GOVERNMENT OF TAMIL NADU

DEPARTMENT OF AGRICULTURAL MARKETING AND AGRI BUSINESS

Tamilnadu State Agricultural Marketing Board

TN IAM PROJECT

MORE INCOME PER DROP OF WATER

Detailed Project Report

of

Tamil Nadu Irrigated Agriculture Modernization Project

(TNIAMP)

PHASE III

NAMBIYAR Sub Basin

Tirunelveli District.

Estimated Project Cost:Rs.154.03lakhs.

Project AyacutArea:1312.80ha.

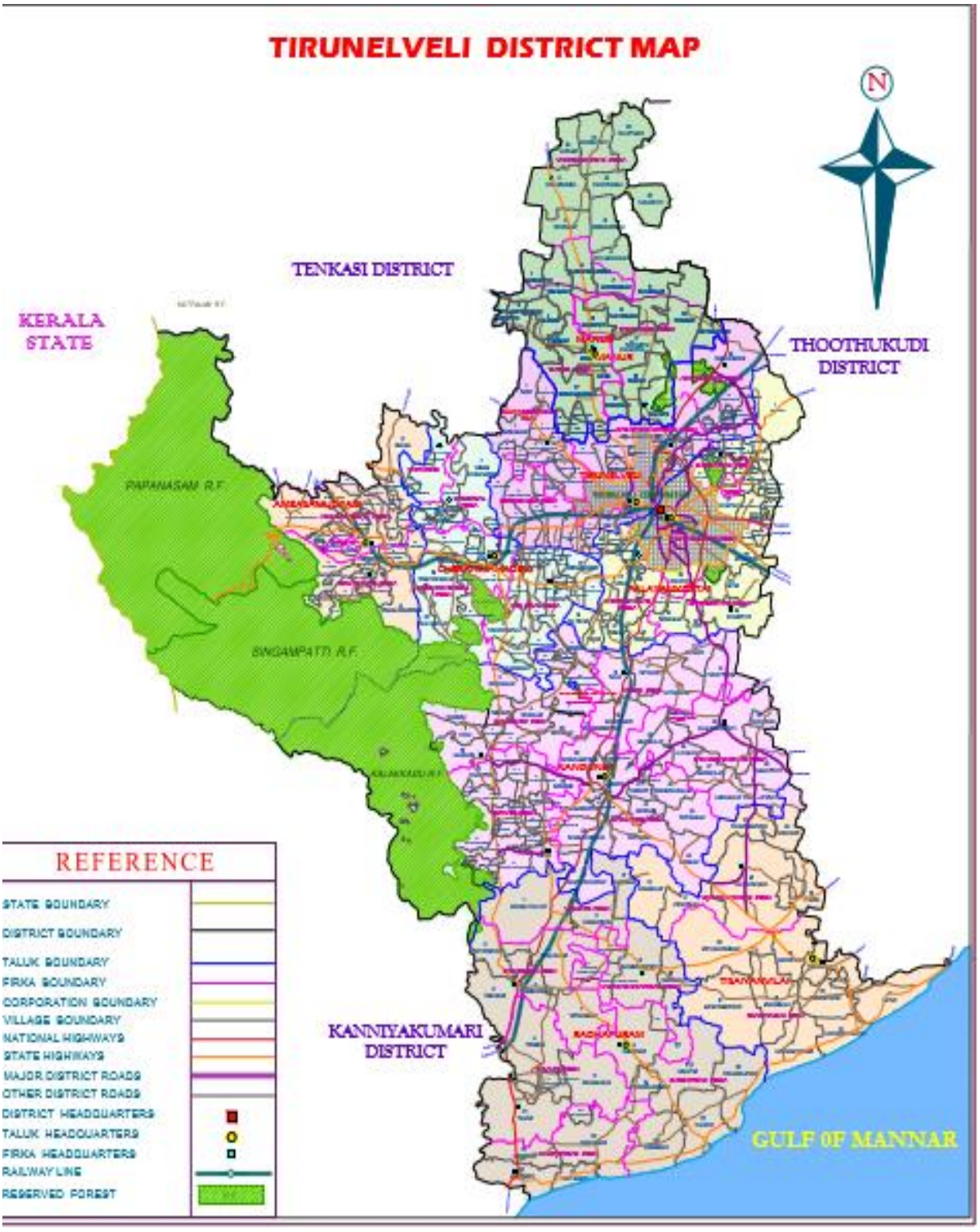
Deputy Director of Agriculture
(Agri Business)
Tirunelveli.

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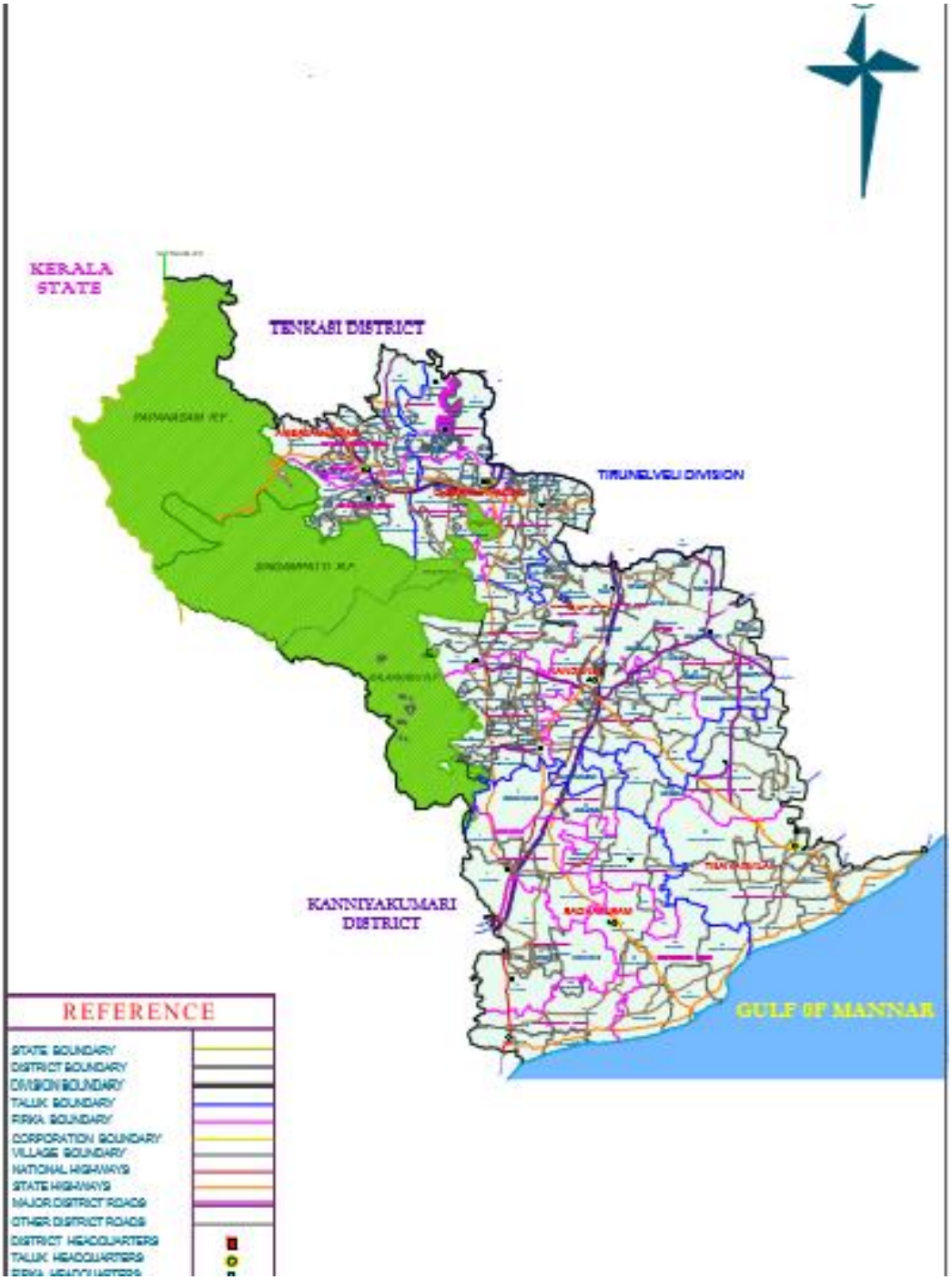
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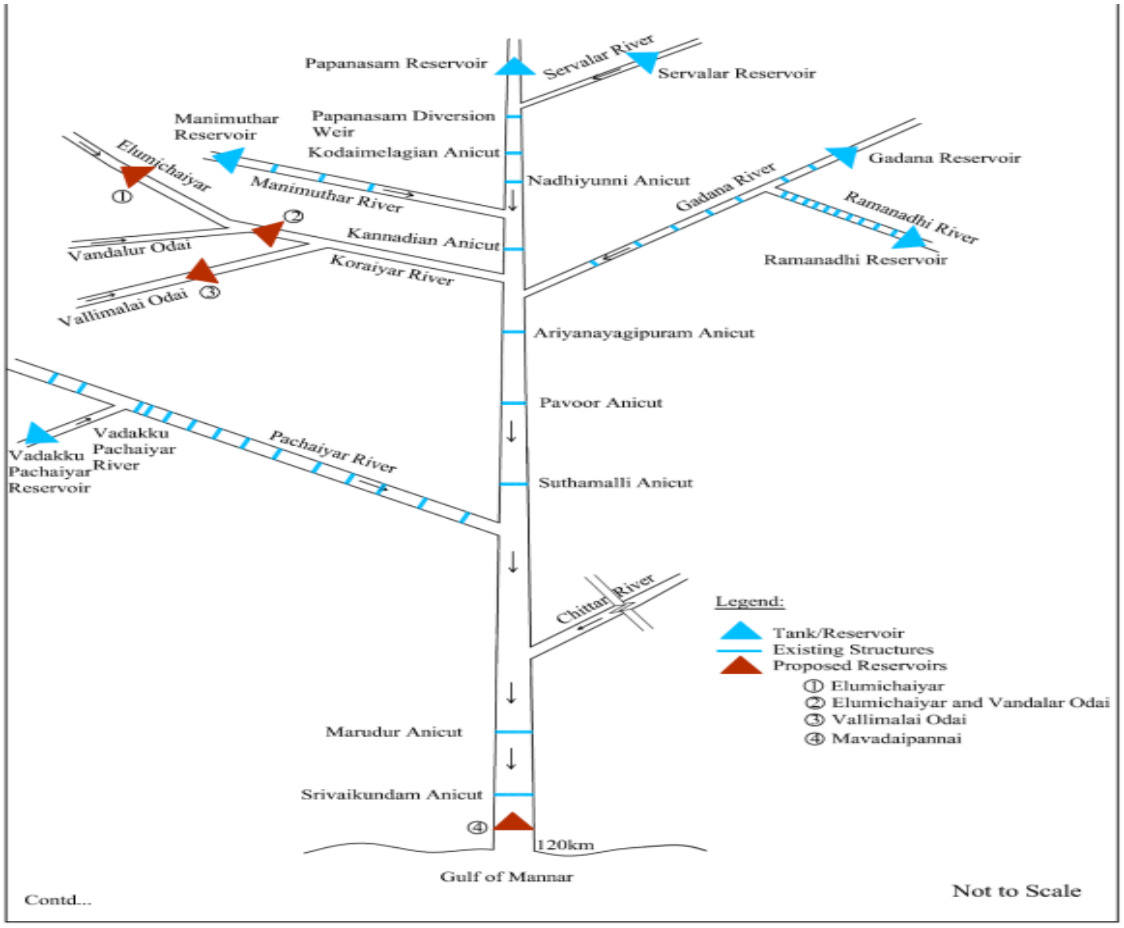
1.TIRUNELVELI DISTRICT MAP



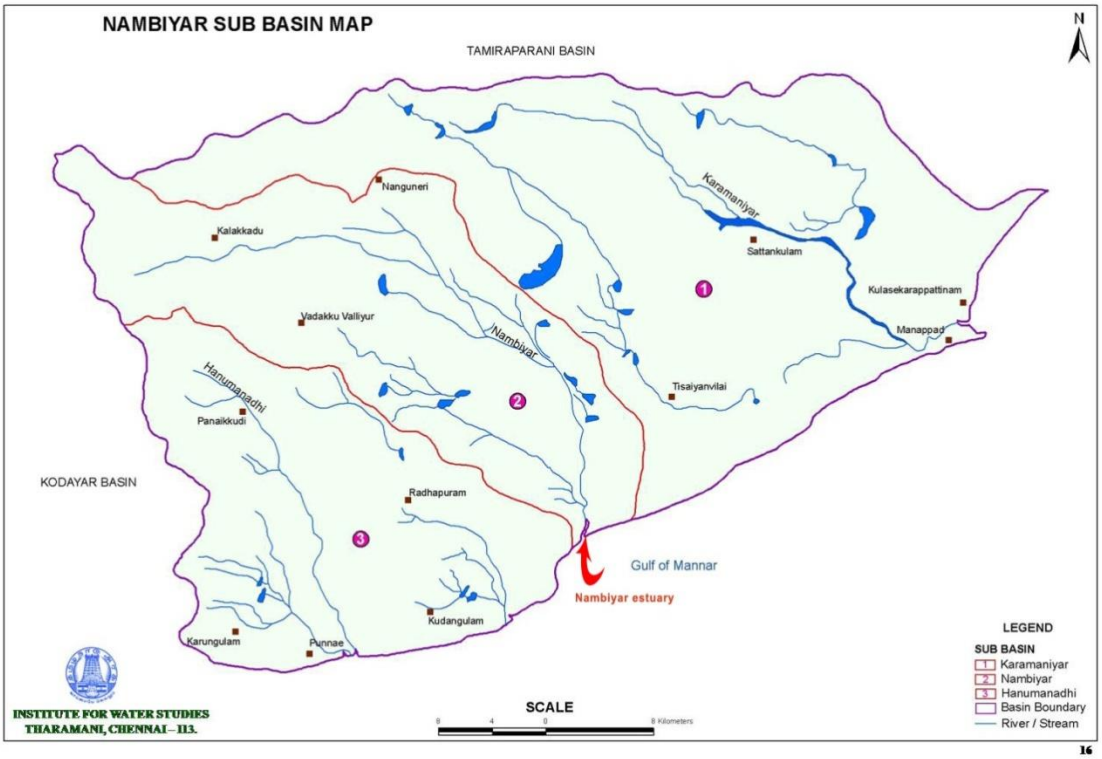
Tirunelveli District-Cheranmahadevi Division MAP



Flow Diagram of Thamirabarani River Basin



Nambiyar Sub Basin Map



DETAILED PROJECT REPORT

***SUB-BASIN NAME:*NAMBIYAR**

Sub Basin	:	NAMBIYAR
WRO Region	:	Madurai
Districts Covered	:	Tirunelveli.

2.INTRODUCTION:

Tamirabarani is one of the important irrigation source of Tirunelveli and Thoothukudi District. It originates from the peak of the PeriyaPothigai hills of the Western Ghats above Papanasam in the Ambasamudramtaluk of the Tirunelveli district. The river traverses about 120 K.M. in the two districts of Tirunelveli and Tuticorin before joining the Gulf of Mannar of the Bay of Bengal at Punnaikayal in Tiruchendurtaluk of Thoothukudi district.

Description of the Tamirabarani Basin

The Tamirabarani river basin is one of the Major river basins in Tamil Nadu. It is bounded by Vaippar basin in the northern side and Western Ghats on the western side, Kothaiyar river basin on southern side. The basin area is covered in 2 districts namely Tirunelveli 35.07%, Thoothukudi 64.93%. The length of the Tamirabaraniriver is 120km finally it debouches in to Gulf of Mannar.

This basin has been divided into 7sub-Basins namely as follows:

1. LowerTamirabarani
2. Upper Tamirabarani
3. Chittar
4. Uppodai
5. Pachaiyar
6. Gadananadhi
7. Manimuthar

Description of the Nambiyar Sub-Basin

Nambiyarriver originates in the eastern slopes of the western ghats near NalikkalMottai about 9.6 km west of Thirukkarangudi village at an altitude of about 1060m. This river is constituted by three branches of seasonal streams, like Tamaraiar, Kombaiar and Kodumudiar. Kombaiyar and Kodumudiyaroriginates at the eastern slope of western ghats at an altitude of about 1600 mm near Mahendragiri hills. Nambiyar then takes an easterly course up to the Tirunelveli-Nagercoil trunk road crossing and flows in a south-easterly direction. Parattaiyaroriginates in the eastern slopes of the western ghats at an altitude of about 1200 m near KakamunjikaiMottai and joins with

another arm of Nambiyar at the foot of the hills. After feedingnumber of small tanks, this finally joins with Nambiyar again near Ervadi at 18.5 km.Kalankalodai is another tributary which originates near Kannallur area in Nanguneritaluk of Tirunelveli district. It gets flows from the surpluses of a few tanks dependent on other streams. After traversing a distance of 6.5 km and finally joins with the Nambiyar near Kovankulam. Another tributary which originates near VadakkuValliyur area in Nanguneritaluk of Tirunelveli district at an altitude of about 90m gets flows from the surpluses of small tanks dependent on other streams. After traversing a distance of 10.5 km finally the tributary joins with Nambiyar near Sankarapuram village. Finally the Nambiyarriver flows into the Gulf of Mannar after traversing a total distance of 59km from the origin of Nambiyarriver. The Nambiyarriver has a total of 9 small anicuts viz. 1. Mailannanianicut, 2.Dalavaipuramanicut, 3.Rajakkamangalamanicut, 4.Malapudur anicut 5.Kannanallur anicut, 6.Vijayananicut, 7.Kovankulam anicut, 8.Islapuramanicut, 9.Pulimangalamanicut. The total extent of this sub basin area is 604.32 sq.km covering blocks of Kalakkadu, Nanguneri, Valliyoor, Radhapuram in Tirunelveli district and Thovala block in Kanyakumaridistrict,either part or full.

Total Registered Ayacut : 1312.800 Ha

3. LIST OF BLOCKS, TALUKS AND DISTRICT COVERED IN NAMBIYAR SUB BASIN

DISTRICT	TALUK	BLOCK
Tirunelveli	Radhapuram,Nanguneri	Valliore,RdhapuramKalakad ,Nanguneri

LIST OF BLOCKS AND TALUKS, TANKS AND AYACUT DETAILS:

Sl.No	District	Block	Taluk	No.of Tanks	Ayacut ha
1	Tirunelveli	Valliore,RdhapuramKalakad, Nanguneri	Nanguneri,Radhapuram,	40	1312.83
			Total	**40**	**1312.80**

4. TANKWISE, ANAICUTWISE AYACUT DETAILSGIVEN IN ANNEXURE I

5. PROJECT DEVELOPMENT OBJECTIVES:

The Project Development Objective(PDO) is to enhance productivity and climate resilience of irrigated Agriculture, improve water management, and increase market opportunities for farmers and agro-entrepreneurs in selected sub- basin areas of Tamil Nadu.

6. CLUSTER WISE AYACUT DETAILS:

Tank wise registered ayacut details are given in Annexure I.

7. PRESENT SCENARIO:

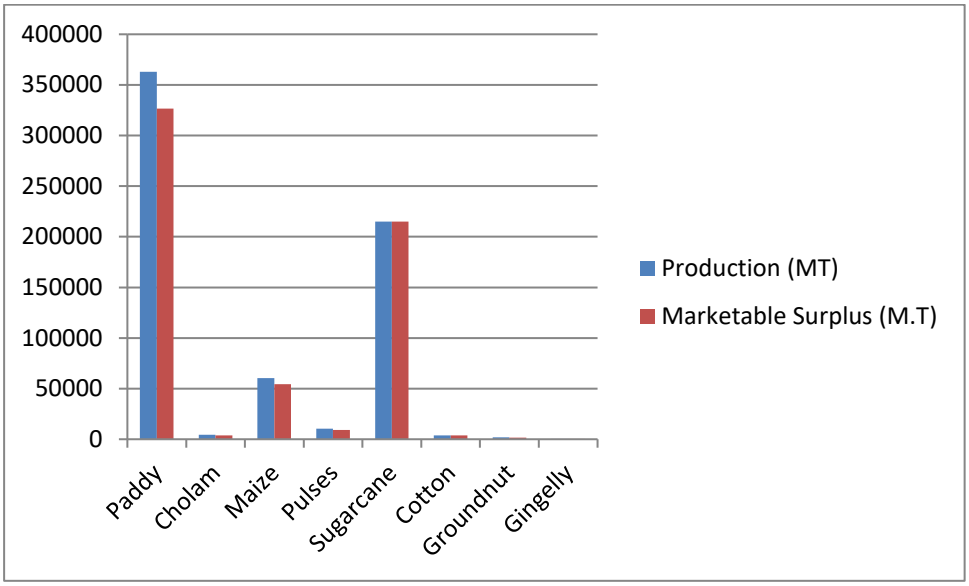
Tirunelveli District

Tirunelveli district is provided with varied agro climatic conditions ranging from extreme tropical to subtropical. Major agricultural crops grown in the district are rice,pulses, maize, millets, oil seeds and cotton. Areas adjacent to Western Ghats like Tenkas and Shencottaitaluks are enjoying subtropical climate which is conducive for cultivation of most of the spices, sub tropical fruits, plantation crops and production of off-season mango. Tirunelveli District is endowed with traditional Vegetable growing belts having garden land with red and loamy soils suitable for cultivation of most of the Vegetables. Regional Agricultural Research Center of Tamil Nadu Agricultural University is functioning efficiently at Ambasamudhram from the year 1937. Development of season specific, pest and disease resistant, quality rice varieties with high yield for Tamiraparani delta region is the mandate of this RRS. Twenty rice varieties have been released from this station. Among the other released varieties, ASD 16 is verypopular in the southern districts and is gaining popularity among the farmers in other districts ofTamil Nadu, because of its high yielding ability coupled with its suitability to both Kar and Pishanam seasons.

8. PRODUCTION,PRODUCTIVITY AND MARKETABLE SURPLUS OF MAJOR CROP IN TIRUNELVELI DISTRICT

Sl.No	Crop	Area (Ha.)	Productivity (MT)	Production (MT)	Marketable Surplus (M.T)
1	Paddy	62281	5.83	362994	326694.6
2	Cholam	1715	2.5	4284	3855.6
3	Maize	13086	4.61	60331	54297.9
4	Pulses	22452	0.46	10315	9283.5
5	Sugarcane	3369	63.82	215001	215001
6	Cotton	3484	1.09	3804	3765.96
7	Groundnut	634	2.76	1752	1681.92
8	Gingelly	1045	0.29	307	294.72
		108066		**658788**	**614875.2**

Production and Marketable Surplus Tirunelveli District.



9. SUB BASINWISE PRODUCTION,PRODUCTIVITY AND MARKETABLE SURPLUS OF MAJOR CROP

S.No	Crop	Area	Production (MT)	Productivity(MT)	Market Surplus(MT)
1	Paddy	800	3736	4.67	3000
2	Banana	600	15000	25	14300
3	Pulses	175	122.5	0.7	110
4	Coconut	300	1050	3.5	950
5	Cotton	120	240	2	240
6	Groundnut	250	350	1.4	300
7	Moringa	400	1400	20	1400
8	Tomato	50	1250	25	1200
9	Bhendi	50	400	8	380
10	Brinjal	30	600	20	550

Marketable surplus =Total production – consumption

10. CROPPING SEQUENCE IN SUB BASIN:

First season crop:

Paddy is the principal crop extensively cultivated in both First season (June – September) and Second season (October - January). Locally the first season is called as Kar and second season is called as Pishanam. Normal productivity of Rice in the region is 5056 Kg per ha. Apart From paddy major importance is given to Pulses, Ground nut..

Second season crops:

Cotton

Cotton is another major crop grown in valliyoor block mainly during the summer reason after the end of pishanam season.

Pulses:

Pulse crops are being cultivated during Third season (February – April) .The normal productivity of pulses is 845 Kg/ ha. Blackgram is the predominant pulse crop cultivated.

11.CROPPING PATTERN IN SUBBASIN

In the Sub Basin Paddy, Ground nut and Pulses are grown in Major areas.

Name of the sub Basin Nambiyar Sub-Basin

Registered Ayacut Area	:	1312.830	Ha
Fully Irrigated	:	724.88	Ha
Partially Irrigated	:	316.12	Ha
Gap area	:	271.83	Ha

S.No.	Crop	Without Project				With Project				Increasing
		FI	PI	RF/G	TOTAL	FI	PI	RF/G	TOTAL	
I Perennial crop										
1	Coconut	35.00	159.00	0	194.00	35.00	159.00	0	194.00	0.00
2	Mango	0	24.00	0	24.00	0	24.00	0	24.00	0.00
3	Sapota	0	2.00	0	2.00	0	2.00	0	2.00	0.00
4	Guava	0	0.00	0	0.00	0	0.00	0	0.00	0.00
5	Cashew	0	0.00	0	0.00	0	0.00	0	0.00	0.00
6	Casurina	0	2.10	0	2.10	0	2.10	0	2.10	0.00
7	Teak	0	0.50	0	0.50	0	0.50	0	0.50	0.00
8	Tamarind	0	1.13	0	1.13	0	1.13	0	1.13	0.00
9	Acid Lime	0	0.00	0	0.00	0	0.00	0	0.00	0.00
10	Amla	0	1.05	0	1.05	0	1.05	0	1.05	0.00
11	Jack	0	0.00	0	0.00	0	0.00	0	0.00	0.00
12	Other tree crops	0	12.00	0	12.00	0	12.00	0	12.00	0.00
13	Flowers\ Tube Rose	0	0.50	0	0.50	0	0.50	0	0.50	0.00
14	Fodder	0	0.00	0	0.00	0	0.00	0	0.00	0.00
	Total	35.00	202.28	0	237.28	35.00	202.28	0	237.28	0.00

II	Annual Crop									
1	Sugarcane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Banana	82.00	0.00	0.00	82.00	82.00	0.00	0.00	82.00	0.00
3	T.C. Banana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Tapiaco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	82.00	0.00	0.00	82.00	82.00	0.00	0.00	82.00	0.00
III	1st crop									
1. a	Paddy	596.18	0.00	0.00	596.18	0.00	0.00	0.00	0.00	-596.18
b	Paddy - SRI	0.00	0.00	0.00	0.00	596.18	0.00	0.00	596.18	596.18
2	Maize	3.07	0.00	0.00	3.07	3.07	0.00	0.00	3.07	0.00
3	Pulses	4.03	45.00	0.00	49.03	70.00	0.00	0.00	70.00	20.97
4	Groundnut	0.00	10.20	0.00	10.20	50.00	0.00	0.00	50.00	39.80
5	Gingelly	0.00	2.60	0.00	2.60	35.00	0.00	0.00	35.00	32.40
6	Cumbu	0.00	2.50	0.00	2.50	2.50	0.00	0.00	2.50	0.00
7	Tomato	0.70	20.50	0.00	21.20	75.00	0.00	0.00	75.00	53.80
8	Bhendi	0.00	9.20	0.00	9.20	50.00	0.00	0.00	50.00	40.80
9	Brinjal	2.86	5.63	0.00	8.49	15.00	0.00	0.00	15.00	6.51
10	Onion	0.00	5.63	0.00	5.63	25.00	0.00	0.00	25.00	19.37
11	Cucumber	0.00	2.00	0.00	2.00	10.00	0.00	0.00	10.00	8.00
12	Gourds	0.17	1.00	0.00	1.17	10.00	0.00	0.00	10.00	8.83
13	Radish	0.00	1.00	0.00	1.00	3.20	0.00	0.00	3.20	2.20
14	Curry leaf	0.00	0.23	0.00	0.23	0.23	0.00	0.00	0.23	0.00
15	Cluster Beans	0.00	0.15	0.00	0.15	0.15	0.00	0.00	0.15	0.00
16	Greens	0.00	1.00	0.00	1.00	1.65	0.00	0.00	1.65	0.65
17	Watermelon	0.00	1.00	0.00	1.00	1.23	0.00	0.00	1.23	0.23
18	Chillies	0.87	3.00	0.00	3.87	35.00	0.00	0.00	35.00	31.13
19	Beans	0.00	0.25	0.00	0.25	1.00	0.00	0.00	1.00	0.75
20	Veg Cowpea	0.00	0.45	0.00	0.45	0.49	0.00	0.00	0.49	0.04
21	Corinader	0.00	0.85	0.00	0.85	0.85	0.00	0.00	0.85	0.00
22	Colacassia	0.00	1.00	0.00	1.00	3.00	0.00	0.00	3.00	2.00
23	Marigold	0.00	0.65	0.00	0.65	5.00	0.00	0.00	5.00	4.35

	Total	**607.88**	**113.84**	**0.00**	**721.72**	**993.55**	**0.00**	**0.00**	**993.55**	**271.83**
IV	**2 nd crop**									
1. a	**Paddy**	**357.00**	**0.00**	**0.00**	**357.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-357.00**
b	**Paddy - SRI**	**0.00**	**0.00**	**0.00**	**0.00**	**357.00**	**0.00**	**0.00**	**357.00**	**357.00**
2	**Maize**	**0.00**	**0.00**	**0.00**	**0.00**	**10.00**	**0.00**	**0.00**	**10.00**	**10.00**
3	**Cholam**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
4	**Blackgram**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
5	**Redgram**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**0.00**	**0.00**	**2.00**	**2.00**
6	**Groundnut**	**25.00**	**0.00**	**0.00**	**25.00**	**55.00**	**0.00**	**0.00**	**55.00**	**30.00**
7	**Fodder cholam**	**0.00**	**12.05**	**0.00**	**12.05**	**25.00**	**0.00**	**0.00**	**25.00**	**12.95**
8	**Rice fallow pulses**						**0.00**	**300.00**	**300.00**	**300.00**
9	**Fallow**	**0.00**	**0.00**	**271.83**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Total	**382.00**	**12.05**	**271.83**	**394.05**	**449.00**	**0.00**	**300.00**	**749.00**	**354.95**
	Grand total (I+II+III)	**724.88**	**316.12**	**0.00**	**1041.00**	**1110.55**	**202.28**	**0.00**	**1312.83**	**271.83**
	Great Grand Total	**1106.88**	**328.17**	**271.83**	**1435.05**	**1559.55**	**202.28**	**300.00**	**2061.83**	**626.78**
	Cropping Intensity				**137.85**				**157.05**	

12.MARKETTING CHANNELS IN TIRUNELVELI DISTRICT

At present farmers market their produce through the existing Regulated markets, Ulavarsandhais, rural sandhais , DPC and commission agents throughout the district.

Sl. No.	Regulated Market/Location	Storage Godowns	Cold storage	Transaction shed	Traders shop	Drying yard
1	Tirunelveli	2 Nos. 3000 MT	1 No. - 25 MT	1 No. - 800MT		1 No.
2	Sankarankovil	2 Nos. 3000 MT	1 No. - 500 MT	3 No.- 2400MT		
3	Thiruvengadam	Rented Building				
4	Valliyoor	2 Nos. 3000 MT	1 No. - 25 MT	1 No. -800 MT		1 No.
5	Thisayanvillai	Rented Building				
6	Alangulam	Rented Building				

7	Sivagiri	Rented Building				
8	Pavoorchathram	1 No. - 1000 MT	1 No. - 1000 MT	1 No. - 800 MT	10 Nos.	1 No.
9	Ambasamudhram	2 Nos. 3000 MT	2 Nos. - 25 MT & 200 MT	1 No. -800 MT		1 No.
10	Tenkasi	1 No. - 1000 MT	1 No. - 25 MT	1 No. -800 MT		1 No.
11	Kadayanallur	1 No. - 2000 MT	1 No. - 200 MT	1 No. -800 MT	10 Nos.	
	Total	**11 Nos-16000 M.T**	**8 Nos-2000 M.T**	**9 Nos-7200 M.T**	**20 Nos**	**5 Nos**

Details of Uzhavar Sandhai

Sl.No	Name of uzhavarsandhai	No. of shops in US
1	Maharajanagar	100
2	Kandiyaperi	80
3	Melapalayam	36
4	Sankarankovil	80
5	Tenkasi	60
6	Ambasamudhram	36

Details of Rural Shandies:

Sl.No.	Block	Daily / Weekly (Nos.)
1.	Manur	3
2.	Palayamkottai	2
3.	Cheranmahadevi	1
4.	Nanguneri	2
5.	Valliyoor	2
6.	Radhapuram	2
7.	Ambasamudhram	2
	Total	**14**

13. EXISTING FPC IN TIRUNELVELI DISTRICT

SL.No	Name of the FPC	Supporting Agency	Crop
1	Tamirabarani FPC	NABARD	Banana
2	Radhapuram Traditional Crop Producer company	NABARD	Chillies
3	Vageeswarar FPC	SFAC	Banana
4	Daily fresh FPC	Self Promoted	Banana, Coconut
5	Amuthasurabhi FPC	NABARD	Milk,Cotton
6.	Ajna FPC	NABARD	Banana

PART-II

NAMBIYAR

SUB BASIN

MARKETING SYSTEMS.

1. INTRODUCTION.

By using a detailed analytical approach, this DPR has identified important information on marketing systems and emerging crops that will help in the development of the sub basin and increase the economic and income opportunities for farmers. Specific topics discussed in this report are as follows:

1. Emerging major crops of thesub basin
2. Price variation for emerging crops of thesub basin
3. Farmerassessment
4. Existing marketingscenario
5. Constraints in the marketingsystem
6. Recommendations

The World Bank assisted Tamil Nadu Irrigated Agricultural Modernization Project (TN IAMP) is an initiative of the Government of Tamil Nadu to overcome deficiencies in the present agriculture marketing system of the State. The present marketing system is weighed down by shortcomings. Although there is a good amount of marketable surplus in the sub basin, the producers do not get a reasonable price for their produce because of serious deficiencies in the present agricultural marketing system. Some of the main shortcomings in the systemare:

i. There is a lack of standardization and enforcement of quality andgrades;
ii. Farmers receive insufficient and ineffective information and services related to inputs;
iii. There is an absence of facilities for grading, packing, cold storage andprocessing;
iv. There is inadequate transparency in marketing;and
v. There is a lack of private sectorinvestment.

This problem could be better addressed through different interventions resting on two primary pillars:

i) improving extension support to farmers, and,

ii) improving the agricultural marketing system.

Productivity improvement and production of improved quality of agricultural produce is necessary to make agriculture viable. The thrust so far has been on increasing agricultural productivity. As a result, the extension machinery of concerned departments has been heavily focused on increasing production. Market led extension has been lacking and this has resulted in a poor understanding of agricultural marketing by the marketing departmental agencies and theproducers.

Various national programs like RashtriyaKrishiVikasYojana (RKVY), National Horticulture Mission (NHM), and National Food Security Mission (NFSM) have been implemented in the district. The proposed TN IAMP, with the assistance of the World Bank, is one out of the many steps taken by the Government of Tamil Nadu to address various issues and constraints so as to encourage the development of agriculture in the state. The components and subcomponents under TN IAMP are based on the overall strategy of the State. TN IAMP aims to enhance the productivity of agriculture and improve the quality of production by helping build the capacity of farmer producers through the Agricultural Technology Management Agency ('ATMA') programs. In order to enable farmers to be competitive in the market and fetch higher prices for their agriculture produce, alternative channels of marketing are being proposed and developed amongst which strengthening the present marketing structure, by way of modernization is of keyimportance.

The Project Development Objective (PDO) and overall objectives of TN IAMP are outlined below.

The Project proposes to improve the productivity and quality of produce in agriculture and allied sector by various interventions proposed under Component B. Farmers will get better and reasonable returns for their produce if their access to markets is improved. This can be achieved by developing infrastructure and creating alternative marketing channels as outlined in Component B. The components and sub components of TN IAMP and their component-level objective are enumerated below:

2. INTENSIFICATION AND DIVERSIFICATION OF MARKET LED PRODUCTION

i. 1: Market-led Agriculture TechnologyTransfer
   Objective: To increase the productivity of agriculture by adopting modern technology

ii. 2: Agri Business PromotionFacility
   Objective: To create trained manpower to operate and manage infrastructure facilities

iii. 3: Market Information Services
   Objective: To improve market access for enhancing marketing opportunities for farmers

iv. 4: Livestock SupportServices
   Objective: To strengthen sources of alternative income for farmers.

3. IMPROVING FARMERS ACCESS TO MARKET

i. 1: Promoting AlternativeMarkets
   1.1: Product Aggregation and Sale through Producers Association Objective:
   To provide improved post harvest handling facilities at village level

   1.2: Warehouse Receipts Development

Objective: To improve the capacity of farmers on price risk mitigation

1.3: Rural Haat Markets

Objective: To strengthen alternative marketing channel of traditional rural haats

1.4: Introducing e-Marketing Platform

Objective: To establish e-trading as one of the alternative marketing channels

ii. 2: Modernizing Existing Markets

iii. 2.1: Modernizing WholesaleMarkets

Objective: To improve transparency in all APMCs and to provide basic and productive infrastructure.

Walk through survey was conducted to identify gaps and issues to enable them to focus their efforts in further improving the productivity and production of agriculture in the state. Some of the key objectives are outlined below:

i. To identify gaps/issues in market ledproduction.

ii. To study the existing marketing system of the district and to identify constraints in the marketingsystem.

iii. To suggest strategies and activities to overcome gaps in market ledproduction.

iv. To suggest interventions to mitigate constraints in the marketing system of thedistrict.

4. EMERGING MAJOR CROPS IN THE SUB BASIN

On the basis of existing as well as expanding area and changing crop trends, we have selected Pulses and ground nut as the emerging major crops of the sub basin. Based on the detailed analysis of the production, area, Pulses and ground nut have been identified as the main cultivated crops and major food grains in the sub basin. The following table depicts the major trends in cropping pattern over the last 5 years for these 3 key crops of thesub basin.

Area under cultivation (Ha)

Year	Black gram	Green Gram	Ground Nut
2013-14	60	42	108
2014-15	55	32	94
2015-16	64	30	86
2016-17	80	32	84
2017-18	55	30	70
2018-19	45	35	95

Source: Department of Agriculture, Government of Tamil Nadu.

5. CROP-WISE PRICE VARIATION FOR EMERGING CROPS

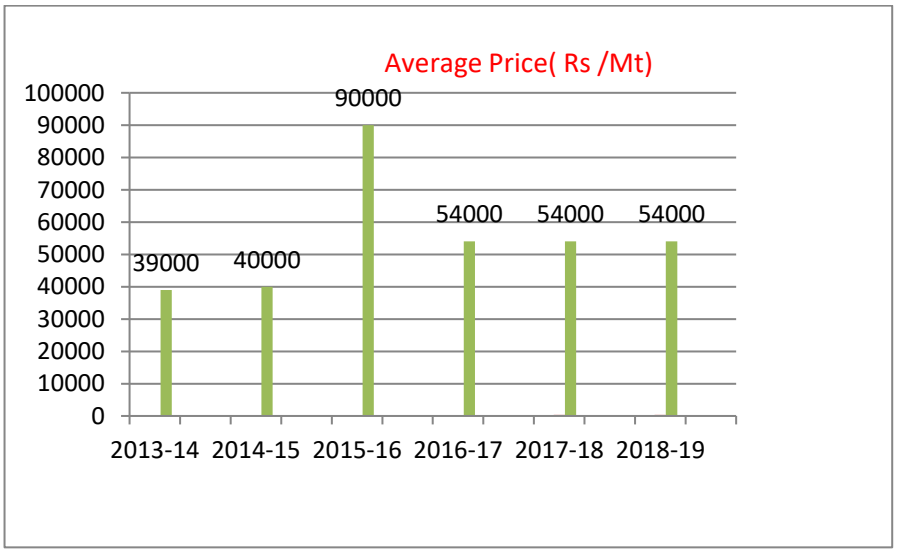
We used market arrival data to calculate the price variations of different crops..

We used market arrival data to calculate the price variations of different crops..

Average price of Pulses (Black gram).

Year	Average arrivals in Mts	Average Price/Mt
2013-14	28	39000
2014-15	30	40000
2015-16	28	90000
2016-17	24	54000
2017-18	28	54000
2018-19	28	54000

SUB BASIN PRICE VARIATION: BLACK GRAM

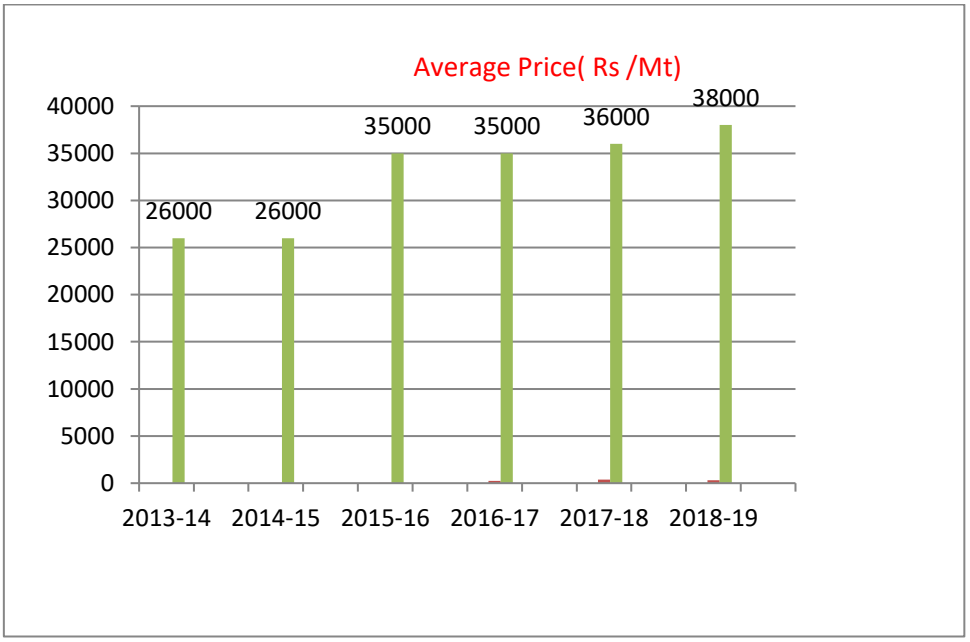


- The chart compares the average price for a selected group of APMCs/ outer market over the last 5 calendar years.
- The price for black gram was at its highest in 2015-16. For 2018-19 was INR 5400/ qtl.it varies from INR 3900 to 5400 / Qtl between 2013-2019

Average price of Green gram.

Year	Average arrivals in Mts	Average Price/Mt
2013-14	8.4	45000
2014-15	15	55000
2015-16	11	40000
2016-17	13	45000
2017-18	16	47000
2018-19	14	58000

SUB BASIN PRICE VARIATION: GREEN GRAM



- The chart compares the average price for a selected group of APMCs/ outer market over the last 5 calendar years.
- The price for green gram was at its highest in 2018-19. For 2015-16 was INR 4000/ qtl.it varies from INR 4000 to 5800 / Qtl between 2013-2019.

The above analysis on the average prices and arrivals data of the emerging crops helps us understand the supply dynamics of the crops at the APMCs. As seen above, for most of the emerging crops pulses and ground nut the supply is highest in the APMC/outer market that gives the farmers higher prices. The higher price realization in turn can be attributed to higher demand driven by processing units..Furthermore,

inordertoencouragefurtherdevelopmentandproductionoftheemergingcropsofthe sub basin, it is important to also understand the current production practices of farmers on the basis of which best practices for crop cultivation can be recommended and extension services designed and planned.

6. EXISTING MARKETING SCENARIO IN THE DISTRICT

Agriculture in Nambiyarsub basin is diversified with a wide range of crops grown in the district. Major food grains are Pulses and ground nut are major crops.

7.AGRICULTURE PRODUCE MARKET COMMITTEES (APMCS)

There are only one Regulated markets under Tirunelveli market committee in the sub basin. Details of the average annual arrivals outside the Regulated Markets are given in the Table below:

SlNo	Year	Crop wise Average arrivals(Last 5 years average) in Mts			
		Coconut	Blackgram	Green gram	Banana
1	2013-14	320	28	8.4	8480
2	2014-15	220	30	15	7104
3	2015-16	248	28	11	10240
4	2016-17	265	24	13	11520
5	2017-18	270	28	16	7680
6	2018-19	270	28	14	7360

8. PRIVATE AGRICULTURE MARKETING SYSTEM IN THE SUB BASIN.

Traders Registered in APMC/RM in NAMBIYAR Sub Basin			
S.No	**Name of the Regulated Market**	**Name of the Licenced trader**	**Crop**
1	Valliore	Jeniber Traders, Sadayamankulam, Nanguneri.	Banana
2	Valliore	Sundaram Textiles Ltd, Nambi nagar, Nanguneri.	Banana
3	Valliore	Sangavi Spin Silks, Poolam, Moontradaippu.	Banana
4	Valliore	Janakicotgton mills Ltd, Mainroad, Kalanthapanai.	Banana

5	Valliore	Moons spinning Ltd, Kalakad road, Soorankudi, Nanguneri via.	Banana
6	Valliore	C.Balakrishnan, Bose Ricemill, Valliyoor	Banana
7	Valliore	M.Mohamadali, Mubakatan traders, Panakudi.	Banana
8	Valliore	P.Narayanan, Devanallur	Banana
9	Valliore	J.P.Selvin, J.P.Traders, Moontradaipu.	Banana
10	Valliore	Muruga Traders, KeezhaKaruvelankulam.	Banana
11	Valliore	Pathimuthuamma spinning mills, Soorankudi.	Banana
12	Valliore	Krishnan, Devanallur, Kalakad.	Banana

Traders Outside RM/APMC in Nambiyar Sub Basin

(RM)

S.No	Name of RM	Traders Name and Address	Crop
1	Valliore	Abubacker Pulses Traders, Kalakad	Banana
2	Valliore	Prabakaran Whole sale Traders, Valliyoor	Banana
3	Valliore	T.Chinnadurai Whole sale Traders, Valliyoor	Banana
4	Valliore	Sivalingam Tamarind Whole sale Traders, Nagarkovil	Banana
5	Valliore	David Tamarind Whole sale Traders, Nagarkovil	Banana
6	Valliore	Natarajan , Valliyoor	Banana
7	Valliore	Ramesh (sss) , Tirunelveli	Banana
8	Valliore	National Super Market, Valliyoor	Banana
9	Valliore	Gnanaraj Tamarind Whole sale Traders, Sathankulam	Banana

9. CONSTRAINTS, STRATEGIES & PROPOSED INTERVENTIONS FOR PROMOTING MARKET LED AGRICULTURE PRODUCTION IN SUB BASIN.

Sl.No	Issues	Strategy	Activity

1	Non adaption of Package of practices for improving quality of grains.	Promotion of pre harvest practices for bridging gap identified by DoA&Horti	Crop demonstrations
2	Non adaption of Post Harvest practices	Promotion of prost harvest practices for bridging gap identified by DoA&Horti, Marketing	PHT demonstration and farmers training
3	Lack of market awareness	Awareness about sources of market information & intelligence	1.C.I.G. Group formation. 2.Pledge loan. 3.Farmers training. 4. Exposure visits

10. Post Harvest Management- Ground Nut

Post-harvest losses :

Post-harvest losses in Groundnut occur at different stages at harvesting, threshing, cleaning, winnowing, packaging, transportation, storages, processing and marketing. The losses during harvesting are due to left out pods in the soil. It has been estimated that post- harvest pod losses in harvesting varies from 16 to 47 percent, in curing / drying 5 to 50 percent. However in transportation, the losses occur on account of pilferage, leakage of gunny bags and rough handling. The losses during storage are mainly due to driage loss and through damage by rodents and pests. Damage also occurs due to dampness which develops the moulds, leading to contamination with Aflatoxin.

To minimise post harvest losses, the following measures should be followed;

1. Timely harvest when soil contains sufficient moisture.
2. Use of proper method of harvesting.
3. Collection of the left out pods from the soil.
4. Striping pods properly by adopting better mechanical methods.
5. Drying the wet pods immediately after harvest.
6. Avoiding dampness of stored pods to avoid mould formation.
7. Avoiding the losses in threshing and cleaning, to minimize damaged pods.
8. Adopting grading practices to get more profit.
9. Using good packaging in storage and transportation.
10. Using was proper scientific technique in storage for maintaining optimum moisture content of pods.

11. Using pest and rodent control measures before and after the storage.

12. Storing the Groundnut in the form of pods and avoid in the kernels forms.

13. Providing aeration to stored pods and stire bulk pods occasionally to avoid dampness and pest infestation.

14. Staking of the gunny bags on wooden planks to avoid dampness.

15. Properly handling at loading and unloading of Groundnut with efficient and hygienic transportation facilities to reduce the losses at farm and market level.

CONSTRAINTS FOR GROUNDNUT.

1. Input availability

2. Marketing constraints.

3. Environmental constraints.

I.Input availability constraints.

1. Irrigation.

2. Labour shortage

3. Quality seeds.

4. Fertilizer availability.

5. Insecticides.

6. Machinery

7. Credit.

II.MARKETING CONSTRAINTS.

1. Lack of price Information.

2. Price variability

3. Storage losses

4. Transport

5. Low market demand.

III. ENVIRONMENTAL CONSTRAINTS.

1. Shortage/ Untimely rain.

2. High Temperature.

COUNTER MEASURES.

1. Supply of good quality seeds through Agricultural Extension Centres.

2. Development of drought resistant varieties through TNAU.

3. Creation of infrastructure for storage and market intelligence which will help the groundnut growers to get remunerative prices/returns for their produce.

HARVESTING CARE :

Harvesting of Groundnut comprises digging, lifting, windrowing and stacking of pods. Groundnut is harvested when plant foliage show yellowness. The pod is matured when it becomes hard and tough, and when there is dark tan discolouration inside the shell and the kernel become unwrinkled. Usually, the bunch varieties mature in about 100-105 days and the semi spreading and spreading varieties in about 125-135 days.

11. POST HARVEST TECHNOLOGY FOR PULSES

Different technologies of post harvest operations of pulse crops are available (traditional or improved) at various phases of post- harvest system depending upon the resourcefulness of the farmer growing the crop. A list of such operations are depicted in the below

Traditional and improved technologies for post-harvest operations.

Post-harvest operations	Traditional technologies	Improved technologies
Harvest	Manual	Manual and mechanized
Pre-drying	Standing or in shocks	Standing or in shocks
Storage of harvested crops	In fields or on threshing floor	In fields or on threshing floor
Threshing	Manual	Mechanized
Pre-cleaning	Hand winnowing	Mechanized
Drying	Natural	Artificial
Cleaning and sorting	Winnowing in the wind	Mechanized
Storage of grains	In traditional granaries	In bags or in bulk
Processing/Milling	Manual	Mechanized

Post-harvestlosses

The expression “post-harvest losses” means a measurable quantitative and qualitative loss in a given product occurred during the various phases of the post-harvest system. In economic terms, sum of the losses in quantity and quality of the products inevitably leads to loss of money. In addition to direct economic losses, some losses result from poor management of post- harvest systems.

Seeds of poor quality, inappropriate farming practices and insect infestation in the field can obviously cause loss of produce even before harvest. From the harvest onward, the grain undergoes a series of operations during which quantitative and qualitative losses may occur. Table 2.2 indicates the type of losses that take place at prevailing conditions at various stages of post- harvest system.

Type of loss at different post harvest stages

Stage of operation	Type of loss
Late harvest	Shatteringlosses,lossesduetoattack of birds and otherpests
Insufficient drying of grain	Losses due to development of moulds and insects
Improper threshing	Broken grains and threat of insect development at a later stage
Poor storage	Losses caused by combined action of insects, moulds, rodents and other pests
Improper milling	Broken and powdering loss
Transport	Quantitative loss
Defective packaging	Quantitative and qualitative loss

Estimated post harvest losses of pulses

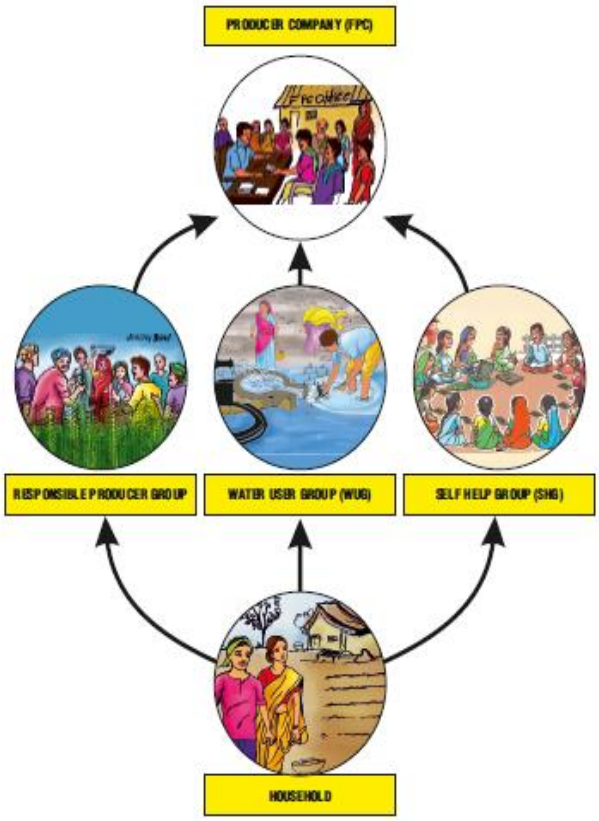
Stages	Losses (%)
Harvesting	1.0-3.0
Handling	1.0-7.0
Threshing	0.5-5.0
Drying	1.0-5.0
Transport	0.5
Primary Processing	1.0
Storage	5.0-10.0
Milling	15.0-20.0
Total	25.0-50.0

MANAGING POST HARVEST LOSSES.

- For long term storage pulses should be dried to < 14% moisture content and cooled to < 15^{o}C Temp.
- To prevent spoilage, green seeds, dockage & foreign material should be removed prior to storage.
- Pulses respire (breathe) in storage which raises seed moisture and temperature requiring regular monitoring and automated aeration.
- Effective grain management practices and regular monitoring ensure safe storage of pulses at a high commercial grade, optimum quality and with minimum spoilage risk.

PART-III

WALK THROUGH SURVEY & FORMATION OF FARMER PRODUCER COMPANY



1. Environmental and Social Management

This chapter envisages the mitigation of environmental impacts by assessing and effectively managing the potential environmental impacts due to the interventions under TNIAMP in Nambiyaru sub basin. The primary aim is to manage the impacts by suggesting suitable mitigation measures and monitoring its implementation. Further, Gender participation strategy and Grievance Redressal Mechanism will be devised and implemented suitably for all the sub-projects pertaining to TNIAMP

2. SUMMARY OF WALK THROUGH SURVEY

Walkthrough surveys were conducted through 6 villages situated in nambiyar sub basin during the month of 11.03.2020. Officials from Agriculture Marketing Dept, Water Resources Department (WRD), Agriculture Department, Horticulture Department, Tamil Nadu Agriculture University (TNAU), Agriculture Engineering Department (AED), Animal Husbandry and Fisheries Department jointly conducted the survey. Around 89 public people from farming and allied sector participated and shared their views and expectations. Regarding WRD, 40 tanks, 1supply channel for a total length of 4 km in Nambiyar Sub Basin were selected and proposed for rehabilitation under TNIAMP phase III. Interaction with farmers was made for improving agriculture and allied activities.

It was inferred that the Nambiyar sub basin constitutes 4 type of soil viz. Inceptisol, Alfisol, Entisol and Vertisol. Inceptisol type is dominantly prevailing across the sub basin. Due to the soil suitability, Paddy and pulses is widely cultivated along the sub basin.. Annual crops Banana are also grown here. Paddy is the major seasonal crop which is grown in areas where irrigation facility is available. Paddy is repeated as second crop in areas where well irrigation facility is available. Vegetable crops such as Onion, Brinjal, Tomato, Chilly and Cucumber are also cultivated as first crop in this sub basin. When water is available, paddy is cultivated as second crop followed by pulses as third crop. It was inferred, that farmers are interested in water harvesting structures to prolong the water availability to their crops.

WALK THROUGH SURVEY (WTS)

1. Walk Through Survey in Nambiyar Sub Basin conducted on11.03.2020
2. No. of Villages covered - 6 villages
3. Category of Villagers participated :
   - i. No. of farmers/ WUA Members participated : 89
   - ii. No. of Women Self Help Group Members participated : ---
   - iii. No. of representatives from NGO's : ---
   - iv. No. of Landless farmers : ---
   - v. Panchayat Representatives Participation:
     - a) President - ~~Yes~~ /No

b) Secretary - ~~Yes~~ /No
c) Members - ~~Yes~~ /No

4. Feed Back (Mention the chapter in DPR where the WTS feedback is recorded):

i. WRD Works:

Tanks (No's)	Anicuts (No's)	Supply Channel/Canal (km)
40	0	4

3. Summary of Feedback along with planned activities

The feedback of walk through survey and the planned activities are summarized below .

Agricultural related.

It was inferred that the farmers are mostly relying on conventional farm methodologies and following same cropping pattern. Hence to make them adopting new methodologies, the following activities are proposed. Farmers can be educated through introduction of field demonstration of improved production technology. Farmer's field schools to educate farmers shall be operationalized at block levels followed by capacity building through exposure field visits. During the survey, it was reported by the farmers about reduced soil fertility; hence, it was proposed to encourage the farmers for green manuring by adopting technologies like vermicomposting, practicing rice fallow pulses cropping in order to enhance the soil fertility. Another common problem prevailing in agriculture is water scarcity. Farmers have reported that often they cannot avail water for their crops upto full maturity. For this, it was proposed to switch from conventional paddy cultivation method to System of Rice Intensification (SRI). Through this, they can save appreciable quantity of water and also seed. It was also proposed to divert from high water guzzling crops to less water consuming crops like maize, oil seeds and horticulture crops.

ii. Agri. Related (Agriculture/Horticulture/TNAU/AED):

Soil Type	Existing Cropping Pattern	Major Crops	Major Issues	Farm Ponds	Others
Inceptisol, Alfisol, Entisol, Vertisol	**Perennial crops:** Banana, Coconut, Mango, Amla, Guava, Acid lime, Flowers Others:Sapota, Cashewnut, Casuarina,Teak, Tamarind, Jack **Annual Crop:**Banana, **Seasonal crops:** Paddy, Pulses, Groundnut, Gingelly, Tomato,	Banana, Coconut, mango, Annual crop like Banana and Seasonal crops like paddy, tomato, gingelly, onion, pulses,Groun d nut	1.Prevailing gap in irrigation 2.Water scarcity 3.Poor agricultural management practices 4.Less yield 5.Reduced soil fertility 6. Necessity for increased usage of Pesticides 7. Disposal of farm waste	To sustain water for crops by introducing farm ponds were requested by farmers and 5 locations were identified for Farm ponds	

	Brinjal, Onion, Cucumber, Chillies		8. Labour scarcity during harvest times 9. Non adoption of multicut fodder crops.		

iii. Livelihood related (Animal Husbandry/Fisheries):

Veterinary Services (Artificial Insemination, Deworming, Infertility, Disease Surveylence& Prevention, Fodder Development)	Fisheries Activity(Aquaculture in Farm Ponds and Irrigation Tanks)	Others
1. There is gap in demand to supply of fodder for farm animals. 2. Lack of knowledge in managing Cross breed animals. Hence diseases like mastitis, worm infestations are major issues for cattle owners. 3. Infertility of cattles. Many breedable population has not yet been covered under Artificial insemination. 4. Lack of animal identification system which constraints the disease control and planned breeding interventions.	Where ever the impounded water is available for four months and above aquaculture is proposed to be carried out in selected farm ponds.	

4. Special Features of the sub basin:

i. Ecologically sensitive area if any - Nil

ii. Sensitive Crops :

a) Water guzzling: Paddy, Sugarcane, Banana
b) Less Water : Maize, Minor Millets, Pulses
c) Others:

5. Gender Strategy:

i. Percentage of Women expected to involve in

a) WRD Activities - 30%
b) Agri. related Activities - 50%
c) Livelihood related - 54%

6. Environmental Interventions proposed based on Observations:

For agricultural based activities,

Educating the farmers through Capacity building programme for practising on-farm green manure production from their own, farm generated organic solid wastes.

4 .FORMATION OF FARMERS PRODUCER COMPANY.

The collectivization of producers, specifically marginal and small farm holders

into producers' organizations is emerging as the effective possible pathway to address improved access to investments, technologies, knowledge support, inputs and markets. The Government of Tamil Nadu TN IAMP has identified Farmer Producer Organizations (FPOs) as the appropriate institutional form around which farmers would be mobilized and their collective capacity of production and marketing can be leveraged by strengthening their capacities.

A Farmer Producer Organization (FPO) is typically a society/company consisting of only practicing farmers who are also actual producers of specified commodity/ commodities, and is formed under as a Farmers Producer Company (FPC) under the Companies Act 2013. These organizations are created at the cluster, block, district or state level depending upon the needs of the producers considering the demand potential to adopt value chain approach to enhance farmers'/producers' economic and social benefits.

- The main aim of FPO is to ensure better income for the producers through an organization of their own.
- Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale.
- Besides, in agricultural marketing, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays.
- Through aggregation, the primary producers can avail the benefit of economies of scale.
- They will also have better bargaining power vis-à-vis the bulk buyers of produce and bulk suppliers of inputs.

Essential features of a FPO.

a. It is formed by a group of producers for either farm or non-farm activities.

b. It is a registered body and a legal entity.

c. Producers are shareholders in the organization.

d. It deals with business activities related to the primary produce/product.

e. It works for the benefit of the member producers.

f. A part of the profit is shared amongst the producers.

g. Rest of the surplus is added to its owned funds for business expansion.

Institutions registered as cooperative societies and producer companies have legal provisions for sharing of profit earned by the FPO by way of dividend. Other legal forms do not explicitly provide for profit sharing. However, the FPO can offer better price for the produce it procures from the members, thus, benefiting the latter. Similarly, it can procure inputs/raw material in bulk and sell to members with low margin. Such

activities are permissible for FPOs under all legal forms.

Important activities of FPO.

The primary producers have skill and expertise in producing. However, they generally need support for marketing of what they produce. The FPO will basically bridge this gap. The FPO will take over the responsibility of any one or more activities in the value chain of the produce right from procurement of raw material to delivery of the final product at the ultimate consumers' doorstep. In brief, the FPO could undertake the following activities:

1. Procurement of inputs
2. Disseminating market information
3. Dissemination of technology and innovations
4. Facilitating finance for inputs
5. Aggregation and storage of produce
6. Primary processing like drying, cleaning and grading Brand building, Packaging, Labeling and Standardization Quality control
7. Marketing to institutional buyers
8. Participation in commodity exchanges
9. Export

How would a FPO help the members?

A FPO will support the members in getting more income by undertaking any/many/all of the activities listed under point above. By aggregating the demand for inputs, the FPO can buy in bulk, thus procuring at cheaper price compared to individual purchase. Besides, by transporting in bulk, cost of transportation is reduced. Thus reducing the overall cost of production. Similarly, the FPO may aggregate the produce of all members and market in bulk, thus, fetching better price per unit of produce. The FPO can also provide market information to the producers to enable them hold on to their produce till the market price become favourable. All these interventions will result in more income to the primary producers.

FPO is an organization of the producers, specifically the primary producers. All primary producers residing in the relevant sub basin , and producing the same or similar produce, for which the FPO has been formed, can become member of the FPO. Membership is voluntary. The procedure for obtaining FPO membership depends on the bye-laws of the FPO. The founder-members are those who were there at the time of formation of the FPO. Other members join the FPO later. However, all members enjoy equal rights. A primary producer can become member of a FPO by submitting an application and a nominal membership fee. Some FPOs also charge annual membership renewal fee. Although primary producers obtain membership of FPO voluntarily, the promoting institution should make efforts to bring all producers into the FPO, especially the small producers.

Who is a primary producer?

Any person engaged in any activity connected with or related to any primary produce will be treated as producer. Primary produce means the produce of farmers from agriculture and allied activities.

Who will manage the FPO?

Each FPO will have an elected Board of Management / Board of Directors as per the bye-laws. The Board can engage professionals to manage its affairs. In the initial years, professional and managerial assistance is usually extended by the POPI (Consulting Agency). As the leaders of the FPO gain experience, they should take over the affairs of the FPO completely.

Can a FPO engage professionals to manage its business?

All legal forms provide for engaging professional and other employees by the FPO. Such persons should be paid out of the income of the FPO. As far as possible, the income should come from value addition to the produce and not from price paid to members. If members get price less than the market, they will gradually move away from the FPO. The professionals and other employees should be paid at par with the prevailing market to ensure that they remain for long with the FPO. Compensation will also depend upon the business plan, ensuring a positive surplus.

Can a FPO procure produce from non-members?

The objective of the FPO is to ensure better income to the member-producers through aggregation and value addition. Therefore, procurement from non-members is usually not undertaken. However, market exigencies at times may necessitate such procurement. There should be provision in the by-laws of a FPO to enable procurement from non-members during such exigencies.

How much expenses will be incurred for registration of FPO?

Expenditure towards registration fee, stamp duty, preparation of documents and facilitation charges etc., will depend on the legal structure of the FPO. In general, establishment of a producer company is more expensive than other legal forms.

What should be the minimum and maximum number of members in a FPO?

The minimum number of membership depends on the legal form of the FPO. For example, 10 or more primary producers can incorporate a Producer Company under Section 581(C) of Indian Companies Act 1956 (same provisions are retained in the 2013 Act). There is no restriction on the maximum number of membership. Generally, the FPO will require certain minimum scale of operation to remain in business. This operation scale/volume is known as break-even level. Studies have

shown that a FPO will require about 500 to 1000 active producers as members for sustainable operation.

Who can become a Producer Organisation Promoting Institution (POPI)?

An NGO, like Consulting Agency can become a POPI. Basically, the POPI needs to be a legal entity so that it can enter into legally valid contracts with other institutions including the FPO which they seek to promote.

What are the roles and responsibilities of POPI?

The primary responsibility of the POPI is to see that the FPO reaches sustainable level of business and the staff of the FPO acquire technical and managerial capability to run the business successfully when the POPI withdraws its support. The principal role of the POPI is, therefore, to build the capabilities of the Staff and Management of the FPO through training and continuous hand-holding. The broad responsibilities of a POPI are indicated below:

a. Cluster identification
b. Diagnostic and Feasibility Studies
c. Business Planning
d. Mobilisation of Producers and Registration/Incorporation of PO
e. Resource Mobilisation
f. Development of Management Systems and Procedures
g. Business Operations
h. Assessment and Audit .

What is a business plan?

Abusinessplanisessentiallyawrittendescriptionofabusiness'sfuture.Itprovidesa nindepthreportontheenvironmentinwhichthecompanyfunctions, what hecompanyplanstodointhenearfutureandpredictionsonitsperformance.Abusinesspl anconveysbusinessgoals,the strategiestousetomeetthem,potentialproblemsthatmayconfrontFPC'sbusinessandw aysto solvethem,theorganizationalstructureofthebusiness(includingtitlesandresponsibilitie s),and finally,theamountofcapitalrequiredtofinanceFPC'sventureandkeepitgoinguntilitbrea ks even.

Characteristics of good business plan:

1. Agoodbusinessplanfollowsgenerallyacceptedguidelinesforbothformandconte nt. Therearethreeprimarypartstoabusinessplan.

a) The first is the business concept, where FPC discuss the industry, FPC's business structure, FPC's particularproductorservice, andhow FPC plantomakebusiness asuccess.

b) Thesecondisthe*market placeproduct*, in which FPC describe and analyze potential customers: who and where they are, what makes the mbuyandsoon.Here, FPC also describethecompetitionandhowFPCpositionitselftobeatit.

c) Finally,thefinancialsectioncontainsFPC'sincomeandcashflowstatement,balance sheetandotherfinancialratios,suchasbreak-evenanalyses.Thispartmayrequire helpfromaccountantandagoodspreadsheetsoftwareprogram.

2. Breakingthesethreemajorsectionsdownevenfurther,abusinessplanconsistsof sixkey components:

I. Executivesummary
II. Businessdescription
III. MarketingPlan
IV. ProductionPlan
V. Operation and ManagementPlan
VI. Financial Analysis

1. BUSINESS DESCRIPTION.

The FPC will produce the required quantity of commercial value crop seeds to the farmers, so that farmers can get better yield and farm income. Similarly, there is huge demand for the certified seeds in Tamil Nadu, taking in to consideration of demand of certified seeds, FPC will produce the required quantity of certified seeds on demand from other parties as follows.

5 .EMERGING MARKETING MODELS AND AVENUES FOR FPCs.

Government supported pulses price stabilisation scheme:

Central Government is doing pulse procurement through SFAC under Pulses Price Stabilization Scheme (PPSS) of Government of India. SFAC/NAFED does the procurement in partnership with the FPCs working in different pulses growing area of various States of India, either directly through FPC or through state federation of

farmer's producer Companies who is coordinating the procurement activities in partnership with different member FPC. This programme benefits the farmers in terms of better price realization, timely payment and also provides a branding for the FPCs through coverage of maximum farmers of the area without any restrictions and any risk of market price fluctuation. There are two mechanisms through which the FPCs can participate in the scheme. First, the FPC can be directly contracted by the SFAC/NAFED for the procurement of pre- decided quantity and quality. All arrangements including registration of farmers, verification of KYC, management of procurement centre, quality control, payment of RM or other taxes, transportation of the materials to the SFAC/NAFED designated warehouse and obtaining Warehouse Receipts are the responsibility of the FPC. The claim for settlement is sent to the SFAC /NAFED electronically to receive payments in the FPC account, which in turn paid to the farmers by account payee cheque, a compulsory requirement. *The farmers must get their payment within 3-5 days of the trade. The FPCs receive 1.5–2 percent commission on the volume of transaction*. The Promoting Institution of the FPC can be a party to this arrangement to support the FPC.

On-door procurement model:

This is a traditional, but the most popular model of commodity trading being practiced in most parts of the country. This model was the most preferred model for farmers as vendors reach the farmer's door, purchase and lift the produce from their home/ farm. Some part of the payment is made immediately and the remaining after sales of the produce which normally takes 1-2 weeks for the completion of the transaction. However, some pilferages exist in this model, particularly on weighing and price aspects where farmers loose. The FPCs came up with a revised version of this model with some variation from place to place which is as following:

- Farmers are informed about the quality parameters and procurement schedule in advance. This is normally based on crop harvesting and arrival.
- Daily highest and modal prices are communicated to the farmers (Wall display in the common place through village resource person or lead farmer)
- Third Party Quality Verification Agency is hired by the FPC (or arranged by the State Federation) for quality verification as per quality parameters pre-decided.
- The trade happens when farmers agree to the price offered by the FPC in

accordance to the quality. This happens at the village level.

- Once the trade is executed the FPC takes the materials in their custody and send to the warehouse or to the party with whom it has selling agreement.
- Farmers are paid usually on the same day through cheque/ECS or cash in some cases. At the most delay can happen for three days.
- The FPCs pay the RM and other taxes
- The whole process is done very transparently and the weighing, etc. is done to the satisfaction of the farmers.

This is a very good model of spot procurement where farmers get better price and save transportation cost. However, this requires a forward marketing tie up for the FPCs. Also requires good amount of working capital. The DAM & AB will providemarket linkage, working capital and logistical support to the FPCs especially where the FPCs are in the nascent stage.

FPC lead localized seeds production and marketing model:

Seeds production and marketing has emerged as one of the potential business activity for the FPC, particularly in States where seeds replacement rate is poor and/or farmers are using composite and synthetic crop varieties. In this model-

1. FPC registers farmers who are progressive, having irrigation facility, and be able to invest on crop health management.
2. Registered farmers are provided parent seeds for multiplication .
3. The farmers are also registered with Seed Certification Agency for 'on field' and process verification audit and provide third party guarantee for the quality of the seeds
4. Continuous training is provided to the farmers on crop husbandry and quality maintenance
5. After harvest, seed is procured by the FPC on the rate of Department Price for grain. A Top-up amount is paid as premium.
6. The FPC does the processing of raw seeds and marketing on their own-local sale as well as through the outlets of other FPCs under their own brand name.

There is another model where the FPC works as organizer of seed production for State Federation/Private and Public companies for a volume and quality pre-decided.

The FPC after processing, handover the unpacked seeds to the party for whom it has produced. The branding and marketing is done in this case by the other entity. In these models the farmers get higher yield due to practice of Good Agricultural Practices (GAP) taught during the programme. They also get premium price upfront. In Tamil Nadu, most of the FPCs will be involved in localized seeds production and

Marketing which has benefitted their farmers significantly and also helped them to achieve financial sustainability. The only limitation of this programme is that, the outreach would be always limited, and due to operational and technical reasons, only the progressive farmers (constituting a small minority) can be covered under this programme.

Credit linked Production and Procurement Model:

This is an emerging model, which helps both farmers and FPC by involving a Micro Finance Institution in the process. The model works like as following:

The FPC arranges credit for its member producers for agriculture inputs (seeds, fertilizers, farm machinery services and insurance, etc.)by linking members to an MFI. The FPC provides recommendation to the MFI for lending to a particular member without taking any legal responsibility of recovery of the loan. However, it provides buy-back guarantee to the producer borrower of his produce after harvest at the market rate. This is in a way an assurance to the MFI of the recovery of loan at the end of the season. The loan by the MFI is given in kind i.e. the agriculture inputs and services which farmer needs should be procured from the FPC outlet. Once the borrower farmer has received inputs and services the FPC would raise invoice to the MFI for reimbursement of the amount on behalf of the borrower farmer.

After production, FPC procure the produces of the borrower farmer in market rate, FPC sells it in the open market or process it as required and pays the farmer after adjustment of the credit amount directly or facilitates the repayment to the MFI through collection of cheque from the farmer. Since this finance is made against a well planned production and marketing plan hence possibility of failure is very less

Marketing Plan.

What ever the certified seeds produced by the FPC will be distributed to the FPC members. When certified seeds produced by the FPC, the expenditure will be less but net income will be more. Similarly on demand certified seeds will be produced by the FPC members on behalf of other Certified seed distribution agency on contract farming basis thereby FPC will get sufficient income.

Production Plan.

FPC will select the progressive farmers with assured irrigation facilities for the production of Seeds as per the demand. Such farmers will be selected in advance and sufficient quantity of Foundation seeds will be sourced from Govt or private agency, to supply to the farmers. All inputs like Fertilizer and Micro nutrient for the seed production will be supplied by the FPC besides giving Technology through FSC .Season wise farmer wise plan will be prepared by the Board of Director (Seed Production) with consultation of DDAB.

Operation and Management Plan.

The working Capital requirement for the production of Certified seeds will be sourced from the TNIAMP Grant by the Board of Director (Finance Management). If the seed is produced for the third part agency, the BoD will approach the agency and will get sufficient amount in advance for organizing the seed farms and the amount will be adjusted at the time of invoicing the quantity to the supplier.

Financial Management plan and analysis.

1. Thefinancialanalysisisextremelyimportant, in most cases it is the decisive factor.
2. The financial statement should accompany financial analysis like break even analysis, returnoninvestment, return on assets,returnonequity,profitmarginanalysis,debtequityratio,etc.

3. Typical Profitability Analysis Ratios to be included

ReturnonInvestment(RoI)=NetIncome/AverageTotalAssets

Average Total Assets = Total asset in the beginning + Total asset at the end /2

Return on Equity = Net Income /Average Stockholder' Equity

AverageStockholderEquity=totalstockholder'equityinthebeginning+EndEquity /2

ProfitMargin=NetIncome/Sales

Earnings per share = Net Income /Number of common share outstanding

BUSINESS ACTIVITIES

FPC will undertake the following business activities.

Business Activities Proposed By Producer Company

Primary processing of Surplus Agri.Produce.

Facilitating Collective Marketing of Surplus Agri Produce: Facilitating aggregation, primary processing and collective sale ofproduce.

Members Growth of the Producer Company (For 5 Years)

Particulats	Y1	Y2	Y3	Y4	Y5
Total Members	500	525	550	575	600

Business Activity - 1 Facilitating Input Supply-Seeds, Fertilizers:

Input supply of fertilizers for selected major crops grown in the area

Need of the Proposed BusinessActivity

Need of this activity emerged from the discussion with the PG leaders. All farmers face challenges in buying good quality (certified) inputs due to supply constraints and collusion among dealers in the local markets. Inputs are mostly not available on time and the farmers often end up pay above the MRP. All these issues lead to the need of collective purchase of input and PC could be the entity to facilitate this activity for its members especially by creating linkages and negotiating with the companies.

OperationalPlan

PC will follow a step-by-step procedure to perform this activity wherein series of consultations at PG, PC and market levels will be undertaken.

Advertising of services

The PC will advertise its services through a meeting of all PG leaders at least

2 months before the start of the sowing season (either Kharif or Rabi) to declare its intention to supply agro-inputs among the farmers of the cluster. Concurrently, public notices will be put up at prominent locations like schools, hospitals, government offices, GP premises and the FCSC informing all farmers about the availability of inputs.

Collection ofindents

Each PG leader will collect input requirement along with quantity, choice of varieties and brands from all members of his/her PG on a template shared by the PC. The PG members will be encouraged to club their requirements in case of small and medium farmers if their need is below the standard packet sizes available in themarket.Enquiries from non-members will be directly attended by the PC office bearers.PCSecretary will collect the filled-in templates from the respective PG leaders and non-members to collate the data for overall requirement of inputs for the PC.

Vendor selection

Once the final input requirement is finalised, PC leaders will start dialogue with input suppliers from the list of suppliers (see annexures) created by the FCSC SP. Interested parties will be asked to quote their prices and supply terms & conditions separately for each of the inputs. Based on the quotations and supply terms, best two will be shortlisted and one to one meeting will be arranged between suppliers & PC leaders for further negotiation &signing the supply contract(s). Payment &Delivery date(s) will also be finalized in the samemeeting.

Pricing and payments

PC leaders will add its service charges including expenses to the price finalised with the input supplier to derive the price of inputs for the members. Charges proposed to be levied by the PC towards sourcing & supply of seeds are considered to be 6% and 7.5% of purchase value for member and non-members respectively and in terms of fertilizers it is 2% and 3% of the purchase value for member and non- members respectively.

The assumed rates and **quantum** of sale of the seeds are mentioned in the tables below.

The price and expected delivery dates will be intimated through an open notice and also shared in a meeting with the PG leaders. PG leaders will be asked to collect advance payments from respective group members and submit it to the treasurer of the PC. Individual farmers will be asked to deposit the advance payment to the PC treasurer directly by the PC office bearers. This process will be completed at least a week before the actual deliverydate.

The PC will share details and indented quantum of farmers with the supplier (dealer/distributor/ manufacturer). The PC will maintain regular liaison with the supplier and also make advance payments to the supplier if necessary. This will ensure hassle free and timely supply of the inputs.

Delivery of inputs to farmers

The dealer will supply the indented inputs to the PC along with separate invoices raised in name of each farmer. On receipt of the inputs, PC office bearers will match the invoices and the goods and create separate lots for each PG. On the delivery day, PC leaders will hand over the inputs to the PG leaders who will receive the goods against a signed acknowledgement. PG leaders will in turn distribute the inputs among PG members based on the quantities indented and paid for by each member. Inputs along with the invoice will be supplied directly to the non-members from the FCSC premisesonly.

The PC functionaries will note the allotment number mentioned on each of the input bags and note the same while supply to the PG leaders. PG leaders will in turn note the allotment numbers while distributing the inputs among the members and share it with the PC treasurer. It will be used by the PC to address grievances from the farmer and seek replacement from supplier in case some lot is found to be defective.

List of market players (inputdealers)

Extensive discussions have been conducted with these suppliers to explore their willingness towards bulk purchase of inputs by PC and further sale of the same by FCSC. List of suppliers and manufacturers of various agri-inputs is presented under Annexure-1. While final negotiations will be conducted with the most potential suppliers shortlisted by PA, currently PC leaders have identified following potential input suppliers in their area who have shown interest to supply agri-input to FCSC.

(I). DISTRIBUTION OF SEEDS:

Business summary of seed facilitation

SEEDS SUPPLY

Sl .No	Crop	Area to be covered	Requirement per Ha in Kgs	Total requirement in Kgs	Purchase rate per Kg	Total purchase amount (5*6)	Selling price per Kg	Total selling amount (5*8)	Profit (9-7)
1	2	3	4	5	6	7	8	9	10
1	Pulses	100	20	2000	60	120000	80	160000	40000
2	Groundnut	100	140	14000	80	1120000	100	1400000	280000
	TOTAL					1240000		1560000	320000

Business summary of seed facilitation

Particular	Y1	Y2	Y3	Y4	Y5
No. of Members	500	525	550	575	600
Area in Ha					
Pulses	100	110	120	130	140
Groundnut	100	110	120	130	140
Seed Quantity (in KG)					
Pulses-20Kgs/Ha	2000	2200	2400	2600	2800
Groundnut-140Kgs/Ha	14000	22400	23800	25200	26600
Seed Value (in Rs.)					
Pulses. 60/kg	120000	132000	144000	156000	168000
Groundnut.80/kg	1120000	1792000	1904000	2016000	2128000
TOTAL	1240000	1924000	2048000	2172000	2296000
Seed Revenue (in Rs.)					
Pulses.80/kg	160000	176000	192000	208000	224000
Groundnut.100/kg	1400000	2240000	2380000	2520000	2660000
TOTAL	1560000	2416000	2572000	2728000	2884000
Profit					
Pulses	40000	44000	48000	52000	56000
Groundnut	280000	448000	476000	504000	532000
TOTAL	**320000**	**492000**	**524000**	**556000**	**588000**

Critical Assumptions

- Producers willing to purchase seeds from FCSC is based on discussions held with BoDs of the PC
- The member growth is the estimate based on the discussions with the BoDs of thePC
- Seed Rate per acre is based on the Government approveddistribution
- 5% inflations is considered for cost and revenue for everyyear
- Transportation expenses for the inputs to and pro from the FCSC will be borne by the farmers and the transportation cost of delivering the inputs at FCSC location will be ensured from the suppliersside
- Rate for the seed is based on the current market rate and is subject to change over a period of time
- Discount offered by the seed supplier is based on the difference in the rate at the distributor level and the retailer & may subject to change over a period of time (In business plan 10% average discount is considered)

(I) DISTRIBUTION OF FERTILIZERS

Business Summary - Fertilizer

Meetings were held with farmers to understand their difficulties in procurement of fertilisers and come up with intervention ideas to reduce the same. Farmers stated that they face maximum difficulty in procuring the fertilizers that are required in bulk quantities. They stated that Urea, DAP and MOP are 3 major fertilizers required in large quantities. Farmers need to procure these from WS/Firms from Kanchipuram.. It entails high transaction cost and time. Therefore, the PC has decided to take up collective procurement of the above 3 fertilizers and make them available to the farmers at nearby locations. Requirement and usage of these fertilizers were ascertained from the farmers during the group meetings and the same were triangulated with information from the department personnel and the input suppliers to arrive at per acre requirement for different crops. Charges proposed to be levied by the PC towards sourcing & supply of fertilizers are considered at 2 to 3% of the purchase value for member and non-member respectively. Indenting, advance payment, invoice and distribution system will be similar to that followed for seed supply. The assumed rates and quantum of fertilizers are mentioned in the tablesbelow.

Business Summary – Fertilizer

FERTILIZER SUPPLY

Sl.No	Name of the Crop	Area to be covered (Ha)	Requirement per Ha in Kgs	Total requirement in Mts	Purchase rate per Mt	Total purchase amount	Selling price per Mt	Total selling amount	Profit
				(3*4)		(5*6)		(5*8)	(9-7)
1	2	3	4	5	6	7	8	9	10
1	Pulses	100							
	DAP		110	11	24000	264000	24720	271920	7920
	Urea		15	1.5	5922	8883	6097	9145.5	263
	Potash					0		0	0

2	Groundnut	100				0		0	0
	DAP		75	7.5	24000	180000	24720	185400	5400
	Urea		10	1	5922	5922	6097	6097	175
	Potash		90	9	16000	144000	16480	148320	4320
						602805		TOTAL	18078

Business Summary – Fertilizer

Sr. No.	Particular	Y1	Y2	Y3	Y4	Y5
1	Fertilizer Quantity (in KG)					
	DAP	18.5	18	19	20	21
	Urea	2.5	3	4	5	6
	MoP	9	10	11	12	13
2	Fertilizer purchase Value (in Rs.)					
	DAP	444000	432000	456000	480000	504000
	Urea	14805	17766	23688	29610	35532
	MoP	144000	160000	176000	192000	208000
	TOTAL	**602805**				
3	Fertilizer sale Revenue (in Rs.)					
	DAP	457320	444960	469680	494400	519120
	Urea	15243	18291	24388	30485	36582
	MoP	148320	164800	181280	197760	214240
	TOTAL					
4	Fertilizer Profit					
	DAP	13320	12960	13680	14400	15120
	Urea	437.5	525	700	875	1050
	MoP	4320	4800	5280	5760	6240
	TOTAL	**18078**	**18285**	**19660**	**21035**	**22410**

Critical Assumption

- ✓ The Area under these producers are based on the average area (3.25 acres) per producer in the PC.
- ✓ The member growth is the estimate based on the discussions with the BoD of thePC
- ✓ Fertilizer dose per acre is based discussion with ATMA officials &PCLeaders
- ✓ Rate for the fertilizer is based on the current market rate and is subject to change over a period of time
- ✓ Discount offered by the fertilizer supplier is based on the difference in the rate at the distributor level and the retailer & subject to change over a period oftime
- ✓ Member growth is 5% every year against total household of thecluster
- ✓ 5% inflations is considered for cost and revenue for everyyear

(II). Business Activity-2 (Facilitation of Aggregation and Sale of SurplusProduce)

Need of the proposed business activity

Farmers of this cluster undertake individual sale of their produce. They sell their produce to traders in the local mandis only. They've limited exposure to other markets or sales channels. They have inadequate knowledge of business terms & conditions of other procurers like processors, traders of terminal markets, direct license holders etc. They submit to the dictates of the local traders due the inability to scout and link with other potential buyers and suffer from unfavourabletradingterms.

Around 50% of the famers in this cluster go for distress sale of their produce in order to service credit availed for agro-input purchase and domestic requirements. This becomes more pressing after kharif due to the need for reinvesting on agro-inputs for rabi cropping.

The PC members decided to explore other markets with assistance from the FCSC service provider and line department officials to help the farmers expand their market in search for better prices and trade terms. They also decided to facilitate aggregated sale of produce.

Operational plan of the proposed activity Scouting buyers

PC Leaders will scout market players and make exhaustive commodity-wise list of potential buyers along with the terms of trade. They will shortlisted potential buyers based on negotiated settlements and draw up rate contracts. The PC will be handheld during this activity by the FCSC service provider during the 1st year of this business so as to enable them to do it independently in subsequentyears.

Awareness generation

The PC will brief the PG leaders the terms of trade and quality specifications

and prices prevalent at higher order markets. The PG leaders will in turn share the same with PG members and enlist quantum of surplus produce that each member is willing to sell collectively through FCSC. Public notices will also be put at important locations (like GP, School, Hospital, FCSC etc.) to make other farmers of the cluster aware about the initiative of the FCSC. Quality requirements and price offers of higher order market will be mentioned in such notices along with invitation to sell throughFCSC.

Aggregation of Produce

Each PG leader will create a list of interested group members along with surplus quantum available for sale through FCSC. These lists will be submitted to the PC Secretary. Non-members directly convey their willingness and quantum of surplus produce to be sold through FCSC to the PC Secretary. Final list outlining the quality and quantum of produce available for sale through FCSC will be drawn up by the PC Secretary.

Soliciting and servicing orders

The PC will identify buyers from higher order markets and negotiate with them for rate contract and supply orders. As per the demand from these identified buyers the PC will undertake supplies at pre- negotiated rates. The PC will also undertake regular market scouting and maintain liaison with other buyers to ensure that regular enquiries are received by the FCSC. As and when a suitable order comes up, the PC will intimate the farmers through PG leaders and open notices about the crop, quality specifications and quantum requirement. The PC will intimate the terms of payment and time and location of aggregation under the samenotice.

The PC will also take up spot sales from time-to-time based on queries from the market. In such cases, the PC will announce the rates to the farmers on daily or deal basis after deducting PC facilitation charges. Farmers will be asked to bring their produce to the FCSC at a given time. PC will monitor the entire process based on terms of the buyer. Record of the quality of produce & price offered will be noted at the FCSC and supply and payment receipts will be issued to thefarmers.

The PC will keep equipment like moisture meter and weighing machine for free use of members to facilitate trading. The PC will retain a small portion of the transaction amount as facilitation fee.

Payment to Farmers

Buyer will pay money of produce bought to PC that the PC will pass on to the members either through the PG bank account or directly to farmers in cash after deduction of facilitation charges. Facilitation charges will be calculated at 1% and 1.5% for member and non member respectively of the sale value. PG will then transfer money to members in case of account transfers. For other farmers, the treasurer of the PC will directly make the payment from FCSC counter.

The PC will insist on advance or spot payment from the buyer. It will negotiate and will extend a cash payment discount of 1.5% on sale value to the buyer in keeping with current market practices. It will pay the farmer at the earliest after receiving payment from the buyer. Under ideal circumstances, the farmer will get money within

48 hours of the transaction.

In the financial calculations, the rates for the produce have been maintained at the average mandi price of Kanchipuram MC at the time of preparation of this proposal. Number of variations have been shown over the 5 years of project period. This has been done to overcome hazardous estimations due to inconsistent movement of commodity prices and low annual increment of MSP.

Marketingstrategy

The PC has extensively discussed the challenges and opportunities in marketing of agro-produce in the district and other major markets. Such deliberations were facilitated by inputs from the FCSC service provider. The FCSC service provider gained insights on the same through interaction with various market players covering, local traders, processing industries and terminal market traders. It was found that willingness exists among processors and terminal market traders to procure directly from a farmers' organization if quality and supply issues are suitably addressed. They are ready to offer rates that were better than those offered by the local traders with whom the farmers of this cluster have been traditionally dealing. Many of these buyers from higher order markets are ready to lift the produce from the FCSC if supply quantity is adequate and timely availability isensured.

The PC will establish contacts with potential buyers. They will be guided by the FCSC service provider in the process. Samples of produce will be sent to the buyers and purchase terms negotiated with defined targets regarding price and payment terms.

The PC will undertake sale facilitation for both processed (cleaned and graded) and unprocessed (unclean) products. They will try to target specific market segments as buyers of the different categories of product. Pricing of the products will also be different for the processed and unprocessed categories. It is assumed that the unprocessed produce will sell at a discount of 15% compared to processedproduct.

The PC intends to reduce its dependence on local markets for sale of the farmers' produce with an eye on maximizing returns. Therefore, it targets to sell a part of the produce to processing industries and traders of terminal markets. It is assumed that better price will be realized from the higher order markets. However, for financial calculations the lower rates similar to those quoted at Kanchipuram MC have been used in keeping with the conservative nature of accounting practices.

Discussions have been conducted with various market players and their willingness towards purchase of commodities through FCSC has been explored PC would engage with them on a need basis and final negotiations will be conducted with the most potential buyers. Factors which the PC would consider to select the buyer include (i) quantum (economies of scale) and quality (which can be managed by the PA) of produce required by the buyer (ii) price offered (better), (iii) terms and conditions (convenient to PA), etc. While following buyers have emerged as the most potential ones, as shared earlier PC will take a decision to engage with the buyer who it feels provides the bestoffer.

AGGREGATION OF PRODUCE.

Sl.No	Name of the Crop	Area (Ha) covered by		Total area in Ha	Productivity Mt per Ha	Total production in Mts. (5*6)	20% of production in Mts (20*7/100)	Purchase price per Mt	Total purchase in INR (8*9)
		Agri	TNAU						
1	2	3	4	5	6	7	8	9	10
	Pulses	50		100	0.6	60	12	60000	720000
	Groundnut	50		100	1.977	197.7	39.54	560000	22142400
TOTAL									
	Selling Price per Mt 11	Total selling price 12	Profit 13						
	80000	960000	240000						
	700000	27678000	5535600						
		TOTAL	5775600						

Business summary of Aggregation of produce.

Particulars	Y1	Y2	Y3	Y4	Y5
No. of Members	500	525	550	575	600
Area in Ha					
Pulses	100	105	110	115	120
Groundnut	100	105	110	115	120
Production					
Pulses-0.6	60	63	66	69	72
Groundnut-Kernal. 1.977	197.7	207.585	217.47	227.355	237.24
20% of produce					
Pulses.	12	12.6	13.2	13.8	14.4
Groundnut.	39.54	41.517	43.494	45.471	47.448
Purchase price					
Pulses.60000/Mt	720000	756000	792000	828000	864000
Groundnut.80000/Mt	3163200	3321360	3479520	3637680	3795840
TOTAL	**3883200**	**4077360**	**4271520**	**4465680**	**4659840**
20% of purchase value					
Pulses	144000	151200	158400	165600	172800
Groundnut	632640	664272	695904	727536	759168
TOTAL	**776640**	**815472**	**854304**	**893136**	**931968**
Selling value					
Pulses.80000/Mt	960000	1008000	1056000	1104000	1152000
Groundnut. 100000	3954000	4151700	4349400	4547100	4744800
Total	4914000	5159700	5405400	5651100	5896800
Profit					
Pulses	**240000**	**252000**	**264000**	**276000**	**288000**
Groundnut	**790800**	**830340**	**869880**	**909420**	**948960**
Total	**1030800**	**1082340**	**1133880**	**1185420**	**1236960**

IV) Sale of Value added Pulses.

The pulses value added seeds will be distributed to the members as well to big Stores.

BUSINESS PLAN FOR VALUE ADDED PULSES.

Toor dal milling is a profitable business in India as well in Tamilnadu also. But there is only small no of industries in tirunelvelidistrict. All type of dal is getting mostly from other State only. So if FPC start such business, it will fetch good business in long way, there by FPC will get sufficient income by sale of dal.

The are under pulses especially Black gram is 75 Ha and with average productivity is 0.600Kgs/Ha. Hence the production will be around 45Mts/Annum. Generally, pulses are consumed as one of the variety of food preparation after conversion into de husked split pulse which can be cooked easily. It is assumed that more than 70% of the pulse produced in India is converted into dal.

Milling of pulses is into practiced as a small scale rural operation during ancient times and more recently it is into large commercial operation because of thr increase in demand for the food.



Raw material requirement details.

Total annual production	54 Mts.
Productivity per Ha	0.600 Mts
Total area required	90 Ha.
Supply of Dal within the project area.	90 Mts
Supply of Dal outside the project area	70 Mts.

Sl.No	Name of the Crop	Seed requirement for value addition	Purchase Value @ Rs.60000/Mt	Selling price @ Rs.80000	20% of total purchase value
1	Black gram	50	3000000	4000000	600000
2	Green gram	40	2400000	3200000	480000
	TOTAL		5400000	7200000	1080000
			This is 20% aggregation value		72000
		Balance WC requirement			1008000

Cost of the product and profit percentage.

Capacity utilization is 90 Mts/Annum

Sale Cost of dal is Rs. 80000/ Mt

Annual sales of 90Mts @ Rs. 80000/Mt Rs. 7200000

Profit permt /- Rs.20000/

Total profit for 54Mts Rs. 20000*90=1800000/-

Dal mill machinery.





The machinery for dal mill includes the precleaner, de-husker, grader, bucket elevators, aspirators and blowers, control panels, destoner, pedal mixer and packing unit.

Process of dal milling.

The basic process in dal milling is cleaning the raw materials, adding oil and sun or mechanical drying, grading, conditioning and de-husking, splitting, separation, polishing and bagging.

The main process is removal of the outer husk layer ans splitting the grain into two equal halves for the milled dal is the main thing involved and the next one is drying method.

Raw Grains
Grain Cleaning Process
Pitting into Roller Dehusker
Oil Smearing Process
Water Treatment Process
Polishing Process
Drying & Cooling Process
Dehusking Process
Splitting Process
Final Split Dal

6. FInancial Support for FPC (Utilization of TNIAMP Grant)

Startup Grant amount;

The Project will support for newly formed FPOs with a bridge funding to meet out the initial expenditure involved in engagement of technical manpower, purchase of office equipments and to meet out the other contingencies immediately after registration of new FPOs through start up grant. This grant will be utilized by the FPC from registration to business take off. Registered FPCs supported by TNIAMP will be eligible. The consultancy firm will prepare proposal to get start up grant from the project and it will be sent to Commissioner of Agricultural Marketing and Agri Business through Deputy Directors of Agriculture (Agri Business). The proposal will be scrutinized by ABPF Cell and it will be approved by TNIAMP Cell. It will be released as grant in aid by Deputy Directors of Agriculture (Agri Business) through ECS to FPCs to meet out the following expenditure:

1. Honorarium to CEO
2. Honorarium to accountant
3. Purchase of furniture and computer
4. To meet out the initial office rent of the FPO immediately after FPO formation
5. To meet out the contingencies like electricity bill and stationery.

The monitoring will be done by the Deputy Directors of Agriculture (Agri Business) on regular basis and Head quarter TNIAMP Cell. An amount to meet out the above expenditure is Rs. 10.00 Lakh (Rs.5 Lakh/year) for 2 years period after completion of registration.

1. Productive/Capital Investment for New FPC on matching grant basis (80:20)

It is proposed to create Farmer Common Service Centre (FCSC) which will provide the facilities like cleaning, grading, packing and input marketing to FPCs with the main objective of aggregation of agricultural produce. The business plan of the FPC with a maximum ceiling amount of Rs. 60.00 Lakh will be supported through this

intervention. An FPO formed under TNIAMP fund by following the procedure laid down in the TNIAMP and a business plan scrutinized and approved by ABPF Cell will be eligible for getting matching grant. The business plan prepared by the Consultancy firm will be sent to TNIAMP Cell and the business plan will further be scrutinized by the ABPF Cell and sent to TNIAMP Cell for approval with their objective in assessment and recommendations.

Approved FPCs may avail the grant by contributing 20% in a Joint Account after which the project would release 80% subject to a ceiling of Rs. 20.00 Lakh to FPCs account through ECS. MoU would be signed between FPCs and the Department for release of project grant to FPCs. Funds will be released in three installments @ 50%, 30% and 20% based on performance appraisal by ABPF. Deputy Directors of Agriculture (Agri Business) will monitor the performance on regular basis and report to TNIAMP Cell in Head quarter. This grant will be utilized for initial business plan execution after registration of FPO.

It is proposed to create Farmer Common Service Centre (FCSC) which will provide the facilities like cleaning, grading, packing and input marketing to FPCs with the main objectives of aggregation of agricultural produce.

Sl.No	Purpose	Nos required	Unit Cots in INR	Total Cost (INR)		
				1st yr	2nd yr	Total
1	Building-Rent	1	6000/Month	72000	72000	144000
2	Seed grader, Gravity separator, De stone, Blowers, Weighing & Stitching machine	1	500000	500000	-	500000
3	Other fixed assets, Furnitures, Electricals, Computer, Printer etc	1	200000	200000	-	200000
4	Other expenses			100000	100000	200000

	TOTAL			884000	184000	1044000

2. Business Expansion grant for new FPC (75:25)

The project will also support for expansion of business. FPCs who successfully utilized the start up and matching grant released from the project will be eligible for availing business expansion grant of up to Rs. 30.00 Lakh. The business plan for expansion grant can either be a part of and a progress of the (1) original business plan prepared for availing matching grant or (2) it may be fresh business expansion plan in addition to or (3) in deviation of the original Business Plan. The business plan prepared by the Consultancy firm will be sent to TNIAMP Cell and the business plan will further be scrutinized by the ABPF Cell and sent to TNIAMP Cell for approval with their objective in assessment and recommendations.

Approved FPCs may avail the grant by contributing 25% in a Joint Account after which the project would release 75% subject to a ceiling of Rs. 30.00 Lakh to FPCs account through ECS. MoU would be signed between FPCs and the Department for release of project grant to FPCs. Funds will be released in three installments @ 50%, 30% and 20% based on performance appraisal by ABPF. Deputy Directors of Agriculture (Agri Business) will monitor the performance on regular basis and report to TNIAMP Cell in Head quarter.

On the above, first and third is not possible, since our FPC is a new one. For availing the Grant we have to start a new business on the following.

1. Selling of seeds to the members.
2. Selling of Fertilizers to the members.
3. Selling Bio cides/Pesticides/Bio fertilizers to the members.

CUSTOMHIRING CENTRE.

Sl.No	Name of the Machine	Nos required	Cost per unit	Total Cost	No of days in operation	Profit per day after all expenses	Total profit (6*7)
1	2	3	4	5	6	7	8
1	Paddy Transplanter	1	400000	400000	200	200/hr*8 hrs	320000
2	Paddy Combined Harvester	1	2000000	2000000	200	1100/hr*8	1760000
3	Weighing machine-100 Kg capacity	4	15000	60000			
4	Gunny bag stitching	4	5000	20000			
	TOTAL			**2480000**			**2080000**

A. MAN POWER REQUIRMENT

Sl.No	Man Power	Total requirement	Monthly salary	Annual financial requirement	
1	Supervisor cum Store keeper -For value addition & Farm Machinieries	1	15000	180000	
2	Skilled labour	2	12000	288000	
3	Unskilled labour	3	8000	288000	

4	Postage			5000	
5	Travel expenses			100000	
6	Other Mis expenses			100000	
	Total			961000	

ABSTRACT

Sl.No	Purpose	Project Cost	TNIAMP Grant	FPC Share/Individual share	Profit
I	**Productive Investment for New FPC (80:20)**		**2000000**		
1	Seed supply	1240000			320000
2	Fertilizer supply	602805			18078
3	Produce Aggregation (20% of 3883200)	776640			1030800
4	FCSC	1044000			
	TOTAL	**3663445**	**2000000**	1663445	1368878
II	**Business Expansion grant for new FPC (75:25)**		**3000000**		
	Custom Hiring machineries	2480000	-		2080000
	Value added Pulses	1008000	-		1800000
	Man power	961000			
	TOTAL	**4449000**	**3000000**	**1449000**	**3880000**
	Net profit				

7. SUPPORTING EXISTING FARMER PRODUCER COMPANY:

Eligibility Criteria for new/existing FPC to release grant:

- 51% of the members of the existing FPOs should be from the sub-basin area.
- It should be a duly registered FPC as per Companies Act.
- The number of its individual shareholders should not be less than 500.
- Minimum 33% of its shareholders should be small, marginal and landless tenant farmers.
- It should have a duly elected Board of Directors (BoD) with a minimum of 5 members and with minimum one woman member.
- It should have Management Committee responsible for the business development of the FPC.
- It should have minimum paid up share capital of Rs.10.00 Lakh.
- FPC should contribute 25% amount for the business activity.
- It should have a business plan with details of existing assets and budget for next 18 months that is based on a sustainable, revenue model as may be determined by the implementing agency.
- The FPC should have an account with a bank and bank passbook with transaction details.
- Certificate from bank for credit worthiness.
- It should have a statement of Accounts audited by a Chartered Accountant (CA) for at least for one full financial year.
- Maintenance of mandatory Register as per Register of Compliance (RoC).
- Copy of AoA, MoA and incorporation Certificate.
- Copy of minutes for last four BoD meetings.
- Copy of availed Grant documents.

7.A. Grant for existing FPO for expansion of business plan (75:25):

- The project will also support for expansion of business. FPCs who successfully utilized the start up and matching grant released from the project will be eligible for availing business expansion grant of up to Rs. 30.00 Lakh. The business plan for expansion grant can either be a part of and a progress of the original business plan prepared for availing matching grant or it may be fresh business expansion plan in addition to or in deviation of the original Business Plan. The business plan prepared by the Consultancy firm will be sent to TNIAMP Cell and the business plan will further be scrutinized by the ABPF Cell and sent to TNIAMP Cell for approval with their objective in assessment and recommendations.

- Approved FPCs may avail the grant by contributing 25% in a Joint Account after which the project would release 75% subject to a ceiling of Rs. 30.00 Lakh to FPCs account through ECS. MoU would be signed between FPCs and the Department for release of project grant to FPCs. Funds will be released in three installments @ 50%, 30% and 20% based on performance appraisal by ABPF. Deputy Directors of Agriculture (Agri Business) will monitor the performance on regular basis and report to TNIAMP Cell in Head quarter. This grant will be utilised for expansion of business plan during 3 year..

8.Promoting Agri Enterprises:

A. Business Plan development for Agri Entrepreneur:

Business plan of small scale enterprises with an project cost of Rs. 5,00,000 will be supported. The business plan for trained agri entrepreneur will be prepared by the Agri Business Specialist of each zone and it will be sent to TNIAMP Cell through Deputy Director of Agriculture (Agri Business). The same business plan will be scrutinized by the ABPF at Headquarter and approved by the TNIAMP Cell. An amount of Rs. 1,00,000 will be disbursed by the Deputy Director of Agriculture (Agri Business) through bank to each agri entrepreneur for facilitating credit support.

B. Credit facilitation and business execution support

The Agri Business Specialist will facilitate necessary credit through bank

for agri entrepreneur's business plan to take up business activities and the proposal will be sent to TNIAMP Cell through Deputy Director of Agriculture (Agri Business) for approval. The agri entrepreneur whose turnover is Rs. 2,00,000 per annum will be eligible. An amount of Rs. 1,00,000 will be disbursed by the Deputy Director of Agriculture (Agri Business) to eligible agri entrepreneur for business execution as back ended support through bank. MoU between the Deputy Director of Agriculture (Agri Business) and Agri Entrepreneur will be signed to avail credit support.

Sl.No	Name of the Activity	Target		TNIAMP Grant (L.Rs)
		Phy	Fin (L.Rs)	
1	BP development	10	10	10
2	Credit facilitation and execution support	10	10	10
	TOTAL			20

The above entrepreneurs will be selected from the trainees who had undergone facilitation workshop training. Those farmers selected from the Facilitation workshop training, will be given training again for Entrepreneurship development. From this training programme 10 Nos of farmers will be selected to avail the above benefit.

C. Matching grant for entrepreneurs (50:50):

The project will promote agro entrepreneurship by women entrepreneur in the area of value addition, food processing and other agri related allied activities. Women farmer from the sub-basin who have undergone certificate training to be priority specified and acquired, minimum education qualification with capacity to invest for the

business will be supported upto 50% of the total project cost or to a maximum of Rs. 5.00 Lakh whichever is less. The business plan prepared by the Agri Business Specialist will be sent to TNIAMP Cell and the business plan will further be scrutinized by the ABPF Cell and sent to TNIAMP Cell for approval with their objective in assessment and recommendations. Approved women entrepreneurs may avail the grant as back ended support by contributing 50% after which the project would release 50% subject to a ceiling of Rs. 5.00 Lakh to women entrepreneurs account through ECS. MoU would be signed between women entrepreneurs and the Deputy Directors of Agriculture (Agri Business) for release of project grant to women entrepreneurs. Deputy Directors of Agriculture (Agri Business) will monitor the performance on regular basis and report to Head quarter TNIAMP Cell.

D.Facilitating PPP Mechanism:

D.A .Interface Workshop

- It is proposed to conduct interface workshops,seminars, consultative meeting and conferences at State level and District level periodically during all six years project period for market linkages with stake holders and banks. The Deputy Directors of Agriculture will conduct interface workshop at District level with the help of Agribusiness specialist who will be at zonal level. Proposed amount for interface workshop is Rs. 3.00 Lakhs and spilt up is detailed below:

Sl.No	Details	Amount (Rs.)
1.	Hall Rent	25000/-
2.	Stage arrangement(Banner and other publicity materials)	50000/-
3.	Public Addressing System	10000/-
4.	Training kit with study materials @ 100x Rs.700	70000/-
5	Refreshment charges @ Rs.375x100x2	75000/-
6.	Honorarium @ Rs.1000x5x2	10000/-
7.	Vehicles hiring charges(3days)	20000/-
8	Exhibition arrangement	20000/-

9	Documentation (Photos album)	20000/-
	Total	**300000/-**

D. B Facilitation Workshop:

- The Workshop for lead farmers, existing entrepreneurs, new entrepreneurs, etc will be conducted by the Deputy Director of Agriculture (Agri Business) and zonal Agri Business Specialist within 3 years project period.

Sl.No	Details	Amount (Rs.)
1.	Hall Rent	10,000
2.	Stage arrangement(Banner and other publicity materials)	10,000
3.	Public Addressing System	10,000
4.	Training kit with study materials @ 50x Rs.200	10,000
5	Refreshment charges @ Rs.200x50	10,000
6.	Honorarium @ Rs.1000x5	5,000
7.	Vehicles hiring charges	15,000
8.	Documentation (Photos album)	5,000
	Total	**75000/-**

E. Training for Entrepreneurship for 2 days:

- Selected farmers/individuals/entrepreneurs through workshop will be trained as Agri Entrepreneurs.

Sl.No	Details	Amount (Rs.)
1.	Hall Rent	20,000
2.	Stage arrangement(Banner and other publicity materials)	10,000
3.	Public Addressing System	10,000

4.	Training kit with study materials @ 50x Rs.200×2	20,000
5	Refreshment charges @ Rs.200x50	10,000
6.	Honorarium @ Rs.1000x5×2	10,000
7.	Vehicles hiring charges	15,000
8.	Documentation (Photos album)	5,000
	Total	**1,00,000/-**

9.FINANCIAL INDICATORS: Profit & Loss Account.

Particulars	Y1	Y2	Y3	Y4	Y5
Revenue from processing Value added service charge	1890000	1984500	2083725	2187911	2297306
Revenue from facilitation of seed supply	320000	336000	352800	370440	388962
Revenue from facilitation of fertilizer supply	18078	18981	19930	20927	21973
Revenue from Custom hiring machineries	2080000	2184000	2293200	2407860	2528253
Revenue from Aggregation of produce	1030800	1082340	1136457	1193279	1252943
Total Revenue	**5338878**	**5605821**	**5886112**	**6180417**	**6489437**
Fixed Cost (Excl. of Depreciation, Amortization and Interest)					
Variable Cost					
Total Operational Expenses					
Earnings Before Interest, Depreciation, Taxes and Amortization (EBITDA)					
Depreciation					
Amortization					
Earnings Before Interest and Taxes (EBIT)					
Interest Expense					
Earnings Before Taxes (EBT)					
Tax					
Earnings After Taxes (EAT)					
Profit (loss) carried to Balance Sheet					

10.CASH FLOW OF FPC

Sl.No	Particulars	Y1	Y2	Y3	Y4	Y5
1	**Revenue**					
1	Revenue from processing Value added service charge	1890000	1984500	2083725	2187911	2297306
2	Revenue from facilitation of seed supply	320000	336000	352800	370440	388962
3	Revenue from facilitation of fertilizer supply	18078	18981	19930	20927	21973
4	Revenue from Custom hiring machineries	2080000	2184000	2293200	2407860	2528253
5	Revenue from Aggregation of produce	1030800	1082340	1136457	1193279	1252943
	Total Revenue	**5338878**	**5605821**	**5886112**	**6180417**	**6489437**
2	**Equity/ Share capital**	1000000				
3	**MACP Investment Grant**	5000000				
4	**Amortization**					
5	**Depreciation**					
	Sub Total (A)					
	Cash Outflow (Rs.)					
1	**Capital Expenditure**					
a	Furniture and Fixtures	200000				
b	IT and Infrastructure					
c	Land and Building	168000				
d	Plant and Machinery	500000+ 2865000				
e	Preliminary Expenses	200000				
2	**Operational Expenditure**					
a	Fixed Cost (Excl. Of Interest)	961000				
b	Variable Cost					
3	**Dividend**					
4	**Tax**					
	Sub Total (B)					
	Net Cash Flow (A-B)					
	Opening Cash and Bank					

	Cumulative Cash Balance					

FinancialIndicators

NET PROFIT RATIO:

The average net profit ratio for 5 year is **…. %**.

INTERNAL RATE OF RETURN (IRR):

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

Break Even Point:

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

PAYBACK PERIOD:

The Payback period for the project is **… years … months** and equity payback period is **..year … months**. It should **be less than 4 to 5 years** therefore the project payback periods is within the limit.

NET PRESENT VALUE

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

RETURN ON CAPITAL EMPLOYED

The return on capital employed for the project is **……. %** which is above the expected financial standards.

RETURN ON EQUITY

The return on equity for the project is **……. %** which is above the expected financial standards.

Individual benefits of each PCmember

The members of the PC are envisaged to gain from the activities of the FCSC. Such benefits can be categorized into direct and indirect benefits. Under direct benefit, the PC are set to benefit from their share in the profit due to ownership of shares in the PC.

**Note - No Dividends are distributed in the initial years and the profit is retained for future expansion.*

However, the indirect benefits far outweigh the direct ones. Such benefits are hereunder.

1. Purchase ofinputs
2. Reduction in transport cost and time due to availability of inputs in thevillage.
3. Lower price of inputs due to passing on of bulk purchase discounts byPA
4. Timely availability of quality inputs due to planned and negotiated purchases byPA
5. Aggregated sale ofproduce
6. Better rates than APMC due to lower deductions in weight and lower transactioncharges
7. Proper weighing and rate fixation due to transparentoperations
8. Stability in rates due to negotiated rate settlement with buyers byPA
9. Processing ofproduce
10. Availability of facility for value addition where there wasnone
11. Better rates forproduce
12. Enhanced assetvalue
13. Increased value of shares in a profitable business entity leading to assetenhancement

11.POST HARVEST MANAGEMENT .

Technologies and phases of the post-harvest system for Pulses

Different technologies for post harvest operations of pulse crops are available, traditional or improved, employed at various phases of post- harvest system depending upon the resourcefulness of the farmer growing the crop. A list of such operations are depicted in the below table.

Traditional and improved technologies for post-harvest operations.

Post-harvest operations	Traditional technologies	Improved technologies
Harvest	Manual	Manual and mechanized
Pre-drying	Standing or in shocks	Standing or in shocks
Storage of harvested crops	In fields or on threshing floor	In fields or on threshing floor
Threshing	Manual	Mechanized
Pre-cleaning	Hand winnowing	Mechanized
Drying	Natural	Artificial
Cleaning and sorting	Winnowing in the wind	Mechanized
Storage of grains	In traditional granaries	In bags or in bulk
Processing/Milling	Manual	Mechanized

Post-harvestlosses

The expression “post-harvest losses” means a measurable quantitative and qualitative loss in a given product occurred during the various phases of the post-harvest system. In economic terms, sum of the losses in quantity and quality of the products inevitably leads to loss of money. In addition to direct economic losses, some losses result from poor management of post-harvest systems.

Seeds of poor quality, inappropriate farming practices and insect infestation in the field can obviously cause loss of produce even before harvest. From the harvest onward, the grain

undergoes a series of operations during which quantitative and qualitative losses may occur. Table 2.2 indicates the type of losses that take place at prevailing conditions at various stages of post- harvest system.

Type of loss at different post harvest stages

Stage of operation	Type of loss
Late harvest	Shattering losses, losses due to attack of birds and other pests
Insufficient drying of grain	Losses due to development of moulds and insects
Improper threshing	Broken grains and threat of insect development at a later stage
Poor storage	Losses caused by combined action of insects, moulds, rodents and other pests
Improper milling	Broken and powdering loss
Transport	Quantitative loss
Defective packaging	Quantitative and qualitative loss

Estimated post harvest losses of pulses

Stages	Losses (%)
Harvesting	1.0-3.0
Handling	1.0-7.0
Threshing	0.5-5.0
Drying	1.0-5.0
Transport	0.5
Primary Processing	1.0
Storage	5.0-10.0
Milling	15.0-20.0
Total	25.0-50.0

MANAGING POST HARVEST LOSSES.

For long term storage pulses should be dried to < 14% moisture content and cooled to < 15oC Temp.

To prevent spoilage, green seeds, dockage & foreign material should be removed prior to storage.

Pulses respire (breathe) in storage which raises seed moisture and temperature requiring regular monitoring and automated aeration.

Effective grain management practices and regular monitoring ensure safe storage of pulses at a high commercial grade, optimum quality and with minimum spoilage risk.

12. ABSTRACT OF INTERVENTION

Sl.No	Interventions	Phy	Fin (Rs. in L.)
I	Improving farmer Access to Markets	1	82.280
II	Support to Existing FPC	1	42.00
III	Facilitation workshop	1	00.750
IV	Interface workshop	1	3.00
V	Business Plan development	10	10.000
VI	Credit facilitation and business execution support	10	10.000
VII	Matching grant for Enterpruner	1	5.00
VIII	Training for Enterprunership	1	1
	TOTAL	**26**	**154.03**

13. INTERVENTIONS PROPOSED IN TN-IAMP- PHASE III - NAMBIYAR SUBBASIN

Sl. no	Name of the Intervensions	Nambiyaru Sub Basin	
		Physical (nos)	Fiancial (L.Rs.)
I	**Improving Farmer Access to Markets**		
A	**Formation of new Farmer Producer Company**		
1	Consultancy charges for Formation of FPCs for first year and Business plan development and execution for next 2 years (i.e totally for 3 years)	1	13.800
2	1 MTS (Mobilisation Training Specialist) and 2 FOs (Field Organizers) for first year only		4.680
3	.FPCs formation and registration (Awareness Campiagn, meetings with CGs, Registration Cost)		3.800
4	Start up grant for administrative and contingent expenses		10.000
5	Productive Investments for FPCs (Matching grant basis on the basis of Approved Business Plans). This could include support for investment on processing, grading/ sorting, mechanization, storage, packacing, value addition, input sale to members, branding and promotional activities etc) 80% Grant : 20 % farmer contribution		20.00
6	Business expansion Matching Grant : (75% Grant - 25 % Farmer contribution)		30.00
B	**Support for Existing FPC**		42.00
	Grand Total (A)	**1**	**124.280**
II	**Promoting Agri Enterprises**		
A	**Facilitating PPP Mechanism**		
1.	**Interface Workshop**	1	3.00
B	**Supporting Agro-entrepreneurs to provide services to farmers**		
1	Facilitation workshop (50participants per workshop)	1	0.750
2	Business Plan development routed through ABPF	10	10.000

3	Credit facilitation and business execution support through service providers routed through ABPF	10	10.000
4	Training for Enterprunership	1	1.00
5	Matching grant for individual enterpruner	1	5.00
	Sub-total(II)	**-**	**29.75**
	Grand Total (I+II)	**-**	**154.03**

14.PRODUCTIVE/CAPITAL INVESTMENT FOR NEW FPC ON MATCHING GRANT BASIS:

The FPC can strengthen farmer capacity through agricultural best practices for enhanced productivity. Ensuring access to and usage of quality inputs and services for intensive agriculture and competitiveness facilitate access to fair & remunerative markets including linking producer groups to marketing opportunities by market aggregators. The farmers here also intended to sell as Pulses,Millet and Coconut without value addition. The capital investment for FPC will be provided on matching grant basis (80:20) i.e., 80% from the project fund and 20% from the beneficiary contribution. . Each business plan will be scrutinized by ABPF consultancy firm who will prepare well defined criteria for selection in consultation with TNIMAP Cell.

Macro Regional Marketing Analysis

The intervention as mentioned above in the nambiyaru Sub Basin to the turn of Rs.57.03 lakhs will improve the marketing in the ulses and und nut based value added products. Marketing of value added product through FPC will improve the Per capita income of the small and marginal farmer of the sub basin .Also invite the mega buyers to sale the produce to increase the income of the farmers.Infuture,the Pulses Dhall will be branded and will be marketed through FPC's directly in the Market. The private Retailer will buy the primary processed dhall from FPC based on MOU signed.

15. EXPECTED OUTPUT

1. Increase in area under production and productivity.
2. Diversification from food grains into high value agriculture.
3. Improved marketing, postharvest management and value addition.
4. Establishing CGs and FPOs and facilitating PPPs will lead to increased incomes of beneficiaries.
5. Higher price through better aggregation and new market channels.
6. Dissemination of improved market information.
7. Reduced input prices resulting from procurement by FPOs in bulk.
8. Increased value addition.
9. Support productive postharvest management infrastructures.
10. Substantial employment generation due to area increase.

16. YEARWISE FINANCE SPLITUP

BUDGET OUTLAY FOR 3 YEARS TIRUNELVELI DISTRICT

S.No	Name of the Interventions	Budget (In lakhs)	2020-21	2021-22	2022-23	Total
I	**Improving Farmer Access to Markets**					
A	**Formation of new Farmer Producer Company**					
1	Consultancy charges for Formation of FPCs for first year and Business plan development and execution for next 2 years (i.e totally for 3 years)	13.800	1.920	5.940	5.940	13.800
2	1 MTS (Mobilisation Training Specialist) and 2 FOs (Field Organizers) for first year only	4.680	4.680			4.680
3	.FPCs formation and registration (Awareness Campiagn, meetings with CGs, Registration Cost)	3.800	3.800			3.800
4	Start up grant for administrative and contingent expenses	10.000		5.000	5.000	10.000
5	Productive Investments for FPCs (Matching grant basis on the basis of Approved Business Plans). This could include support for investment on processing, grading/ sorting, mechanization, storage, packacing, value addition, input sale to members, branding and promotional activities etc) 80% Grant : 20 % farmer contribution	20.00		20.00		20.00
6.	Business expansion Matching Grant : (75% Grant - 25 % Farmer contribution)	30.00		30.00		30.00
7.	**Support for Existing FPC**	42.00	42.00			42.00
	Grand Total (A)					**124.28**
II	**Promoting Agri Enterprises**					
A.	Facilitating PPP Mechanism	3.00				3.00
B.	**Supporting Agro-enterprenuers to provide services to farmers**					
1	Facilitation workshop (50participants per workshop)	0.75	0.750			0.750
2	Business Plan development routed through ABPF	10.000		10.000		10.000
3	Credit facilitation and business execution support through service providers routed through ABPF	10.000		10.000		10.000

4	Training for Enterprunership	1.00		1.00		1.00
5	Matching grant for individual enterpruner	1		5.00		5.00
	Grand Total (B)					**29.75**
	Grand Total (A+ B)					**154.03**

17. CALENDAR OF OPERATION

Sl. No	Name of the Interventions	Month wise operation														
		June 2022	Jul	Aug	Sep	Oct	Nov	Dec	Jan2023	Feb	Mar	Apr	May	Jun	July	Aug
I	NEW FORMATION OF FPC															
1	On board consulting Agency			1												
3	Baseline survey				1											
4	Preliminary meeting-Awareness campaign					2										
5	CGs formation						3									
6	Conducting meeting with CGs/FIGs									2						
7	Identifying members for BoD and Chairman											15days				
8	Trust building/Business Motivation for CGS												3			
9	Registration															15days

		Sep	Oct	Nov	Dec	Jan-22	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
10	Business Plan preparation															
11	Release of Startup grant	50 %						30 %			20 %					
12	Release of productive Investment															

Sl. No	Name of the Interventions	Target in Nos	Aug-20 to Jul-21	Aug-21- to Jul-22	Aug 22 to Jul 23	Aug-23 to Dec 23
1	Interface workshop	1	3.00			
2	Facilitation workshop	1	0.75			
3	Training to entrepreneurships	1	1			
4	Business Plan Development	10	5	5		
5	Credit facilitation	10	5	4	1	
6.	Matching Grant for Individual Enterpruner	1			5	

PART-IV

GENDER PARTICIPATION, GRIEVENCE REDRESSAL MECHANISM MOBILIZATION OF SMALL AND MARGINAL FARMERS IN FPO

1. GENDER PARTICIPATION PLAN.

1. The focus group discussions with women groups and stakeholders held at different project locations (during walk through survey) by a team to identify gender issues relevant to TN IAMP which are given below:

- Low/ less participation of women in development program.
- Women play significant role in agriculture and other related activities, however these are not recognized by communities.
- Ownership of agricultural land is generally in the name of men.
- Women cultivators have problems in accessing markets particularly because of social and economic constraints in reaching nearby markets.
- Wages to women are generally underpaid and are not at par with male workers for same type of work.

Though it is not realistic to address all issues and concerns of women, a right approach would be to focus on specific issues that could address those that are most relevant to the project outcome. The approach therefore is to formulate specific project interventions focusing on women and supplement them with the existing government programs for the socio-economic benefit of women. Specific measures under the project could include creating required infrastructure (like resting place, clean sanitation facilities etc.) to facilitate women visiting the markets and help them participate in the trading activities. Following this approach, the gender development strategy of the project includes specific activities such as: identifying infrastructure needs and facilities for women members at market, working with women Self Help Groups (SHGs) in the construction activities, organizing training for active participation of women members in the market committees, and ensuring that women members attend all meetings of the market committee or Producer Company.

2.GUIDELINES FOR IMPLEMENTING GENDER STRATEGY.

Stage	Process	Activities	Output
Preparation	Identify gender concerns through participatory consultations	List issues and prioritize	Issues identified that need to be addressed if possible under the project
	Inform about the project activities and benefits	Organize meetings with the women farmers	Sensitization of women on project objectives and activities
	Sensitize other stakeholders on gender concerns/issues	Organize workshops on gender sensitization	Sensitization of other stakeholders on the importance of gender
Implementa-tion	Encourage women participation in project activities	Work with women Farmers/groups for active participation in the project activities	Active women participation
	Encourage equal wages for equal work in all project works		Actual wages paid to women
Operation	Encourage women participation in WUA	Organize training for active participation of women in WUA Encourage more women members to attend meetings of WUA	No of training organized No of women attended

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1. The strategy for the inclusion of women is given below:

Stages	Strategy	Planned Activities
Preparation	Inform on project details, identify gender concerns/ issues in relation to the project activities	▪ A stakeholder consultation meeting will be conducted in which the issues related to women will be discussed. ▪ Pre launch workshop will be organized at APMC for stakeholders including women.
Implementation	Ensure women participation in project activities	▪ Local women workers will be given preference in construction activities to be undertaken under e-Negotiable Warehouse. ▪ Appropriate representation to women is already given and will be ensured further in APMC Managing Committee.
	Ensure equal wages for equal work in all construction related works.	A wage register will be maintained at work site to ensure, check and monitor whether equal wage is paid to equal work involved in construction activities under e-Negotiable Warehouse.
	Ensure no women harassment under the project	▪ An Anti- harassment Cell comprising members at APMC will be formed to discuss the issues related to women harassment. ▪ A complaint register will be maintained at RM to ensure quick redressed of women abuse and related issues.
Operation	Ensure women participation in the working of APMC	▪ The RM will organize need based trainings, meetings etc. ▪ Women representatives will be given opportunities to participate in various outside trainings and workshops. ▪ Participation of women in management of RM will be ensured.

	Employment generation for women in sub project activities	Involvement of local women in RM activities will be encouraged and ensured that the RM continue in operation & post operation period.

3 .GRIEVANCEREDRESSALMECHANISM.

Grievance Redress Mechanism is part and parcel of the machinery of any project. No administration can claim to be accountable, responsive and user-friendly unless it has established an efficient and effective grievance redress mechanism. In fact, the grievance redress mechanism of an organization is the gauge to measure its efficiency and effectiveness as it provides important feedback on the working of the administration.

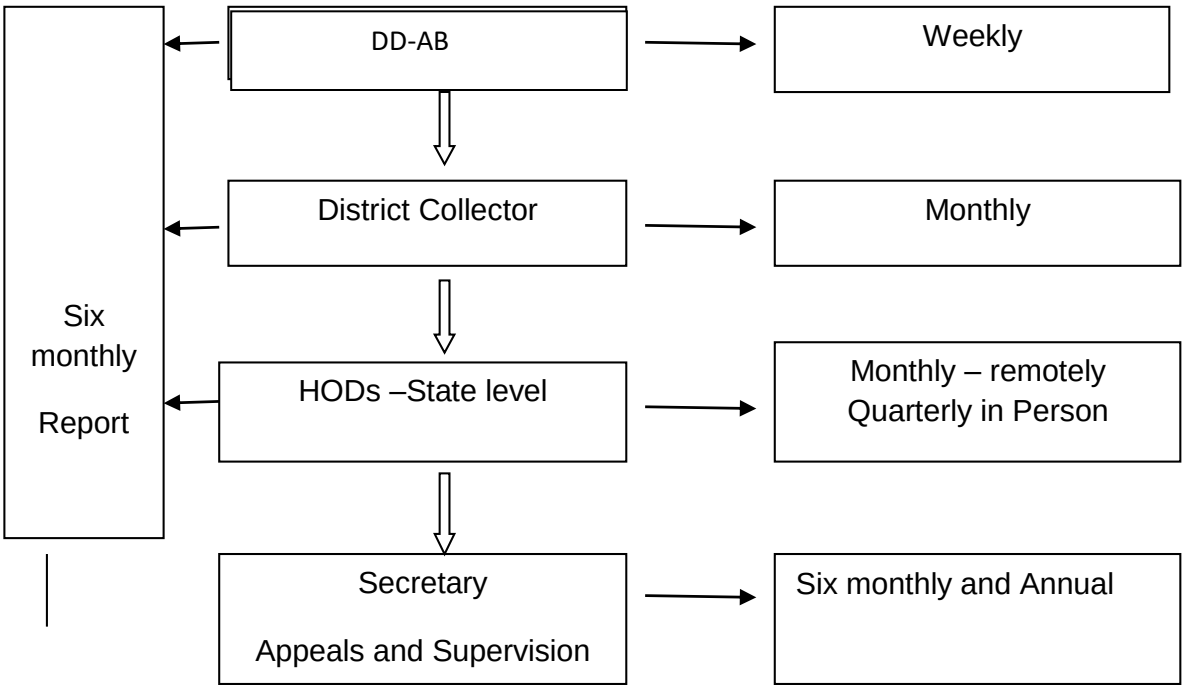
- The grievance redress process will be a continuous, transparent and participatory process that would be an integral part of the project's accountability and governance agenda.
- A project level GRM will be in place for addressing social, environmental and project related grievances.

Prompt and Effective Redress of Grievances

a. grievances should be necessarily acknowledged, with an interim reply within 5 days of receipt and redressed within 1 month of receipt in the Organisation. The same time limit should apply even if co-ordination with subsidiary offices or another Department/Organisation is involved. In such instances special efforts, to be suomoto disclosed when reports are called, should be made.
b. No grievance will be rejected without having been independently examined. At a minimum, this means that an officer superior, to the one who delayed taking the original decision or took the original decision that is cause for grievance, should actually examine the case as well as the reply, intended to be sent to the grievance holder.

4.GRIEVANCE REDRESS MECHANISM FLOW CHART

Grievance Redress and Feedback **Review and feed back**



- ❖ For every six months report is prepared at all levels and sent to the Secretary.
- ❖ Effort will be made to create awareness about GRC mechanism to the beneficiaries through use of flyers and pamphlets at the village, Block and District level.
- ❑ The GRC will receive and redress grievances and complaints that are formally brought to the GRC in writing by the persons and/or group of persons who have a grievance because of the Program's adverse impact on him/her and them.
- ❑ The grievance would, among others, relate to payment of compensation and involuntary resettlement assistance in accordance with the eligibility criteria as set out in this Resettlement Policy Framework(RPF).
-

Process of GRC

- Open House at the Block and District levels.
- The GRC will receive all grievances/complaints and enter them in the Grievance Register;
- The GRC will work out a timeframe to redress grievances/complaints if such grievances/complaints are not redressed during the first meeting;
- The GRC will acknowledge receipt of all grievances/complaints, by registered post, within 7 days of receipt;
- The GRC will consider and redress grievances/complaints through public and transparent process in which all those who have lodged their grievances and complaints in order to facilitate transparency and accountability;
- The GRC will communicate its decisions/redress in writing to the complainants within 4 weeks depending on the nature of complaints.
-

Complaints/Grievances Register

- (a) Serial Number;
- (b) Case Number;
- (c) Name of the Grieved/Complainant;
- (d) Name of Father/Husband;
- (e) Gender (f) Age;
- (g) Full Address;
- (h) Brief details of grievance/complaint;
- (i) List of documents, if any, attached;
- (j) Details of previous grievance/complaint, if any;
- (k) Date of receipt of grievance/complaint and
- (l) Date of acknowledgement of grievance/complaint
- When closing the complaint, agreement should be made with the complainant on remedy, and both parties sign to their approval of the case being closed and outcome accepted. Copies are kept in both hard copy and electronic (please see documentation of Grievance process) by both parties

Sl.No	Designation	Mobile number
1	Deputy Director-Agri Business	9443432430
2	Agricultural Officer	9791834488

5. MOBILIZATION OF SMALL AND MARGINAL FARMERS IN FPO.

Nearly 92% of operational holdings in Tamil Nadu being small and marginal holdings, have limited capacity to mobilize credit, adopt latest technologies and to add value to their agricultural produce. Hence, to make them avail these benefits and to increase their income, the Government of Tamil Nadu is implementing an innovative programme for organizing small and marginal farmers into **'Farmer Producer Groups'** which will be federated into **'Farmer Producer Organisations'**to promote collective farming for credit mobilization, better adoption of technology and to facilitate effective forward and backward linkages. During the project period 80 such Farmer Producer Organization are proposed to be promoted, each comprising not less than 500 farmers so as to cover at least 40000 to 80000 farmers during the project period. Each Farmer Producer Group will be given a grant of Rs.10 lakh besides channelising grants and credit available to Farmer Producer Organizations from NABARD and Small Farmer Agri Business Consortium.

The concept of FPO is to identify small and marginal farmers in a contiguous area and group them as Farmers Interest Groups **(FIG).** 5 FIGs would be integrated into a Farmer Producer Group **(FPG).** Such FPGs would be encouraged to adopt mixed farming and add value to the supply chain of the agricultural produce through Micro Enterprises and service Institutions owned and operated by them. Each FPG would consist of minimum 100 farmers so as to cover at least 40000 to 80000 farmers during the project period. About 5 to 10 such groups in a contiguous area which would be later federated into Farmer Producer Organization(FPO).

After the approval of FIGs by District Collector, five such FIGs in the same village or nearby villages within a Block or adjacent Blocks cultivating the same or similar crops in a season will be federated into one Farmer Producer Group (FPG) comprising at least 100 Small Farmer / Marginal Farmer.

6. OBJECTIVES OF THE PROJECT

1. To mobilize small and marginal farmers into Farmers Producer Groups to share knowledge on better practices, cost effective agricultural technologies aiming at increasedproductivity.
2. To upgrade the Farmer Interest Groups into Farmer Producer Organization for improved livelihood keeping in mind the collective interest of the farmers of betterprofit.
3. To provide promotional support in terms of financial assistance for formation of groups, Social capital development, Human resource Development, registration of Farmer Producer Organizations, purchase of farm machineries,etc.,
4. To remove hurdles in enabling farmers' access to credit facilities andmarkets.
5. To create an conducive environment for collective production and marketing for better profitability andsustainability.
6. To retain the interest of farmers in Farmingoccupation

DEPUTY DIRECTOR OF AGRICULTURE

(AGRIBUSINESS)

TIRUNELVELI

ANNEXURE I. LIST OFTANKS, CLUSTERWISE CLASSIFICATION & AYACUT DETAILS

Sl No	Name of Tank	Village	Block	Taluk	Ayacut in Ha.			
					FI	PI	Gap	Total
	cluster I							
1	Nadukkamparaikulam	Mahiladi	Kalakkad	Nanguneri	6.453	6.453	1.434	14.340
2	KesavaneriKulam	Vadakkuvallioor	Vallioor	Nanguneri	79.60	21.69	7.191	108.49
3	Padalayar Tank	Thirukkurangudy	Kalakkad	Nanguneri	101.9	40.77	61.15	203.84
4	Karisalkulam	Thirukkurangudy	Kalakkad	Nanguneri	50.10	16.70	16.700	83.500
	cluster II							
5	VallioorPuthukulam	TherkkuVallioor	Vallioor	Radhapuram	131.1	52.46	78.69	262.30
6	Devarkulam	TherkkuValliyoor	Vallioor	Radhapuram	4.514	4.513	1.003	10.030
7	Ganapathiyarkulam	TherkkuValliyoor	Vallioor	Radhapuram	2.230	0.890	1.330	4.450
8	Alankulam	A.Thirumalapuram	Radhapuram	Radhapuram	7.212	3.606	1.202	12.020
9	Vattakulam	VadakkuValliyoor	Vallioor	Radhapuram	8.805	3.522	5.283	17.610
	cluster III							
10	Kattayanerikulam	Samuharengapuram	Radhapuram	Radhapuram	13.51	5.404	8.106	27.020
11	Eluvarkulam	Kumbikulam	Radhapuram	Radhapuram	11.17	5.586	1.862	18.620
12	Valatharvalavaithankulam	Samuharengapuram	Radhapuram	Radhapuram	21.30	8.522	12.783	42.610
13	Mannarkulam	Samuharengapuram	Radhapuram	Radhapuram	6.365	2.546	3.819	12.730

14	Kurunchikulam	Samuharengapuram	Radhapuram	Radhapuram	5.256	2.628	0.876	8.760
	cluster IV							
15	Nambikurichikulam	Kottaikarunkulam	Radhapuram	Thisayanvilai	8.570	3.420	5.130	17.120
16	Kannankulam	Kottaikarunkulam	Radhapuram	Thisayanvilai	3.652	5.022	0.456	9.130
17	Vilimankulam	Urmankulam	Radhapuram	Thisayanvilai	5.512	7.579	0.689	13.780
18	Aimudikulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	2.915	4.010	0.365	7.290
19	Palathikulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	2.264	3.113	0.283	5.660
20	Pappankulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	3.376	4.642	0.422	8.440
21	Periyalankulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	0.748	1.029	0.093	1.870
22	Kailasaperikulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	1.796	2.470	0.224	4.490
23	Ponathikulam	Kasthurirengapuram	Radhapuram	Thisayanvilai	9.912	13.62	1.239	24.780
	cluster V							
24	Karuthanerikulam	Dhalabathysamuthiram	Nangunerri	Nanguneri	10.656	5.328	1.776	17.760
25	Sinammalpuram Bigtank	Dhalapathisamudram	Nangunerri	Nanguneri	31.205	12.48	18.723	62.410
26	Nallapethankulam	Dhalapathysamudram	Nangunerri	Nanguneri	7.30	2.83	2.03	12.160
27	Kandiaperikulam	Dhalabathysamuthiram	Vallioor	Nanguneri	25.476	12.73	4.246	42.460
28	Kovanerikulam	Vadakkuvallioor	Vallioor	Radhapuram	15.918	7.959	2.653	26.530
	cluster VI							

29	Kallikulam	T.Kallikulam	Radhapuram	Radhapuram	6.516	3.258	1.086	10.860
30	Karuppukalkulam	Anaikulam	Radhapuram	Radhapuram	1.796	2.470	0.384	4.650
31	Veetrithankulam	Anaikulam	Radhapuram	Radhapuram	2.180	0.872	1.308	4.360
32	Thankaiyankulam	Anaikulam	Radhapuram	Radhapuram	1.496	2.440	0.224	4.160
33	Vilvarayankulam	Kannanallur	Radhapuram	Thisayanvilai	13.760	8.256	5.504	27.520
34	Achampadukulam	Achampadu	Vallioor	Radhapuram	13.34	6.672	2.224	22.240
35	Thanuvankulam	Achampadu	Vallioor	Radhapuram	1.630	0.652	0.978	3.260
36	Poopillaikulam	Achampadu	Vallioor	Radhapuram	1.970	0.788	1.182	3.940
37	Panisakulam	Kannanallur	Vallioor	Thisayanvilai	16.52	9.915	6.610	33.050
38	Thambakulam	Kannanallur	Vallioor	Thisayanvilai	3.185	1.274	1.911	6.370
39	SitturKeelkulam	Kannanallur	Vallioor	Thisayanvilai	14.03	8.68	0.68	23.390
40	Iyyapanerikulam	Kannanallur	Vallioor	Thisayanvilai	2.080	0.832	1.248	4.160

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