

Working Paper 2013/01

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**Agro-Economic Research Centre**

*For the states of Gujarat and Rajasthan*

*(Sponsored by the Ministry of Agriculture, Govt. of India)*

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# Price Support and Market Intervention Scheme in Rajasthan\*

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## 1. Introduction:

Food production and agricultural development have been core areas of concern for policymakers in India since Independence. In the 1960s, food shortages and foreign-exchange shortages led to major political challenges after the United States decided to use food exports as an instrument of foreign policy (Birner, *et al.*, 2011). As a consequence, the government of India (GOI) adopted policies that aimed at making the country self sufficient in food grains production (Subramaniam, 1995). The grit and toil of Indian farmers has greatly contributed in transforming Indian agriculture from a moribund state at the time of independence to a resilient production system of a food secure nation. It has gone through a green revolution, a white revolution, a yellow revolution and a blue revolution. This resulted in significant increase in food grain yields, and food grains production increased from 50.82 million tonnes in 1950–51 to 259.32 million tonnes in 2011-12. Production of oilseeds, sugarcane, and cotton have also increased more than six-fold over the period, reaching 30.01 million tonnes, 357.67 million tonnes and 35.20 million bales, respectively, in 2011-12 (GOI, 2012). India has also made significant advances towards achieving its goals of rapid agricultural growth, improving food security, and reducing rural poverty during the last six decades. Policy support, production strategies, public investment in infrastructure, research and extension for crops, livestock and fisheries have significantly helped in increasing the agricultural productivity (Kumar and Mittal, 2006). The Agricultural Price Policy is one of the

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instruments that has helped farmers and brought about a noticeable change in the production and productivity of the agriculture sector. In view of the distorted and unregulated market conditions prevailing for agricultural produces in India, support prices are very imperative for farmers to get assured income from their crop cultivation. The agricultural price policy is aimed at intervening in agricultural produce markets to influence the level of fluctuations in prices and the price-spread from farm gate to the retail level. The major underlying objective of the Indian governments' price policy is to protect both producer and consumers (Dev and Rao, 2010).

Agricultural markets in India have traditionally been marked by heavy government interventions since independence due to the fact that our demand had often exceeded supplies to start with. Government intervention in India had the twin objectives of price support and buffer stocks. Further, with not so open borders in the case of globally traded commodities, there had always not been consistency towards governments policy on international trade in many of the primary commodities and more specifically in the agricultural commodities leading to artificial (policy created) price fluctuation (Shanmugam, 2009). The problems being faced by the farmers received the attention of the government, which took several measures including (a) regulation of marketing practices, (b) creation of infrastructure, (c) provision of price support, (d) promotion of farmers cooperative organizations, and (e) provision of technology transfer and input supply support systems including credit delivery to the farmers (Acharya, 2004). Due to efforts put by various organizations and the intervention by the government as well as the creation of awareness among the farmers towards marketing of farm produces brought out the significant changes both in the farmers marketing practices and agricultural marketing system.

Price support for farmers has been an important instrument of agricultural development and food policy since the mid-1960s. Before 1960, the major preoccupation of agricultural price policy used to be with the problem of high prices in periods of shortage and therefore with that of ensuring the availability of agricultural products, especially food grains, to the consumer at fair prices. Since the adoption of a package approach to bring about improvements in agricultural productivity, the question of protecting the agricultural producer against an undue fall in prices came to the fore. In fact, the provision of guaranteed floor prices form part of the package (Narain, 1973). The main objectives of price policy are: (a) to provide incentives to farmers for adopting new technology and maximizing production, (b) to safeguard the interests of consumers or users of farm products by maintaining market prices at reasonable levels, and (c) to keep the fluctuations in prices within certain limits. The main instruments of price policy, *inter alia* are minimum support prices, buffer stocking, and operation of a public distribution system of cereals. The main challenge of the policy has always been to reconcile the conflicting price interests of farmers and consumers. It is partly achieved through the provision of food subsidy and supply of essential farm inputs (fertilizers, electricity and canal water) to farmers at reasonable prices or user charges.

In India, government intervention in agriculture market takes different form, Price Support Scheme (PSS) and Market Intervention Scheme (MIS) are some of them. Currently, minimum support prices (MSPs) are announced for 25 farm products, that include cereals, pulses, oilseeds, raw cotton, raw jute, sugarcane and copra (dried coconut). Buffer stocking and public distribution system are operated for rice, wheat and to some extent for sugar. Commission for Agricultural Costs and Prices (CACP) is the advisory body of Government of India in all matters relating to agricultural price policy. The quantities that the government agencies need to purchase at support prices depend on the behaviour of market prices and private trade, and fluctuate from year to year. Market Intervention Scheme (MIS) is another

marketing support policy of the government. Over and above the commodities covered under minimum support price scheme, the prices of some other commodities especially of horticultural crops tend to fall drastically during peak arrival period in the market forcing the farmers for distress sales. Under these circumstances with the help of state government, government of India launches MIS for that particular crop in that season so as to avoid distress sales by the farmers.

The Minimum Price Support Policy (MSP) linked to procurement has served the country well in the past three decades. However, in recent years it has started encountering problems mainly because of surpluses of several agricultural commodities and excessive built up of stocks with Food Corporation of India (FCI). Even deficit states like Bihar, Assam, Eastern U.P. have started generating surpluses of certain cereals. Also, as a result of operation of the pricing policy, private trade has not been able to play its role particularly in respect of two major cereals, namely wheat and rice that account for over 70 percent of total food grain production in the country. Under the MSP scheme prices of major agricultural commodities are not only exogenously determined but these prices are defended through nodal procurement agencies like FCI. Also, the agricultural price policy has come under serious attack in recent years for recommending higher support prices than warranted by the cost of production (CoP) and supposed distortion of the market, leading to food deprivation. There is broad recognition that the recent rapid increase in the minimum support prices for rice and wheat was a major contributor to recent problems of mounting buffer stocks. It is also blamed frequently for the spikes in prices of food items that reached their peaks in 2009. Besides, the central agency often incurs loss in their operation of PSS and MIS and the amount of expenditure incurred in the above schemes suggest that Union and State government spend considerable amount of public money in undertaking the above scheme; yet plight of growers of many of the above commodity continues. The market price of many agricultural commodities continues to rule below the government announced support price of commodity. The

wide gap between price received by producer and price paid by consumer of commodity is another important concern of marketing of agriculture commodities in the country. As Rajasthan state is the major gram and garlic producing state in India and procurement of these commodities under PSS/MIS were undertaken in the State in the recent past, an attempt has been made to evaluate PSS and MSS covering gram and garlic crop in Rajasthan.

## **2. Procurement Agencies:**

A large number of public-sector institutions and cooperative marketing organizations were set up after Independence to improve the market structure, its conduct and performance, and to help growers realize better returns for their produce. Government interventions in purchase of agricultural commodities under minimum price support programme, procurement of food grains, market intervention scheme (MIS), monopoly purchase, open market purchases of commodities through Food Corporation of India (FCI), Cotton Corporation of India (CCI), Jute Corporation of India (JCI), Central Warehouse Corporation (CWC), National Consumer Cooperative Federation of India (NCCF), National Cooperative Marketing Federation (NAFED), Tobacco Board, and State Oilseed Federations, etc. have attained importance in recent years. With the intervention in the purchase and distribution of food grains (especially rice and wheat), government purchase agency (Food Corporation of India) entered as an important market functionary in the trade of cereals. Cooperatives have also assumed importance in the marketing channel by bridging the price gap between producers and consumers. NAFED and State Oilseed Federations act as a nodal agency for purchase of oilseeds at the government announced support price. The quantity of commodities purchased by these agencies depends on the objective and target fixed for purchase to fulfill the defined objective. Rice and wheat are the two principal commodities where government's role is most pronounced. Procurement operations for other crops are carried out only when market prices fall below MSP. The Ministry of Agriculture has issued the guidelines towards carrying out the operations (Box1). Whatever stocks which are brought to the purchase



centres falling within the specifications fixed by the government of India are purchased at the fixed support price. If the farmers get prices better than the support price from other buyers such as traders / millers etc., the farmers are free to sell their produce to them. FCI and the State Government/its agencies ensure that the farmers are not compelled to sell their produce below support price.

### **2.1 Food Corporation of India:**

The FCI undertakes the functions of procurement including price support operations, storage, movement/transportation, distribution and sale of food grains and in an economical and efficient manner in order to achieve the objectives of the National Food Policy. Initially, the FCI served only four states in the southern part of the country. Slowly, it extended its services throughout the country. Today, the FCI is the unrivalled food marketing agency serving the interest of the farmers and consumers throughout the country. Financially, it is one of the largest public sector undertakings. Thus, FCI has been essential institutional instrument for implementation of food grains pricing policy. It has worked as national nodal agency for providing price support to cereals producing farmers, maintenance of buffer stocks and food grains reserves and distribution of food grains to state agencies under the public distribution system. It is observed that there is significant increase in stock of food grains in the central pool over a period of time. Punjab and Haryana are dominant states where large quantity of rice and wheat were procured. Rajasthan occupies relatively better position in terms of wheat procurement during 2011-12 compared to earlier years.

FCI is functioning in Rajasthan since 01.01.1966 and activities of procurement, storage, preservation of stocks and distribution have been undertaken successfully. In Rajasthan, at present eight FCI district offices are functioning namely Ajmer, Alwar, Bikaner, Jaipur, Jodhpur, Kota, Sriganganagar and Udaipur having their jurisdiction over 33 Revenue Districts. There are 36 FCI own depot, one CAP and 27 hired covered godowns and CAPs. Besides, godowns of Central Warehouse Corporation (CWC) and Rajasthan State Warehouse Corporation (RSWC) are also being utilized for storage purpose as and when required. The overall capacity having FCI in Rajasthan region as on 31.12.2010 was around 17.57 lakh mt which includes the CAP storage capacity of 3.22 lakh mt.

Further, acquiring additional capacity, hiring of godowns from CWC/RSWC and private parties are under progress.

The FCI generally does not open procurement centers where the volume of procurement was likely to be uneconomical, i.e. less than 500 metric tonnes. In such areas, other mechanism involving State agencies/other agencies like NAFED and National Bulk Handling Corporation (NBHC) operate the Centers. However, FCI will operate such centers to give MSP to farmers where State agencies do not operate. The procurement of wheat by FCI in Rajasthan was undertaken during last five years which was mostly concentrated in Sriganganagar, Jaipur, Alawar and Kota districts. The cost of food grains is paid by cheque of the local/nearest branch of the bank to avoid delay in payment to the farmers.

## **2.2 *National Agricultural Cooperative Marketing Federation of India Ltd:***

National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) is the nodal agency for procurement of selected oilseeds and pulses under Price Support Scheme of Government of India. NAFED also undertakes the purchase of Cotton on MSP for Cotton Corporation of India. NAFED commences the procurement from the farmers directly through its State Level Supporters (SLS) cooperative network (such as RAJFED, Tilam Sangh, Kraya Vikray Sahakari Society -KVSS) when the market rates of a particular commodity fall below or touch at MSP. These supports procure stocks from farmers as per prescribed quality/grade specifications through the Primary Cooperative Marketing Societies whereas Oilseeds Growers' Federations shall procure the stocks through their oilseeds growers; cooperative societies/unions. The funds required for procurement under PSS are arranged by NAFED as well as by SLS if required. Payment to the farmer for the stock delivered under this scheme is made through account payee cheque (bearer cheque is also issued up to admissible limit). During 2011-2012, NAFED registered a business turnover of Rs. 1063.28 crore. Out of this, domestic trade accounted for Rs. 1051.76

NAFED under PSS has declined. It indicates the lowering interest of NAFED as well as less need of procurement in the light of market prices always prevailing above MSP. In case of cotton procurement, since 2006-07, no procurement was made by the NAFED under MSP. During the last Rabi 2012 season, the market prices of Fair Average Quality (FAQ) of gram and masur (lentil) ruled above the MSP of Rs. 288/- per quintal declared by the Government of India. Hence, the procurement of Rabi pulses under PSS during Rabi 2012 season was not necessitated. The operations under MIS for the crops such as onion was undertaken by NAFED at the instance of government of India when prices crash to un-remunerative levels detrimental to the farmers' interest and also for maintaining the buffer stock. The NAFED had procured Onion under MIS in Karnataka (1996-97); Maharashtra (1999-2000) and Rajasthan (2004-05). After 2004-05, no procurement of onion was carried out by NAFED under MIS. NAFED had procured total 41952 mt of wheat from 55 procurement centers in Rajasthan during 2007-08. Thereafter, no procurement was carried out by the NAFED in Rajasthan.

### **2.3 Cotton Corporation of India (CCI):**

CCI as a premier organization in public Sector and engaged in marketing of cotton acts as a role model in the procurement of kapas (seed cotton) through open auction, conducted by the APMCs, in the notified market yards. As and when kapas prices of any variety touch the level of MSP, CCI as a Nodal Agency of Government of India, resorts to immediate market intervention and makes purchases of cotton/kapas at MSP without any quantitative limits. The MSPs of different varieties are fixed for FAQ grade kapas stipulating minimum quality parameters on staple length and mic value. Since total kapas arrivals in the market yards, do not match the prescribed parameters of FAQ grade, Corporation allows purchases of below FAQ grade kapas also by offering prices commensurate with quality and within the MSP of the variety concerned. This helps the cotton farmers in selling their kapas produce under MSP operations and avoid distress sales. Depending upon the intensity of these operations, Corporation creates required infrastructure in the form of regular

procurement centres as well as satellite centres so that farmers are not compelled to travel long distances for selling their kapas produce. The state-wise operation of CCI indicates that level of cotton procurement at all India level was significantly high during the year 2008-09 as compared any other years under report. Among the states, Andhra Pradesh which is the third largest state in India in terms of area and production of cotton during 2011-2012, was major procurement hub of CCI. In Rajasthan, cotton procurement operations were carried out at Bhilwara and Sriganganagar centers.

#### **2.4 State Level Procurement Agencies:**

##### **2.4.1 Rajasthan State Cooperative Marketing Federation**

Rajasthan State Cooperative Marketing Federation (RAJFED) is apex state level organization of agricultural marketing cooperatives in Rajasthan. During the year 2011-12, RAJFED registered the business of agriculture commodities to the tune of Rs. 3114.88 lakh. Besides this, RAJFED acted as an agent of FCI in procurement of wheat and bajra (worth of Rs. 116.62 lakh), and for NAFED in procurement of gram and urad (worth of Rs. 1395.31 lakh). The district-wise procurement of wheat and gram by RAJFED in Rajasthan during 2006-07 to 2011-12 shows that wheat procurement by RAJFED has been concentrated in the district of Sriganganagar, part of Kota and Udaipur. During last two years, wheat procurement was very low or negligible. As market rates were higher than MSP, therefore, no procurement was carried out at most of the places. In case of gram, RAJFED had procured about 6332 metric tonnes from total 123 procurement centers in the state during July 2011, total worth of about Rs.1330 lakhs.

The garlic procurement by the RAJFED during 2012-13 was confined to two districts, viz. Kota and Jodhpur and three centres therein. Total 3711.50 mt of garlic was procured by the RAJFED at the price of Rs. 1700/- per quintal. After procurement of garlic from the procurement centre, RAJFED sold it in the outside state markets such as Chandigarh, Ninach and Delhi. Due to low market price for garlic and high procurement cost (plus marketing cost) has put this business under

loss. The loss incurred by the RAJFED in garlic procurement was Rs. 21.86 lakh, while State government total loss was to the tune of Rs. 430 lakh.

#### **2.4.2 Rajasthan State Cooperative Oil Seed Growers Federation Limited:**

Tilam Sangh is the apex organization in Rajasthan State Cooperative Oil Seed Growers Federation Limited (Tilam Sangh), Rajasthan. The procurement of oilseeds, food grains and other commodities by Tilam Sangh under PSS and MIS during 2005-2012 indicates that Tilam Sangh participated in procurement of oilseed crop, i.e. rapeseed mustard during 2002, 2005 to 2007. After that, wheat procurement was done on large quantum. During 2012, Tilam Sangh had procured about 2570 million tones of garlic from three procurement centers (Chipabadaud, Zalraparapatan and Keshoraypatan) under MIS at the rate of Rs. 1700/- per quintal. After procurement of garlic from the farmers (on an average total cost procurement was estimated to be Rs. 1817/- per quintal), Tilam Sangh invited quotations towards sale of purchased garlic (with condition to sell produce outside the State). On the basis of highest tender quotation, the produce was sold to the respective party. The price realized by the Tilam Sangh through tender selling process was around Rs. 7.72 per kg, while procurement cost was Rs. 18.17- per kg. Thus, after deducting total procurement plus incidental charges from sale realization, per kg loss incurred by Tilam Sangh was estimated to be Rs. 10.45/-. The trader who purchased garlic through tender reported that garlic was sold in Madhya Pradesh, Gujarat and south Indian States.

#### **2.5 Other Purchase Partners of FCI:**

The other purchase partners of FCI in the state have not been actively participating or purchased negligible quantity of agricultural commodities from the market during last few years such as a) Rajasthan State Warehouse Corporation (RSWC); b) National Bulk Handling Corporation (NBHC) Ltd.; c) National Collateral Management Services Limited (NCMSL).

### 3. Data and Methodology:

The study has been carried out for Rajasthan state by using primary and secondary level information. After preliminary investigation about the crop-wise and year-wise procurement under MIS/PSS in the State, two crops (one crop from each scheme i.e. PSS and MIS) were selected. The selected crops were gram (PSS) and garlic (MIS). For each of the above mentioned crop, two districts were selected on the basis of procurement done by the agencies appointed by the government. In case of gram, Ajmer and Jaisalmer districts were selected and in case of garlic, Kota and Baran districts were selected. Total 15 farmers were selected randomly from each village cluster so as to make the sample size 30 in each district. Thus, total 60 farmers for each of the selected crop were selected (Table 1).

Table 1: Details about the Selection and Distribution of Sample Farmers

Crop	District	KUMS/ Sub-Yard	Regulated market	Blocks/ Tehsil	Village cluster	Selected farmers	Category of farmers (as per size of holding)			
							M	S	Med.	L
Gram	Jaisalmer	Nachana & Mohangarh	2 (5)	2 (3)	2	30	0 (0.0)	0 (0.0)	2 (6.67)	28 (93.33)
	Ajmer	Kishangarh Kekadi	2 (20)	2 (9)	2	30	0 (0.0)	1 (3.33)	9 (30.0)	20 (66.67)
	Total		4 (25)	4 (12)	4	60	0 (0.0)	1 (1.67)	11 (18.33)	48 (80.00)
Garlic	Kota	Ladpura & Sultanpur	2 (12)	2 (5)	2	35	1 (2.86)	1 (2.86)	12 (34.29)	21 (60.00)
	Baran	Chipabarod	1 (12)	1 (8)	1	25	1 (4.0)	2 (8.00)	8 (32.00)	14 (56.00)
	Total		3 (24)	3 (13)	3	60	2 (4.0)	3 (5.00)	20 (33.33)	35 (58.33)

Notes: M-Marginal (< 1 ha); S- Small (1-2 ha); Med.-Medium (2-5 ha) and L- Large (>5 ha); KUMS-Krishi Upag Mandi Samiithee/APMC; Figures in parenthesis are total no. of Regulated market/Blocks/ in respective districts.  
Source: Field survey data (Kalamkar, et.al. 2013).

As the selection of both the crop was done on the basis of procurement carried out by the nodal agencies in Rajasthan during recent past, therefore reference year differs. In case of gram, the data were collected from the beneficiaries for the agriculture year 2010-11 (Rabi 2011) and sold in April 2011 to June 2011. While in case of garlic, data were collected for the agriculture year 2011-12 (Rabi 2012) and sold in June 2012 and July 2012. If we look at the distribution of farmers as per size of

land holding, no farmer from the marginal and small category (i.e. less than 2 ha) in Jaisalmer district and marginal farmer in Ajmer district could be included/interviewed. This was because of the fact that average land holding size was very large, i.e. 10.47 ha and 2.06 ha respectively in Jaisalmer and Ajmer (2005-06) and it was reported that generally participation of these categories of farmers in PSS is very low.

#### **4. Socio-Economic Characteristics:**

##### **4.1 Selected Area**

Rajasthan is the largest state of India constituting 10.4 per cent of total geographical area and 5.67 per cent of total population of India in 2011. The state is endowed with diverse soil and weather conditions comprising of several agro climatic situations, warm humid in south eastern parts to dry cool in western parts of the state. About 65 per cent population (56.5 million) of the state are dependent on agriculture and allied activities for their livelihood. Agriculture in Rajasthan is primarily rainfed covering country's 13.27 per cent of available land. The diversity in climatic conditions of the state creates potentiality to develop certain belts of horticultural crops in the state. The arid state which receives not more than an annual rainfall of 25 cm thrives on agriculture that is done with irrigation systems and painstaking efforts of the poor farmers of Rajasthan. As a major portion of the state is parched and infertile, the risk and instability in agricultural production and productivity are quite high (Swain, et al, 2012). The agriculture production in the State mainly depends on monsoon and irrigation potential which is low in comparison of the vast land of the State. Rajasthan state shows variation in productivity (Rs/ha) with a ratio of 1:11 between lowest and highest productivity district (Chand et al., 2009). Districts like Barmer, Jaisalmer and Churu located in Thar Desert are among the lowest productivity districts of the country. Extreme climate and soil type are the main factors for low productivity in these districts. One hectare of land was found to be generate crop output of value less than Rs. 5 thousand. However, productivity was more than Rs.31 thousand in districts Baran and Kota. There exist regional

differences in agriculture due to terrain, rainfall, irrigation facilities and technology inputs. In districts like Ganganagar, Hanumangarh, Bharatpur, Dausa, Alwar, Kota and Sawai Madhaopur, farmers produce high input based cash crops, whereas southern and western Rajasthan single crop for domestic consumption is the norm. The major rabi crops are barley, wheat, gram, pulses and oil seeds. The kharif crops include bajara, pulses, jowar, maize, groundnut and paddy in some areas.

The economic indicators of the selected districts show that in terms of human development, Kota ranks second in the state. Though share of agriculture sector in NSDP is relatively higher in Jaisalmer and Ajmer than Kota, the cropping intensity is higher in Kota and Baran as compared to other two selected district as well as state average due to high irrigation intensity. The difference in agricultural development can be easily seen from the yield level in dry districts compared to irrigated districts (Kota and Baran). Also the normal rainfall is also higher in these districts. The number of rural population fed per market was the highest in Jaisalmer followed by Ajmer indicating low spread of markets in these districts.

#### **4.2 Selected Crops:**

Gram is major *rabi* crop grown in Rajasthan, with area of 1.43 million ha and 0.99 million tonnes of production in 2011-12. Rajasthan accounts for 17.24 per cent area and 13.07 percent of production at national level. About 46.5 percent area under gram was covered with irrigation in 2009-10 as compared to 32.20 percent at national level. However, productivity level of gram in Rajasthan (691 kg/ha) was much lower than national average (912 kg/ha). The top five gram growing districts (during TE 2009-10) were Churu, Hanumangarh, Bikaner, Ganganagar and Jhunjhunu. The Jaisalmer district stands at sixth position in terms of area under gram and seventh terms of production during TE 2009-10. However, significant quantity of gram was procured under PSS at the centre located at Ajmer, Jaisalmer, Tonk, Jaipur and Sikar. The details on procurement of gram in Rajasthan during 2011-2012 are presented in Table 2. The procurement was carried out by RAJFED on June 29 and 30, 2011 at



main mandis of five districts of Rajasthan and total 63323.9 quintals of gram was procured under PSS.

Table 2: Procurement of Gram under PSS in Rajasthan (June 29 and 30, 2011)

Sl	Covering districts	Agency	Important Mandis	Purchase in bori (no)	Total Weight (qtls.)
1	Ajmer	RAJFED, Ajmer	Sarwad, Kishangadh, Kekdi	17145	16163.4
		RAJFED, Ajmer	Sarwad	5925	5612.13
		RAJFED, Ajmer	Kishangarh	5297	5032.33
2	Bharatpur	RAJFED, Bharatpur	Choth ka Barwada, Todabhim	293	278.31
3	Jaipur	RAJFED, Jaipur	Todaraisingh, Malpura, Dudu	35013	33252.7
		RAJFED, Jaipur	Todaraisingh (Tonk)	8822	8379.77
		RAJFED, Jaipur	Malpura (Tonk)	6920	6574
		RAJFED, Jaipur	Dudu (Jaipur)	5686	5401
4	Jodhpur	RAJFED, Jodhpur	Mohangadh, Nachna, Sultana, Pali	11097	10542.2
		RAJFED, Jodhpur	Mohangadh (Jaisalmer)	5100	4845
5	Kota	RAJFED, kota	Dei, Sagod, Atru	3251	3087.32
Total Rajasthan				66799	63323.9

Note: Bori of average weight of 95 kg each.

Source: Department of Agriculture, Govt. of Rajasthan.

**Garlic** (*Allium sativum*) is one of the important horticultural bulb crops grown and used as a spice or condiment throughout India. Among garlic growing states in India, Rajasthan ranked second in terms of its share in area (24.25 percent) and third in terms of production (19.26 percent) at national level in 2011-2012. However garlic productivity level is much low in Rajasthan as compared to other competing states. Unawareness of farmers about improved varieties, climate, soil and agro-techniques, diseases and pest damaging the crops and their control measures as well as post-harvest management are though main reasons, inadequate market support is also responsible for limiting the production and productivity indirectly. The districts like Baran, Chittorgarh, Jhalawar, Jodhpur are major garlic producing districts in the State. However, most of the procurement of garlic under MIS in Rajasthan was carried out in Kota, Jodhpur, Jhalawar, Bundi and Baran districts in June 2012. Despite the target of 30000 mt (fixed for procurement of garlic under MIS by the government of India), RAJFED and Tilam Sangh could procure only about 6280 mt, which was lower by 79 percent of target (Table 3).

Table 3: Procurement of Garlic under MIS in Rajasthan

Sr. No.	Procurement Agency	Districts	Procurement Centre	Targeted Quantity (mt)	Quantity Procured (mt)	Short of Procurement Target	
						(mt)	%
1	RAJFED	Kota	Kota	6800	2921.85	3088.50	45.42
			Sultanpur		789.65		
		Jodhpur	Mathaniya	500	0.00	500.00	100.00
		Total	-	7300	3711.50	3588.50	49.16
2	TILAM SANGH	Jhalawar	Jhalara patan	2400	704.80	1695.20	70.63
		Bundi	Kesorai Patan	2300	530.16	1769.84	76.95
		Baran	Chippa Barod	18000	1333.40	16666.60	92.59
		Total	-	22700	2568.36	20131.64	88.69
Grand Total				30000	6279.86	23720.14	79.07

Source: RAJFED, Jaipur.

#### 4.3 District-wise details of Study Area:

The land use classification of selected districts over three time periods (1990-91, 2000-01, 2011-12) shows that the net sown area in Ajmer and Baran districts as well as at State level has increased by about 5 to 6 percent point in 2010-11 over 1990-91, while it has marginally increased in Kota district. However, in case of Jaisalmer, where hardly 6 percent of geographical area land was under cultivation, increased by about 13 percent points during corresponding years. While opposite picture could be noticed in case of area sown more than once. Ajmer, Kota and Baran districts could able to bring more area under area sown more than once, which may be due to availability of irrigation water and good monsoon during the recent past. Because of same, the cropping intensity of these three districts was much higher than Jaisalmer district.

The average land holding in Rajasthan was 3.07 ha in 2010-11, which was fourth highest size of state average holdings (after Punjab, Nagaland, and Arunachal Pradesh), while national average was 1.16 ha. Among the selected districts as well, Jaisalmer had highest size of holding of (10.5 ha), while other three districts has between 2.1-2.7 ha. Though the average land holding of farmers in Rajasthan is relatively higher than the holdings of farmers in rest of the country, the inequality in land holding is an important issue. Small and marginal farmers constitute about 50 percent of the total farmers with only about 11 percent of the total land area. The large land owners account for 9.1 percent of the number of landholders and account for

about 43 percent of the land area. Among the districts as well, it can be seen that small and marginal farmers constitute about more than 50 percent of the total farmers with only about 11-15 percent of the total land area. Thus, dependence of large number of farmers on small area indicates uneven distribution of land holdings as well as role of agriculture in the welfare of the rural areas.

The details about the implements, infrastructure and institutions in selected districts indicate that there is significant increase in number of tractors in 2011-12 as compared to 1992-93. Most of the villages are electrified and connected with the roads. Except Jaisalmer districts, the cooperative societies network has widened in other districts as well as at State as a whole. However, there is no change in number of KVK and KUMS.

The irrigation is the most important input of agriculture which determines the level of output. It is observed that the percentage of net irrigated area to net sown area in the state was 24.0 percent in 2008-09, which has increased by 10.2 percent points over 1990-91. The well and tube wells are the major sources of irrigation. Among the selected districts, Kota and Baran districts are highly irrigated having more than 88 percent cultivated land under irrigation. In case of Kota district, canal is the major source of irrigation followed by well and tube wells, while groundwater is major source in case of Baran district. Ajmer district depends on groundwater for irrigation accounting about 30 percent net sown area under irrigation. Jaisalmer district has hardly 15 percent net sown area under irrigation, which largely depend on canal water. This may be due to soil and climatic conditions of this district.

The cropping pattern of the selected districts and the State shows that over a period of time, there is slight change in the cropping pattern of the selected districts. Jowar, bajra and moog are the major kharif crops, while gram and wheat are major *rabi* crops grown in Ajmer district. Moog has emerged as major kharif pulse crop since 2001 onward. However in case of cash crop such as cotton, its share in GCA has declined over the period of time. In case of Jaisalmer district, bajra and guar has been grown as major kharif crop, while gram and rapeseed are major *rabi* crops. Though bajra accounts for about 17 percent of GCA in 2011-12, its share has declined from as

high as 69.27 percent in 1980-1982; while share of guar crop increased to 50.68 percent in 2011-12 from 28.85 percent in 1980-82. Among the rabi crops, share of gram and rapeseed mustard (in GCA) has increased after 2001.

In case of Kota and Baran districts, major kharif crops grown are soybean, rice, maize, urad and sesamum, while wheat and gram are major rabi crops. Soybean accounts for more than 32 percent of GCA in case of Kota, while same accounts for about 40 percent in Baran district. Selected crop, i.e. area share of garlic in GCA in both the selected districts ranges between 2.7 to 3.0 percent in 2011-12. Over the period of time, there is decline in area share of jowar and maize crop in GCA of both districts, this may be due to shift in acreage from this crop to Soybean crop. Increase in area under wheat and rapeseed in Kota, and only in case of wheat in Baran resulted in decline in area under gram crop. This may be due to increase in level of profit in wheat as compared to gram cultivation, and also may be due to significant increase in MSP in recent past.

#### **4.4 Village Cluster-wise details:**

The details about the market and marketed related other infrastructure and institution available in and or near village cluster indicates that the all the selected village cluster were having basic necessary infrastructure and institutions. But none of them have farm produce storage structure indicates immediate investment in this aspect. Thus, farmers are force to sell their produce immediately after harvest when generally prices are low.

#### **4.5 Sample farmers:**

The selected characteristics of selected farmers show that in case of gram growing farmers, only large farmers had taken land on lease. However in case of kota district where garlic crop is grown, small and medium farmers also taken land on lease during the year under study. As it was expected, due to having availability of irrigation facilities with Kota and Baran districts, numbers of pump sets, milch animals are relatively higher than other two selected districts for gram crop. Almost 80 percent of

households in all selected districts are having concrete house. The data on institutional support in terms of bank loan received by the farmers were collected in order to know reach of these agencies in rural areas. It can be observed that all the selected farmers has availed the loan facility. Very surprisingly, small and marginal farmers from Baran district has availed loan facility to the tune of Rs. 1.4 to 1.5 lakhs, which is higher than other groups in that district. The purpose of loan was mainly for production followed by construction and purchase of implements. The cropping pattern followed by the sample farmers in selected districts indicates that more than 50 percent cultivated area was under gram in case of small farmers, while corresponding figures were ranges between 24-32 percent in case of medium and large farmers in Ajmer district. Whereas around 40 percent area of GCA of medium and large land holding size farmers was under gram in Jaisalmer district. Though on an average around 12.15 percent of gross cropped area was under garlic in Baran and Kota districts, the marginal farmers were dominant in terms of high share in area under this crop in 2011-12 (to gross cropped area) as compared to the other land holding size groups. Soybean is the main kharif crops of the sample farmers of Kota and Baran districts followed by garlic, while garlic was rabi main crop. If we compare cropping pattern in Jaisalmer and Ajmer with Kota and Baran, one can very clearly notice the difference of irrigation in cropping pattern. More number of cash crops such as vegetables and spices are grown in Kota and Baran districts and garlic is one of them.

##### **5. Effectiveness of MIS and PSS Scheme:**

Assured and remunerative prices are not only the known instrument of organizing and integrating the production activities of the farmers but also proved to be the most imperative factor for increasing the production of food grains and other agricultural commodities in India and elsewhere in the world (Schultz, 1964). In view of the distorted and unregulated market conditions prevailing for agricultural produces in India, support prices are very imperative for farmers to get assured income from their crop cultivation (Acharya, 1997; Sen and Bhatia, 2004). Also, the assured prices are helping the farmers for efficiently allocating the scarce

resources among different crops (Acharya, 1997; Deshpande, 1996; Rao, 2001; Dev and Rao, 2010). Besides, since the elasticity of demand for agricultural commodities particularly for food grains is less than unit in most cases, increased production during the period of bumper harvest brings down the prices of agricultural commodities sharply that severely harms the farmers (Narayanamoorthy and Suresh, 2012). Although MSP has helped to achieve the record production of food grains such as rice and wheat, it has come under severe scrutiny and attack for various reasons in the recent years. Thus, it is important to understand the level and basis of participation of farmers in selected area in both the schemes under study.

#### **5.1 Coverage of MIS and PSS:**

The procurement carried out by the procurement agencies in Rajasthan during last ten years shows that under PSS, procurement operations were carried for the selected crops such as wheat, gram and rapeseed mustard, while garlic crop was procured under MIS (Table 4).

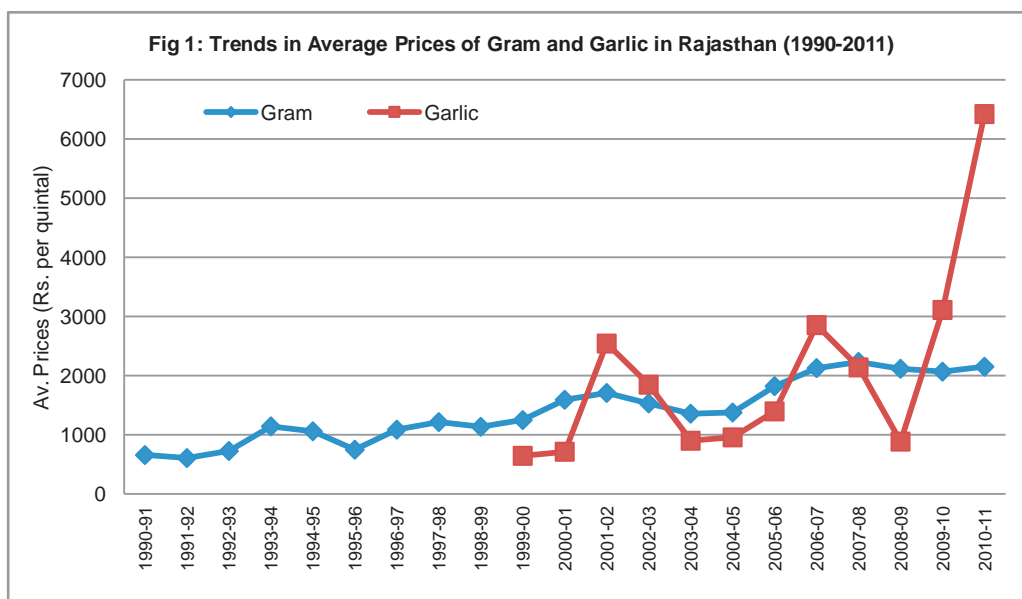
#### **5.2 Trend in Average Prices of Gram and Garlic in Rajasthan:**

During the period from 1990-91 to 2010-11 (Fig.1), average prices of gram in Rajasthan has increased steadily from Rs. 658 per quintal in 1990-91 to Rs. 2150 per quintal in 2010-11, with some exceptions of slight lower down during 1995-96, 2002-2003 and 2003-2004. However, in case of garlic, prices of garlic have been highly fluctuating during the years during 1999-2000 to 2010-11, as low as Rs. 645/- and as high as Rs. 6420/-. As garlic is semi-perishable commodity and thus prices fluctuates heavily which ultimately affect the income of the farmer.

Table 4: MIS/PSS in different districts of state in different years

Year	Crops	Covering districts	Major Procurement Agencies	MIS/PSS
2005-06	Rapeseed and Mustard	Ajmer, Jaipur, Jodhpur, Kota, Sikar, Jhunjhunu, Bikaner, Churu, Ganganagar, Hanumangarh, Jaisalmer, Nagore, Pali, Baran and Jalore	RAJFED and Tilam Sangh	PSS
2006-07	Rapeseed and Mustard	Ajmer, Bharatpur, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	Tilam Sangh	PSS
2007-08	Rapeseed and Mustard	Ajmer, Bharatpur, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	RAJFED and Tilam Sangh	PSS
2004-05	Onion	Jodhpur, Nagore, Sikar, Jhunjhunu, Jaipur	RAJFED	MIS
2004-05	Coriander	Kota, Baran, Jhalawar	RAJFED and NAFED	MIS
2006-07	Wheat	Alwar, Ajmer, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	FCI,RSWC	PSS
2007-08	Wheat	Alwar, Ajmer, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	FCI, RAJFED, NAFED Tilam Sangh	PSS
2008-09	Wheat	Alwar, Ajmer, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	FCI, RAJFED, Tilam Sangh	PSS
2009-10	Wheat	Alwar, Ajmer, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	FCI, RAJFED, Tilam Sangh	PSS
2010-11	Wheat	Alwar, Ajmer, Kota, Bikaner, Jaipur, S.Ganganagar, Jodhpur and Udaipur	FCI, Tilam Sangh	PSS
2011-12	Gram	Ajmer, Bhilwara, Karuli, S.Madhopur, Dausa, Jaipur, Jhunjhunu, Tonk, Jaisalmer, Pali, Kota, Baran and Bundi	RAJFED and Tilam Sangh	PSS
2012-13	Garlic	Kota, Baran, Jhalawar and Bundi	RAJFED, Tilam Sangh	MIS
2012-13	Urad	Ajmer, Bhilwara, etc	RAJFED	PSS

Source: NAFED, Jaipur.

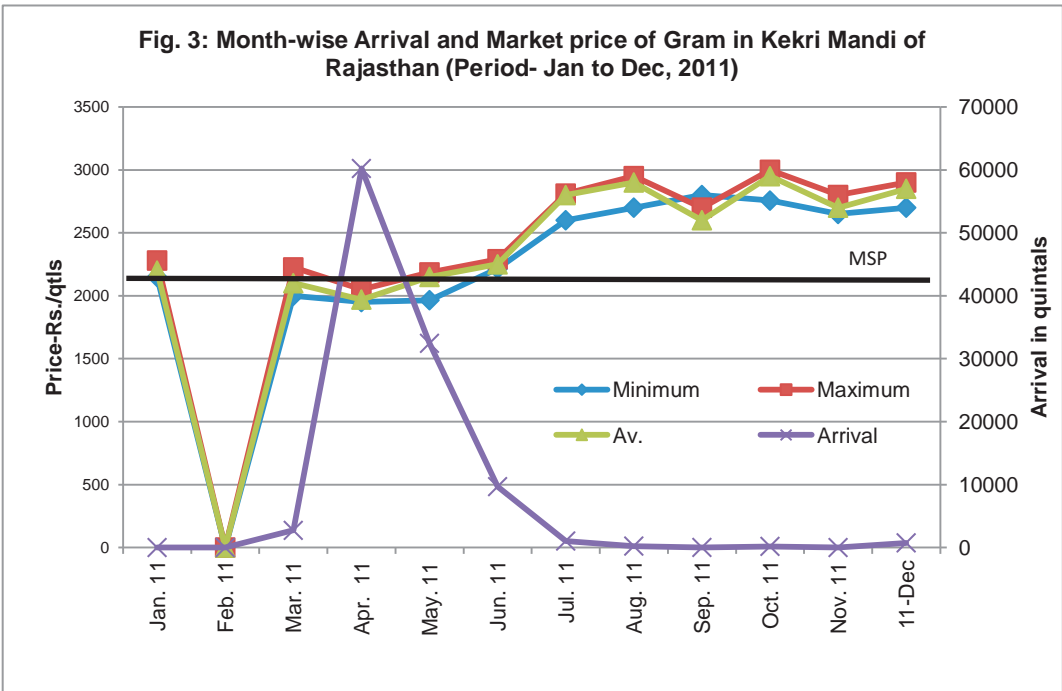
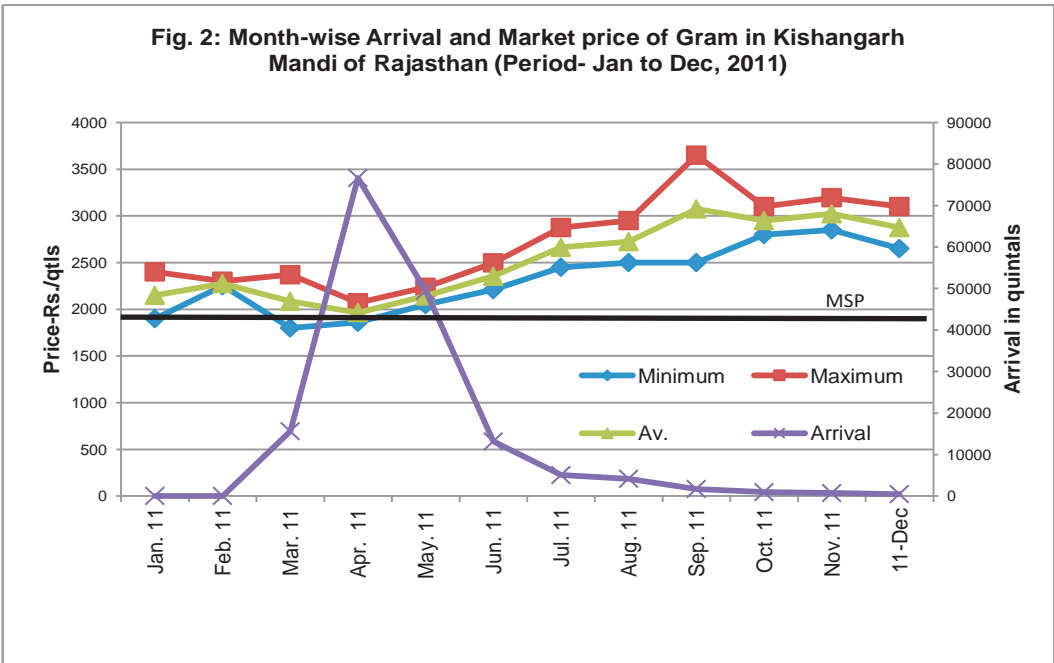


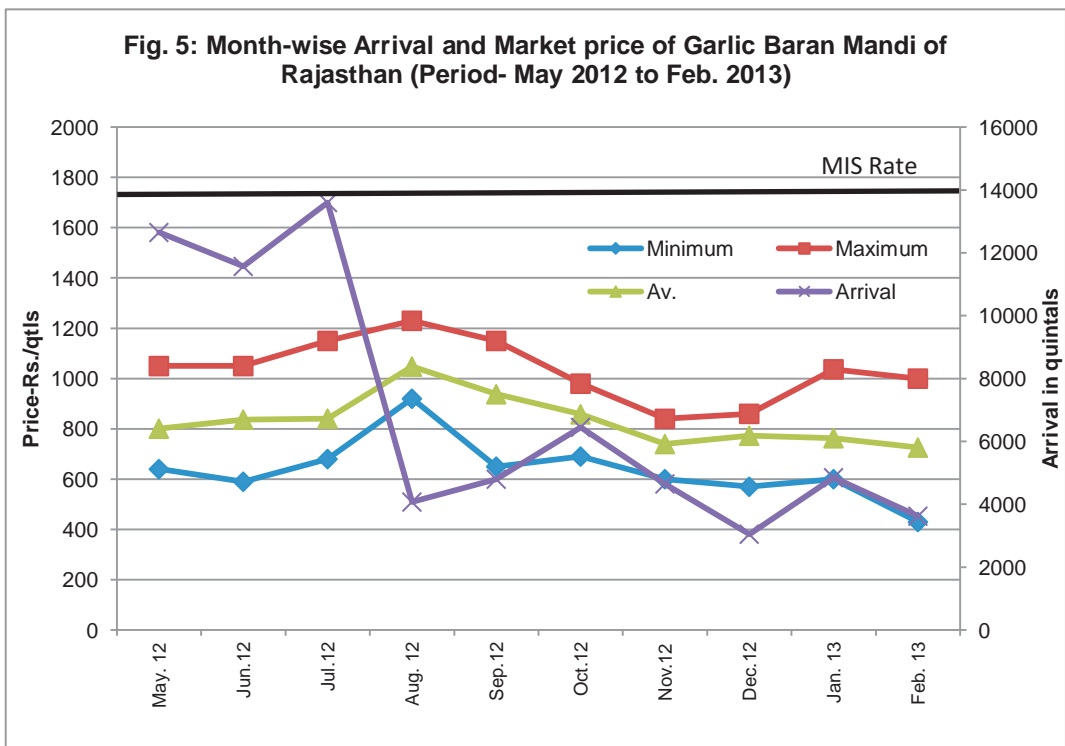
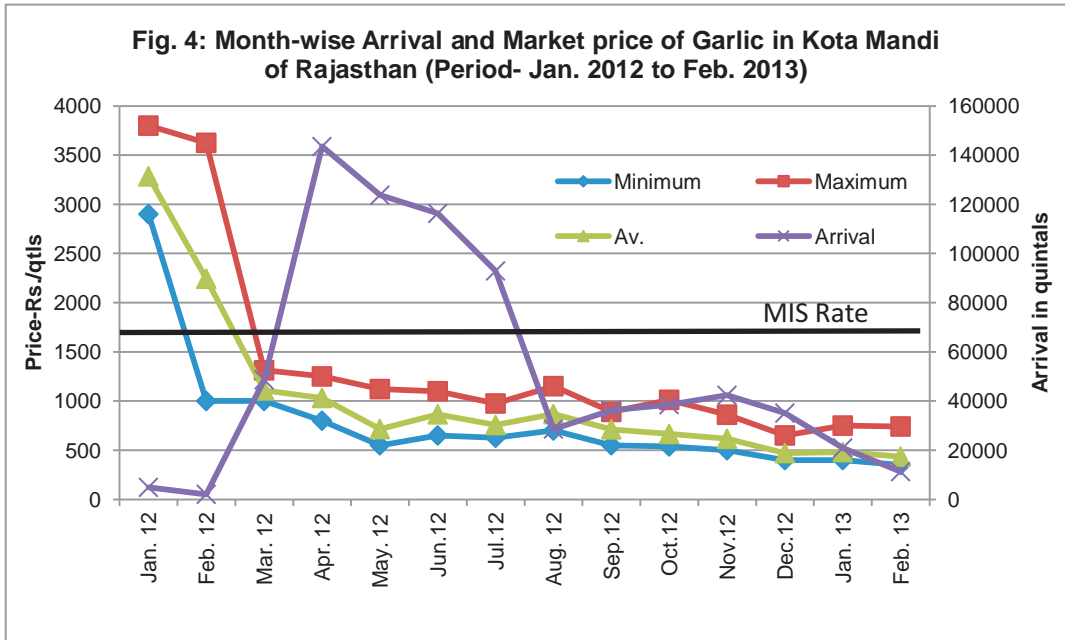
### 5.3 *Arrival and Prices of Targeted Commodity in Important Mandies:*

The month-wise arrival and prices of gram during the year 2011 in selected mandies of Rajasthan shows that the highest market price for gram was realized in the month of October and November when arrival was the lowest in the year (Fig. 2 and 3). At the time of arrival of gram in the market, price per quintal of gram was below declared MSP (Rs. 2085 per quintal in March 2011 and Rs. 1965 per quintal in April 2011 in Kishangadh mandi and Rs. 1970/ quintal in April 2011 in Kekri mandi). Thus, market prices of gram ruled below declared MSP of Rs. 2100/- during two months and therefore government had carried out procurement operation during the three month period of April to June 2011.

In case of garlic, data shows that during the high arrival month of April to May, the price was around Rs. 650 per quintal as compared to slack month of January to March, when it was between Rs. 1100/- to 3300/- per quintal (Fig. 4 and 5). The procurement of garlic under MIS was carried out during the period from June 6, 2012 to July 6, 2012 at the rate of Rs. 1700/- per when prices were very low, which has resulted in huge loss the government, however, protected the farmers from heavy loss (those who could sell their produce under this scheme).







#### 5.4 *Proportion of Procurement to Market Arrival:*

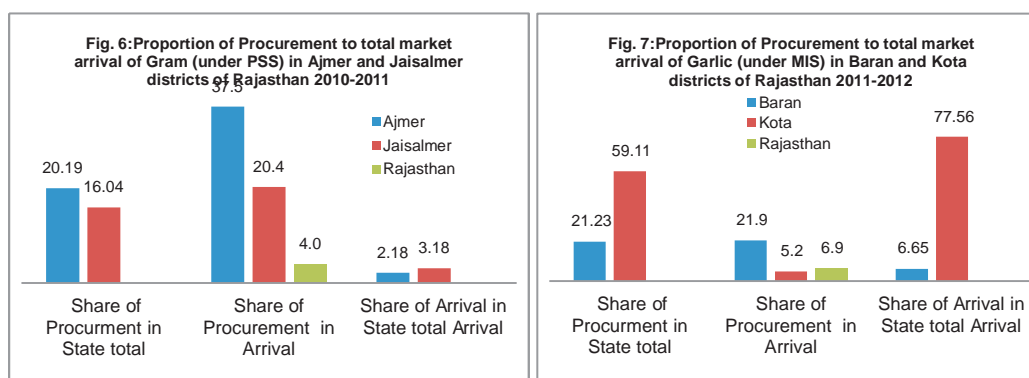
The process of procuring crops under MIS and PSS are carried out by the agencies such as RAJFED and Tilam Sangh after they receive necessary instructions from their head office/state government/central government (see, Box 1). The price fixed by the government for gram (MSP under PSS) and for garlic (under MIS) was Rs. 2100/- per quintal and Rs. 1700/- per quintal respectively. All the charges towards procurement including mandi tax, labour and transport, cost of bag, etc. was paid by the procurement agency. The KVSS/cooperative societies the accordingly directed to procure the commodities (after following the necessary procedure such as advertisement, issuing coupon, checking FAQ norms, etc.) from the procurement centers.

Box 1: Process of Procuring Crops under MIS/PSS by Nodal Agency in Area

Sr. No	Particulars	PSS Gram	MIS- Garlic	
		(2011-2012)	(20122013)	
1	Procurement Agency	RAJFED	RAJFED	TILAM SANGH
2	Date of Notification by GOI to State Horticulture Department	Not Applicable	01.06.2012	01.06.2012
3	Date of Notification by GOI to Procurement Agency	29.03.2011	Not Applicable	Not Applicable
4	Date of Notification by State Govt. to Procurement Agency	30.03.2011	02.06.2012	02.06.2012
5	Date of Notification Procurement Agency to Cooperative Societies	30.03.2011	02.06.2012	02.06.2012
6	Period declared by GOI for procurement	07.04.2011 to 30.06.2011	One month June 6, 2012 to July 7, 2012	One month June 6, 2012 to July 7, 2012
7	Procurement target fixed (mt)	Not fixed	Not fixed	30,000
8	Price(Rs/qtls)	2100/-	1700/-	1700/-
9	Overhead expenses (Rs./qtls)	296/-	420/-	425/-

Source: Office of RAJFED and Tilam Sangh, Jaipur

The proportion of procurement to total market arrival (in metric tons) of targeted crop in selected districts shows that ratio of procurement to market arrival at state level is higher in case of garlic than gram, while opposite picture at selected district level (Fig. 6 and 7). It has been argued by many scholars that coverage of farmers under MIS as well as PSS is very low. If we compare both schemes (though both are different in nature and objective), it is observed that among selected farmers, total number of farmers who had availed benefited from MIS are relatively more in number than the beneficiaries of PSS scheme. Obvious, the semi-perishable nature of garlic and no scientific storage availability for same pushed the farmers to sale under MIS scheme. However, absolute numbers of farmers who have availed benefit of either scheme are very low.



### 5.5 Agency-wise Procurement Costs:

From the details on the costs incurred in procurement of gram and garlic crop under PSS and MIS in APMC/KUMS as perceived by the nodal agency, it is observed that RAJFED which was nodal agency for procurement of gram incurred about average cost of Rs. 296/- per quintal in addition to MSP rate of Rs. 2100/- per quintal (Table 5). The Society and RAJFED each adds 1 percent amount of MSP rate as their margin in procurement operations.

Table 5: Costs incurred in Procurement of Gram crop under PSS in APMC/KUMS as perceived by the RAJFED, Jodhpur in 2011

S. No.	Particulars	Gram- Costs incurred by RAJFED	
		Rate	Rs. Per Quintal
1	Purchasing Rate of Gram	Minimum Support Value	2100.00
2	Mandi Tax	1.60%	33.60
3	Commission	6%	126.00
4	Handling Expenses	Rs. 13.9/- per bag	14.60
5	Gunny Bag Transport	20 per bag	40.00
6	Local Transport	38 per bag	40.00
7	Society Margin	1.0% of MSP	21.00
8	RAJFED Margin	1.0% of MSP	21.00
	Total		2396.20

Note: Gram bag of 95 kg.  
Source: RAJFED, Jaipur.

In case of garlic crop, procurement operations was carried out by the RAJFED and Tilam Sangh during June 2012, and the procurement cost incurred by both the agencies ranges between Rs. 2120/- to Rs. 2174/- per quintal including the MIS declared rate of Rs. 1700/- per quintal (Table 6). The administrative expenses were charged by RAJFED/Tilam Sangh at the rate of 2.5 percent of Market Intervention Price (MIS) declared by the government.

Table 6: Costs incurred in Procurement under PSS/MIS in APMC/KUMS as perceived by the Agencies perceived.

S. No.	Particulars	Garlic- RAJFED		Garlic- Tilam Sangh	
		Rate	Rs./Qtls.	Rate	Rs./Qtls.
1	Purchasing Rate of Garlic	MIS Declared Value	1700.00	MIS Declared Value	1700.00
2	Mandi Tax	1.60%	27.20	1.60%	27.20
3	Commission	6%	102.00	6%	102.00
4	Handling Expenses	Rs. 9 /- per bag	18.00	Rs. 9 /- per bag	18.00
5	Grading Changes	20 per bag	40.00		
6	Local Transport	20 per bag	20.00	-	30.00
7	External Transport	-	Actual	-	Actual
8	Depreciation	10%	170.00	15%	255.00
9	Administrative Exp.	2.5% of MIP	42.50	2.5% of MIP	42.50
10	Overhead charges	-	419.70		
	Total		2119.70		2174.70

Note: Load- 50 kgs per Bag.  
Source: RAJFED, Jaipur.

## 5.6 Production Cost:

The production cost (explicit) of gram and garlic crop (in Rs/ ha) at farmers level indicates that in case of gram crop cultivation, the highest share of total cost incurred for hiring out the labour followed by land preparation cost of material (such as seed, fertilizers and chemical). The cost of irrigation and hired implements accounted for about 9-10 percent of total cost (Table 7). The farmers could harvest about 9.95 quintals of gram in one hectare by spending total cost of Rs. 21828/- (i.e. production cost per quintal is Rs. 2194/-). The market price realized by farmer was Rs. 2264/- per quintal, which was more than the cost of production, resulted in marginal profit to the farmer to the tune of Rs. 70/- per quintal or Rs. 694/- per ha.

Table 7: Production Cost (explicit) of Gram Crop (2010-11) and Garlic (2011-12) at farmers' level

Sr. No.	Detail of cost items	Production Cost- Gram		Production Cost- Garlic	
		Cost/Return (Rs/ ha)	% to total	Cost/Return (Rs/ ha)	% to total
i.	Land preparation Cost	6008	27.5	9856	10.0
ii.	Cost of Material (Seed, fertilizers, chemicals)	4064	18.6	32988	33.5
iii.	Cost of irrigation	1916	8.8	13469	13.7
iv.	Cost of labour	7296	33.4	42019	42.7
v.	Cost of hired equipments	2080	9.5	-	0.0
vi.	Other cost (if any)	464	2.1	-	0.0
vii.	Average Total Cost (Rs./ha)	21828	100.0	98331	100.0
viii.	Average Production (Qtls/ha)	9.95	-	80.23	-
ix.	Average Price* (Rs. /qtls)	2264	-	1237	-
x.	Average Return (Rs./ha)	22522	-	99229	-
xi.	Profit/ Loss (Rs./ha)	694	-	898	-

Note: \*- Weighted Average Price

Source: Field Survey data.

In case of garlic crop cultivation, cost of labour accounted for as high as 42.7 percent of total cost followed by cost of material (33.5 percent). For cultivation of one hectare of garlic, farmer had to invest on an average Rs. 98331/-, which fetched him production of about 80.23 quintals of garlic. The per quintal production cost for garlic is estimated to be Rs.1226/-, whereas price realized by the farmers was Rs. 1237/- per quintal, resulted in negligible profit of Rs. 11/- per quintal. Thus, price declared by the government under MIS was much higher (Rs. 1700/- per qt) than production and market price, which has helped the farmers ultimately.

### 5.7 Crop Produce Disposal Pattern and Marketing Channel:

It would be important to know about the crop production use and disposal pattern of the selected crop by the sample farmers. The crop production and its disposal (per farmer as well as per hectare) of the sample farmers indicates that in case of gram during both the years, small farmer had sold his total output in the market, whereas in other land holding size group, more than 90 percent of total production was sold in market (Table 8). The price per quintal realized by the small farmer was the highest, followed by large and medium farmer in both years. While in case of garlic production, except small farmer (during 2011-12), all other have sold more than 90 percent of produce in the market. Thus, almost all the production was marketed and very miniscule quantity was kept of home consumption as well as marketable surplus.

Table 8: Per hectare Crop produced by farmers and its disposal pattern for 2 years

Crops	Particulars	Farm Size Category				
		Marginal	Small	Medium	Large	Average
Gram (2010-11)	Total Production (qts)	-	8.00	10.84	9.68	9.78
	Kept for home consumption (qts)	-	0.00	0.64	0.57	0.58
	<i>% to total production</i>		0.0	5.9	5.9	5.9
	Marketed (qts)	-	8.00	10.19	9.11	9.20
	<i>% to total production</i>		100.0	94.0	94.1	94.1
	Price* (Rs./qtl)	-	2753	2323	2255	2264
Gram (2011-12)	Total Production (qts)	-	7.00	12.42	9.85	10.09
	Kept for home consumption (qts)	-	0.00	1.12	0.61	0.66
	<i>% to total production</i>		0.0	9.0	6.2	6.5
	Marketed (qts)	-	7.00	11.30	9.24	9.43
	<i>% to total production</i>		100.0	91.0	93.8	93.5
	Price (Rs./qtl)	-	3600	3480	3601	3593
Garlic (2010-11)	Total Production (qts)	112.5	70.09	76.66	77.65	77.41
	Kept for home consumption (qts)	9.375	0.89	5.73	6.17	5.92
	<i>% to total production</i>	8.3	1.3	7.5	7.9	7.6
	Marketed (qts)	103.125	69.20	70.93	71.47	71.50
	<i>% to total production</i>	91.7	98.7	92.5	92.0	92.4
	Price (Rs./qtl)	8500	7532	7209	7379	7406
Garlic (2011-12)	Total Production (qts)	93.75	70.02	82.52	79.31	80.23
	Kept for home consumption (qts)	5.47	11.07	2.27	5.21	4.55
	<i>% to total production</i>	5.8	15.8	2.8	6.6	5.7
	Marketed (qts)	88.28	58.93	80.25	74.08	75.56
	<i>% to total production</i>	94.2	84.2	97.2	93.4	94.3
	Price* (Rs./qtl)	1304	1169	1260	1225	1237

Note: \*- Weighted Average Price

Source: Field Survey data.

Out of the total production of gram, about 72 percent of output was sold under PSS scheme, while 25 percent to commission agent and remaining was sold to village trader (Table 9). Thus, due to price support scheme, farmers have benefited. In case of garlic production sale, on an average only about 46 percent of output was sold under the market intervention scheme, while 41 percent of output was sold to Commission Agents. Thus, in case of MIS, benefits could reach to less number of farmers despite of semi-perishable nature of commodity. The price per quintal for gram crop realized by the farmers through commission agents was the highest than any other channel. However, in case of MIS, price per quintal offered by the government and received by the farmers was much higher (Rs. 1700/-) as compared price realized by the farmer from commission agent (Rs. 985/-), village assembler and village trader. Thus, in true sense there was drastic fall in market prices of garlic and thus MIS has provided the support to farmers by procuring the garlic at the very high rate as compared to market rate.

Table 9: Different Marketing Channels for Sample farmers

Crop	Marketing channel	%t of output sold	Price received (Rs./qtl)
Gram	Price Support Scheme	71.74	2100
	Commission Agent	25.17	2817
	Village Assembler	3.09	1560
	Total	100.00	2264
Garlic	Market Intervention Scheme	45.76	1700
	Commission Agent	41.25	881
	Village Assembler/Trader	10.60	806
	Total	100.00	1237

Source: Field Survey Data.

It was observed that on an average farmer incurred about Rs. 73 per quintal cost in marketing of gram when he sold to commission agent, while under PSS, he incurred less cost of about Rs.45/- per quintal, may be due to payment of mandi taxes by the procurement agency. While in case of garlic crop, high cost of transportation and packing material and labour cost as well as commission in market put together Rs. 61.30/- marketing cost for farmer when he sold his produce to commission agent, while in case of MIS Rs. 52.5/- per quintal cost was incurred. In view of low



marketing cost in case of sale of produce to village trader/assemble and urgent need of money, farmer generally prefers to sell it in village, however, price realized was very low.

### 5.8 Farmers perceptions about PSS and MIS operation

From the farmers perceptions about PSS and MIS operations in Gram and Garlic crop, it is observed that about 22 percent farmers in case of gram and 10 percent farmers in case of garlic opined that there was increase in farm income due to PSS and MIS, while about 65 percent and 48 percent farmers respectively mentioned that PSS/MIS covered cost of production of targeted crop (Table 10). Also significant number of farmers opined the increase in area under these crops which are covered under PSS/MIS.

Table 10: Farmers Perceptions about PSS operation in Gram and MIS operation in Garlic crop

Sr. No.	Particulars	% of sample farmer reporting particular problem	
		Gram crop (PSS)	Garlic Crop (MIS)
I.	<i>Portion of Output rejected by buyers</i>		
	b) By Government agency	3.80	5.68
	c) By Private traders	0.18	1.14
II.	<i>Rejection stage of produce</i>		
	a) At the level of field	0.00	0.00
	b) In the market (some portion)	Yes	Yes
III.	<i>Possible reasons for exclusion of farmers from MIS/PSS</i>		
	a) Farmers not aware of MIS/PSS	0.00	0.00
	b) Farmers not interested in selling through MIS/PSS	0.00	0.00
	c) Long and lengthy process and not got good remunerative Price	48.39	28.30
	d) Not got a chance, political interference	22.58	39.62
	e) They procured very less quantity	29.03	22.64
	f) Sold prior to private Trader	0.00	9.43
IV.	<i>Perception about the results/outputs of MIS/PSS</i>		
	a) MIS/PSS helped in increasing area under targeted crop	43.33	30.00
	b) MIS/PSS covered cost of production of targeted crop	65.00	48.33
	c) Increase in farm income after implementation of MIS/PSS	21.67	10.00

Source: Field Survey Data.

Among the major problems mentioned by the farmers were long and lengthy process and of procurement; inadequate remunerative prices; lack a chance to sell under the scheme, political interference, as well as very low quantity procurement under the scheme. The produce gets rejected at the market level only and not at the field level. The proportion of the rejection would be as per FAQ norms in case of procurement under PSS and MIS. In case of rejection at market level was due to quality norms. Thus in that case, lower price is generally offered to the farmer.

The farmers reported the severity of problem perceived by them in marketing of targeted crop (Table 11). In case of gram crop marketing, top ranked problems perceived by farmers were delay in payments, lack of processing units, non-availability of cold storage/ warehousing facility and inadequate existing market price of produce. The main reasons which could induce the farmer not to sell his produce to PSS/MIS are discrimination on the basis of standard of produce/quality (as purchase are made on FAQ norms), delay in price received and long distance of procurement centre. In case of garlic marketing, the main problems identified are lack of processing units, non-availability of cold storage/ warehousing facility, delay in payments, long distance of regulated market and insufficient existing market price of produce. Thus, in order to give remunerative prices to the farmers and to prevent them from distress sale, these bottlenecks need to be removed. The storage and processing facilities need to be created on a priority basis.

Table 11: Problems perceived by sample farmers in marketing

Sr. No	Constraints	% of farmers reporting the severity of problem					
		Gram (PSS)			Garlic (MIS)		
		High	Moderate	Low	High	Moderate	Low
1	Existing market price of produce is not sufficient	65.0	13.3	21.7	73.3	11.7	15.0
2	Packaging material is costly	60.0	13.3	26.7	31.7	28.3	40.0
3	Packages/ container not returned to the growers (as per agreement)	21.7	13.3	65.0	6.7	3.3	90.0
4	Cheating by middlemen:						
	a) in price	0.0	0.0	100.0	0.0	0.0	100.0
	b) Weighing	0.0	0.0	100.0	0.0	0.0	100.0
	c) Other problems in selling produce	0.0	0.0	100.0	0.0	0.0	100.0
5	Non- availability of Transport	15.0	8.3	76.7	1.7	8.3	90.0
6	Non receipt of payment in time	45.0	11.7	43.3	33.3	38.3	28.3
7	MIS/PSS operation are irregular	3.3	16.7	80.0	48.3	6.7	45.0
8	Non-availability of cold storage/ warehousing facility	73.3	13.3	13.3	95.0	0.0	5.0
9	Lack of Processing Units	80.0	5.0	15.0	96.7	0.0	3.3
10	Delay in payments	81.7	1.7	16.7	76.7	6.7	16.7
11	Extent of organized market of targeted produce:						
	a) distance of regulated market	40.0	31.7	28.3	78.3	0.0	21.7
12	Reason for not sell to PSS/MIS						
	a) Long Distance: Low Moderate High ( < 5), (5-10), (>10 km)	68.3	1.7	30.0	78.3	0.0	21.7
	b) Delay in Price received	81.7	1.7	16.7	76.7	6.7	16.7
	c) Discrimination on the basis of standard of produce/quality	88.3	8.3	3.3	55.0	38.3	6.7

Source: Field Survey Data.

## 6. Problems and Views of Stakeholders in Operations of MIS & PSS:

Besides, the problems faced by the farmers in selling the produce under PSS and MSS, the procurement agencies also face the problems in executing the procurement operations.

### 6.1 Procurement Agencies (RAJFED and Tilam Sangh):

As mentioned earlier, RAJFED was involved in the procurement of gram (under PSS) during April 2011 to July 2011, while RAJFED and Tilamsangh both procured garlic under MIS during the specified period of one

month from June 6, 2012 to July 6, 2012. We interviewed the officers of the same agencies and noted the difficulties faced by them in carrying out the procurement operations with the help of primary cooperative societies. The difficulties/problems/views of interviewed officers are presented below:

- ? The main problem was the non-availability of adequate storage facility. Because of long distance storage, procurement process gets costlier as well as delayed. Thus, most of the time lack of adequate storage facility hinder/delay the procurement process.
- ? The non-availability of gunny bags (in time and required quantity) was another major problem faced by these agencies during procurement period (as gunny bags are provided by the Head offices which are prepared for all India level). This happens due to long, delayed and defective administrative process. Due to delay in announcement of procurement operation followed by delay in estimation of need of gunny bags and then its supply generally affect the whole procurement process. Thus, till gunny bags are not made available with procurement agencies, no procurement generally takes place. Due to this, there used be delay in procurement of the commodity.
- ? Sometimes during the year when production is high and procurement process started very late, in such situation every farmer wants to sell his produce under this scheme. In this situation, political interference starts putting pressure on the procurement agencies. The political interference in the process of the procurement also created hurdle in procurement operations, which some time delayed the procurement.
- ? The time period between announcement of procurement and actual implementation of the procedures generally work unfavorably for the marginal and small farmers. Because due to delay in procurement operations, marginal and small farmers are forced to sell their crop produce to other agency. By the time when government procurement under PSS and MIS is in effect, no marketable surplus is left with marginal and small farmers.

- ? As the time span stipulated by the Government for procurement is generally very short, it becomes difficult to control the large number of farmers at the procurement centre as everyone wants that his produce should be get procured under the scheme.
- ? Sometime unwarranted violence situation arises during the procurement period due to misunderstanding between farmers and the procurement agency (RAJFEFD) officials.
- ? Farmers incurred the losses due to delayed in necessary instructions by the higher authorities regarding storage, transport as well as final decision on place of selling of crop (which is semi perishable in nature). These loss accounts are not yet settled by the government agencies.
- ? Monopolistic kind of situation in the market, especially at the Chhipabarod, Baran procurement centre (because of the Tilam Sangh which is procurement agency in Baran and Bundi district didn't have any cooperative society at Chhipabarod procurement centre for the purchase of the garlic crop. Therefore one of the commission agents from nearby market was given responsibility of procurement which created situation of having only one procurement agency) creates sometime unnecessary tension at the time of procurement as it was given to the private agent.
- ? Difficulty was faced by the officers in application of FAQ norms for garlic crop as there was huge supply of the crop for sale.
- ? The farmers at times became violent because the supply of the crop was more than the demand and the procurement period announced was short in Kota and Baran district.

## ***6.2 Govt./Agricultural Officials Experiences and Views about MIS and PSS Operation for Gram and Garlic Crop***

- ? Most of the agricultural officials mentioned that they are partially involved in MIS and PSS operation. They are only informed about the procurement operations and sometimes are invited (as a member) for the meetings related MIS/PSS in the district.

- ? Most of the agricultural officials opined that the prices should be given as per quality viz. high price for good quality produce and low price for low quality produce. There should be hundred percent procurement of the crop in the selected area. No produce should be rejected at the procurement centre. If produce is below FAQ norms, it should be purchased at lower price.
- ? *Girdavri* Report (crop sowing report) should be issued by district official only once with mention about this purpose with proper online computerized system to prevent the fraud claim/sale by farmers. This is very much required because when declared MIS/PSS prices are much higher than prevailing market price, some farmers takes advantage by getting more than one copy/deflated copy (indicating more area under particular crop) of *Girdavri* report (which is necessity for sale of produce under MIS/PSS).
- ? The minimum support price should be declared by CACP differently for different agro-climatic conditions of the area. Fodder crop should be procured under the PSS operation in Rajasthan to prevent cyclic drought situation.
- ? Time to time weather information should be provided to the farmers by Agricultural Meteorology Department.
- ? Procurement information should be made available to the farmers well before the harvest in order to defend farmers from price discrimination as done by the private traders.

#### **7. Policy Measures to Improve Operations of MIS and PSS:**

From the above discussion and opinions of the stakeholders, the study brings out the policy implications as given below:

- ? The nodal agencies should decide, in consultation with the State Governments, the location and number of purchase centers to be set up much in advance of the marketing season. The information regarding number and location of purchase centers should be given wide publicity through media, radio, television, leaflets, etc.

- ? Procurement agency should come to purchase as soon as the harvesting is over, not after two weeks of harvest. Also the management of KVSS/ primary cooperative marketing societies needs to be improved.
- ? The nodal agency should ensure that they possess adequate gunny bags at procurement centers in advance by taking into consideration the estimated production of commodity in that region and expected quantum as market arrival.
- ? Information about both the scheme and FAQ norms should be made available to the farmers through media, leaflet and any other extension mode. Due to ignorance of FAQ norms of the farmers, unscrupulous elements enter the market and purchase agricultural commodities at much lower price than the MSPs fixed by the Government. In this way, the farmers are exploited. Cases of farmers being turned back on the ground of non-conformity with the FAQ norms are also frequent, leading to hardship and resentment amongst the farmers.
- ? Due to non-availability of adequate storage facility with the depot, procurement gets delayed as well as transportation cost also increases. Therefore, government should make necessary arrangements towards adequate storage facility before announcing the procurement.
- ? Speedy decisions as well as necessary instructions by the higher authorities regarding storage, transport as well as final decision on place of selling of crop, would help in minimizing the losses.
- ? *Girdavri* Report (crop sowing report) should be issued by district official only once with mention about the purpose with proper online computerized system to prevent the fraud claim/sale arises by the farmers.
- ? Adequate trained administrative staff should be placed at the procurement centre in order to avoid any misunderstanding between farmers and the officials.
- ? The Minimum Support Price (MSP) mechanism should be implemented effectively across the regions. No political interference should be allowed in procurement process.

- ? The Market Intervention Scheme (MIS) should be strengthened to respond speedily to exigencies especially in the case of sensitive crops in the rainfed areas.
- ? It was also experienced that there are a number of institutions involved in procurement process having inadequate coordination between them.
- ? The MIS suffers from limited operations, since it is implemented on the request of the State Government(s) willing to bear 50 per cent of the losses, incurred if any, in its implementation. The implementation of the scheme needs to be made more flexible and easy.
- ? The agricultural officials should be involved in MIS and PSS operation. The role of the KUMS/APMC and State Agriculture Marketing Boards should be transformed from mere regulatory focus to promotion of grading, branding, packaging and development of markets for local produce.
- ? Announcing a hike in MSP alone will not guarantee any profit for cultivators, unless post-harvesting arrangements such as procurement centres, storage facilities, transport, etc, are established. Except paddy and wheat crops, the procurement facilities for other crops are woefully poor even today, which allows the middlemen to fiddle with the process. Therefore, this needs to be improved on a war footing basis.
- ? As long as the services of nodal agencies are being used for market intervention and procurement, etc., they must be given full support so as to enable them to operate efficiently. Necessary budgetary provisions need to be made by the Government in this regard so that their operations could be carried out smoothly. Likewise, the role of banks in financing the public and cooperative procuring agencies, need to be made more active and participative.
- ? The Government of India should encourage the state government to initiate MIS operations well in advance for saving the farmers in distress. The operational efficiency of purchasing agencies needs to be toned up in the context of cost efficient purchases vis-a-vis competitive sales so as to avoid or reduce losses.



? Most of the farmers decide crops to be sown without taking into consideration MSP of particular crop/s as well as they sell crop produce within the village. In view of huge buffer stock of rice and wheat and at the same time shortfalls in the supply of oilseeds and pulses, MSP policy should be used for correcting this imbalance and for achieving the desired crop diversification.

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