**Network Project on Market Intelligence**

**Project Title:** Network project on Market Intelligence

**Project Code:**  C(4) 372, Market Intelligence

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**Importance of the Project**

In a country like India with 70% of population living in about 6.25 lakh villages and depending on agriculture and their main occupation, accurate and timely market intelligence about the market price of the agricultural commodities is a extreme significance.

Market information and intelligence are crucial to enable farmers and traders to make informed decisions about what to grow, when to harvest , to which markets produce should be sent and whether to store it or not. The most important marketing intelligence need of the farmer is price intelligence. Agriculture price data are based on thousands or millions of transactions, many of them on a small scale that are taking place everyday all over the country. As farmers becomes more market oriented, extension workers needs to be in a position to advice them not only on how market them. Knowledge of produce handling, storage and packaging is also essential.

Recent advance in information technology are making it more feasible to provide farmers with the marketing information they need. However, farmers may not benefit from sophisticated facilities, if the system is poorly managed or not designed for their needs.

In India, existing agricultural market information service frequently fall short in one or more areas. In many cases shortcoming occur because the service is not relevant to the needs of the users or because it is targeted primarily of the policymakers with insufficient attention paid to the needs of farmers and traders. Much effort is therefore spent on the collection of the information, but only a little attention is paid in timely reporting of the information in a manner which is useful to farmers and traders.

Establishing and Networking of Market Intelligence Centre are the need o the hour. Dissemination of market information (demand, production and prices) plays a vital role in the functioning of the whole market by harmonizing the competitive marketing process by helping ensure that each marketing transaction is a fair one and that all participants share the risks and benefits project objectives.

**Project Objectives**

The main objectives of the project are

1. Providing price forecast well in advance of sowing and harvesting of major crops so that farmers can take appropriate decisions on selling and marketing of their produce.
2. Developing commodity profile for selected crops
3. Conducting policy study.

(The pre sowing forecasts presented a view on the likely prices to prevail at harvest to enable the farmers to take sowing decisions. Similarly, the farmer’s major dilemma at harvesting time is taking the right decision on disposing of their produce whether immediately after harvest or later.)

**II) Title: Price forecast of selected Kharif and Rabi crops in Madhya Pradesh** The study is confined to Madhya Pradesh state of Indian Union. On the basis of maximum area and production and market accessibility following crops have been selected for price forecasting.

**Crops Selected:**

|  |  |  |
| --- | --- | --- |
| 1. | Cereals | Maize |
| 2. | Pulses | Chickpea, Pigeonpea |
| 3. | Oilseeds | Soybean,Rapeseed& Mustard |

**Selection of Markets**

**On the basis of maximum arrivals following markets have been chosen for selected crops.**

|  |  |  |
| --- | --- | --- |
| S.No. | Crop | Market Selected |
| 1. | Maize | Chhindwara |
| 2. | Soybean | Shujalpur |
| 3. | Pigeonpea | Pipariya |
| 4. | Chickpea | Vidisha |
| 5. | Mustard | Morena |

**The Data**

Model Price of mandatory corps from the selected markets was collected by the website AGMARKNET and Reports covering a period of more than one decade (January 2003 to 2015).

**Method of Analysis**

Autoregressive Moving Average (ARIMA) and simple average techniques were used to analyze the collected data and forecasting of price during pre sowing and pre harvesting crop colander periods of selected crops.

**Pre-sowing Price Forecasts**

**Pre-sowing price forecasting of Maize**

Maize is one of the most important cereal crop of the world and contributes to food security in most of the developing countries. In India, maize is emerging as third most important crop after rice and wheat. Its importance lies in the fact that it is not only used for human food and animal feed but at the same time it is also widely used for corn starch industry, corn oil production, baby corn etc. Maize production has nearly doubled from around 12 million tons in the early 2000 to around 23 million tons in 2013-14 showing CAGR of 5.5%. However, despite the production strength, its productivity are significantly below the major corn producing countries. Thus, there is dire need not only to focus on production and productivity but also on building a competitive maize supply chain and timely dissemination of price to the farmers.

Madhya Pradesh is the leading maize producing states in the Indian Union and ranks sixth in the production of maize but the state is much lagged in terms of productivity. During the year 2014-15, the Area, Production and Yield of maize was 12 lakh hectare, 38.40 lakh tonnnes and 3200 Kg per hectare respectively which is 20%, 47% and 23% higher as compared with the previous year. Chhindwara, Dhar , Jhabua , Rajgarh , Betul , Ratlam , Singroli , Barwani , Alirajpur , Mandsaur , Neemuch , Shajapur etc. are the major Maize producing districts in the state. Out of these districts Chhindwara is the major Maize producing district. Area, Production and Yield of Maize in Chhindwara was 135 thousand hectare, 484 thousand tonnes and 3585 Kg. per hectare respectively during the year 2014-15.

For forecasting the prices of various major crops Department of Agricultural Economics & Farm Management (JNKVV) has implementing the project i.e. “Market Intelligence”. The main objective of this project is to forecast the price of major crops and disseminate the information through different medium i.e. Newspapers, T.V., Radio, KVK, Kissan Call Centers etc. so the farmers can take the accurate decision of sowing the crop.

ARIMA, ARCH-GARCH analysis was carried out using SAS software. The monthly prices of maize, for the period of January 2003 to September 2015 for the Chhindwara market were taken for analysis.The pre-harvesting price forecast of maize indicate the range between Rs. 1200/qt. to Rs. 1400/qt. in the months of October to December 2015 which is at par with the Minimum Support Price i.e. Rs. 1325 per quintal announced by Government of India for the year 2015-16. Hence, farmers are recommended to sell maize upon harvest or store and sell during the month of December.

**Soybean Price May Mount Moderately at Harvest**

Soybean (Glysine Max) is commonly known as the Yellow Gold or Miracle Bean. USA, Brazil, Argentina, China, India, Paraguay, Canada and Africa are the major Soybean producing countries. Out of these countries, USA occupies first position in the production of Soybean. Its share in world’s production is almost 35 percent. Brazil, Argentina & China ranks second, third & fourth in terms of production respectively.

India occupies the fifth position in the production and export of Soybean. In India soybean production was estimated to be 11.82 MT in 2014-015 which is marginally lowered than 11.98 MT in 2013-14. Madhya Pradesh, Maharashtra, Rajasthan, Andhra Pradesh, Karnataka, Chhattisgarh & Gujarat are the major Soybean producing states.

In Madhya Pradesh, Soybean is the most important Kharif oilseed crop and the state occupies first position in the country. During the year 2013-14 the Area, Production and Yield of Soybean is 63.80 lakh hectare, 50.00 lakh tonnnes and 784 Kg. per hectare respectively and in 2014-15 the Area, Production and Yield is 65.00 lakh hectare, 94.25 lakh tonnnes and 1450 Kg. per hectare respectively which is higher as compare with the year 2013-14. In Madhya Pradesh major Soybean growing district are Chhindwara, Narsingpur, Sagar, Indore, Dhar, Ujjain, Neemuch, Ratlam, Dewas, Shajapur, Shivpuri, Sehore, Raisen, Vidisha, Rajgarh, Hoshangabad, Harda and Betul which covers about 94% of total Soybean production in the state. Dhar is the major Soybean producing district which have area, production and yield of 279 thousand hectare, 413 thousand tonnes and 1483 Kg per hectare in the year 2013-14 respectively but Shujalpur mandi of Shajapur district has maximum arrivals of Soybean therefore on the basis of maximum arrivals, we selected Shujalpur market of Shajapur district for collecting the model prices and for forecasting the prices. Soybean is sown normally during mid June to mid July and harvesting in the month of October and arrival are peak in the months of October to December and medium in January and February and lean from March to June.

To know the forecasting prices Department of Agricultural Economics & Farm Management, Jawaharlal Nehru Krishi Vishwa Vidyalaya has organized the project namely “Market Intelligence”, the main objective of the project is to forecast the prices of different crops and disseminate it to the farmers so the farmers can take an accurate decision of sowing the crop.

In the year 2015-16, the Minimum Support Price of Soybean announced by GOI is Rs. 2600 per quintal. From January 2003 to May 2015, the model prices were collected through different mediums and analyzed forecasted prices by using econometric technique resulting the range of forecasted prices from Rs. 3300 to Rs. 3500 per quintal in the month of October. Hence the farmers are suggested to take their own decision keeping above price level in view and decide to sell or store the produce as per their convenience. The forecast could be affected by changes in normal weather condition, government and export policy etc.

**Note:** *These forecasts are based on past data and model and actual market price may not turn out to be same as forecasted.*

**Forecasted Pre-Sowing Price of Pigeon pea in Madhya Pradesh**

India is the major producer of Pigeon pea in the world accounting more than 80% in area as well as total production. Other major producers are Myanmar, Malwai, Nepal etc. Pigeon pea occupies 6.5% of the world total pulse area and contributes 5.7% to the total pulses production. Pigeon pea contributes nearly 20% of India total pulses production of 19269.40 thousand tones during the year 2013-14. In spite of monopoly, India also imports around 4 to 5 lakh tones of Pigeon pea per year. The main source of import is Myanmar. The main centers of Pigeon pea output in India are Maharashtra, Uttar Pradesh, Karnataka, Madhya Pradesh and Gujrat. Madhya Pradesh ranks fourth in area (464.04 thousand hectares) and production ( 331.96 thousand tones) of Pigeon pea in the country. In terms of Pigeon pea production in Madhya Pradesh, Narsingpur district is in the lead followed by Chhindwara, Raisen, Betul, Damoh, Rewa & Jabalpur.

Pigeon pea is cultivated between June and August months and arrival of fresh Pigeon pea output begins from March. Indore, Bhopal, Vidisha in Madhya Pradesh, Jalgaon, Latur, Mumbai and Akola in Maharashtra are the major trading centers of Pigeon pea in the country. Delhi, Kanpur, Hapur, Jalandhar, Sangur, Gulbarga, Chennai etc. are also known for their Pigeon pea markets. Climatic conditions, carryover stocks, import and price of other pulse crops etc. have a crucial bearing on shaping the market sentiments of domestic Pigeon pea market.

Gadarwara and Piparia region in Madhya Pradesh is known as ‘Pigeon pea Bowl’ of Madhya Pradesh. Pigeon pea growers are more anxious to know the price to be prevailed during pre and post harvesting period of pigeon pea to decide on the selling and storage dicisions. Hence to assist farmers and traders for suitable decisions the NCAP Network Project on ‘Market intelligence’ functioning in the Department of Agricultural Economics & Farm Management , JNKVV Jabalpur (M.P.) collected the wholesale prices of Pigeon pea prevailed in Pipariya market in Madhya Pradesh during the last 12 years ( January 2003 to December 2014). Collected data were analysed by using econometric techniques to forecast the prices of Pigeon pea for the harvesting periods. Opinion survey of farmers and Pigeon pea traders was also conducted.

In the year 2015-16, the Minimum Support Price of Pigeon pea announced by GOI is Rs. 4625 per quintal. From January 2003 to May 2015, the model prices were collected through different mediums and analyzed forecasted prices by using econometric technique resulting the range of forecasted prices from Rs. 6600 to Rs. 6800 per quintal in the month of February-March. Hence the farmers are suggested to take their own decision keeping above price level in view and decide to sell or store the produce as per their convenience. The forecast could be affected by changes in normal weather condition, government and export policy etc.

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**Chickpea Price Start Upward Move at Harvest**

The Chickpea is the third most important pulse crop after Drybean and Pea and accounts for 20% of the pulses produce in the world. India, Australia, Pakistan, Turkey, Ethiopia and Myanmar are the international Chickpea producing countries. India is the largest producer, consumer and importer of Chickpea and shared alone about three-fourth of the total world’s production. India imports chickpea from surplus countries like Australia, Iran Turkey and Canada. Madhya Pradesh, Rajasthan, Maharashtra, Uttar Pradesh, Andhra Pradesh, Karnataka, Gujarat, Chhattisgarh, Haryana, Bihar, Odisha and West Bengal are the major Chickpea producing states.

Madhya Pradesh being largest producer of the Chickpea occupies the first position both in area and production. During the last one decade since 2001 the area and production have increased remarkably. The total area under chickpea in 2013-14 stands at 3482 thousand hectare and production at 2555 thousand tones with average productivity of chickpea in the state is 809 Kg/ha which is lower than the national level. Top Chickpea producing districts in the state are Sagar, Chhindwara, Vidisha, Raisen, Ashoknagar, Dewas, Damoh, Rajgarh, Narsingpur, Ujjain, Chhatarpur and Sehore. Vidisha district have recorded highest arrivals of Chickpea in the state but in terms of area, Sagar district occupies first position and it covers 203 thousand hectare area and in terms of production Chhindwara district registered first position and produces 151 thousand tonnes in the year 2013-14. The sowing time of Chickpea in the state starts from October to November and harvest in the months of February-March. For forecasting the prices of various major crops Department of Agricultural Economics & Farm Management JNKVV Jabalpur has implementing the project i.e. “Market Intelligence”. The main objective of this project is to forecast the price of major crops and disseminate the information through different medium i.e. Newspapers, T.V., Radio, KVK, Kissan Call Centers etc. so the farmers can take the accurate decision regarding time and area of sowing as well disposal of produce.

From January 2003 to September 2015, the model prices of Chickpea from Vidisha market were collected through different sources and analyzed forecasted prices by using econometric technique namely ARCH, GARCH, ARIMA. According to the price forecasting of Chickpea, prices gained on account of low output following unseasonal rainfall and a sharp drop in area under cultivation in key growing belts in the state. Low production support upward movement of price and it may go up to Rs. 4300 to Rs. 4400/qt. in the month of February-March 2016 which is much higher than the Minimum Support Price i.e. Rs.3175 per quintal, announced by GOI so the farmers can take the maximum area for the cultivation of Chickpea.

**Note:** *These forecasts are based on past data and model and actual market price may not turn out*

*to be same as forecasted.*

**Deficit Monsoon Hit Mustard Price at Harvest**

Rapeseed and Mustard is the second most important oilseed crop in India after soybean. It accounts for nearly 20-22% of the total oilseeds produced in the country. India produces around 65 lakh tonnes of rapeseed mustard seed and around 26 lakh tonnes of mustard oil and 35 lakh tonnes of cakes. Rajasthan, Uttar Pradesh, Madhya Pradesh, Haryana, Gujrat, West Bengal and Assam are the major mustard producing states in the country. Madhya Pradesh alone contributes about 10% of the total rapeseed mustard seed produced in India.

In Madhya Pradesh Morena, Gwalior, Shivpuri, Sheopur, Bhind, Mandsaur & Neemuch are the major Mustard growing districts. Among these districts Morena occupies the first position both in terms of arrivals and production of mustard. Therefore, we have selected Morena market of Morena district for collecting the model prices and for forecasting the pre sowing prices. In the various part of the State, Mustard is sown normally during September to October and harvesting in the month of March. Arrivals are peak in the month of April to June and lean from November to January The Minimum Support Price for mustard has announced by the Government of India i.e. Rs. 3100 per quintal for the agricultural year 2015-16.

To know rabi harvest prices of mustard, econometric analysis of model prices of mustard in Morena market for a period of 12 years (January 2003 to August 2015) was undertaken by the Network Project on Market Intelligence in the Department of Agricultural Economics & Farm Management JNKVV Jabalpur. The outcomes of the analysis along with traders & farmers survey was indicated that Mustard price per quintal are likely to range between Rs. 3900 to 4100 per quintal at the time of harvesting period which would be quite more than Minimum Support Price of Mustard. Traders & Farmers are of the view that Mustard price in coming months increase drastically in different markets of States. Thus, farmers are suggested to take their decision accordingly keeping above price level and decide to sell or store the produce as per their convenience. The forecasted price could be affected by changes in weather condition and government and EXIM policy etc.

**Note:** *These forecasts are based on past data and model and actual market price may not turn out*

*to be same as forecasted.*

**Pre-Harvesting Price Forecasting**

**Maize prices May Mount Moderately at Harvest in Madhya Pradesh**

Madhya Pradesh is the leading maize producing states in the Indian Union and ranks sixth in the production of maize but the state is much lagged in terms of productivity. During the year 2014-15, the Area, Production and Yield of maize was 12 lakh hectare, 38.40 lakh tonnnes and 3200 Kg per hectare respectively which is 20%, 47% and 23% higher as compared with the previous year. Chhindwara, Dhar , Jhabua , Rajgarh , Betul , Ratlam , Singroli , Barwani , Alirajpur , Mandsaur , Neemuch , Shajapur etc. are the major Maize producing districts in the state. Out of these districts Chhindwara is the major Maize producing district. In Chhindwara district Area, Production and Yield of Maize is 135 thousand hectare, 484 thousand tonnes and 3585 Kg. per hectare respectively during the year 2014-15.

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From January 2003 to September 2015, the model prices were collected through different sources and analyzed forecasted prices by using econometric techniques namely ARCH and ARIMA. According to the price forecasting of Maize, it is flyround Rs. 1200/qt. to Rs. 1400/qt. in the months of October to December 2015 which is at par with the Minimum Support Price i.e. Rs. 1325 per quintal. Therefore, we suggest the farmers either sell their crop immediately or store until November and then can sell in the month of December.

**Note:** *These forecasts are based on past data and model and that actual market price may not turn out to be same as forecasted*

**Soybean Price May be around Rs.3300/qt. to Rs. 3400/qt. at Harvest**

Soybean (Glysine Max) is also known as a ‘miracle crop’ and it is one of the major oilseed crop in the world. Globally United States is the leading soybean producer and exporter, while India ranks fifth produced 11.82 MT in 2014-015 which is marginally lowered (0.16MT) than produced 11.98 MT in 2013-14. Madhya Pradesh, Maharashtra, Rajasthan, Andhra Pradesh, Karnataka, Chhattisgarh & Gujarat are the major Soybean producing states.

Madhya Pradesh is known as the ‘Soybean state’ of India and the state occupies first position in the country. During the year 2013-14 the Area, Production and Yield of Soybean was 63.80 lakh hectare, 50.00 lakh tonnnes and 784 Kg. per hectare respectively and in 2014-15 the Area, Production and Yield is 65.00 lakh hectare, 94.25 lakh tonnnes and 1450 Kg. per hectare respectively 2013-14. In Madhya Pradesh major Soybean growing districts are Chhindwara, Narsingpur, Sagar, Indore, Dhar, Ujjain, Neemuch, Ratlam, Dewas, Shajapur, Shivpuri, Sehore, Raisen, Vidisha, Rajgarh, Hoshangabad, Harda and Betul which together covers about 94% of total Soybean production in the state. Dhar is the major Soybean producing district which have area, production and yield of 279 thousand hectare, 413 thousand tonnes and 1483 Kg per hectare in the year 2013-14 respectively but Shujalpur mandi of Shajapur district has maximum arrivals of Soybean therefore,we selected Shujalpur market of for collecting the model prices and for forecasting the prices. Soybean is mainly a rainfed crop and most farmers begin sowing in mid-June to mid July after the arrival of South west monsoon and harvesting in the month of October and starts arriving in market from October to December and medium in January and February and lean from March to June.

To know the forecasting prices Department of Agricultural Economics & Farm Management, Jawaharlal Nehru Krishi Vishwa Vidyalaya has organized the project namely “Market Intelligence”.The main objective of the project is to forecast the prices of different crops and disseminate it to the farmers so the farmers can take an accurate decision of sowing the crop.

In the year 2015-16, the Minimum Support Price of Soybean announced by GOI is Rs. 2600 per quintal.From January 2003 to September 2015, the model prices were collected through different sources and analyzed forecasted prices by using econometric technique resulting the range of forecasted prices from Rs. 3300 to Rs. 3400 per quintal in the months of October to January which is much higher than the minimum support price of Soybean (Rs. 2600/qt) announced by the GOI for the year 2015-16. Hence, the farmers are suggested to take their own decision keeping above price level in view and decide to sell or store the produce as per their convenience. The forecast could be affected by changes in normal weather condition, government and export policy etc.

**Note:** *These forecasts are based on past data and model and actual market price may not turn out to be*

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