

**Explore opportunities and steps to do business with
commodity markets-NSE for agriculture commodities by
SHGs federations in Andhra Pradesh**

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ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to our faculty guide, Prof. Rajashree bedamata for guidance and valuable suggestions in preparing the report.

We wish to thank the C.S.Reddy CEO, APAMS, for giving us an opportunity to work with them and for providing us all the needed support. We would like to mention our gratitude towards our reporting officer Dr.K. Sridhar - Lead Partner for providing necessary advice and support. We would also like to mention the efforts of Mr. Amarender Reddy manager of MCX, Punjagutta Hyderabad for his support. We would like to mention our gratitude towards Vinayaka Reddy and Dr Prahallada sir who were helped us in field segment of our project. Special thanks to Mr. Ch Srinivas who was always there to lend a helping hand, was open to all suggestions, and provided valuable guidance and useful insights which helped us in the preparation of the report.

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1. INTRODUCTION

Small and marginal farmers in rural Andhra Pradesh have been subject to intensive exploitation by moneylenders, traders, and middlemen. Lack of access to the market, lack of power to negotiate prices due to extreme poverty levels, and the daily challenge of meeting minimum subsistence needs had made them vulnerable to unfair terms of trade. Procurement was done from distant markets or through village-level traders and aggregators.

The opening of community-managed procurement centres (CPMC) an innovation piloted under the Andhra Pradesh Rural Poverty Reduction Project, successfully demonstrates ways to combat this inefficiency. The procurement centres are specifically defined as community-managed, decentralized units for storing, assessing, and trading agricultural commodities. Some of the unique features CMPC include management by women SHG members and their institutions.

The area of study for the project is Chittoor district in southern Andhra Pradesh which is popular for production of mangos, sugar cane, Groundnut and vegetables. In the project an attempt will be made to study the feasibility of making a Mandal Samakhya (Mandal level SHG federation) play the role of CMPC and trade in commodity exchanges. The commodities in which the Samakhya will deal in exchanges will depend on the quantity and quality of production of that commodity in that region (Mandal). The financial and human capital at Samakhya will also play a major role in determining the application of such marketing arrangement.

Besides, the project will further explore some alternate marketing arrangements like processing units that can provide better returns to the farmers for their produce.

2.Objectives of the study:

1. Ascertain the potential of MS for trading with commodity markets (In term of financial capability, storage infrastructure, business skills and market intelligence)
2. Explore opportunities and feasibility of trading with commodities futures through MCX, NCDEX and NMCE
3. Develop strategy for MS to trade with MCX, NCDEX and NMCE

2. METHODOLOGY

2.1 Research Questions

- What is the total production/yield of various crops, fruits and vegetables in the area of study (Mandal)?
- What are the existing market linkages that the farmers are having for various crops and the terms of exchange in the market?
- What are the percentage of commissions taken by the middlemen, brokers, traders and retailers in the supply chain of jaggery and ground nut.
- What are the problems that farmers are facing in the current value chain?
- What are steps required to do business with commodity exchanges?
- What are the resources required (financial and human) at the Mandal level SHG federations for it to act as a community managed procurement centre and trade in these exchanges?
- Are there any alternate marketing arrangements that these centers can undertake (like directly selling the produce to private players, processing units or government institutions)?
- What could be the issues or area of concern in the proposed marketing model?

2.2 Data required

- Average landholding size of farmers in a particular Mandal
- No. of farmers growing in a particular Mandal (crop wise)
- Dependency on various livelihood options (% of household income)
- Major crops, fruits and vegetables (yield and total production)
- Cost of production incurred by farmers for various crops
- Rates in different marketing arrangements
- Prices in commodity exchanges
- Resources at the Mandal level (financial and human)
- No. of processing units in the region and their capacity
- Logistics arrangements in the region

3.3 Sources of Data

Primary sources

- Farmers
- Mandal Samakya office
- Mandis/traders/agents
- SHGs/VOs

Secondary sources

- Government departments (Agriculture and Horticulture departments. SERP, DRDA)
- APMAS
- Commodity exchanges – SNX, MCX, NCDX
- Internet

1) Method of Data Collection

A) Secondary data review:

- APMAS publications
- Commodity exchanges- MCX, NCDEX ,SNX and NMCE
- Government departments(agricultural and horticultural departments, IKP, SERP)
- Internet

B) Primary data collection :

- Farmers
- SHGs/VOs
- Mandal samakya office
- Mandis/ traders/agents

C) Data compilation and analysis

2) Field work

- a) Interaction with SHGs/VO/MS
- b) Interaction with local retailers, wholesalers, institutional buyers
- c) Local markets (APMC, C/SWC, FCI,MARKFED)

3) Commodity Exchange

- a) Interaction with managers/dept at Mumbai
- b) Brokerage agents
- c) Business consulting/ practitioner

Tools:

A) **Focused group discussions:**

The FGDs will help to identify the unique problems that farmers face in production and marketing activities. It also provides farmers insight on the existing market arrangements and cost of cultivation for various crops. The details regarding the landholding size and total production were also known through this exercise. FGDs were done with the following:

- Mandal Samakya Office Bearers
- Farmers
- Gram Samakhya Office Bearers

B) **Check lists:**

These are conducted for the retailers, wholesalers , business institutions.

C) Interviews:

Interviews were conducted with traders/agents, MCX, NCDEX officials, Govt. Officials and Processors. A structured schedule was prepared to conducted interviews

D) Observations:

Last but not the least, observations while visiting mandis, federations, MCX Mumbai etc. will helped to validate the information that we got from the above sources

Scope:

The study will be restricted to Chittoor which is the southern moist district in the Andhra Pradesh. A mandal Bangarupalem had to be identified with in the district so that the federation level can undertake trading of commodities through these exchanges.

Expected output:

1. Avoiding middlemen and trade barriers for the farmers.
2. Increasing the rural lively hood status by providing the optimum prices for different types of agricultural commodities.
3. Improving the knowledge and skills about commodity marketing to the farming community.
4. Extending the required support services to enable the communities adapt the changed practices and sustain same in the long run.

3. VELUGU

In keeping with the development commitment of the state and as envisaged in Swarnandhra Pradesh ' **Vision 2020** ' policy document, Andhra Pradesh Government has initiated the 'Rural Poverty Elimination Program' under the project '**Velugu**' (literally 'light' in Telugu).

Focusing primarily on women in the poorest rural communities in the state, *Velugu* is helping them create a multi-tiered structure of self-managed organizations – small, informal '**self help groups**' at the sub-village level, and more formal membership-based, representative, federations at the administrative levels of the village, the block and district. *Velugu's* distinctive focus is on creating higher-level federations of community organizations to make community-led development interventions more sustainable and to leverage the advantages of scale for better livelihood opportunities.

Building on a strong foundation of active social capital, germinated by complementary programs in the state, Velugu has gained relatively quick results in its initial phase. In the four years since its inception, the project has organized more than 8 lakh of the poorest into almost 99,000 self-help groups (SHGs), more than 6000 village organizations and more than 200 block level federations. Evidence from the activities of federations demonstrates significant social and economic benefits that this model has brought the poorest women.

3.1 Benefits of the model

- It has increased poor people's access to credit by **reducing both the transaction costs and the risks** that banks incur in dealing with a multiplicity of self-help groups, as federations have taken up functions of monitoring loans and repayments.
- It has increased their bargaining power in the product market by introducing **economies of scale** through collective marketing and purchasing and resolving **information asymmetries**.
- It has enabled them to take **collective action** to intervene successfully in social problems.
- It has helped create more effective **linkages with government agencies and private firms**, increasing access to resources and markets.
- It has helped make self-help groups more **sustainable** by internalizing the functions of support, capacity building and creating new groups.

3.2 Implementing Agency – SERP (Society for Elimination of Rural Poverty)

For implementing the rural development projects in a professional and accelerated manner, the government of Andhra Pradesh has established in 2000 the *Society for Elimination of Rural Poverty* (SERP) as an autonomous Society set up under Societies Act. The society was set up with a financial assistance of \$ 260 million from World Bank (Rs 600 Crores - 2000) with an objective to initiate state-wide, community demand driven rural poverty alleviation program.

Originally named '*Velugu*' depicting a meaning that the project is intended to bring light into the lives of rural poor, the society initiated massive poverty alleviation programs throughout the state of AP in two broad schemes:

1. AP District Poverty Initiatives Project (APDPIP) – Phase I of the Project from June 2000 – December 2005

- Covering 316 *mandals* in 6 districts of Anantpur, Chittoor, Mehboobnagar, Adilabad, Vizianagaram, Srikakulam
- Financial outlay of Rs 654 Crores for a period of 5 years, to cover about 9,30,000 rural poor families

2. AP Rural Poverty Reduction Project (APRPRP) – Phase II of the Project from April 2003 – September 2008

- Covering 548 *mandals* in remaining 16 districts
- Financial layout of Rs 1486 Crores for a period of 5 years, to cover about 20,00,000 rural poor families

Both these projects are integrated and renamed as **Indira Kranti Patham (IKP)** from January 2005 onwards.

Table: 1 Overall Performance of IKP

Serial No.	Indicator	Progress up to November 07
1	No. of <i>mandals</i> to be covered	1,097
2	No. of new SHGs formed	2,78,026
3	No. of old SHGs strengthened	4,21,030
4	No. of total SHGs	6,99,056
5	No. of poor mobilized and organized into SHGs	87,52,540
6	No. of VOs established	33,747
7	No. of MSs established	1,083
8	Savings by SHGs (in Rs. crores)	1,428.3
9	Bank linkages up to Nov 07 (in Rs. crores)	3,169.0
10	No of Community activists/ Book keepers/ Para-professionals	1,20,435

Source: Department of Panchayati Raj and Rural Development, Govt. of AP

4. SHG FEDERATIONS – AN EMERGING CONCEPT

Microfinance interventions in the country so far in particular the SHG bank linkage programs have contributed and demonstrated the potential of microfinance as a poverty reduction tool by addressing multiple facets of the vulnerability of poor communities. The SHG Movement, which started a decade before has gained momentum across the country in terms of reaching more poor and in deepening the microfinance services. The demand stream of poor including SHGs and their federations make poor people as owners, managers and users of the organizations. Experience across the country has demonstrated that poor and their SHG federations, given an enabling environment, access to information, and appropriate support, can effectively organize to provide goods and services to themselves to meet their immediate and long term priorities. The federation provides an organizational identity to the SHGs and federating helps SHGs realize benefits of a scale, without losing the advantages of them being small.

5.1 Benefits of federating

The five major benefits of federations as explained by Ajay Nair in his paper “Sustainability of Microfinance Self Help Groups in India: Would Federating Help” are-

1. By creating **economies of scale**, federations make it possible for essential services such as accounting, audit, conflict resolution and performance monitoring to be made available to SHGs. They also contribute to capacity building of SHGs through facilitating, planning and reviewing processes, and mutual learning events. In the absence of federations, many of these services are provided by promotional agencies, in an inherently unsustainable mechanism.
2. Federations reduce **transaction costs** of financial institutions, such as banks and insurance companies that have business with the SHGs, and the SHGs themselves. For the financial institutions, they reduce the cost of dealing with a large number of small groups; sometimes directly by acting as intermediary organizations and at other times by acting as social collateral. They reduce costs of SHGs by providing a mechanism for cost sharing.
3. Federations **reduce default rates** at all levels - from SHG members to SHGs, and from SHGs to banks - by improving monitoring, and providing both positive and punitive incentives. In the long run, the reduced transaction costs and improved repayment rates should have a positive impact on the lending rates to SHGs

4. Federations provide certain **value-added services**. The value added financial services include special loan products such as housing loans and insurance for members and livestock. Non-financial services include primary education, health-care, livestock care and technical support for house construction.
5. Federations reduce the **cost of promoting new SHGs** because of their information advantage, low staff costs, and voluntary time offered by SHG office-holders for forming new SHGs. This enhances the reliability and sustainability of the model.

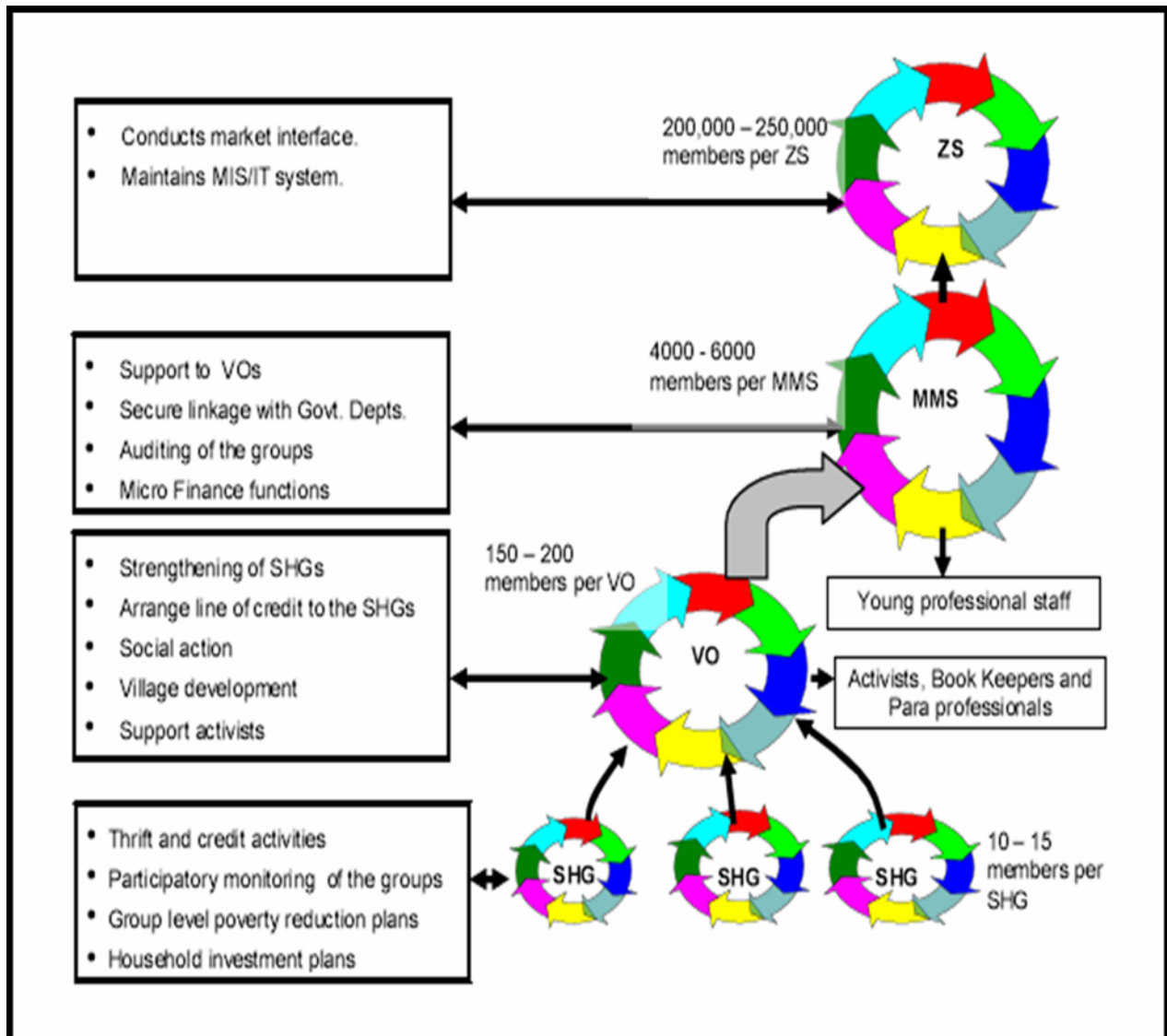
Despite the remarkable growth of SHG movement in the country, sustainability of the SHG federations continues to be a major concern. The SHGs and federations need to be equipped with knowledge and skills for managing the growth of this order. This has brought out high need for a space for the federations that strive for the purpose of poverty reduction to share the best practices across to facilitate co-learning.

5.2 SHG Federations – Andhra Pradesh

In Andhra Pradesh under the IKP project there is a 4 tier structure of SHG federations, where SHG is at the base of the pyramid. These SHGs are a group of 10-15 members who carry out saving and credit activities. All the SHGs at the village level federate into Village Level Organization (*Gram Samakhya*) that has 20-25 SHGs under its purview. The Village Organizations (VOs) have representatives from all the SHGs in a village. The VOs then federate at a block level into *Mandal Samakhya* which in turn federates at district level into *Zilla samakhya*.

Federations at different levels perform different functions. The following diagram shows various functions that are performed by federations:

Figure: 1 Institutional Arrangement of Federations under IKP



5.3 Marketing through Federations

Most of rural Andhra Pradesh depends on the sale of agricultural products such as redgram, maize, castor, groundnut, and soybean, and non-timber forest produce such as *neem*, soapnut, *gum dekmali* and *amla*, and medicinal herbs. Small, informal, groups do not have the bargaining power, and often, the capacity, to negotiate good prices with larger market players. Add to this the absence of information on product, price

and market, the lack of financial capital for a marketing strategy, and the inability to hold stocks, and the poor face classic disadvantages in an imperfectly competitive market. As a result of these disadvantages, local producers have forced to accept prices between 10 and 30 per cent lower than prevailing market prices. Organizing into federations has enabled them to transcend some of these disadvantages.

One, federations have been able to sell commodities in bulk, hold commodities in stock for better deals (buying from farmers with their own funds, responding to the inability of the farmers to defer the sale), and gain access to better information on prices and conditions across markets. Village organizations have become procurement agencies for agricultural, horticultural and forest products, which are bought from the villagers at the local procurement centres, consolidated, and collectively marketed to larger markets. This self-managed mechanism has eliminated traders as intermediaries, and hence the possibility of fraud and corruption in the transaction, and enabled producers to get both fair prices for their commodities and ensure accurate weights and measurements. In fact, the price paid by these procurement centres has become the benchmark price for most commodities. Selling their commodities at these local centres has also reduced transaction costs for local producers overcoming the need to transport their goods to dispersed markets – saving travel and transport expenses that were earlier a significant 15 to 20 per cent of the sales.

For village organizations, selling in bulk to larger district level markets has increased their collective bargaining position and enabled them to sell at higher prices, passing on the higher prices to the farmers. To cite just a few instances: In Adilabad district, the ability to hold soyabean stock and sell in bulk resulted in a three-fold increase in the price, resulting in a bonus for all members. In Mehbubnagar district, the collective marketing of *neem* increased its price almost five-fold.

Second, taking advantage of economies of scale, federations have also enhanced the value of commodities through such value-added tasks as processing and quality control and introduced business practices such as bookkeeping and market information systems. Marketing Para-professionals at Mandal and village levels also provide technical support in preparing village level procurement plans. For instance, the Pittabongaram village organization has been trained in quality assessment of soyabeans, storage, bookkeeping and market information system. In Chittoor, quality control and processing by *Mandal Samakhya*s increased the price for tamarind by almost one rupee per kilogram increasing their profits significantly.

Third, the most significant advantage of scale and collective marketing has come from established and emerging tie-ups with private firms, creating a virtuous cycle of access to national and even international

markets, increased flow of resources and technical support, the resultant ability to generate higher value commodities, and hence create new livelihood opportunities.

6. Status of Agriculture

6.2 In Andhra Pradesh

Andhra Pradesh is primarily an agro based state and employs 65% of state's population. It has about 11.53 million operational land holdings out of which 9.44 million are marginal farmers and 2.52 million are small farmers. The contribution of primary sector to the state GDP is 27%. The district wise strength in agricultural crops in the state is shown in following table:

Table: 2 District wise strength in agricultural crops in the AP

Districts	Crops
Krishna, East Godavari and West Godavari	Mango, Coconut, Cashew, Oil Palm, Okra, Chillies, Mushrooms etc.
Srikakulam, Vizianagaram and Vizag	Mango, Banana, Cashew, Coconut, Oil Palm, Tapioca, Sweet Potato etc.
Chittoor, Prakasam and Anantpur	Mango, Oranges, Acid Lime, Banana, Oil Palm, Coconut, Potato, Flowers, Corriander, Tamarind etc.
Nizamabad, Karimnagar and Adilabad	Mango, Oranges, Guava, Papaya, Flowers, Chillies, Turmeric, Corriander etc.
Medak, Rangareddy and Mehboobnagar	Grapes, Guava, Papaya, Oranges, Acid Lime, Tomato, Flowers, Chillies etc.
Kadapa, Kurnool and Anantpur	Mango, Oranges, Guava, Banana, Pomegranate, Okra, Tomato, Onion, Flowers, Chillies, Turmeric etc.
High Altitude Tribal Areas	Pineapple, Black Pepper, Hill Banana, Guava, Mango, Cole Crops, Tomato, Aromatic Plants etc.

Source: Govt. of Andhra Pradesh

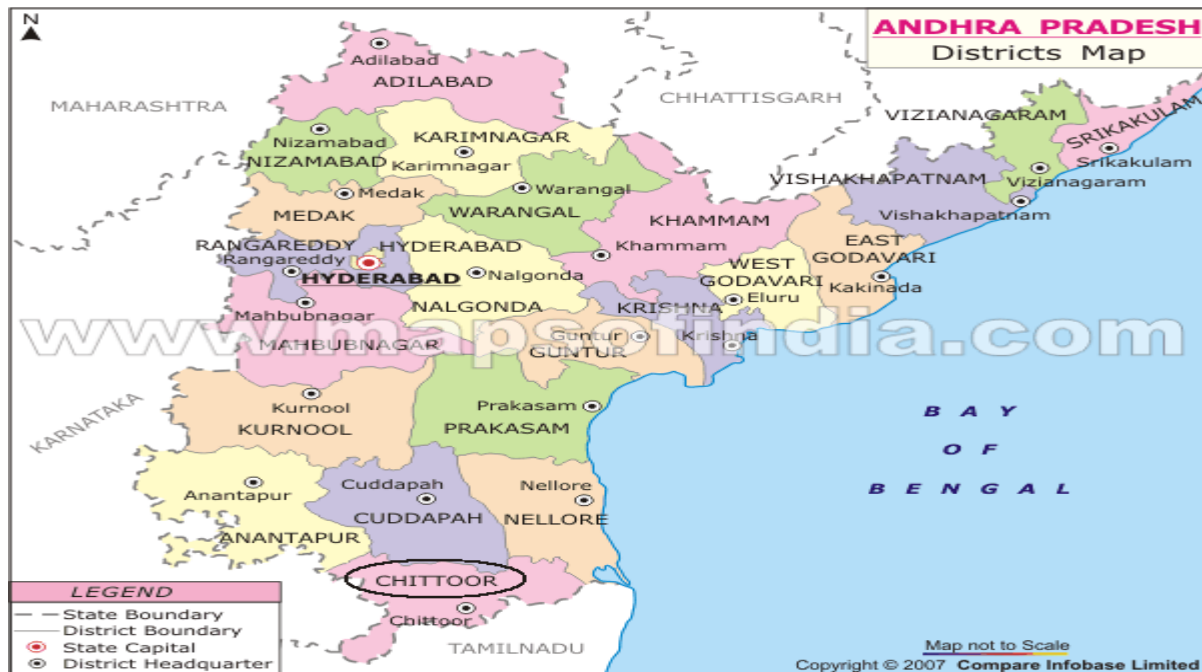
The state is rich in production of various agricultural crops, dairy, poultry, spices and herbs, oilseeds etc. Andhra Pradesh ranks second (10% share of total country production) in producing value added food products and beverages. It ranks *first* in production of mango, chillies, turmeric, egg and broiler etc.

The state has about INR 50 billion investments in food processing sector accounting for 20% of total existing investment in state. The annual production in this sector is about INR 92.6 billion contributing 20% of total industrial production in state. Agriculture is expected to experience a quantum leap in growth, achieving an average annual growth rate of 6% in real terms over next 20 years.

6.3 In Chittoor

Chittoor is the southernmost district of Andhra Pradesh which is situated between 12° -37" to 14° -8" of North latitude and 78° -33" to 79° -55" of the eastern longitude. The district consists of red loamy soils(57%)with red sandy soils (34%) and has an annual average rainfall of 934.0 mm. Owing to non availability of surface water; rain fed farming and irrigated farming with help of minor irrigation tanks/wells are in practice in district. The total geographical area is 15, 15,100 ha. The net sown area is 4,15,043 hectares with net irrigated area at 1,58,806 hectares, forming 38.26% of the net sown area and a cropping intensity of 110%. Chittoor is famous for mango and jaggery production in the country. The total production of sugarcane in 2007-08 is 2819000 tonns.(mango produ)

Figure: 2 District map of Andhra Pradesh



Chittoor being predominantly a rain fed district has sizable potential for development of dry land horticulture crops. The district can be classified into two different horticulture zones i.e. the mountainous plateau on western part of the district and plain on eastern part of district. The crops grown in western part are mango, tomato, grapes, coconut, brinjal, chillies, potato etc. and in eastern part banana, mango etc.

The district has a share of around 5.6% area under horticulture crops in the state and 5.85% under production of horticulture produce, during the year 2006-07. The area, production and productivity of some of the important horticulture crops in the district are given below-

Table 3: Production & Productivity of crops in Chittoor (2006-07)

S No.	Crops	Area (Ha)	Production ('000T)	Productivity (T/Ha)
1.	Mango	50,000	3,91,304	8
2.	Sugarcane	30000	2819	94.472
3.	Ground nut	167	303	4.445
4.	Paddy	52	158	5.840

The location of the district has an inherent advantage for sugarcane and ground nut where irrigation facilities are available as far as production and marketing is concerned. It enjoys proximity to major consumption centers like Chennai and Bangalore and has good rail, road and air connectivity to the major metros. Proximity to Chennai sea port and Airport is another advantage for promoting the exports.(details of s cane facto)

7. Criteria for Selection of Mandal and Crop for Study

As a part of the study, a *mandal* (block) had to be selected in Chittoor district so that the federation at *mandal* level could undertake trading of commodities in national level commodity exchanges like MCX, NCDX and SNX. Apart from selecting a *mandal*, the study required narrowing down on few crops grown in that *mandal* which had adequate volumes to be traded by investing in the requisite infrastructure. The following were the criteria based on which the mandals & commodities were selected:

7.2 Criterion for selecting a Mandal

- **Working Area of APMAS**

The *mandal* selected based on 3 criteria 1. Mandal should be under the working area of APMAS 2.Mandal in which area of cultivation of sugarcane and ground nut is more. 3.Mandal in which SHG groups are working well as our project is mainly consider to the famers of SHG groups initially. By Under the SERP-APMAS agreement, APMAS is supporting SERP in 3 clusters out of a total of 12 in the district. The clusters are administrative divisions under IKP. Each cluster is a group of few *mandal* (5-6). The clusters in which APMAS is working are Chittoor (6 *mandals*), Palamaneru (4 *mandals*) and Pileru (5 *mandals*).

7.3 Criterion for selection of Commodities

As per the instructions given by the APMAS organisation we have selected sugarcane and groundnut crops for the trading in the MCX.The mandal selected i.e Bangarupalyam comes under the Palamaneru cluster.

- **Production details**

Production details of various crops in *mandals* in which APMAS is working (See Annexure 1) were analyzed to select those crops which had volumes to be traded through commodity

exchanges. The data regarding production was obtained from handbook of statistics published by government of Andhra Pradesh for each district.

- **Commodities that can be traded on MCX**

Only those commodities were selected that were tradable on MCX. MCX and NCDX which are predominantly futures & options market.

Based on the above criteria, the *mandal* that was chosen was Bangarupalyam which falls under Palamaneru cluster. The crops that were chosen are Sugar cane and Groundnut.

8. Existing Supply Chain of Selected Crops:

Understanding of the existing supply chain of two commodities i.e jaggary(gur)and groundnut oil was very important before deciding to trade through exchanges. The jaggary is produced from sugarcane crop and ground nut oil produced from the groundnut crop. The analysis of the supply chain of jaggary and groundnut helped to know the gaps that needed to plug through an alternate marketing arrangement.

SUGARCANE:

Sugarcane is the main source of sugar (75%) globally and holds a prominent position as a cash crop. Sugarcane is one of the main crops of earning foreign exchange.

The Chittoor is ranked first in sugarcane production in Andhra Pradesh. In 2007-08 the total production of sugacne was 2819000 tones.

The other districts in which jaggary can be produced are Anathapur, Karnool and parts of Nijamabad. The 60% of the total jaggary production in Andhra Pradesh produced from the chittoor district. The total area, production and yield of sugarcane in past few years is as fallows

	2005 - 06			2006 - 07			2007 - 08		
CROP	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD
PADDY									
KHARIF	16	37	2289	17	43	2494	15	42	2721
RABI	67	194	2918	29	85	2918	37	116	3119
TOTAL	83	231		46	128		52	158	

G.NUT									
KHARIF	178	131	736	87	46	533	146	246	1685
RABI	18	44	2485	18	53	2918	21	57	2760
TOTAL	196	175		105	99		167	303	
S.CANE									
KHARIF	23	1972	87847	38	3497	92110	30	2819	94472
GUR		209000TONS			387			300	

Jaggery:

The jaggery is made from the boiling and recycling of the of sugar cane sets. There are total about 1000 farmers are making jaggery in Bangarupalyam. In last year 2007-08 the total land under jaggery cultivation was 1120 acres and the jiggery production was 4840 tons. The yield in Bangaru palyam was 35-45 quintals/acre.

Existing supply chain of jaggery:



The mango supply chain is typically characterized by a large number of actors and outlets, including wholesalers, market agents, retailers, processors and exporters, and a number of other smaller actors, each contributing to a specific stage in the market chain. An economic analysis of the value addition made at the various stages along the market chain is of interest to understand the role of each of the market intermediaries, the risks associated at each level and the distribution of margins among the actors in the chain.

PRICE SPREAD:

	Value(Rs/Kg)	Percent of total
Farmer	21.00	65.62
Selling price	0.42	1.31
Commission (2%)	0.30	0.94
Transport	20.28	
Net selling price		
Brokerage		
Commission agents	0.42	1.31
Transport	0.30	0.94
Handling	0.20	0.62
Margin	3.00	9.37
Net selling price	24.2	59.77
Wholesalers		
Margins	3.00	9.37
Handling	0.20	0.62
Transport	0.30	0.94
Net selling price	27.7	74.38
Retailers		
Margin	4.00	12.5
Transport	0.30	0.94
Net selling price	32.0	100
Consumer price	32.0	
Price spread	11.72	

Source: own data

The difference between the price paid by the ultimate consumer and the price realized by the producer is the price spread. In the case of *medium color* jaggery, this is Rs 11.72 Rs24.91 per kg respectively. Although the price spread is significantly different in the two chains, because the costs involved in processing are much higher this is not reflected in the margins earned in real terms. The highest margin in jaggery was earned by the retailers(12.5%),brokers and traders(9.37%) .

Problems in existing supply chain:

Producers lack information about the differentiation in the chain and also market price therefore they are not rewarded in terms of price. the producers are getting more problems from the middlemen producers are taking money from the middlemen for their crop production for the purchase of seeds, fertilizers, pesticides and also for daily family needs. To recover this he is selling his produce to the middlemen men even though the selling price is not satisfactory. The payments by the middlemen to the famers also not regular. High transportation cost also a big problem. From Bangarupalyam for a auto load of jaggery(750kgs) the cost is around Rs 350-400. Besides this, due to improper weighing practices (2% weight shortage) farmer has to suffer losses.

9. Commodity Exchanges – Alternative Marketing Channel

As a next step after promotion of saving and credit groups across the country many NGOs, Government Organizations and other agencies are experimenting with livelihoods interventions around commodity marketing. Some examples are in agriculture, livestock and artisan sectors. Major examples of such work are by BAIF for promoting horticulture produce marketing, PRADAN in promoting poultry marketing, Cooperative Development Foundation & SRIJAN in promoting dairy cooperatives marketing milk and Centre for Collectives Development in promoting agriculture commodities management (soybean & groundnut). Some large Government projects in Andhra Pradesh, Madhya Pradesh, Jharkhand and Bihar are in the process of promoting similar efforts. Commodity marketing is a key function for several livelihoods dependent on agriculture, Agri allied like horticulture, livestock, fisheries, forest produce and artisans. Market integration & global changes are influencing the way the commodities are managed locally. With growth in large retail chains and processing industries attempts to reduce intermediation and integrate the supply chain are being initiated.

The existing traditional system of wholesale market is one where a commission agent procures the produce from the farmers at a price after deducting his commission charge and then sells the

produce in the wholesale market to traders and retailers. There might be more than one commission agent in between this chain. This kind of market has unorganized small farmers who do not have the power in controlling the market. They have very little say in the final consumer price. The produce is sold through the commission agents who have no interest in the quality of produce but in the commission charges as the wholesale markets are poorly designed and congested (Coulter, 2004). The traditional Indian markets have a non-existent infrastructure of packing, grading, sorting and cold storages. The commission agents and traders dominate the supply chain and are the major price setters, thus most often farmers are dependent on them for credit. Farmers are not aware of the price setting mechanisms as the system is not transparent and thus don't have any incentive to produce efficiently. Wholesale markets are not clean, and lack of cold storage network causes huge wastage of fresh produce, ranging between 20 per cent and 40 per cent.

Institutions like cooperatives, contract farming and growers' association are considered to improve producer's access to markets, minimize transaction costs and remove production constraints. It is believed that a single gateway to the regulated markets would save time and improve efficiency. There is a greater need that the role of private institutions is to be encouraged as the government's ability to intervene is seriously constrained by resources. Farmers gain through proper weighing of produce, low transaction cost, less input cost, efficient transportation, less wastage, right price and extension services.

One such institution that has come up recently is the commodity exchange. Commodity exchanges are virtual network of buyers and sellers located in different parts of the country. It's an electronic platform where sellers quote the price of commodities (with quantity being offered); the buyers look at these quotes and look for the best offering. Once the buyer gives his conformation to but specific commodity the contract is said to be matched. The payment is done as mentioned in the contract details. The exchanges charge commission for providing such facility both from the buyer as well as sellers. NCDEX, MCX and SNX are three most popular commodity exchanges in India.

9.1 Types of Contracts in Commodity Exchanges

There are various kinds of contracts that take place in commodity exchanges. Each of these contracts is explained in short below:

9.1.1 Forwards Contract

A forward contract is an agreement to buy or sell an asset on a specified date for a specified price. One of the parties to the contract assumes a long position and agrees to buy the underlying asset on a specified future date for a specified price. The other party assumes a short position and agrees to sell the asset on the same date for the same price. E.g. an agreement to purchase crude oil on a specified date (two months hence) at a specified price can be termed as *two month forward's contract*.

9.1.2 Futures Contract

Futures markets were designed to solve the problems that exist in forward markets. A forward market is an agreement between two parties to buy or sell an asset at a certain time in future at a certain price. But unlike forward contracts, the future contracts are standardized and exchange traded.

9.1.3 Options

Options are fundamentally different than forward and future contracts. And option gives the holder of the option the right to do something. The holder does not have to exercise his right. In contrast, in a forward or future contract the 2 parties have committed themselves to doing something. Whereas it cost nothing (except margin requirement) to enter into a futures contract, the purchase of an option requires an upfront payment. E.g. a buyer takes the *option* of buying groundnut at Rs 15000/Ton for a quantity of 5 Tons at a specified date 6 months hence. When the contract date comes, he can compare the spot price (existing price that day) with the option

price and can make the decision whether to excise the contract or sell at current price and forgo the *option*. For having such choice he will have to incur *option* fees.

9.1.4 Spot Contract

Under spot contract buyer and seller don't enter into any advance agreement but instead trade at prices existing on a particular day.

9.2 Commodity Exchanges in India (The big three)

The three major commodity exchanges in India are MCX, NCDEX and SNX. Whereas the first two deal in wide portfolio of commodities ranging from crude oil to metals to agricultural commodities, SNX only deals in selected fruits and vegetables. Also, while SNX is a spot exchange the other two are futures market. Among the three, MCX is the biggest in terms of value and volumes of trade.

9.3 NCDEX (National Commodity and Derivatives Exchange Limited)

NCDEX stands for National Commodities and Derivatives Exchange Ltd. The NCDEX is a national level, on line commodity exchange and its specialty is that it is a technology driven exchange market. NCDEX is located in Mumbai and has 550 centres all over the country. NCDEX trades in 57 commodities like agricultural commodities, Precious metals, Base metals, Ferrous metals, Energy, polymers etc.

The aim of the company is to make forward contracts simple, safe and secure. NCDEX is a public limited company incorporated on 23.4.2003 under the Companies Act, promoted by national level financial institutions like ICICI Bank, LIC, NABARD, NSE, Canara Bank, CRISIL, Goldman Sachs, IFFCO and PNB with an aim to bring in standardization and professionalism in forward contract and also to bring in security to the producers. They hold equity shares in the NCDEX.

Commodities Traded in NCDEX

NCDEX currently facilitates trading of 45 commodities – Cashew, Castor Seed, Chana, Chilli, Coffee - Arabica, Coffee - Robusta, Common Parboiled Rice, Common Raw Rice, Cotton Seed Oilcake, Crude Palm

9.4 MCX (Multi Commodity Exchange)

MCX refers to Multi Commodity Exchange which facilitates trading in a variety of commodities in the country. This is an independent commodity exchange operating in India with its base in Mumbai. The MCX was established in the year 2003 with NABARD, NSE, Financial Technologies India Ltd, Corporation Bank, Bank of India, Bank of Baroda, HDFC Bank Ltd, SBI Life Insurance Corporation Ltd, Fid Fund (Mauritius) Ltd etc. as key share holders. MCX reaches out to 500 Indian cities with about 10000 trading terminals.

MCX is engaged in future trading in a number of commodities like agricultural commodities, Bullion, Ferrous and Non Ferrous metals, Pulses, Oil and Oil Seeds, Energy, Plantations, Spices and soft commodities. The average daily turnover of MCX is about 1.55 billion US Dollars. MCX captures almost 72% of the market share and thus it occupies No1 position in India in the commodity market. MCX occupies no 1 position in the world in respect of silver, No 2 position in Natural gas and No 3 position in crude oil and gold.

9.5 SNX (Safal National Exchange)

SNX is a delivery based spot market unlike MCX and NCDX which are predominantly futures & options market. Also the investment as well as expertise required to trade through SNX is much

lesser than MCX or NCDX. It is a joint venture between Mother Dairy Fruit & Vegetable Private Limited (MDFPL) - a wholly owned subsidiary of National Dairy Development Board of India (NDDB), Multi Commodity Exchange of India Limited (MCX) and Financial Technologies India Limited (FTIL). Safal exchange only deals in specific fruits and vegetables (F&V) and not in other commodities as the other two exchanges do.

9.6 SNX – Most Appropriate Exchange for Trading for Mandal Samakhya

There were certain set criteria based on which it was decided that among the three exchanges SNX would be the best for undertaking trading activities by *Mandal* samakhya. The following were the criteria based on which decision was made:

9.6.1 Applicability

As stated earlier MCX and NCDEX are futures market and a lot of speculation goes in trading. In futures market there is an advantage that seller can fix the price in advance and hedge against fall in price in the future date. But there is also a chance that the spot rate on that date may be higher than future (or agreed) price and if that is the case, sellers tend to lose. On the other hand SNX being a spot market cannot assure a fixed price for future date but it can definitely provide the best price on a given day. Also NCDEX and MCX deal in a wide range of commodities which may not have any applicability for *Mandal* Samakhya. Hence Mandal Samakhya may not be able to fully utilize the investment made in setting up that kind of an infrastructure.

9.6.2 Investments

The investments to be made i.e. membership fees and the net worth requirements are much higher in NCDEX and MCX than SNX. There are different categories of membership available with their unique features. An individual or institution can take such membership depending on his requirements. The table below shows comparison between the investments that needed to be made to operate in different exchanges.

Table :5 Fee/Deposit structure & Net worth Requirements for MCX

Particulars (Fees/Deposits) (in Rs)	Type of Membership				
	Trading cum Clearing Member (TCM) (Deposit Based)	TCM (Non Deposit)	Institutional TCM	Professional Clearing Member (PCM)	Trading Member (TM)
Admission Fees	20,00,000	10,00,000	25,00,000	10,00,000	7,50,000
Interest free Security Deposit	30,00,000	65,00,000	1,00,00,000	1,00,00,000	From trading member
Processing Fee	10,000	10,000	10,000	10,000	10,000
Annual Subscription	75,000	75,000	1,00,000	1,00,000	10,000
Annual Insurance Premium	3,258	3,258	3,258	3,258	3,258
Annual Advance min. Subscription Charges	1,00,000	1,00,000	1,00,000	-	-
VSAT costs	Varies	Varies	Varies	Varies	Varies

The above table shows the investment that has to be made for obtaining different kinds of membership of MCX. The table below shows the investments required for obtaining SNX membership.

Table: 6 Fees/Deposit Structure of SNX

Particulars (Fees/Deposits) (In Rs.)	Type of Membership	
	Category A	Category C
Application Processing Fees	2000	10,000
Admission Fee		3,00,000
Annual Subscription Fees		50,000
Security Deposit	25,000	2,00,000

As it can be seen from the above two tables there is a huge difference in terms of investments that are needed to be made to trade through SNX and MCX. As far NCDEX is concerned, its membership requirements are very much similar to that of MCX.

9.6.3 Expertise

The last criteria that was critical in choosing SNX as the mode of exchange was that the expertise required (Technical & Analytical skills) to trade in MCX or NCDEX are much higher as it's a futures market and speculation plays an important role. It would be difficult to find that kind of human resource in villages. On the other hand SNX doesn't require any speculation since it's a spot market. A person with basic computing skills can sit at the terminals and operate on behalf of the community, without applying his mind in future prices of commodities.

So based on above three criteria SNX was chosen as an apt trading platform for marketing agricultural commodities through Mandal Samakhya.

10. Marketing Reforms (APMC)

India can be a market leader in the agricultural sector for horticultural produce if its market functions properly. In this context the biggest challenge that the Indian agricultural sector faces is the integration of different components of the supply chain. On the policy front there is a need to integrate agricultural markets and supply chains. The Agricultural Produce Marketing Committee (APMC) Act prohibits transaction outside the regulated *mandis*, does not allow direct marketing and direct procurement of agricultural produce from farmers' fields. APMC Act restricts the setting up of markets other than by the state governments. This act is coming in the way of a new private initiative in the modern retailing and upgrading of the supply chain especially in the field of fruits and vegetables. In the case of SAFAL market set up in Bangalore, the Karnataka Government had amended its APMC Act in favour of both farmers and consumers. Thus initiatives should also be taken up by other state governments

and adopt the model APMC Act which proposes to remove the controls on the movement, storage and marketing of agricultural commodities, and enables setting up of commodity

exchanges to enable futures trading. Amendment in the APMC Act will remove the restriction on direct procurement from the farmers and thus would improve the efficiency of the supply chain. This will provide farmers with the freedom to sell their produce where it's more profitable to them rather than in the existing market administered by APMCs. This amendment would also help in the movement of produce from the surplus state to deficit state creating a single market for agricultural produce and the market integration will further help in price stabilization (Virmani and Mittal, 2006). Amendment to the APMC Act will help move forward in this direction as the horticulture sector can be linked to the futures market and spot markets.

11. NSE

11.1 OVERVIEW:

National Spot Exchange is a national level institutionalized, electronic, transparent spot Exchange, which is poised to transform the rural economy. National Spot Exchange is a state-of-the-art unique market place providing customized solutions to various problems faced by the farmers, traders, processors, exporters, importers, arbitrageurs, investors and the general mass. The foundation stone for National Spot Exchange was laid on 10th February, 2005 in New Delhi in a function presided over by Shri Sharad Pawar, Honorable Union Minister for Agriculture and Consumer Affairs, Food and Public Distribution.

National Spot Exchange Ltd. has been promoted by the following institutions:

Financial Technologies India Limited (FTIL)

FTIL is among the very few companies globally that offers exhaustive solutions library for Exchanges, provides technology solutions to financial markets and facilitates expansion of stock broking terminals.

National Agricultural Cooperative Marketing Federation of India Limited (NAFED)

NAFED, the leading Government agency, engages in food procurement, distribution and storage activities.

NSE provides a platform, where seller can sell at the best possible rate, buyers can buy at the most competitive rate and NSE would provide counter party guarantee in respect of all and facilitates provision of services like Quality certification, Warehousing and Logistics and other customized value added services. Agri- commodities traded are Cereals, Pulses, Oil seeds, Fibres, Spices and Plantation crops. Main features of NSE are:

- Minimal intermediation - better quality, low transaction cost.
- Narrower price spread
- Trading terminals all over the country, truly National.
- Payments are guaranteed.
- Quality certification protocol administered by NSE.
- Improvement in post harvest practices for better shelf life. Grading, Packing & Overall delivery, match with rapidly raising expectations of quality by average urbanite.

11.2 Benefits to Farmers

- Realizing the best possible price at the time of sale. On NSE, the producers have access to on-line price information and arrivals in different markets across the country, for better understanding of market trends enabling them plan their crop acreages.
- Farmers can conclude their price and quality followed by harvest & delivery. In the existing system, goods are moved to market incurring expenses and if the price is not satisfactory he cannot bring it back. Farmers shall be issued a contract note with details of quantity, sale price, charges and net payable, just as in securities market issued to a client for the trade.
- Since standardized/graded produce are to be traded through the Exchange, it would lead to extra care and extra realization for value addition(sorting, grading etc.,)
- Trade and payment guarantee
- In storable items, farmers can rely on NSE to sell at the best time they decide.
- Access to banking credit through the exchange shall also empower the farmer in terms of maximizing his returns Vs liquidity needs.
- Cost reduction in handling and other activities
- Increase in holding capacity due to availability of warehouse receipt financing
- Increase in bargaining power due to availability of an market

11.3 Benefits to Traders:

- NSE provides a Common National level platform for buying and selling of commodities
- No counter party risk in trade
- Traders will have access to a large market, an opportunity to enhance their turnover

- In a physical market, they always face the risk of their advances turning bad; On SNX platform, they can realize a better price for their product, particularly the small/medium ones.
- They can expand their activities to multiple commodities, because of operational ease, availability of finance and absence of counter party risk under SNX system.

11.4 Benefits to Processors/Exporters

- They can buy quality inspected material through a secure platform, free from hassles relating to procurement of material in physical market.
- Lower brokerage or commission payable to procurement agents.
- Customized Contracts can be designed in the case of large volumes of a specific quality
- Looking at the price available at NSE, can make export commitment and cover themselves immediately by buying at NSE
- Customized logistics services can be organized.

11.5 OPERATIONS

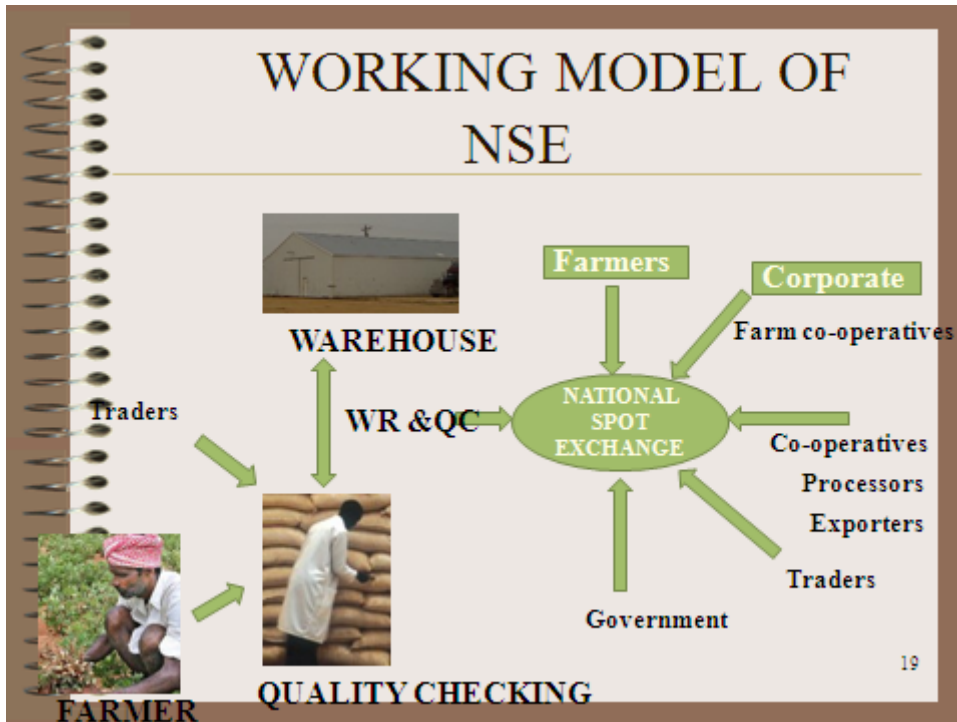
11.5.1 Trading operation:

National spot exchange will provide an online screen based trading system, which can be accessed through VSAT (very small aperture terminal), leased line or internet. It will launch daily expiry contracts, which will be traded from 10 am to 5 pm. The positions outstanding at the end of the day, will result in compulsory delivery. But during the day, the transactions of offsetting nature will be netted off and delivery will be executed only with respect to the net quantity outstanding at the end of the day. All the terms relating to quality specifications, place of delivery. Date of delivery and other conditions will be specified by the exchange on advance and all contracts on the system would be on the basis of such terms only.

To start working with MCX TWS (Traders workstation), first double click the MCX traders workstation icon on your desktop. Further, you need to log on to begin trading. Each member is allotted a unique member identification number and a series of user identification number. It is a combination of both the member ID and user password, which needs to be used to log into the

MCX TWS. At the time of log-in, the user is given the option of choosing the “Quantity” from a combo box. The different choices include “LOTS” and “WEIGHTS”.

Working model of National Spot Exchange:



MARKET WATCH:

The real time market information for the commodity futures contracts is updated online. You can view the market information such as best buy / sell price and quantity, last trade price, percentage change and total number of buyers and sellers. The market watch window is used to view the market information for the contracts in the commodity market.

Placing order:

In the MCX TWS, the best buy order (order with highest bid price) is matched with best sell order (order with lowest offer price) on price-time priority base. Quantity and price for any type of order is entered in to the system as per the trading unit.

Types of order:

Day orders: Are available for execution during the current trading session. They remain in the system until executed or cancelled. All day orders will get cancelled at the end of the trading session during which such orders were submitted.

End of session order: Previously, the trading used to be divided into two sessions per day. Presently, the entire trading everyday is considered as one session. Hence, in the present context, a day order is the same as EOS order.

Good till date (GTD): Good till date is available for execution till the end of the date indicated in the order or till the last trading day of that contract month, whichever is earlier.

Good till cancelled (GTC): is an order to buy or sell a security at a specific or limit price that lasts until the order is completed or cancelled. A GTC order will not be executed until the limited price is reached. Some brokerage firms may limit the time a GTC order can remain in effect and charge more for executing this type of order. GTC is available for execution till maturity of the contract, or till it is cancelled, whichever is earlier.

Immediate or cancel (IOC): is an order requiring all or part of the order to be executed immediately after it has been placed. Any portion not executed immediately is automatically cancelled. This is used for large orders where filling quickly can be difficult. Such orders will not remain in the order book.

Order book provides an interface for listing all orders, which have been placed by the user across different contracts. The status of orders is also displayed – whether cancelled by the trader, already executed, pending or cancelled by the system. Once an order is executed, it becomes a trade. The details of the trade (the price at which it has been executed, the quantity along with the contract details) are archived in the trade book.

11.6 Risk management:

The exchange will use various tools for risk management, margining and surveillance to ensure market integrity. All positions outstanding in the market would be subject to margin payable by both buyers and sellers. However, if the sellers have deposited goods in the exchange designated warehouse, margin will not be applicable on such positions.

11.6.1 Price Limit – Circuit Filter:

The exchange notifies a daily circuit filter limit for commodities in terms of percentage of variation allowed in a day with respect to the base price for that day. Circuit filter provides the maximum range within a contract can be traded in a session. Such circuit filter can be different for different commodities. The orders, which are in violation of such circuit filters, are rejected by the system.

11.6.2 Types of margin requirements:

The initial security deposit paid by a member is considered as his initial margin for the purpose of allowable exposure limits. Initially, every member is allowed to take exposure up to the level

permissible on the basis of such an initial deposit. If a member wishes to create more exposure, he has to deposit additional margins.

11.6.3 Ordinary margin:

Ordinary margin requirement is calculated by applying the margin percentage applicable for a contract on the value of open positions after netting at the level of an individual client and grossed across all clients in respect of client positions and on the value of open positions in respect of proprietary positions without any netting between client and proprietary positions. The computation methodology in respect of the ordinary margin is as follows:

11.6.4 Intraday:

During any trading day, the margin is calculated on the absolute difference between total sales in value terms and total purchases in value terms in respect of all transactions executed in contract during the day on client / proprietary basis in addition to previous day's open position carried forwards at the official closing price of the previous day.

11.6.5 End of day:

At the end of the trading day, the margin amount is computed as the sum of gross positions of individual client's and proprietary traders in all contracts in quantitative terms multiplied by the official closing price.

11.6.6 Special margin:

For category one commodities, whenever the circuit filter limit is hit, the daily price range is relaxed to 6%. Special (additional) margin of 1% is imposed for every 1% increase in the daily price range till the 6% level is breached.

For category two commodities, whenever the circuit filter limit is hit, the daily price range is increased by 50% of the existing circuit filter limit. Whenever such relaxation from the existing daily price limit is done, a special margin of equivalent percentage shall be levied by the exchange.

11.6.7 Exposure limit:

On the basis of the total deposit, he is allowed to take such exposures for which the margin requirement is equal to or less than the deposit amount. The calculation of the margin at trade level is on real time basis, which implies that with every trade executed by the member, his allowable exposure limit is correspondingly reduced to the extent of limit exhausted towards execution of such trades. However, if the new trade results in the reduction of his outstanding

position, his available exposure limit is increases correspondingly because of the overall reduction in his outstanding position by virtue of such offsetting trades.

11.6.8 Delivery default risk management:

all members having outstanding positions in the expiring contract will be required to submit in writing to the exchange in the specified format about their intention for tendering or lifting delivery along with details of quality, quantity, delivery center, etc. only on designated tender days. If a member submits his intention to give delivery, but subsequently fails to do so, his positions will be closed out at the due date rate and he shall also be required to pay penalty of such % of the due date rate for the unsettled quantity. Out of such penalty collected by the exchange, 90% amount will go to the buyer to compensate him for making the funds available and not receiving delivery.

11.6.9 Settlement Fund:

The exchange guarantees the settlement of the net settlement liability of clearing members for all traders done on the exchange in accordance with byelaws of the exchange. The settlement guarantee fund of the exchange is confined only to the extent of the settlement liability in terms of daily pay –in and payout as well as the final settlement as per the due date rate. The settlement guarantee fund is made up of the initial deposit and additional deposit of the member to the exchange.

11.7 Surveillance:

11.7.1 Mark to market loss monitoring:

The maximum loss limit, which the system allows a member to sustain on a real time basis, is 75% of the total deposit. Every time such loss amount goes beyond the levels of 60%, 75% or 90% of the prior mentioned limit, the member gets a warning signal. Thereafter, when the loss crosses the 75% of the total deposit limit, the member is suspended by the system.

11.7.2 Open positions:

The exchange has specified the maximum allowable open position limit across all members of the exchange. There is a restriction at the client level to the effect that any client cannot hold more than specified quantity of the commodity as an open position as per contract specifications notwithstanding ant deposit or margin paid by such client. There is a further limit at the member level to the effect that any member cannot hold more than the specified limit of such market wide open position limit, notwithstanding any deposit or margins paid by such a member.

11.7.3 Clearing and settlement:

The exchange has specified the processes, procedures and operations that every clearing member shall be required to follow for participation in the clearing and settlement activities and operating their bank accounts with the clearing banks appointed by the exchange.

Clearing banks: SBI, HDFC Bank, IndusInd Bank, UTI Bank, Kotak Mahindra Bank, Citibank, Union Bank, Bank of India, Corporation Bank, DCB, Yes Bank and ICICI Bank for transfer of funds between clearing members and the Exchange.

Members shall operate the settlement account only for the purpose of settlement of deals entered through the exchange for the payment of margin money and for any other purpose as may be specified by the exchange. Every member of the exchange is required to open the following accounts with any of the clearing banks stated above.

11.7.4 Settlement account:

In which the member will not have the cheque facility for issuing cheques to any outsiders. He can only issue cheques from his account for transfer of money from this account to his client account. Apart from any such transfer, the exchange will send direct debit instructions to the bank advising them to debit the settlement account of the respective member by such payable account.

11.7.5 Client account:

In which the member can deposit all cheques, cash, etc. received from clients and from this account members can issue cheques to their clients towards their receivables. The member has cheque book facility for this account and he will also be entitled to issue transfer instructions to the bank for transferring money from this account to the settlement account to meet his pay in or margin obligations. Instructions of the exchange as to the debits and credits to a members account shall be deemed to be irrevocable, confirmed and binding. In order to enable the exchange to issue such instructions for debiting their account and also to authorize the exchange in respect of freezing the account or to hold further debits, every member will be required to submit a written undertaking addressed to the bank to such effect. This undertaking will also authorize the bank to sweep the client account of the respective member for any shortfall in the settlement account. Besides, the exchange will also have the power to freeze various accounts of the member maintained with the clearing bank, in case of any default or shortfall in pay in or margin account.

If there is any funds default arising out of the instructions received from the exchange, the clearing bank shall inform the exchange immediately. The exchange maintains its settlement account with the clearing bank and all money received from the members towards pay in or margin, shall be used appropriately for settlement.

11.8 Delivery mechanism:

All traders executed on a day will be netted off at the end of the day as per the weighted average price of last 30 minutes. The profit/loss arising would be settled on the basis of MTM would be settled on the next day. The net sellers have to give delivery by way of depositing goods in the exchange designated warehouses / storage tanks within T+3. The buyer's account will be debited by the exchange on T+4 and delivery order will be handed over to them after ensuring that payment is through. On T+4, payout will be credited to the seller's account.

In case the seller fails to give delivery, the position will be auctioned / closed out at the risk and cost of the seller separately. In case the buyer fails to make payment, the buying position would be auctioned by the Exchange at the risk and cost of the buyer.

Delivery mechanism:

Commodity to be dispatched to exchange warehouse by seller	T + 3
Buyer account will be debited by the exchange	T + 4
Delivery order will be handed over to buyer	T + 4
Payout will be credited to the seller's account	T + 4

11.9 Membership:

Membership of National Spot Exchange will be available to individuals, partnership firms, corporate houses, HUFs, co-operative societies and other legal entities. Members can trade on their own account or on account of their clients. Members can also appoint their sub brokers and

remisiers. Members can also set up their branch offices and franchises. Members/ brokers can charge brokerage or commission from their clients, as may be negotiated between them.

Corporate houses, willing to use national spot exchange platform for procurement or sell of commodities, can either become member directly or can trade through any of the members of National Spot Exchange.

Membership will be generated such entities, which comply with all requirements relating to admission fee, security deposit, annual subscription, qualification/ experience and net worth criteria.

12.Types of membership:

- Trading – cum - clearing member (TCM)
- Institutional Trading – cum – clearing member (ITCM)
- Professional clearing member (PCM)
- Trading member (TM)

1. Trading – cum – clearing member (TCM):

An Indian national or legal entity confirming to any of the following categories shall be eligible to apply for the membership of the Exchange:

- Individuals or Sole proprietorship firms
- Hindu undivided Families
- Partnership Firms
- Co-operative societies registered with the Registrar of co-operative societies
- Corporate entities incorporated under Companies Act, 1956 or under any central or state legislation
- Such other entities as may be permitted by the Exchange

Net worth criteria: The minimum net worth criteria for membership shall be Rs. 20 lacs and the computation of net worth shall be strictly as per the format prescribed by the Exchange.

2.Institutional trading – cum – clearing member (ITCM):

Following entities are eligible to apply for membership, subject to the regulatory norms and provisions - Company and Institution (Commodity Exchanges, Trade and Industry Associations, Co-operative Bodies and large Retail Network and Commodity Brokers)

Net worth criteria: The minimum net worth for the purpose of eligibility is Rs.25 Lac

3. Professional clearing member (PCM):

Any Financial Institutional, company or bank is eligible to apply for membership, subject to the regulatory norms and provisions.

Net worth criteria: The minimum net worth criteria for membership shall be Rs. 100 Lac

4.Trading member (TM):

Entities - Following entities are eligible to apply for membership, subject to the regulatory norms and provisions- Individuals (Proprietary firms) Registered Partnership Firms Corporate Bodies HUFs

Net worth criteria: The minimum net worth criteria for membership shall be Rs. 5 Lac

12.1 Implementation:

The implementation is to be made in terms of public-private partnership in order to make the community managed procurement centers work for the poor. It should adopt a holistic approach for developing marketing strategies through the commodity exchanges utilizing the benefits of ICT. Such an intervention should look for high participation of the community with an aim of empowering so that the intervention becomes sustainable.

So, the intervention should be in two phases with a gap of 2-3 years between them

12.2 First Phase:

1. Identification of model Mandal Samakhya (MS)

In order to have a sound beginning, the most suitable Mandal Samakhya needs to be identified which can become a model for other MS by presenting its success story. The main criteria for selection vary according to the type of commodity grown in the area, its scale and presence of best practices as far as working of MS is concerned. An MS is selected in this paper which is talked about earlier.

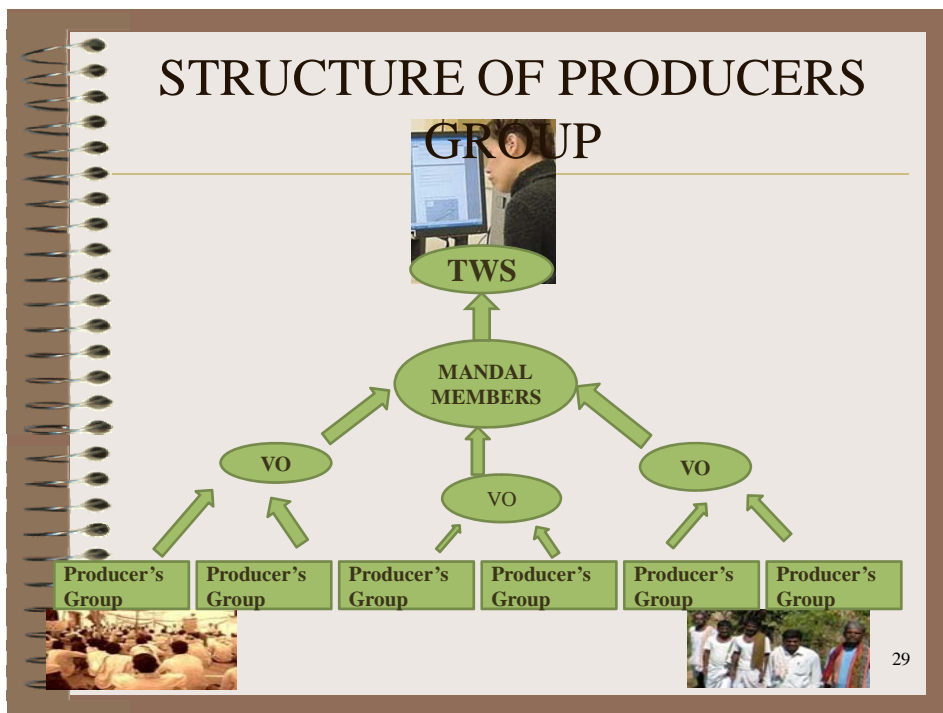
Bangarupalem (MS): Total No. of villages in Bangarupalyam are 27. total No. of Grampanchayats in bangarupalem are 39.

2. Creating awareness about NSE:

After selecting the MS then we have to create the awareness about the trading benefits. Conduct the meetings with farmers by taking help from NGOs like APMAS to share the information about the trading. By these meetings the farmers will know the benefits of the trading. Meetings should express how the farmers will avoid the middlemen problem, transport problem.

3. Formation of Producer's Group:

Working together as a community managed procurement centre and marketing unit becomes difficult and problematic when large group is involved at a time. The interests of people might differ and may cause conflicts. Such issues may lead to formation of small groups looking after their personal benefits different from the benefits of the whole. So, in order to avoid such issues there should be a formation of small homogenous groups at village level. Such a group should be formed on the basis of similar interests such as producer of same crop or group of same caste, etc. There might be more than one group in each village.



Each group is having a leader who will represent the group and its interests in the mandal Samakhya and will insure the availability of all opportunities as are available to other groups. The group leader will be elected by the group members. And the election will be held every year on a rotation basis so that all members get equal representation. The already present SHG federation at village level can take up the task if it meets the criteria of homogeneity. From all these group leaders 5 members will be elected as Mandal Members which will represents the Samakhya and gather the whole information about availability of the product. From these 5 Mandal Members one member will be act as a president at MS level. He is having the membership on behalf of whole producer's group. He will assign at Trading Work Station.

4. Formation of community managed procurement centre at group level

The each producer's Group leader will procure their product at one place. After that they will grade the product individually according to size and quality. They divide the product according to quality standards. If the sufficient quantity product is available at the group level then they will go for trading at TWS. Otherwise they will pass the information to the Mandal Members about their quantity and quality. Mandal members will collect the whole information of all

producers group product. Then they will gather the all product if it is sufficient quantity then they will go for the trading.



Following this design, the stakeholders of the intervention will monitor the implementation and practice of best methods described above. NSE will also facilitate the training regarding grading of different farm produce, working of the exchange, etc. APMAS has to play a key role in terms of building institutions through training and directing the group dynamics in positive direction.

5. Allotment of sub membership:

There should be allotment of sub-membership to village level homogenous groups. These groups should register themselves as sub-members in the Mandal Samakhya. This will allow MS to identify its members and will also provide ease in aggregation. There is a security deposit that needs to be submitted to the clearing bank for performing trading through NSE. Members will be able to trade 10 times of this deposit money. So, knowledge about the members' produce which is going to be traded through this platform

6. Set up terminal at MS:

This step will lead to the working of the community managed procurement centre as marketing unit. With the help of Government, NSE and APMAS terminals will be set up at MS office. The MS will formally become a member of the NSE. Every producer's group will trade their product at Trading Work Station (TWS).

12.2 Second phase:

The second phase begins after 2-3 years of successful operation depending on the evaluation of benefits and issues. This phase should involve the following steps.

1. Setting up of terminals:

In this phase the 4 terminals will be setup in the villages to cover the whole mandal. These 4 terminals will be in the four directions to the mandal to cover the all villages. It is easy for the groups to trade their product.

2. Formation of procurement centers at VO level:

Construction of procurement centers at Village Organization (VO) level which includes one village or more than one village. They can store the procured product in these centers for grading purpose.

3. Construction of warehouse at MS level:

In this phase we will Construction the warehouse at MS level to store the product at mandal level. It will reduce the cost which we are paying to exchange warehouse.

13. Financial Analysis:

In order to judge the viability of the intervention a detailed financial analysis was undertaken. The financial analysis includes mainly two components i.e. investments made and savings accrued to the farmers because of such investments. The viability only looks at the economic aspects of trading through exchanges and does not throw light on the non economic aspects in terms of efforts that have gone in to make it possible. Certain assumptions have been taken at different stages which are explained as and when they appear.

13.1 Investment:

The total investment comprises of investments made in obtaining the “Trading Member” category membership of NSE and the infrastructure cost to set up a terminal at Mandal Samakhya. For obtaining “Trading Member” category membership of the exchange an admission fee of Rs 100000, annual subscription fee Rs 10000 and membership processing fee Rs 5000 has to be paid. Apart from the application fee, a security amount has to be deposited which allows the member to trade 10 times the amount deposited. The security amount covers defaults that may arise in future. No interest is earned on these deposits.

Trading member fee:

Admission fee	Rs 1,00,000
Annual subscription	Rs 10,000
Membership processing fee	Rs 5000

As mentioned earlier that there are certain infrastructure costs that needs to set up terminals. For setting up the terminal it is required to have a personal computer (with internet connection) with the NSE software and an operator who has proper computing skills. The trading software is provided free of cost by NSE. NSE also provides training to the operator so that he can understand the intricacies of software.

Other infrastructure:

Particulars	Amount in Rs
1 computer at MS office	Rs 20000
1 dot printer	Rs 3000
Human resource (1 person)	Rs 3000

13.2 Benefits:

After going through the investments it's important to look at the benefits that can be derived at farm level from these operations. The benefits have been calculated in terms of landholding size and total savings that can be generated at Mandal level.

Benefit per acre:

Particulars	Savings per acre
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Price difference	Rs 2000 (@ Rs 0.50/ Kg)
Commission difference	Rs 1680 (@ Rs 0.42/Kg)
Transport	Rs 1200 (@Rs 0.30/ Kg)
Total saving / Acre	Rs 4880

For calculating benefits per acre certain assumptions have been made. If NSE traded in Chittoor region they were able to give direct benefit in terms of price (average) which was 50 paisa above the Mandi price. Since Jaggery productivity is 40 quintals/ acre so total direct benefits (taking the previous year's differential) per hectare is (4000*0.50) Rs 2000. The commission in Mandi is 2%. So at Rs 21/kg it comes to 42 paisa. Hence savings through reduced commission becomes Rs 1680. Savings generated through transport by avoiding long distance is Rs 1200. Hence the total savings per acre is Rs 4880.

Benefits at Mandal Samakhya level (Bangarupalyam):

Particulars	Units
Total land under cultivation	1120 acres
Trading @ 10 % of total land under cultivation	112 acres
No. of farmers assumed to be mobilized as clients @ 10 %	100
Savings / acre	Rs 4880
Total savings at MS level	Rs 4,88,000

In the above table calculations have been made to arrive at total savings at Mandal level. It has been assumed that in the first year of operations 10% of the farmers will be mobilized to trade through NSE. Based on average landholding size in Bangarupalyam and the productivity of Jaggery it is seen that the produce that will be traded through NSE will be of 112 acres of land.

Since savings/acre is Rs 4880, the total savings at Mandal level comes to a massive figure of Rs 4, 88,000.

14.Repayment:

Particulars	Units
MS received from farmer	Rs 0.050/Kg
For quintal	Rs 5/ quintal
Membership @ 10% under cultivation	112 acres
Yield / acre	40 quintals
Total production	4480 quintals
Total amount received	Rs 22, 400
In 4 years the total amount	Rs 1,56,800

At Rs 5 per quintal commission that Samakhya will charge for managing these activities, its own corpus would come to Rs 22,400 for one season. If we assume only 10% of the cultivated area is trading, so 4480 quintals product is to be traded. So the MS is receiving Rs 22,400 for every year. The savings of individual farmers has been arrived by directly multiplying savings per acre into average landholding size.

15. Role of Stakeholders:

15.1 APMAS:

APMAS as one of the major stakeholder has to play some crucial roles for the successful implementation of the intervention. Some of the crucial roles that need to be played by APMAS are:

15.1.1 Capacity Building

APAMS being a support organization and mainly in the field of providing capacity building through extensive training, needs to undertake trainings of producers and other stakeholders such as MS representatives, DRDA officials, etc for collective marketing through Mandal Samakhya.

It needs to inform producers about the benefits of trading through NSE. From the field visit, it was found that the villagers had apprehensions about online trading and so it will be difficult for them to have trust on NSE and its style of working. APMAS can win trust of the producers regarding such trading utilizing its hard earned faith of the community.

As the rural population less aware of the benefits of computers and IT infrastructure, Computer awareness programs can be launched by the organization whose aim will be to talk about the benefits and feasibility of trade through computer and internet without being involved into training computer operations. Such job can be looked after by the NSE officials. Use of a computer during training can help the trainees to relate with the training objective in a better way.

Besides, it should provide training regarding book keeping and maintaining accounts of the members who are trading through the terminal at the MS.

15.1.2 Institution Building:

As for the sustainable working of the model, the formation of small homogenous groups is proposed. APMAS needs to facilitate the formation of these groups after providing required information about the purpose and duty of the proposed groups and also about SNX. APMAS may like to facilitate such formation on the basis of crop (e.g. Mango cultivators) or caste. The whole idea is to make groups homogenous which can look after the benefits of themselves without being biased.

15.1.3 Design Grading Tools

In order to find out the effectiveness of the Mandal Samakhya and homogenous groups and even the success of the intervention for that matter, APMAS may design some rating tools. Such tools can play a major role in providing necessary feedback to the MS and other stakeholders and may suggest ways for the improvement of the same.

15.2 Government:

The role of Government agency i.e. Society for Elimination of Rural Poverty (SERP) and DRDA is absolutely essential. They need to facilitate proposed public-private partnership through promotion of institution such as Commodity Interest Groups (CIGs) and others which provide the necessary ground work for the successful implementation of the model. CIG is an Andhra Pradesh Government initiative wherein it has formed groups of groundnut cultivators in all the districts of AP to promote group trading and also to provide better negotiation power to the community in terms of meeting its inputs requirements and availing other Government schemes. Now, such CIG is also being proposed for the mango cultivators of Andhra Pradesh. Such Government initiatives make the communities aware of the benefits of working or trading together and thus will provide an impetus to the intervention. Besides, the officials co-operation with other stakeholders is also an essential requirement as normally such officials out-rightly reject the idea when the profit of any private player is involved (NSE in this case).

So, SERP can work in collaboration with resource organizations such as APMAS in providing training and formation of groups.

Government should provide the financial support to promote the commodity trading. It should construct the physical facilities like warehouse etc... Government should make linkages with commodity trading exchanges.

Lastly, government agencies should also look after the monitoring of activities such as collective marketing handled by the community through Mandal Samakhya and village level homogenous groups. Monitoring should also be done for the functions of NSE in terms of their service delivery, dispute resolution carried out by them, etc.

15.3 Members

Though the role of APMAS and Government agencies is important but the role of prospective members of the NSE i.e. the cultivators are quintessential without whose active participation and interests the whole intervention will be futile. The major roles that these major stakeholders especially the MS should play are:

- Aggregating produce especially of small farmers
- Facilitate formation of small homogenous groups at the village level

- Maintaining accounts
- Arranging security deposits
- Maintain infrastructure
- Act as information centre
- Inform producers about the benefits of such intervention

16. ISSUES TO BE ADDRESSED

16.1 Credit needs

During our field visits, the one question that constantly haunted us from the farmer's side was the availability of credit. Even after successful working of the SHG model especially in Andhra Pradesh the credit requirement of the poor farmer is still unmet and they have to depend on the local traders for the credit and consequently have to sell their produce to him only even knowingly that he could have got better price elsewhere. Bank lending to poor farmer is still in its infant stage and requires a whole lot of improvements to act as a small farmer friendly formal credit institution.

16.2 Farmers' apprehensions

Farmers have not been able to gain full faith in the working of NSE as of now as they believe that if they start transaction through NSE then they might lose the market through the traditional commission agents and will land them in trouble if this initiative fails.

The farmers are having the less knowledge about trading mechanism.

16.3 Opposition from traders of the Mandis

The biggest challenge is to break the long prevailing and the very strong link of the commission agents. The introduction of this system impacts their incomes it is even more difficult to remove them from the supply chain. And the traders ready to attack on the Trading Work Station (TWS).

Strategies to over come the issues:

- Strengthening the bank linkages at policy level
- Awareness through training programme and capacity building
- Trust building need to be done with the help of NGOs

17. Conclusion:

The chittoor is the southern most part of the district of the Andhra Pradesh is famous for mango, jaggery and groundnut production. Although the productivity and overall production is quite high, but because of long and fragmented supply chain, the prices that the producers get are very low. The farmers do not have any alternative to market their commodities and so they are very much dependent on traders operating in the mandis. These traders provide bundle of services to the farmers ranging from credit to input supply and as a charge for providing such services they not only exploit farmers by charging them higher commission but also indulge in other mal practices which makes farmers quite vulnerable.

In order to eliminate the inefficiencies in supply chain of various commodities a lot of alternatives have come up recently, and commodity exchanges are one such initiative. NSE is a spot based commodity exchange (mainly agri commodities) which provides an online platform to buyers and sellers across the country to trade in commodities. Although the initiative is still in a nascent phase but has picked up drastically in last one year with volumes increasing exponentially.

In order to take full advantage of the above stated marketing platform, the farmers can make use of the existing microfinance infrastructure that is quite developed in Andhra Pradesh when compared to other states in India. Under this infrastructure various SHG federation have been constituted at different levels (Village, Block and District) which can undertake such trading on behalf of the producers. There will be a trading office from where farmers can know the prices of various commodities in the market and can be trade through the NSE . If the buyers at the other end find prices favorable they can enter into a contract.

Due to this famers can be realized the best possible price at the time of sale, trade and payment guarantee, cost reduction in handling possible, small and marginal famers can access to the national market and farmers bargaining power will increase. To implement this project the stake

holders' i.e. famers, government, APMAS and NSE should understand their roles and work together. Then only the project will helpful to the farming community and ultimately the rural income will increase leading to prosperity of the India.