



Role of Market Intelligence in Improving Livelihood of Rural Farmers in Meghalaya

A. Roy • A. K. Tripathi • N. U. Singh • D. S. Dkhar*

Division of Social Sciences, ICAR Research Complex for NEH Region Umiam-793103, Meghalaya

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ABSTRACT

Agriculture is the main stay of the people in Meghalaya in which about 80 % of the total population still depends for their livelihood. However, the contribution of this sector to the State's NSDP is only about one-third. The total geographical area of Meghalaya is 22, 429, 00 00 ha, approximately, out of which the net cropped area is 3,39,725 ha of the geographical area. The unutilized potential area is about 5,55,039 ha of the total area under uncultivated lands and the forest cover is 9,46,127 ha. Market intelligence gives insights regarding what might happen in the near future in the market scenario. Pertaining to the state of Meghalaya there are no studies that have been done with regards to market intelligence. Moreover, although Meghalaya has a State Agricultural Marketing board which develops marketing infrastructural facilities and provides marketing support to the farmers in the State. However, it does not look into the matter of price forecasting and advisory. Hence, the present study was attempted to analyze the impact of market intelligence on the rural farmers of Meghalaya. To study the impact of Market Intelligence in Meghalaya, data were collected from five villages viz. Nongthymmai, Nongrim Nongladew, Mawtneng, Mawbri and Mawphrew in Ri-Bhoi District of Meghalaya for five selected crops *i.e.* potato, tomato, ginger, turmeric and pineapple respectively. Data were collected from two categories of farmers *i.e.* who received price information for five selected crops and also from those who do not receive price information. The results from the study indicated that the farmers who received market information advisory have received increase in gross returns and net returns for their various crop produce than the previous years. The highest increased in gross returns was seen in ginger which had increased by 5.1% and in net returns it had increased by 4% which was followed by turmeric which had increased by 4% in gross returns and had increased by 3.5 % in net returns. This is because they have adjusted their sowing as well as harvesting time of their crops according to the price advisory information that they have received. The farmers were also able to store their produce for a certain period of time till their product fetches a higher price in the market. Thus we can say that Market Intelligence has benefitted those farmers who have adopted it and has improved their livelihood due to their increased returns from production.

1. Introduction

Meghalaya is one of the four tribal majority states of North Eastern Region and the home of three major hill tribal communities: the Khasi, Jaintia and the Garo with

Their numerous divisions into clans. Agriculture is the main stay of the people in which about 80 per cent of the total population still depends for their livelihood. Agriculture and allied activities engage nearly two-thirds of the total work force in Meghalaya. However, the contribution of this sector to the State's NSDP is only about one-third. The total

*Corresponding author: dkhar.dahun@gmail.com

Geographical area of Meghalaya is 22,429,00 ha, approximately, out of which the net cropped area is 3,39,725 ha of the geographical area. The unutilized potential area is about 5,55,039 ha of the total area under uncultivated lands and the forest cover is 9,46,127 ha. A substantial portion of its cultivated area is still under the traditional shifting agriculture locally known as “Jhum” cultivation. The state falls under sub-tropical to temperate climate zone with a wide diversity of natural vegetation and cultivated crops. Meghalaya has a monsoon type of climate but with wide variation depending upon altitude and physiographic difference of landmass. The major food crops grown in the state are rice, maize, potato and winter vegetables along with abundance of fruit crops like citrus, banana, pineapple, peach, plum, *etc.* and spice crops like ginger and turmeric are grown commonly in different parts of the state. Market intelligence gives insights regarding what might happen in the near future in the market scenario. A marketing intelligence system is a set of procedures and sources used by managers to obtain their everyday information about pertinent developments in the environment in which they operate. The marketing intelligence system supplies data about the market (Kotler, 2000). In other words, marketing intelligence system is a system for capturing the necessary information for business marketing decision making (Hutt and Speh, 1989). The fundamental purpose of marketing intelligence is to help marketing managers make decisions they face each day in their various areas of responsibility, including pricing (Mochtar, 2001). Pertaining to the state of Meghalaya there are no studies that have been done with regards to market intelligence. Moreover, although Meghalaya has a State Agricultural Marketing board which develops marketing infrastructural facilities and provides marketing support to the farmers in the State. However, it does not look into the matter of price forecasting and advisory. Hence, the present study was attempted to analyze the impact of market intelligence on the rural farmers of Meghalaya.

2. Methodology

To study the impact of Market Intelligence in Meghalaya, data were collected from five villages *viz.*

Nongthymmai, Nongrim Nongladew, Mawtneng, Mawbri and Mawphrew in Ri-Bhoi District of Meghalaya for five selected crops *i.e.* potato, tomato, ginger, turmeric and pineapple respectively. From each village, data were collected by direct interview method from 30 farmers for each crop who received price information and also from 30 farmers who do not receive price forecast information. Therefore a total of number of 30 farmers were interviewed which consisted of 150 farmers who received price information and 150 farmers who did not received price forecast information. Regarding the marketing pattern two markets have been selected which have all the five commodities *viz.* - potato, tomato, ginger, turmeric and pineapple. The markets selected were Iewduh market in Shillong and Nongpoh market in Ri-Bhoi District. The collected data have been compiled, tabulated and analyzed. The tools used for analysis were simple statistical tools. The economic impact assessment was crop specific and given below are the detailed analysis of each crop undertaken.

3. Results and Discussion

The impact of Market Intelligence Project or price forecast information given to the farmers is discussed in the paragraphs that follow under different tables. The following table shows the specific crops in which the farmers received the price forecast, the frequency of information and the month in which they received the information. It was seen that for all the five commodities the frequency of information was twice in a year *i.e.* pre-sowing and pre-harvest forecast and they have also received the information before the standard sowing and harvesting months for all the five commodities (Table 1). From table 2 it was seen that reliability regarding the price forecast was highest in the case of pineapple (90%) and lowest in turmeric 65%. This is due to the fact that the price of pineapple does not fluctuate too much in market as compared to the price of spice crops like turmeric where the price is highly volatile. Regarding the adequacy of the price forecast it was also seen that the highest adequacy is in pineapple (91%) and the lowest is in turmeric (62%).

Table 1. Different crops for which farmers receive the price information from market intelligence Project

Commodity name	Frequency of forecast received in a year	Price forecast received		Month received information	
		Pre-sowing	Pre-harvest	Pre-sowing	Pre-harvest
Potato	2 times	Yes	Yes	September	January
Tomato	2 times	Yes	Yes	October	February
Ginger	2 times	Yes	Yes	February	October
Turmeric	2 times	Yes	Yes	March	October
Pineapple	2 times	Yes	Yes	May	May

Table 2. Perception of farmer regarding the price forecast generated from market intelligence

Commodity name	Reliability	Adequacy	Timeliness	Frequency
Potato	88 %	90 %	92 %	Twice in a year
Tomato	85 %	83 %	91 %	Twice in a year
Ginger	75%	70 %	90 %	Twice in a year
Turmeric	65%	62 %	88 %	Twice in a year
Pineapple	90%	91 %	90 %	Twice in a year

Table 3. Impact on cropping pattern

Crop name	Direction of price forecast (absolute or % change as compared to the previous season)	Area allocated to the crop	
		With price forecast information	Without price forecast information
Potato	3%	20 ha	25 ha
Tomato	5%	40 ha	35 ha
Ginger	5%	55 ha	50 ha
Turmeric	3%	40 ha	30 ha
Pineapple	1%	50 ha	40 ha

Table 4. Impact on time of sowing

Crop name	Standard sowing month	Alteration in sowing season(yes/no)	Duration of alteration days
Potato	October- November	Yes	15 days
Tomato	November- December	Yes	15-30 days
Ginger	March-April	Yes	10-15 days
Turmeric	April-June	Yes	10-15 days
Pineapple	June- September	Yes	15-30 days

Cropping systems of a region are decided by and large, by a number of soils and climatic parameters which determine overall agro-ecological setting for nourishment and appropriateness of a crop or set of crops for cultivation. Cropping Systems are also under the influence of several other forces related to infrastructure facilities like marketing, storage, irrigation, trade and transport, post-harvest handling and processing etc. (Das 2002). In table 3 we can see that the highest percentage change is in tomato and ginger (5%) with the lowest in pineapple (1%). The area receiving price information on commodity forecast is higher than the area without getting price forecast. Among the crops, the highest area with price information is under ginger (55 ha) and the lowest is potato (20 ha) since Ri- Bhoi is more suitable for growing ginger, turmeric and pineapple as compared to growing potato. Price Information in the region has also altered the sowing season. Due to price information the farmers have adjusted the sowing time of different crops. We can see that the duration of alteration in days of sowing time is in between 10-30 days which varies for different crops (Table 4). Some farmers have adjusted their sowing time earlier than the usual sowing time and some farmers have sown their crop

Later than the usual sowing time. The highest alteration in sowing time is in tomato and pineapple with the least alteration in ginger and turmeric since these two crops after harvesting can also be stored if they do not fetch a good price in the market. The impact of market intelligence on gross returns from production by the farmers can be seen from Table 5. Farmers who received price forecast information get a higher gross return and net return on their commodities. The highest increase in gross as well as net returns is in turmeric which increased by 5.1% and 4%, respectively followed by turmeric which increased by 4% in gross returns and 3.5 % in net returns. This is due to the fact that both these spice crops can be stored easily if they do not fetch a good price in the market. Whereas tomato has a minimal increased in gross (2.8%) and net (2.5%) returns since it cannot be stored for a longer time even if the commodity does not fetch a good market price. The impact on marketing pattern is examined in two markets in Meghalaya i.e. Iewduh market and Nongpoh market. The details of the quantity sold and the price received for the different commodities in the two markets is shown in Table 6. The quantity sold and the price of the commodities varies between the two markets.

Table 5. Impact on returns from production

Crops	Farmers with information	
	Impact on gross returns	Impact on net returns
Potato	Increased by 3.8%	Increased by 3.5%
Tomato	Increased by 2.8 %	Increased by 2.5 %
Ginger	Increased by 5.1%	Increased by 4 %
Turmeric	Increased by 4 %	Increased by 3.5 %
Pineapple	Increased by 3.5 %	Increased by 3 %

It is also seen that the quantity sold and the price received for the commodity also varies between those which received price information and those who do not received price information. It was seen that for almost all the crop commodity the quantity sold without price information was higher than that sold with price information in both the markets. This is because those farmers who received price information have either delayed their harvesting time or have stored their produce first till their produce fetches a better price in the market. Therefore we can see that those who received price information have received a higher price for their produce than those who do not receive price forecast information. It is also seen that the prices for the same commodity varies between the two markets. This is due to the fact that the commodity which is produced closer to the market fetches a lower price as compared to that which is produced further from the market. This is because higher transportation costs have to be incurred in commodities produced further from the market.

Price information forecast has influenced the harvesting of the various crops during the harvesting season. It is seen from Table 7 that the harvesting time of all the five crops have been altered which ranges from 10-30 days. The higher duration of alteration in harvesting is seen mainly in the spice crops like turmeric and ginger (15-30 days) and shorter duration in the fruit and vegetable crops like pineapple (15-20 days) and tomato (10-15 days). The shortest duration of alteration is seen in tomato because tomato is climacteric and perishable in nature. Whereas the longer duration in alteration of harvesting is in turmeric and ginger since they are not easily perishable in nature and even if left longer in the field by a few days would not get spoiled easily. The extent of loss minimization has also been influenced by price forecast information which can be seen from the table in which tomato has the highest extent of loss minimization (3-5%) and spice crops have minimum extent of loss minimization (1-2%). The extent of premium price realized was found to be highest in ginger (8-10%) and lowest in potato (1-2%). Price forecast information have impacted the storage of the produce like the quantity of the produce kept in storage and also the price received by the commodities kept in storage. Table 8 shows the quantity of the commodity stored (with and without price forecast information) and the price received (with and without storage). It is observed that a higher quantity of produce is stored with price forecast information as compared to that which does not receive price forecast information. The price received by the commodities which have been stored was also higher than those commodities which have not been stored. This is because the commodities have been released into the markets when it is known that they would fetch a better price in the market.

Table 6. Impact on marketing pattern

Crop Name	Market: Iewduh				Market: Nongpoh			
	Quantity sold (MT)		Price received (Rs/Qt)		Quantity sold (MT)		Price received (Rs/Qt)	
	With price forecast	Without price forecast	With price forecast	Without price forecast	With price forecast	Without price forecast	With price forecast	Without price forecast
Potato	5	10	1500	1000	2	5	1800	1300
Tomato	4	9	2500	2300	4	8	2500	2000
Ginger	5	10	6000	5000	8	14	5500	4500
Turmeric	3.5	6	8500	7000	5	10	7800	6500
Pineapple	6	10	2500	2000	10	10	2300	1800

Table 7. Impact on harvesting schedule

Crops	Standard harvest season	Alteration in harvesting season (yes/ No)	Duration of alteration (days)	Extent of loss minimization (%)	Extent of premium price realized (%)
Potato	Mar-Apr	Yes	15-25 days	2-3%	1-2%
Tomato	Jan- Feb.	Yes	10-15 days	3-5%	2-5%
Ginger	Dec- Jan	Yes	15-30 days	1-2%	8-10%
Turmeric	Dec - Jan	Yes	15-30 days	1-2%	5-7%
Pineapple	July- Aug	Yes	15-20 days	2-5%	5-6%

Table 8. Impact on storage of produce

Crop name	Quantity stored (Quintal)		Price Received (Rs./Qt)	
	With price forecast	Without price forecast	With storage	Without storage
Potato	80	60	1500	1000
Tomato	10	5	2500	2300
Turmeric	100	60	8500	7000
Ginger	90	70	6000	5000
Pineapple	40	35	2500	2000

Conclusion and Recommendations

The results from the study indicated that the farmers who received market information advisory have received increase in gross returns and net returns for their various crop produce. This is because they have adjusted their sowing as well as harvesting time of their crops according to the price advisory information that they have received. The farmers were also able to store their produce for a certain period of time till their product fetches a higher price in the market. The study also shows that the farmers who received price information have incurred higher returns than the previous years when they did not received price forecast information. Thus we can say that Market Intelligence has benefitted those farmers who have adopted it and has improved their livelihood due to their increased returns from production. One of the major achievements of the study was that it helped in increasing awareness among farmers about the market intelligence and its positive impacts. Therefore, efforts should be made to disseminate the market intelligence advisory if possible to large numbers of farmers in Meghalaya so that farmers could make sowing and harvesting decisions on the basis of the advisory given to them.

Farmers could also make decisions whether to sell or store their produce on the basis of the price information disseminated. Dissemination of forecasted price should also be done in time so that farmers could make all their decisions regarding the production of their crops accordingly.

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