REACH OF AGMARKNET TO FARMERS IN THE STATE OF ODISHA

Dr. R. K. Mishra
Principal Investigator

Professor and Head

Department of Agricultural Economics
Odisha University of Agriculture & Technology
Bhubaneswar-3, Odisha, India

Dr. Satish Chandra Pant
Project Coordinator-CCS-NIAM

Sponsored by
CCS National Institute of Agricultural Marketing (CCC NIAM)
An Autonomous Organization of Ministry of Agriculture & Farmers' Welfare
Govt. of India
October 2020

Reach of AGMARKNET to farmers in the State of Odisha

Project Team

Dr. R. K. Mishra
Principal Investigator
Prof. & Head
Department of Agril Economics OUAT, Bhubaneswar

Dr. Satish Chandra Pant
Project Co-Ordinator- CCS NIAM, Jaipur

Research Investigators:

Shri Viresh S Wali
Shri Vyshak Tomy

Data Entry Operator:
Mrs. Rojalin Pani

ACKNOWLEDGEMENT

Bargarh is one of the rural districts of the state predominantly inhabited by rural population. The district has 3 Regulated Market Committees (RMCs) viz. Bargarh RMC, Attabira RMC and Padampur RMC to cater the needs of the farmers in marketing their produce. The existence and dissemination of complete and accurate marketing information is the key to achieve both operational and pricing efficiency in the marketing system. Towards this end, Ministry of Agriculture and Farmers Welfare Govt of India has launched the ICT based Central Sector Scheme of Agricultural Marketing Information Network (AGMARKNET) in the year 2000 to link important agricultural produce markets spread all over the country and the State Agricultural Marketing Boards and Directorates. The scheme has made rapid progress with 2985 nodes covered under the scheme comprising 2784 agricultural produce markets. The AGMARKNET portal provides easy access to commodity wise, variety wise, daily prices and arrival information of more than 2000 varieties and about 300 commodities from the wholesale markets spread all over the country. With passage of time, it is imperative to know the outreach of market information provided by AGMARKNET to farmers, traders, processors, and other stakeholders. The project "Reach of AGMARKNET to the farmers in the state of Odisha" has been assigned to Odisha University of Agriculture and Technology for which I am deeply grateful to Dr. P. Chandra Shekara, Director General, CCS- NIAM , Govt. of India for supporting this study and providing financial assistance. I am thankful to our Hon'ble Vice-Chancellor, Professor Pawan Kumar Agrawal for entrusting me with the assignment. I am also grateful to Dr. Vikram Singh, Dean- PGDM (ABM), CCS-NIAM and Dr. Satish Chandra Pant, Professor PGDM-ABM for their co-operation.

We are thankful to Odisha State Agricultural Marketing Board (OSAMB) and Chairman, Secretary, DEOs, office and field staff of Bragarh, Attabira and Padampur RMCs for their cooperation and support. I acknowledge that the study could be completed because of active participation of farmers, traders, and officials during our interaction with them. I am especially thankful to Research Investigators, DEO for their sincere efforts during the study.

I am thankful to Professor K.K. Rout, Dean, College of Agriculture, Bhubaneswar for his encouragement and support during the entire period of study. I am thankful to Professor S. N. Mishra, Professor A. K. Mishra, Dr. K. K. Sarangi, faculties of this Department for their support and cooperation.

I hope the findings of the report would be useful to know the success of AGMARKNET Scheme in reaching farmers, traders and other stakeholders. Further, I hope the deliberations made in the report would help planners, policy makers, researchers, academicians and administrators concerned with development of agricultural marketing in the state and country.

Prof. R. K. Mishra
Principal Investigator

CONTENTS

LIST OF TABLES

EXECUTIVE SUMMARY

Market information is an important aspect of agricultural Marketing. It is needed by the farmers in planning and marketing and equally needed by other market participants in arriving at optimal trading decision. Agricultural Marketing Information Network (AGMARKNET) is an ICT based Central Sector Scheme and the portal AGMARKNET is a Govt. of India portal on agricultural marketing backed by wide area information network connecting agricultural markets, State Agricultural Marketing Boards, Directorates, National and International Organizations. The portal provides access to commodity wise daily price and arrival information of agricultural commodities. The portal is considered as an important flagship of Govt. of India Schemes providing market information to various users The main users of AGMARKNET website are farmers, traders, exporters and other stakeholders engaged in agricultural marketing.. The Reach of AGMARKNET project to the farmers in the state of Odisha has been undertaken to know its outreach to farmers with the objectives (i) to understand the farmers perception and awareness about AGMARKNET in the state, (ii) to study the role of AGMARKNET in agricultural marketing in the state and (iii) to indentify the ways and means to meet expectations of the farmers.

.The sample of the study covers 3RMCs viz, Bargarh, Attabira and Padampur RMC and from each RMC 50 farmers, 5 traders and 15 marketing officials has been selected randomly. Thus the study covers 3RMCs, 150 farmers, 15 traders and 45 Govt. Officilas associated with agricultural marketing. Separate interview schedules have been administrated to elicit their views.

State of Odisha has 66 RMCs at present with 428 market yards which includes 53 private and rest being sub market yards for organized sale and purchase of agricultural commodities. RMCs are playing a significant role in the procurement of paddy under PDS. PACS, MARKFED, LAMPS, NAFED, Pani Panchayats and FCI are also engaged in procurement of paddy in different districts. The state has designated markets for cotton and maize and Krushak bazaar for direct marketing mostly for perishable agricultural commodities. Govt. of Odisha has started digitalization of mandi system in the state, provided free mobile to the farmers to access market information and agro-advisory services related to agriculture.

The e-NAM is implemented in the state in 10 RMCs/wholesale markets to integrate with National Agriculture Market and accessibility to wider market across the nation. Steps have been initiated by the State Govt. to integrate additional 31 RMCs with e-NAM.

Major findings

The AGMARKNET website made functioning under RMC Attabira w.e.f. 31.12.2002 with reporting of data in respect of price and grade of agricultural commodities procured under RMC Attabira. In the same year AGMARKNET became operational in Baragarh and Padampur RMCs.

Agriculture has been the main source of livelihood for majority of the people in the sample district. The average annual family income of farming household is Rs.5.50 lakh as against Rs.11.20 lakh for traders and Rs.6.60 lakh for officials. The AGMARKNET price and arrival data are available in the sample district for the crops like paddy, tomato, potato, onion, cabbage, cauliflower, brinjal, green chilli etc.The vegetables are exempted from the APMC amended Act.

The area, production and productivity of crops like paddy, greengram and blackgram have marginally increased in the sample districts in the post AGMARKNET period while it has declined in respect of arhar crop. There has been marginal increase in the price of milk, poultry meat and meat during post AGMARKNET period. However, such changes may be due to demand supply factors.

The results indicate that 91.33 to 98 per cent of the sample farmers are aware of AGMARKNET and the kind of information provided in the portal particularly arrival and prices of different agricultural commodities. The AGMARKNET programme covers important crops grown by them as expressed by 98.67 per cent of them. While 89.33 per cent of farmers have realized the prices on selling their produce as per information provided by AGMARKNET, 80.07 per cent of the farmers get price information on different grades of the produce.

The sample farmers to the extent of 98.6 per cent get information on weekly price and arrival from AGMARKNET and 84.67 per cent of them are quite satisfied with getting adequate information through the portal.

Majority of the traders (54.34 to 93.33 per cent) are aware of AGMARKNET, the kind of information provided and price and arrival of specified agricultural commodities. While 66.67 per cent of them realized the prices through trading of commodities after getting information from the portal, only 46.67 per cent of them get adequate information.

All the sample farmers (100 per cent) sell their surplus produce in RMCs or in Collection Centres and designated market yards. Some of the farmers (6.67 per cent) also sell their surplus produce to traders at their farm gate to avoid cost of storage and transportation.

With regards to sources, 93.33 per cent of the sample farmers get market information through electronic media in addition to AGMARKNET source, 17.33 per cent of them get information from the farmers and 7.33 per cent from nearby traders.

Majority of the sample farmers (90.0 per cent) are benefited from AGMARKNET for getting information on grade standards as against 9.67 per cent of them understanding the price signals. The portal gives demand signal of various agricultural commodities as expressed by 84.67 per cent of them, providing market information (78.66 per cent), helps in better decision making (62.00 per cent), information on storage and infrastructure (50.00 per cent) and market profile of major crops as expressed by 20.00 per cent of sample farmers. Farmers (24.00 per cent) are of the view that AGMARKNET helps in creation of unified market. Thus, AGMARKNET portal helps a substantial portion of farmers providing market information and information on prices, grades, standards, profile of major crops, storage, infrastructure information and better decision-making opportunity. Demand signals and price signals helps in creating unified market.

AGMARKNET helps majority (66.67 per cent) farmers in providing timely market information, achieving operational and pricing efficiency, integrating RMCs and agricultural produce markets and strengthening interface with producers, consumers and policy makers. The portal has been the main source of agricultural information to cooperatives, agencies, mass media etc. All the RMCs of the state update the AGMARKNET information on paddy arrival, procurement and price regularly in the portal. This helps most of the farmers to realize MSP fixed by the Government.

Historical market information enables the farmers to make planting decisions in line with market demand. AGMARKNET information which is historical in nature is beneficial to the farmers in altering the sowing time for 2-5 days as expressed by 42.00 per cent of the farmers. The alteration of sowing time of crops either 2-5days or one week is done by majority of the farmers (56.67 per cent) keeping in view the escape of the crop from major diseases and pests ,good crop harvest and early selling of produce.

Similarly using AGMARKNET information majority (56.6 per cent) of the sample farmers undertake alteration of harvest time either 2-5days or 1-2 weeks to sell the produce at higher price for maximizing profit. By using market information, 19.34 per cent of the farmers minimize their loss to the extent of 2-5 per cent. In case of greengram and blackgram there has been marginal impact of market information on storage of the produce. The framers have stored the produce with a view to selling these at higher market prices. The price realized after stored product sold in the market is 4.60 per cent and 2.0 per cent higher than without storage respectively. Before AGMARKNET information, the farmers were selling their surplus paddy at Rs.1500-1550/Q which increased to Rs.1750-1815/Q after getting the market information resulting 14.28 to 14.60 per cent increase in price respectively. As regards to method of uploading of data in the portal, this is done mostly within 2-5days or after one week as reported by 33.56 per cent and 64.44 per cent officials respectively. As computer facility and technical manpower viz. Data Entry Operators and field staff are provided to the RMCs, all the information/data are uploaded through electronic devices using computerized sale slips.

In respect of impact of AGMARKNET on traders, 60.00 per cent of the traders reported that such information is helpful to access nearby markets. Overwhelmingly 80.00 per cent of the traders opined that markets are integrated through AGMARKNET and 20.00 per cent of the traders undertake vertical and horizontal integration on market.

Nevertheless 6.66 per cent innovative traders have traded new commodities after receipt of information through the portal.

As regards to constraints relating to AGMARKNET information, 30.67 to 93.34 per cent sample farmers experienced much of the problems of (i) lack of remunerative prices (ii) lack of transport facilities (iii) fluctuation of market price and (iv) lack of storage facility for several products. High commission/charges and exploitation by middlemen are the constraints experienced occasionally as expressed by 42.67 to 82.00 per cent sample farmers.

Conclusion and policy recommendations: The number of wholesale markets covered under AGMARKNET must be increased to enable the users of different geographical locations to have easy access to different sets of data. It should be continued with inclusion of new crops. The study recommended that accurate and timely information must be available without time lag as it is useful for judicious prediction on arrival and prices of agricultural commodities. Daily basis of uploading market information in AGMARKNET portal must be strictly adhered. The portal needs to provide market information in advance to crop planning as well as a choice of market channel so that farmers are confident in responding to market demand. Agri-business potential of an area/district can be identified through information on market arrivals, catchment area facilitating establishment of food parks, food zones and agro-enterprises. As commodity prices are used for generating price elasticity, this can be used for providing new direction to farm policy legislation.

Market information on prices, arrival etc should be simple to understand as far as possible. Price dissemination is a deciding factor for the local trades who eventually approach the producers offering competitive prices. The value chain of different commodities must be displayed in the portal for horizontal and vertical market linkage to benefit farmers and traders The FPOs functioning in different states must be linked to the portal along with commodity handled for the benefit of the farmers to sell their produce and to expand the business of FPOs. Digital Market/RMCs Atlas may be developed and linked to the portal to visualize the spread of wholesale markets/RMCs across districts/states and connectivity to AGMARKNET portal for quick policy making. The existing Atlas may be upscaled to dynamic one with continuous updating of data to achieve the desired objectives.

In view of immense importance of the scheme, it must be supported by regular technical and field staff. This can be achieved through (a) well trained and dedicated professional staff with high degree of commitment and (ii) proving them laptop with accessories to upload the data instantly from diverse market locations. Government has distributed Android mobile phones to the farmers which served as effective digital tool to communicate agro advisory services, DBT transfer and other information to them. Efforts must be made by the State Agricultural Marketing Boards to distribute /encourage the famers to use Android handsets, to have instant access to AGMARKNET portal on price, arrival etc. The reach of AGMARKNET in successful districts must be demonstrated through mass media, publicity, awareness campaign etc. in other districts having low outreach to aware the farmers the benefits of AGMARKNET. Separate infrastructural facilities like computer room, laptop with accessories and uninterrupted internet facilities are be provided for improving the efficiency. Creation of regular awareness and publicity of the scheme will enhance its outreach to different stake holders.

CHAPTER I

Introduction

Market Information is an important marketing function which ensures the smooth and efficient functioning of the marketing system. The importance of sound agricultural marketing policies for ensuring fair returns to the farmers cannot be over emphasized. Almost all states and Union Territories are providing market information in one form or the other for the benefits of market users like producers, traders and consumers. However, the information is collected and disseminated by use of conventional method causing inordinate delay in communicating different groups and this in turn adversely affecting their economic interest. High level Task force on Agriculture (2000) expressed, it is advantageous to have a network down to the mandis level to begin with. This can be progressively extended to villages and household level in due course of time.

Accurate, adequate and timely availability of market Information facilities the marketing process. The existence and dissemination of complete and accurate marketing information is key to achieve both operational and pricing efficiency in the marketing system. In view of importance of market information, Agricultural Marketing Information Network (AGMARKNET) was launched in March-2000 by the Union Ministry of Agricultural Cooperation and Farmers Welfare.

As a step towards globalization of Indian agriculture, the NIC based e-governance portal AGMARKNET facilitates generalization and transmission of prices, commodity arrival information from agricultural produce markets, and web-based dissemination to producers, consumers, traders and policy makers transparently and quickly.

The aim of the scheme is (i) to establish a nationwide information network for speedy collection and dissemination of market information and data for its efficient and timely utilization (ii) to facilitate collection and dissemination of information related to better price realization by the farmers, (iii)to improve the efficiency in agricultural marketing through regular training and extension for reaching region specific farmers in their own language and (iv) to provide assistance for marketing research to generate marketing information for its dissemination to farmers and other marketing functionaries at roots level to create an ambience of good marketing practices in the country. The development of AGMARKNET portal and state level portal and undertaking market led extension activities is important of this scheme.

The Directorate of Marketing and Information (DMI) under the Union Ministry link around 7000 agricultural wholesale markets for effective exchange of information. The scheme has made rapid progress with 2985 nodes covered under the scheme comprising 2784 Agricultural produce markets, field offices of DMI and state Agricultural Marketing Board/ Directorate and their attached offices etc. In order to strengthen interface with producer farmers, consumers, traders, policy makers and other beneficiaries, AGMARKNET portal (http://AGMARKNET.nic.in) has been evolved in which more than 2800 markets are regularly reporting price related data which is being disseminated through the portal. It provides weekly trend analysis for important markets in respect of major commodities (300) and varieties (2000). It is also linked with online Commodity Exchange of India Ltd., providing future price in respect of oil seeds, fiber crops etc. also linked with international price trends of various agricultural commodities available on FAO website, IFFCO Website and so forth. Agricultural Produce Market Committee (APMC) displays the price prevailing in the market on the notice boards and broadcasts the information through All India Radio, TV etc. The information is also supplied to state and central Govt. for important markets. The statistics on arrivals, sales prices etc. are generally maintained by APMC.

The important information being disseminated through the AGMARKNET portal includes (i) prices and arrivals, daily max, min, modal, MSP, weekly/monthly prices/ arrival trends, future prices from 3 National Commodity Exchanges etc. (ii) grades and standards (iii) Commodity profile of major crops, market profile, infrastructure, reports, schemes, research studies and other relevant market information. This has been empowering the farmers in reducing the price risk.

There are 66 APMCs functioning in the state of Odisha for regulation of buying and selling of the produce. There are 428 market yards in the state which includes 53 principal market yards and rest being submarket yards. Under AGMARKNET, 73 market nodes have been covered. The market committees/controlling authorities of AGMARKNET node at market level, collect relevant data and information feed it and transmit it to the state level and AGMARKNET portal. The improved communication system enables the producers to learn about probable markets in which their produce can be disposed of more profitably. The speedier collection and dissemination of information on commodities enables farmers to realize better prices. This also leads to a transparency in the price process across the country. To promote the importance of quality among the farming community, the portal emphasizes on standardization and grading aspects of agricultural projects. It also links to codex International Food Standards, guide lines and related texts as much as the codes of practice and the joint FAO/WHO food standards programme. Also modernization of market information system shall ensure efficiency in markets and increased participation of farmers.

In the short run, an individual farmer needs output prices to determine the pace and volume of his sales so as to optimize the return from his farm production. In the long run , knowledge of price trends helps a farmer to formulate the investment plan on his farm and to take decision on the standards and nature of the enterprise. His production plans are governed by the price expectations of the various commodities he can produce and these expectations are based on the trends both on output prices as well as the prices of agricultural inputs that he has to buy. Beginners' organizations use agricultural price data in a number of ways such as planning the characters, location and size of their agricultural business enterprises, determining the time and place for purchasing agricultural production requisites, deciding on inventory expansion or contraction and heading, selecting the markets and time of sale of their produce so as to reap the best advantage and formulating the trade policies. These organizations also use price data to decide on the nature and volume of storage accommodation needed for stocking goods and to determine the quantum of flow required from time to time to keep price from fluctuating sharply. Public agencies use price data in planning agricultural programme and ensuring that the allocation of available resources to different uses is consistent with the price system. Profit expectation from alternative agricultural development plans depend on the structure and behavior of both output and input prices. Public agencies need price data more importantly for formulating agricultural price policies, much as direct control of prices or indirect influences upon prices through measures like subsidies, indirect taxation, input or attaining the desirable goals of adequate production, supply and distribution. Generally a public agency entrusted with the task of collecting and compiling agricultural output and input prices is required to maintain price data usable for all purposes i.e both temporal and spatial comparison as well as for valuation.

Market information provides arrivals and price signals to the producer farmers to take better informed decisions to sell or to store the produce. In absence of market information system farmers fails to understand demand signals and market trends. In RMCs where trading is done, market committee needs to provide information through notice board at main market yard and few RMCs are uploading the accurate price information which can be accessed through AGMARKNET website. Keeping in view the importance of market information, it is imperative to know the outreach of market information produced by AGMARKNET to farmers, cooperative institutions, traders, processors and other stakeholders. In the above backdrop, the proposed study has been undertaken with following objectives:

Objectives

1. To understand the farmers perception and awareness about AGMARKNET in the state.

2. To study the role of AGMARKNET in agricultural marketing in the state.

3. To identify the ways and means to meet the expectation of the farmers.

CHAPTER II

Methodology

The study is based on both primary and secondary data. The primary data are collected by making field surveys from producers, traders, officials of the regulated committees and other stake holders. Secondary data were collected from the published sources, Directorate of Agricultural Marketing, OSAM Board of Odisha and form other line departments.

Sampling Design:

The regulated markets dealing with cereals, pulses, cash-crops as their main notified commodities are taken for the purpose of the present study. Among 30 districts of the state, Bargarh district has been selected purposively as a rural district having 3 RMCs under it. Accordingly, all the 03 RMCs viz. Bargarh RMC, Attabira RMC and Padampur RMC are selected for the study. The rural population per market in Bargarh district is 3.76 lakh (Agricultural Guide Book, 1995).

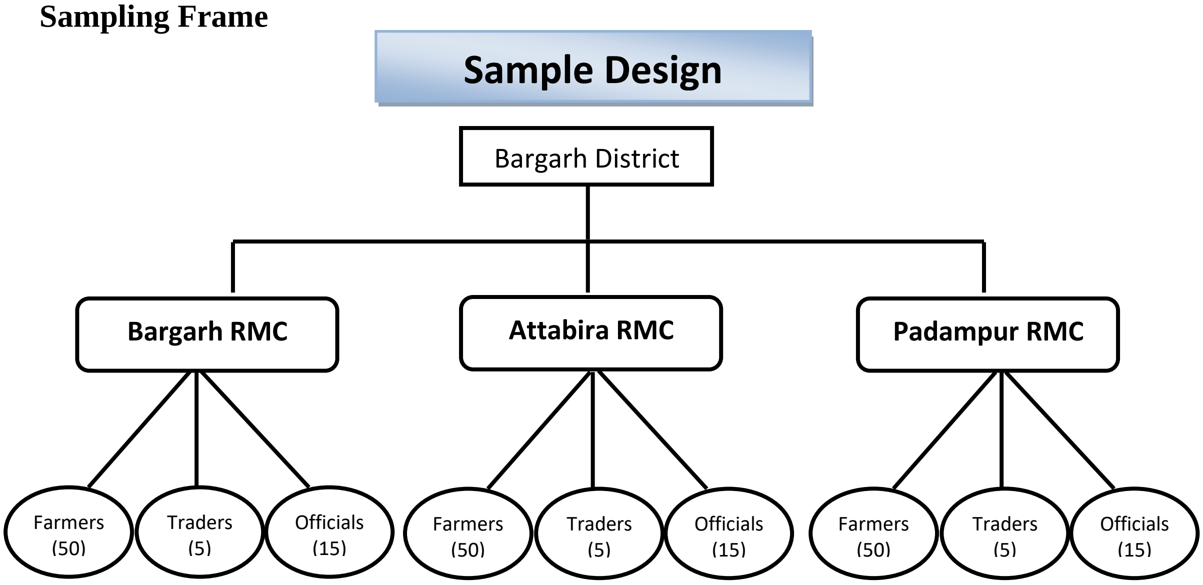
Attabira RMC is one of the best functioning markets in the state for paddy procurement situated besides the National Highway No.6. Apart from paddy, pulses and groundnut are traded in this RMC.

In Bargarh RMC, the major commodities traded are paddy, green gram, black gram, groundnut etc. This RMC handles trading of substantial quantities of several agricultural commodities consisting of cereals, pulses, oilseeds and others.

In Padampur RMC, the major commodities traded are paddy, cereals, pulses, oil seeds and other crops.

From each RMC, 50 farmers producing major commodities, 5 traders dealing with produce, 15 officials consisting of 5 from co-operative marketing institutions and 10 officials of the state marketing and extension department are selected through simple random sampling method. The selected farmers are classified further in to different size groups based on their operational size of holding.

Sampling Frame

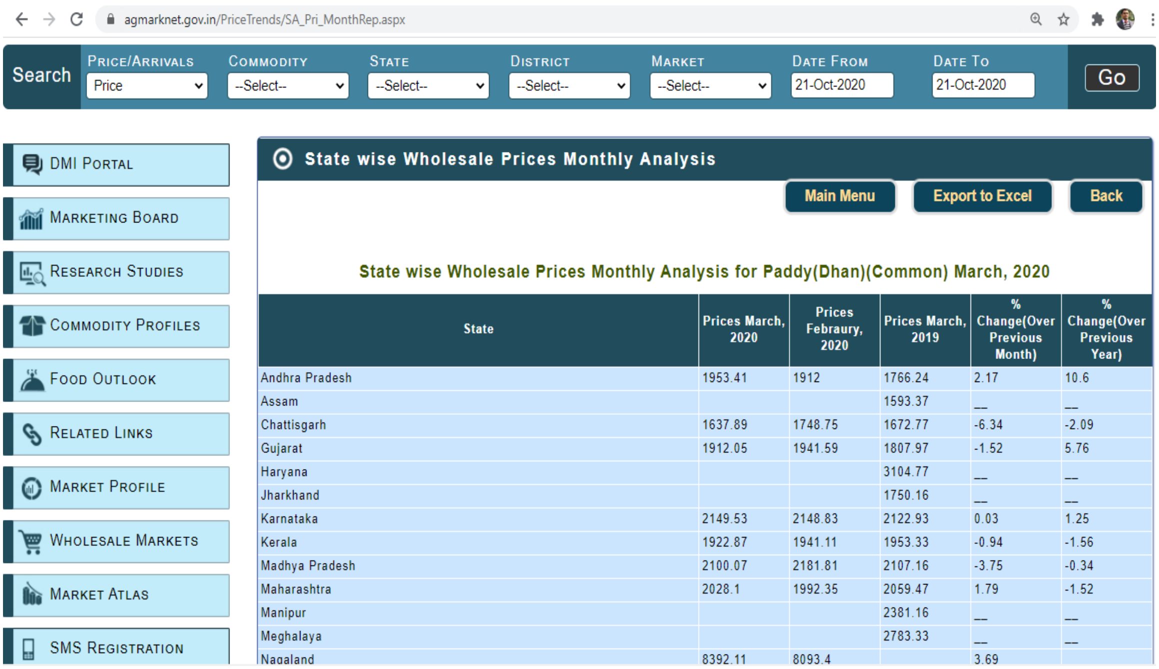


Separate interview schedules have been administered to each category of respondents. The operation and coverage of AGMARKNET, linkages and outreach, awareness and perception of the farmers, usefulness of AGMARKNET data with respect to coverage of commodities, prices, arrivals in the markets, linkages with other related sites and actual utilization of information by the farmers, traders and officials have been thoroughly examined. Appropriate statistical tools are employed in the study.

The extent of dissemination of AGMARKNET information to the farmers by the extension and marketing personnel through various media and other agencies, whether specific solutions to the problem of the farmers, commodity specific advisories are provided by the AGMARKNET have been analyzed.

The impact of AGMARKNET information on cropping pattern/ area allocated to crops, time of sowing, harvesting schedule and storage of commodities, extent of price realization and impact on price spread have been studied in detail. The linkages of AGMARKNET information with other agencies and stakeholders have been analyzed to institutionalize the information. The possibility of convergence of AGMARKNET information with other programs has been assessed. Recommendations are made for improvement of contents and outreach of AGMARKNET information to all stakeholders more effectively.

AGMARKNET Portal



State	Prices March, 2020	Prices Febraury, 2020	Prices March, 2019	% Change(Over Previous Month)	% Change(Over Previous Year)
Andhra Pradesh	1953.41	1912	1766.24	2.17	10.6
Assam			1593.37	__	__
Chattisgarh	1637.89	1748.75	1672.77	-6.34	-2.09
Gujarat	1912.05	1941.59	1807.97	-1.52	5.76
Haryana			3104.77	__	__
Jharkhand			1750.16	__	__
Karnataka	2149.53	2148.83	2122.93	0.03	1.25
Kerala	1922.87	1941.11	1953.33	-0.94	-1.56
Madhya Pradesh	2100.07	2181.81	2107.16	-3.75	-0.34
Maharashtra	2028.1	1992.35	2059.47	1.79	-1.52
Manipur			2381.16	__	__
Meghalaya			2783.33	__	__
Nagaland	8392.11	8093.4		3.69	

CHAPTER III

3.1. Status of Agricultural Marketing in Odisha

Odisha is primarily an agrarian economy and agriculture holds the key to overall development of the state. The natural resource endowment of the state is eminently suitable for a wide variety of food grains, cash crops, horticultural crops etc. and offers immense scope for agricultural growth. The agriculture in the State is mostly rain fed and prone to natural calamities like droughts, floods and cyclone. During last three decades, the contribution of agriculture and allied sector to the Net State Domestic Product (NSDP) declined consistently and continuously from 56.6 per cent during 1980-85 to 17.7 per cent in the year 2015-16. On the other hand, the contribution of industry and services sector increased respectively from 15.4 per cent and 28.0 per cent in 1980-85 to around 20.7 per cent and 49.6 per cent in 2000-05 and further increased to 37.02 per cent and 45.28 per cent respectively in 2015-16.

Despite decline in its share of NSDP, agriculture continues to be a major source of livelihood of a significant segment of population (around 60 per cent) of Odisha. Therefore, agricultural development holds the key to overall development of the state by way of creating employment, generating income, providing raw materials to industrial sector and ensuring food security for the poor. Agriculture in Odisha is characterized by low productivity due to dominance of traditional agricultural practices, inadequate capital formation, low investment, inadequate irrigation facilities and uneconomic size of holdings.

Food grains production in the state was 5.5 million tons in 2000-01 which has almost doubled to 10.88 million tons in 2016-17. Production and productivity increase of crops in Odisha is not translated into income increase per se but through market linkage. Agricultural marketing reforms of the state help in introduction of some desirable changes in the system. The market regulation scheme in Odisha came in to force after enactment of Odisha Agricultural Produce Market Act., 1956 and rules made thereafter in 1958.

In the state there are 66 regulated market committees (RMCs) at present with 428 market yards which include 53 principal and rest being sub-market yards for organized sale and purchase of agricultural commodities.

Agricultural Marketing Reforms in Odisha

An efficient agricultural marketing system is imperative for development of agriculture sector of the State. Agricultural marketing reforms of the state help in introducing some desirable changes in the system

The market regulation scheme in Odisha came into force after enactment of Orissa Agricultural Produce Market Act. 1956 and Rules made thereafter in 1958. There were only 15 market committees during 2nd five year plan which have now gone up to 66.

Under the above act, Regulated Market Committees (RMCs) have been established for regulation of buying and selling of agricultural produce under the broad umbrella of Odisha State Agricultural Marketing Board (OSAMB). These 66 RMCs covers 55 revenue subdivisions of the State. Besides these, there are 428 market yards in the state which include 53 principal market yards and the rest being sub market yards. Further, there are 567 temporary market yards for paddy procurement. Out of 314 blocks of the state, 118 blocks do not have any regulated markets. The RMCs are making efforts to upgrade the facilities in the existing market yards and Gram Panchayat markets under their control and to establish new market yards. The input and output reforms, market infrastructure and functioning of e-NAM have also been analyzed

I. Agricultural Input Marketing

Table 3.1 Quality Seeds supplied to farmers by the Government (in Quintals)

Sl.No.	Crops	Year				
		2010-11	2011-12	2012-13	2013-14	2014-15
1	Paddy	523298	521375	535129	639628	709924
2	Wheat	6574	7060	2250	2088	
3	Maize	7905	5189	8524	7641	7731
4	Ragi	117	154	9	412	30
5	Mung	7295	3854	4795	13157	24988
6	Biri	4493	4145	2598	4761	3031
7	Other pulses	3721	4164	1776	4878	4849
8	Groundnut	110335	123818	123166	93743	40318
9	Til	277	51	-	2.80	70
10	Mustard	3377	4103	2039	6340	1947
11	Other oilseeds	1251	796	936	523	249
12	Jute	312	300	308	175	100
13	Cotton	994	13337	1424	1711	1320
14	Dhanicha	2791	3312	2836	6982	3432

Source: Orissa Agriculture Statistics, Govt. of Odisha

There has been constant increase in supply of quality seeds to the farmers by the Government. Cultivation of pulses in recent years has been a priority as evinced from increase in supply of seeds to the farmers (Table 3.1). Thus, apart from paddy, the focus of the inputs viz. seeds, fertilizers, machine, labour are likely to include pulses and oilseeds to induce higher yields as these crops are invariably in short supply in domestic market. Demand for these inputs would likely to grow at a slow pace as compared to previous years. There is a need for strengthening potential through public investment in irrigation, infrastructure and agricultural research and efficient use of inputs. (Kumar *et al*, 2008).

Table 3.2: Sale and Consumption of Fertilizer in '000MT

Sl.No.	Type of Fertilizer	Year				
		2010-11	2011-12	2012-13	2013-14	2014-15
1	N	294.72	323.40	315.043	312.990	327.195
2	P	153.97	135.483	124.189	117.703	133.661
3	K	89.16	55.80	50.969	56.444	58.845
4	Total	537.85	514.687	490.201	487.137	519.701
Consumption Kg/Ha		63	62	58.74	57.11	66.21

Source: Orissa Agriculture Statistics, Govt. of Odisha

Farmers usually use inputs for profit and unless it generates an acceptable level of economic return, it would not be used. The demand and price of the output must be significantly high relative to the input price/cost. This may also depend on government price support, input subsidies as well as output quality aspects and consumer perception. As a result, more inputs may be used on high value crops and the input demand will vary with the output demand and prices.

The farmers show interest in entrepreneurship and willing to take the risk of adopting new technology. Development of infrastructure such as roads, transport and communication is also critical for facilitating information flow sourcing and marketing especially for small farmers. Use of some inputs may depend on the necessary scale, land rights or the organization of the farmers.

Production may require finance, investment and attractive rate of return. It may also require access to technology, such as seeds and agrochemicals. The availability of supply also depends on the nature of production process.

With small farmers and the huge geographic spread of farms, an effective distribution system for inputs is gaining importance. This is critical to develop and often goes through stages of government, cooperative and private modes and depends on channel profitability and farmers' demand. Factors such as timely availability, quality, credit/ incentives, guidance/information and other terms/service offered by the distribution system also play an important role in the growth of agriculture (Gandhi, 2014).

Table 3.3: Farm Mechanization in Odisha

Sl.No.	**Farm Mechanization**	**Year (Units sold)**				
		2010-11	2011-12	2012-13	2013-14	2014-15
1	Tractor	4750	5317	5977	4534	4377
2	Power tiller	12742	11257	12503	16144	9425
3	Self propelled Reaper	869	695	1073	660	696
4	Self propelled transplanter	42	45	166	609	804
5	Rotavator	311	498	469	4553	5341
6	Power operated implements	254	725	2748	4013	1137
7	Power thresher	2437	3480	4972	6100	2500
8	Special power operated implements	805	537	1189	2446	3726
9	Manual (BI) implements	10373	7553	4552	16992	22060
10	Hydraulic Trailer	1407	2091	1943	-	
11	Pumpsets	29255	28490	40816	46110	36113
12	Combined harvester	123	78	103	399	525

Source-Odisha Agricultural Statistics, Govt of Odisha

(i) Farm mechanization

The Scheme like "Macro Management of Agriculture' through which subsidy assistance for farm mechanization was provided. Promotion of Agriculture Mechanization was provided through training, testing and demonstration and post-harvest management and technology. During 2014-15, subsidy worth of Rs.788 lakh has been extended to the farmers for purchase of different farm machineries and equipment. Assistance has been provided for establishment of 10 Farm Machinery Bank for custom hiring. During the year 2014-15, 4377 tractors, 9425 power tillers, 2500 power threshers, 36113 pump sets, 10000 solar pumps, 525 combine harvesters have been purchased by the farmers availing the subsidy.

(ii) Direct benefit transfer of input subsidy

Government has implemented the benefit of transfer of subsidy on inputs like seeds and fertilizers directly to the farmers' account. The provision for online registration of farmers having valid farmers identity cards have been linked to their Aadhaar Card.

(iii) Provision of free mobiles to the farmers

The state government has undertaken this programme to provide free mobile phones (a) to the farmers registered with regulated market committee for receiving voice calls , SMS on price of agricultural commodities in selected markets and agro-advisory services (b) to empower 22 lakh registered farmers to receive information by way of voice calls and SMS by providing free mobile phones (c) to enable the identified farmers to realize higher income from their agricultural produce by getting timely information on market price/weather etc (d) to reduce exploitation of the farmers by middlemen by empowering them with timely information on market price of various commodities.

(iv) Creation of additional ware housing facility

Out of total 2714 functional PACS in the state, about 2310 PACS are engaged in procurement of paddy and earn a sizeable margin towards commission for paddy procured by them. In view of large paddy procurement, State Government has set up 544 additional godowns during the year 2014-15 with 3.36 lakh MT storage capacity with financial support of Rs.168 crore.

(v) Creation of additional cold storages

The state has 104 cold storages out of which 24 are in cooperative sectors and 80 are in privet sectors. It consists of 42 multipurpose and 82 commodity specific cold storages with capacity of 2.75 lakh metric tonnes as on 2015.

In a bid to raise vegetable production in the state, Gov, of Odisha has decided to set up 150 new cold storages under PPP mode by 2019. The cold storage infrastructure will largely help in removing risk of distress sale to ensure better returns to the farmers besides establishing the price and making the seasonal crops available throughout the year.

II. Agricultural Output Marketing

Table.3.4 Market Destination for farmers in Odisha

Crop	Market Destination, %				
	Wholesale Market	Village Market	Directly to Processors	Traders at farm-gate	Cooperative & Others
Rice	9	29	5	56	0
Maize	46	16	1	37	0
Tomato	56	13	3	26	5
Potato	58	18	0	20	4
Mango	48	19	0	28	5
Turmeric	45	1	0	54	0

**Fafchamps et al* 2006

Farmers of the state have market destinations as given in Table 4.4. The wholesale and village markets on important commodities are available for the benefit of the farmers.

Table 3.5: Commodity Group wise Potential Districts

Commodity Groups	High potential	Medium potential
Cereals except Paddy	Nabarangpur, Koraput, Rayagada	Ganjam, Kalahandi, Keonjhar, Malkangiri, Gajapati
Pulses	Kalahandi, Ganjam	Balangir, Cuttack, Angul, Keonjhar, Rayagada, Sundargarh, Bargarh, Mayurbhanj
Oilseeds	Jajpur, Kalahandi, Ganjam, Bargarh, Malakngiri	Angul, Balangir, Puri, Dhenkanal,Balasore, Kendrapara, Nawapara, Sundargarh, Cuttack
Foodgrains & oilseeds except paddy	Kalahandi, Nabarangpur, Ganjam	Rayagada, Koraput, Balangir, Keonjhar, Angul , Jajpur, Malkangiri, Bargarh
Jute & Mesta	Keonjhar, Kendrapara, Jajpur, Balasore	Mayurbhanj, Balangir, Cuttack, Ganjam
Cotton	Rayagada, Balangir, Kalahandi	Sundargarh, Angul, Phulbani, Khorda, Balasore, Cuttack, Balangir, Dhenkanal, Koraput, Bhadrak, Jgatsingpur, Kalahandi
Vegetables	Keonjhar, Ganjam, Mayurbhanj	Keonjhar, dhenkanal, Malkangiri
Fruits	Angul, Koraput, Mayurbhanj, Kalahandi, Ganjam, Rayagada, Sundargarh, Phulbani, Balangir	Sambalpur, Malkangiri
Spices	Phulbani, Koraput	Keonjhar, Nayagarh

Source-Various sources

Table.3.6: Estimates of marketable surplus of Rice, Cereals, Pulses and Oilseeds in Odisha (2010-11 to 2014-15 as per census 2011) (in lakh tonnes)

Sl. No.	Crops	Year (Surplus/Deficit)														
		2010-11			2011-12			2012-13			2013-14			2014-15		
1		P	R	S/D	P	R	S/D	P	R	S/D	P	R	S/D	P	R	S/D
2	Rice	69.31	61.20	**8.11**	62.00	58.95	3.05	94.97	62.82	**32.11**	76.13	63.65	**18.92**	**90.45**	**64.48**	**33.97**
3	Cereals	77.71	76.49	**1.22**	77.50	66.95	10.55	103.62	78.53	25.09	85.74	79.57	**6.17**	**107.67**	**80.61**	**27.06**
4	Pulses	9.99	10.86	**(-) 0.87**	9.21	11.01	**(-) 1.80**	10.37	11.15	**(-) 0.78**	10.58	11.30	**-0.72**	**10.57**	**11.44**	**(-) 0.87**
5	Oilseeds	6.38	20.79	**(-) 14.41**	6.64	21.06	**(-) 14.42**	6.9	21.35	**(-) 14.45**	6.99	21.62	**- 14.63**	**6.8**	**21.91**	**(-) 15.11**

P=Production, R= Total requirement, S = Surplus, D = Deficit

Source: Directorate of Agriculture and Farmers Empowerment, Govt. of Odisha

Farm households allocate a significant portion of their resources to food grain production largely for self-consumption, produce increasingly for the markets. The marketable surplus is therefore as important as total production in influencing market prices. In case of paddy, the marketable surplus has increased from 8.11 lakh tonnes in 2010-11 to 32.11 lakh tonnes in 2012-13 and further increased to 33.97 lakh tonnes in 2014-15. The consumption requirement has been estimated for the state taking household as a unit on adult equivalent basis as per nutritional recommendations. Nevertheless, the marketable surplus is showing a substantial increase over the years due to surplus production. As various food safety nets viz, NFSA, Annapurna, Antodaya yojana, Midday meal, BPL rations etc are available for ensuring food security at household level, the marketed surplus particularly of marginal and small farmers is more than the marketable surplus. As MSP is lucrative for them, they prefer to sell maximum portion of their produce at MSP in view of subsidized rations available to them through food safety nets. An efficient system of e-procurement of paddy in the state encourages the farmers to expand acreage under paddy due to the ease in marketing. However, during 2010-11 to 2013-14 in case of pulses and oilseeds the deficit ranges from 0.72 to 1.80 lakh tonnes and 14.42 to 15.11 lakh tonnes respectively. As a matter of fact, the state is deficient in production of pulses and oilseeds as compared to the requirement. The deficit is met either by importing from other states or from the Govt. of India.

It is reported that with increase in farm size and production, higher income, better output price and access to various institutional and technological factors, the marketed surplus would increase. Family size, distance from market and lack of access to infrastructure on the other hand are expected to have a negative effect on the marketable surplus (Acharya and Agrawal, 2004).

(i) RMCs and Procurement of paddy

RMCs are playing a significant role in the procurement of paddy under PDS. As paddy is procured from valid KCC & FIC holders only, RMCs plays a role in issuing the Farmer Identity Cards (FICs), as per the requisition of revenue authorities to facilitated procurement of paddy.

PACS (Primary Agricultural Co-operative Societies) are the other important agencies used in procurement of paddy. With storage capacity of 50-100MT each, 638 PACS are involved in procurement of paddy. MARKFED, LAMPS, NAFED and FCI are also engaged in the procurement of paddy in different districts.

(ii) Cotton Markets

Apart from rice, cotton is an important crop for districts of Rayagada, Kalahandi, Nuapada and Bolangir. The acreage has shown an increase and cotton in Odisha is set for a major growth. As this is a recent phenomenon in Odisha, cotton market yards also evolving. There are nine Cotton Market Yards established namely at Jogimunda, Karlapada, Utkela, Gunuppur, Ramnaguda and Muniguda, Rayagada, Digaphandi and Parlakhemundi established under Technology Mission on Cotton. These are established with financial assistance from the TMC implemented by the Ministry of Textiles, Govt. of India. Two new Cotton Mandies also have been set up under the Mission at Digaphandi under Digaphandi R.M.C. and at Parlakhemundi under Parlakhemundi

R.M.C. The facilities in the Market Yards such as Godowns, Drying Platforms, Covered Platforms, Packing Area, Farmers Information Centers, Farmers Rest Shed, Grading Laboratory, Fire Fighting arrangement, Over Head Tank, Water Supply arrangement, Weight Bridge, Weighting Scale, Sanitary facilities, Concrete Road, Drainage facilities and Compound Wall etc have been created.

(iii) Maize Markets

In order to provide exclusive post-harvest facilities for maize transaction, during the year 2008-09 two Maize Mandies at Umerkote and Raighar under Nawarangpur R.M.C. were set up with assistance from Biju K.B.K. and R.K.V.Y. scheme.

(iv) Setting of National Agricultural marketing through e-platform

Government of India has established National Agriculture Market through e-platform by intending important agricultural produce market in the country for providing remunerative price to the agricultural producers and accessibility to a wider market across the nation.

Ten numbers of wholesale markets have been set up in the state under e-platform to integrate in National Agricultural Market to provide better alternatives to the producers of agricultural produces namely maize, pulses, cotton, onion, chili, coconut and turmeric. These identified markets have been established under the scheme "Agritech Infrastructure Fund" which is available under e-platform. It is expected that more numbers of agricultural produce will be gradually included which will be having the wider reach of our farmers. The scheme is being implemented by Odisha State Agricultural Marketing Board (OSAMB).

(v) Livestock Markets

There are 108 livestock yards under 39 RMCs. In these markets, cattle shed and drinking water facilities are made available.

(vi) Krushak Bazars

Krushak Bazars have been established to help small farmers to sell their produce directly to consumers and help them to have better price realization for their produce by eliminating middlemen. There are 43 Krushak Bazars, out of which 32 are functional, of which 17 are functioning daily and 15 others on weekly basis.

(vii) Fruits and Vegetable Markets

Retailing and wholesaling of fruits and vegetables take place mainly in biweekly and weekly markets. Hence, there is a need to develop large scale wholesale markets at appropriate places in the state. Three Modern Terminal Markets were proposed in Odisha under National Horticulture Mission during 2005-06 at Cuttack, Berhampur and Sambalpur. Site selection has already been completed for Sambalpur market.

Regulated Market Committees are set up to facilitate marketing of surplus produce from farmers. But in Odisha, the average percentage of surplus marketed through RMCs stands at 25 per cent and rest of the marketable surplus is routed through other channels.

It is reported that, accessibility of market is an important factor influencing farmers to take their produce to the market. It is estimated that a 10% increase in the market access index will reduce the probability of farm-gate sales by 0.03% in Odisha. The improvements in market facilities and better road connectivity (including a decrease in distance to market) will induce farmers to sale more in the market instead of farm-gate. Moreover, a mechanism of operational marketing of horticulture produce through RMC markets is required by setting up of full-fledged wholesale market for Fruits &Vegetables and connectivity to specific markets with requisite infrastructure.

The Directorate of Agricultural marketing ,Govt of Odisha implements the schemes/ programmes of the Government of India/ State Government for providing marketing support to farmers for marketing of their produce, creating and strengthening of infrastructure for marketing of agricultural produce for increasing marketing efficiency, thus enhancing farmers' income.

(viii) e-procurement of paddy

Table.3.7 Procurement of Paddy & Seed Cotton (in lakh tones)

Crops	**Year**				
	2010-11	2011-12	2012-13	2013-14	2014-15
Paddy	36.95	31.21	54.17	42.44	52.45
Cotton	10.35	9.94	13.56	12.93	12.15

Source-Odisha Agriculture Statistics, various issues, Govt. of Odisha

Due to effective government procurement policy, paddy procurement increased significantly during the period 2010-11 to 2013-14. Procurement of paddy which was highly concentrated in few states like Punjab (37.7 percent), Andhra Pradesh (32.9 Percent) and Haryana (6.8 percent) up to mid 1990s has become more diversified after introduction of Decentralized Procurement Policy (DCP) in 1997-98. Punjab is still the largest contributor (24.1percent) to total procurement in the country and Andhra Pradesh ranks No.2 (22.9 percent) but both states have lost their shares in the post DCP period. On the other hand, DCP states like Chhattisgarh, Odisha, West Bengal and Bihar have increased their share in rice procurement. In Odisha, the paddy procurement has increased from 10.2 lakh tonnes in 2002-03 to 52.45 lakh tonnes in 2014-15. The rice procurement trend reveals that it has become more diversified in terms of coverage of state in the post DCP period (Sharma, 2016).

About 9 lakh farmers have registered their names for sell of paddy in e- platform as on October 2016.Out of them 8.0 lakhs are Aadhar linked to make it more transparent In addition, the share croppers are also entitled to sell their surplus paddy with submission of agreement form duly signed by the land owners. They can also sell their surplus paddy on recommendation of concerned Sarpanch or Samiti members. The Joint Liability Group (JLG) will facilitate the process of registration of sharecroppers to sell the paddy and in getting loans from the banks. To identify the eligible farmers, the registration process has been made under strict surveillance. Wherever it is not possible to check the land records, the registration will be made as per records verified by concerned Revenue Inspectors. On the other hand, the payment will be made to the farmers for selling their paddy through electronic transfer to the bank account of the farmers maximum within a week period .In case of urgency, the provision of payment through cheque is also made. The District Collectors have been given responsibility to supervise the process of sale and purchase of paddy to make it more efficient. During the year 2014-15, 52.45 lakh MT of paddy was procured by different agencies in the state of Odisha.

(ix) Establishment of retail outlets for vegetables, fish and chicken

State Govt. has established Udyan Fresh outlets for vegetables, Chilika Fresh for fish and Chicken Fresh for poultry meat for sale at urban areas for better value realization to producers.

(x) Digitalization of mandi system

State Govt. has started the process of digitalization of mandi system in the state, to provide free mobiles to the farmers to access market information, agro advisory services related to agriculture.

(xi) Contract farming

Contract farming in Odisha got the legal status as per amendment of OAPM act 1956, from 2006. Contract farming on cotton has been taken up over 1400 hectares of land in the district of Rayagada, Kalahandi, Nuapara, Bolangir, Sonepur involving around 20,000 farmers by two private textile mills viz well spun India Pvt ltd Gujurat and super spinning mills, Coimbatore and other two firms. The cotton cultivated by the farmers under contract farming agreements was procured by the private firms and Cotton Corporation of India (CCI) on behalf of two spinning mills in RMC yards. Contract farming on sugarcane and oilpalm are also practiced in the state

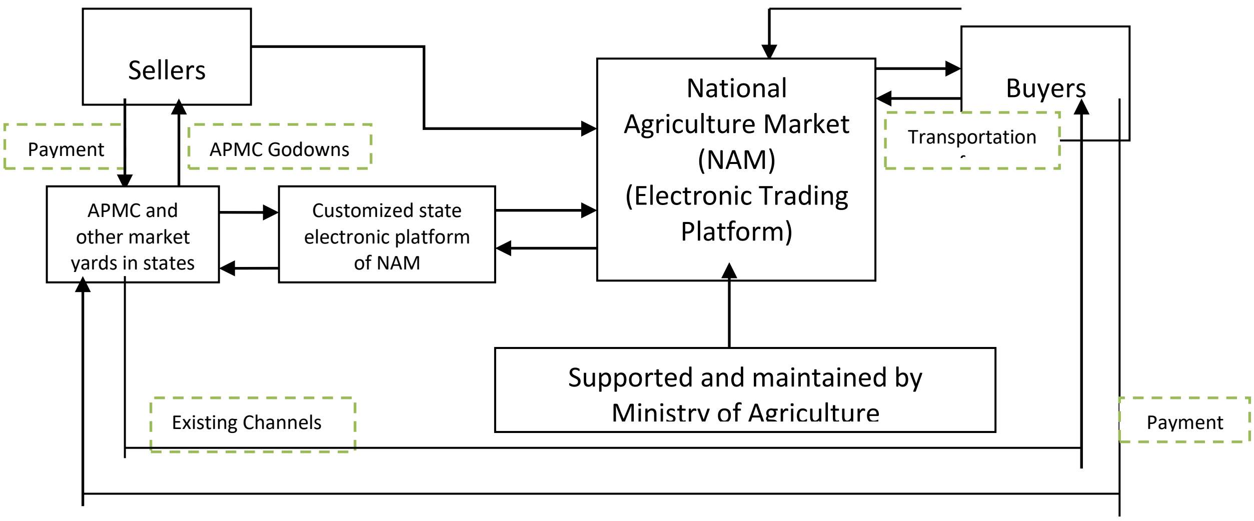
(xii) Organic farming

The organic farming is promoted particularly in crops like ginger, turmeric, cashew etc. for realizing higher income by the farmers. Kandhamal, Koraput districts have huge potential to grow organic ginger and turmeric and black pepper. Farmer producer groups (FPOs) have been formed by Govt. and NGOs to promote the organic farming through export linkage.

(xiii) e-National Agriculture Markets

Government of India has established National Agriculture Market through e-platform by integrating important agricultural produce market in the country for providing remunerative price to the agricultural producers and accessibility to a wider market across the nation. The common e-market platform envisages networking of selected 585 wholesale markets in desirous states and UTs to be deployed in three phases, viz. 200 markets by Sept, 2016, another 200 by March, 2017 and remaining 185 markets by March 2018.A onetime grant of Rs.70 lakh is being given per Mandi/agricultural market by MoA & FW, GoI for installation of hardware/infrastructure Any expenditure above this amount will have to be borne by the State Govt/APMC. However, the software will be supplied by the MOA to sate /UTs free of cost which has been developed by a private player identified by the Ministry for the purpose. The concept is comprehensive in terms of its coverage for functions and functionaries like farmers, commission agents, traders, electronic auction, clearing and settlement, payment gateway, logistics, warehousing, banking with facilities for grading and assaying. There are three important provision considered vital for implementation of national e-market viz. (i) e-trading (ii) single point levy of market fee and (iii) uniform license system. States/ UTs with provision of these three reform measures will be eligible for release of assistance under the scheme. The existing APMC Act of the participating states needs revision to make the above provisions. The status of key areas of reform considered essential for the scheme is presented in the Table 3. It indicates that only 12 states have so far made provisions for these three identified reform measures.

Fig2: Flowchart of produce in e-NAM



The integration of existing markets with the national electronic portal, in addition to the legal provisions, will require a large amount of physical, electronic and institutional infrastructure.

The scheme has been launched on a pilot basis on 14th April 2016 in 21 selected markets from 8 states covering 22 commodities. The scheme plans to network 585 markets over next three years for quite a large number of agricultural commodities. However, looking at the total number of regulated wholesale markets in the country (more than 7000), the target seems to be miniscule and their spread across more than 22 commodities may further dilute the impact. States like Gujarat, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Rajasthan, Telangana, Uttar Pradesh, and Chhattisgarh are participating in the first phase of the scheme with a target of 200 markets to be completed by September 2016.(Shalendra and Jairath ,2016)

Farm produce worth Rs.6.14 lakh crore have been traded through the ``national online agriculture market till December-2016. Currently 250 mandis in 10 States are linked to electronic National Agriculture Market, or e-NAM, lunched on a pilot basis in April with 22 mandis. The rest of the wholesale markets were integrated with portal in October.

Till December-2016, 31.13 lakh tonnes of agriculture produce worth Rs. 613890.61 crore have been transacted on the e-NAM platform. About 8.55 lakh farmers have sold their produce while 59155 traders have made purchase and 30790 commissions agents have been registered on the e-NAM platform.

The portal facilitates online payment of sale proceeds to farmers. States are being asked to encourage direct transfer of sales proceeds to the farmer's bank account. The government is also developing the legal framework to enable inter-state trading of commodities. Currently, online trading is done within the state. The e-NAM project is expected to improve the earnings of farmers, make available trade at a lower cost to buyers, and develop permanent mandis.

The government target to integrate 585 markets with e-NAM by March-2018, out of which 400 markets will become e-mandis by March next year. The government also looks to enable interstate trading on e-NAM by March 2018.Currently, quality parameters for 69 commodities including cereals, pulses, oil seeds, spices, fruits and vegetables have been notified for trading on the e-NAM platform. There is more transparency with technology being used to access aspects such as moisture levels and crop sizes eliminating dependent on whims and fancies of traders. Laboratories and assaying centres are being set up in these wholesale market to check quality of the farmers produce so that any trader or farmers can purchase or sale the same across India.

Progress of e-NAM in Odisha

Govt. of India has established National Agricultural Markets through e-platform for providing remunerative price to the agricultural produce and accessibility to a wider market across the nation. The scheme is being implemented by OSAM Board. Ten no. of RMCs/ wholesale markets of the state have been integrated to e-NAM. These include

Table 3.8 RMCs of Odisha covered under e -NAM

Sl.No.	Name of the market	Commodity for e-NAM
1	Kunduli, Koraput	Ginger, cashew
2	Sakhigopal, Puri	Coconut
3	Nayagarh	Pulses
4	Kendupatna,Cuttack	Pulses
5	Kantabanji, Bolangir	Onion
6	Kuchinda, Sambalpur	Chilies
7	Nabarangpur	Maize
8	Rayagada	Cotton
9	Paralakhemundi, Gajapati	Cashew, maize
10	Tikabali, Phulbani	Turmeric

Source:OSAM Board, Govt of Odisha

Ten numbers of wholesale markets are being set up in the Odisha state for setting of e-platform to integrate in National Agricultural Market to provide better alternatives to the producers of agricultural produces namely maize, cotton, onion, chilies, coconut and turmeric. The electronic national agricultural market e-NAM starts functioning in Kunduli weekly market (Haat) in Odisha's Koraput.

The portal connects existing agricultural produce marketing committees to create an unified market for agricultural commodities. Koraput was one of the 10 districts being included under e-NAM. In the first phase ginger and potato produce in the district have been include under e-NAM and traders can buy those through online bidding. Till date 1700 farmers of the districts grow ginger and potato and 51 traders have registered with e-NAM.

The highest bidder would be allowed to purchase the commodity if the farmer agrees to the price. It is expected that through online bidding of products, the monopoly of local trader will be checked in determining the price of a product and farmers will get the highest price for their products. Any one from across the country can obtain a license to participate in the online bidding process by paying a fee of Rs.1100/- to the respective market committee.

According to official data around 20 tonnes of ginger and 8 tonnes of potato are grown by farmers in the district annually. Farmers have expressed optimism that through the online bidding system, they would financially benefit and would not be forced to sale their produce at a throwaway price.

Apart from Koraput, e-NAM project would be operational at Sakhigopal, Puri Dsitrict for coconut, Nayagarh and Cuttack, for pulses, Kantabanjhi, Bolangir for onion, Kutchinda,Sambalpur for chili, Nawarangpur for maize, Gajapati, Rayagada for cotton and Phulbani district for turmeric . The government is planning to include cashew in the next phase. e-NAM will eventually lead to more freedom to sale by the farmers to traders across India in a competitive market. The state government is in the process of implementing the model APMC Act. with provisions like private markets, direct marketing, contract farming, consumer market, farmers market, single levy, single license and provision of e-auction to increase competition and for better functioning of agricultural markets.

Table 3.9 Recent Government initiatives to link 31RMCs under e-NAM

Sl.No.	Name of the RMC	District Name	Sl.No.	Name of the RMC	District Name
1	Angul	Angul	18	Kendrapara	Kendrapara
2	Balasore	Balasore	19	Anandpur	Keonjhar
3	Jaleswar	Balasore	20	Balugaon	Khurda
4	Attabira	Bargarh	21	Jatni	Khurda
5	Baragarh	Bargarh	22	Jeypore	Koraput
6	Padampur	Bargarh	23	Malkangiri	Malkangiri
7	Bhadrak	Bhadrak	24	Baripada	Mayurbhanj
8	Chandbali	Bhadrak	25	Betnoti	Mayurbhanj
9	Deogarh	Deogarh	26	Udala	Mayurbhanj

10	Hindol	Dhenkanal	27	Nimapara	Puri
11	Digapahandi	Ganjam	28	Gunupur	Rayagada
12	Jagatsingpur	Jagatsinghpur	29	Dunguripalli	Subarnapur
13	Rahama	Jagatsinghpur	30	Bonei	Sundargarh
14	Jajpur	Jajpur	31	Panposh	Sundargarh
15	Bhawanipatna	Kalahandi			
16	Kesinga	Kalahandi			
17	Kandhamal	Kandhamal			

Source:OSAM Board, Govt of Odisha

By the end of October 2017 as many as 24481 farmers, 636 traders have been registered in these RMCs (APMCs) and 24817.98 Qtls of different commodities have been traded in these Markets through e-Platform. The APMCs in the State have created 431 Market Yards with adequate infrastructure which include one specialized Mandi in flower, nine in cotton, one in fish and prawn ,108 in Livestock, 106 Agricultural Marketing Information Points, 10 Assaying Labs etc. The Yards have about 3.80 Lakh MT of scientific storages with 250 weighbridges, 6000 electronic weighing scales along with many other related infrastructures. As we have adequate production, supportive infrastructure, market demand and an enabling policy framework, now time is ripe to integrate the all these by addressing the problems and developing an implementable Roadmap.

The agro-climatic conditions of Odisha is immensely suitable for perennial fruit crops like mango, litchi, guava, oranges and limes, annual fruit crops like banana, pineapple and papaya; spices like ginger, turmeric, chili, a variety of roots and tubers and a whole range of vegetables . The low-temperature in hilly areas at higher altitude offer ideal conditions for growing off-season vegetables. Cultivation of Oil Palm has been gaining momentum in the State. The state thus enjoys a natural comparative advantage for horticulture with possibilities for growing a diversified basket of fruits, vegetables, spices, tubers and flowers; whose potential has not been fully exploited. The State has a strong tradition of Organic Farming specifically in the hilly and agency areas of Kandhamal and Koraput. There is great scope for the export of organic spices from these districts.

Cultivation of Oil Palm has been gaining momentum in the State and during last five years. About 10,000 ha have been covered under this crop. Brinjal, tomato, cauliflower, cabbage, chili, onion, radish and cucurbits are predominant vegetables grown in the state. However in Koraput, Kandhamal and Keonjhar districts, there is scope for off-season production. Exotic vegetables like lettuce, broccoli, capsicum, baby corn and summer squash are in demand and small areas under cultivation. Seed production of vegetables crops are being taken up in private sector and departmental farms. Western Odisha is considered as onion hub of eastern zone. The National Horticultural Research and Development Foundation (NHRDF) Nashik has established a Centre at Boudh and the Centre is promoting Onion Research and seed production to augment production. State Potato Mission has been formed to make the State self-sufficient. The state has given priority for cultivation of hybrid vegetables with mulching and micro irrigation.

Odisha is a store house of different traditional root crops like Yam, Elephant foot and also many other indigenous crops. Interestingly many such crops have export potential and many Pack houses in Kolkata, Mumbai are collecting such produce through unorganized channels and exporting.

The major spices grown in the state are turmeric, ginger, garlic and coriander. Spices are being exported to the countries like UK, USA, Netherlands and Germany. The establishment/functionalization of AEZ for spices will be an added advantage.

Floriculture is the fast emerging and rapidly growing sector in the state. The area under rose, tuberose, gladiolus and marigold has increased from 281 ha during 2003-04 to 7501 ha during 2014-15. Odisha is best known for Kewda Flowers in the world. Kewda (The Queen Flower of Ganjam) is also proposed for inclusion in eNAM. The area under protected cultivation of rose and gerbera has been increasing gradually. The Digapahandi RMC has established a Flower Mandi at Berhampur with required infrastructure to facilitate the export. The OSAMB has planned to organize FPOs for flower growers targeting small/marginal farmers mostly women. But groundwork like identification of farmers/clusters, documentation of production data, sensitization of farmers about cultivation practice, post-harvest management, dissemination of market price, facilitation of export need attention.

In order to streamline mango marketing, Government of Odisha the Government have floated the Dhenkanal Fruits and Vegetable Marketing Company Ltd (DFVMCL) with a modern Facility Centre at Govindapur, Dhenkanal aiming at Farmer Producer Companies in the mango producing districts of the state.

A roadmap has been developed on the basis of factors which have given eNAM programme a good start and inputs have been taken from successful and sustainable models like OMFED, KASAM and many others nourished and developed by ICAR Institutions/NABARD/OUAT and Line Departments. The thrust areas have convergence with Banks, Crop Planning, Crop Quality Improvement, Post-Harvest Management, and Organization of FPOs with participatory approach by local Educational Institutions.

During last decade the Government of Odisha has taken a lot of farmer friendly initiatives by which the income of farmers has been doubled .The State Agricultural Policy 2013, Odisha Fisheries Policy 2015.Poultry Policy, Odisha Bovine Breeding Policy 2015 and The Odisha Food Processing Policy 2015 are some of the major policy measures in this regard. The Government has also amended the State APMC Act during the year 2006 to accommodate establishment of Private Markets, Contract Farming and recently incorporated explicit provision for Single License, Single point levy of Market Fees etc for trading under e-NAM banner,. Fruits and Vegetables have since been withdrawn from the ambit of APMC Act enabling free movement of perishable items. The most farmer friendly feature is supply of these instruments to Paddy Procurement Centres (PPCs) situated in the premises of PACS and LAMPS which are situated ordinarily within 5 kms radius of farmers' place. Further, it is noteworthy that 59000

Mobile sets have been distributed to farmers during the year 2014-15 and 2015-16 free of cost. Out of this 41000 Mobile Phone Sets have been distributed to Women Farmers

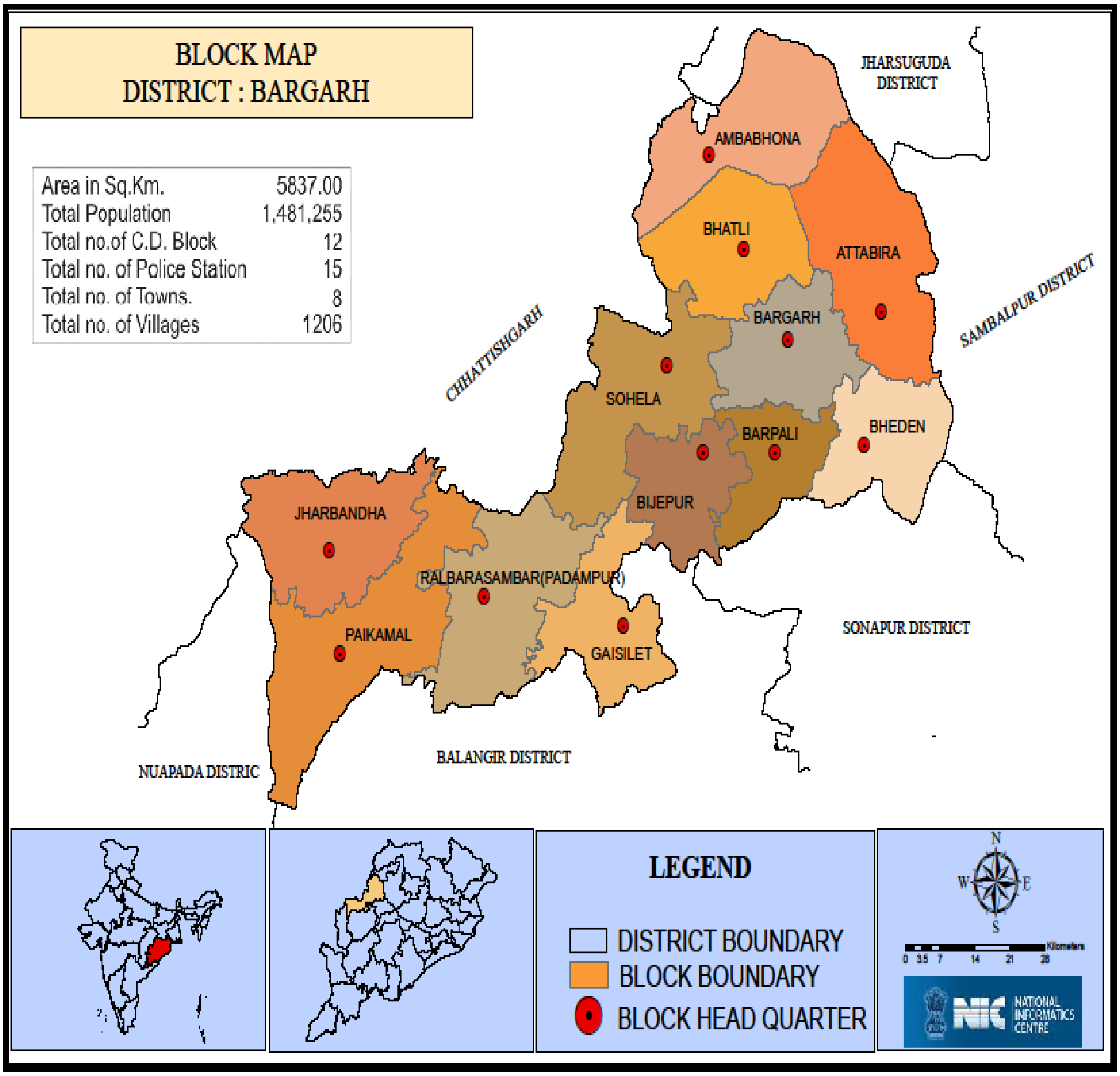
Besides this the State has a separate "Agriculture Cabinet" with Ministers of 11 Departments including Finance and Revenue to monitor and provide direction towards all the plans and policies related to agriculture & allied sectors. A separate "Agriculture Budget" is being presented from 2013-14 thereby enhancing the budget outlay of agriculture & allied sectors from Rs.5627.87 crore in 2012-13 to Rs.13181.89 crore in 2016-17.

CHAPTER IV

Profile of Bargarh District

Bargarh district was carved out from the erst while Sambalpur district in the year 1993. Bargarh has been named after the headquarters' town Bargarh situated on the National Highway No. 6 and located 5 Kms to the west of Sambalpur district. Bargarh district lies on the western most corners of Odisha between 20 degree 43' to 21 degree 41' north latitude. It is bounded by the Jharsuguda district in North, Bolangir district in South, Sambalpur district in the East and Nuapada district in the West. It has 12 blocks 3 RMCs; 1207 villages and 2.97 lakh households. The main Hirakud canal passes through the town and is known as Bargarh canal. The areas of the district is 5831.59 km. The net grown areas of the district are 2.827 lakh ha.

Map of Bargarh District, Odisha



The literacy rate of the district is 79.9 per cent as compared to 80.4 per cent in the state. The climatic condition of the district is generally hot with high humidity during May to June and cold during December to January. The annual average rainfall of the district is 1367 mm.

The district has 52 reporting offices of public sector banks, 34 branches of regional rural bank (RRBs), 57 PACs and one central co-operative banks.

Status of Agriculture in Bargarh district:

Paddy, wheat, maize, green gram, black gram, horse gram, sessamum, groundnut, mustard, potato and sugarcane are the major crops grown in the district. The yield rate of principal crop paddy is 61.96 Q/ha in Attabira block followed by 50.33 Q/ha in Bargarh block and 10.35 Q/ha in Padampur block.

Table.4.1.The yield rate of major crops grown in the district is given below.

Sl.No.	Crop	Yield rate (Q/ha)	Crops	Yield rate
1	Paddy	36.00	Sessamum	2.28
2	Wheat	16.91	Groundnut	9.78
3	Maize	13.55	Mustard	2.9
4	Ragi	3.23	Jute	-
5	Mung	3.02	Potato	101.08
6	Biri	2.97	Sugarcane	696.14
7	Kulthi	3.65		

Source: Odisha Agriculture Statistics, various issues

The district has 4 regional co-operative sugar factories. In case of crop insurance the sum assured is Rs. 15369.6 lakh while the premium was Rs.36.11 lakh.

PROFILE OF RMCs IN BARGARH DISTRICT:

(I) Attabira RMC:

Attabira RMC was established in the year 1972 and started functioning in 1974. The area of operation of the RMC covers both Attabira and Bheden block. The RMC was established with the aim and objectives like: (i) to regulate the markets activity in its area of operation in accordance with the market act (ii) to eradicate unfair practices adopted by the traders and others.

Paddy Procurement System of Regulated Market Committee, Attabira (2019-2020)

The marketing year 2019-2020 commenced from dated 01.11.2019 (Kharif Season) and 01.05.2020 (Rabi Season). There are 19 Nos. of permanent market yards functioning under R.M.C. Attabira .Besides that, one seasonal paddy purchasing Center, 20 Nos. of seasonal Paddy Purchasing Center have been opened by PACS during this Kharif Marketing Season (KMS-2019-2020) as per decision of the Government of Odisha as well as District Administration.

The available infrastructures in the market yard are fully utilized by the farmers as well as purchasers. The R.M.C personnel are deployed in the market yard to ensure the correct weighment and payment of remunerative price to farmers on sale their produce. The R.M. C supplied moisture meter and other grading equipment to all procurement centers to ensure the moisture along with grading the paddy to ascertain the paddy quality of F.A.Q standard by the market committee authority and ensuring the farmers to sale their paddy not less than the Minimum Support Price declared by the Government.

The R.M.C. Attabira taking major steps to carry out the decision of operational guidelines of government of Odisha as well as district administration regarding procurement of paddy in the market yards. According to the decision, as per Bhulekh/ROR with Aadhar Card, the concerned PACS preparing the P-PAS through online registration, in the said P-PAS contained the land particulars, name of farmer indicating Acres of land possess, specification on irrigated and non-irrigated including quantity of paddy procured crop wise by the farmers indicating Bank Account No. of farmers, then issued to farmers for sale their paddy at market yard mentioned in the P-PAS.

The farmers were bringing their paddy for sale to nearest market yards along with P-PAS. The weighment of quantity of paddy is done properly by the R.M.C staff to apprise the farmers regarding correct weighment of his paddy, what is the accurate rate of paddy, admissible moisture content and grade of paddy. After proper entry in arrival register , the paddy is allowed for procurement by agency like OSCSC, PACS, WSHGs , Pani Panchayats etc. In pursuance to decision of the District Administration, the procurement agencies procured the paddy from the farmers and making online payment, then bagged and stacked by the procurement agencies prior to delivery of the same to the custom millers.

A control room also has been functioning under R.M.C. Attabira at headquarter to collect the data from each yards and transmit the same to the higher authorities regularly in time and monitoring for the proper paddy procurement at market area and communicate the directions to market yard staff regarding the plan and policy observed by the District Administration time to time as well as heard the problem faced in course of paddy transaction in the market yards and sort out the same.

Operational guidelines for paddy procurement system KMS-2019-2020 (Kharif and Rabi) under RMC, ATTABIRA

i. The markets / purchase centers shall be operational from 1st May for six days a week.

ii. The paddy stock will be received from 7.00 A.M. to 12 A.M. during each working day of concerned market. (The weekly hat day will be off day)

iii. I will be the primary responsibility of RMC official working in market yard / purchase centers / PACS centers for receiving paddy only after due cross checking of the P-PAS with the online registration.

iv. After the paddy is received it will be stacked in a protected place. If it is stacked in outside the shed/ Godown and the quantity should be limited to the availability Tarpulin.

v. The stock received will be recorded in paddy Arrival and Disposal Register only after confirmation of physical quantity of paddy stacked at yard. The said stock will be identified by putting a lot No. at a visible point. The lot No. must bear the date so that the verification will be easier.

vi. The quantity received will be recorded in the P-PAS.

vii. The disposal of Paddy will be according to the S1 in paddy arrival register. The stock received during the working day will be dispatched after 1 P.M. on the day and for previous stock, the time restriction will not be imposed.

viii. A grading register will be maintained at Market Yard / Purchase Center which should be confirmed by the procuring agencies.

ix. The representatives of procuring agencies by remaining present in the yard shall be responsible for issuing correct vender receipt to the farmers against the stock purchased.

x. The paddy will be weighed at the market yard / purchase center. Without weighment no stock will be released from the arrival point i.e. market yard.

xi. Basing on the vender copy of the purchasing agencies, the paddy Arrival and Disposal Register will be maintained, and similar record will be made in respective column in P-PAS and lender also.

xii. The RMC will also issue a Transit Pass basing which the loaded vehicle will cross the market yards.

xiii. The arrival figure will be reported to the RMC control room by 12.30 P.M. and disposal by 7.00 P.M. positively.

xiv. The in-charge of market will be responsible for mismanagement in their markets and market Supervisor for the markets under their control.

xv. The market in-charge will also monitor the procurement at PACS center coming under their area of operation. As such the absentee statement of staff engaged in PACS center will be submitted by the market yard in-charge

Arrangement

- In the market yard it is compulsory to wear the uniform supplied by the RMC with the identity card.
- No person other than the paid employee of the RMC will handle any documents and instruments of the RMC. If it will happen the in-charge of yard will be finally responsible for any miss-happening.
- All the yards should be properly managed by the in-charge concerned by arrangements of 1) Proper lighting 2) Watering 3) Readiness of equipment 4) Cleaning of Yards 5) Sitting arrangements.

Farmers Awareness (Role of RMC for fair price to Agriculturist):

The RMC is organizing training programme for farmers on Quality assessment of FAQ paddy and registration for P-PAS on dated 30.10.2018 for KMS-2019-120 at Main Market Yard, Attabira. The officials from F.S. and C.W. department and all secretaries of PACS are attending the said programme. They have discussed with farmers regarding marketing of agricultural produces.

The RMC Attabira plays a vital role in providing fair price to the agriculturists/ registered Farmers under P-PAS at PACS level and issue token to the farmers as per the decision taken by the District Procurement Committee.

Training:

Name of the master trainer:

1. Sri Sadananda Pradhan, Market Sircar
2. Sri Lingaraj Suna, Market Sircar
3. Sri Bholanath Dash, Market Sircar

The above three persons have been successfully completed the Master Training conducted by the OSCSC, Bhubaneswar at Co-operative Training Institute, Bhubaneswar on procurement of paddy. The Staff training camp is being conducted every year at Attabira head office and different market yards.

Publicity Plan:

The RMC Attabira conduct propaganda with "Chashi Sachetanata Ratha" regarding registration of farmers for P-PAS registration from 18.08.2019 to 19.08.2019 (Kharif) by loud speaker and publicity through wall painting within the jurisdiction of Attabira RMC indicating the parameters of FAQ standard, Minimum Support Price declared by the Government of India for different grades of paddy. Moreover every year the RMC also circulates leaflet through print media along with advertisements in newspaper and dissemination with AGMARKNET for wide publication for farmers' awareness. The farmer awareness camps are conducted through meetings by the RMC Attabira.

Data transmission of RMC on AGMARKNET

As per the letter No. 14015/1/2000-MIN/208 of DY. Agricultural Marketing Adviser to Government of India, Regulated Market Committee, Attabira has undertaken Computer connectivity under its "MARKET INFORMATION NETWORK SCHEME ".

The AGMARKNET, Government of India has been supplied a Computer to Regulated Market Committee, Attabira and Godbhaga it has been installed by N.I.C., Bargarh on dates 11.09.2001 and 01.12.2010 and the internet connectivity have been taken up since 31.12.2002 for transmission of AGMARKNET web site made functioning under RMC Attabira which reporting the data in respect of price and grade of Agricultural Commodities procured under RMC Attabira through e-mail to New Delhi regularly.

Area of Operation

The area of operation of the Committee comprises to Attabira and Bheden Block in the district of Bargarh vide Govt. notification No. 6-C-IN-10/71-6676/AC (C) the 19th June, 1972 consisting the One NAC with 24 nos. and 21 nos. of Gram panchayat respectively as follows

Table 4.2 Gram Panchayats under RMC Attabira

Sl.No.	ATTABIRA BLOCK		BHEDEN BLOCK
	Name of the G.P covered		Name of the G.P covered
1	Attabira NAC Laderpali	1	Bheden
2	Lachida	2	Rusuda
3	Bugbuga	3	Arjunda
4	Kultatukura	4	Sankirda
5	Larambha	5	Bakti
6	Kadobhal	6	Sialkhandta
7	Kulunda	7	Remunda
8	Janged	8	Alminda
9	Amlipali	9	Desh Bhatli
10	Pahadsirgida	10	Dalab
11	Hirlipali	11	Chichinda
12	Tope	12	Lupursingha
13	Silet	13	Mahulpali
14	Lahanda	14	Sunalarambha
15	Manapada	15	Ainlapali
16	Chakuli	16	Papanga
17	Larasara	17	Resham
18	Kumelsingha	18	Luhakhandi
19	Dulampur	19	Areigudi
20	Janhapada	20	Kubedega
21	Tampaersara	21	Manpur
22	Jhilminda		
23	Godbhaga		
24	Kharmunda		
25	Tangerpali		

Source-RMC Attabira

Table 4.3. Present staff position of Attabira RMC

SI No.	**Category**	**Sanction**	**Existing**	**Vacancy**
1	Secretary	On deputation from co-operation department (From 03.05.2018)		
2	Accountant	1	0	1
3	Senior Clerk	1	0	1
4	Junior Clerk	2	1	1
5	Computer Operator	1	1	
6	Market Supervisor	5	0	5
7	Work Supervisor	1	1	
8	Market Sircar	14	6	8
9	Pump Driver	1	1	
10	Yardman	23	18	5
11	Watchman	20	19	1
12	Peon	2	2	
13	Rest House Attendant	1	0	1
14	Sweepress	1	0	1
15	Water Carrior	1	1	
16	Weigh Bridge Operator	4	5	
17	Barriorman	6	6	
	Total	**85**	**61**	**24**
18	NMR/DLR		19	
	Grand Total		**80**	

Source: RMC Attabira

Paddy Procurement Centers

During KMS 2019-2020 the RMC regulated the paddy procurement and operated the following Market yards and PACS.

Table 4.4.Paddy procurement in Market yards and PACs

Block		**Market Yard**		**PPCs**		**PACS**
ATTABIRA	1	Attabira	1	Janhapada	1	Attabira
	2	Godbhaga	2	Manapada	2	Jhilminda
	3	Gourtikira	3	Lastala	3	Larambha
	4	Janged	4	Lahanda	4	Lahanda
	5	Kadobahal	5	Singhpali	5	Pahadsirgida
	6	Kathdera	6	Tope	6	Tampersara
	7	Kharmunda	7	Tangerpali		
	8	Larambha	8	Talpadertikira		
	9	Patrapali	9	Jhilminda		
	10	Pahadsirgida	10	Kulunda		
BHEDEN	1	Bheden	1	Areigudi	1	Bheden
	2	Khuntulipali	2	Arjunda	2	Sambal JFCS
	3	Mahulpali	3	Barpader	3	Remanda
	4	Papanga	4	Chichinda	4	Rusuda
	5	Rusuda	5	Padhanpali	5	Sankirda
	6	Resham	6	Saleipali	6	Sialkhandhata
	7	Saharatikira	7	Remunda		
	8	Thuapali	8	Sambal JFCS		
	9	Tenteltikira	9	Sialkhandhata		
			10	Sunalarambha		

Source: RMC Attabira

Table 4.5.Paddy procurement under Attabira RMC

			PADDY PROCUREMENT UNDER RMC ATTABIRABLOCK								
		PACS (M/Y & PPC)	ALL FIGURES IN QUINTALS								
			2016-17			2017-18			2018-19		
			KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL
ATTABIRA	1	ATTABIRA	1,57,043.93	2,29,883.54	3,86,927.47	1,40,338.24	2,25,450.63	3,65,788.87	1,37,306.19	2,09,641.97	3,46,948.16
	2	GODBHAGA	1,08,623.96	1,53,047.63	2,61,671.59	1,02,262.14	1,48,767.52	2,51,029.66	98,723.45	1,51,258.92	2,49,982.37
	3	GOURTIKRA	42,351.27	62,649.94	1,05,001.21	41,239.23	57,846.59	99,085.82	47,491.57	55,702.70	1,03,194.27
	4	JANGED	65,862.85	94,448.71	1,60,311.56	60,116.59	89,914.49	1,50,031.08	63,965.12	82,963.12	1,46,928.24
	5	JANHAPARA	23,297.50	31,122.86	54,420.36	23,875.43	37,289.27	61,164.70	26,813.21	36,926.45	63,739.66
	6	JHILIMINDA	37,775.22	58,634.04	96,409.26	_	_	_	_	_	_
	7	KADOBAHAL	77,308.38	1,05,995.40	1,83,303.78	71,881.86	1,03,187.54	1,75,069.40	72,547.97	1,01,561.08	1,74,109.05
	8	KATHDERA	95,200.95	1,36,613.79	2,31,814.74	87,589.44	1,30,272.90	2,17,862.34	87,714.08	1,23,602.36	2,11,316.44
	9	KHARMUNDA	52,445.14	60,195.72	1,12,640.86	52,413.75	53,943.18	1,06,356.93	45,743.58	50,326.24	96,069.82
	10	KULUNDA	21,358.68	26,393.84	47,752.52	21,935.28	29,569.47	51,504.75	26,860.86	37,947.46	64,808.32
	11	LAHANDA	38,348.06	48,698.71	87,046.77	35,051.17	44,629.12	79,680.29	37,807.32	43,133.96	80,941.28
	12	LARAMBHA	89,354.36	1,24,352.02	2,13,706.38	84,906.24	1,23,590.20	2,08,496.44	83,297.81	1,23,088.97	2,06,386.78
	13	LASTALA	19,931.62	27,862.56	47,794.18	18,224.36	27,161.19	45,385.55	20,693.17	29,189.01	49,882.18
	14	MANAPADA	23,346.43	32,077.83	55,424.26	20,486.73	32,899.48	53,386.21	21,777.75	33,350.13	55,127.88
	15	PAHARSRIGIDA	74,773.57	1,10,804.87	1,85,578.44	64,319.71	1,02,643.30	1,66,963.01	71,961.56	99,853.06	1,71,814.62
	16	PATRAPALI	74,145.34	1,02,955.00	1,77,100.34	97,141.53	1,49,152.81	2,46,294.34	1,00,116.84	1,41,236.27	2,41,353.11
	17	SINGHPALI	21,299.15	33,186.26	54,485.41	19,034.01	31,917.30	50,951.31	20,202.64	30,211.95	50,414.59
	18	TALAPADARTIKRA	18,398.77	28,449.77	46,848.54	16,904.67	26,090.56	42,995.23	19,309.62	27,569.60	46,879.22
	19	TANGARPALI	30,546.75	30,643.93	61,190.68	31,789.26	27,933.58	59,722.84	31,936.27	36,031.60	67,967.87
	20	TOPE	16,144.28	21,186.21	37,330.49	15,990.86	22,131.24	38,122.10	16,149.87	20,453.82	36,603.69
Sub Total			**10,87,556.21**	**15,19,202.63**	**26,06,758.84**	**10,05,500.50**	**14,64,390.37**	**24,69,890.87**	**10,30,418.88**	**14,34,048.67**	**24,64,467.55**

			PADDY PROCUREMENT UNDER RMC ATTABIRABLOCK								
		PACS (M/Y & PPC)	**ALL FIGURES IN QUINTALS**								
			2016-17			2017-18			2018-19		
			KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL
BHEDEN	1	AREIGUDI	22,954.59	30,620.34	53,574.93	20,091.55	26,091.51	46,183.06	22,105.48	30,773	52,878.48
	2	ARJUNDA	45,983.50	62,247.44	108,230.94	44,275.00	60,403.78	104,678.78	38,297.94	59,723.80	98,021.74
	3	BARPADAR	35,267.83	47,870.62	83,138.45	34,466.86	45,465.65	79,932.51	_	_	3,24,970.89
	4	BHEDEN	56,734.20	72,490.40	129,224.60	60,145.70	67,977.20	128,122.90	1,40,442.94	1,84,527.95	54,476.98
	5	CHICHINDA	22,276.17	28,553.25	50,829.42	20,554.90	21,390.61	41,945.51	23,341.50	31,135.48	4,32,736.14
	6	JHARAPALI	1,81,503.32	2,51,179.42	4,32,682.74	1,68,243.43	2,40,306.25	4,08,549.68	1,85,969.34	2,46,766.80	2,19,266.20
	7	KHUNTLIPALI	1,04,095.53	1,34,364.38	2,38,459.91	90,291.15	1,20,383.55	2,10,674.70	96,185.46	1,23,080.74	1,73,513.14
	8	MAHULPALI	82,573.10	99,810.02	182,383.12	74,535.96	91,855.95	1,66,391.91	77,159.78	96,353.36	173,513.14
	9	PADHANPALI	9,420.64	15,239.96	24,660.60	9,056.52	13,511.90	22,568.42	10,158.93	14,311.61	24,470.54
	10	PAPANGA	70,442.00	91,423.89	161,865.89	60,736.66	82,595.15	143,331.81	63,801.45	84,528.93	148,330.38
	11	REMUNDA	32,480.47	46,025.60	78,506.07	30,241.46	45,760.56	76,002.02	29,375.39	44,880.23	74,255.62
	12	RESHAM	32,539.81	51,587.38	84,127.19	30,026.68	47,353.88	77,380.56	34,096.33	47,499.93	81,596.26
	13	RUSUDA	98,456.30	1,14,992.07	2,13,448.37	90,894.01	1,05,769.14	1,96,663.15	94,035.41	1,07,630.06	2,01,665.47
	14	SAHARATIKRA	86,227.40	1,28,843.90	2,15,071.30	85,284.00	1,23,07.60	2,08,356.60	87,327.15	1,02,522.90	2,07,850.05
	15	SALEPALI	15,793.11	25,697.51	41,490.62	14,236.67	22,192.98	36,429.65	7,799.75	8,199.30	15,999.05
	16	SAMBAL JFCS	7,383.79	10,514.80	17,898.59	5,314.95	10,075.52	15,390.47	16,938.51	22,864.14	39,802.65
	17	SIALKHANDAHATA	26,298.50	35,454.33	61,752.83	29,171.29	33,232.60	62,403.89	24,520.76	29,840.42	54,361.18
	18	SUNALARAMBHA	52,738.07	62,334.32	115,072.39	48,549.00	65,316.97	113,865.97	_	_	_
	19	TATELTIKRA	63,445.78	87,378.13	150,823.91	61,564.02	80,481.10	142,045.12	60,738.32	86,205.84	1,46,944.16
Sub Total			**10,46,614.11**	**13,96,627.76**	**24,43,241.87**	**977,679.81**	**13,03,236.90**	**22,80,916.71**	**10,12,296.44**	**13,38,844.51**	**23,51,140.95**
Grand Total			**21,34,170.32**	**29,15,830.39**	**50,50,000.71**	**19,83,180.31**	**27,67,627.27**	**47,50,807.58**	**20,42,715.32**	**27,72,893.18**	**48,15,608.50**
ABSTRACT		AGENCIES	KMS-2018-19		MSP-1750	KMS-2017-18		MSP-1750	KMS-2016-17		MSP-1470
			KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL	KHARIF	RABI	TOTAL
		PACS	21,34,170.32	29,15,830.39	50,50,000.71	19,83,180.31	27,67,627.27	47,50,807.58	20,42,715.32	27,72,893.18	48,15,608.50
		LEVY	_	_	_	_	_	_	_	587.12	587.12
		TOTAL	21,34,170.32	29,15,830.39	50,50,000.71	19,83,180.31	27,67,627.27	47,50,807.58	20,42,715.32	27,73,480.30	48,16,195.62
		Farmers	28169	28341	56510	28249	27871	56120	27647	27172	54819
Approximate		SURPLUS PADDY	22,43,691.00	30,66,211.00	53,09,902.00	21,58,522.00	30,76,276.00	52,34,798.00	21,57,242.00	28,72,983.00	50,30,225.00

Source:RMCAttabira

(II) Bargarh RMC

Bargarh RMC was established in the year 1958 and started functioning in the same year. The area of operation of the RMC covers whole of Bargarh Sub-Division. The market area of the committee is confirmed to four police stations namely: - Bargarh, Barpali, Bhatli and Ambabhona. The aim and objectives of the RMC are:

- To open as many Market Yards as possible in order to extend market regulation facilities to maximum number of farmers in the market area.
- To provide infrastructure facilities in those markets necessary for effective sale and purchase of agricultural products in accordance with the provision of OAPM Act & Rules framed there under.
- To enable farmers to realize remunerative price commensurate with quality for their produce.

Constitution of Market Committee:

The present Board of Directors-Members of Market Committee to the Regulated Market Committee, Bargarh has been constituted vide Govt. Notification No. 4142 dated. 12.05.2017 of Co-operation department.

Market Yard:

At present RMC has 18 nos. of permanent market yards including the principal market yard at Bargarh. The committee has also opened 37 nos. of Paddy Purchase Centers under the jurisdiction of RMC and approval of the collector and District Magistrate, Bargarh during the Paddy Procurement Operation

Table 4.6.Permanent Market yards under Bargarh RMC

.SI.No	Name of the Market Yard	Area in Acre
1	Bargarh	14.13
2	Barpali	13.46
3	Bhukta	8.50
4	Bhatli	8.04
5	Agalpur	1.14
6	Gudesira	5.00
7	Kelendapali	2.75
8	Urduna	1.29
9	Kalapani	3.00
10	Adgaon	3.50
11	Tora	6.45
12	Behera	5.50
13	Sarandapali	2.50
14	Satalma	2.68
15	Patkulunda	5.50
16	Baramkela	2.00
17	Katapali	4.00
18	Kuruan	1.88

Source: RMC, Bargarh

Table 4.7. Paddy Purchase centres:

1	Remta	11	Mahulpali	21	Gaisima	31	Sikirdi
2	Jada	12	Kumbhari	22	Mahada	32	Bonda
3	Khandahatha	13	Kamgaon	23	Jamurda	33	Sulsulia
4	Khemesara	14	Kanbar	24	Govindpur	34	Kapasira
5	Talsrigida	15	Kandpala	25	Chakarkend	35	Degaon
6	Launsara	16	Sansaraipali	26	S. Dumberpali	36	Podhpali
7	N. jamapali	17	Lakhanpur	27	Narangpur	37	Bagabadi
8	Bargaon	18	Tulandi	28	Ambabhona		
9	Bhatigaon	19	Chadeigaon	29	Bisalpali		
10	Katapali(Bpl)	20	Khuntapali	30	Hatishar		

Source: RMC, Bargarh

Table 4.8 Notified Commodities of Bargarh RMC:

The following commodities have been declared as Notified Commodities:

1	Paddy	6	Mung	11	Groundnut	16	Kulthi
2	Rice	7	Buta	12	Sheep	17	Cattle
3	Wheat	8	Chana	13	Goat	18	Egg
4	Sun Hemp	9	Sesamum	14	Pig		
5	Biri	10	Mustard	15	Poultry		

Source: RMC, Bargarh

Rural Markets:

The Committee is managing 15 Rural Markets in the area. Besides the Committee is also managing two nos. of Cattle Markets.

Table.4.9 Cattle markets under Bargarh RMC

1	Bhukta (Wednesday)	9	Kelendapali (Thursday)
2	Bhati (Monday)	10	Urduna (Sunday)
3	Bagbadi (Saturday)	11	Sarandapali (Thursday)
4	Bhatigaon(Wednesday)	12	Tora(Bi-Weekly-Thursday & Sunday)
5	Barapali (Monday)	13	Adgaon (Tuesday)
6	Agalpur (Saturday)	14	Behera (Bi-Weekly-Friday & Sunday)
7	Chadeigaon(Saturday)	15	Kalapani (Wednesday)
8	Gudesira (Sunday)		

Source: RMC, Bargarh

Income Source of Market Committee Bargarh:

The major source of Revenue of the market Committee is:

1. Market Fee
2. License Fee
3. Rent etc.

Table 4.10 Present Staff Position of Bargarh RMC:

SI. No.	Category	No. of Staff
1	Secretary (On deputation from co-operation department)	1
2	Sr. Accountant	1
3	Senior Clerk	1
4	Jr. Clerk-Store Keeper	1
5	Work-cum-Market Supervisor	1
6	Work Sircar	1
7	Market Sircar	6
8	Yardman	23
9	Peon	1
10	Watchman	1
11	Choukidar	1
	Grand Total	38
Contractual and N.M.R. Employees		
1	Junior Clerk	1
2	Odia Typist	1
3	Computer Operator	1
4	Weighbridge Operator	2
5	Paddy Cleaner Operator	1
6	Electrician-cum-Pump Driver	1
7	Yardman	9
8	Watchman	20
9	Sweeper	3
10	Labourer	1
	Grand Total	40

Source: RMC, Bargarh

Table 4.11-Paddy Procurement of Bargarh RMC:

2016-17			
		Kharif	**Rabi**
SI. No.	Agency	Quintals	Quintals
1	PACS	18,51,418.33	17,61,340.06
2	TDCC	82,274.65	90,366.84
	TOTAL:	19,33,692.98	18,51,706.90
2017-18			
		Kharif	**Rabi**
SI. No.	Agency	Quintals	Quintals
1	PACS	16,09,965.30	17,81,132.84
2	TDCC	95,286.07	_
	TOTAL:	17,05,251.37	17,81,132.84
2018-19			
		Kharif	**Rabi**
SI. No.	Agency	Quintals	Quintals
1	PACS	22,75,459.00	22,72,787.82
2	TDCC	_	_
	TOTAL:	22,75,459.00	22,72,787.82

Source: RMC, Bargarh

(III) Padampur RMC

Padampur RMC was established in the year 1965 and started functioning in the same year. The area of operation of the RMC covers whole of Padampur Sub-Division. The market committee consists of 4 Traders, 8 Agriculturist, 2 Local Authorities and 3 Govt. Nominee. The RMC was established with the aim and objectives like:

- To regulate the markets activity in its area of operation in accordance with the market act.
- To eradicate unfair practice adopted by the traders and others.

Paddy Procurement:

As per decision of the DLPC total 61 nos. of PPC are under operation of Paddy Procurement for KMS-2018-19 the list of which is given below. The Arrival/Disposal of Paddy in different market yards, purchase centers and ppc under RMC, Padampur are also given below.

Market Yards:

There are 12 nos. of permanent Market Yards namely Padampur, Paikamal, Amthi, Jharbandh, Gaisilet, Melchhamunda, Ghess, Sohela, Jaring, Keuntipali, Arda and 26 Nos. of Purchase Centers namely Mandosil, Bartunda, Dava, Dahita, Lakhmara, Badikata, Buden, Guderpali, Badbharamahni, Garvana, M. Sirgida, Bukramunda, Chantipali, Jagdalpur, Talpali, Pandkipali, Jagalpath, Budapali, Chhindeikela, Bhengrajpur, Jhitki, Kandadngar, Kurlupali, Budamala, Bilaspur and Chhuriapali are functioning under the jurisdiction of R.M.C, Padampur. The details are given below.

Table 4.12 -Market Yards under Padampur RMC

Sl. No	Name of the Market Yard	Name of the Block	Remarks
1	Main Market Yard, Padampur	Padampur	Own Land
2	Paikmal Market Yard	Paikmal	G.P Land
3	Amthi Market Yard	Jharbandh	Own Land
4	Jharbandh Market Yard	Jharbandh	Own Land
5	Gaisilat Market Yard	Gaisilat	Own Land
6	Melchhamunda Market Yard	Padampur	G.P Land
7	Ghess Market Yard	Sohela	Own Land
8	Sohela Market Yard	Sohela	Own Land
9	Jaring Market Yard	Bijepur	Own Land
10	Keutipali Market Yard	Bijepur	G.P Land
11	Arda Market Yard	Bijepur	Own Land
12	Dharol Market Yard	Paikmal	Own Land

Source: RMC, Padampur

Table 4.13 - Paddy Purchase Centres under Padampur RMC

Sl. No	Name of the Purchase Centre	Name of the Block	Sl. No	Name of the Purchase Centre	Name of the Block
1	Mondosil Purchase Centre	Paikamal	14	Garvana Purchase Centre	Sohela
2	Bartunda Purchase Centre	Paikamal	15	Pundkipali Purchase Centre	Sohela
3	Lakhmara Purchase Centre	Paikamal	16	Jagalpath Purchase Centre	Gaisilet
4	Badikata Purchase Centre	Paikamal	17	Talpali Purchase Centre	Gaisilet
5	Bukramunda Purchase Centre	Paikamal	18	Chantipali Purchase Centre	Gaisilet
6	Chhindeikela Purchase Centre	Paikamal	19	Guderpali Purchase Centre	Gaisilet
7	Bhengrajpur Purchase Centre	Paikamal	20	Jagdalpur Purchase Centre	Jharbandh
8	Dahita Purchase Centre	Padampur	21	Jhitiki Purchase Centre	Paikamal
9	Buden Purchase Centre	Padampur	22	Kurlupali Purchase Centre	Jharbandh
10	Badbrahamani Purchase Centre	Bijepur	23	Kandadangar Purchase Centre	Jharbandh
11	M. Sirgida Purchase Centre	Bijepur	24	Budamal Purchase Centre	Padampur
12	Bhatigaon Purchase Centre	Bijepur	25	Bilaspur Purchase Centre	Jharbandh
13	Budapali Purchase Centre	Bijepur	26	Chhuriapali Purchase Centre	Sohela

Source: RMC, Padampur

Table 4.14 - Present Staff Position of PADAMPUR RMC

SI No.	Category	Sanction	Existing	Vacancy
1	Secretary	1	0	1
2	Asst. Secretary	1	0	1
3	Accountant	1	1	
4	Senior Clerk	1	1	
5	Market Supervisor	2	0	2
6	Jr. Clerk	1	0	1
7	Market Sircar	9	8	1
8	Yardman	22	15	7
9	Other IV Grade	9	6	3
10	Contractual Employees	5	4	1
11	Daily Wages Worker	0	7	0
	Grand Total	52	42	17

Source: RMC, Padampur

Table 4.15 -Storage space Godown available in Market Yard

SL.NO	Name of Market Yard	Storage Space With Capacity (In M.T)
1	Jharbandh	200 MT Godown
		1000 MT Godown
2	Gaisilet	200 MT Godown
3	Melchhamunda	400 MT Godown
4	Paikmal	400 MT Godown
5	Sohela	500 MT Godown
6	Keuntipali	200 MT Godown
7	Padampur	3000 MT Godown
8	Arda	500 MT Godown
	Total	6400 MT Godown

Source: RMC, Padampur

Table 4.16 -Infrastructure facility provided with Land (Yard Wise)

<table>
<tr><th>Sl. No.</th><th>Name of the Market Yard</th><th>Land (In Acre)</th><th>Infrastructure Provided</th><th>Grading Equipment Provided</th></tr>
<tr><td rowspan="12">1</td><td rowspan="12">Padampur</td><td rowspan="12">15.94 (Own)</td><td>Farmer Rest Shed</td><td>Paddy Cleaner</td></tr>
<tr><td>Auction Hall</td><td>Weight Scale</td></tr>
<tr><td>Cattle Shed</td><td>Moisture Meter</td></tr>
<tr><td>Goat Shed</td><td>Analysis Kit</td></tr>
<tr><td>Guest House</td><td>Tarpulin</td></tr>
<tr><td>Office Building</td><td>Rough Cleaner</td></tr>
<tr><td>Conference Hall</td><td>Axial Flow Thresher</td></tr>
<tr><td>40MT Weigh Bridge</td><td>Sample Divider</td></tr>
<tr><td>Water Supply</td><td>Micro Meter</td></tr>
<tr><td>Electrification</td><td>Set of Sleves</td></tr>
<tr><td>Compound wall</td><td>Mini Grader</td></tr>
<tr><td>Staff Quarter</td><td></td></tr>
<tr><td rowspan="8">2</td><td rowspan="8">Paikmal</td><td rowspan="8">2.25 G.P</td><td>Office cum godown</td><td>Weight Scale</td></tr>
<tr><td>400MT godown</td><td>Moisture Meter</td></tr>
<tr><td>Auction hall</td><td>Analysis Kit</td></tr>
<tr><td>Tube well</td><td>Tarpulin</td></tr>
<tr><td>Covered shed</td><td>Sample Divider</td></tr>
<tr><td>Open Platform</td><td>Micro Meter</td></tr>
<tr><td>Internal Approach Road</td><td>Set of Sleves</td></tr>
<tr><td>Weigh Bridge</td><td></td></tr>
<tr><td rowspan="9">3</td><td rowspan="9">Amthi</td><td rowspan="9">4.79 own</td><td>Office cum godown</td><td>Weight Scale</td></tr>
<tr><td>Auction Hall</td><td>Moisture Meter</td></tr>
<tr><td>Tube well</td><td>Analysis Kit</td></tr>
<tr><td>Open Platform</td><td>Tarpulin</td></tr>
<tr><td>Cement concrete road</td><td></td></tr>
<tr><td>40MT Weigh Bridge</td><td></td></tr>
<tr><td>Chowkidar Wall</td><td></td></tr>
<tr><td>Compound wall</td><td></td></tr>
<tr><td>FIC cum FRS</td><td></td></tr>
<tr><td rowspan="10">4</td><td rowspan="10">Jharbandh</td><td rowspan="10">2.37</td><td>Office cum godown</td><td>Weight Scale</td></tr>
<tr><td>Auction Hall</td><td>Moisture Meter</td></tr>
<tr><td>Tube well</td><td>Analysis Kit</td></tr>
<tr><td>Covered shed</td><td>Tarpulin</td></tr>
<tr><td>Open Platform</td><td>Sample Divider</td></tr>
<tr><td>Cement concrete road</td><td>Micro Meter</td></tr>
<tr><td>200MT Godown</td><td>Set of Sleves</td></tr>
<tr><td>40MT Weigh Bridge</td><td></td></tr>
<tr><td>Compound wall</td><td></td></tr>
<tr><td>Approach Road</td><td></td></tr>
<tr><td rowspan="8">5</td><td rowspan="8">Melchhamunda</td><td rowspan="8">0.70 (own) 300 G.P</td><td>Office cum godown</td><td>Weight Scale</td></tr>
<tr><td>Auction Hall</td><td>Moisture Meter</td></tr>
<tr><td>Tube well</td><td>Analysis Kit</td></tr>
<tr><td>Covered shed</td><td>Tarpulin</td></tr>
<tr><td>Open Platform</td><td>Paddy Cleaner</td></tr>
<tr><td>Internal Approach Road</td><td>Mini Grader</td></tr>
<tr><td>400MT godown</td><td></td></tr>
<tr><td>Paved Yard</td><td></td></tr>
<tr><td rowspan="5">6</td><td rowspan="5">Gaisilat</td><td rowspan="5">1.26 200 G.P</td><td>Auction Hall</td><td>Weight Scale</td></tr>
<tr><td>Tube well</td><td>Moisture Meter</td></tr>
<tr><td>Covered shed</td><td>Analysis Kit</td></tr>
<tr><td>Open Platform</td><td>Tarpulin</td></tr>
<tr><td>Internal Approach Road</td><td></td></tr>
</table>

			200MT godown	
			Retaining Wall	
			Weigh Bridge	
7	Ghess	2.00 own	Farmers Information Center	Weight Scale
			Tube well	Moisture Meter
			Open Platform	Analysis Kit
			Internal Approach Road	Tarpulin
			Weigh Bridge	
			Toilet Block with water supply	
8	Sohela	3.85 own 3.00 G.P	Office cum godown	Weight Scale
			Auction Hall	Moisture Meter
			Tube well	Analysis Kit
			Covered shed	Tarpulin
			Open Platform	Paddy Cleaner
			Cement concrete road	Sample Divider
			Paved Yard	Micro Meter
			30 M.T. Weigh Bridge	Set of Sleves
			Internal Approach Road	Mini Grader
			Compound wall	
			Shadow Trees	
			500MT godown, Paveyard, R.R.S, Toilet block	
9	Jaring	5.56 own 1.25	Office cum godown	Weight Scale
			Auction Hall	Moisture Meter
			Tube well	Analysis Kit
			Covered shed	Tarpulin
			Open Platform	
			Cement concrete road	
			Cattle Shed	
			50MT weigh bridge	
			Electrification	
			Water Supply	
10	Keutipali	3.25 G.p	Office cum godown	Weight Scale
			Auction Hall	Moisture Meter
			Tube well	Analysis Kit
			Covered shed	Tarpulin
			Open Platform	Paddy Cleaner
			Internal Approach Road	
			Paved Yard	
			Weigh Bridge 50MT	
11	Arda	2.00 own	Farmer Information Center	Weight Scale
			Tube well	Moisture Meter
			Open Platform	Analysis Kit
			Cement concrete road	Tarpulin
			Weigh Bridge 50MT	
			Covered shed	
			Electrification	
			500 MT Godown	
			Open Platform	
12	Dharol	3.50 own	Farmer Information Center	Weight Scale
			Tube well	Moisture Meter
			Cement concrete road	Analysis Kit
			Covered shed	Tarpulin

Source: RMC, Padampur

Notified Commodities of Padampur RMC:

The following agricultural commodities have been declared as notified commodities in Govt. notification no. 8360/15.04.1965 and 3946 dt 13.3.1995 the respective RMCs.

Table 4.17 - Notified Commodities of Padampur RMC

Sl. No.	Name of Notified Commodities of RMC Attabira
1	Paddy/Rice
2	Green gram
3	Black gram
4	Arhar
5	Bengal gram
6	Chana
7	Horse gram
8	Sesamum
9	Mustard
10	Ground nut

Source: RMC, Padampur

Table 4.18- Paddy Procurement of Padampur RMC

Annual Report of Paddy Procured (In quintals.) for KMS. 2018-19 of RMC, Padampur						
Year	**2016-17**		**2017-18**		**2018-19**	
Season	**Kharif**	**Rabi**	**Kharif**	**Rabi**	**Kharif**	**Rabi**
Procurement	1546838	224193.9	1203544	259927.9	2373169	464903.3
Total	**1771031.8**		**1463471.78**		**2838072.15**	

Source: RMC, Padampur

Notified Commodities of RMCs

The following agricultural commodities have been declared as notified commodities in Govt. notification no. 8360/15.04.1965 and 3946 dt. 13.3.1995 the respective RMCs.

Table 4.19 - **Notified Commodities of different RMCs**

Sl. No.	Name of Notified Commodities of RMC **Bargarh**	Sl. No.	Name of Notified Commodities of RMC **Attabira**	Sl. No.	Name of Notified Commodities of RMC **Padampur**
1	Paddy/Rice	1	Paddy/Rice	1	Paddy/Rice
2	Wheat	2	Green gram	2	Green gram
3	Sun Hemp	3	Black gram	3	Black gram
4	Green gram	4	Arhar	4	Horse gram
5	Black gram	5	Bengal gram	5	Bengal gram
6	Bengal gram	6	Chana	6	Sesamum
7	Chana	7	Horse gram	7	Kendu Leaf
8	Sesamum	8	Sesamum	8	Mahua Flower
9	Mustard	9	Mustard	9	Mahua Seed
10	Ground nut	10	Ground nut	10	Cattle
11	Horse gram			11	Sheep
12	Sheep			12	Goat
13	Goat				
14	Pig				
15	Poultry				
16	Cattle				
17	Egg				

Source: RMC, Attabira, Bargarh & Padampur

SELECTED VISUALS

1.RMC ATTABIRA

RIs with Secretary & Officials of RMC

RIs Interacting with Officials

Interview with the Farmers

Inauguration of Paddy Procurement System by local MLA

Lifting of Paddy in the Market yard

Interaction meeting of RIs with Officials, Traders & Farmers

SELECTED VISUALS

2-RMC BARGARH

RMC Market yard, Bargarh

Canvassing Questionnaire to Farmers

Interview to Traders

FIs interacting with Vegetable Farmers

Farmer receiving token for Paddy Procurement (PPAS)

Interaction meeting of RIs with Officials, Traders & Farmers

SELECTED VISUALS

3-RMC PADMAPUR

RIs Interacting with Officials of RMC

Interview with Farmer

Testing the moisture content in Paddy

Interview with Officials of RMC

Interaction of RIs with Traders & Farmers

Storage & disbursement of Paddy from RMC Market yard

CHAPTER V

TABLE 5.1: Characteristics of Sample Blocks and District

S. No.	Components	Bargarh	Attabira	Padampur	District
1	Area of Blocks/District (Sq. km)	369.37	4 04.87	487.32	5837
2	Total Population (In Lakhs)	164131	157296	116988	14.81Lakh
3	Urban Population (%)	56.6	0	21.7	10.1
4	Rural Population (%)	43.44	100	78.3	89.9
5	Literacy rate of district (%)	66.38	66.69	59.22	74.62
6	Sex ratio (per 1000 male)	943	968	989	977
7	Gross irrigated area (hectare)	27633	29289	11256	247000ha
8	Net irrigated area (hectare)	19669	28167	8771	94000ha
9	Gross cropped area	33834	31288	40850	411204
10	Net sown area(hectare)	31643	28776	34479	354051
11	Cropping intensity (%)	142	142	141	142

Source: Economic Survey-2018-19, Govt. of Odisha

Characteristics of sample Blocks and Districts:

Literacy is critical to economic development as well as individual and community wellbeing. Economy is enhanced when people have higher literacy levels. The literacy rate of the district is 74.62 with sex ratio 979. The corresponding magnitudes at state level are 72.87 per cent and 979. The literacy rate and sex ratio indicate a comfortable position of the district in the state.

The rural population which indicates the availability of rural work force in work participation constitutes 89.9 per cent as against 10.1 per cent urban population. The percentage of cultivated area covered under irrigation to total cultivable area is near 60.0 per cent. As a matter of fact, Bargarh district is covered under Hirakud Dam Command area and more than 60 per cent of the cultivable area in the district is irrigated. The cropping intensity indicates the number of crops grown by the farmers from the net area sown in a particular agricultural year Higher cropping intensity of the district (142) indicates that larger part of net sown areas is cropped more than once.

Table 5.2: Classification of Farmers of Bargarh District

Sl. No.	Particulars	Bargarh			
		No.	Percentage	Area.(ha)	Percentage
1	Marginal farmers (below 1 ha)	123898	64.08	76289	29.40
2	Small farmers (1 to 2 ha)	42369	21.91	72190	27.82
3	Semi medium farmers (2 to 4 ha)	20493	10.60	62898	24.24
4	Medium farmers (4 to 10 ha)	6075	3.14	38686	14.91
5	Large Farmers (More than 10 ha)	501	0.26	9492	0.13
6	All sizes	193336	100.0	259515	100.0

Source: District Statistical Handbook, Govt. of Odisha

Classifications of farmers in Bargarh District

The marginal and small farmers constitute 86.80 per cent as against 10.22 per cent medium farmers and 0.07 per cent large farmers. However marginal and small farmers own 20 per cent of the total cultivable land as against 80 per cent medium and large farmers. Thus, the agricultural operations in the districts are mostly undertaken by marginal and small farmers who equally work with medium and large farmers in raising their crops.

Table 5.3: General Characteristics of the Respondents

Sl. No	Particulars	Farmers	Traders	Officials
1	Age	26-65 yrs	34-62 yrs	26-60 yrs
2	**Education**			
	Illiterate	3.33% (5)		
	Primary	24.67% (38)	6.67% (01)	
	Secondary	24.67% (38)	53.33% (08)	
	Higher secondary	31.33% (47)	6.67% (01)	
	Degree and above	14.67% (22)	33.33% (05)	
	Total	**150**	**15**	**45**
3	**Average Land holding size(ha)**			
	Total	6.86(100.00)		
	Irrigated	4.25(61.95)		
	Rainfed	2.61 (38.05)		
4	Soil (Type)	Sandy Loam to loam		
5	Farming experience	10-30 yrs	18Yrs	24 Yrs (Work experience)
6	**Average Family size (No)**			
	Total no. of members	7	5	4
	Men	2	2	1
	Women	2	1	1
	Children	3	2	2
7	Family income (Annual)	Rs. 5,50,074	Rs. 11,20,000	Rs. 6,60,680

General characteristics of the respondents

The socioeconomic profile of the respondents indicates their capability to undertake economic pursuits across age, sex, marital status etc. It is observed that (Table 5.3) the age of farmer respondents are in the range of 26-65 years as compared to 34-62 years for traders and 26-60 years for officials. Among the farmers to the extent of 31.33 per cent of them have educational level higher secondary as against 24.67 per cent each have primary and secondary education. A substantially lower percentage (3.3 per cent) of respondents is illiterate. The higher educational level of respondents in the district has a positive relationship with technology adoption to maximize their income. The literacy level of traders is also considerably higher which enables them to understand sound trade practices, rules and regulations.

The average land holding size of farmer respondents is 6.86 ha out of which 4.25 ha (61.95 per cent) irrigated and 2.61 ha (38.05 per cent) un-irrigated. The sandy loam to loam soil in the sample district encourages the farmers to cultivate variety of crops as the soil has varying amount of silt and clay suitable for cultivation.

The family size indicates the quantum of family labour available to undertake farm operations. It is an important element of quality of life. It is also an indicator of social structure that may vary over time with concomitant implications for individual development and social relations. The average faming size of farmers is 7 as against 5 for traders and 4 for officials. Each household has woman and children as family members.

The family income of the households is an indicator of the socio-economic status of the family. Family income influences household welfare and livelihood diversity. The average annual family income of the farming household is Rs.5,50,079 as against Rs.11,20,000 for traders and Rs.6,60,680 for officials. Agriculture has been the main source of livelihood for majority people in the sample district.

Table 5.4: Agricultural Profile of Average Farmers

(A) Cropping Pattern

Particulars	Before AGMARKNET			After AGMARKNET		
	Area (ha)	Yield (Qls/ha)	Price (Rs./Q)	Area	Yield	Price (Rs./Q)
Season- Kharif						
Paddy	6.90	66.78	1500-1550	7.10	68.36	1750-1815
Arhar	0.60	08.00	5500-5600	0.52	07.65	--
Gr.gram	0.30	06.10	4500-4600	0.31	06.25	
Bl.gram	0.10	07.00	5100-5200	0.13	07.15	--
Brinjal	0.40	75.00	2000-2100	0.48	80.00	2400-2600
Season-Rabi						
Paddy	5.20	71.00	1500-1550	5.60	71.00	1750-1815
Tomato	0.60	65.00	3600-3800	0.80	64.30	4000-4200
Cauliflower	0.50	130.00	4500-4600	0.50	133.00	5100-5200
Cabbage	0.30	140.00	4300-4400	0.20	142.00	--
Chili	0.20	7.50	2000-2500	0.15	7.40	--

The agricultural characteristics of sample farmers

The agricultural characteristics of sample farmers (Table 5.4) explains that paddy, arhar, greengram and brinjal are important crops grown in kharif season as against paddy, tomato, cauliflower, cabbage and chili grown on rabi season. The productivity of paddy in the district is highest in this state. The comparison of cropping pattern of sample farmers in the district between pre and post period indicates that the area and productivity of the crops like paddy, greengram, blackgram have marginally increased in the post AGMARKNET period while it has declined in respect of arhar crop due to instability in prices.

The area and productivity of paddy, tomato etc grown in rabi season have also marginally increased. The cauliflower area remaining stagnant while the area under cabbage and chili have declined .While the yield of paddy has been stagnant, the major vegetables showed a marginal increase in yield during post AGMARKNET period.

Agricultural price plays a pioneer role in the economic development of a country. It is an important instrument for providing incentives to farmers for motivating them to go for production oriented investment and technology. As majority of the population is engaged in agricultural sector, prices affect both income and consumption of the cultivators. Govt. of India announces Minimum Support Price (MSP) for major agricultural commodities and organizes purchase operations through public agencies. In the sample district, the MSP of kharif paddy was Rs.1500-1550/Q which increased to Rs1750-1815/Q during post AGMARKNET period. The price of brinjal during pre AGMARKNET period was Rs2000-2100 which increased to Rs2400-2600 during post AGMARKNET period.

In Rabi season, the MSP of paddy remains same as per kharif season in both pre and post AGMARKNET period. In respect of tomato, the price has increased from Rs.3600-3800/Q to Rs.4000-42000/Q as compared to cauliflower which increased from Rs.4500-4600/Q to Rs5100-5200/Q in the corresponding period. The AGMARKNET price and arrival data are available for the crops like paddy, brinjal, tomato and cauliflower even though vegetables are excluded from the APMC amended Act.

Table 5.5: Agricultural Profile Of Average Farmers
(B) Livestock Component

Particulars	Before AGMARKNET			After AGMARKNET		
	No	Yield	Price (Rs.)	No	Yield	Price (Rs.)
Dairy	03	5-6 ltrs. per animal per day	30/ltr	03	5-6 ltrs. per animal per day	35/ltr.
Poultry	05	--	140/kg	05	--	145/kg
Goat	04	--	550/kg	04	--	580/kg

Livestock resources of farmers

Livestock is a source of energy providing draught animal power while manure improves soil structure and fertility as well as water retention. Livestock is also used to transport agricultural inputs and outputs. The livestock maintained by the sample farmers before and after the AGMARKNET programme is presented in Table 5.5.It reveals that dairy, poultry and goat are important livestock of the sample farmers. The average number of dairy animals, poultry and small ruminant (goat) did not change during pre and post AGMARKNET period. The respondents reveal that yield of milk per dairy animal was 5-6 ltrs/day with price of Rs.30/Litre sold to Odisha Milk Co-operative Market Federation (OMFED). The poultry meat is sold in the OPELFED at Rs.140/kg while the goat meat is sold at Rs.550/kg. The farmers expressed that there is marginal increase in the price of milk, poultry meat and meat during post AGMARKNET period. However, the change may be due to demand and supply factors than the AGMARKNET prices. The prices of livestock components are not recorded in AGMARKNET portal as expressed by the sample farmers.

Table 5.6: Organizational Participation of the Farmers and Traders

Sl. No	Name of the organization	Farmer		Traders	
		Members (%)	Office bearers (%)	Members (%)	Office bearers (%)
1	Village Panchayat	100	--	--	President
2	Producers' Cooperative	100	--	--	Secretary
3	Co-operative societies	100	--	--	Cashier
4	Growers' association	98	--	--	
5	SHGs	53	--	--	

Organizational participation of farmers and traders

The greatest and widely accepted benefit of participation of farmers and traders in the organization is the increase in business skill and efficiency. This also leads to leadership development on being connected with the follow members in the organization. It is observed that all the sample farmers are members of village panchayat, producers' co-operatives and co-operative societies as compared to 98.0 per cent of them members of growers' association and 53.0 per cent as members of Self Help Groups (SHGs).

The traders become members of various organizations to expand their trade for maximization of benefits. It provides them the opportunity to adopt modern and scientific methods to facilitate trade practices. Traders are also members of different associations and some of them have been elected as president, secretary and cashier.

Table 5.7: Extent of Organizational Participation of the Farmers and Traders (%)

Sl. No	Name of the organization	Farmers			Traders		
		Regular	Occasionally	Never	Regular	Occasionally	Never
1	Village panchayat	100	--	--	100	--	--
2	Producers' Cooperative	100	--	--	100	--	--
3	Co-operative societies	100	--	--	100	--	--
4	Growers' association	--	70	30	100	--	--
5	SHGs	100	--	--	100	--	--

Extent of Organizational Participation of Farmers and Traders

The participation of farmers and traders in different organization is crucial and important to enable them to be conversant with perceived changes in procedure and favorable outcome. Participation in the organization is generally encouraged to increase the business outlook, technology adoption, capacity building and problem solving capacity of farmers and traders. The analysis on extent of participation of farmers and traders in different organizations reveals that all the sample farmers participate regularly in village panchayat activities, producers' co-operative, co-operative societies and SHGs (Table 5.7).

The participation of farmers in growers' association is to the extent on 70.0 per cent occasionally. All the traders regularly participate in the village, panchayat, producer's co-operatives, co-operative societies, growers' association and SHGs activities. This indicates the evinced interest of the traders to identify the need of the farmers commensurate with sound trading practices and to win the confidence of the farmers. This enables the traders to reach out all Farmer producer groups in purchasing their produce at doorstep.

Table 5.8: Farmers' Awareness on AGMARKNET

Sl. No.	Particulars/Research questions	Yes		No	
		Farmers	%	Farmers	%
1	Are you aware of the AGMARKNET	147	98.00	3	2.00
2	Are you aware of the kind of information provided by the AGMARKNET	137	91.33	13	8.67
3	Whether the price arrivals are informed through AGMARKNET	139	92.67	11	7.33
4	Does AGMARKNET cover the crops you grow?	148	98.67	2	1.33
5	Did you realize the price as informed by AGMARKNET	134	89.33	16	10.67
6	Does it provide the prices based on different grades	120	80.00	30	20.00
7	D you get the daily price arrivals	2	1.33	148	98.67
8	Do you get the Weekly price arrivals	148	98.67	2	1.33
9	Do you get the monthly price arrivals	2	1.33	148	98.67
10	Do you adequate information through AGMARKNET	127	84.67	23	15.33
	Total	**150**			

Farmers awareness on AGMARKNET

The AGMARKNET portal has been developed to increase the outreach of the farmers who do not have sufficient resources to get adequate market information. It facilitates web-based information flow on the daily arrival and price of commodities in agricultural produce markets spread across the country.

The awareness of respondent farmers has been examined and the results are presented in Table 5.8. The result reveals that 91.33-98.00 per cent of the sample farmers are aware of AGMARKNET and the kind of information provided in the portal particularly arrival and prices of different agricultural commodities.

The AGMARKNET programme covers most of the crops grown by them as expressed by 98.67 per cent of sample farmers while 89.33 per cent of farmers have realized the prices on selling their produce as per the information provided by AGMARKNET, 80.00 per cent of the farmers get price information on different grades of the produce.

A further examination revealed that 98.6 per cent of the sample farmers get information on weekly price and arrival from the AGMARKNET and 84.67 per cent of them are quite satisfied with getting adequate information through the portal. It is worthwhile to mention that Govt. of Odisha adopted P.PAS (Paddy Procurement Automation System), a digital platform for procurement of paddy from farmers through RMCs and paddy collection centres spread over the state. Nevertheless, implementation of National Agricultural Market (e-NAM), setting up mega food parks etc. will reap benefits to farmers in facilitating better price discovery, better marketing of agricultural produces, reducing wastages etc. and thereby reducing volatility in food prices.

Table 5.9: Traders' Awareness regarding AGMARKNET

Sl. No.	Particulars	Yes		No	
		Traders	%	Traders	%
1	Are you aware of the AGMARKNET	14	93.33	1	6.67
2	Are you aware of the kind of information provided by the AGMARKNET	10	66.67	5	33.33
3	Whether the price and arrivals are informed through AGMARKNET	8	53.34	7	46.66
4	Does AGMARKNET cover the crops you trade?	6	40.00	9	60.00
5	Did you realize the price as informed by AGMARKNET	10	66.67	5	33.33
6	Does it provide the prices based on different grades	4	26.67	11	73.33
7	Do you get the daily price arrivals	4	26.67	11	73.33
8	Do you get the Weekly price arrivals	9	60.00	6	40.00
9	Do you get the monthly price arrivals	10	66.67	5	33.33
10	Do you adequate information through AGMARKNET	7	46.67	8	53.33
	Total	**15**			

Traders awareness regarding AGMARKNET

The middlemen/traders exercise the essential entrepreneurial function of exploring and creating market exchange opportunities and bear the risk entailed in this task. The traders operate with their objectives viz. helping customers access and stocking the produce to reach the users. By providing different kinds of service to the customers, the traders take on the function to economize on costs of bridging the supplier-customer gap i.e. lowering transaction costs. He is an exporter, wholesaler, importer, retailer for different customers and producers. It is important that traders need to keep update information on arrival and prices to meet the demand for commodities by prospective buyers. The traders were asked to elicit their views on awareness of AGMARKNET (Table 5.9). The results indicate that 53.34 to 93.33 per cent of traders are aware of the AGMARKNET, the kind of information provided and arrival and prices of specified agricultural commodities. However, only 40.00 per cent are of the view that the portal covers the crop produce they sell and 66.67 per cent realized the prices through trading of commodities after getting information from the portal. The information on arrival and prices on weekly and monthly basis have been accessed by them as expressed by 60.00 to 66.67 per cent of traders while only 46.67 per cent traders only get adequate information through the portal and 53.33 per cent do not get any information.

To sum up, it is concluded that the traders' awareness to use the information from the AGMARKNET portal is extremely important for facilitating agricultural trade and to meet the demands from various stakeholders in the process. The transaction through e-auction under e-NAM enables the traders for price discovery of agricultural products. Even though the e-NAM transactions are presently performed within the state, it will be extended to national/international transactions in coming years for which role of traders is crucial. Thus, majority of the traders (53.34 to 93.33 per cent) get arrival and price information of agricultural commodities from the portal to improve their business skills.

Table 5.10: Farmers' access to markets based on AGMARKNET information

Sl. No	Particulars		Frequency	Percentage
1	Where do you sell the Output?	Local market		
		Traders	10	6.67
		RMCs	150	100
2	Where did you get the market information	Traders	11	7.33
		Other farmers	26	17.33
		RMC	150	100%
		Electronic media	140	93.33

Farmers access to markets based on AGMARKNET

Development of transport and communication help the farmers and traders to access different markets to sell and purchase agricultural commodities. Direct marketing and organized marketing provide relatively more benefits to small and marginal farmers and traders. The information from AGMARKNET is constantly guiding the farmers and traders in discovering prices at different markets (Table 5.10), it indicates that all the sample farmers(100.00 per cent) either sell their surplus produce in RMCs or in collection centres and designated market yards. Some of the farmers (6.67 per cent) also sell their surplus produce to traders at their farm gate because of small lots and to avoid the cost of storage and transportation. Similarly, all the sample farmers get market information through RMCs, either from their notice boards or through AGMARKNET portal. The electronic media plays an important role in disseminating market information to the farmers too. With regard to sources, 93.33 per cent of the sample farmers get market information through electronic media in addition to AGMARKNET, 17.33 per cent of them get information from other farmers and 7.33 per cent from traders to whom they have close contacts

Table 5.11: Farmers' Perception Regarding AGMARKNET

Sl. No	Statement	Agree		Disagree		Undecided	
		F	%	F	%	F	%
1	Gives the accurate prediction about the prices	150	100	0	0	0	0
2	Helps in providing market information	118	78.66	2	1.34	30	20.00
3	Helps in providing information related to grades & standards	135	90.00	8	5.33	7	4.67
4	Helps in providing commodity profile of major crops	0	0	48	32.00	102	68.00
5	Helps in providing the market profile of major crops	30	20.00	5	3.34	115	76.67
6	Helps in providing the storage and infrastructure related information	75	50.00	17	11.33	58	38.67
7	Helps in providing a better decision-making opportunity	93	62.00	12	8.00	45	30.00
8	Helps in understanding the demand signals	127	84.67	11	7.34	12	8.00
9	Helps in understanding the price signals	136	90.67	5	3.34	8	5.34
10	Helps in creation of an unified market virtually	36	24.00	59	39.34	55	36.67

Farmers perception on AGMARKNET

The storage function of the market system is to offer the farmers convenient outlets of the produce at remunerative price. The analysis on perception of farmers with respect to functional and physical performance of AGMARKNET system (Table 5.11) shows, all the sample farmers (100 per cent) agree to the fact that portal enables them for accurate prediction of price.

Standardization and grading are the first steps in the value chain of an agricultural produce as it travels in a marketing channel to the consumer. Price of produce has to be commensurate with quality, the assessment of which depends on a responsive system of grading and standardization. The analysis reveals that 90.00 per cent sample farmers are benefited from AGMARKNET for getting information on grade standards as against 90.67 per cent of them understanding the price signals. The portal gives demand signal of various agricultural commodities as expressed by 84.67 per cent of them, providing market information (78.66 per cent), helps in better decision making (62.00 per cent), information on storage and infrastructure (50.00 per cent) and market profile of major crops as expressed by 20.00 per cent of the sample farmers. Farmers (24.00 per cent) are of the view) that AGMARKNET helps in creation of unified market. The farmers disagree to the above benefits varying from 0-39.34 per cent while many of them are undecided on their opinion on several issues.

It is concluded that AGMARKNET portal helps a substantial portion of farmers providing market information and information on prices, grades, standards, profile of major crops, storage and infrastructure information, better decision making opportunity, demand signals, price signals and helps in creating an unified market.

Table 5.12: Farmers' opinion on role Of AGMARKNET in Farming

Sl. No	Statement	Yes		No	
		F	%	F	%
1	Provides timely market information	141	94.00	9	6.00
2	Helps in getting operational efficiency	109	72.67	41	27.33
3	Helps in getting pricing efficiency	139	92.67	11	7.33
4	Helps in linking agricultural produce markets/RMCs & field officers	100	66.67	50	33.33
5	Helps in strengthening the interface with producers, consumers, traders & policy makers	144	96.00	6	4.00

Role of AGMARKNET in farming

AGMARKNET has been an integral part of farming in recent years. Attempt has been made to elicit the views of the sample farmers on role of AGMARKNET in farming (Table 5.12). The results indicate that 94.00 per cent of the farmers expressed the portal providing timely market information, 72.67 per cent for getting operational efficiency, 92.67 per cent for pricing efficiency, 66.67 per cent for integrating RMCs and agricultural produce markets and 96.00 per cent for strengthening interface with producers, consumers and policy makers.

To sum up, AGMARKNET helps the farmers in providing timely market information, achieving operational and pricing efficiency, integrating RMCs and agricultural produce markets and strengthening the interface with producers, consumers, traders and policy makers.

Table 5.13: Ways and Means to meet the expectations of the farmers

Sl. No/ Agencies	Ways and Means	Regular		Occasionally		Never	
		F	%	F	%	F	%
I- Personnel	Extension personnel	3	2.00	114	76.00	33	22.00
	Marketing agents	3	2.00	112	74.67	35	23.33
	Traders	1	0.67	116	77.34	33	22.00
II- Media	TV	123	82.00	7	4.67	20	13.33
	Phone	14	9.34	101	67.34	35	23.33
	Radio	1	0.67	113	75.34	36	24.00
	Magazines	6	4.00	109	72.67	35	23.33
III- Agencies	RMC	150	100	0	0	0	0
	Dept. of Ag. Marketing	15	10.00	106	70.67	29	19.33
	State Agril. Marketing Board	12	8.00	107	71.34	31	20.66
	Cooperative society	150	100	0	0	0	0

Ways and means to meet the expectation of farmers

Mass media, agencies and personnel have a vital role to play in the communication of agricultural information among the farmers. Television has been acclaimed to the most effective media for diffusing the scientific knowledge to the masses.

Among several mass media, newspapers and farm magazines are commonly used to communicate farmers. The farmers have also easy access to get information from extension personnel, marketing agents, traders, RMCs, co-operative society and Govt. Officials. The extent of agricultural information reaching farmers through different sources (Table 5.13) explains that personal communication from extension personnel, agents and traders reach farmers most occasionally as expressed by 74.67 to 77.34 per cent of farmers. Similarly, the extent of media communication (radio and magazine) reaching farmers occasionally has been expressed by 67.34 to 75.34 per cent of the farmers. TV is used as a regular mode of reaching masses as expressed by 82.00 per cent of them. The agencies viz. Govt. Officials, State Marketing Board also communicate to the farmers occasionally as expressed by 70.67 to 71.34 per cent of them. However, all the farmer members regularly receive the information from the co-operative society relating to arrival, price, and storage of agricultural commodities in different markets. AGMARKNET has been the main source of agricultural information to co-operatives, agencies and mass media.

Table 5.14: Marketing of Paddy by Farmers in Different Places

Sl. No.		Qty. Sold (Qtls/Bags)	Price (Rs/Qtl)	Total amount (₹)	Any commission charges (₹)
1	Local market				
2	Traders	2138.35 (40.08)	1600	34,21,360	
3	RMCs	3197.52 (59.92)	1750	55,95,660	Nil
	Total	5335.87 (100.00)		90,17,020	

Marketing of paddy by the farmers to different agencies

Paddy has been the principal crop of the state vis-a vis sample districts. Most of the farmers produce paddy twice in a year both in kharif and rabi seasons. Govt. of Odisha procures the paddy from the farmers through RMCs and collection centres meant for the purpose. The target of procurement has been fixed keeping into account the requirement for various welfare programmes and safety nets and availability of storage capacity. The state Govt. agencies have fixed to procure paddy @ 19 q/acre in kharif season and 26 q/ acre in rabi season for which farmers have to make online registration. The details of the marketing of paddy undertaken by the farmers (Table 5.14) explains that 71.78 per cent of the produce is sold through RMCs as against 28.22 per cent paddy production sold to traders. The traders in many instances pay Rs.1600/q as against the MSP of Rs.1750/q fixed by the Govt.

As the collection centres are open for paddy procurement during a certain period, the farmers are forced to sell their surplus paddy to traders beyond that stipulated period. Another problem the farmers experience, if the productivity of paddy is beyond the rate (19q/ac, in kharif, 26q/ac in rabi), then the farmers have no option rather than selling the surplus paddy to traders at a lower price than MSP.

All the RMCs of the state update the AGMARKNET information on paddy arrival, procurement and price regularly in the portal. This helps most of the farmers to realize the MSP fixed by the Government.

Table 5.15: Cost of Marketing incurred by the Farmers in Paddy

Sl. No.	Items	Total Cost (Rs.)	Cost per Qtls. (Rs.)	% of Total Marketing Costs (Per Qtls.)
1	Packing materials	1,86,755.00	35.00	37.23
2	Packing charges	53,359.00	10.00	10.63
3	Transportation	74,702.00	14.00	14.89
4	Loading and Unloading charges	69,366.00	13.00	13.82
5	Weighment	10,672.00	2.00	2.13
6	Miscellaneous	1,06,717.00	20.00	21.28
	Total marketing cost	5,01,571.00	94.00	100.00

Cost of marketing incurred by the farmers

Production is planned with the objective of meeting the existing demand. Cost of marketing is a discretionary expenditure which can significantly affect the profit of the farmers. Marketing costs depend upon what action is taken with regard to prices, quality and selling effort.

An account of the cost of marketing incurred by the farmers (Table 5.15) explains that the packing material cost accounts for 37.23 per cent of the total marketing cost per quintal followed by miscellaneous (stitching gunny bags, transport to weighing machine etc.) loading unloading charges (21.28 per cent), transportation (14.89 per cent), packaging charges (10.64 per cent) and weighment charges (2.13 per cent).

Table-5.16: Impact of AGMARKNET Information on Time of Sowing

Sl. No	Items	Yes		No	
		F	%	F	%
1	Alteration in 2-5 days	63	42.00	87	58.00
2	Alteration in one week	22	14.67	128	85.33
3	No alteration	65	43.34	-	-
4	Change in production due to alteration	>5-10%			

Importance of AGMARKNET information on time of sowing

Efficient market information has positive benefits for the farmers. Historical market information enables the farmers to make planting decisions in line with market demand. AGMARKNET information which is historical in nature and its impact on time of sowing (Table 5.16) indicates that the sowing time is altered 2-5 days as expressed by 42.00 per cent of farmers followed by 14.67 per cent of farmers altering the time of sowing by one week. However, no alteration is done by 43.34 per cent of the farmers on the time of sowing of crops. This alteration in sowing time of crops is done by majority of the farmers (56.67 per cent) keeping in view the escape of the crop from major diseases and pests, good crop harvest and early selling of the produce. It is observed that due to alteration of sowing time, there has been 5-10 per cent increase in average yield of the crops grown by the farmers.

Table 5.17: Impact of AGMARKNET Information on Harvesting Schedule

Sl. No.	Items	Yes		No	
		F	%	F	%
1	**Alteration of harvesting time**				
	2-5 Days	52	34.67	98	65.33
	1 Week	30	20.00	120	80.00
	2 Weeks	3	2.00	147	98.00
2	**Extent of loss minimization due to alteration of harvesting days**				
	2%	12	8.00	138	92.00
	3-5 %	17	11.34	133	88.66
	5%	0	0	150	100
	More than 5%	0	0	150	100

Impact of AGMARKNET information on harvesting schedule of crops

Harvesting time of the produce is linked to market price. The agricultural information has great implications on bargaining power of the farmers. The harvesting time is decided by the farmer producer to avoid the glut in the market, ultimately a better price realization. Farmers track the market information on day/weekly basis and use these in harvesting of produce. Sometimes they alter the harvesting time to sell the produce at higher price to maximize profit.

The analysis on impact of market information on harvesting schedule of crops raised by the farmers (Table 5.17) reveals that with the use of AGMARKNET information 34.67 per cent of the farmers alter the harvesting time 2-5 days as against one week by 20.00 per cent farmers and 2 week by 2.00 per cent of farmers. Similarly, the extent of loss minimization due to alteration of harvesting days is 2.00 per cent as expressed by 8.00 per cent of the farmers as compared to 3-5 per cent expressed by 11.34 per cent of the farmers.

It is concluded that by using AGMARKNET information majority (56.67 per cent) of the sample farmers undertake alteration of harvesting time either 2-5 days or 1-2 weeks to sell the produce at higher price for maximizing profit. By using the market information, 19.34 per cent of the farmers minimize their loss to the extent of 2-5 per cent.

Table-5.18: Impact of AGMARKNET Information on Storage

Commodity	Quantity stored in quintals		
	With AGMARKNET	**Without AGMARKNET**	**% Change or difference in qty**
Paddy	142.00	142.00	Nil
Green gram	6.21	6.10	1.80
Black gram	7.33	7.00	4.71
Arhar	8.00	8.00	Nil

Impact of AGMARKNET information on storage of produce

The impact of AGMARKNET information on storage of the produce (Table 5.18) explains that in case of paddy the market information has little impact on storage because at the paddy collection centres and RMCs, storage facility is provided to the farmers free of cost to sell their produce at MSP. In case of green gram and black gram there has been marginal impact on storage of the produce with market information. The farmers have stored the produce with a view to selling these when market price is higher. This has enables them to maximize their profit.

Table- 5.19: Impact of AGMARKNET Information on price realized due to Storage

Commodity	Price realized		% Change
	With storage	**Without storage**	
Paddy	1750	1750	Nil
Green gram	4550	4350	4.60
Black gram	5100	5000	2.60
Arhar	5500	5500	Nil

Impact of AGMARKNET information on price realized due to storage

The analysis (Table 5.19) indicates that in case of paddy, as storage facility is provided to the farmers coming to mandis free of cost, there is no change in price realization of the produce. However, in case of green gram and black gram, the price realized after the stored product sold in the market is 4.60 per cent and 2.0 per cent higher than without storage respectively. Farmers generally sell the stored product in the market when the market price is favorable to them for higher benefits. In case of arhar the storage of the product has no impact on market price due to larger supply.

Table 5.20: Impact of AGMARKNET Information on Price Spread

Commodity	Before AGMARKNET	After AGMARKNET	Difference / % Change
Paddy	1500-1550	1750-1815	14.28-14.6
Green gram	4500-4600	4550-4600	Marginal change
Black gram	5000-5200	5100-5200	Marginal change
Arhar	5500-5600	5500-5600	No change

Impact of AGMARKNET information on price spread

Price spread is the difference between the price paid by the consumer and price received by the producer for an equivalent quantity of farm produce. It is expressed as percentage of consumer price. Attempt has been made to know the price spread of different commodities produced by the farmers (Table 5.20). It is observed that the price spread is quite visible in case of paddy. Before AGMARKNET information, the farmers were selling their paddy at Rs.1500- 1550/q which increased to Rs.1750-1815/q after the market information resulting 14.28 to 14.60 per cent increase in price. In case of green gram, black gram and arhar there has been marginal change in price before and after AGMARKNET information. Since paddy is the predominant crop in the district, there is perceptible difference in price before and after AGMARKNET information.

Table-5.21: Methods f updating information in AGMARKNET portal

Sl. No	Particulars	Frequency	%
1	At the end of each day	--	Nil
2	After few days of sale (2-5 days)	16	35.56
3	A week after the sale	29	64.44
4	One month after the sale	Nil	Nil

Method of updating information in AGMARKNET portal

The AGMARKNET portal provides easy access to commodity wise, variety wise daily prices and arrival information from wholesale markets spread across the country. The portal is run by Directorate of Marketing and Inspection with technical assistance from NIC. The computer facility has been provided to different markets at grass roots level and connected to internet with DMI Hqrs. The agricultural produce markets enter the data in the prescribed format, using the customized application software AGMARKNET.

The analysis on methods of updating the information on AGMARKNET portal (Table 5.21) reveals even though data are collected on the above aspects on daily basis, the uploading of data are done 2-5 days after sale as reported by 35.56 per cent of the officials. Data are uploaded after one week of sale is reported by 64.44 per cent of the officials. Thus is evident that data on various aspects are collected on daily basis but uploading of data in the portal is made mostly after one week or within 2-5 days as reported by 64.44 per cent and 35.56 per cent of the officials respectively.

Table- 5.22: Mechanism to Record Daily Information

Sl. No	Particulars	Frequency	%
1	Sale slip	Nil	Nil
2	Through electronic devices	45	100
3	Manual recording	Nil	Nil

Mechanism to record daily information

As computer facility and technical manpower support viz. data entry operators are provided to the RMCs/markets. All the data are uploaded through electronic devices using computerized sale slips. This practice has been uniform across the sample markets.

Table-5.23: Impact of AGMARKNET on Traders

Sl. No	Particulars	Yes		No	
		F	%	F	%
1	Is AGMARKNET information helpful to you in accessing the nearby / distant markets	9	60.00	6	40.00
2	Do you feel markets are integrated through AGMARKNET	12	80.00	3	20.00
3	Does AGMARKNET help in retention of stored produce	2	13.34	13	86.66
4	Has there been a vertical/horizontal marketing integration by you due to AGMARKNET	3	20.00	12	80.00
5	Have you ever traded new commodities through the information from AGMARKNET	1	6.66	14	93.34

Impact of AGMARKNET on Traders

Efficient market information provision has positive benefits for farmers, traders and policy makers as well. Uploading current market information enables traders to negotiate with farmers from a position of greater strength. The market information helps the traders in gathering and analyzing information about prices, arrival stock and information relevant to farmers, processors and others involved in handling agricultural products. The information provides a direction to traders to augment their sales/business for maximization of profit. The analysis of market information and its impact on traders (Table 5.23) shows that AGMARKNET information is helpful to access nearby markets as expressed by 60.00 per cent of the traders. Again 80.00 per cent of the traders are of the view that markets are integrated through AGMARKNET. Nevertheless, the said information is helpful in retention of stored produce expressed by 13.34 per cent of the traders as compared to 20.00 per cent traders undertaking horizontal and vertical integration of markets/business. However, only 6.66 per cent of traders have traded new commodities after receipt of information through portal.

Table-5.24: Constrains Faced by the Farmers

Sl. No	Constraints	Very much		Somewhat a problem		Not a problem	
		F	%	F	%	F	%
1	Lack of knowledge about pest and disease control	94	62.66	52	34.67	4	2.67
2	High cost of chemical fertilizers	109	72.67	38	25.34	3	2.00
3	High cost of plant protection chemicals	110	73.34	37	24.66	3	2.00
4	Non-availability of farm labour	106	70.66	38	25.34	6	4.00
5	Lack of knowledge about balanced use of fertilizers	87	58.00	61	40.66	2	1.34
6	Lack of irrigation facilities	45	30.00	28	18.67	77	51.33
7	Lack of power supply	104	69.34	26	17.34	20	13.33
8	Problem of weed control	9	6.00	133	88.67	8	5.33
9	Non availability of credit in time	77	51.34	70	46.67	3	2.00
10	Inadequate subsidies	79	52.67	59	39.34	12	8.00
11	High rate of interest	9	6.00	64	42.67	77	51.34
12	Insufficient credit	79	52.67	60	40.00	11	7.33
13	Insufficient repayment time	11	7.33	71	47.34	68	45.34
14	Lack of remunerative prices	97	64.66	39	26.00	14	9.33
15	Lack of transport facility	46	30.67	89	59.34	15	10.00
16	Fluctuation in market prices	132	88.00	13	8.67	5	3.33
17	Lack of storage facility	140	93.34	2	1.33	8	5.33
18	High commission charges	7	4.66	123	82.00	20	13.34
19	Exploitation by the middle men	14	9.34	64	42.67	72	48.00
20	Markets are far away	19	12.67	12	8.00	119	79.33

Constraints faced by the Farmers

The constraints faced by the farmers in general and accessing AGMARKNET information in particular have been presented in Table 5.24. The general constraints in crop production include (i) lack of knowledge about pest and disease control (ii) high cost of fertilizer (iii) high cost of plant protection chemicals (iv) non-availability of farm labour (v) lack of knowledge about balanced dose of fertilizer (vi) lack of irrigation facilities (vii) lack of continuous electricity supply (viii) non-availability of credit in time (ix) inadequate subsidies (x) high rate of interest (xi) insufficient credit (xii) short repayment period experienced very much as expressed by 3.0 to 73.34 per cent of the farmers. Lack of weed control is stated as an occasional problem experienced by 88.67 per cent of the farmers.

As regards to constraints relating to AGMARKNET/market information 30.67 to 93.34 per cent of sample farmers experienced very much the problems of (i) lack of remunerative prices (ii) lack of transport facilities (iii) fluctuation in market price and (iv) lack of storage facilities. High commission/charges and exploitation by middlemen are the constraints experienced occasionally/somewhat as expressed by 42.67 to 82.00 per cent of sample farmers. Far away location of market is not a problem as cited by majority (79.33 per cent) of the farmers.

CHAPTER VI

Summary and Conclusion

Summary

Market information provides arrivals and price signals to the producer farmer to take better informed decisions to sell or to store the produce. To know the outreach of market information produced by AGMARKNET to farmers, cooperative institutions, traders, processors and other stakeholders, the proposed study has been undertaken with the objectives, (i) to understand the farmers perception and awareness about AGMARKNET in the state (ii) to study the role of AGMARKNET in agricultural marketing in the state and (iii) to identify the ways and means to meet the expectation of the farmers.

Among 30 districts of the state, Bargarh district has been selected purposively as a rural district having 3 RMCs under it. Accordingly, all the 03 RMCs viz. Bargarh RMC, Attabira RMC and Padampur RMC are selected for the study. From each RMC, 50 farmers producing major commodities, 5 traders dealing with produce, 15 officials consisting of 5 from co-operative marketing institutions and 10 officials of the state marketing and extension department are selected through simple random sampling method. Separate interview schedules have been administered to each category of respondents.

6.1. General characteristics of the respondents

The higher educational level of respondents in the district has a positive relationship with technology adoption to maximize their income. The literacy level of traders is also considerably higher which enables them to understand sound trade practices, rules and regulations.

The average land holding size of farmer respondents is 6.86 ha out of which 4.25 ha (61.95 per cent) are irrigated and 2.61 ha (38.05 per cent) un-irrigated. The sandy loam to loam soil in the sample district encourages the farmers to cultivate variety of crops as the soil has varying amount of silt and clay suitable for cultivation. The average family size of farmers is 7 as against 5 for traders and 4 for officials. Each household has woman and children as family members.

The family income of the households is an indicator of the socio-economic status of the family. Family income influences household welfare and livelihood diversity. The average annual family income of the farming household is Rs.5,50,079 as against Rs.11,20,000 for trader and Rs.6,60,680 for official. Agriculture has been the main source of livelihood for majority people in the sample district.

6.2. Agricultural characteristics of sample farmers

Paddy, arhar, greengram and brinjal are important crops grown in kharif season as against paddy, tomato, cauliflower, cabbage and chili grown on rabi season. This district is called rice bowl of Odisha as production and productivity of paddy in the district is highest in the state. The comparison of cropping pattern of sample farmers in the district between pre and post period indicates that the area and productivity of the crops like paddy, greengram, blackgram have marginally increased in the post AGMARKNET period while it has declined in respect of arhar crop.

The area and productivity of paddy, tomato etc grown in rabi season have also marginally increased. The cauliflower area remaining stagnant, the area under cabbage and chili have declined .While the yield of paddy has been stagnant, the major vegetables showed a marginal increase in yield during post AGMARKNET period.

Agricultural price plays a pioneer role in the economic development of a country. It is an important instrument for providing incentives to farmers for motivating them to go for production-oriented investment and technology. As majority of the population is engaged in agricultural sector, prices affect both income and consumption of the cultivators. Govt. of India announces Minimum Support Price (MSP) for major agricultural commodities and organizes purchase operations through public agencies. In the sample district, the MSP of kharif paddy was Rs.1500-1550/Q which increased to Rs1750-1815/Q during post AGMARKNET period. The price of brinjal during pre AGMARKNET period was Rs2000-2100 which increased to Rs2400-2600 during post AGMARKNET period.

In Rabi season, the MSP of paddy remains same as per kharif season in both pre and post AGMARKNET period. In respect of tomato, the price has increased from Rs.3600-3800/Q to Rs.4000-42000/Q as compared to cauliflower which increased to Rs.4500-4600/Q in the corresponding period. The AGMARKNET price and arrival data are available for the crops like paddy, brinjal, tomato and cauliflower even though vegetables are excluded from the APMC amended Act.

6.3 Livestock resources of farmers

Livestock is a source of energy providing draught animal power while manure improves soil structure and fertility as well as water retention. Livestock is also used to transport agricultural inputs and outputs. The livestock maintained by the sample farmers before and after the AGMARKNET reveals that dairy, poultry and goat are important livestock of the sample farmers. The average number of dairy animals, poultry and small ruminant (goat) did not change during pre and post AGMARKNET period. The respondents reveal that yield of milk per dairy animal was 5-6 ltrs/day with price of Rs.30/Ltrs sold to Odisha Milk Co-operative Marketing Federation (OMFED). The poultry meat is sold in the OPELFED at Rs.140/kg while the goat meat is sold at Rs.550/kg. The farmers expressed that there is marginal increase in the price of milk, poultry meat and meat during post AGMARKNET period. However, the change may be due to demand and supply factors than the AGMARKNET prices. The prices of livestock components are not recorded in AGMARKNET portal as expressed by the sample farmers.

6.4. Organisational participation of farmers and traders

The greatest and widely accepted benefit of participation of farmers and traders in the organization is to increase in business skill and efficiency. This also leads to leadership development on being connected with the follow members in the organization. It is observed that all the sample farmers (100 per cent) are members of village panchayat, producers' co-operatives and co-operative societies as compared to 98.0 per cent of them members of growers association and 53.0 per cent as members of Self Help Groups (SHGs).

The traders become members of various organizations to expand their trade for maximization of benefits. It provides them the opportunity to adopt modern and scientific methods to facilitate trade practices. The traders are also members of different associations and some of them have been elected as president, secretary and cashier.

6.5. Extent of Organizational Participation of Farmers and Traders

The participation of farmers and traders in different organization is crucial and important to enable them to be conversant with perceived changes in procedure and favorable outcome. Participation in the organization is generally encouraged to increase the business outlook, technology adoption, capacity building and problem solving capacity of farmers and traders. The results reveal that all the sample farmers participate regularly in village panchayat activities, producers' co-operative, co-operative societies and SHGs .

The participation of farmers in growers association is to the extent on 70,0 per cent occasionally. All the traders regularly participate in the village, panchayat, producer's co-operatives, co-operative societies, growers association and SHGs activities. This indicates the evinced interest of the traders to identify the need of the farmers commensurate with sound trading practices and to win the confidence of the farmers. This enables the traders to reach out all Farmer Producer Groups in purchasing their produce at doorstep.

6.6. Farmers awareness regarding AGMARKNET

The AGMARKNET portal has been developed to increase the outreach of the farmers who do not have sufficient resources to get adequate market information. It facilitates web-based information flow on the daily arrival and price of commodities in agricultural produce markets spread across the country.

The awareness of respondents farmers reveals that 91.33-98.00 per cent of them are aware of AGMARKNET and the kind of information provided in the portal particularly arrival and prices of different agricultural commodities.

The AGMARKNET programme covers most of the crops grown by them as expressed by 98.67 per cent of sample farmers. While 89.33 per cent of farmers have realized the prices on selling their produce as per the information provided by

AGMARKNET, 80.00 per cent of the farmers get price information on different grades of the produce.

The results further reveal that 98.6 per cent of the sample farmers get information of weekly price arrival from the AGMARKNET and 84.67 per cent of them are quite satisfied with getting adequate information through AGMARKNET. It is worthwhile to mention that Govt. of Odisha adopted P.PAS (Paddy Procurement Automation System), a digital platform for procurement of paddy from farmers through RMCs and paddy collection centres spread over the state. Nevertheless, implementation of National Agricultural Market (e-NAM), setting up mega food parks etc. will reap benefits to farmers in facilitating better price discovery, better marketing of agricultural produces, reducing wastages etc. and thereby reducing volatility in food prices.

6.7. Traders awareness on AGMARKNET

The middlemen/traders exercise the essential entrepreneurial function of exploring and creating market exchange opportunities and bear the risk entailed in this task. The traders operate with their objectives viz. helping customers access and stocking the produce to reach the users. By providing different kinds of service to the customers, the traders take on the function to economize on costs of bridging the supplier-customer gap i.e. lowering transaction costs. He is an exporter, wholesaler, importer, retailer for different customers and producers. It is important that traders need to keep update information on arrival and prices to meet the demand for commodities by prospective buyers. The results indicate that 53.34 to 93.33 per cent of traders are aware of the AGMARKNET, the kind of information provided and arrival and prices of specified agricultural commodities. However, only 4.00 per cent are of the view that the portal covers the crop produce they sell and 66.67 per cent realized the prices through sale of commodities after getting information from the portal. The information on arrival and prices on daily weekly and monthly basis have been accessed by them as expressed by 60.00 to 66.67 per cent of traders while only 46.67 per cent traders only get adequate information through the portal and 53.33 per cent do not get any information.

To sum up, it is concluded that the traders' awareness to use the information from the AGMARKNET portal is extremely important for facilitating agricultural trade and to meet the demands from various stakeholders in the process. The transaction through e-auction under e-NAM enables the traders for price discovery of agricultural products. Even though the e-NAM transactions are presently performed within the state, it will be extended to national/international transaction in coming years for which the role of the traders are crucial. Thus majority of the traders (53.34 to 93.33 per cent) get arrival and price information of agricultural commodities from the portal to improve their business skills.

6.8. Farmers access to markets based on AGMARKNET

Development of transport and communication helps the farmers and traders to access different markets to sell and purchase agricultural commodities. Direct marketing and organized marketing provide relatively more benefits to small and marginal farmers and traders. The information from AGMARKNET is constantly guiding the farmers and traders in discovering prices at different markets It is observed that all the sample farmers (100.00 per cent) either sell their produce in RMCs or in collection centres and designated market yards. Some of the farmers (6.67 per cent) also sell their produce to traders at their farm gate because of small lots and to avoid the cost of storage and transportation. Similarly, all the sample farmers get market information through RMCs, either from their notice boards or through AGMARKNET portal. The electronic media plays an important role in disseminating market information to the farmers too. With regard to sources, 93.33 per cent of the sample farmers get market information through electronic media in addition to AGMARKNET, 17.33 per cent of them get information from other farmers and 7.33 per cent from traders to whom they have close contacts.

6.9. Farmers perception on AGMARKNET

The storage function of the market system is to offer the farmers convenient outlets of the produce at remunerative price. The analysis on perception of farmers with respect to functional and physical performance of AGMARKNET system shows, all the sample farmers (100 per cent) agree to the fact that portal enables them for accurate prediction of price.

Standardization and grading are the first steps in the value chain of an agricultural produce as it travels in a marketing channel to the consumer. Price of produce has to be commensurate with quality, the assessment of which depends on a responsive system of grading and standardization. The analysis reveals that 90.00 per cent sample farmers are benefited from AGMARKNET on getting information on grade standards as against 90.67 of them understanding the price signals. The portal gives demand signal of various agricultural commodities as expressed by 84.67 per cent of them, providing market information (78.66 per cent) , helps in better decision making (62.00 per cent), information on storage and infrastructure (50.00 per cent) and market profile of major crops as expressed by 20.00 per cent of the sample farmers. Farmers (24.00 per cent) are of the view that AGMARKNET helps in creation of unified market. The farmers disagree to the above benefits varying from 0-39.34 per cent while many of them are undecided on their opinion on several issues.

It is conclude that AGMARKNET portal helps a substantial portion of farmers providing market information and information on prices, grades, standards, profile of major crops, storage and infrastructure information, better decision making opportunity, demand signals, price signals and helps in creating an unified market.

6.10. Role of AGMARKNET on farming

AGMARKNET has been an integral part of farming in recent years. The results indicate that 94.00 per cent of the farmers expressed the portal providing timely market information, as against 72.67 per cent for getting operational efficiency, 92.67 per cent for pricing efficiency, 66.67 per cent for integrating RMCs and agricultural produce markets and 96.00 per cent for strengthening interface with producers, consumers and policy makers.

To sum up, AGMARKNET helps the farmers in providing timely market information, achieving operational and pricing efficiency, integrating RMCs and agricultural produce markets and strengthening the interface with producers, consumers, traders and policy makers.

6.11. Ways and means to meet the expectation of farmers

Mass media, agencies and personnel have a vital role to play in the communication of agricultural information among the farmers. Television has been acclaimed to the most effective media for diffusing the scientific knowledge to the masses.

Among several mass media, newspapers and farm magazines are commonly used to communicate farmers. The farmers have also easy access to get information from extension personnel, marketing agents, traders, RMCs, co-operative societies and Govt. Officials. The extent of agricultural information reaching farmers through different sources explains that personal communication from extension personnel, agents and traders reach farmers most occasionally as expressed by 74.67 to 77.34 per cent of farmers. Similarly, the extent of media communication (radio and magazine) reaching farmers occasionally has been expressed by 67.34 to 75.34 per cent of farmers. The TV is used as a regular mode of reaching masses as expressed by 82.00 per cent of them. The agencies viz. Govt. Officials, State marketing Board also communicate to the farmers occasionally as expressed by 70.67 to 71.34 per cent of them. However, all the farmer members regularly receive the information from the co-operative society relating to arrival, price, and storage of agricultural commodities in different markets. AGMARKNET has been the main source of agricultural information to co-operatives, agencies and mass media.

6.12. Marketing of paddy by the farmers to different agencies

Paddy has been the principal crop of the state vis-a vis sample districts. Most of the farmers produce paddy twice in a year both in kharif and rabi seasons. Govt. of Odisha procures the paddy from the farmers through RMCs and collection centres meant for the purpose. The target of procurement has been fixed keeping into account the requirement for various welfare programmes and safety nets and availability of storage capacity. The state Govt. agencies have fixed to procure paddy @ 19 q/acre in kharif season and 26 q/ acre in rabi season for which the farmers have to make online registration. The details of the marketing of paddy undertaken by the farmers explain that 71.78 per cent of the produce is sold through RMCs as against 28.22 per cent paddy production sold to traders. The traders in many instances pay Rs.1600/q as against the MSP of Rs.1750/q fixed by the Govt in the year 2018-19.

As the collection centres are open for paddy procurement during a certain period; the farmers are forced to sell their surplus paddy to traders beyond that stipulated period. Another problem the farmers experience, if the productivity of paddy is beyond the rate (19q/ac, in kharif, 26q/ac in rabi), then the farmers have no option rather than selling the surplus paddy to traders at a lower price than MSP.

All the RMCs of the state update the AGMARKNET information on paddy arrival, procurement and price regularly in the portal. This helps the most of the farmers to realize the MSP fixed by the Government.

6.13. Cost of marketing incurred by the farmers

Production is planned with the objective of meeting the existing demand. Cost of marketing is a discretionary expenditure which can significantly affect the profit of the farmers. Marketing costs depend upon what action is taken with regard to prices, quality and selling effort.

An account of the cost of marketing incurred by the farmers explains that the packing material cost accounts for 37.23 per cent of the total marketing cost per quintal followed by miscellaneous (stitching gunny bags, transport to weighing machine etc.) loading unloading charges (21.28 per cent), transportation (14.89 per cent), packaging charges (10.64 per cent) and weighment charges (2.13 per cent).

6.14. Importance of AGMARKNET information on time of sowing

Efficient market information has positive benefits for the farmers. Historical market information enables the farmers to make planting decisions in line with market demand. AGMARKNET information which is historical in nature and its impact on time of sowing indicates that the sowing time is altered 2-5 days as expressed by 42.00 per cent of farmers followed by 14.67 per cent of farmers altering the time of sowing by one week. However, no alteration is done by 43.34 per cent of the farmers on the time of sowing of crops. This alteration in sowing time of crops is done by majority of the farmers (56.67 per cent) keeping in view the escape from major diseases and pests and good crop harvest and early selling of the produce. It is observed that due to alteration of sowing time, there has been 5-10 per cent increase in average yield of the crops grown by the farmers.

6.15. Impact of AGMARKNET information on harvesting schedule of crops

Harvesting time of the produce is linked to market price. The agricultural information has great implications on bargaining power of the farmers. The harvesting time is decided by the farmer producer to avoid the glut in the market, ultimately a better price realization. Farmers track the market information on day/weekly basis and use these in harvesting of produce. Sometimes they alter the harvesting time to sell the produce at higher price to maximize profit.

The analysis on impact of market information on harvesting schedule of crops raised by the farmers reveals that with the use of AGMARKNET information 34.67 per cent of the farmers alter the harvesting time 2-5 days as against one week by 20.00 per cent farmers and 2 week by 2.00 per cent of farmers. Similarly, the extent of loss minimization due to alteration of harvesting days is 2.00 per cent as expressed by 8.00 per cent of the farmers as compared to 3-5 per cent expressed by 11.34 per cent of the farmers.

It is concluded that by using AGMARKNET information majority (56.67 per cent) of the sample farmers undertake alteration of harvesting time either 2-5 days or 1-2 weeks to sell the produce at higher price for maximizes profit. By using the market information, 19.34 per cent of the farmers minimize their loss to the extent of 2-5 per cent.

6.16. Impact of AGMARKNET information on storage of produce

The impact of AGMARKNET information on storage of the produce explains that in case of paddy the market information has little impact on storage because at the paddy collection centres and RMCs, storage facility is provided to the farmers free of cost to sell their produce at MSP. In case of green gram and black gram there has been marginal impact on storage of the produce with market information. The farmers have stored the produce with a view to selling these when market price is higher. This has enables them to maximize their profit.

6.17. Impact of AGMARKNET information on price realized due to storage

The analysis indicates that in case of paddy, as storage facility is provided to the farmers coming to mandis free of cost, there is no change in price realization of the produce. However, in case of green gram and black gram, the price realized after the stored product sold in the market is 4.60 per cent and 2.0 per cent higher than without storage respectively. Farmers generally sell the stored product in the market when the market price is favourable to them for higher benefits. In case of arhar the storage of the product has no impact on market price due to larger supply.

6.18. Impact of AGMARKNET information on price spread

Price spread is the difference between the price paid by the consumer and price received by the producer for an equivalent quantity of farm produce. It is expressed as percentage of consumer price. The price spread of different commodities produced by the farmers indicated that the price spread is quite visible in case of paddy. Before AGMARKNET information, the farmers were selling their paddy at Rs.1500- 1550/q which increased to Rs.1750-1815/q after the market information resulting 14.28 to 14.60 per cent increase in price. In case of green gram, black gram and arhar, there has been marginal change in price before and after AGMARKNET information. Since paddy is the predominant crop in the district, there is perceptible difference in price before and after AGMARKNET information.

6.19. Method of updating information in AGMARKNET portal

The AGMARKNET portal provides easy access to commodity wise, variety wise daily prices and arrival information from wholesale markets spread across the country. The portal is run by Directorate of Marketing and Inspection with technical assistance from NIC. The computer facility has been provided to different markets at grass roots level and connected to internet with DMI Hqrs. The agricultural produce markets enter the data in the prescribed format, using the customized application software AGMARKNET.

The analysis on methods of updating the information on AGMARKNET portal reveals even though data are collected on the above aspects on daily basis, the uploading of data are done 2-5 days after sale as reported by 35.56 per cent of the officials. Data are uploaded after one week of sale is reported by 64.44 per cent of the officials. Thus is evident that data on various aspects are collected on daily basis but uploading of data in the portal is made mostly within 2-5 days or after one week as reported by 35.56 per cent and 64.44 per cent of the officials respectively.

6.20. Mechanism to record daily information

As computer facility and technical manpower support viz. data entry operators are provided to the RMCs/markets. All the data are uploaded through electronic devices using computerized sale slips. This practice has been uniform across the sample markets.

6.21. Impact of AGMARKNET on Traders

Efficient market information provision has positive benefits for farmers, traders and policy makers. Uploading current market information enables traders to negotiate with farmers from a position of greater strength. The market information helps the traders in gathering and analyzing information about prices, arrival stock and information relevant to farmers, processors and others involved in handling agricultural products. The information provides a direction to traders to augment their sales/business for maximization of profit. The analysis of market information and its impact on traders shows that AGMARKNET information is helpful to access nearby markets as expressed by 60.00 per cent of the traders. Again 80.00 per cent of the traders are of the view that markets are integrated through AGMARKNET. Nevertheless, the said information is helpful in retention of stored produce expressed by 13.34 per cent of the traders as compared to 20.00 per cent traders undertaking horizontal and vertical integration of markets/business. However, only 6.66 per cent of traders have traded new commodities after receipt of information through portal.

6.22 Constraints faced by the Farmers

The constraints faced by the farmers in general and accessing AGMARKNET information in particular have been analysed. The general constraints in crop production include (i) lack of knowledge about pest and disease control (ii) high cost of fertilizer (iii) high cost of plant protection chemicals (iv) non-availability of farm labour (v) lack of knowledge about balanced dose of fertilizer (vi) lack of irrigation facilities (vii) lack of continuous electricity supply (viii) non-availability of credit in time (ix) inadequate subsidies (x) high rate of interest (xi) insufficient credit (xii) short repayment period experienced very much as expressed by 3.0 to 73.34 per cent of the farmers. Lack of weed control is stated as an occasional problem experienced by 88.67 per cent of the farmers.

As regards to constraints relating to AGMARKNET/market information 30.67 to 93.34 per cent of sample farmers experienced very much the problems of (i) lack of remunerative prices (ii) lack of transport facilities (iii) fluctuation in market price and (iv) lack of storage facilities.

High commission/charges and exploitation by middlemen are the constraints experienced occasionally/somewhat as expressed by 42.67 to 82.00 per cent of sample farmers. Far away location of market is not a problem as cited by majority (79.33 per cent) of the farmers.

Conclusion and policy implications:

1. Recommendations for operation AGMARKNET portal/website

- AGMARKNET portal is a Govt. of India portal on agricultural marketing backed by a wide area information network connecting agricultural markets, State Agricultural Marketing Board/Govt. Departments also providing linkages to the websites of various national and international organizations.
- The number of wholesale markets covered under AGMARKNET must be increased with inclusion of newly established markets to enable the users of different geographical locations to have easy access to different sets of data.
- The portal provides both static and dynamic information relating to agricultural marketing in India. The statics information is about infrastructure related (Storage, warehousing, cold storage, grading and packing facilities), market related (market fees/charges, weighment, handling, market functionaries, development programmes, market laws composition of market committees, income and expenditure etc.) and promotion related information (standards, grades, labeling, sanitary and phyto-sanitary requirements, pledge financing, market credit, new opportunities available etc.). The dynamic part comprises of price related information consisting of maximum and modal prices of varieties, total arrival and dispatches with destination. It must be strengthened with information on export destinations of important agricultural commodities, comparative advantage with other indicators of international trade.
- Information linkages are provided to farmers' portal MKisan portal, Nokia, BITCOE IKSL, IFFCO portal in disseminating price information to a large network of farmers' co-operatives, public sector banks, commodity exchanges, newspapers etc. using the site for publishing the data on prices of agricultural commodities apart from other international organizations. The linkages to other national and international agencies may be established.
- The main users of AGMARKNET website are farmers, traders, research institutes, Commodity Boards, various Govt. Departments, ECOSTAT etc. The linkages are also provided to Kisan, Krishiworld, India-Agronet,Agri watch, Indian Dairy Industry, Agro-India, Forwarded Markets Commission, National Multi Exchange of India Ltd. and NCDEX through the portal to form a closer user group. Accurate and timely information must be available without time lag

as it is useful for judicious prediction on arrival and prices of agricultural commodities, market intelligence and futuristic demand and supply.

- Price data are needed by economists, planners, administrators and others for a variety of uses. They can provide an explanation of the changes in the socio-economic pattern of the society, nature of demand for farm policy legislation and the pressures for greater social justice. Commodity prices are important for generating price elasticity and price forecasting using market intelligence. Efforts must be made to generate and use price elasticity, price forecasting for Government intervention in Agricultural Marketing
- The dissemination of complete and accurate market information plays key role in improving both operational and pricing efficiency in the agricultural marketing system. AGMARKNET information is available for several crops grown in different States. It should be continued with inclusion of new crops.
- The value chain of different commodities may be displayed for vertical and horizontal market linkages to benefit farmers, FPOs, SHGs and traders for competitive selling of the produce at optimal price.
- The portal needs to provide market information in advance to crop planning as well as a choice of market channel so that farmers are confident in responding to market demand. The agri-business potential of an area/district can be identified through information on market arrivals, catchment area facilitating establishment of food parks, food zones and agro-enterprises.
- The market information on prices, arrival etc should be simple to understand as far as possible. The price dissemination is a deciding factor for the local trades who eventually approach the producers offering competitive prices.
- Digital Wholesale Market/RMCs Atlas may be developed and linked to the portal with modules of (a) geographical visualization and mapping,(b) trend analysis on infrastructure, staff and outcome (c) composite index based ranking of RMCs to visualize and know their spread across districts/states and connectivity to AGMARKNET portal for quick policy making. The existing Atlas may be upscaled to dynamic one with continuous updating of data to achieve the desired objectives.

.

2. Recommendations for State Agricultural Marketing Board

- Dissemination of timely market information is an essential requirement of farmers and traders as delay in dissemination loose its relevance. Sometime the uploading of data is done after a week or fortnight/month. It should be avoided and daily basis of uploading market information in AGMARKNET portal must be strictly adhered to for increasing the outreach to farmers, traders and policy makers. This can be achieved through (a) well trained and dedicated professional staff with high degree of commitment and (ii) proving them laptop with accessories to upload the data instantly from diverse market locations.

- Government has distributed Android mobile phones to the farmers which served as effective digital tool to communicate them on agro advisory services, DBT transfer and other services. Efforts must be made by the State Agricultural Marketing Boards distributing /encouraging the famers to use Android handsets, to have instant access to AGMARKNET portal on price, arrival etc.
- The reach of AGMARKNET in successful districts must be demonstrated through mass media, publicity, awareness campaign etc. in other districts having low outreach to aware the farmers the benefits of AGMARKNET.
- Publicity Plan - Each RMC is to conduct 10 to 20 number of publicity campaigns each year before the marketing season on how to make digital registration of farmers in mandi by loud speaker and publicity through wall painting within its jurisdiction villages/blocks normally within 30 to 50 kms radius indicating the parameters of FAQ standard, Minimum Support Price declared by the Government of India for different grades of commodities. Moreover, every year, the RMC is to circulate leaflets through print media along with advertisements in newspaper and dissemination with AGMARKNET for wide publication for farmers' awareness. The farmer awareness camps need to be conducted on access and use of AGMARKNET information through meetings by the RMC officials.
- In order to make the MIS system efficient, recruitment of regular staff such as Computer Programmer and Data entry Operators, field staff is necessary for timely uploading of information.
- Nearly 75% of AGMARKNET staff has not been given any training for a long period; in turn they have not imparted any training to farmers. Regular training programme may be organized by DMI/NIAM for the AGMAKNET staff to upgrade their skill and acquaint them with latest changes in the software, hardware and collection of information. This will also enable them to impart necessary training to farmers.
- Infrastructural facilities like separate computer room, computer with accessories and internet facilities and, laptop may be provided to the staff associated with AGMARKNET..
- Creation of regular awareness and publicity of the scheme will enhance its outreach to different stake holders.

References

- Gandhi V.P. (2014), Growth and transformation of agribusiness sector: Drivers, models and challenges, *Indian Journal of Agricultural Economics* 69 (1), 44-74
- Acharya S.S. and N.L.Agarwal (2004), *Agricultural Marketing in India*, fourth edition of Oxford and IBH publishing company, New Delhi.
- Sharma V.P. (2016), Marketable and marketed surplus of rice and wheat in India: Distribution and determinants, *Indian Journal of Agricultural Economic*, 71 (2), 137-159
- Kumar P.S. Mittal and M. Hossain (2008), Agricultural growth accounting and total factor productivity in South Asia: A review of policy implication, *Agricultural Economics Research Review*, 21 (2), 145-172
- Shalendra and M.S.Jairath(2016) National Agricultural Markets : Present Status, Challenges and Way Forward, *Indian Journal of Agricultural Economics*,71(3),252-263
- Chand,R (2012): Development Policies and Agricultural Markets _ *Economic & Political Weekly*, 47(52),pp 53-63
- Dey, K (2016): National Agricultural Market Rationale, Roll-out and Remifications – *Economic and Political Weekly.* Vol L1 No.19 (PP 35-38)
- Dey K (2015 5a): Why Electronic Spot Market is a Better Bet for Commodites? *Business Line*, 4 February.
- Farhoomand,A.F., Tuunainen, V.K., Yee,L.W., Barries to global elexctronic commerce: across-country study of Hongkong and Finland. *Journal of Organisational Computing and Electronic Commerce*, 2000. 10(1) 23-48.
- Haque Enamul (2015) “Setting up national agricultural market, a clear warning for APMCs” Business Lines 2014.
- Ministry of Agriculture (2003): Salient Features of the Moldel Act on Agricultural Marketing, Agricultural Produce Marketing Committee Model Act. (2003) Marketing Infrastructure and Agricultural Marketing Reforms, Department of agriculture Na Cooperation, Ministry of garicuylture and FW.
- Govt. of Odisha (2019): *Economic Survey* (2018-19), Planning and Convergence Department, Directorate of Economics and Statistics, Govt. of Odisha.
- Govt. of Odisha (2016): *Odisha Agricultural Statisitcs* (2014-15,2015-16), Directoorate of Agriculture and Food Production, Govt. of Odisha, Bhubaneswar.
- Govt. of India (2017): *Agricultural Staistics at a glance (2017*), Deptt. of Agriculture Coopertation and Farmers Welafre, Directorate of Economics and Statistics, Ministry of Agriculture and farmers Welfare.
- Mishra R.K.(2017), Network Project on Market Intelligence, Research Publication (Research Report), Deptt. of agricultural Economics, OUAT, Bhubaneswar

- Mishra R.K. (2017), Statistical Survey to Estimate the production and Productivity of Coconut in the State of Odisha, 2016-17, Research Report, Deptt. of agricultursal Economis, OUAT, Bhuabneswar.
- Govt. of Odisha (2013), Status of Agriculture in Odisha, Directorate of Agriculture and Food production, Ministry of agriculture & Farmers Empowerment, Bhubaneswar.
- www.coconutboard.nic.in
- Gov. of India (2017), State of Indian Agriculture-2017, Ministry of agriculture & Farmers Welfare, Deptt. of Agriculture Cooperation & Farmers Welfare,Directorate of Econincs & Staistics, New Delhi
- Gov.of Odisha (2013), Sate Agriculture Policy, Deptt. of agriculture & Farmers Empowerment, Bhubaneswar
- Gov. of India (2019), Price Policy for khaif crops-the marketing season, 2019-20, Commission for Agricultural Costs & Prices (CACP), Deptt. of Agriculture Cooperation & Farmers Welfare, Ministry of Agriculture Cooperation & Farmers Welfare, New Delhi.

Annexure-I

List sample Farmers of Bargarh RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Debarchan Suna	8018420201	Jamurda	Bargarh	Bargarh
2	Radhakanta Sahoo	9937121356	Tillapali	Bargarh	Bargarh
3	Kesaba Pradhan	7504634340	Jamurda	Bargarh	Bargarh
4	Balamukunda Sahu	9937125016	Kuria	Bargarh	Bargarh
5	Bidyadhar Biswal	9348745245	Kuria	Bargarh	Bargarh
6	Ramakanta Biswal	9777260067	Kuria	Bargarh	Bargarh
7	Sripati Banchhor	9178126775	Kuria	Bargarh	Bargarh
8	Lopamudra Pradhan	7978502188	Kuria	Bargarh	Bargarh
9	Jatadhari Banchhar	9556413358	Kuria	Bargarh	Bargarh
10	Dasarathi Behera	9938774020	Kuria	Bargarh	Bargarh
11	Jana Pradhan	8908011137	Kuria	Bargarh	Bargarh
12	Dalagajana Sahu	9777974015	Kuria	Bargarh	Bargarh
13	Deepak Biswal	6371668734	Kuria	Bargarh	Bargarh
14	Dileswar Pradhan	7683820270	Jamurda	Bargarh	Bargarh
15	Bhubana Pradhan	9938580503	Jamurda	Bargarh	Bargarh
16	Ranjan Sahoo	7608903634	Sayan	Bargarh	Bargarh
17	Rohit Rout	7894322727	Sayan	Bargarh	Bargarh
18	Rasanandaa Khamari	7377732821	Tillapali	Bargarh	Bargarh
19	Bidyadhar Pradhan	NA	Jamurda	Bargarh	Bargarh
20	Ratan Biswal	9938110374	Jamurda	Bargarh	Bargarh
21	Karan Bhoi	9337744919	Sayan	Bargarh	Bargarh
22	Dayanidhi Dharka	7750095436	Sayan	Bargarh	Bargarh
23	Dayanidhi Dharka	NA	Sayan	Bargarh	Bargarh
24	Sumanta Badhei	95565423	Jamurda	Bargarh	Bargarh
25	Pitabasa Sahoo	9337895292	Patherlla	Bargarh	Bargarh
26	Ekadashi Sahoo	NA	Patherlla	Bargarh	Bargarh
27	Mitrabhanu Sahoo	9348353498	Patherlla	Bargarh	Bargarh
28	Dileswar Sahoo	NA	Patherlla	Bargarh	Bargarh
29	Madhu Sahoo	9090170985	Patherlla	Bargarh	Bargarh
30	Jhasketa Bhoi	9668216349	Tillapali	Bargarh	Bargarh
31	Harisankar Sethi	7894471700	Jamurda	Bargarh	Bargarh
32	Ratana Biswal	9938110374	Jamurda	Bargarh	Bargarh
33	Subal Naik	9556167794	Tillapali	Bargarh	Bargarh
34	Narayan Barik	8018287056	Tillapali	Bargarh	Bargarh
35	Prafulla Pradhan	NA	Jamurda	Bargarh	Bargarh
36	Asutosh Pradhan	9938561053	Jamurda	Bargarh	Bargarh
37	Subal Naik	9556167794	Tillapali	Bargarh	Bargarh
38	Dolamani Bhoi	9938219330	Tillapali	Bargarh	Bargarh

39	Bhubana Pradhan	9938580503	Jamurda	Bargarh	Bargarh
40	JogeswarBhoi	9776655699	Tillapali	Bargarh	Bargarh
41	Dhaleswar Bhoi	9090171918	Tillapali	Bargarh	Bargarh
42	Subrat Bhoi	9778073542	Tillapali	Bargarh	Bargarh
43	Surya Prasad Badhei	7735668215	Jamurda	Bargarh	Bargarh
44	Satpal Khamari	9937088484	Tillapali	Bargarh	Bargarh
45	Gouri Shankar Mirdha	8114841620	Jamurda	Bargarh	Bargarh
46	Nirmal Kanan	9937338841	Jamurda	Bargarh	Bargarh
47	Ghanasyam Madhei	9938538361	Jamurda	Bargarh	Bargarh
48	Narayan Barik	8018287056	Tillapali	Bargarh	Bargarh
49	Gurucharan Bhoi	9778721460	Tillapali	Bargarh	Bargarh
50	Chaitanya Nayak	9777800672	Jamurda	Bargarh	Bargarh

List of Sample Officials of Bargarh RMC

Serial No.	Name	Name of the Block	Name of the District
1	Prasant Ku Dash	Bargarh	Bargarh
2	Paresh Ku. Khamari	Bargarh	Bargarh
3	Himanshu Pradhan	Bargarh	Bargarh
4	Giridhari Mahakur	Bargarh	Bargarh
5	Sri R.C.Pradhan	Bargarh	Bargarh
6	Sri H.K.Mishra	Bargarh	Bargarh
7	Sri R.N.Barik	Bargarh	Bargarh
8	Sri Shankar Pradhan	Bargarh	Bargarh
9	Sri Nimain Ch. Mahapatra	Bargarh	Bargarh
10	Sri Abhiram Tandi	Bargarh	Bargarh
11	Gopal Ch. Panda	Bargarh	Bargarh
12	Sri R.L.Senapati	Bargarh	Bargarh
13	Sri G.N.Acharya	Bargarh	Bargarh
14	Sri D.C.Banchhor	Bargarh	Bargarh
15	Bhimsen Rectha	Bargarh	Bargarh

List of Sample Traders of Bargarh RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Susil Prasad	9861076673	Bargarh	Bargarh	Bargarh
2	Umasankar Prasad	9437254770	Bargarh	Bargarh	Bargarh
3	Muna Prasad	9937774444	Bargarh	Bargarh	Bargarh
4	Bagidan Prasad	9668603632	Bargarh	Bargarh	Bargarh
5	Gobardhan Pradhan	9937591100	Bargarh	Bargarh	Bargarh

Annexure-II

List of Sample Farmers of Attabira RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Bhubaneswar Pradhan	9090390541	Bhoipur	Attabira	Bargarh
2	P. Jagdish	9778790470	Bhoipur	Attabira	Bargarh
3	Y. Papa Rao	9438781559	Attabira	Attabira	Bargarh
4	Artatrana Sahu	9861638383	Attabira	Attabira	Bargarh
5	Smt. Sudeshna Barik	NA	Attabira	Attabira	Bargarh
6	Nabin Kumar Dash	9937244791	Attabira	Attabira	Bargarh
7	Smt.K. Annapurna	8895627676	Attabira	Attabira	Bargarh
8	Dukhishyam Padhan	8658114975	Dumberpali	Attabira	Bargarh
9	Raghunath Pradhan	9556603516	Dumberpali	Attabira	Bargarh
10	Malia Pradhan	9937354081	Rengalipali	Attabira	Bargarh
11	Trilochan Bhoi	8599882853	Kandapali	Attabira	Bargarh
12	Balaram Sahu	7894187855	Kandapali	Attabira	Bargarh
13	Gatikrushna Padhan	9937894413	Tope	Attabira	Bargarh
14	Ramakrushna Barik	9938070582	Tope	Attabira	Bargarh
15	Trinath Pradhan	7381613587	Tope	Attabira	Bargarh
16	Jyotish Padhan	9777337644	Bhalupali	Attabira	Bargarh
17	Kishor Pradhan	8895921128	Dumberpali	Attabira	Bargarh
18	Hrushikesh Sahoo	9776409619	Manapada	Attabira	Bargarh
19	Surendra Padhan	8456004961	Lurupalli	Attabira	Bargarh
20	Bharat Kishor Meher	7504098235	Lastala	Attabira	Bargarh
21	Rasam Sethi Potanaya	9583331715	Lastala	Attabira	Bargarh
22	Padmalochana Pradhan	9778540186	Bhoipur	Attabira	Bargarh
23	Y. Pada Raju	9078985592	Bhoipur	Attabira	Bargarh
24	D. Gobinda Raju	NA	Bhoipur	Attabira	Bargarh
25	B. Raju	9438531314	Bhoipur	Attabira	Bargarh
26	Y. Suba rao	9078522767	Bhoipur	Attabira	Bargarh
27	Durga Pradhan	9861101462	Bhoipur	Attabira	Bargarh
28	Meka Chiti Babu	9937545519	Singhpath	Attabira	Bargarh
29	Rama Kanta Pradhan	9861101460	Bhoipur	Attabira	Bargarh
30	Santosh Ku. Pradhan	9937165255	Lurupalli	Attabira	Bargarh
31	Dukhul Meher	9938367356	Lurupalli	Attabira	Bargarh
32	Taranisen Biswal	7681824247	Tingipali	Attabira	Bargarh
33	Y.Br Raju	7381612347	Bhoipur	Attabira	Bargarh
34	D. Srinibabu	9438650355	Banahar	Attabira	Bargarh
35	Y. Praharaj	9337556736	Bhoipur	Attabira	Bargarh
36	Pramod Pradhan	NA	Pradhantikina	Attabira	Bargarh
37	Setubandha Sahu	9938562638	Bhursipalli	Attabira	Bargarh
38	Sitaram Sethi	8018206845	Bhursipalli	Attabira	Bargarh

39	Pratap kumar Gartia	9439596288	Bhursipalli	Attabira	Bargarh
40	Lalit Mohan Debta	8658114769	Khaliapalli	Attabira	Bargarh
41	Tamanpudi Chella Reddy	7749826541	Khaliapalli	Attabira	Bargarh
42	Reddy Srinibash Rao	9861479674	Parmanpur	Attabira	Bargarh
43	Reddy Raju Babu	9937335421	Parmanpur	Attabira	Bargarh
44	Reddy Gobind Raju	9438386445	Parmanpur	Attabira	Bargarh
45	Sribatsa Pradhan	9938063047	Parmanpur	Attabira	Bargarh
46	Raghunath Bhoi	7381374504	Parmanpur	Attabira	Bargarh
47	Bhisma Mishra	9861207882	Parmanpur	Attabira	Bargarh
48	Boula Rama Rao	9776500888	Parmanpur	Attabira	Bargarh
49	Satrughana Majhi	9777801102	Tingipali	Attabira	Bargarh
50	Sitaram Sahu	9439536233	Tingipali	Attabira	Bargarh

List of Sample Officials of Attabira RMC

Serial No.	Name	Name of the Block	Name of the District
1	Bhagaban Mishra	Attabira	Bargarh
2	Benubabu Sahu	Attabira	Bargarh
3	Jaimini Dash	Attabira	Bargarh
4	Bharat Barik	Attabira	Bargarh
5	Lingaraj Pradhan	Attabira	Bargarh
6	Sudam Ku. Panigrahi	Attabira	Bargarh
7	Manbodh Pradhan	Attabira	Bargarh
8	Rabi Thapa	Attabira	Bargarh
9	Panchulal Sahu	Attabira	Bargarh
10	Chenu Pandey	Attabira	Bargarh
11	Manmohan Sahu	Attabira	Bargarh
12	Sadananda Pradhan	Attabira	Bargarh
13	Dillip Kumar Mishra	Attabira	Bargarh
14	Khageswar Pradhan	Attabira	Bargarh
15	Jayprakash Padhan	Attabira	Bargarh

List of Sample Traders of Attabira RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Sri Venkateshwar	9776256441	Kulunda	Attabira	Bargarh
2	Brajeswri	9438386444	Attabira	Attabira	Bargarh
3	Bhawani	9437050561	Bhunusipalli	Attabira	Bargarh
4	M.m Agarwal	9437050761	Attabira	Attabira	Bargarh
5	Basundhara	9437059637	Renalipali	Attabira	Bargarh

Annexure-III

List of Sample Farmers of Padmapur RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Bihari Patra	Na	Salepali	Padampur	Bargarh
2	Bipin Buhari Nanda	97777753840	Kantabahal	Padampur	Bargarh
3	Prafulla ku. Mishra	9937461189	Kantabahal	Padampur	Bargarh
4	Aswini Bag	7750858103	Sandadar	Padampur	Bargarh
5	Sumadhor Sahu	9556059172	Padampur	Padampur	Bargarh
6	Ashok Dani	9437540747	Padampur	Padampur	Bargarh
7	Pramod Kalsa	8018169190	Padampur	Padampur	Bargarh
8	Tarini Patel	6371080762	Purena	Padampur	Bargarh
9	Banamali Patel	NA	Purena	Padampur	Bargarh
10	Bisambar Sahu	9777007490	Kantabahal	Padampur	Bargarh
11	Prasanna Sahu	NA	Purena	Padampur	Bargarh
12	Kulamani Patel	NA	Purena	Padampur	Bargarh
13	Bhubar Patel		Purena	Padampur	Bargarh
14	Baikuntha Rana	9178505715	Kantabahal	Padampur	Bargarh
15	Padmana Patel	7684902681	Sandadar	Padampur	Bargarh
16	Subash Patel	9778815681	Lohisingha	Padampur	Bargarh
17	Makar Dhwaj Patel	8658578823	Lohisingha	Padampur	Bargarh
18	Gurna Sahu	7608085578	Dhanuapali	Padampur	Bargarh
19	Rajanam Majhi	7735256128	Deuli	Padampur	Bargarh
20	Dinabandhu Barik	NA	Deuli	Padampur	Bargarh
21	Jebidhan Sahu	9668276106	Dhanuapali	Padampur	Bargarh
22	Arjun Barik	9777603985	Melehamunda	Padampur	Bargarh
23	Raghu Dushana Bhoi	9556266784	Melehamunda	Padampur	Bargarh
24	Manoj Rout	8658939821	Deuli	Padampur	Bargarh
25	Kanak Sidar	9131034693	Lohisingha	Padampur	Bargarh
26	Sunil Bhoi	9937231480	Melehamunda	Padampur	Bargarh
27	Madan Rout	8658858778	Deuli	Padampur	Bargarh
28	Babula Sahu	9556454303	Dhanuapali	Padampur	Bargarh
29	Tula Ratan Sahoo	NA	Deuli	Padampur	Bargarh
30	Kapilendra Bay	9938549580	Sadadan	Padampur	Bargarh
31	Susil Shyam Bhoi	NA	Deuli	Padampur	Bargarh
32	Mahesh Bhoi	9439493766	Kilida	Padampur	Bargarh
33	Baula Bhoi	Na	Kilinda	Padampur	Bargarh
34	Pradipta Kumar Baniha	9937819215	Padampur	Padampur	Bargarh
35	Santosh Ku. Sahoo	7751049294	tal	Padampur	Bargarh
36	Pramod Kumar Patra	9337610281	Salepali	Padampur	Bargarh
37	Chaitanya Behera	9348604272	Salepali	Padampur	Bargarh

38	Kapilash Patra	NA	Salepali	Padampur	Bargarh
39	Lingaraj Behera	NA	Deuli	Padampur	Bargarh
40	Manoj Rout	8658939821	Deuli	Padampur	Bargarh
41	Rajanam Majhi	7735256128	Deuli	Padampur	Bargarh
42	Dinabandhu Barik	NA	Deuli	Padampur	Bargarh
43	Madan Rout	8658858778	Deuli	Padampur	Bargarh
44	lakshyapati sahoo	797807965	Purena	Padampur	Bargarh
45	Puran Kalu	NA	Salepali	Padampur	Bargarh
46	Dineswar Sahoo	NA	Purena	Padampur	Bargarh
47	Shyamsundar Barik	Na	Deuli	Padampur	Bargarh
48	Tula Ratna Sahoo	NA	Deuli	Padampur	Bargarh
49	Duguru Bhuyan	NA	Salepali	Padampur	Bargarh
50	Sumanta Badhei	9556542305	Dhanuapali	Padampur	Bargarh

List of Sample Officials of Padmapur RMC

Serial No.	Name	Name of the Block	Name of the District
1	Prakash Ku. Dash	Padmapur	Bargarh
2	Kailash Kant	Padmapur	Bargarh
3	Rabichandra Suna	Padmapur	Bargarh
4	Dharmendra Ku. Sahu	Padmapur	Bargarh
5	Manabhanjan Kuar	Padmapur	Bargarh
6	Khudu Dip	Padmapur	Bargarh
7	Sushil Ku. Sahu	Padmapur	Bargarh
8	Lalji Naik	Padmapur	Bargarh
9	Anand Kumar Sahu	Padmapur	Bargarh
10	Jagnyasini Sahu	Padmapur	Bargarh
11	Balaram Bag	Padmapur	Bargarh
12	Kishore Ch. Sarangi	Padmapur	Bargarh
13	Basudeb Mishra	Padmapur	Bargarh
14	Aditya Kumar Dash	Padmapur	Bargarh
15	Samarendra Ku. Panda	Padmapur	Bargarh

List of Sample Traders of Padmapur RMC

Serial No.	Name	Mob.No.	Name of the Village	Name of the Block	Name of the District
1	Dinesh Panigrahi	9938795052	Goudapalli	Padmapur	Bargarh
2	Amardeep Agarwal	9437054782	Padmapur	Padmapur	Bargarh
3	R.D.Jaked		Padmapur	Padmapur	Bargarh
4	Md. Jaked	9348939698	Padmapur	Padmapur	Bargarh
5	G.N.Agarwal	9777014561	Padmapur	Padmapur	Bargarh