No	Year	Proposed Capacity in Tones Per Year	Raw Mango Tonnes Required Per Year
1.	2014	1250	2500
2.	2015	2000	4000
3.	2016	2000	4000
4.	2017	3000	6000
5.	2018	3000	6000

Source: Computed from primary data

The unit has proposed a production of 1250tonnes of pulp during the first year, 2000tonnes in the second and third years and 3000tonnes in the subsequent years. Correspondingly the required of raw material would increases over a period of time (*see the table 8*). The unit would able to process the required raw material

from the respondents. It would ensure regular supply of raw material from the members by prompt and regular payment on a weekly basis for the material supplied.

X. TRANSPORT

The raw material would be procured within a radius of 2 to 15 kms .it would be purchased at the source on the basis of daily market rate and the daily requirement of the proposed unit. The procured raw material will be transported through hire trucks. Trucks with 3.5 to 5 tonnes capacity are quite a popular mode of the transport. Therefore it doesn't pose the problem. Further, all the villages are well connected by roads. See map for district transport details.

XI. WATER

Water is the main component for cleaning and processing mango. Minimum of 20000 liters of water is required per day for a period of 75 days. Two more wells are available in the proposed unit and it is sufficient for getting water regularly. Though two bore wells are available in the set, it was not used for last 2 year. So, it is planned to clean and flush both bore wells, where may it require Rs.5000 the proposed unit will ensure that the water used in the factory meets to international standards for fruit processing. Electricity supply for the factory will be drawn from the nearest source.

XII. MARKET

The market for the end product is very important. The unit for its end product should serve an assured market. The unit in order to be of sure of the assured market for its product needs to undertake an extensive analysis of the current major player in the market, competition in the market, the market volume, the market value, forecast and trends for the product, the competitive advantage of the company and so on.

TABLE: 9
ANTICIPATED SALES FOR NEXT FIVE YEARS

S.No.	Year	Anticipated Sales Per Year	
		Quantity in Tones	Value in Rs
1.	2015	1250	3,00,00,000
2.	2016	2000	4,80,00,000
3.	2017	2000	4,80,00,000

4.	2018	3000	7,20,00,000
5.	2019	3000	7,20,00,000

Source: Computed from primary data

The proposed unit has assured market in Nadukara Agro-processing unit. It would buy 1500 tonnes of pulp every year. The anticipated sales volume and value is given in table 9.

XIII. SOURCE OF FINANCE

The total investment required for the project is Rs 3, 00,00,000. The major source of finance are i) Aharam Product and Crop Product Co. Ltd. ii) Buyers iii) bank. Of the total amount required, of the total amount required, 3.33 percent would be from Aharam product and crop product co. Ltd, 16 percent of Buyers, and 66 percent from the bank.

XVI. APPRAISAL

The project is appraised using traditional payback period and discounted cash flow technique such net present value method and cost-benefit ratio for the purpose of calculating payback period, NPV and PI, cash flows have been estimated; cash flows have been discounted using the cash of capital and the discount factor. The estimation of the cash flows, the calculation of payback period, Net present value and profitability index are presented. The result of the appraisal is given below.

- Payback period is 3.5 years
- NPV is Rs2,27,82,725
- Profitability index is 2.139
- (BC ratio)

The project has positive NPV and a high return. Hence the project can be accepted.

XVII. CONCLUSION

An assessment of identification of available resource for the proposed mango processing unit has conclusively proved that it is economically viable. The proposed unit will have assured a supply of raw material without any problem it is assured of right Type of material and it would be available within the radius of 2 to 15 km, transport does not possess any serious problem. Water for processing is available in adequate quantity and quality. The capacity envisaged can be fully utilized, ensuring cost-effectiveness. The required finance can be earning mobilized from institutional sources. The finished product has the ready market; the return from the project is high. Thus the area has a resource to start the micro-enterprises.

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