



**Government Of Maharashtra**  
**Department Of Agriculture**

**World Bank assisted**

**Maharashtra Agricultural**  
**Competitiveness Project**  
**(MACP)**

**Marketing Strategy Supplement**  
**(MSS)**

**District - Gadchiroli**

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## Abbreviations

ABPF	-Agri Business Promotion Facility
AES	-Agri Ecological Situation
AGMARK	-Agri Marketing Information Network
APMC	-Agriculture Produce Market Committee
ATMA	-Agricultural Technology Management Agency
BTT	-Block level technology Team
CIGs	-Common Interest Groups
DMI	-Director of Marketing and Inspection
FAC	-Farmers Advisory Committee
FCSC	-Farmers Common Service Centers
FIAC	-Farmers Information and Advisory Center
FIG's	-Farmer Interest Groups
HPTI	-Horticulture Processing and Training Institute
MACP	-Maharashtra Agriculture Competitiveness Project
MANAGE	-National Institute of Agricultural Extension Management
MSS	-Marketing Strategy Supplement
NFSM	-National Food Security Mission
NHM	-National Horticultural Mission
PA	-Producer Associations
PC	-Producer Company
PCN	-Project Concept Note
PG	-Producer Groups
PHM	-Post Harvest Management
PPP	-Public Private Partnership
RKVY	-Rashtriy Krishi Vikas Yojana

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## Executive Summary

The overall goal of this document is to analyze relevant information that will enable the creation of sustainable and replicable businesses for farmers groups in the district of Gadchiroli. This report aims to contribute to the already existing 'Market Strategy Supplement' document developed by Vanamati and outlines the existing marketing systems and channels in the district alongwith analyzing the emerging crops of the district. This information will be critical in helping us understand the current activities and developments in Gadchiroli and enabling us to identify potential business opportunities that farmer groups can establish in the district. Furthermore, this document will also serve as a base document for ATMA and other organizations to plan their activities centered on developing specific capabilities of farmers, improving infrastructure in the district as well as providing required services to farmers and other stakeholders.

The primary crops as identified by our analysis for the district are found to be Paddy, Red Gram, Soybean, Cotton and Bengal Gram. TechnoServe has primarily focused on these five crops to further detail out the report. TechnoServe has also analyzed the district and the potential business opportunities and has identified three specific business opportunities viz. jamun juice processing unit, aam panna production unit and post-harvest grain storage. In addition to this, rice bran oil manufacturing, mini rice mill and roasted gram manufacturing unit are also suitable for Gadchiroli. All these businesses have been proposed after a thorough analysis of the district keeping in mind the district profile.

In order to encourage business enterprises for farmer groups, basic facilities and services will need to be offered and improved. For instance, farmers will need to be encouraged and trained on ensuring continuous and good quality raw material for the processing units. Further, marketing infrastructure will need improvement so as to reduce post-harvest losses leading to better quality raw material for the businesses. The section on 'Recommendations' exhaustively discusses the factors that need to be taken into consideration for encouraging business activity amongst farmer groups and specifically helps identify a road map for relevant institutions.

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

1. Emerging major crops of the district
2. Price variation for emerging crops of the district

3. Farmer Assessment
4. Existing Marketing scenario
5. Constraints in the marketing system
6. Recommendations

While section 1 introduces the main crops of the districts, section 2 provides detailed information on these crops in terms of price variations and arrivals data. Section 1 and section 2 help us to explore and understand the current agricultural practices of farmers centered on the five emerging crops identified and recommend package of practices that will enable further development and income generation for farmers. This farmer assessment is discussed extensively in Section 3. Section 4 and 5 of this report then move on to evaluate the different marketing channels in the district and explore the constraints of this marketing system. These sections examine regulated markets of the district and compare these regulated markets with private markets. The main output from these sections is to understand the key trends in the marketing scenario and recommend improvements in infrastructure and services that will enable a more efficient marketing system in the district. Finally, the last section highlights the main opportunities feasible in the district centered on the emerging crops identified. This section also discusses qualitative results from the data obtained and recommends activities and services that ATMA and other similar organization can undertake to improve the agricultural and marketing facilities of the district along with building the capabilities of farmers.

## Introduction

The World Bank assisted Maharashtra Agriculture Competitiveness Project (MACP) is an initiative of the Government of Maharashtra (GoM) to overcome deficiencies in the present agriculture marketing system of the State. The present marketing system is weighed down by shortcomings. Although there is a good amount of marketable surplus in the district, the producers do not get a reasonable price for their produce because of serious deficiencies in the present agricultural marketing system. Some of the main shortcomings in the system are:

- i. The value chain, especially for perishables, is too long and fragmented as a result of which the share of the producer in the consumer's rupee is very low (it is at times as low as 20%);
- ii. There is a lack of standardization and enforcement of quality and grades;
- iii. Farmers receive insufficient and ineffective information and services related to inputs; and
- iv. There is an absence of facilities for grading, packing, cold storage and processing;

- v. There is inadequate transparency in marketing; and
- vi. There is a lack of private sector investment.

This problem could be better addressed through different interventions resting on two primary pillars: i) improving extension support to farmers, and, ii) improving the agricultural marketing system. Productivity improvement and production of improved quality of agricultural produce is necessary to make agriculture viable. The thrust so far has been on increasing agricultural productivity. As a result, the extension machinery of concerned departments has been heavily focused on increasing production. Market led extension has been lacking and this has resulted in a poor understanding of agricultural marketing by the concerned departmental agencies and the producers.

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

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

#### Component A: Intensification and Diversification of Market led Production

- i. A1: Market-led Agriculture Technology Transfer  
Objective: To increase the productivity of agriculture by adopting modern technology
- ii. A2: Agri Business Promotion Facility  
Objective: To create trained manpower to operate and manage infrastructure facilities

iii. A3: Market Information Services

Objective: To improve market access for enhancing marketing opportunities for farmers

iv. A4: Livestock Support Services

Objective: To strengthen sources of alternative income for farmers

Component B: Improving Farmer Access to Markets

i. B1: Promoting Alternative Markets

B1.1: Product Aggregation and Sale through Producers Association

Objective: To provide improved post-harvest handling facilities at village level

B1.2: Warehouse Receipts Development

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

B1.3: Rural Haat Markets

Objective: To strengthen alternative marketing channel of traditional rural haats

B1.4: Introducing e-Marketing Platform

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

ii. B2: Modernizing Existing Markets

B2.1: Modernizing Wholesale Markets

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

B2.2: Upgrading Livestock Yards

Objective: To improve transparency in all livestock markets and to provide modern infrastructure

The State Government is putting in a lot of efforts to increase production by encouraging up-gradation in technology. However, there are critical gaps in the present system, because of which producers don't get reasonable value for their produce.

Project Component A seeks to focus on strengthening the ATMA programme so as to facilitate market-led extension. This will require reorienting the extension functionaries to focus on improved productivity, quality, market information and improved methods of marketing based on updated market information and intelligence. This new approach to extension work in ATMA will help strengthen the institution and operation of ATMA by making them efficient and able to face emerging challenges in agricultural production, marketing and the agri-business.

The focus will be not only on developing and strengthening interdepartmental linkages to support not only Farmers Common Service Centers (FCSC), but also on providing support to farmers in all the districts to achieve increased income from their land based occupations involving crops, horticulture and livestock. The effort will be to implement the ATMA programme as an integrated, demand-led and farmer-centered programme for all line departments with special focus on marketing extension in all the districts of the state. The SREPs for all the districts in Maharashtra have recently been prepared and cover the production aspects of field crops, vegetables, fruits, spices, medicinal plants and livestock. In this Project the Marketing Strategy Supplement (MSS) to the SREP will be prepared for each district focusing on what needs to be done to improve market-led production, marketing related training of line department staff and farmers and linkages with the investments proposed for improving marketing infrastructure under component B of the project.

The MSS report has been prepared to strengthen the SREP and further help ATMA and other related institutions to identify gaps and issues to enable them to focus their efforts in further improving the productivity and production of agriculture in the state. Some of the key objectives of the MSS report are outlined below:

- i. To identify gaps/issues in market led production.
- ii. To study the existing marketing system of the district and to identify constraints in the marketing system.
- iii. To suggest strategies and activities to overcome gaps in market led production.
- iv. To suggest interventions to mitigate constraints in the marketing system of the district.

## **Methodology**

The Market Strategy Supplement (MSS) for each district is aimed to identify gaps in market led production and to suggest strategies to overcome these gaps. In this process, data specific to product grade, marketing channels, infrastructure facilities as well as trade licenses is quintessential for the genesis of these strategies. After an in-depth study of the district MSS, some data gaps have been identified primarily related to marketing channels and marketing bodies as well as facilities and infrastructure at APMC's and Rural Haats.

TechnoServe has addressed these gaps by making field visits as well as by using secondary level data from new sources, and a comprehensive use of the already available data. The refined Market Strategy Supplement Document (MSS) is a culmination of our secondary research and our primary insights from the field. The team also focused on validating the



data in the existing MSS document wherever possible. While primary insights have been collected from Government stakeholders and farmers amongst other stakeholders, the secondary information has been derived from data received from the MACP and MSAMB offices in Pune and the Department of Agriculture, Government of Maharashtra. Through this process, we have addressed the gaps that exist in the current MSS document. The three-step approach mentioned above is detailed below:

- i. Primary insights: Key components of the MSS including market development, farmer level issues and the SWOT analysis amongst others are supported by primary insights from the field. This includes interactions with APMCs to synthesize the market channels for crop categories, and interactions with traders, commission agents and warehouse operators to understand the storage periods of crops across APMCs in the district. Based on primary interactions with key stakeholders including MSAMB, APMC and Department of Agriculture, a snapshot of marketing bodies and their respective roles has also been synthesized.
- ii. Secondary research: Using crop arrivals data and crop areas, as collected from MACP and Department of Agriculture, pivot tables have been created to analyze the trend in prices as well as area and productivity of emerging crops in the district. This has been analyzed against a selected criteria used to choose district crops in Parts II and I. The analysis has further been strengthened using insights from secondary research on crop trends in the recent years. Official secondary resources such as [agmarknet.nic.in](http://agmarknet.nic.in) have been referred to, to strengthen the analysis.
- iii. Validation of existing data: The information in the existing MSS has been validated in two ways:
  - a. Field visits: Through field visits and detailed discussions with various stakeholders across the value chain, data has been authenticated and validated. Some of the key discussions have been pertaining to:
    - i. APMC and Rural Haat infrastructure
    - ii. Agro processing industries and ginning factories
    - iii. Producer companies
    - iv. Grain storage facilities
    - v. Private markets and trade licenses
    - vi. Grade wise price variation and arrivals data
    - vii. Marketable and marketed surplus

## viii. Constraints, strategies & proposed interventions for promoting market-led agriculture

The above methodology has enabled us to address some of the key gaps in the MSS and build a refined MSS report aimed at helping institutions understand the agriculture and market scenario in Gadchiroli. Data and information related to the agriculture scenario in Gadchiroli including detailed information on markets and marketing channels, APMC and Rural Haat infrastructure along with crop specific data has been collected. While the section on District profile has been further detailed out to include information on irrigation facilities, other sections have been added to the report to bring more clarity and understanding to the marketing scenario of the district. Sections that have been included in this report are: Emerging major crops; Crop wise price variation for emerging crops; Farmer assessment focusing on availability of the services and post harvest practices followed; and a detailed section on Recommendations. However, data regarding dairy, livestock and other markets has not been looked into in this refined MSS document.

### **District Profile**

Gadchiroli is located in the Vidarbha region of Maharashtra and on shares the Maharashtra-Chattisgarh, Telangana border. It is bordered by Chandrapur district to the west, Gondia district to the north, Chattisgarh state to the east, and Telangana state to the south and south west. As of 2011 it is the second least populous district of Maharashtra (out of 39, after Sindhudurg<sup>1</sup>).

The Gadchiroli district is divided into twelve talukas namely –Korchi, Kurkheda, Vadsa, Armori, Dhanora, Gadchiroli, Chamorshi, Etapalli, Mulchera, Bhamragarh Aheri, Sironcha. The economy of Gadchiroli district is primarily agrarian, with approximately 89% of the rural population which is the highest in entire Vidharbha region. Around 73.3% of land holdings are small and marginal, with the average landholding of farmer being 1.65 ha of land. This is higher than the state average of 1.44 ha.

A total five agro ecological situation have been identified in the Gadchiroli district under NATP on the basis of topography, soil type, rainfall distribution and availability of irrigation facilities.

**AES-I:** Lies on North West part of district headquarter covering tahsil. Viz Wadsa & Armori. The topography is plain and some part is hilly having moderate high rainfall and black to red alluvial soil. The farmers of this AES do not have the awareness of new improved technology

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1 <http://www.census2011.co.in/district.php>

& skills of adoption are vogue and farmers revealed different constraint & conditions under which they are practicing.

**AES-II:** Paddy, Gram, Tur, Groundnut, Wheat form the agricultural system. The area included in this AES at an elevation 150 to 300 meter above the mean sea level, The soil of this AES are mostly red laterite and it derived from mix parent material and it is formed under the influence of warm humid climate and forest vegetation.

**AES-III:** The area included in this has an elevation of 75-150 MSL (Meter sea level). The soil in this tract are predominantly alluvial in nature and ranges from clay loam to silty loam in texture. Kharif paddy is the main crop with Tur, Sesamam, Papatwall and cucurbeet crops. Where as in rabi sesame, gram, linseed, Jawar, Chilli is practiced. With the availability of irrigation vegetable after paddy is practiced in rabi & summer in a small pocket.

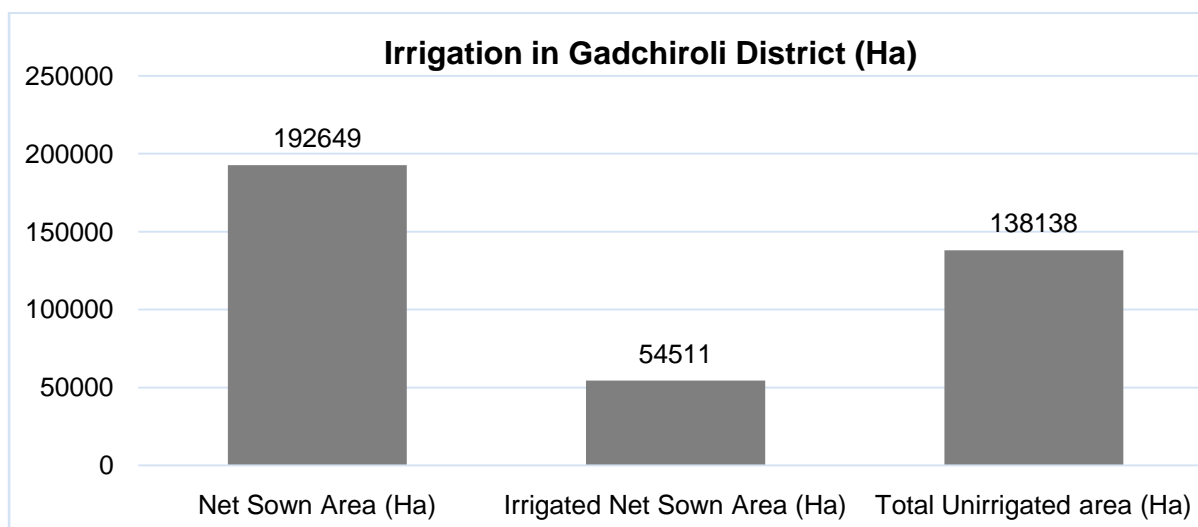
**AES-IV:** This tract includes Chamorshi, Mulchera & Aheri talukas of Gadchiroli district on Andhra Pradesh border & lies to southern east side of district headquarter. The area included in this has an elevation of 75-100 MSL. The soil in this tract is predominantly alluvial in nature formed on river banks and ranges from clay loam to silty loam in texture. Paddy is the principle crop taken in land converted into paddy bundies with Tur, on paddy bund and on plain land sesame wall bean on the paddy bunds. The rabi crops mainly includes jawar, Sesame, Chillies and maize is grown in sizable backyard of dwelling places.

**AES-V:** This tract comprises Sironcha, Bhamaragad & Etapalli taluka of district. The area included in this situation has an elevation of 75-100MSL. The soils of this tract are predominantly allutival because of river flowing through and around tract & ranges from clay loam to silty loam in texture. The crops grown are paddy in kharif with pulses, tur on paddy bund, wal bean and sesame on paddy bunds. In Rabi after paddy, gram, Linseed, Jawar, sesame &chilli is practiced under kharif fallow Rabi.

The Table below lists out the representative villages under each AES

Sr. No	Name of the AES	Block covered	Names of the representative village
1	AES I	Wadsa,Armor	Rawanwadi,Shivani
2	AES II	Kurkheda,Korchi	Bandhgaon,Botekasa
3	AES III	Gadchiroli,Dhanora	Gurwada,Rangi
4	AES IV	Chamorshi,Mulchera,Aheri	Navegaon,Dinacharpalli,Chitugunta
5	AES V	Etapalli,Bhamragad,Sironcha	Gurupalli,Jijgaon,Asaralli

Gadchiroli is a rainfed region and falls under the Eastern plateau and hills region (Agro climatic zone), it receives an average ~1,400 mm of rainfall annually<sup>2</sup>. Gadchiroli district has around 28% of its area under irrigation coverage<sup>3</sup>.



Source: Directorate of Economics and Statistics

Amongst the irrigated areas, Chamorshi taluka has the best irrigation penetration in Gadchiroli District at 28.59% of net sown area, followed by Armori at 15.11%, while for Gadchiroli and Kurkheda talukas it is around 14.54% and 8.05% respectively. Roughly 68% of aggregate irrigation in the district is through ground water irrigation, while the rest is through surface irrigation.

The SREP of the district depicts AES wise gaps in adoption of improved technology of important crops. However, the analysis doesn't cover post-harvest technologies, value addition and marketing practices which has been covered in this revisedMSS.

### Major Crops

The major crops in the district are Paddy, Red Gram, Soybean, Cotton, and Gram. These five crops together account for 95.2% of gross cropped area in the district. Other major crops are Maize (accounting for an additional ~1.5 % area), followed by linseed (1.1% area) and Rabi Jowar (0.71% area).

Sr. No	Crop	Gross Average Cropped Area (2009-2013) (Ha)
1	Cotton	152945
2	Red Gram	5829

<sup>2</sup> NABARD PLP, 2012-17

<sup>3</sup> Irrigation potential of Nagpur district: Economic survey of Maharashtra, Directorate of Economics & statistics.

3	Soybean	6722
4	Cotton	3183
5	Bengal Gram	2368
6	Linseed	2195

Source: Department of Agriculture and Department of Horticulture, Government of Maharashtra

Crop area has increased for Cotton especially between 2011 and 2013. The growth in Cotton area in some way mirrors the growth of Cotton area in India and more specifically to Cotton markets in Nagpur which are in vicinity of Gadchiroli.

### Fruits

Sr. No	Crop	Gross Average Cropped Area (2009-2013) (Ha)
1	Mango	2122
2	Cashewnut	339
3	Key Lime	164
4	Guava	81

Source: Department of Agriculture and Department of Horticulture, Government of Maharashtra

Banana is currently a minor crop and yet unidentified as a key crops in the district, but could be a potential crop for the future. In the opinion of DSAO, Banana suits the agro climatic conditions of the district, is easy to harvest and can be grown in the areas having high ground water, as well as can be dispatched to major markets like Hyderabad etc.

Cashew, Key Lime and Guava are the other crops that are grown in the district in minor quantities.

Gadchiroli district has a widespread forestry belt, spread across ~ 11, 00,000 Ha<sup>4</sup>. In the opinion of the forestry department officials, the forest area in Gadchiroli district is rich in NTFP (Non timber Forest produce) like Jamun fruits and Mango to some extent. Fruits like Mango & Jamun are grown in wild and have good potential waiting to be tapped. As per conservative estimates by forestry department officials nearly ~54,000 trees of Jamun is available in the forest range, similarly mango is available to the extent of ~11, 000 wild mango tress across the forest range and additionally 2, 800 Ha of cultivated mango<sup>5</sup> in the district as on 2012.

<sup>4</sup> Agriculture Contingency Plan for District: Gadchiroli

<sup>5</sup> Source: Data on area from department of Agriculture (2013), Govt of Maharashtra

## Vegetables

Sr. No	Crop	Gross Average Cropped Area (2009-2013) (Ha)
1	Chilly	1487
2	Brinjal	440
3	Tomato	175
4	Okra	105

Source: Department of Agriculture and Department of Horticulture, Government of Maharashtra

The major vegetables in Gadchiroli are Brinjal, Tomato and Okra. Chilly is a crop that has a significantly large amount of acreage. Apart from the aforementioned Turmeric could also be a potential crop for the future as per DSAO, although currently most of the turmeric being grown in the district is through the intervention and support of agriculture department to the farmers, turmeric is a suitable intercrop and is more remunerative.

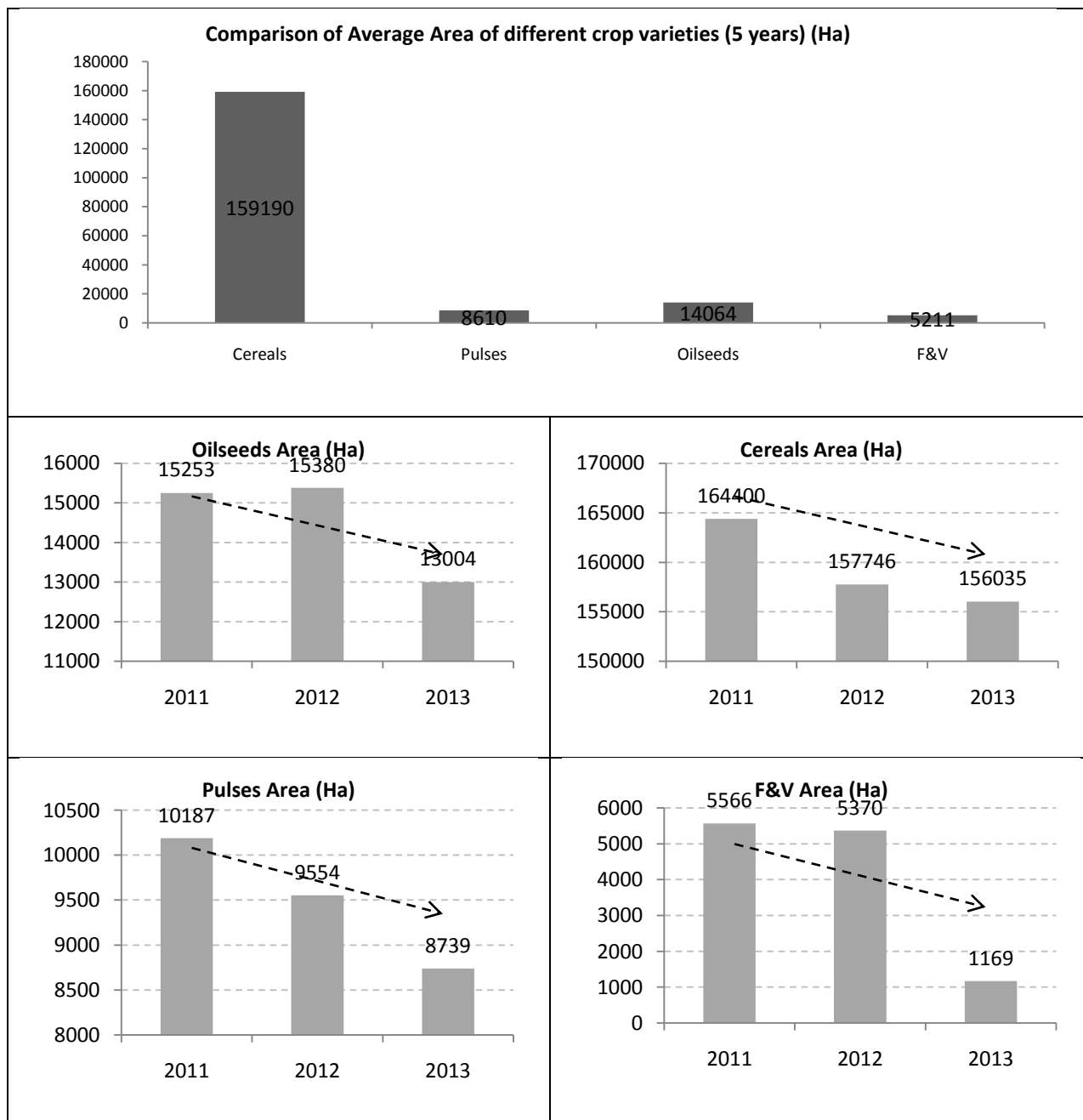
## Emerging major crops in the district

Based on the detailed analysis of the production area in Gadchiroli, Cotton, Soybean, Paddy, Bengal Gram and Red Gram have been identified as the major crops in the district.

Area under cultivation (Ha)					
Year	Paddy	Red Gram	Soybean	Cotton	Bengal Gram
2008-09	151420	4031	8227	639	
2009-10					1537
2010-11	156749	6783	7539	2773	2790
2011-12	152193	6713	5914	4204	2356
2012-13	151417	5790	5208	5115	2789

Source: Department of Horticulture and Department of Agriculture, Government of Maharashtra

In Gadchiroli district area under paddy, i.e. the largest grown crop has been steadily decreasing by marginal amounts, most other cereals, oilseeds and pulses have also shown a decreasing trend in the past three years. The following charts depict the pattern of shift in the specific crop categories



Source: Dept of Agriculture and Dept of Horticulture, Government of Maharashtra.

**Cereals trend:** Paddy is the most extensively grown cereal crop in the district and occupied 1.52 Lakh hectares of land (i.e. 84.61% of gross cropped area) in 2013. It is grown in all the talukas of the district mostly as a kharif crop.

**Pulses trend:** Pulses occupy an important position in the agrarian economy of the Gadchiroli district. Major pulses grown are Tur, Bengal gram, Mug, Udid & Kulith etc. Tur is cultivated under an area of 5,790 Hectare and is cultivated in Kharif season. Another major crop grown is Bengal gram which was cultivated under an area of 2789 hectares in 2012-13. The other pulses are grown in a minute quantity.

**Oilseeds trend:** Major oil seed crops cultivated by farmers in Gadchiroli district are Soybean, cotton, linseed and sesamum. Area under Soybean has been decreasing moderately on a steady basis whereas cotton acreage has been increasing steadily in the same duration i.e. from 2009

**Fruits and vegetables trend:** The total area under horticulture was minuscule 5370 Ha in 2012 i.e. 2.86% of the gross cropped area in 2012. Out of the lot Mango accounted for the highest area under cultivation accounting for 53.48% of total area under horticulture in 2012. Chilly is the other large horticulture crop with 1200 Ha i.e. 22.45% of area under horticulture in 2012. Kagzi Lime and Guava are the other fruits that are grown while Brinjal, Tomatoes and Okra are the vegetables that are grown.

Area-Trends:

Crop Selection	Key Trends	Area Trend										
Paddy	<ul style="list-style-type: none"> <li>Area under paddy has fluctuated and has decreased marginally in the past 3 years</li> <li>Paddy forms over 84% of the gross cropped area</li> </ul>	<p style="text-align: center;"><b>Area (Ha)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>151420</td> </tr> <tr> <td>2010</td> <td>156749</td> </tr> <tr> <td>2011</td> <td>152193</td> </tr> <tr> <td>2012</td> <td>151417</td> </tr> </tbody> </table>	Year	Area (Ha)	2009	151420	2010	156749	2011	152193	2012	151417
Year	Area (Ha)											
2009	151420											
2010	156749											
2011	152193											
2012	151417											
Red Gram	<ul style="list-style-type: none"> <li>Area under Red Gram (Tur) grew from 2009-2011</li> <li>Area decreased marginally post 2011 through 2013</li> </ul>	<p style="text-align: center;"><b>Area (Ha)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>4031</td> </tr> <tr> <td>2010</td> <td>6783</td> </tr> <tr> <td>2011</td> <td>6713</td> </tr> <tr> <td>2012</td> <td>5790</td> </tr> </tbody> </table>	Year	Area (Ha)	2009	4031	2010	6783	2011	6713	2012	5790
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Crop Selection	Key Trends	Area Trend												
Soybean	<ul style="list-style-type: none"> <li>Area under Soybean has seen steady decline from 2009-2013</li> <li>Area has decreased from 8227 Ha in 2009 to 5208 Ha in 2013</li> </ul>	<p style="text-align: center;"><b>Area (Ha)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>8227</td> </tr> <tr> <td>2010</td> <td>-</td> </tr> <tr> <td>2011</td> <td>7539</td> </tr> <tr> <td>2012</td> <td>5914</td> </tr> <tr> <td>2013</td> <td>5208</td> </tr> </tbody> </table>	Year	Area (Ha)	2009	8227	2010	-	2011	7539	2012	5914	2013	5208
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2013	5208													
Cotton	<ul style="list-style-type: none"> <li>Cotton acreage has been increasing steadily from 639 Ha in 2009 to 5115 Ha in 2013</li> </ul>	<p style="text-align: center;"><b>Area (Ha)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>639</td> </tr> <tr> <td>2010</td> <td>-</td> </tr> <tr> <td>2011</td> <td>2773</td> </tr> <tr> <td>2012</td> <td>4204</td> </tr> <tr> <td>2013</td> <td>5115</td> </tr> </tbody> </table>	Year	Area (Ha)	2009	639	2010	-	2011	2773	2012	4204	2013	5115
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2012	4204													
2013	5115													
Bengal Gram	<ul style="list-style-type: none"> <li>Area under Bengal Gram fluctuated initially but has increased since 2009</li> <li>Area under Bengal Gram has increased from 1537 Ha in 2010 to 2789 Ha in 2013</li> </ul>	<p style="text-align: center;"><b>Area (Ha)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>-</td> </tr> <tr> <td>2010</td> <td>1537</td> </tr> <tr> <td>2011</td> <td>2790</td> </tr> <tr> <td>2012</td> <td>2356</td> </tr> <tr> <td>2013</td> <td>2789</td> </tr> </tbody> </table>	Year	Area (Ha)	2009	-	2010	1537	2011	2790	2012	2356	2013	2789
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2012	2356													
2013	2789													

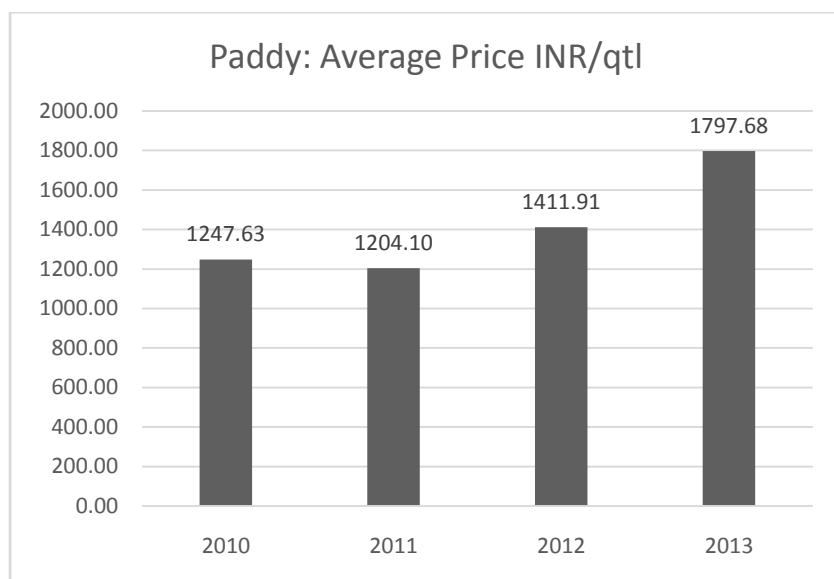
Source: Dept. of Agriculture and Dept. of Horticulture, Government of Maharashtra

The above analysis helps us understand 'market led production' in the district. The main reasons that have led to the popularity of these crops amongst farmers are primarily market driven- i) high demand for cereals such as paddy in the market. The next section helps us further understand these five emerging crops by analyzing their arrivals data and their price variation.

## Crop-wise price variation for emerging crops

The tables below layout the analysis of market arrival data for emerging crops:

### District Price Variation: Paddy



Source: MSAMB

- The chart compares the average monthly price for Paddy across selected APMCs in Gadchiroli over the last 4 Calendar years
- The district average price in 2013 has increased since 2010.
- There was an increase in the average price from 2010 to 2013 of almost INR 550/qtl.

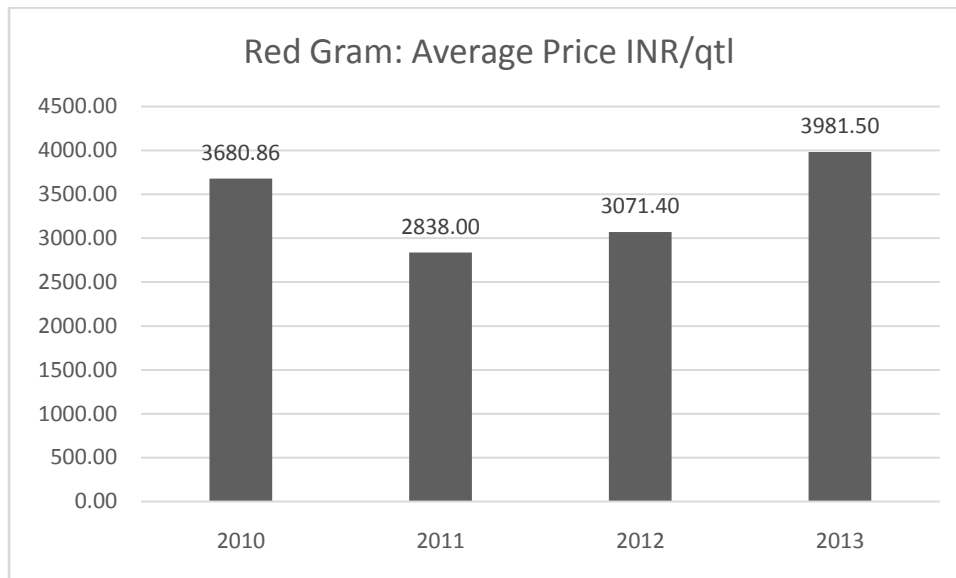
### Price Variation among local APMCs: Paddy

APMC	2013	
	Sum of Arrivals (qtl.)	Avg. Price (INR/qtl.)
AHERI	15138	1517.63
ARMORI	77309	1657.50
ARMORI-DESAIGANJ	540235	1720.92
CHAMORSHI	288164	2073.83
GADCHIROLI	46423	1925.17
<b>Grand Total</b>	<b>967269</b>	<b>1797.68</b>

Source: MSAMB

- Paddy arrivals in Gadchiroli are dominated by the Armori and Chamorshi APMCs
- The average price for Paddy in Chamorshi APMC in 2013 was the highest, followed by the Gadchiroli APMC.

### District Price Variation: Red Gram



Source: MSAMB

- The chart compares the average monthly price for Red Gram across selected APMCs in Gadchiroli over the last 4 Calendar years
- The district average price in 2013 has increased by over 40% since 2011.

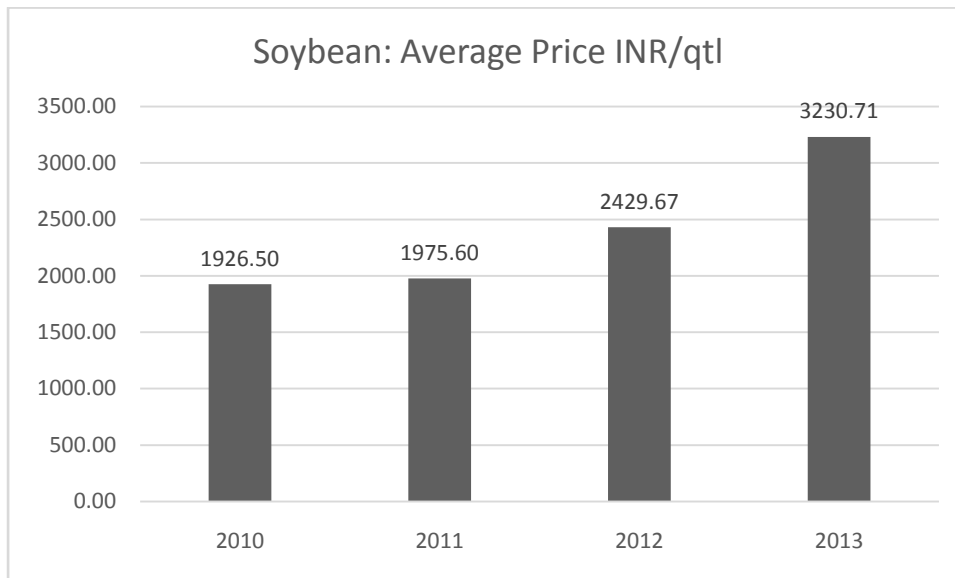
### Price Variation among local APMCs: Red Gram

	2013	
APMC	Sum of Arrivals (qtl.)	Avg. Price (INR/qtl.)
AHERI	484	3981.5
<b>Grand Total</b>	<b>484</b>	<b>3981.5</b>

Source: MSAMB

- Aheri was the only district APMC which traded in Red Gram in 2013
- Aheri APMC had a price of Rs.3981.5/ quintal in the district.

### District Price Variation:Soybean



Source: MSAMB

- The chart compares the average monthly price for Soybean across selected APMCs in Gadchiroli over the last 4 Calendar years.
- The average price has steadily grown from INR 1926.5/qtl in 2010 to INR 3230.71/qtl in 2013 i.e. an increase of 67.70%.

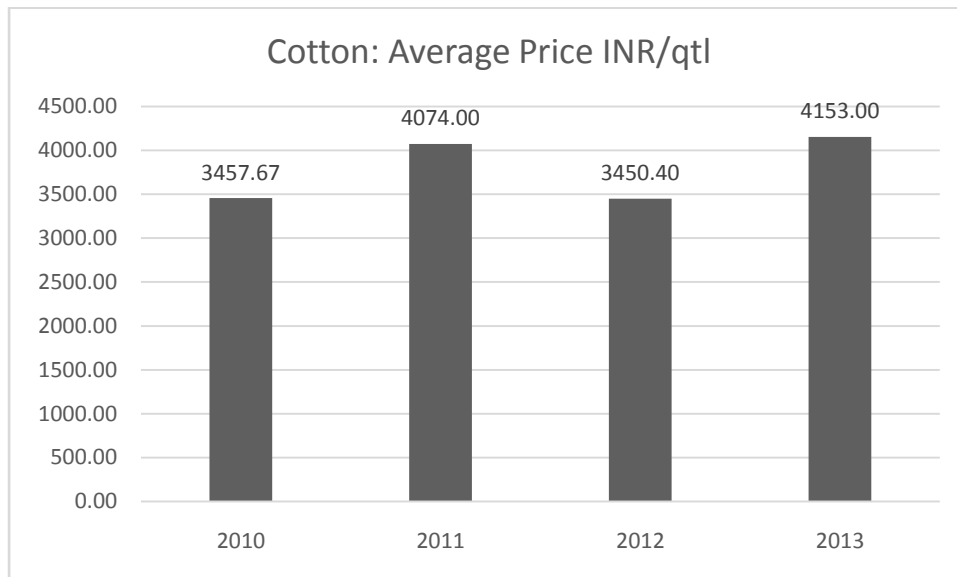
### Price Variation among local APMCs: Soybean

APMC	2013	
	Sum of Arrivals (qtl.)	Avg. Price (INR/qtl.)
AHERI	6785	3230.71
<b>Grand Total</b>	<b>6785</b>	<b>3230.71</b>

Source: MSAMB

- Aheri was the only district APMC which traded in Soybean in 2013
- Aheri APMC had a price of Rs.3230.71/ quintal in the district.

### District Price Variation: Cotton

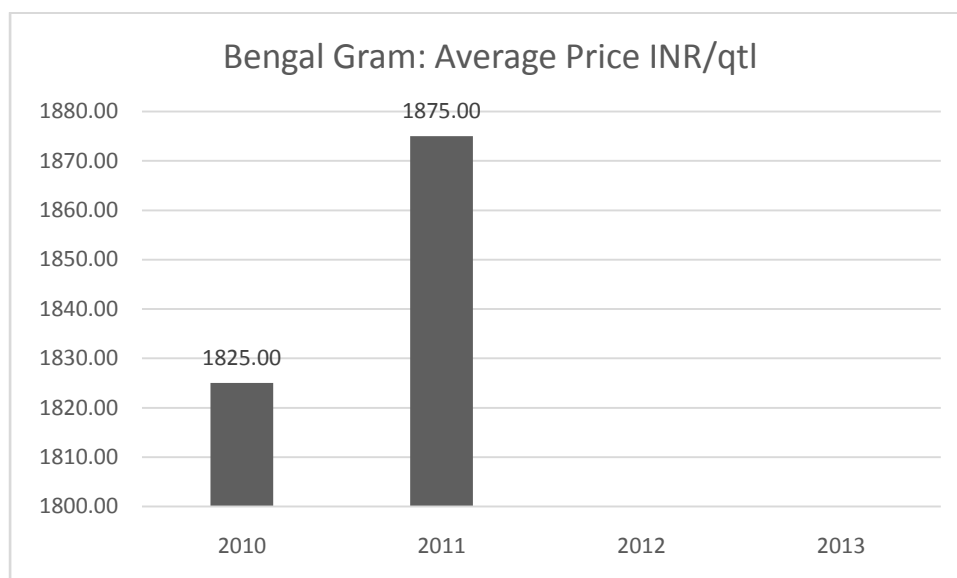


- The chart compares the average monthly price for cotton across selected APMCs in Gadchiroli over the last 4 Calendar years.
- The average price in the district has steadily grown from INR 3457.67/qtl in 2010 to INR 4153/qtl in 2013 i.e.grown by over 20%

	2013	
APMC	Sum of Arrivals (qtl.)	Avg. Price (INR/qtl.)
AHERI	12004	4153
Grand Total	<b>12004</b>	<b>4153</b>

- Aheri was the only district APMC which traded in Aheri in 2013
- Aheri APMC had a price of Rs.4153/ quintal in the district.

## District Price Variation: Bengal Gram



- The chart compares the average monthly price for Bengal Gram across selected APMCs in Gadchiroli over the last 4 Calendar years.
- The average price in the district has grown from INR 1825/qtl in 2010 to INR 1875/qtl in 2011 i.e. by around 2.74% post which there were no arrivals

APMC	2011	
	Sum of Arrivals (qtl.)	Avg. Price (INR/qtl.)
AHERI	19	1950
ARMORI	15	1800
<b>Grand Total</b>	<b>34</b>	<b>1875</b>

- Aheri and Armori APMC's accounts for all of the Bengal Gram arrivals which are very minute in quantity
- Aheri APMC offers the highest average price followed by Armori

Armori being the biggest APMC in the district, receives the highest arrivals in general. Large quantities of paddy, which is the major crop of the district, are traded in the Armori APMC. Armori is followed by Chamorshi in terms of arrivals. In order to encourage further development and production of the five emerging crops of the district, it is important to also understand the current production practices of farmers on the basis of which best practices for crop cultivation can be recommended and extension services designed and planned. The next section of this report discusses the production practices of farmers in the district.

## Farmer assessment: Post-harvest management practices

Based on our interactions with farmers, we have identified post-harvest practices for the five crops we are focusing on in Gadchiroli district and assessed the current levels of adoption for these practices. Our results are enumerated in the tables below:

### Best Postharvest Management Practices

Practice	Paddy	Red Gram	Soybean	Cotton	Bengal Gram
Grading					
Sundrying					
Packaging					
Terminal and Wholesale market					
CA/MA Storage Packaging					
Cold Chain					

Source: Primary Survey

Apni mandi facilities are not available in the district and cold chains are recommended for fruit crops viz. banana & K. Lime but its use is negligible. Overall, through our discussions with farmers, it was noticed that most farmers give little importance to cleaning and grading since they don't yet associate these post-harvest practices with better price realization. Mostly packaging, transportation, cold chains for these products are being arranged by traders themselves only. CA/MA Storage Packaging are mostly used in case of fruit crops but can also be used for cereals such as paddy. Cold chain is maintained in case of Banana and other fruit export only. But little to no quantity is exported from Gadchiroli.

### Usability of available PHM equipment and machinery

PHM Equipment / Machinery	Degree of Utilization	Barriers to usability
Warehouses & Godowns	70%	Mostly used by traders, and trading companies. Only around 10-15% of farmers use these storage facilities occasionally.
Space for Sorting & Grading	10%	Required for paddy. Low availability in APMC. Processors have their own sorting and grading facility.
Refrigerated Vans	5%	Required for horticulture crops like Banana, Papaya & Guava. Mostly preferred in case of export as its cost is too high.

Source: Primary Survey

In Gadchiroli district 2 cold storages of total capacity 10,000 litres are functioning. (Source: MSS,Gadchiroli 2013.). There is almost no cold storage facility being utilized for crops and is entirely being utilized for milk instead. The cold storages are located in Gadchiroli& Aheri. As far as the usability of warehouses and godowns is concerned, these facilities are mainly used by traders. A complete list of cold storages and warehouses are documented in Annexure 8.

### **Grading**

Grading in the district is mainly manual. Even though grading and sorting facilities are not very well developed, APMCs across the district have installed some facilities for grading & sorting but those are limited to sieves. Grading of the produce is mostly done by visual inspection. While manual grading is not based on a new set of grades, the method of grade assessment is based on a set of established thumb rules and estimates developed by the traders and commission agents over long years of experience. Some examples of manual grade assessment are as follows:-

- Staple length of cotton is measured by comparing the length of a single strand of fiber with the middle phalanx of the index finger. Traders have a view about what constitutes 29 mm when compared to their own hands.
- Similarly, moisture content in cotton and all other crops is measured by biting the seed. A seed which breaks easily with a cracking sound is considered to be of perfect moisture level (9%).
- Moisture levels typically need to be maintained at 9-10% for maximum recovery. While very high moisture leads to further weight losses, very low moisture can damage the machinery. Low moisture is typically detected by a seed than is difficult to break when bitten.
- In cereals and pulses, the size of the grain, uniformity of the grain size across the sample as well as boldness of the colour is also an important factor. For instance, in Red Gram large and bold red coloured grains are rated above smaller and lighter coloured grains.
- Damage to grains is another factor that is important. Often crops which are harvested using machine harvesting have scratches on the grain and hence command a relatively lower price than those harvested by hand.
- Last, amount of thrash, foreign matter and other edible grain (for instance soya grains in a red gram sample) is another determinant of grade of the produce. While certain foreign matter such as twigs, leafs etc. – to a manageable extent – is tolerable, edible grains and large amount of rocks, soil etc. is graded low.



While traders and agents often prefer to assess grades as per their set practices, they are also prone to make mistakes, since entire grading is based on judgment. Noted below are the Global Agri standards for Grade Assessment.

**Cotton**<sup>6</sup>: The East India Cotton Association (EICA) maintains official standards for each of the commercially grown varieties as per the schedule during each season. The EIC maintains official standards of different staple length ranging from 20 to 42 mm<sup>7</sup>:

S.No.	Category	Length in (mm)
1	Short staple	19.5mm and below
2	Medium	20.0 to 21.5mm
3	Superior	22.0 24.0mm
4	Long staple	24.5 to 26.5mm
5	Superior	27.0 to 29.5mm
6	Extra long	30.0mm and above

**Soybean**<sup>8</sup>: Farmers rarely grade soybean grains. They only clean and remove diseased, damaged, foreign matter from the grains. Farmers check moisture content in soybean by biting into the grain. To separate diseased, damaged and foreign matter from healthy grain, farmers use sieves. Traders buy grains on the basis of physical appearance, colour, size and quantity of foreign material in the grain heap.

**Paddy**<sup>9</sup>: Grading of paddy is usually done through mechanical devices, i.e. rotating graders, plansifier, trieurs, circular purifier, color grader/sorter etc. In the market, the sale of paddy is generally done on the basis of visual inspection of available sample and with local commercial name. Buyers offer paddy on the visual examination of whole lot characteristics such as:

- Paddy must be the dried mature grains (with husk) of *Oryza sativa* L.;
- Paddy must have uniform size, shape and colour;
- Paddy must be hard, clean, wholesome and free from moulds, weevils, obnoxious smell, discolouration, admixture of deleterious substances and all other impurities except to the extent indicated in the under special characteristics;

<sup>6</sup> Commodity profile submitted by Global Agri

<sup>8</sup>Commodity profile submitted by Global-Agri

<sup>9</sup> Commodity profile submitted by Global Agri

- Paddy must be in sound merchantable condition; and
- Paddy must not have moisture exceeding 14 percent.

**Bengal gram<sup>10</sup>:** Bengal gram is graded on the basis of availability of foreign matter, admixture, damaged grains, discoloration, broken and % of moisture in the grain. General characteristics of AGMARK grading specification under agriculture produce (Grading and Marketing) Act, 1937 are described in table below;

- Be the processed splits of mature, dried, whole grains of Cicer Arietinum.
- Have reasonably uniform size, shape and colour, characteristic of the variety/ form.
- Be sweet, clean, whole-some and free from moulds, weevils, obnoxious smell, discoloration, admixture of deleterious substances (including added coloring matter) and all other impurities except to the extent indicated under special characteristics;
- Be in sound merchantable condition;
- Not have moisture exceeding 12% and
- Have good cooking quality.

**Red Gram<sup>11</sup>:** The grade standards specified for Red gram whole and split notified by the Directorate of Marketing and Inspection are given below:

Grade designation	Maximum limits of tolerance (per cent by weight)					
	Moisture	Foreign Matter		Other edible grains	Damaged grains	Weevilled grains percent by count
		Organic	Inorganic			
Special	10.0	0.10	Nil	0.5	0.5	3.0
Standard	12.0	0.50	0.10	2.0	2.0	5.0
General	14.0	0.75	0.25	5.0	5.0	10.0

*Note: In foreign matter, the impurities of animal origin shall not be more than 0.10 percent by weight*

Grade specification and definition of quality of split husked Red Gram (Arhar/Tur) pulse under Agmark

Grade designation	Maximum limits of tolerance (per cent by weight)						
	Moisture	Foreign Matter		Other edible grains	Damaged grains	Broken grains	Weevilled grains percent by count
		Organic	Inorganic				
<b>Special</b>	10.0	0.10	Nil	Nil	0.5	2.0	1.0
<b>Standard</b>	12.0	0.50	0.10	0.2	2.0	5.0	2.0
<b>General</b>	14.0	0.75	0.25	0.5	5.0	8.0	3.0

*Note- In foreign matter, the impurities of animal origin shall not be more than 0.10 percent by weight*

67% agents interviewed felt that the infrastructure for grade assessment was sufficient at the APMC, however manual grading was more a preference issue rather than an infrastructure

<sup>10</sup>Commodity profile submitted by Global-Agri

<sup>11</sup>Commodity profile submitted by Global-Agri

issue. Many farmers are skeptical of electronic forms of grading citing fears of manipulation by agents as well as comfort level due to familiarity with the manual grading process. There is an equally large gap in awareness amongst agents who also prefer manual forms of grading. List of commodity wise existing grades and price variation are given in Annexure 10.

### Farmer Assessment – Package of Practices and Post-Harvest Management

	Package of Practices (PoP)	Degree/ Comments	Post-Harvest Management (PHM)	Degree/ Comments
<b>Awareness</b>	Awareness of recommended PoP	Poor	Awareness of recommended PHM	Poor
	Farmers following PoP	50-60%	Farmers following PHM practices	Poor
<b>Affordability</b>	Degree of affordability	40-50%	Degree of affordability	Poor
<b>Availability</b>	Ease of availability of information	Poor in Tribal areas; Medium in other areas	Usability of available facilities	Poor
			Reasons for non-usability:	
			1. Dilapidated structure	High
			2. High Cost	Medium
<b>Accessibility</b>	Ease of accessibility of information	Medium	Accessibility to PHM facilities	Poor
			Reasons for inaccessibility:	
			1. Lack of awareness	Medium
			2. Distance	High
			3. Paperwork/Cost	High

Most farmers we spoke with were not aware of the PoP and of those who were aware slightly over half of the farmers said they had incorporated at least some of the practices like sorting and grading while nearly all cleaned the produce prior to sale. Adoption of PHM practices was found to be lower, prohibitive costs and the paperwork involved were major reasons for farmers not using PHM facilities.

### Post-Harvest Losses

Farmers in Gadchiroli district use traditional post-harvest techniques for each of the major crops. As detailed in the table below one of the most common reasons for post-harvest loss across crops is the lack of proper storage facilities and infestation by pests and rodents post-harvest.

Crop	Major reasons for Loss (Production & PHM)
<b>Paddy</b>	<ul style="list-style-type: none"> <li>Suboptimal Handling: Due to lack of vigilance during threshing, bagging and transport.</li> <li>Improper storage – Storage grain susceptible to pests.</li> </ul>

<b>Red Gram</b>	<ul style="list-style-type: none"> <li>Improper storage, transport loss, decaying, loss during wholesaling and retailing due to improper handling</li> </ul>
<b>Soybean</b>	<ul style="list-style-type: none"> <li>Suboptimal Handling: Due to lack of vigilance during threshing, bagging and transport.</li> </ul>
<b>Cotton</b>	<ul style="list-style-type: none"> <li>Losses during Harvestation and picking</li> <li>Storage Loss: When Cotton is stored at room temperature after picking, the moisture loss accounts for total weight loss. Some cotton is also lost due to improper picking during high winds. It gets stuck to the ball itself.</li> </ul>
<b>Bengal Gram</b>	<ul style="list-style-type: none"> <li>Improper storage – Storage grain susceptible to pests.</li> <li>Suboptimal Handling: Due to lack of vigilance during threshing, bagging and transport.</li> </ul>

Specific quantification of post-harvest loss (based on farmer interactions) is provided below for the major crops:

<b>Crop</b>	<b>Reasons for major loss</b>													
<b>Paddy</b>	<ol style="list-style-type: none"> <li>Harvest threshing, winnowing, – 1%</li> <li>Transportation – 1-2%</li> <li>Storage – 2%</li> <li>Wholeseller, Retailer – 1%</li> <li>Malpractices/theft – 0.5%</li> </ol>	<table border="1"> <caption>Paddy Post-Harvest Loss Data</caption> <thead> <tr> <th>Stage</th> <th>Loss (%)</th> </tr> </thead> <tbody> <tr> <td>Harvest...</td> <td>1</td> </tr> <tr> <td>Transport...</td> <td>1.5</td> </tr> <tr> <td>Storage</td> <td>2</td> </tr> <tr> <td>Wholesal...</td> <td>1</td> </tr> <tr> <td>Malpracti...</td> <td>0.5</td> </tr> </tbody> </table>	Stage	Loss (%)	Harvest...	1	Transport...	1.5	Storage	2	Wholesal...	1	Malpracti...	0.5
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<b>Red Gram</b>	<ol style="list-style-type: none"> <li>Harvesting, – 0.5%</li> <li>Transportation – 0.5-1%</li> <li>Storage – 1%</li> <li>Wholeseller, Retailer – 0.5-1%</li> <li>Malpractices/theft – 0.5- 1%</li> </ol>	<table border="1"> <caption>Red Gram Post-Harvest Loss Data</caption> <thead> <tr> <th>Stage</th> <th>Loss (%)</th> </tr> </thead> <tbody> <tr> <td>Harvest...</td> <td>0.5</td> </tr> <tr> <td>Transport...</td> <td>0.75</td> </tr> <tr> <td>Storage</td> <td>1</td> </tr> <tr> <td>Wholesal...</td> <td>0.75</td> </tr> <tr> <td>Malpracti...</td> <td>0.75</td> </tr> </tbody> </table>	Stage	Loss (%)	Harvest...	0.5	Transport...	0.75	Storage	1	Wholesal...	0.75	Malpracti...	0.75
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Wholesal...	0.75													
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<b>Soybean</b>	<ol style="list-style-type: none"> <li>1. Harvest threshing, winnowing, – 0.5%</li> <li>2. Transportation – 0.5-1%</li> <li>3. Storage – 0.5-1%</li> <li>4. Wholeseller, Retailer – 1-2%</li> <li>5. Malpractices/theft – 0.5%</li> </ol>	<table border="1"> <caption>Soyabean Post-Harvest Loss Data</caption> <thead> <tr> <th>Category</th> <th>Loss Percentage</th> </tr> </thead> <tbody> <tr> <td>Harvest...</td> <td>0.5%</td> </tr> <tr> <td>Transport...</td> <td>0.8%</td> </tr> <tr> <td>Storage</td> <td>0.8%</td> </tr> <tr> <td>Wholesal...</td> <td>1.5%</td> </tr> <tr> <td>Malpracti...</td> <td>0.5%</td> </tr> </tbody> </table>	Category	Loss Percentage	Harvest...	0.5%	Transport...	0.8%	Storage	0.8%	Wholesal...	1.5%	Malpracti...	0.5%
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Storage	0.8%													
Wholesal...	1.5%													
Malpracti...	0.5%													
<b>Cotton</b>	<ol style="list-style-type: none"> <li>1. Harvest – 1-2 %</li> <li>2. Transportation –1%</li> <li>3. Storage – 1-2%</li> <li>4. Wholesaler/retailer – 0.5-1%</li> <li>5. Malpractices/theft - 0.1-0.2%</li> </ol>	<table border="1"> <caption>Cotton Post-Harvest Loss Data</caption> <thead> <tr> <th>Category</th> <th>Loss Percentage</th> </tr> </thead> <tbody> <tr> <td>Harvest...</td> <td>1.5%</td> </tr> <tr> <td>Transport...</td> <td>1.0%</td> </tr> <tr> <td>Storage</td> <td>1.5%</td> </tr> <tr> <td>Wholesal...</td> <td>0.8%</td> </tr> <tr> <td>Malpracti...</td> <td>0.2%</td> </tr> </tbody> </table>	Category	Loss Percentage	Harvest...	1.5%	Transport...	1.0%	Storage	1.5%	Wholesal...	0.8%	Malpracti...	0.2%
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<b>Bengal Gram</b>	<ol style="list-style-type: none"> <li>1. Harvesting, – 0.5-1%</li> <li>2. Transportation – 0.5-1%</li> <li>3. Storage –2%</li> <li>4. Wholeseller, Retailer – 1%</li> <li>5. Malpractices/theft – 0.5- 1%</li> </ol>	<table border="1"> <caption>Bengal Gram Post-Harvest Loss Data</caption> <thead> <tr> <th>Category</th> <th>Loss Percentage</th> </tr> </thead> <tbody> <tr> <td>Harvest...</td> <td>0.8%</td> </tr> <tr> <td>Transport...</td> <td>0.8%</td> </tr> <tr> <td>Storage</td> <td>2.0%</td> </tr> <tr> <td>Wholesal...</td> <td>1.0%</td> </tr> <tr> <td>Malpracti...</td> <td>0.8%</td> </tr> </tbody> </table>	Category	Loss Percentage	Harvest...	0.8%	Transport...	0.8%	Storage	2.0%	Wholesal...	1.0%	Malpracti...	0.8%
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Based on our interactions with various farmers and stakeholders, it is observed that some of the major causes of post-harvest losses are traditional techniques of storage, handling and transportation. While the reasons and practices are fairly well recognized, the adoption rate of practices by farmers is very poor.

## Existing Marketing Scenario in the District

Gadchiroli has over the years been under fairly under developed district. As a result, the district has relatively poor representation of APMC infrastructure and most of the APMCs of Gadchiroli district attracts paddy arrivals with other few commodities (such as Red chilli, Soybean, Tur, Gram, Jowar etc) to a smaller extent. Hence these APMCs are seasonally functional and more active during the season coinciding paddy arrivals.

### Agriculture Produce Market Committees (APMCs)

Gadchiroli has a total of 4 APMC markets in the district followed by 13 secondary markets or sub yards that are attached to it. Details of the APMCs and their average annual arrivals are given in the table below:

Sr. No.	Name Of APMC	Average Annual Arrivals (2010-2013) in qtl.	Average Annual Value of Produce (2010-2013) in INR Lac	Major commodities sold
1.	AHERI	142362	3655.86	Cotton, Paddy, Soybean
2.	ARMORI	2559187	104949.36	Paddy, Groundnut, Chillies
3.	CHAMORSHI	833655	13957.01	Paddy
4.	GADCHIROLI	194922	2866.53	Paddy

Source:MSAMB

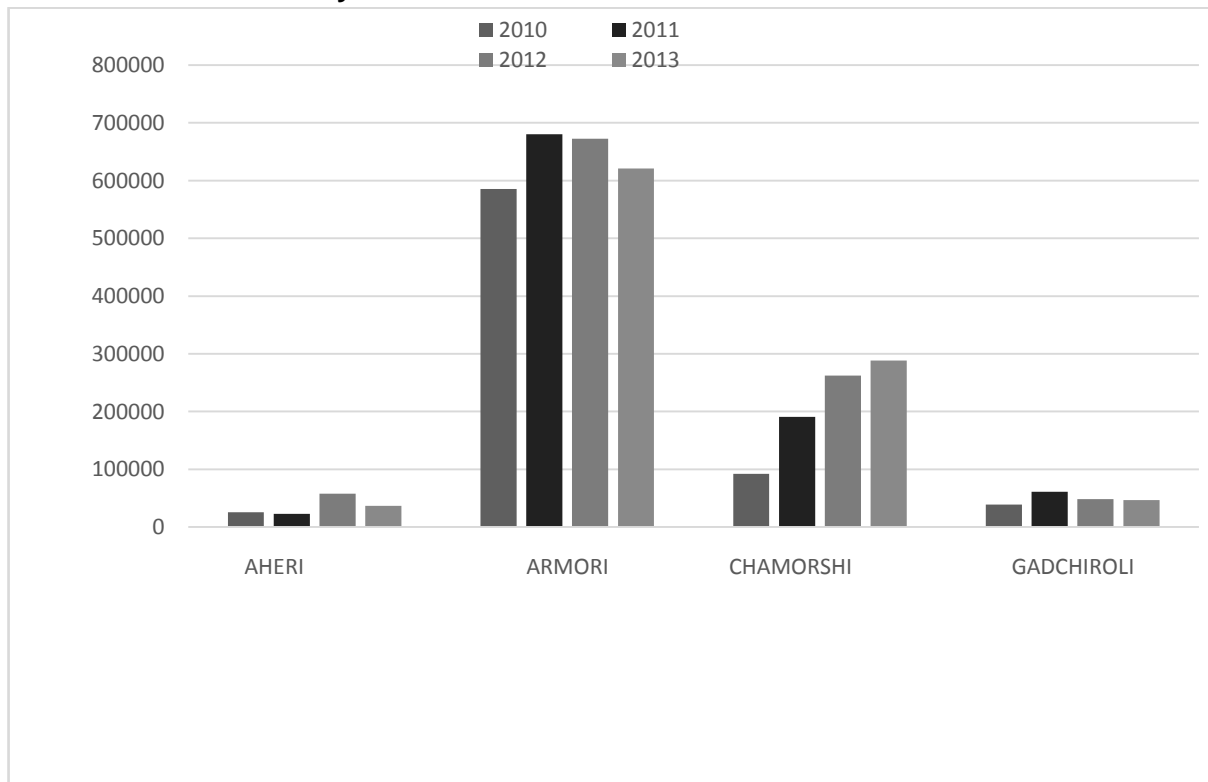
Among the APMCs in the district Armori has the highest arrivals followed by Chamorshi and Gadchiroli. In terms of value of produce as well Armori ranks first followed by Chamorshi and Aheri. This variation owes to the type of commodities marketed in different markets. For example Gadchiroli has high arrival of Paddy which is a low value commodity leading to significantly lower annual value of produce than Aheri which has a higher amount of cotton arrivals which is a relatively high value commodity.

### Year wise market arrivals in APMCs (in qtl)

APMC	2010		2011		2012		2013	
	Total Arrivals	% of total	Total Arrivals	% of total	Total Arrivals	% of total	Total Arrivals	% of total
AHERI	25238	3.40	22592	2.37	57669	5.54	36863	3.71
ARMORI	585475	78.92	679982	71.24	672627	64.60	621103	62.58
CHAMORSHI	92172	12.42	190831	19.99	262488	25.21	288164	29.03
GADCHIROLI	38997	5.26	61062	6.40	48440	4.65	46423	4.68
Grand Total	<b>741882</b>	<b>100.00</b>	<b>954467</b>	<b>100.00</b>	<b>1041224</b>	<b>100.00</b>	<b>992553</b>	<b>100.00</b>

Source: MSAMB

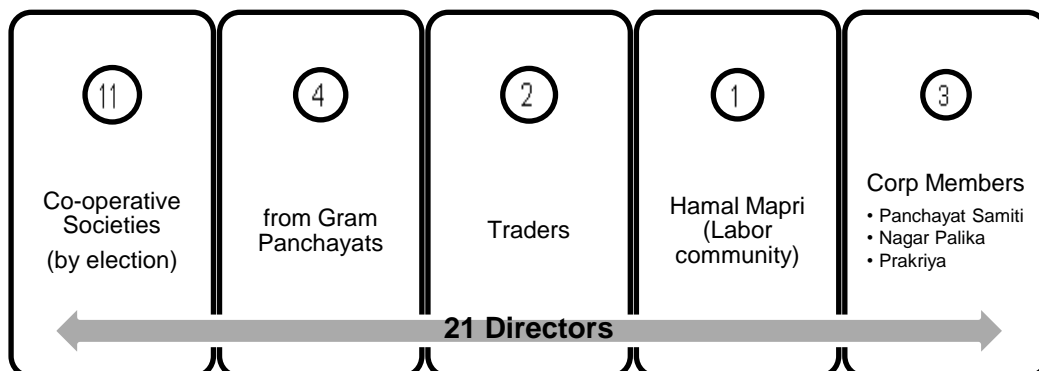
### Market-wise Trend Analysis of Market Arrivals



Source: MSAMB

Armori APMC has the highest number of arrivals at 62.58 percent of the district’s arrivals in 2013. Armori is followed by Chamorshi, Gadchiroli and Aheri APMC’s which account for 29.03%, 4.68% & 3.71% of total arrivals respectively. The lowest arrivals were recorded in Aheri APMC.

In terms of structure, an APMC typically has Directors supervising the day-to-day activities of the APMC. Given below is the organizational structure for Gadchiroli APMC:



Source: MSAMB

## Rural haats (RH)

Apart from the regulated markets (APMCs), there are 76 rural hats in Gadchiroli district which are unregulated markets and managed by gram panchayats and some rural haats by APMC's. The table in the annexure gives the comprehensive list of rural hats in the district. Under MACP only 5 rural haats have been considered which are listed below:

Sr. No	Block	No of Rural Haat	RH Selected under MACP
1	Chamorshi	2	Chamorshi, Kungada
2	Aheri	1	Aheri
3	Etapalli	1	Etapalli
4	Mulchera	1	Sundarnagar

Source: Original MSS Report

Please refer to Annexure 5A and 5B for details on Rural Haats in the district.

## Milk collection centers

Dairy is important enterprise in the farming system, but in Gadchiroli district performance of dairy industry is very poor. Milk collection centres are established at Gadchiroli and Aheri but at present both are not functioning. Annexure 6A and 6B gives details on the milk collection centres in the district.

## Milk Cooperative Societies in Gadchiroli District .

Sr. No	Block	No. of societies	Cold storages units	Cold Sotarage facility (000 lit)
1	Wadsa	13	-	-
2	Armorli	17	-	-
3	Kurkheda	9	-	-
4	Aheri	10	1	5
5	Bhamragad	-	-	-
6	Gadchiroli	18	1	5
7	Chamorshi	21	-	-
8	Mulchera	6	-	-
9	Etapalli	4	-	-
10	Korchi	-	-	-
11	Dhanora	11	-	-
12	Sironcha	5	-	-



	<b>Total</b>	<b>114</b>	<b>2</b>	<b>10</b>
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Source: Original MSS Report

### Livestock Markets

There are 7 live stock markets in the district where mainly trading of draft and mulching animals takes place. These are most neglected markets in terms of infrastructure and marketing practices, over all there is a lack of transparency in these markets.

Sr. No.	Name of livestock market	Taluka	Major Types of Animals Marketed	Weekday of market	Annual Market fees collected	Managed By whom
1	Armorli	Armorli	Bullock, Cow, Buffalo, Goat	Friday	21040	APMC Management
2	Aheri	Aheri	Bullock, Cow, Buffalo, Goat	Monday, Saturday	15019	APMC Management
3	Sironcha	Sironcha	Bullock, Cow, Buffalo, Goat	Monday	18363	APMC Management
4	Gadchiroli	Gadchiroli	Bullock, Cow, Buffalo, Goat	Sunday	19550	APMC Management
5	Talodhi,Asthi,Chamorshi	Chamorshi	Bullock, Cow, Buffalo, Goat	Wed,Thu,Fri	1,02,167	APMC Management

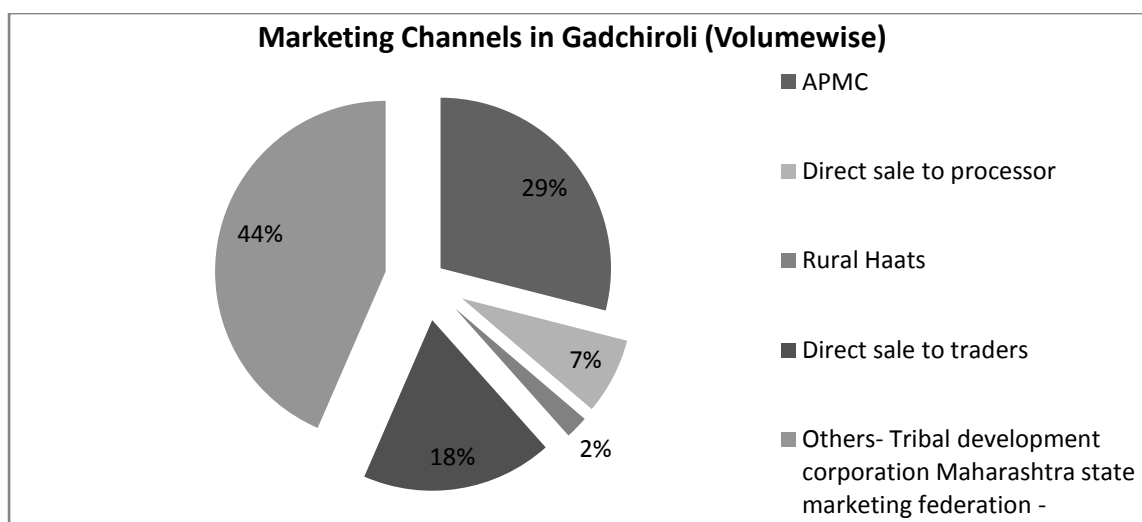
Source: Original MSS Report

### Other Markets

In the collective opinion of the DMM – MSAMB, Lead Bank officials and DCCB Bank official put together, Majority of volumes traded in the district nearly 44% are through other agencies like Tribal Development Corporation and Maharashtra state marketing federation, followed by around 29% of volumes traded by sale to APMCs, followed by 18% of the volumes traded by sale directly to the traders. Other channels such as rural haats, direct sale to processors etc, constitute the remaining portion.

Since, Gadchiroli is a major paddy growing district; moreover it is underdeveloped and has significant tribal population, hence state level agencies are quite active in supporting the farmers in marketing their produce. Agencies like tribal development corporation and Maharashtra state marketing federation procure from the farmers of Gadchiroli. As per DMM, and other stakeholders like Lead Bank & DCCB bank, the volumes traded in the district, majority of ~44% of the commodity is being procured through these agencies. The Tribal Development Corporation procures paddy through Adivasi Vividh Karyakari Societies at 'Minimum Support Price' declared by the government from time to time.

## Market Channels



Source: average estimated based on interviews with APMC secretaries

Among APMCs, the market at Armori is by far the most important accounting for more than 62.58% of the district's trade in 2013. Mainly paddy is traded in the district APMC's and it accounts for over 97.4% of total arrivals, cotton & Soybean figure next – forming 1.21% & 0.68% of total arrivals respectively. A significant portion of these crops come from other districts and even outside the state as well.

Total arrivals have increased over the last four years (33.79% increase) but it has decreased by 4.9% over the last year. Arrivals are primarily driven by the paddy harvest. Among the other crops, arrivals for cotton and Soybean have increased over the last year. Paddy is the most important crop in Gadchiroli, both in terms of acreage and as per the APMC arrival data.

### Agriculture commodities marketed vis-a-vis production

Details of commodity wise average annual production and average annual sales in the district and outside the district are given below.

Sr. No	Commodity	Av. Annual Production ('000 MT)	Quantity Retained by producer ('000 MT)	Marketable Surplus ('000 MT)	Av. Annual Sell in APMCs within District ('000 MT)	Av. Annual Sell in APMCs out of District ('000MT)
1	Paddy	1846	738	1108	140	968
2	Soybean	49	2	47	3	44
3	Tur	33	12	21	8	13

Source: Original MSS Report

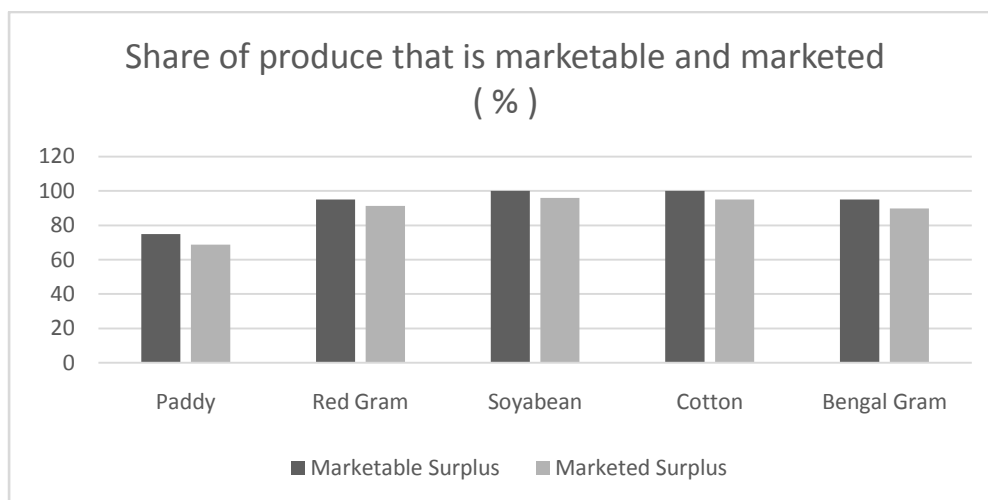
\*% retention by producer for consumption as per the report on National survey for estimation of marketable surplus & post harvest losses GOI 2007

\*\* Though quantity of sell is more than production it is due to arrivals from other adjoining districts.

The table above reveals that out of total marketable surplus of paddy in the district almost 60% quantity is marketed in APMCs. In case of Soybean & Tur the marketable surplus is 95% and 63.7% respectively. The most marketed commodities in the district are Paddy, Soybean & Cotton which indicate that, these commodities dominate the economies of marketing system in the district.

### Marketable and Marketed surplus

Through our interaction with farmers the following key observations were made regarding marketable surplus:



Source: Primary Survey

The actual marketable surplus exhibits a strong variation at the farmer's level to the extent of +-30% depending on various factors, which have a positive or negative effect on the marketable surplus.

Factor	Effect on marketable surplus
The consumption of the product by the farmer and his family	-Ve
Market fluctuations/change in policies lead to higher surplus as farmers tend to offload the product quickly, but then the price realized is lesser	+Ve
Market price: higher the price more the marketable surplus	+Ve
Natural Calamities (Hailstorms, drought etc)	-Ve
PHM losses in the product	-Ve

Malpractices by trader and theft	-Ve
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Moreover it was also found that the method of market surplus estimation at the village level is very weak. Farmers do not keep a record of various losses and usage. Also it was said that they have never been asked to estimate their marketable surplus by any of the government departments.

Key reasons for difference in marketable surplus and marketed surplus were found as follows:

Crop	Handling/ Packaging	Storage	Transportation	Malpractices*/theft
Paddy	√	√√√	√√	√
Red Gram	√	√√√	√√	√√
Soybean	√√	√	√	√
Cotton	√√√	√√√	√√	√
Bengal Gram	√	√√√	√	√

√ Low level of losses,    √√ Medium level of losses    √√√ High level of losses

Source: Primary Farmer Survey

\* Malpractices by commission agents include random deduction in weight as well as deduction of extra charges apart from unloading, weighing and commission.

While the major cause for difference in marketable and marketed surplus is the PHM loss, the following observations were also made:

- Some farmers reported that product is lost in transportation.
- Malpractices by trader in terms of how much reduction he will assume are also common and the farmer has little control over such practices.
- Village aggregators sometimes use unfair weighing balances.

## Constraints in existing marketing system

An analysis of the strengths, weaknesses, opportunities and threats for all APMCs in the district has been done. This analysis gives us a clear picture of the infrastructure and facilities available in each APMC so as to identify areas that require attention and development.

Sr.no	Name of APMC	Strengths	Weaknesses	Opportunities	Threats
1	Gadchiroli	1.Land available for infrastructure development 2.Internet and telecommunication facility is available	1.Away from main road 2.No storage facility ,poor roads ,no place for lease,No wall compound inadequate manpower	Income can increase if infrastructure can developed	Surrounded by slum area
2	Armori	1.Using display boards 2.displying daily market rates on internet 3.storage capacity 1150 MT 4.Onion storage capacity 100 MT.	1. inadequate manpower 2.No vehicle for sport transport . 3. inadequate machinery.(Digital Analyzer, way bridge)	Proposal submitted under RKVY for basic infrastructure development.	Private purchaser
3	Aheri	1.Land available for infrastructure development 2.Internet and telecommunication facility is available 3.storage capacity 1600 MT 4.On road	1/minimum purchaser 2. inadequate manpower 3.. inadequate machinery.(Digital Analyzer, way bridge)	Work in progress under RKVY	Antisocial agents are active in catchment area
4	Chmorshi	1.Max sub yards as compare to other APMCs in district 2.Good storage facility	Political influence is high	Adoption of crop diversification among formers and area is increasing continuously	Work under RKVY is pending due to internal management problem

## Agro processing industry in the district

The district economy is predominately agro-based, 155 rice mills are operating in the district. Only one silk rearing unit is operating in the district. Major forest based industries in the district includes 8 sawmills. Two paper and pulp making industries are operating in the district. Two fertilizer factories are also operating in the district

While processing infrastructure in Gadchiroli is largely based around the key crops majorly around paddy based agro industries, there are reasonable processing units to process various commodities being grown in the district such as Rice, chilly etc.

Typically agro-processing businesses in the district are rice mills and Poha mills. Very few small units are engaged in bakery and confectionery, spices processing activities. However, since last three- four years, there is slight change in cropping pattern. In blocks having less rainfall area under crops like soybean, cotton, turmeric is increasing. Also in Armori and Wadsa blocks farmers are shifting towards sugarcane. These developments will increase the produce available for processing.

Type of Unit	Number of Units
<b>Rice Mills</b>	155
<b>Poha Mills</b>	7
<b>Dal Mills</b>	5
<b>Oil Mills</b>	3
<b>Chilli powder processing units</b>	3
<b>Bakery</b>	2

*Source: District Profile: Gadchiroli; NABARD PLP. Sanity check on number of units has been done with the DMM-MSAMB , MACP-AME and market participants for corroboration purposes.*

## Direct Purchase

Direct sale to Traders is a significant part of commodity trading in Gadchiroli followed by direct sale to processors. Together they account for close to ~25% of total volumes traded in the district. Paddy is largely sold directly to processors in the district whereas commodities such as Soybean, cotton and pulses like tur and gram typically arrive at APMCs, where the traders buy the material and in turn supply to these processors.

No DMI (Direct Marketing Intermediaries) are operating in Gadchiroli. Interactions with APMC Secretaries and DMM suggest that there are no DMIs active in the district.

In the state 102 licenses are issued for direct purchase out of which mentioned below are state level purchasers.

Sr No	Name of licensee	Commodity Traded
1	Aditya Birla Retail Limited, Aditya Birla Retail Centre, Siroya Centre, Next to Le Meridian Hotel, Sahara Airport Road, Mumbai 400 099.	Regulated Agricultural
2	Metro Cash & Carry India Pvt.Ltd.CTS 372 & 372/1 to 372/65 Village-Kanjur,Tal-Kurla Mumbai,Suburban,Dist- LBS	All Kinds of Fruits & Agricultural produce
3	Khet-Se Agriproduce India Private Limited,C-1/9,First Floor, , Corporation Bank Building,Sector 31,Noida-201301	All Agricultural Produce
4	ITC Ltd. IBD 3rd Floor,Thaper House,Civil Line, Nagpur-440001,Ph-0712-2550133	All Agricultural Produce
5	Hypercity Retail (India) Ltd., 1st Floor, Paradigm, A, Mind Space, Off Link Road, Malad {w} Mumbai-400064.	All Agri Produce
6	Rasoya Proteins Ltd.Village Wanjari, Tal-Vani, Dist-Yevatmal-445304	All Agri Produce
7	M/S-Future Agrovat Ltd. M-27,A.P.M.C. Market-II Dana Bandar,Vashi, Navi Mumbai-400703	All Agri Produce
8	Narmada Solvex Pvt.Ltd. (Regd.Off.) Kirana Bazar Akola-444001 (Factory)Gat No.85 & 89 Hingoli Road, Tal. & Dist. Akola.	All Agri.Produce
9	Dayal Energy & Proteins Ltd. Dayal House, Opp.Govt.Medical College, New Radhakisan Polts, Akola (Factory) At.Babhulgaon, Tal. & Dist.Akola	Soybean,Gram,Tur, Sunflower,Safflower,
10	M/s Vichi Agro Product Pvt. Ltd. A355 TTC, MIDC, Mahape-410210 Navi Mumbai	All Agri.Produce
11	Align Retail Traders Private Ltd. C-40, TTC Industrial Area, Near Village Pawane, Thane Belapur Road, Navi Mumbai	All Agri.Produce
12	Booker India Pvt.Ltd. 03, Madhuli, 2nd Floor Beasmat Road, Worali Mumbai	All Agri.Produce
13	Dayal Cotspin limited,Cotton Ginning & Pressing Factory,Vanjari Tal.Wani Dist.Yavatmal	Raw Cotton, Gram, Tuar, Sunflower
14	M/s S.K.R.K.& Co. No.118 Near Mangalmurtu Hospital Shop No.2, Gorie-2, Borivali West, Mumbai-92. Ph.No.022-32687088	All Agri.Produce
15	M.P.S.Food Products Ltd. 505 Town Center Andheri Kurla Road, Mural , Andheri (Eest) Mumbai-59 Ph.9930467014	All Agri.Produce
	Reliance Fresh Ltd.5th Floor North Block , Sacred World, Jagtap Chouk, Wanwarie, Pune-40 Ph.022/44776901	All Agri.Produce
16	Fild Fresh Foods Private Likited,405 Gera 77 Kalayaninagar Pune-411006.	All Agri.Produce
17	Madam Agro Food Industries Private Ltd. Gat No.277/2, Uchhat Road, Village - Magathane, Taluka Wada, Dist.Thane-421 312 &	All Agri.Produce
18	FUTURE FRESHFOODS LIMITED , Knowledge House, Shyam Nagar, Off Jogeshwari - Vikhroli Link Road, Jogeshwari (E), Mumbai-400 060. Ph.No.022-30842321	All Agri.Produce
19	M/S JSW Green Private Limited Jindal manion , 5 A, Dr. G Deshmukh Marg Mumbai-26	All Agri Produce
20	M/S Max Hypermarket India Pvt. Ltd. Vadgaon Sheri Tal-Haveli Pune-14	All Agri Produce
21	Shri.Bharat Hiranman Bhoir, Shivneri Nagar,Dahisar (East) Ph-9320211154	All Agri Produce

Since paddy is a traditional crops for Gadchiroli, similar to other districts of Vidarbha region such as Bhandara, Gondia etc. And, processing industry for paddy is relatively better established in the district than when compared with the other major commodities being grown in the district. Also, few farmers hence, prefer to sell directly to processors to bypass commissions to be paid to

commission agents in the APMCs. Similarly, often such produce is also purchased by aggregators in the village and then sold directly to processors for better margins. In such transactions, the small farmer benefits from being able to sell at farm gate (albeit at a lower than market price), as it would have been uneconomical for him/her to take produce to the nearest APMCs, while the aggregator is able to play the market and negotiate with the processors and makes a profit in that capacity.

### **Average Storage Period**

The average storage period and storage trends for the five major crops in the district are discussed below.

**Paddy:** Most of the paddy is sold to APMC's or state government agencies like Tribal Development Corporation & Maharashtra state marketing federation. In case of APMC's the traders store it for nearly a month and sell it to the processors. The state government agencies store the produce in their own warehouses or dispatch it to other locations.

**Cotton:** Most of the Farmers directly take their produce to ginning & pressing mills and not to the APMCs. Village aggregators / small traders procuring from farmers in villages in small quantity, keep the cotton for 1-2 days till they procure a truck load/Vehicle load of cotton and then send it to ginning - pressing mill. Traders trading in cotton bales, store bales for longer periods, up to 5-6 months also or proceed with sales as per the market demands.

**Bengal Gram:** At farmers level Bengal Gram is stored for approximately 15 days. Traders aggregate and store the produce for a maximum of 1-1.5 months.

**Red Gram:** At farmers level Bengal Gram is stored for approximately 15 days. Traders aggregate and store the produce for a maximum of 1-1.5 months.

**Soybean:** Small traders keep buying for 3-4 days and on 5th & 6th day they repack the procured Soybean stock and dispatch to big traders.

Turnover of most of the traders is limited and they keep buying for big traders operating. They buy and supply to big traders in 5-6 days.

- These big traders collect stock and supply it to processors and big traders operating at other locations.
- Processors keep stocks for their consumption of around 2 months Or as per the fund availability & keep buying from the market as & when required.

Peak arrival period for key crops



Crops	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Paddy						P	P	P				
Soybean						P	P	P				
Bengal Gram	P										P	P
Red Gram	P			P						P		
Cotton							P	P		P		

	Peak Prices
P	Peak Arrivals

## Transport

Farm transportation activities include the use of motorized equipment to deliver the final produce to the local Mandi or the APMC market. This needs proper transportation facility to maintain the quality of the produce as well as the time lines, so that the produce can reach its final destination within time and the farmers can get the benefit of good rates. Transport infrastructure is adequate in Gadchiroli. All stakeholders from farmers to traders were satisfied with the transport infrastructure. Use of refrigerated vans for transportation of Banana is Minimum.

Normally there are two types of transports. 1) Primary transport and 2) Secondary transport. In primary transport, farmers use their own sources such as tractors, small trucks, bullock cart, and private trucks to deliver the product to the local mandi or APMC market. In secondary transport, the traders who are dealing in bulk quantities, prefer to take a bigger vehicle to deliver the stock to the final buyers or companies. Transportation activities should be timed to occur as much as possible during regular working hours.

It is observed that after drying and cleaning of the produce it is packed in gunny bags, plastic bags, and crates. For pulses and cereals, they are usually packed in gunny bags. Vehicle is used as per the volume of the produce and the place where it is to be delivered.

In some of the produce such as horticultural crops like Banana, K.Lime they are not sent to the local APMC markets, instead they have been delivered to the local market in small or required quantities or to other bigger potential markets in the same district or may be in another state. This requires proper logistic facility to deliver stocks. In these crops, harvesting takes place in the evening time to maintain the freshness and quality of the produce and after packing, it is immediately loaded in the vehicle for the delivery.

Farmers / Traders using public roadways must comply with existing legislation, regulation the required documents such as bill or invoice copy, direct marketing licenses if they have, or the proper information of the delivery.

In some cases farmers / traders face certain issues while delivering stock within district or to other state. Some of these issues faced by them are:

- Proper transport facility is not available in some part of district.
- Road infrastructure is not proper, rough and damaged roads, traffic problems leads to delay in reaching the final destination.
- State wise different taxation policy on one crop.
- Higher transit damage during the transportation.
- Heat Accumulation or very poor ventilation within the transport vehicle.

### **Private Markets versus Regulated Markets**

Private Markets have a major presence and operation as compared to regulated markets as is also much larger than that in most other parts of the state. The Private market set up provides advantage to the farmers or the traders as compared to the cost of setting up these markets.

### **Constraints in Market led Production**

The SREP for the district gives us an overview of the gaps in technology adoption in production practices of major crops and allied agricultural enterprises. However, this does not include post-harvest practices to improve quality of produce so as to add value to products for better price realization. Market led production is a way of backward planning of production and includes such pre and postharvest practices that improve the quality of produce for higher returns in the market. From this perspective of analyzing constraints in market led production, the following major crops are considered. Constraint analysis for a more exhaustive list of crops including the five emerging crops and promising enterprises is placed inAnnexures 15 and 16.

#### **Crops**

- i. Paddy
- ii. Bengal Gram
- iii. Soybean
- iv. Cotton
- v. Red Gram

Some of the key insights gathered from the constraint analysis are noted below for the emerging crops of the district.

Key insights from the constraints analysis for **Paddy** are:

- Farmers need to organize in producer groups and also use commodity exchanges more
- The recommended seeds are HMT, Jaishriramas these varieties fetch good prices.
- Emphasis needs to be put on proper grading activities along with proper storage so as to avoid pest infestation.
- Maize should be packed in polythene impregnated jute bags and/or gunny bags to allow for proper handling process.
- Access to information for farmers through the AGMARK and MSAMB websites and electronic media on grades and pricing, contract farming, certification, training and opportunities to export can be strengthened.
- Pledge loan facilities need to be made available to farmers to reduce the number of distress sales.
- There is scope to increase contract farming in the form of public-private partnerships.

Key insights from the constraints analysis for **Bengal Gram** are:

- Farmers need to organize in producer groups and also use commodity exchanges more
- The recommended seeds are Vishal ,Vijay ,Digvijay, Virat jaki 9218 as these varieties fetch good prices.
- Emphasis needs to be put on proper grading activities along with proper storage so as to avoid pest infestation.
- Maize should be packed in polythene impregnated jute bags and/or gunny bags to allow for proper handling process.
- Access to information for farmers through the AGMARK and MSAMB websites and electronic media on grades and pricing, contract farming, certification, training and opportunities to export can be strengthened.
- Pledge loan facilities need to be made available to farmers to reduce the number of distress sales.
- There is scope to increase contract farming in the form of public-private partnerships.

Key insights from the constraints analysis for **Soybean** are:

- Farmers need to organize themselves in producer groups to increase their bargaining power and also use commodity exchanges more.
- The recommended seeds are JS-335, JS-9305.as these varieties fetch good prices.
- Produce should be packaged in jute gunny bags, polythene impregnated jute bags and cloth bags starting from 50 Kg bags and for retail where possible.

- Better storage facilities where grain is stored at room temperature are required; especially to ensure that grade-wise prescribed moisture levels given in Annexure 13 are not exceeded.
- Farmers should invest in creating value added homestead products.
- Access to information for farmers through the AGMARK and MSAMB websites and electronic media on grades and pricing, contract farming, certification, training and opportunities to export can be strengthened.
- Pledge loan facilities need to be made available to farmers to reduce the number of distress sales.
- There is scope to increase contract farming in the form of public-private partnerships.

Key insights from the constraints analysis for **Cotton** are:

- Farmers need to organize themselves in producer groups to increase their bargaining power and also use commodity exchanges more.
- Seeds that fetch higher prices and have higher yield should be recommended.
- Produce should be packaged in jute gunny bags, polythene impregnated jute bags and cloth bags starting from 50 Kg bags and for retail where possible.
- Better storage facilities where grain is stored at room temperature are required; especially to ensure that grade-wise prescribed moisture levels are not exceeded.
- Farmers should invest in creating value added homestead products.
- Access to information for farmers through the AGMARK and MSAMB websites and electronic media on grades and pricing, contract farming, certification, training and opportunities to export can be strengthened.
- Pledge loan facilities need to be made available to farmers to reduce the number of distress sales.
- There is scope to increase contract farming in the form of public-private partnerships.

Key insights from the constraints analysis for **Red Gram** are:

- Farmers need to organize in producer groups and also use commodity exchanges more
- Seeds and crop varieties that fetch higher prices and have higher yield should be recommended.
- Emphasis need to be put on proper grading activities along with proper storage so as to avoid pest infestation.
- Red gram should be packed in gunny bags to allow for proper handling process.
- Access to information for farmers through the AGMARK and MSAMB websites and electronic media on grades and pricing, contract farming, certification, training and opportunities to export can be strengthened.

- Pledge loan facilities need to be made available to farmers to reduce the number of distress sales.
- There is scope to increase contract farming in the form of public-private partnerships.

Details of the constraint analysis are given in Annexure 15 and 16 with a Full (F), Partial (P) and No (N) gap analysis.

## Recommendations

The MSS report outlines the existing marketing systems and channels in Gadchiroli district along with detailed information on the main crops of the district. This information helps us understand the current activities and developments in Gadchiroli and enables us to identify potential business opportunities that farmer groups can establish in the district. This MSS report also helps us to propose specific activities that ATMA may undertake to promote production and productivity of crops as well as encourage business activity amongst farmer groups.

### Major gaps

For production in the district to be market led, improvement in productivity along with improvement in quality for better value produce is needed. Strategies have to be framed which will be supported by interventions/ activities to achieve set targets. Interventions proposed will act as cafeteria for preparation of extension projects for addressing the identified issues of particular crops. Some key issues that need to be immediately addressed are as follows.

Underdeveloped grade assessment infrastructure: Like many other markets in the region, grade assessment of produce in Gadchiroli is done manually, though weighing is largely done manually and to some extent done on electronic scale. One of the key reasons for prevalence of manual grading is cited as lack of adequate facilities. At the same time, commission agents also suggest a strong preference by farmers for manual grading owing to (i) ignorance of how an equipment based grading works and (ii) a fear that if their produce is accurately graded, the second and third grade produce (which is likely to be differentiated from the first grade) may not be sold and any such losses would undercut any gains made from selling of pure first grade produce. However, farmers were not able to specifically point out instances when such a thing had happened, indicating that their bias against equipment based grading may not be based on sound ground. Poor grade assessment systems and lack of awareness amongst farmers' means that at the farmer level, all produce is graded like-wise and hence there is not much incentive for a farmer to grow better.

Poor Outreach: The agriculture department is the major extension providing agency, with maximum staff strength at its disposal. While the agriculture department rates itself high on its

ability to be able to reach out to farmers and provide quality agricultural support, the DSAO admits that the department has not been able to reach out to all the farmers in the district. This view was also seconded by the program co-ordinator of KVK, who feels that they are able to reach only 25-35% of the farmers with their various suites of services. The primary reason quoted for this poor outreach is insufficient staff strength. Interviews with a sample of 30 farmers– within the focal areas of ATMA and/or KVK - also indicate that formal line departments have managed to reach only a portion of them. As a result of poor outreach to farmers by extension staff, training outreach is also poor. Only 11 out of the 30 farmers interviewed said they had ever been exposed to some kind of demo and training. What apparently is the need is for on the one hand to improve staff strength, if that is the main hindrance in reaching out to farmers, and at the same time explore alternate delivery options. For instance, co-opting input dealers and providing training to retailers, could be one option of reaching out messages to a large number of farmers.

Insufficient warehouse infrastructure: All the major commodities grown in the district, particularly paddy to a large extent followed by other commodities such as wheat and gram are stored to a small extent in the warehouses. Typically warehouses run to between 70-75% capacity utilization. Gadchiroli has a storage capacity of ~ 52,800 MT, which is about a tenth of the total production of even the major crops combined and further as compared to the production potential of the district. While storage demand at this juncture can be managed due to farmers not utilizing these facilities, once farmers are made aware of the benefits of storing the produce and their demand of such facilities increases, the shortage in storage could be very detrimental and could potentially inhibit plans for any large scale involvement of farmers in value addition or moving up the value chain.

## **Road Map**

The strategy for development of agri-business in Gadchiroli is three pronged – (i) Augment Storage Infrastructure and Promote storages amongst farmers, (ii) Transparent & Fair Grade Assessment Mechanism and (iii) Promote farmer owned small scale businesses.

Focus Area	Specific Action Points	Activities	Responsibility	Time frame & Cost
<b>URGENT GAPS</b>				
Augment Storage Infrastructure and Promote cold storages amongst farmers.	<p>Understanding Requirement</p> <ol style="list-style-type: none"> <li>1) Conduct an exhaustive trader survey and identify trading expectations for each crop for the next 10 years, particularly factoring in volumes from outside district.</li> <li>2) Identify storage need gap keeping in mind – (i) gap between capacity and production, (ii) gap between capacity and expected production/trade in future and (iii) proportion of produce expected to be traded v/s sold.</li> </ol> <p>Ensure Adequate Capacity</p> <ol style="list-style-type: none"> <li>1) Ensure adequate storage capacities at each APMCs considering a 10 year expectation.</li> <li>2) Focus on setting up warehouses at secondary market levels as well as at key villages.</li> <li>3) Set up a program to link village level warehouses and PAC storage structures for bank accreditation. Financial support for structural improvement (to meet WDRA guidelines) and facilitation of bank linkages would be key inputs required.</li> <li>3) Experiment with a combination of brick &amp; mortar warehouses as well as hermetic storage structures to ensure expansion in capacity within short period of time.</li> </ol> <p>Promote Usage by Farmers</p> <ol style="list-style-type: none"> <li>1) Explore options of farmers tying up with traders/processors to stock on their behalf using an accredited warehouse and against a buy back guarantee from the trader/processor. Such a tri-party arrangement will help the processor not require to maintain stock and take benefit of lower storage costs of farmers; the farmer to take benefit of price rise in non-peak seasons; while assure farmer of a market due to a buy-back guarantee.</li> <li>2) Explore option of using trained agri-service providers working on commission basis to promote warehouse services amongst farmers. Such service providers could work on a commission basis and help farmers plan their business by using a warehouse, help them with documentation.</li> </ol>	<p>Improve basic &amp; productive infrastructure in APMC's and Rural Haats</p> <p>PHT Demonstration</p> <p>Pledge Loan</p> <p>Farmer Trainings</p>	<p>PD ATMA, in collaboration with</p> <ol style="list-style-type: none"> <li>1) MSAMB for augmenting APMC infrastructure and conducting trader level survey.</li> <li>2) With Agri-department to promote concept amongst farmers.</li> </ol>	<p>Annexure 12: Proposed Development Work</p> <p>Annexure 14: Upcoming Projects</p> <p>Annexure 18: Abstract of planned activity</p> <p>Annexure 22: Agriculture Market Development Plan</p> <p>Annexure 15: Constraint Analysis</p> <p>Annexure 16: Constraints, Strategies and Proposed Interventions for Promoting Market Led Agri-Production</p> <p>Annexure 17: Timeframe for implementation</p>

<p>Transparent &amp; Fair Grade Assessment Mechanism</p>	<p>Equip APMCs and Keep Stock</p> <ol style="list-style-type: none"> <li>1) Take stock of grade assessment equipment at APMCs including grading tables, moisture meters, staple length scale (for cotton etc) and sizer, graders and sorters (for horticultural crops)</li> <li>2) Equip all APMCs with proper grade assessment equipment as per stock taking.</li> <li>3) Ensure stock of all equipment is monthly submitted by APMC Secretaries to the DMM-MSAMB to ensure APMCs are ensuring they are updated</li> <li>4) Explore opportunities of APMCs hiring out grade assessment equipment to farmers groups and processing units and/or start providing self-grading services to farmers on lines of weigh bridges, so that farmers can self-grade their produce and then bargain with processors for a better price.</li> </ol> <p>Create Awareness</p> <ol style="list-style-type: none"> <li>1) Adopt a systematic campaign program to promote equipment based grade assessment including multiple media such as (i) wall paintings, (ii) local cable ads, (iii) news-papers, (iv) radio spots etc.</li> <li>2) Each APMC to submit proposal with specific targets for adopting promotion activity and target to reach out to farmers.</li> <li>3) Make it mandatory for all trades within the APMC to be done using equipment based grade assessment and provide farmer with a grade slip that gives complete details of produce graded. Conduct monthly farmer surveys during the peak marketing season – using a private agency – to gauge level of awareness of farmers about transparent grading systems.</li> </ol>	<p>Demonstrations</p> <p>Farmer Trainings</p> <p>Exposure visits</p> <p>Within state</p> <p>Outside state</p>	<p>DMM- MSAMB</p>	<p>Annexure 12: Proposed Development Work</p> <p>Annexure 14: Upcoming Projects</p> <p>Annexure 18: Abstract of planned activity</p> <p>Annexure 22: Agriculture Market Development Plan</p> <p>Annexure 15: Constraint Analysis</p> <p>Annexure 16: Constraints, Strategies and Proposed Interventions for Promoting Market Led Agri-Production</p> <p>Annexure 17: Timeframe for implementation</p>
<p>Promote farmer owned small scale businesses</p>	<p>Businesses such as Mango and Jamun juice Concentrates, Small scale Rice bran oil extraction unit,etc. address a critical shortfall in processing industry in the district.</p> <p>Similarly business opportunities exist in storage, with private entrepreneurs setting up warehouses to let out to farmers at the village level.</p>	<p>Crop Demonstration</p> <p>Farmer Training</p> <p>Farmer Collective</p>	<p>PD ATMA in collaboration with DSAO</p>	<p>Budget &amp; Time Frame to be made by ATMA: Leverage on MACP Scheme and/ or Agri Entrepreneurs</p>



	<p>If promoted at a producer association level on a large scale, they can provide a fillip to the existing food processing industry and capture the untapped commodities for processing.</p> <p>Businesses in General</p> <ol style="list-style-type: none"> <li>1) Conduct a detailed business cum value chain plan for identified set of business such as the above two, identifying even micro level success factors of doing business.</li> <li>2) Hire a reputed consultant to provide business training and hand-holding support for a period of 2 years for each producer association, including support on legal formalities and other documentation.</li> <li>3) Set up a business facilitation desk at ATMA level with specific focus on providing support on accessing state and central government schemes and tracking progress on submitted applications</li> </ol>	<p>Service Centres</p> <p>Group Formation</p> <p>Exposure visits</p> <p>Within state</p> <p>Outside state</p>		<p>scheme under ACABC</p>
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A comprehensive action plan for the time period of 2012-2017 was developed by the team detailing the specific approaches required to be taken for each crop category- Cereals, pulses, oilseeds and fruits & vegetables. The team has classified the action plan in terms of activities to be undertaken specific to: Crop demonstration; PHT demonstration; Group formation; FCSC (grains); Pledge loans; Farmers training; Farm school and Exposure visits (within state/ outside state). All these activities have been proposed to solve for issues related to non adoption of package of practices and post harvest practices along with the lack of market awareness. Additionally, the total costs of implementing the action plan has been laid out after considering the availability of funds from major institutions such as MACP, ATMA, MSWHC, NABARD, ISOPAM, NHM and MWSIP. While most of the prescribed activities in the action plan may already be under implementation, a reference to this action plan will further help in creating a strategic approach to the development of the district. Please refer to Annexure 12, 14 and 22 for the action plan.

### **Potential Businesses**

Furthermore, there is significant potential for additional value capture by the jamun and mango farmers. The above analysis and recommendations will help strengthen the infrastructure for cultivation of these crops in turn encouraging the growth and establishment of processing units in the district. We found it useful to further understand the business environment in Gadchiroli and identify potential business opportunities in the district. Based on the data produced in the report and our assessment of the needs and gaps of the district, we suggest potential areas for intervention across key crops identified. The potential for value addition through processing at different levels to increase efficiency, preserve quality and/or reduce wastage/spoilage was also taken into account and assessed. A detailed analysis of all the business opportunities possible across the main crops was conducted and three of the most beneficial business opportunities for the district were shortlisted. The assessment evaluated each of the above economic opportunities for the crops on the basis of the following scoring matrix (on a scale of 1 to 3) to arrive at a shortlist of three promising business opportunities.

Parameter	Score
Raw material availability	1 – Less than 5% of gross cropped area under cultivation 2 – 5 to 15% of gross cropped area under cultivation 3 – >15% of gross cropped area under cultivation
Market potential	1 – Low growth, small market size dependent on nature of business 2 – Medium growth, medium market size dependent on nature of business 3 – High growth, large market size dependent on nature of business

Complexity of operations	1 – Very complex technology/processes 2 – Moderately complex technology/ processes 3 – Simple technology/processes
Investment required	1 – More than Rs.50 lacs 2 – Between Rs.20 to 50 lacs 3- Less than Rs.20 lacs
Potential for impact	1 – 0% to 5% of the total number of farmers growing the crop 2 – 5 to 20% of the total number of farmers growing the crop 3 – >20% of the total number of farmers growing the crop

On the basis of the scoring exercise undertaken the following emerged as the most promising business opportunities which can potentially be promoted among the farmer groups in Gadchiroli:

Sr. No.	Business model/opportunity	Focus crop(s)	Value chain impact	Key considerations
1.	Jamun juice production unit	Wild Jamun	Primary processing	<ul style="list-style-type: none"> <li>• Ample availability of the fruit in forest area</li> <li>• Existing picking and trade channels in the district</li> <li>• Extremely low cost of implementation</li> </ul>
2.	Aam panna production unit	Mango	Primary processing	<ul style="list-style-type: none"> <li>• High availability of wild mangos in forest belt</li> <li>• Small amount of mango cultivation in the district as well</li> <li>• Popular beverage across the region and country</li> <li>• Easy manufacture process and low cost</li> </ul>
3.	Storage units	All Crops	Post-Harvest management	<ul style="list-style-type: none"> <li>• Targets the largest gap in the agri-business value chain in Gadchiroli</li> <li>• Extremely scalable business model</li> <li>• Investment in brick and mortar storage facility not necessary with suggested storage cocoons</li> <li>• Potential for higher returns on produce due to staggered sale through the year</li> </ul>

Encouraging the establishment of the above businesses will encourage production and cultivation of crops and help farmers realize a better price for their produce

## Review of ATMA

In order to ensure adoption of best practices in crop cultivation and encourage the establishment of businesses in Gadchiroli, ATMA will need to create specific and structured extension programmes and interventions using the above information and recommendations. A scoring assessment of ATMA conducted by the TechnoServe team on key parameters reveals that ATMA Gadchiroli will have to significantly improve specifically in convergence, bringing participating departments' schemes in ATMA's work, its overall coverage and outreach in the district as well improving its achievement vis-a-vis plan. At the same time there is still scope of improvement in innovation and new practices promoted by ATMA in the district..

ATMA in the district is evolving as an organisation in promoting extension services in the district. ATMA Gadchiroli has done some notable work in the district such as crop diversification from paddy to *Singhada*, processing of Indian Blackberry, promotion of lac cultivation and promotion of medicinal herbs. However, further improvement and promotion of market led extension needs to be undertaken. Specialised personnel with sound technical knowledge on marketing at the block level as well as additional SMS with marketing knowledge at the block level quire to be recruited. Additionally, regular training of the Block Technology Managers and Deputy Director (Marketing) on concept of market led extension needs to be undertaken.

With the initiation of MACP and overall emphasis on Market led extension in general, ATMA, Gadchiroli has been proactively gearing towards the same. However, ATMA Gadchiroli will need to play a critical role in helping establish infrastructure and policy. Amongst other important undertakings, capacity building of ATMA staff through modular structured training programs particularly on specific skills such as monitoring and evaluation, market led extension, value addition and processing, and formation and strengthening of FPOs will further improve the impact and execution of activities. Recruitment of key staff members in ATMA along with creating an annual plan on detailed tasks and key result areas for staff members will be helpful in streamlining processes and implementing activities. Finally, regularly monitoring work at ATMA and documenting the processes and progress in quarterly and annual reports will help ATMA create impact through its activities and course correct their implementation strategies required so as to create the most impact.

A broad action plan for ATMA is noted below:

Action Areas	Description	When
A. Strategy		

i) Articulation of key focus areas based on gap assessment	<ul style="list-style-type: none"> <li>● Identify key gaps through following: <ul style="list-style-type: none"> <li>○ Review of SREP, MSS and this study</li> <li>○ Sample need assessment exercise through PRA, RRA and other tools</li> </ul> </li> <li>● Articulate focus areas based on the above</li> </ul>	Yearly once before Annual Action Plan preparation (January-February)
ii) Strategic cum planning workshop with AMC on key focus areas	<ul style="list-style-type: none"> <li>● Discuss focus areas with AMC members</li> <li>● Build consensus and develop department-wise broad initiatives that can be promoted</li> <li>● Communicate the focus areas and broad initiatives to BTTs and also recommend them to share the same with Farmer Friends, the ground soldiers</li> </ul>	Yearly once before Annual Action Plan preparation (January-February)
iii) Focus on market led extension on the identified priority and emerging crops	<ul style="list-style-type: none"> <li>● Key crops identified are: Paddy, Gram, Tomato, Chilli, Cauliflower, Onion, Turmeric, <i>Singhada</i>, Mango et al.</li> <li>● <u>Paddy</u>- In paddy, initiatives that can be promoted are: <ul style="list-style-type: none"> <li>○ To start with, training, demonstrations and farm schools on System of Rice Intensification (SRI) should be undertaken at a large scale and aggressively.</li> <li>○ Better-quality rice (few aromatic ones) should be introduced in the district selecting few farmers who should be provided with proper handholding support by BTMs/SMSs.</li> <li>○ Develop a marketing plan after sowing done. Data should be collected from fields through farmer friends by the end of second month of sowing. Project production and explore possible markets.</li> <li>○ More market linkage with Rice Mills should be explored like the one done already for promoting direct marketing of paddy within the district as well as in the adjacent districts.</li> <li>○ Few FIGs should be provided with rice mills and their capacity building on packaging of the products along with branding should properly be done. Efforts should be made to link few of these FIGs with mid-day meal programme for assured marketing of the rice produced by them.</li> </ul> </li> <li>● <u>Vegetables</u> – In Vegetables, initiatives that can be promoted are: <ul style="list-style-type: none"> <li>○ Facilitate opening up of agri-input store for the FIGs and their members who should be offered a token discount and better discount should be credited in FIG account directly.</li> <li>○ Farmers need to be exposed to different markets to understand the different grades and market prices;</li> <li>○ Facilitate farmers' access to storage facility; and inform farmers on the daily market prices through SMS-based system.</li> <li>○ Capacity-building of farmers on local value-addition like sorting and grading and collective transportation of the produce.</li> <li>○ Linking with some large traders/retail outlets/hotels/hospitals/hostels as well as institutional buyers like schools/para military forces et al.</li> </ul> </li> </ul>	Throughout the year, particularly before sowing and harvesting of specific crops.

	<ul style="list-style-type: none"> <li>○ Facilitation of contract farming can also be undertaken under PPP mode for vegetables like tomato and potato.</li> <li>○ At the urban places, FIGs of vegetable retailers should be promoted and they should be linked with producer groups.</li> <li>● <u>Singhada</u>– In <i>Singhada</i>, initiatives that can be promoted are: <ul style="list-style-type: none"> <li>○ Needs to be promoted as an alternative of paddy more aggressively.</li> <li>○ Promotion of Collective sales.</li> <li>○ Local value-addition and processing should be facilitated for the production of items like <i>Singhade ka aata</i>. For marketing, local as well as markets from adjacent districts should be tapped.</li> </ul> </li> </ul>	
iv) Focus on strengthening of Farmer Interest Groups and Producer Companies	<ul style="list-style-type: none"> <li>● Hiring of an external agency to grade all the FIGs promoted within the district.</li> <li>● Identification of the gap areas as reflected in the grading exercise, a sort of Capacity-building needs assessment.</li> <li>● Prepare customised training module for different grades of FIGs, focusing on different aspects for strengthening and periodic grading review to continue</li> <li>● Allocate man power to handhold FIGs on a regular basis</li> <li>● Focus on women FIGs as they are more close to fields and use MAVIM as a capacity-building agency.</li> <li>● Develop a structured system through which Farmer Friends periodically attend FIG meetings till additional human resource is not deployed.</li> <li>● Initiate activities (preferably economic) to encourage FIGs to actively involve</li> </ul>	Immediate;  Planning and activities to be reviewed every month
<b>B. Structure</b>		
v) Develop selection criteria for non-official members through pre-set criteria	<ul style="list-style-type: none"> <li>● The farmers need to be selected through a set of criteria</li> <li>● AMC to develop a set of criteria and the same can be approved by GB</li> <li>● Following are the suggestive criteria: <ul style="list-style-type: none"> <li>○ Farmer having diversified farming system</li> <li>○ Farmer currently engaged in agriculture and is located in the village/place of farming</li> <li>○ Demonstrated use of new technology having good relationship with research institutions or agencies in the business of promoting agriculture</li> <li>○ No current or past engagement/relationship with political parties; or have hold any positions at district or <i>Taluka</i> level</li> <li>○ Give preference to recommendations of those progressive farmers with no political allegiance</li> <li>○ Literate and have ability to read and write (Higher education is preferable but not essential)</li> </ul> </li> </ul>	Immediate
vi) Functioning of GB and AMC through orientation and regular meetings	<ul style="list-style-type: none"> <li>● Orientation of members on their roles and responsibilities</li> <li>● Quarterly meetings for GB</li> <li>● Monthly meetings for AMC</li> </ul>	Immediate

	<ul style="list-style-type: none"> <li>• Ensure attendance and participation of members through involving members in the regular work of ATMA</li> <li>• Advocacy with the State ATMA team to convince line department heads, at the state level to include ATMA-related deliverables in their district plans</li> <li>• Building a system of JDA-level of official attending few of the AMC meetings, at least quarterly</li> </ul>	
vii) Involve BFAC, DFAC and AMC members in regular monitoring of ATMA's work	<ul style="list-style-type: none"> <li>• Orient BFAC, DFAC and AMC members on their roles and responsibilities</li> <li>• Create plans for the members to undertake monitoring function on monthly basis</li> <li>• ATMA officials like PD/DPDs to develop a system of taking few of the DFAC/BFAC members together while on monitoring in any block</li> <li>• Include specific agenda to discuss the feedback from the BFAC, DFAC and AMC members post their visits in their monthly meetings</li> <li>• Request Chairman, Governing Board with few other members of GB to visit some of the works done by line departments</li> </ul>	Throughout the year.
<b>C. Staff</b>		
viii) Building skills of ATMA staff through modular structured training programs	<p>Following are the suggested trainings for</p> <ul style="list-style-type: none"> <li>○ <u>Project Director</u> – Project Formulation and Management, Market led Extension, Monitoring and Evaluation, Networking, Negotiations, Corporate Social Responsibility</li> <li>○ <u>Deputy Project Director (Marketing)</u> – Market Led Extension, Networking, Negotiations, PHM, Value-addition and processing</li> <li>○ <u>Deputy Project Director (Research)</u>: Research methodology, farm schools, demonstrations, trainings, crop based trainings on new technology</li> <li>○ <u>BTM</u> – Concepts of Market led Extension, Post-Harvest Management in the key crops, Value addition and Processing</li> <li>○ <u>SMS</u> – Post-Harvest Management in the key crops, Market-led Extension, Formation, strengthening of FIGs, CIGs, FPOs</li> <li>○ <u>Farmer Friend</u> – Group Dynamics, Formation and strengthening and Grading of FIGs, Basic Technical Knowledge about focus crops of his catchment villages</li> </ul>	Yearly, spread evenly across the year
ix) Recruitment of key staff	<p>Following vacancies need to be filled up:</p> <ul style="list-style-type: none"> <li>• DPD – 2;</li> <li>• BTM – 2;</li> <li>• SMS – 18; preference for candidates having skills and experience on marketing of agro-produce as well as qualification and experience matching other focused areas like Sericulture, Fisheries et al</li> </ul>	Immediate

x) Annual Planning for key staff and articulation of Key Result Areas (KRAs)	<ul style="list-style-type: none"> <li>• Each ATMA staff to outline and articulate their Key Result Areas (KRAs)</li> <li>• Goals to be based tightly on the key identified priority areas and annual action plan</li> <li>• BTMs and SMSs to spend minimum of 50% of their time in field, working with farmers and FIGs</li> <li>• A fortnightly work plan to be made at the outset of the month and verified/approved by TAO and DPD</li> </ul>	<ul style="list-style-type: none"> <li>• Annual (post finalisation of Annual Work plan)</li> <li>• Every month</li> <li>• Every fortnight</li> </ul>
<b>D. System</b>		
xi) Improve Annual Action Planning process by detailing the key activities at the block and District level and getting advisory support from Farmers Advisory Committee and BTT members	<ul style="list-style-type: none"> <li>• Communicate the key focus and intervention areas to BTT/BTM as planned by the AMC</li> <li>• Use detailed template to support the BAP/DAP template</li> <li>• Develop a roster of activities and advertise the Block and District level activities through websites, SMS, print media and putting the same at common places</li> <li>• Maintain a transparent and stricter guidelines for selection of beneficiaries, preferably farmers grouped in FIGs</li> <li>• Review of the plans versus achievement to be undertaken monthly at the Block level at BTT/BFAC meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Annual while preparation of Annual Action Plan</li> <li>• Monthly</li> </ul>
xii) Documentation of ATMA's work through a quarterly and annual report.	<ul style="list-style-type: none"> <li>• ATMA to produce a two to three page report (both physical and financial) on the activities undertaken in the blocks, mentioning Champions and Laggards (line departments)</li> <li>• These quarterly reports to be consolidated as Annual report</li> </ul>	Quarterly and compilation to be done by the end of every year
xiii) Annual evaluation by involving experts	<ul style="list-style-type: none"> <li>• ATMA to undertake annual evaluation of its work through hiring professional consultants at the District level</li> <li>• Develop a system of internal performance audit</li> </ul>	<ul style="list-style-type: none"> <li>• At the end of financial year,</li> <li>• Half-yearly</li> </ul>

In addition to ATMA, the Agriculture Marketing Experts ('AME') of the districts along with other officials will play a critical role in identifying and implementing the district plan so as to encourage business activity. The district AMEs will need to develop a plan to encourage contract farming, direct selling and processing industries. It would be of utmost importance for the AMEs to identify the key buyers/ consumers in the district in terms of large institutions and organizations such as hospitals, military camps, police camps, colleges and others. These organizations will be important buyers of locally processed commodities and locally cultivated fruits and vegetables. Furthermore, the AMEs must identify the potential industries for the main crops of the district and the market requirement and demand from companies and processors. This will enable a detailed approach to encouraging business activity in the district and thus ensuring farmers receive a better price for their crops.



## ANNEXURES

### Annexure 1: General statistics of Gadchiroli

Sr.No.	Particulars	Detail's	Percentage
1	Geographical Area, ha	14,91,554	
2	No.of Talukas	12	
3	No.of Panchayat Samitis	12	
4	No.of Gram Panchayat	467	
5	Total No.of Villages	1679	
6	Inhabited	1523	
7	No of villages connected by road	1441	
8	Forest ha	11,33,009	76%
9	Land under non-Agri use barren land	82,102	6%
10	Land suitable for cultivation but not in use	76,343	5%
11	Waste land	35,491	2%
12	Net cultivable area	1,64,609	11%
13	Area under double cropping	51,846	3%
14	Gross cropped area	2,12,763	14%

### **Annexure 2: Area & Productivity of Major Crops**

Sr No.	Crop	Average of last five years		
		Area (ha.)	Production (MT)	Productivity (Kg/ha)
1	Paddy	151500	184600	1217
2	Gram	2500	1300	514
3	Tur	4300	3300	730
4	Soybean	6300	4900	867
5	Wheat	1200	1000	861
6	Cotton	6700	9800	1279
5	Wheat	1200	1000	861

### **Annexure 3: List of representative villages under each AES**

Sr. No	Name of the AES	Block covered	Names of the representative village
1	AES I	Wadsa,Armor	Rawanwadi,Shivani
2	AES II	Kurkheda,Korchi	Bandhgaon,Botekasa
3	AES III	Gadchiroli,Dhanora	Gurwada,Rangi
4	AES IV	Chamorshi,Mulchera,Aheri	Navegaon,Dinacharpalli,Chitugunta
5	AES V	Etapalli,Bhamragad,Sironcha	Gurupalli,Jijgaon,Asaralli

### **Annexure 4: APMC & Arrivals**

Sr. No	APMC	TALUKA	AVG ANNUAL SALES	AVG ANNUAL CESS	Major Commodities
1	Gadchiroli	Gadchiroli	2390	93	Paddy,Red Chilli, Ground Nut
2	Chamorshi	Chamorshi	7183	25	Paddy,Soyabeen,Tur,,Gram
3	Armor	Armor	9079	40	Paddy,Red Chilli, Ground Nut
4	Aheri	Aheri	30880	87	Cotton,Soyabeen,Tur,,Jowar,Paddy

### **Annexure 5A: Block Wise Rural Haats Selected**

Sr. No	Block	No of Rural Haat	RH Selected under MACP
1	Chamorshi	2	Chamorshi,Kungada
2	Aheri	1	Aheri
3	Etapalli	1	Etapalli
4	Mulchera	1	Sundarnagar

### Annexure 5B:List of Rural Haats

Sr. No.	Name of Taluka	Name of rural Haat	Weekday of rural haat	Major Commodities marketed	No of villages connected
1	Armori	Armori	Friday	vegetables	45
2		Wairagad	Thursday	vegetables	31
3		Bhakrondi	Tuesday	vegetables	13
4		Delanwadi	Saturday	vegetables	10
5		Wadha	Sunday	vegetables	17
6		Deloda	Wednesday	vegetables	6
7		Wasala	Tuesday	vegetables	5
8	Desaiganj	Desaiganj	Sunday	vegetables	39
9		Shirpur	Tuesday	vegetables	7
10		Angara	Monday	vegetables	16
11	Kurkheda	Kurkheda	Saturday	vegetables	52
12		Kadoli	Monday	vegetables	12
13		Ramgadh	Wednesday	vegetables	19
14		Malewada	Sunday	vegetables	15
15	Korchi	Korchi	Thursday	vegetables	40
16		Bedgaon	Monday	vegetables	25
17		Betkathi	Tuesday	vegetables	15
18		Bori	Saturday	vegetables	21
19		Kotgal	Friday	vegetables	27
20		Maseli	Friday	vegetables	13
21		Kotra	Saturday	vegetables	14
22		Botekasa	Wednesday	vegetables	11
23	Allapalli	Allapalli	Sunday	vegetables	30
24		Bori	Wednesday	vegetables	10
25		Gimalgatha	Sunday	vegetables	10
26		Umanar	Thursday	vegetables	7
27		Permili	Monday	vegetables	10
28		Kamalapur	Tuesday	vegetables	7
29	Sironcha	Sironcha	Monday	vegetables	20
30		Tekada	Wednesday	vegetables	14
31		Zinganur	Tuesday	vegetables	8
32		Aasaralli	Friday	vegetables	16
33		Pentipaka	Saturday	vegetables	5
34		Bamani	Sunday	vegetables	12
35		Halewara	Monday	vegetables	8
36	Ettapalli	Ettapalli	Tuesday	vegetables	26
37		Kasansur	Wednesday	vegetables	13
38		Gatha	Thursday	vegetables	9
39		Hedri	Friday	vegetables	7
40		Jarawandi	Saturday	vegetables	12
41		Geda	Sunday	vegetables	5
42	Bhamragadh	Bhamragadh	Wednesday	vegetables	20
43		Tadgaon	Friday	vegetables	13
44		Mannanera(J)	Thursday	vegetables	7
45		Laheri	Sunday	vegetables	9
46	Gadchiroli	Gadchiroli	Sunday	vegetables	70
47		Nilgaon	Friday	vegetables	15

48		Porla	Tuesday	vegetables	15
49		Amirja	Tuesday	vegetables	15
50		Moushikhambh	Tuesday	vegetables	20
51		Potegaon	Tuesday	vegetables	25
52	Dhanora	Dhanora	Thursday	vegetables	45
53		Murumgaon	Monday	vegetables	30
54		Pendhari	Thursday	vegetables	30
55		Karvapha	Tuesday	vegetables	25
56		Chatgaon	Wednesday	vegetables	35
57		Rangi	Wednesday	vegetables	30
58	Chamorshi	Kunghada	Monday	vegetables	36
59		Talodhi Mokasa	Wednesday	vegetables	22
60		Bhendala	Monday	vegetables	17
61		Chamorshi	Thursday	vegetables	14
62		Adyal	Saturday	vegetables	8
63		Ghot	Tuesday	vegetables	16
64		Subhashgram	Saturday	vegetables	19
65		Gundapalli	Saturday	vegetables	20
66	Ashti	Thursday	vegetables	27	
67	Mulchera	Vivekanandpur	Thursday	vegetables	25
68		Sundarnagar	Sunday	vegetables	31
69		Lagam	Thursday	vegetables	17
70	Aheri	Aheri	Thursday	vegetables	29
71		Rajpur Patch	Thursday	vegetables	12
72		Bori	Monday	vegetables	15
73		Permili	Friday	vegetables	11
74		Devalmari S	Sunday	vegetables	8
75		Kamalpur	Sunday	vegetables	11
76		Jimalgatta S	Sunday	vegetables	14

### **Annexure 6A: Milk Co-operative Societies**

Sr. No	Block	No. of societies	Cold storages units	Cold Sotorage facility (000 lit)
1	Wadsa	13	-	-
2	Armori	17	-	-
3	Kurkheda	9	-	-
4	Aheri	10	1	5
5	Bhamragad	-	-	-
6	Gadchiroli	18	1	5
7	Chamorshi	21	-	-
8	Mulchera	6	-	-
9	Etapalli	4	-	-
10	Korchi	-	-	-
11	Dhanora	11	-	-
12	Sironcha	5	-	-

	<b>Total</b>	<b>114</b>	<b>2</b>	<b>10</b>
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### **Annexure 6B: Milk Collection Centres**

Sr. No.	Milk Collection Centre	Pvt or Co-Op or Govt	Taluka	Average Daily Collection of Last 5 Years in Ltrs (2007-11)	
				Flush Season	Lean Season
1	Wasa	Co-Op.	Gadchiroli	35	28
2	Pardi	Co-Op.	Gadchiroli	35	15
3	Thanegaon	Co-Op.	Armori	112	104
4	Armori	Co-Op.	Armori	41	8
5	Wadsa	Co-Op.	Wadsa	23	11
6	Visora	Co-Op.	Wadsa	111	29

### **Annexure 7: Livestock Markets**

Sr. No.	Name of livestock market	Taluka	Major Types of Animals Marketed	Weekday of market	Annual Market fees collected	Managed By whom
1	Armori	Armori	Bullock, Cow, Buffalo, Goat	Friday	21040	APMC Management
2	Aheri	Aheri	Bullock, Cow, Buffalo, Goat	Monday, Saturday	15019	APMC Management
3	Sironcha	Sironcha	Bullock, Cow, Buffalo, Goat	Monday	18363	APMC Management
4	Gadchiroli	Gadchiroli	Bullock, Cow, Buffalo, Goat	Sunday	19550	APMC Management
5	Talodhi,Asthi,Chamorshi	Chamorshi	Bullock, Cow, Buffalo, Goat	Wed,Thu,Fri	1,02,167	APMC Management
	Reference-Respective AP					

### **Annexure 8: List of Godowns**

Sr.No.	Godown Owner	No of Godown	Storage Fascility
A)	APMC		
1	Chamorshi	5	500 MT
2	Armorli	3	1150 MT
3	Aheri	3	1600 MT
<b>Total</b>	<b>Total</b>	<b>11</b>	<b>3250 MT</b>
B)	TDC		
1	Dhanora	1	100 MT
2	Sironcha	1	200 MT
<b>Total</b>	<b>Total</b>	<b>2</b>	<b>300 MT</b>
C)	M.S.W.C.		
1	Gadchiroli	5	4200 MT
<b>Total</b>	<b>Total</b>	<b>5</b>	<b>4200 MT</b>
<b>Total</b>	<b>Total</b>	<b>18</b>	<b>7750 MT</b>

### **Annexure 9: Marketed & Marketable Surplus**

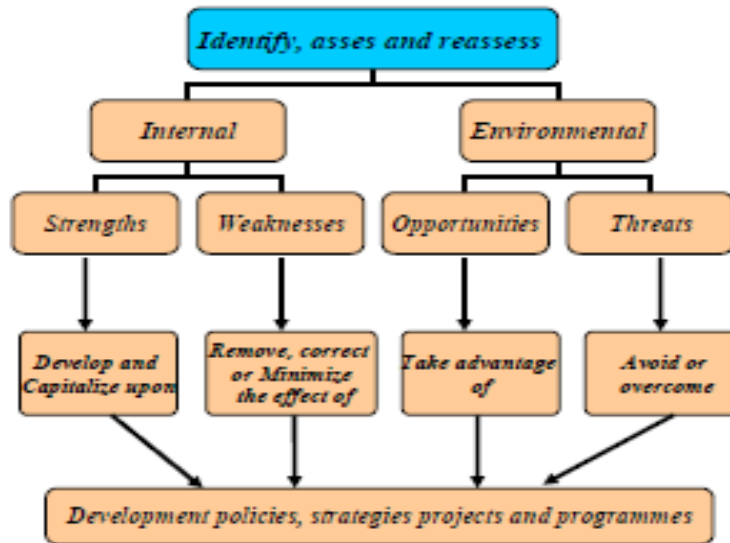
Commodity	Av. Annual Production (00 mt)	Quantity Required for Consumption	Marketable Surplus (C-D)	Av. Annual Sell in APMCs within District (00 mt)	Av. Annual Sell in APMCs out of District (00 mt)	Ratio of Production sell
Paddy	1846	738	1108	140	968	100:60
Soybean	49	2	47	3	44	100:95
Tur	33	12	21	8	13	100:37

**Annexure 10: Commodity wise existing grades, price variation**

Local Grade Name & Specification						Price Range/quintal			% Variation in price with average		
Grade 1		Grade 2		Grade 3		High (Grade 1)	Av. (Grade 2)	Low (Grade 3)	Grade 1	Grade 2	Grade 3
Local name	Specification	Local name	Specification	Local name	Specification						
barik(Suvasik)	with Aroma, Rice % is high, broken piece % is low, Varieties-Jashiram preferred for market sell, Varieties-Jaishriram.	Medium Fine	Size short, Soft in Touch, Preferred For Rice to eat, Varieties - HMT, RPN.	Thokal(ource)	Size Long, Rough in touch, Avg market prize fetching, Preferred for Murmure, Varieties 1010, 1001, Sahyadri.	1950	1540	1175	25	1	- 24
Big & Yellow Soyabean	With aroma Moisture:12 %Varieties JS-335, MAUS-71	Medium & yellow Soyabean	Medium aroma 13% moisture	Small & Damage Soybean	Moisture 14%	3500	2850	2300	21	1	- 20
Big & Red Gram	low moisture percent, used highly for consumption, var: Vijay.	Medium size Gram	Moisture 13% Damage Grain 2% var: Virat.	Small & Damage Gram	Dewelled aroma with Foreign Matter 3%	2300	2000	1700	15	0	- 15

**Annexure 11: SWOT Analysis of district APMC's**

*SWOT Analysis*





<b>Strengths:</b> <ul style="list-style-type: none"> <li>• Electronic weighing system</li> <li>• Open auction system</li> <li>• Sufficient storage facility</li> <li>• Good Infrastructure facilities</li> <li>• Trained and educated staff</li> <li>• Better management system</li> <li>• Electronic display boards</li> </ul>	<b>Weaknesses :</b> <ul style="list-style-type: none"> <li>• Glut situation during the peak season.</li> <li>• Lack of trade on commodity exchange.</li> <li>• Non adoption of post harvest practices for grains</li> <li>• Unavailability of processing units in the district.</li> <li>• Lack of Cleaning, Packaging /grading of food grain/F &amp; V.</li> <li>• Lack of storage facilities for grains &amp; Cold Storage</li> <li>• Price Fluctuation</li> <li>• Banking services</li> <li>• Waste Management</li> </ul>
<b>Opportunities:</b> <ul style="list-style-type: none"> <li>• Cold Storage</li> <li>• Solid waste Management</li> <li>• Increase financial services</li> <li>• Godowns</li> <li>• Export opportunities</li> <li>• Cleaning Unit of Food Grains/Vegetables.</li> </ul>	<b>Threats:</b> <ul style="list-style-type: none"> <li>• Natural calamity.</li> <li>• Influence of anti social agents in catchment area</li> <li>• Entry of private players.</li> <li>• Food safety Farmers face problems due to inadequate storage facilities and hence APMC may loose revenue during nearby future.</li> <li>• Lack of Cold storage facilities don't give price benefits to farmers and results in post harvest losses as well. .</li> <li>• Improper recordings of data may lead to loose COMPETITIVENESS of this APMC.</li> <li>• Antisocial agents are active in catchment area of Aheri and Chamorshi A.M.C.</li> </ul>

### **Annexure 12 Proposed Development Work**

Sr No	Source of Fund	Proposed Works	Provision Rs Crore	Present Status
1	DMI	Market Modernization & Improvement Plan		
		APMC Aheri	0.23	Proposed
		Sub total	0.23	
2	RKVY	Projects proposed under RKVY in District		
		Basic infra Structure APMC in District	36.88	Proposed
		Total	37.11	

Sr No	Source of Fund	Proposed Works	Provision in Rs lakh	Present Status
1	MACP	1)RH Modernization & Improvement Plan of 5 RHs (Chmorshi, Sundarnagar, kunghada, Etapalli and Aheri )	100	Work in progress
2	DRDA	RH Modernization & Improvement Plan	6	completed

### **Annexure 13: Direct Purchasers**

<b>Sr No</b>	<b>Name of licensee</b>	<b>Commodity Traded</b>
1	Aditya Birla Retail Limited, Aditya Birla Retail Centre, Siroya Centre, Next to Le Meridian Hotel, Sahara Airport Road, Mumbai 400 099.	Regulated Agricultural
2	Metro Cash & Carry India Pvt.Ltd.CTS 372 & 372/1 to 372/65 Village-Kanjur,Tal-Kurla Mumbai,Suburban,Dist- LBS	All Kinds of Fruits & Agricultural produce
3	Khet-Se Agriproduce India Private Limited,C-1/9,First Floor, , Corporation Bank Building,Sector 31,Noida-201301	All Agricultural Produce
4	ITC Ltd. IBD 3rd Floor,Thaper House,Civil Line, Nagpur-440001,Ph-0712-2550133	All Agricultural Produce
5	Hypercity Retail (India) Ltd., 1st Floor, Paradigm, A, Mind Space, Off Link Road, Malad {w} Mumbai-400064.	All Agri Produce
6	Rasoya Proteins Ltd.Village Wanjari, Tal-Vani, Dist-Yevatmal-445304	All Agri Produce
7	M/S-Future Agrovvet Ltd. M-27,A.P.M.C. Market-II Dana Bandar,Vashi, Navi Mumbai-400703	All Agri Produce
8	Narmada Solvex Pvt.Ltd. (Regd.Off.) Kirana Bazar Akola-444001 (Factory)Gat No.85 & 89 Hingoli Road, Tal. & Dist. Akola.	All Agri.Produce
9	Dayal Energy & Proteins Ltd. Dayal House, Opp.Govt.Medical College, New Radhakisan Polts, Akola (Factory) At.Babhulgaon, Tal. & Dist.Akola	Soybean,Gram,Tur, Sunflower,Safflower,
10	M/s Vichi Agro Product Pvt. Ltd. A355 TTC, MIDC, Mahape-410210 Navi Mumbai	All Agri.Produce
11	Align Retail Traders Private Ltd. C-40, TTC Industrial Area, Near Village Pawane, Thane Belapur Road, Navi Mumbai	All Agri.Produce
12	Booker India Pvt.Ltd. 03, Madhuli, 2nd Floor Beasmat Road, Worali Mumbai	All Agri.Produce
13	Dayal Cotspin limited,Cotton Ginning & Pressing Factory,Vanjari Tal.Wani Dist.Yavatmal	Raw Cotton, Gram, Tuar, Sunflower
14	M/s S.K.R.K.& Co. No.118 Near Mangalmurtu Hospital Shop No.2, Gorie-2, Borivali West, Mumbai-92. Ph.No.022-32687088	All Agri.Produce
15	M.P.S.Food Products Ltd. 505 Town Center Andheri Kurla Road, Mural , Andheri (Eest) Mumbai-59 Ph.9930467014	All Agri.Produce
	Reliance Fresh Ltd.5th Floor North Block , Sacred World, Jagtap Chouk, Wanwarie, Pune-40 Ph.022/44776901	All Agri.Produce
16	Fild Fresh Foods Private Likited,405 Gera 77 Kalayaninagar Pune-411006.	All Agri.Produce
17	Madam Agro Food Industries Private Ltd. Gat No.277/2, Uchhat Road, Village - Magathane, Taluka Wada, Dist.Thane-421 312 &	All Agri.Produce
18	FUTURE FRESHFOODS LIMITED , Knowledge House, Shyam Nagar, Off Jogeshwari - Vikhroli Link Road, Jogeshwari (E), Mumbai-400 060. Ph.No.022-30842321	All Agri.Produce
19	M/S JSW Green Private Limited Jindal manion , 5 A, Dr. G Deshmukh Marg Mumbai-26	All Agri Produce
20	M/S Max Hypermarket India Pvt. Ltd. Vadgaon Sheri Tal-Haveli Pune-14	All Agri Produce
21	Shri.Bharat Hiranman Bhoir, Shivneri Nagar,Dahisar (East) Ph-9320211154	All Agri Produce

### Annexure 14: Upcoming Projects

Sr. No.	Project	Units	Proposed Production	Investment (Lac)	Employments	Annual turnover(Lac)
1	Gadchiroli Bamboo Cluster	1	Bamboo Ply and board	53.50	2415	324.00
2	Rice Mills (Chamorchi)	24	High Quality Rice	480.00	400	600.00
3	Rice Mills (Wadsa)	25	High Quality Rice (Facility-Coloured Rice,Sortex,Silky Polisher & Packing Unit)	625.00	300	1500.00

### Annexure 15: Constraint Analysis

Crop	Paddy	Recommendation	Adaption		
			F	P	N
Sr. No.	Technology for Market Led Production				
1	Farmers organised in Group	Farmers should be organised in groups CIG, FIGs,PA,PGs etc.		P	
2	Crop Variety fetching good prices vis a vis having good productivity	Hybrid varieties Like HMT, Jaishiram		P	
3	Post-Harvest Technology		F		
A	Primary Processing				
a	Drying	Moisture contain should not be grater than 17%		P	
b	Grading	Damaged, discoloured, sprouted and weevilled grains shuld be seperated from whole and clean grain		P	
c	% of foreign matter	Should not be more than 1%		P	
d	Packaging	Should be in Jute Gunny bags of various sizes from 50 kg for transport and storage.		P	
e	Preventive Measures to protect from stored grains pest	Proper moisture ,Store in warehouse, Fumigation		P	
f	Storage	Storage should be done at room temperature with 12-14% moisture level in Gunny Bags		P	
g	Value Addition	Polished Rice, Rice Flour, Idli Dosa ready mix	F		

<b>B</b>	Marketing			
a	Access to Market Information and Intelligence	Use of AGMARK, MSAMB websites, News paper ,Radio ,TV etc		P
b	Pledge loan Availment	To avoid distress sell ,storage in accredited warehouses & avail pledge loan from bank		P
c	Packaging for retail/ sell	Wherever demand exist may be tried		P
d	Product aggregation	Small marginal farmers should organize in producer groups & aggregate produce .	F	
e	Contract farming	Promote the contract farming with Public/Private Partnership as Soya solvent plants.	F	
F	Participation in commodity Exchange/Forward markets	Organise in producer groups aggregate produce & try this as alternative market	F	

Crop	Gram	Recommendation	Adaption		
			F	P	N
<b>Sr. No.</b>	<b>Technology for Market Led Production</b>				
1	Farmers organised in Group	Farmers should be organised in groups CIG, FIGs,PA,PGs etc.	F		
2	Crop Variety fetching good prices vis a vis having good productivity	Vishal ,Vijay ,Digvijay, Virat jaki 9218		P	
3	Post-Harvest Technology			P	
<b>A</b>	Primary Processing				
a	Grading	1. Whole- Moisture-10%, FM-0.5-1.50%. 2. Split Pulses(Dal)- Moisture-14%, FM-1%		P	
b	Packaging	Jute gunny bags of up to 50 kg should be used for better handling & avoiding post harvest loss.		p	
c	Preventive Measures to protect from stored grains pest	Proper moisture ,Store in warehouse, Fumigation		p	
d	Storage	At room temperature with 9-12% moisture level in Jute bags of 50 kg, New improved bins			N
e	Value Addition	Homestead products			N
<b>B</b>	Marketing				
a	Access to Market Information and Intelligence	Use of AGMARK, MSAMB websites, News paper ,Radio ,TV etc		P	
b	Pledge loan Availment	To avoid distress sell ,storage in accredited warehouses & avail pledge loan from bank		P	
c	Packaging for retail/ sell	5 &10 packing should be done		P	
d	Product aggregation	Small marginal farmers should organize in producer groups & aggregate produce .	F		
e	Contract farming	Promote the contract farming with Public/Private Partnership.	F		

F	Participation in commodity Exchange/Forward markets	Organize in producer groups aggregate produce & use commodity exchange as alternative market	F		
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Crop	Soybean	Recommendation	Adaption		
			F	P	N
<b>Sr.No.</b>	<b>Technology for Market Led Production</b>				
1	Farmers organized in Group	Farmers should be organized in group CIG, FIGs, PA, PGs etc.	F		
2	Crop Variety fetching good prices	JS-335, JS-9305.		P	
3	Post Harvest Technology		F		
<b>A</b>	<b>Primary Processing</b>				
A	Grading	Grading for Forward Market-Moisture-8%, Foreign Matter-2%, Damaged grains-2%, Green grains -7%		P	
B	Packaging	Jute bags, Polythene Impregnated jute bags, Cloth bags etc of 50 kg use for transportation		P	
C	Preventive Measures to protect from stored grains pest	Proper moisture ,Store in warehouse ,Fumigation		P	
D	Storage	Storage should be done at room tem with 12-14% moisture level in jute bags.		P	
E	Value Addition	Soya products like Soya milk , Roasted grains, Mixed in wheat flour		P	
<b>B</b>	<b>Marketing</b>				
A	Access to Market Information and Intelligence	Use of AGMARK, MSAMB websites, News paper ,Radio ,TV etc		P	
B	Pledge loan Availment	To avoid distress sell ,storage in accredited warehouses & avail pledge loan from bank		P	
C	Packaging for retail sell	Wherever demand exist 5 &10 packing should be tried		P	
D	Product aggregation by small land	Small marginal farmers should organize in producer groups &aggregate produce .	F		
E	Contract farming	Promote the contract farming with Public/Private Partnership .	F		
F	Participation in commodity Exchange/Forward markets	Organize in producer groups aggregate produce & use commodity exchange as alternative market	F		

**Annexure 16: Constraints, Strategies and Proposed Interventions for Promoting Market Led Agri-Production**

Sr No	Issues	Strategy	Activity	Source of Fund during project period	Unit	Unit cost(Rs)	Total Units	Total cost(lakh)		
1	Non adaptation Package of practices for improving quality of grains	Promotion of pre harvest practices for bridging gaps identified in Table 4.1	Crop Demonstration	MACP	0.40 ha	6000	225	250		
				Cereal development Project(CDP)	0.40 ha	2000	10000	1750		
				ATMA	0.40 ha	2000	5000	500		
2	Non adaption of Post harvest practices	Promotion of post harvest practices for bridging gaps identified in Table	PHT Demonstration	MACP	No	7000	30	2.1		
				Sub total A			31250	454.5		
3	Lack of market awareness	Awareness about sources of market information & intelligence	A)Group Formation	ATMA	No	5000	500	25		
				Sub total B			530	27.1		
					MACP	No	750000	14	105	
			B)FCSC(grains)	MACP-MSWHC	Farmers		5000	0		
			C)Pledge loan	ATMA	No	2500	1000	25		
			D)Farmers Training	CDP	No	17000	250	42.5		
				MACP	No	13000	10	1.3		
				Sub total C			6274	68.8		
			E)Exposure visits	MACP	Farmer	1500	30	0.45		
			i)With in State	ATMA	Farmer	3000	250	7.5		
MACP	Farmer	6000		30	1.8					
ii)Outside State	ATMA	Farmer	6000	50	3					
	Sub Total D				360	12.75				

			Exposure visit	Grand Total			Total	668.15
Sr No	Issues	Strategy	Activity	Source of Fund during project period	Unit	Unit cost(Rs)	Total Units	Total cost (lakh)
1	Non adaptation Package of practices for improving quality of grains.	Promotion of pre-harvest practices for bridging gaps identified in Table 4.2	Crop Demonstration	MACP	0.40 ha	7000	225	15.75
				Accelerated pulse production(AP3)	0.40 ha	2000	20000	400
				NFSM	0.40 ha	2000	10000	200
2	Non adaption of Post harvest practices	promotion of post harvest practices for bridging gaps identified in Table 4.2	PHT Demonstration	MACP	No	4000	10	0.4
			Demonstration	Sub total A			30235	616.15
3	Lack of market awareness	Awareness about sources of market information & intelligence	A)Group Formation	MACP	No	7000	30	2.1
				ATMA	No	5000	1000	50
				Sub total B			1030	52.1
			B)FCSC(grains) for product aggregation	MACP/NABARD	No	750000	14	105
			C)Pledge loan	MACP-MSWHC	Farmers		5000	0
			D) Farmers Training	ATMA	No	2500	1000	25

			MACP	No	13000	14	1.82
			Sub total C			6028	131.82
		E)Farmer Field School	ATMA	No	17000	50	8.5
		F)Exposure visits					0
		i)With in State	MACP	farmer	1500	30	0.45
			ATMA	farmer	3000	250	7.5
		ii)Outside State	MACP	farmer	6000	30	1.8
			ATMA	farmer	6000	50	3
			Sub total D			410	21.25
			Grand Total			37703	821.32

Sr No	Issues	Strategy	Activity	Source of Fund during project period	Unit	Unit cost(Rs)	Total Units	Total cost(lakh)
1	Non adaptation Package of practices for improving quality of grain.	Promotion of preharvest practices for bridging gaps identified in Table 4.3	Crop Demonstration	MACP	0.40ha	8000	279	22.32
				Oilseed development Project(ISOPAM)	0.40 ha	3000	2000	60
2	Non adaption of Post harvest practices	promotion of post harvest practices for bridging gaps identified in Table 4.3	PHT Demonstration	MACP	No	4000	10	0.4
				ISOPAM	No	30000	150	45
			Demonstration	Sub total A			2439	127.72
3	Lack of market awareness	Awareness about sources of market information &intelligence	A)Group Formation	MACP	No	7000	30	2.1
				ATMA	No	5000	250	12.5
				Sub total B			280	14.6



		B)FCSC(grains)	MACP	No	750000	14	105
		C)Pledge loan	MACP-MSWHC	Farmers		5000	0
		D)Farmers Training	ATMA	No	2500	1000	25
			MACP	No	13000	5	0.65
			ISOPAM (FFS)	No	22680	250	56.7
			Sub total C			6269	187.35
		E)Exposure visits					
		i)With in State	MACP	Farmer	1500	30	0.45
			ATMA	Farmer	3000	250	7.5
		ii)Outside State	MACP	Farmer	6000	30	1.8
			ATMA	Farmer	6000	50	3
			ISOPAM	Farmer	6000	250	15
			Sub total D			610	27.75
			Grand Total			Total	357.42

### **Annexure 17: Timeframe for implementation**

Activity	Source of Fund during project period	Unit	Unit cost(Rs)	Total Units	Total cost (lakh)	Time frame for implementation									
						2012-13		2013-14		2014-15		2015-16		2016-17	
						Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Crop Demonstration	MACP	0.40 ha	6000	250	12	50	3	50	3	50	3	50	3	50	3
	Cereal development Project (CDP)	0.40 ha	2000	1750	35	350	7	350	7	350	7	350	7	350	7
	ATMA	0.40ha	4000	500	20	100	4	100	4	100	4	100	4	100	4
PHT Demonstration	MACP	No	4000	15	0.60	3	0.12	3	0.12	3	0.12	3	0.12	3	0.12
	<b>Sub total A</b>			<b>2515</b>	<b>70.6</b>	<b>503</b>	<b>14.12</b>	<b>503</b>	<b>14.12</b>	<b>503</b>	<b>14.12</b>	<b>503</b>	<b>14.12</b>	<b>503</b>	<b>14.12</b>

A)Group Formation	MACP	No	7000	20	1.4	4	0.128	4	0.128	4	0.128	4	0.128	4	0.128
	ATMA	No	5000	30	1.5	100	5	100	5	100	5	100	5	100	5
	<b>Sub total B</b>			<b>50</b>	<b>2.9</b>	<b>104</b>	<b>5.128</b>	<b>104</b>	<b>5.128</b>	<b>104</b>	<b>5.128</b>	<b>104</b>	<b>5.128</b>	<b>104</b>	<b>5.128</b>
B)FCSC(grains)	MACP	No	750000	4	30	1	7.5	1	7.5	1	7.5	1	7.5	0	0
C)Pledge loan	MACP-MSWHC	Farmers	0	1000	0	200	0	200	0	200	0	200	0	200	0
D)Farmers Training	CDP	no	17000	105	17.85	21	3.57	21	3.57	21	3.57	21	3.57	21	3.57
	MACP	No	13000	10	1.3	2	0.26	2	0.26	2	0.26	2	0.26	2	0.26
	ATMA	No	2500	1600	40	320	8	320	8	320	8	320	8	320	8
	<b>Sub total C</b>		<b>794500</b>	<b>2715</b>	<b>59.15</b>	<b>543</b>	<b>11.83</b>	<b>543</b>	<b>11.83</b>	<b>543</b>	<b>11.83</b>	<b>543</b>	<b>11.83</b>	<b>543</b>	<b>11.83</b>
E) Farm School	ATMA	No	1700	25	4.25	5	0.85	5	0.85	5	0.85	0	0	0	0
	<b>Sub total E</b>		<b>1700</b>	<b>25</b>	<b>4.25</b>	<b>5</b>	<b>0.85</b>	<b>5</b>	<b>0.85</b>	<b>5</b>	<b>0.85</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
F)Exposure visit	MACP	Farmer	1500	15	0.25	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75
i)With in State	ATMA	Farmer	300	250	0.75	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15
ii)Outside State	MACP	No	6000	30	1.8	10	0.6	10	0.6	10	0.6				
	ATMA	Farmer	6000	50	3	10	0.6	10	0.6	10	0.6	10	0.6	10	0.6
	<b>Sub Total D</b>		<b>13800</b>	<b>402</b>	<b>5.8</b>	<b>75</b>	<b>2.1</b>	<b>75</b>	<b>2.1</b>	<b>75</b>	<b>2.1</b>	<b>75</b>	<b>2.1</b>	<b>75</b>	<b>2.1</b>
	<b>Grand Total</b>			Total	<b>142.7</b>	<b>1230</b>	<b>34.028</b>	<b>1230</b>	<b>34.028</b>	<b>1230</b>	<b>34.028</b>	<b>1230</b>	<b>34.028</b>	<b>1230</b>	<b>34.028</b>

Activity	Source of Fund during project period	Unit	Unit cost (Rs)	Total Units	Total cost (lakh)	Time frame for implementation									
						2012-13		2013-14		2014-15		2015-16		2016-17	
						Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Crop Demonstration	MACP	0.40 ha	7000	225	15.75	50	3.5	50	3.5	50	3.5	50	3.5	25	1.75
	Accelerated pulse production (AP3)	0.40 ha	2000	2000	400	400	80	4000	80	400	80	400	80	4000	80
	NFSM	0.40 ha	2000	1000	200	200	40	2000	40	200	40	200	40	2000	40

				0		0				0		0			
PHT Demonstration	MACP	No	4000	10	0.4	10	0.4								
Demonstration	Sub total A			30235	616.15	6060	123.9	6050	123.5	6050	123.5	6050	123.5	6025	121.8
A) Group Formation	MACP	No	7000	30	2.1	30	2.1		0		0		0		0
	ATMA	No	5000	1000	50	200	10	200	10	200	10	200	10	200	10
	Sub total B			1030	52.1	230	12.1	200	10	200	10	200	10	200	10
B) FCSC (grains)	MACP/NABARD	No	750000	14	105	4	30	5	37.5	5	37.5	0	0	0	0
C) Pledge loan	MACP-MSWHC	Farmers		5000	0	1000	0	1000	0	1000	0	1000	0	1000	0
D) Farmers Training	ATMA	No	2500	1000	25	200	5	200	5	200	5	200	5	200	5
	MACP	No	13000	14	1.82	5	0.65	5	0.65	4	0.52		0		0
	Sub total C			6028	131.82	1209	35.65	1210	43.15	1209	43.02	1200	5	1200	5
E) Farmer Field School	ATMA	no	17000	50	8.5	10	1.7	10	1.7	10	1.7	10	1.7	10	1.7
F) Exposure visits					0										
i) With in State	MACP	farmer	1500	30	0.45	10	0.15	10	0.15	10	0.15		0		0
	ATMA	farmer	3000	250	7.5	50	1.5	50	1.5	50	1.5	50	1.5	50	1.5
ii) Outside State	MACP	No	6000	30	1.8	10	0.6	10	0.6	10	0.6		0		0
	ATMA	farmer	6000	50	3	10	0.6	10	0.6	10	0.6	10	0.6	10	0.6
	Sub total D			410	21.25	90	4.55	90	4.55	90	4.55	70	3.8	70	3.8
	Grand Total			37703	821.32	7589	176.2	7550	181.2	7549	181.07	7520	142.3	7495	140.6

Activity	Source of Fund during project period	Unit	Unit cost(Rs)	Total Units	Total cost (lakh)	Time frame for implementation										
						2012-13		2013-14		2014-15		2015-16		2016-17		
						Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	

Crop Demonstration	MACP	0.40ha	8000	150	12.00	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40
	Oilseed development Project(ISOPAM)	0.40 ha	3000	2100	63	420	1.26	420	1.26	420	1.26	420	1.26	420	1.26
	MWSIP	1 ha	2500	300	7.75	100	2.50	110	2.75	100	2.50	0	0	0	0
	ATMA	0.40	4000	625	25	125	5	125	5	125	5	125	5	125	5
PHT Demonstration	MACP	No	4000	5	0.2	1	0.04	1	0.04	1	0.04	1	0.04	1	0.04
	<b>Sub total A</b>		<b>21500</b>	<b>3180</b>	<b>107.95</b>	<b>676</b>	<b>11.2</b>	<b>686</b>	<b>11.45</b>	<b>676</b>	<b>11.2</b>	<b>576</b>	<b>8.7</b>	<b>576</b>	<b>8.7</b>
A)Group Formation	MACP	No	7000	20	1.4	10	0.7	10	.07	0	0	0	0	0	0
	ATMA	No	5000	100	5	20	1	20	1	20	1	20	1	20	1
	ISOPAM (FSS)	No	5000	105	5.25	21	1.05	21	1.05	21	1.05	21	1.05	21	1.05
	<b>Sub total B</b>		<b>17000</b>	<b>225</b>	<b>11.65</b>	<b>51</b>	<b>2.75</b>	<b>51</b>	<b>2.12</b>	<b>41</b>	<b>2.05</b>	<b>41</b>	<b>2.05</b>	<b>41</b>	<b>2.05</b>
B)FCSC(grains)	MACP	No	750000	5	37.5	1	7.5	2	15	2	15	0	0	0	0
C)Pledge loan	MACP-MSWHC	Farmer		1000	0	200	0	200	0	200	0	200	0	200	0
D)Farmers Training	ATMA	No	2500	1600	40	320	8	320	8	320	8	320	8	320	8
	MACP	No	13000	5	0.65	1	0.1	1	0.1	1	0.13	1	0.13	1	0.13
	ISOPAM (FFS)	No	22680	105	23.58	21	4.76	21	4.76	21	4.76	21	4.76	21	4.76
	MWSIP	1 Day	2500	51	1.29	17	0.43	17	0.43	17	0.43	0	0.0	0	0.0
	ATMA (FSS)	No	17000	25	4.25	5	0.85	5	0.85	5	0.85	5	0.85	5	0.85
		<b>Sub total C</b>		<b>807680</b>	<b>2791</b>	<b>107.27</b>	<b>565</b>	<b>21.64</b>	<b>566</b>	<b>29.14</b>	<b>566</b>	<b>29.17</b>	<b>547</b>	<b>13.74</b>	<b>547</b>
E)Exposure visits	MACP	Farmer	1500	15	0.225	5	0.075	5	0.075	5	0.075		0		0

i)With in State	ATMA	Farmer	300	250	0.75	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15
	MWSIP	Farmer	50000	3	1.5	1	0.50	1	0.50	1	0.50	0	0.0	0	0.0
ii)Outside State	MACP	Farmer	6000	15	0.90	5	0.3	5	0.3	5	0.3	0	0	0	0
	ATMA	Farmer	600	50	0.3	10	0.06	10	0.06	10	0.06	10	0.06	10	0.06
	<b>Sub total D</b>		<b>58400</b>	<b>333</b>	<b>3.675</b>	<b>71</b>	<b>1.085</b>	<b>71</b>	<b>1.085</b>	<b>71</b>	<b>1.085</b>	<b>60</b>	<b>0.21</b>	<b>60</b>	<b>0.21</b>
	Grand Total		<b>904580</b>	<b>6529</b>	<b>230.545</b>	<b>1363</b>	<b>36.675</b>	<b>1374</b>	<b>43.795</b>	<b>1354</b>	<b>43.505</b>	<b>1224</b>	<b>24.7</b>	<b>1224</b>	<b>24.7</b>

### Annexure 18: Abstract of planned activity

SR No	Activity	Financial provision from(lakh)		Total(lakh)
		MACP	Non MACP	
<b>A</b>	<b>Intensification and diversification in market led production</b>			
1	Market Led Extension in Cereals	125.15	643	768.15
2	Market Led Extension in Pulses	127.32	694	821.32
3	Market Led Extension in Oilseed	132.27	225.15	357.42
	<b>Total A</b>	<b>384.74</b>	<b>1562.15</b>	
<b>B</b>	<b>Improving farmer access to market</b>			
9	Rural haat Modernization	100	6.00	16.00
	<b>Total B</b>	<b>100</b>	<b>6.00</b>	
	<b>Total A +B</b>	<b>484.74</b>	<b>1568.15</b>	<b>2052.89</b>

**Annexure 19: APMC Market & Arrivals**

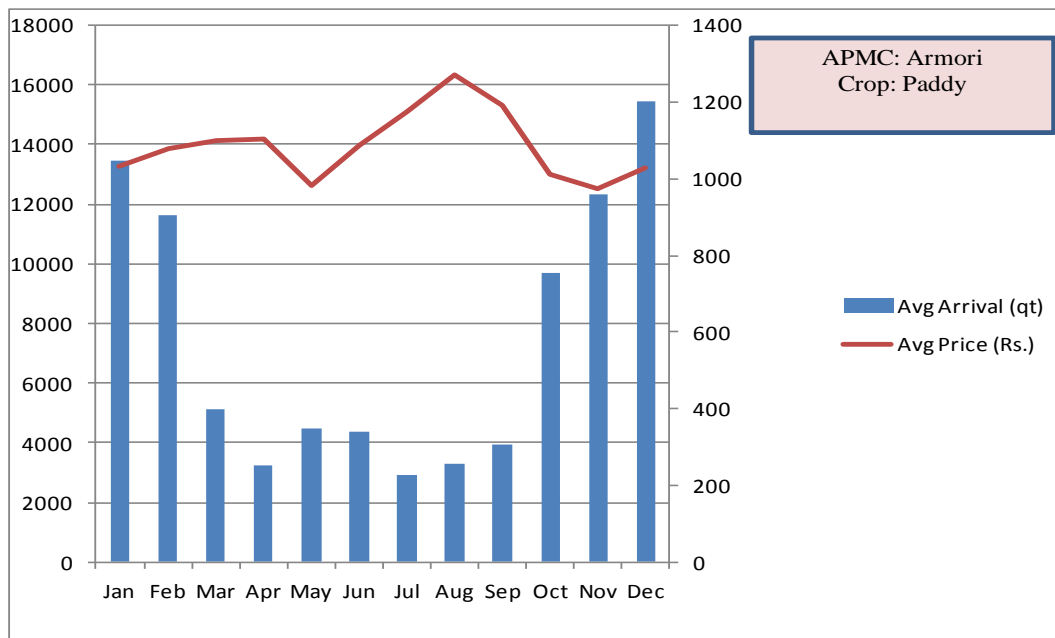
<b>Sr. No</b>	<b>Name Of APMC</b>	<b>Average Annual Arrivals of last 5 years in M.Tonnes</b>	<b>Average Cess Collection of last 5 years in Rs. (Lakhs)</b>	<b>Major commodities Marketed</b>
1	Armori	9079	93	Paddy,Red Chilli, Ground Nut
2	Gadchiroli	2390	25	Paddy
3	Aheri	30880	40	Cotton,Soyabeen,Tur,,Jowar,Paddy
4	Chamorshi	7183	87	Paddy,Soyabeen,Tur,,Gram
	<b>Total</b>	<b>49532</b>	<b>245</b>	

**Annexure 20: Average Arrivals & Price**

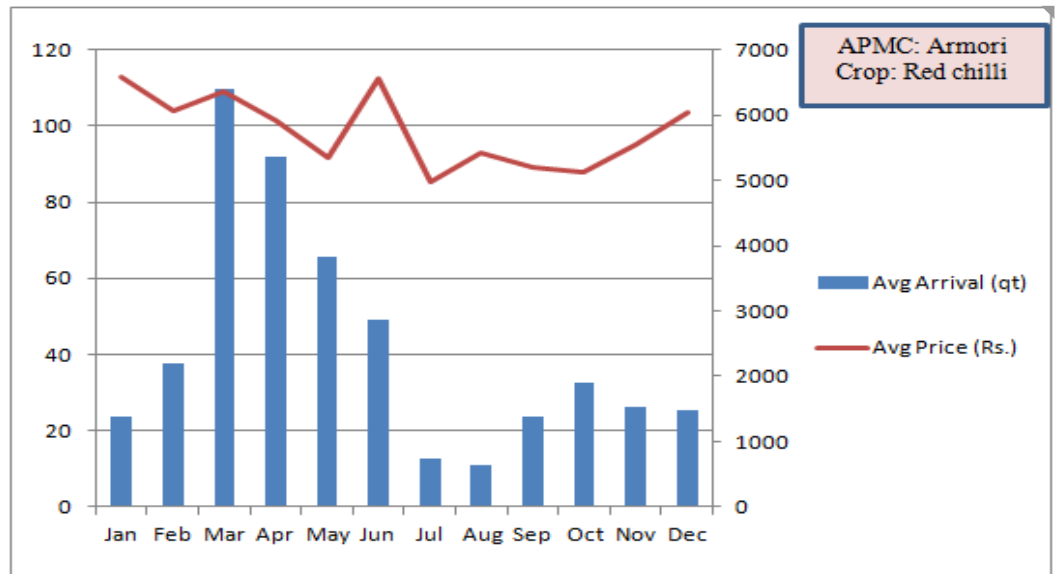
**Average arrival & Price (Last 5 yrs.) of Agriculture Commodities in Armori APMC**

Sr. No.	Commodity	Av. Arrivals in Qtl. & Av. Prices in Rs./qtl.																							
		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
		A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P		
1	Paddy	13486	1033	11611	1078	5137	1100	3250	1104	4502	982	4373	1086	2941	1176	3300	1269	3968	1190	9686	1012	12338	976	15468	1028
2	Red-Chilli	24	6571	38	6058	110	6351	92	5917	66	5352	49	6546	13	4985	11	5422	24	5195	33	5116	26	5555	25	
3	Ground-Nut	76	2170	127	2841	29	3465	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

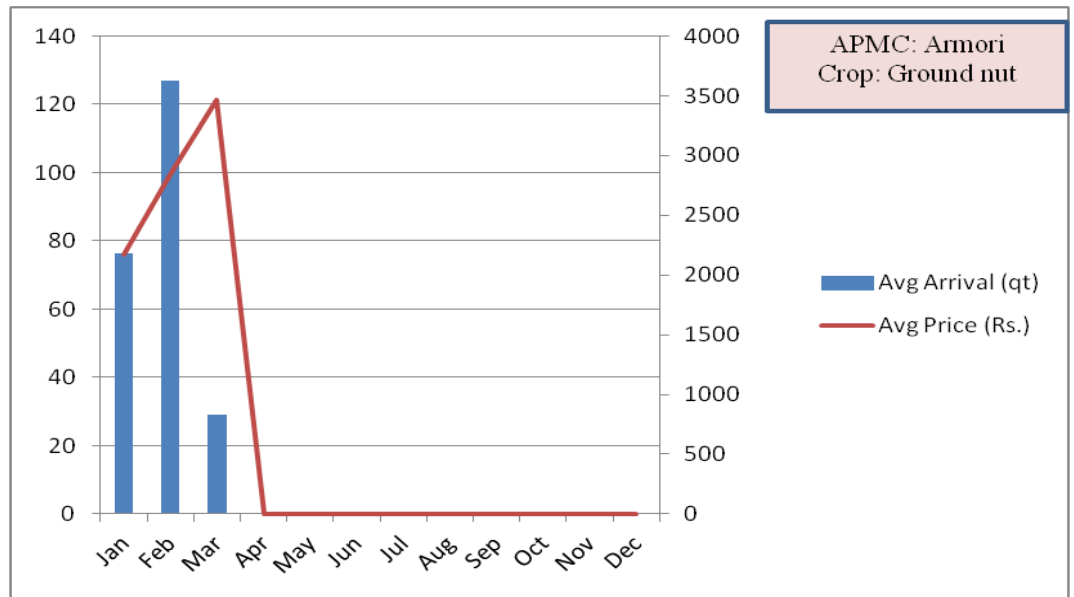
APMC: Armori		
Crop : Paddy		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	13486	1033
Feb	11611	1078
Mar	5137	1100
Apr	3250	1104
May	4502	982
Jun	4373	1086
Jul	2941	1176
Aug	3300	1269
Sep	3968	1190
Oct	9686	1012
Nov	12338	976
Dec	15468	1028
	<b>Max Price:</b>	<b>1269</b>
	<b>Month :</b>	<b>Aug</b>



APMC: Armori		
Crop : Red chilli		
Month	Avg Arrival	Avg Price
Jan	24	6571
Feb	38	6058
Mar	110	6351
Apr	92	5917
May	66	5352
Jun	49	6546
Jul	13	4985
Aug	11	5422
Sep	24	5195
Oct	33	5116
Nov	26	5555
Dec	25	6046
	<b>Max Price:</b>	<b>6571</b>
	<b>Month :</b>	<b>Jan</b>



APMC: Armori		
Crop : Ground nut		
Month	Avg Arrival	Avg Price
Jan	76	2170
Feb	127	2841
Mar	29	3465
Apr	0	0
May	0	0
Jun	0	0
Jul	0	0
Aug	0	0
Sep	0	0
Oct	0	0
Nov	0	0
Dec	0	0
	<b>Max Price:</b>	<b>3465</b>
	<b>Month :</b>	<b>Mar</b>

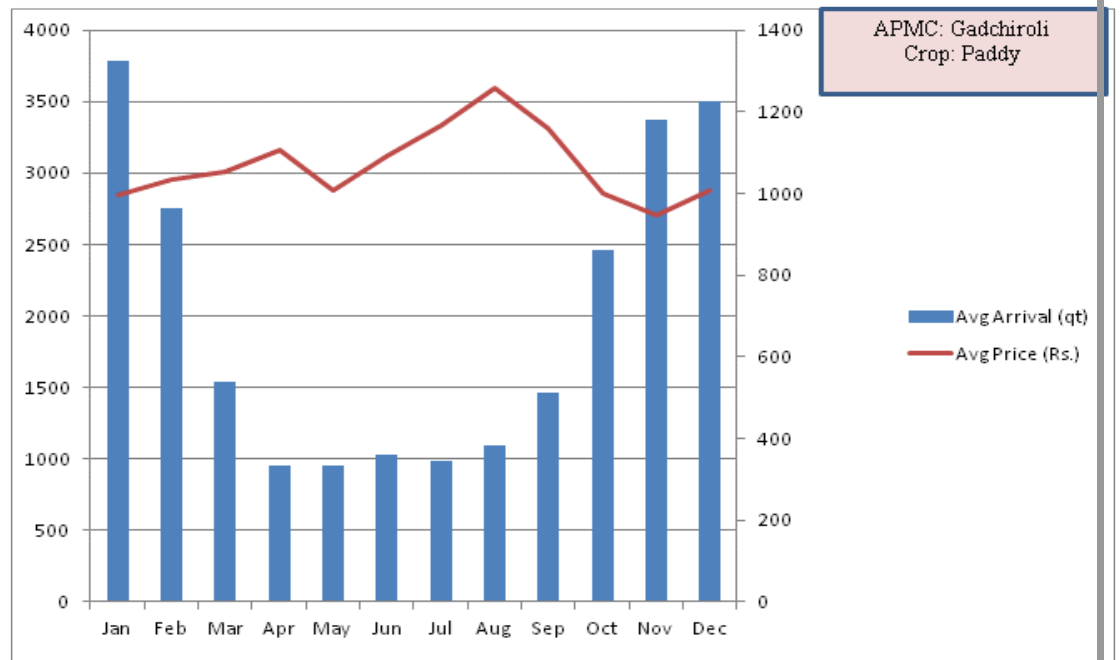




### Average arrival & Price (Last 5 yrs.) of Agriculture Commodities in Gadchiroli APMC

Sr. No.	Commodity	Av. Arrivals in Qtl. & Av. Prices in Rs./qtl.																							
		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov			
		A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P		
1	Paddy	3787	995	2756	1033	1543	1053	948	1106	956	1007	1034	1089	985	1168	1091	1259	1463	1160	2464	999	3373	946		

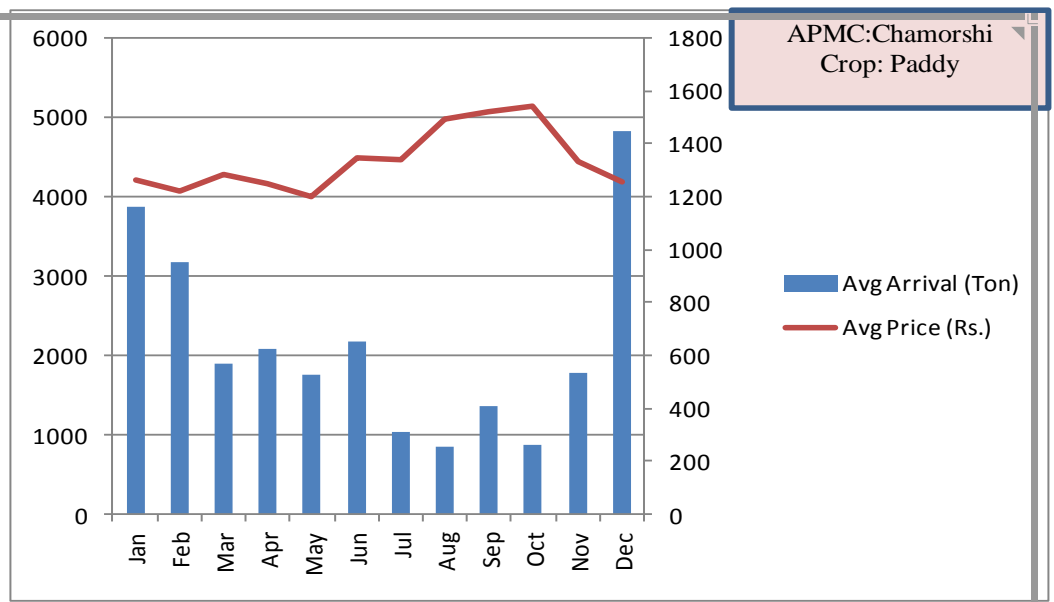
APMC: Gadchiroli		
Crop : Paddy		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	3787	995
Feb	2756	1033
Mar	1543	1053
Apr	948	1106
May	956	1007
Jun	1034	1089
Jul	985	1168
Aug	1091	1259
Sep	1463	1160
Oct	2464	999
Nov	3373	946
Dec	3498	1006
	<b>Max Price:</b>	<b>1259</b>
	<b>Month :</b>	<b>Aug</b>



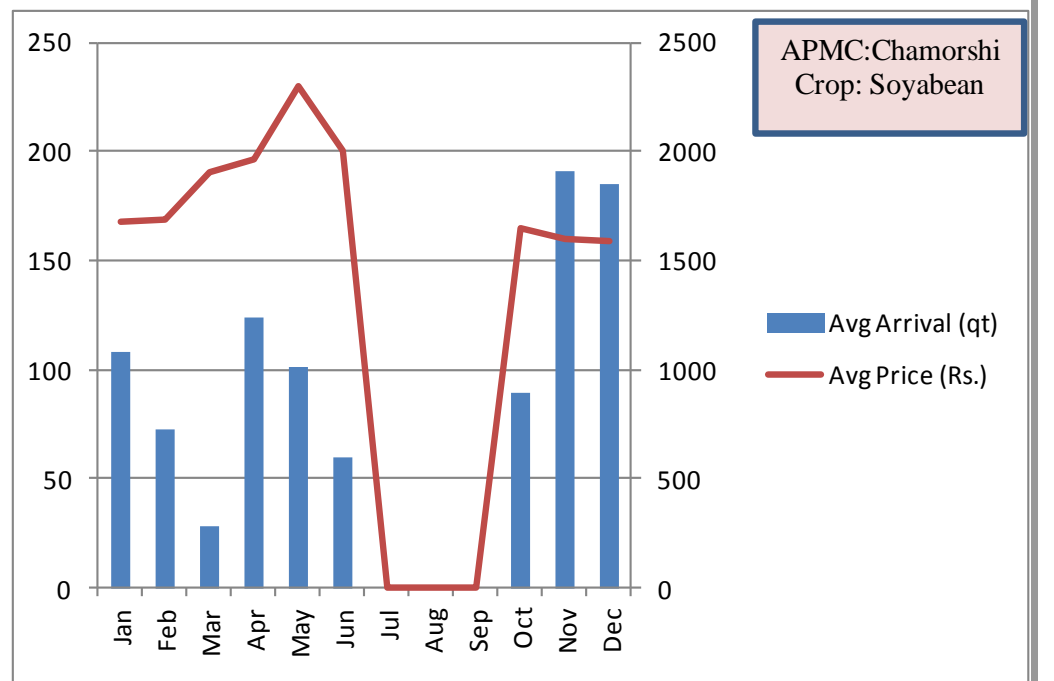
### Average arrival & Price (Last 5 yrs.) of Agriculture Commodities in Chamorshi APMC

Sr. No.	Comm- odity	Av. Arrivals in Qtl. & Av. Prices in Rs./qtl.																							
		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov			
		A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P		
1	Paddy	3866	1261	3167	1221	1889	1284	2089	1252	1751	1198	2167	1349	1030	1337	860	1492	1355	1520	866	1540	1779	1330		
2	Soya- bean	108	1680	72	1689	28	1900	124	1965	101	2300	60	2000	0	0	0	0	0	0	89	1650	191	1601		
3	Gram	0	0	0	0	3	2000	31	2242	30	2250	30	2250	0	0	0	0	0	0	0	0	0	0		
4	Tur	0	0	0	0	79	2645	81	2505	950	2200	56	2396	0	0	0	0	0	0	0	0	0	0		

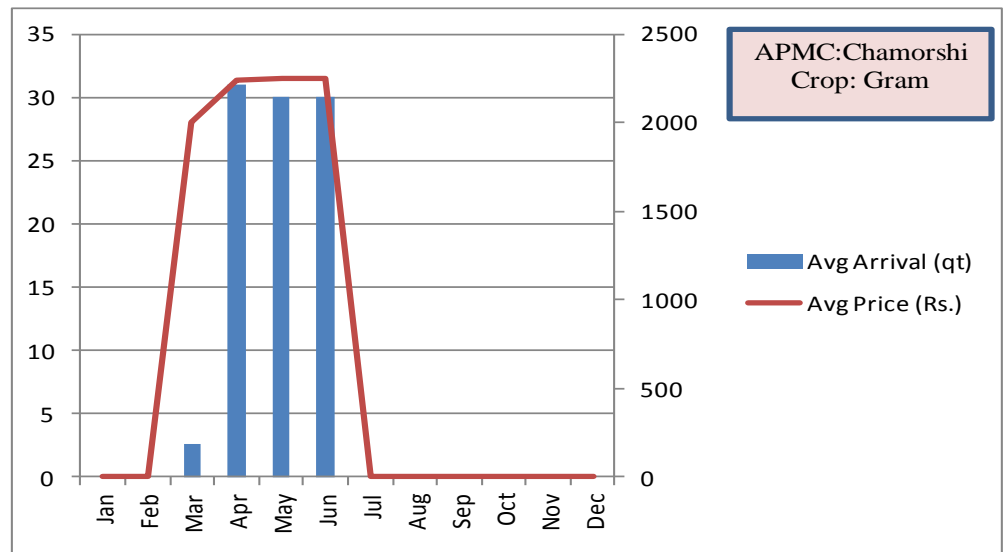
APMC: Chamorshi		
Crop : Paddy		
Month	Avg Arrival (Ton)	Avg Price (Rs.)
Jan	3866	1261
Feb	3167	1221
Mar	1889	1284
Apr	2089	1252
May	1751	1198
Jun	2167	1349
Jul	1030	1337
Aug	860	1492
Sep	1355	1520
Oct	866	1540
Nov	1779	1330
Dec	4831	1256
	<b>Max Price:</b>	<b>1540</b>
	<b>Month :</b>	<b>Oct</b>



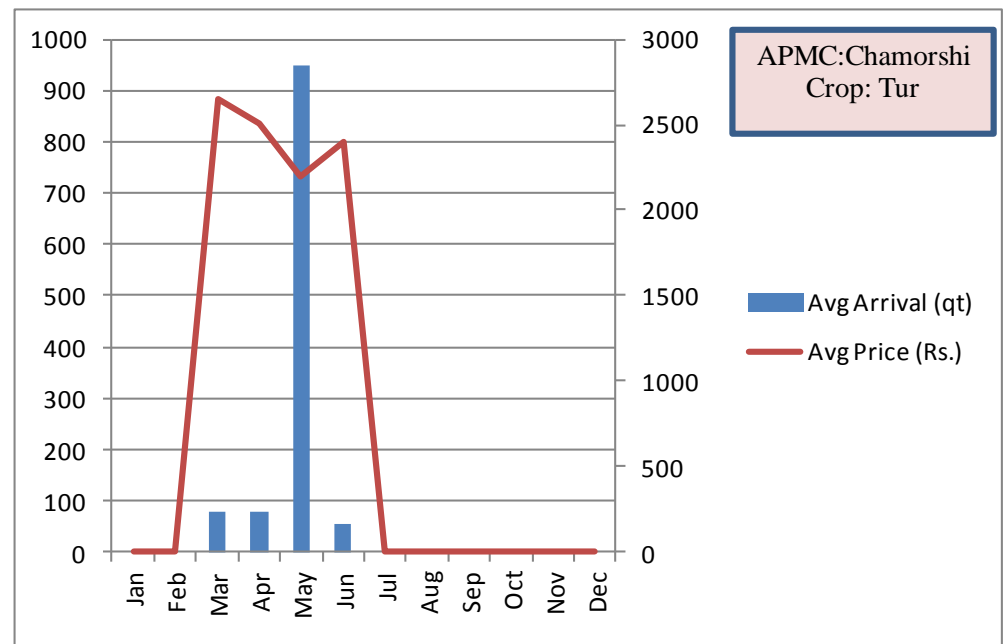
APMC: Chamorshi		
Crop : Soyabean		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	108	1680
Feb	72	1689
Mar	28	1900
Apr	124	1965
May	101	2300
Jun	60	2000
Jul	0	0
Aug	0	0
Sep	0	0
Oct	89	1650
Nov	191	1601
Dec	185	1593
	<b>Max Price:</b>	<b>2300</b>
	<b>Month :</b>	<b>May</b>



APMC: Chamorshi		
Crop : Gram		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	0	0
Feb	0	0
Mar	3	2000
Apr	31	2242
May	30	2250
Jun	30	2250
Jul	0	0
Aug	0	0
Sep	0	0
Oct	0	0
Nov	0	0
Dec	0	0
	<b>93.64</b>	<b>2250</b>
	<b>Month :</b>	<b>Oct</b>



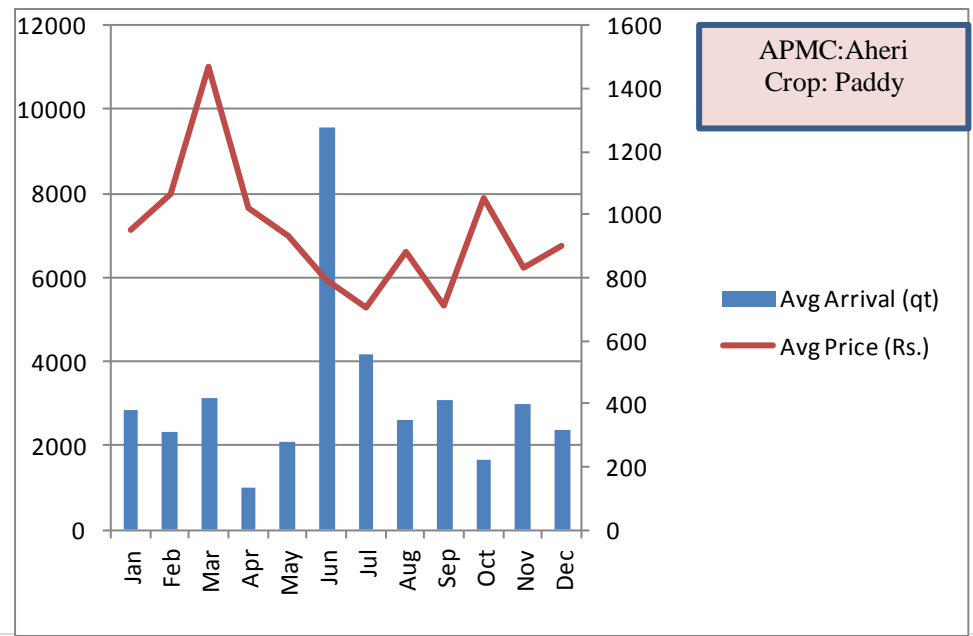
APMC: Chamorshi		
Crop : Tur		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	0	0
Feb	0	0
Mar	79	2645
Apr	81	2505
May	950	2200
Jun	56	2396
Jul	0	0
Aug	0	0
Sep	0	0
Oct	0	0
Nov	0	0
Dec	0	0
	<b>Max Price:</b>	<b>2645</b>
	<b>Month :</b>	<b>Mar</b>



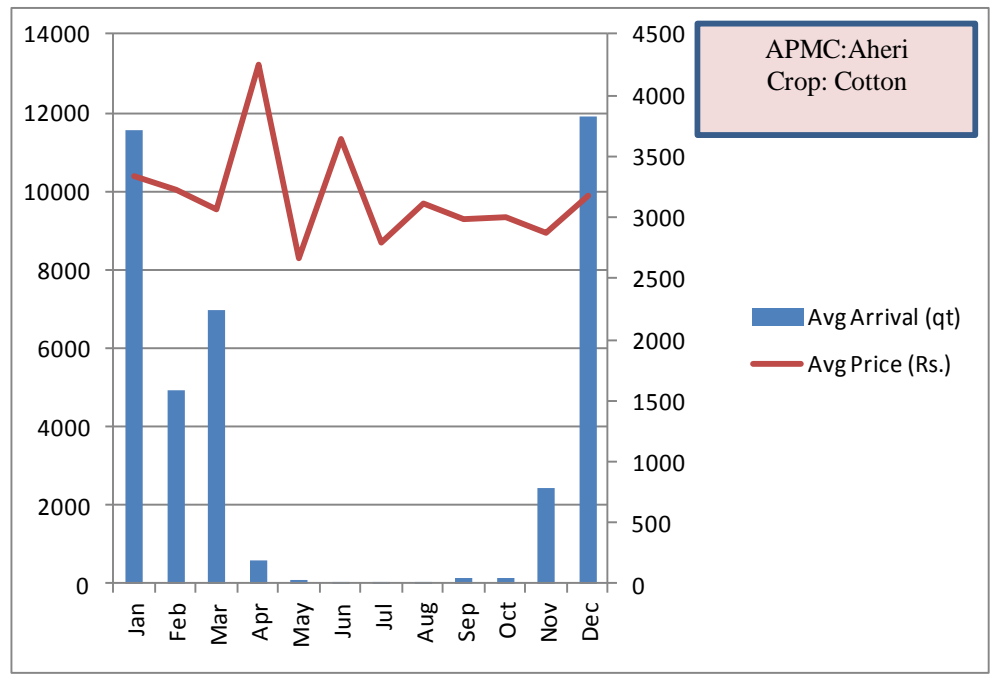
### Average arrival & Price (Last 5 yrs.) of Agriculture Commodities in Aheri APMC

Sr. No.	Comm-odity	Av. Arrivals in Qtl. & Av. Prices in Rs./qtl.																					
		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov	
		A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P
1	Paddy	2827	950	2317	1067	3124	1472	1006	1021	2090	935	9576	795	4152	703	2613	881	3093	713	1681	1054	2991	834
2	Cotton	11574	3333	4914	3220	6994	3065	586	4250	81	2670	36	3646	22.4	2800	15	3120	149	2984	168	2995	2421	2876
3	Soya-bean	3125	1764	2025	1762	1703	1883	467	1922	599	1847	361	1860	256.6	1774	507	1818	243	1813	705	1750	4678	1723
4	Tur	72	3051	595	3006	2207	2691	278	2798	619	2872	1069	2801	410.6	2482	197	2484	790	2582	359	3391	148	2192
5	Jawar	21	616	11	636	567	604	324	947	973	718	786	755	492	709	376	694	282	736	193	779	123	852

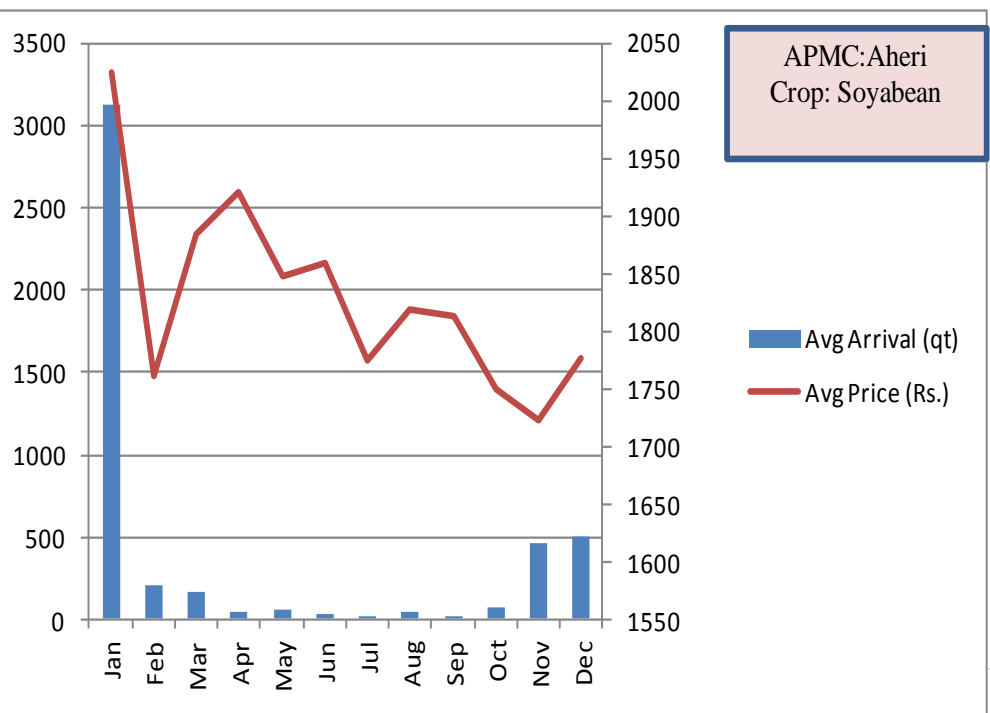
APMC: Aheri		
Crop : Paddy		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	2827	950
Feb	2317	1067
Mar	3124	1472
Apr	1006	1021
May	2090	935
Jun	9576	795
Jul	4152	703
Aug	2613	881
Sep	3093	713
Oct	1681	1054
Nov	2991	834
Dec	2374	898
	<b>Max Price:</b>	<b>1472</b>
	<b>Month :</b>	<b>Mar</b>



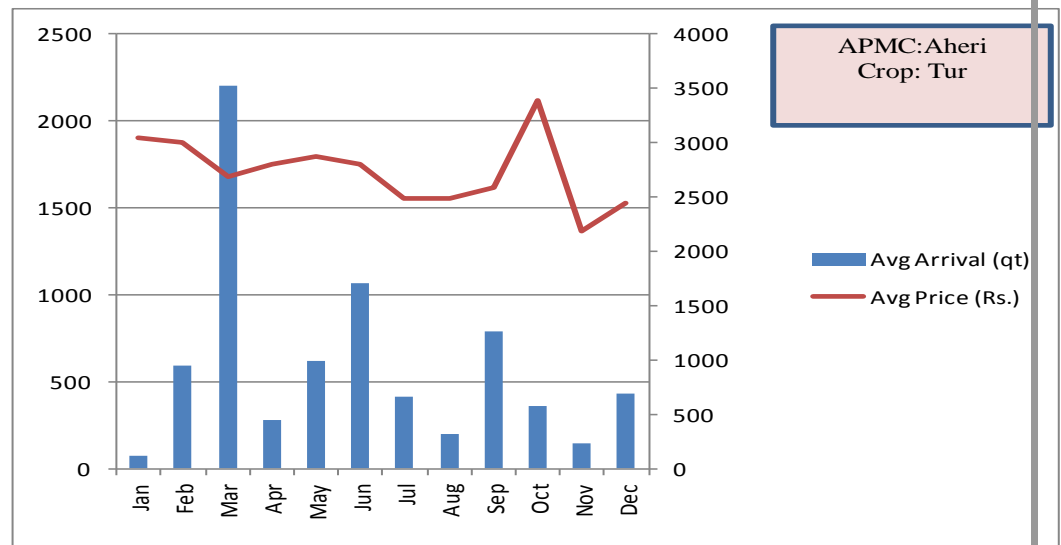
APMC: Aheri		
Crop : Cotton		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	11574	3333
Feb	4914	3220
Mar	6994	3065
Apr	586	4250
May	81	2670
Jun	36	3646
Jul	22	2800
Aug	15	3120
Sep	149	2984
Oct	168	2995
Nov	2421	2876
Dec	11915	3184
	<b>Max Price:</b>	<b>4250</b>
	<b>Month :</b>	<b>Apr</b>



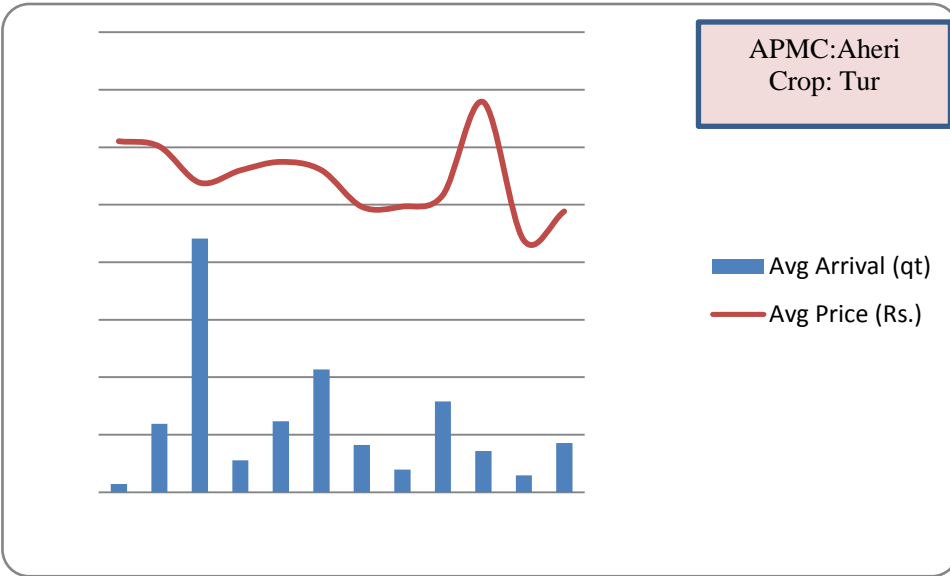
APMC Aheri		
Crop : Soyabean		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	3125	2025
Feb	203	1762
Mar	170	1883
Apr	47	1922
May	60	1847
Jun	36	1860
Jul	26	1774
Aug	51	1818
Sep	24	1813
Oct	71	1750
Nov	468	1723
Dec	505	1776
	<b>Max Price:</b>	<b>2025</b>
	<b>Month :</b>	<b>Jan</b>



APMC: Aheri		
Crop : Tur		
Month	Avg Arrival (qt)	Avg Price (Rs.)
Jan	72	3051
Feb	595	3006
Mar	2207	2691
Apr	278	2798
May	619	2872
Jun	1069	2801
Jul	411	2482
Aug	197	2484
Sep	790	2582
Oct	359	3391
Nov	148	2192
Dec	428	2442
	<b>Max Price:</b>	<b>3391</b>
	<b>Month :</b>	<b>Oct</b>



APMC: Aheri		
Crop :Jawar		
Month	Avg Arrival (Ton)	Avg Price (Rs.)
Jan	21	616
Feb	11	636
Mar	567	604
Apr	324	947
May	973	718
Jun	786	755
Jul	492	709
Aug	376	694
Sep	282	736
Oct	193	779
Nov	123	852
Dec	82	733
	<b>Max Price:</b>	<b>947</b>



Month : **Apr**

**Annexure 21: Commodity wise production and marketable surplus**

Sr.No	Commodity	Av. Annual Production (00 mt)	Quantity Required for Consumption	Marketable Surplus( C-D)	Av. Annual Sell in APMCs within District (00 mt)	Av. Annual Sell in APMCs out of District (00 mt)	Ratio of Production sell
1	Paddy	1846	738	1108	140	968	100:60
2	Soybean	49	2	47	3	44	100:95
3	Tur	33	12	21	8	13	100:37:00



## Annexure 22: Agriculture Market Development Plan

	Name of APMC / RH	Proposed Infrastructure Development	Source of Fund	Estimated cost(Rs.in Lakh)	Likely year of completion
1	Gadchiroli	Godown- 1000 mt	RKVY (Subsidy 75 % )	241	Proposal submitted & Technical Permission got on dated 29-01-2011
		Lease shed – 2		110	
		Road – 9 mt width		80	
		Farmers rest house-2		92	
		Way bridge – 2		39	
		Farmers rest house		5	
		Lavatory		28	
		Wall compound		77	
		Electricity		20	
		Water tank		20	
2	Armori	Godown	RKVY (Subsidy 75 % )	1728	2013-14 proposal submitted
		Lease shed			
		Cement road			
		Farmers rest house			
		Way bridge			
		Lavatory			
		Electricity			
3	Aheri	Godown	RKVY (Subsidy 75 % )	1000	2013-14 work under process
		Lease shed			
		Cement road			
		Farmers rest house			
		Way bridge			
		Lavatory			
		Electricity			
4	Chamorshi	Godown	RKVY (Subsidy 75 % )	1000	2013-14 Grant sanctioned but work pending due to management body
		Lease shed			
		Cement road			
		Way bridge			
		Auction Hall			