



A STUDY OF USE OF SELECTED TECHNOLOGIES IN AGRICULTURAL VALUE CHAIN SYSTEM AND ITS IMPACT ON ONION FARMING IN NASHIK DISTRICT, MAHARASHTRA

Management

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ABSTRACT

It's been said, "Price is what you pay for and Value is what you get." Value addition in agricultural commodity is generally referred to a process of changing or transforming an agricultural product from its original state to a more valuable state. Accordingly the value chains exist for almost each and every agricultural commodity. The Lasalgaon APMC market of Nashik is considered as the Asia's biggest onion market. The onion from Lasalgaon APMC is not only sold throughout the country but also exported in many other countries. This research paper studies the agricultural value chain system of onion in Nashik district (M.S.) and impact of technology use on onion farming.

KEYWORDS

Agricultural Value Chain, Onion Commodity, Technology, Impact on farming

Introduction:

A plate of food on the table is not a miracle. It involves a process to ensure the plate of food is possible. For agricultural produce there is a chain that is followed from a production point to consumption point. If farmers were to realize higher profits, consumers were to enjoy fair price, and the national food security was to be assured, the chain of food system had to be systematically made strong, efficient, healthy and dynamic. A value chain is a set of linked activities that work to add value to a product; it consists of actors and actions that improve a product while linking commodity producers to processors and markets. Value chains may include a wide range of activities and an agricultural value chain might include: development and dissemination of plant and animal genetic material, input supply, farmer organization, farm production, post-harvest handling, processing, provision of technologies of production and handling, grading criteria and facilities, cooling and packing technologies, post-harvest local processing, industrial processing, storage, transport, finance, and feedback from markets. The health of Indian agriculture will be a key determinant of a number of things over the next decade. It accounts for 15 per cent of the gross domestic product (GDP) and is growing at 2 to 4 per cent per annum. This sector lacks scale in landholding, employs 55 per cent of the workforce, is susceptible to nature's changes, has half the credit requirements coming from non-government sources, is still seeking technology inputs across the chain and the next generation in rural India does not want to invest time in it. India has done well to be self-sufficient in agriculture despite these challenges. Indian agriculture needs to move up the value chain if it has to benefit both the farmer and the consumer. Fast-growing middle and high income classes in India offer opportunities for onion producers to operate in these emerging markets. This means that these producers must gain better control over production, trade and distribution in order to guarantee the quality and value added of their products and to operate in a cost-effective way. Moreover, the producers must adapt to stringent quality and safety standards and regulations in these markets. Important barriers for the producers in this respect are the lack of an enabling environment offering institutional and infrastructural support, availability of resources and efficient and effective coordination in value chains. In particular small-scale producers are at a disadvantage because they have little capital to invest, use traditional techniques, dependency on family labor and lack contact with market. This is where agricultural value chain can help. Maharashtra state has largest share in production of onion as compare to other States of India. Maharashtra state contributed nearly 31% of the total production of onion in India. Nashik district is famous for onion growing and marketing of onion all over the country. The Lasalgaon (APMC) Market is the largest onion market in Asia. Onion is sold in APMC markets through open auction system. The commission agent facilitates the trade and the produce is bought by the wholesaler. The wholesaler does the distribution of produce and sells to either retailers or wholesalers of distant markets. The Nashik district alone contributes around 80% of the total onion export from India. There are approximately 200 licensed traders in Lasalgaon APMC which trade around in 6 Lakh tones onion with around Rs. 600 Crores annually.

Objectives of the study:

1. To study the agricultural value chain system of onion in Nashik

2. To study the use of technology at various stages of agricultural value chain system of onion in Nashik district
3. To study the impact of technology used at various stages of agricultural value chain system on onion farming in Nashik district

Hypotheses of the study:

1. The use of technology in agricultural value chain system is beneficial in onion farming.
2. The use of technology in agricultural value chain system is not beneficial in onion farming.
3. The use of technology in agricultural value chain is low because of its lack of awareness among farmers.
4. The use of technology in agricultural value chain is low because farmers think of it as a costly affair.
5. Farmers are not satisfied with existing distribution system for their onion produce
6. Farmers are satisfied with existing distribution system for their onion produce

Research Methodology:

For this research paper, a sample of 123 has been selected. The classification of the sample is shown in table below:

Sr. No.	Entity	Market	Size	Population
1	Farmers	Lasalgaon	30	4900*
2		Pimpalgaon	15	
3		Niphad	20	
4		Satana	31	
5	Traders	Lasalgaon	17	480**
6		Nashik	5	
7		Pimpalgaon	5	
Total			123	5380

*Registered farmers in Kanda Batat Mahasangh (Feb 2017)
** Registered Traders with APMC Market (August 2016)

Data Collection Tools:

For the primary data collection the researchers have used observation, unstructured interviews and structured questionnaires. However for the collection of the secondary data, APMC market reports, Maharashtra State Agricultural Marketing Board website, Research Journals, Research Articles and Papers are referred.

Data Analysis:

The tabulation and analysis of the collected data is carried out with help of MS Excel, Tables, Charts, Graphs and Likert Scales. Few samples are as follows:

Table 2. Information on Onion Produce

Sr. No.	Responses	Quantity (Quintal)
1	Consumed	66.5
2	Loss / Damaged	1,556.5
3	Sold in Market (APMC)	26,090

4	Sold to traders	00
5	Kept for Processing	00
6	Other	35
Total		27,748

Fig. 1. Information on Onion Produce

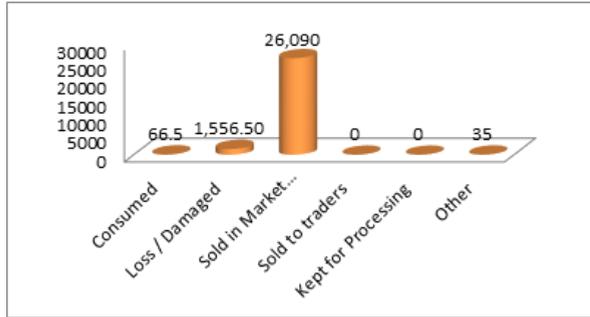


Table 3. Awareness about Onion Prices in main market

Sr. No.	Responses	Respondents	%ge
1	Aware	28	29%
2	Not Aware	68	71%
Total		96 (Farmers)	100

Fig. 2. Awareness about Onion Prices in main market

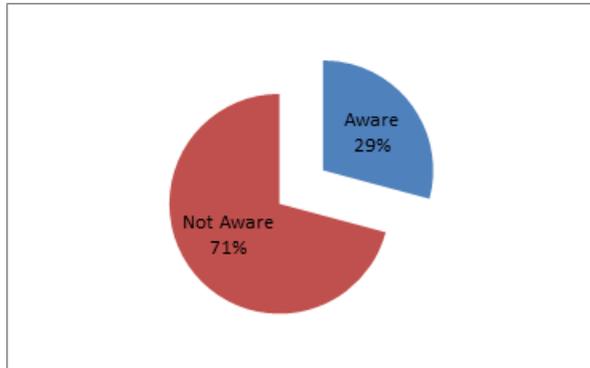
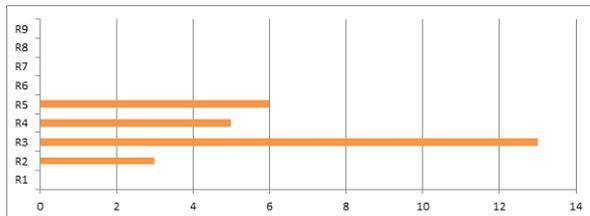


Table 4. Relation with farmers on the scale of 1 to 9: (1: Very Poor & 9: Very Good)

1	2	3	4	5	6	7	8	9	Weighted Average	Total Respondents
0	3	13	5	6	0	0	0	0	3.52	27 (Traders)

Fig. 3. Relation with farmers on the scale of 1 to 9: (1: Very Poor & 9: Very Good)



Thus for the questionnaires of Farmers there are 96 respondents and for the questionnaire of Traders, there are 27 respondents. The Farmer's questionnaire was consisted of 22 questions and the Trader's questionnaire was consisted of 20 questions.

Findings of the study:

- For the surveyed farmers, about 94% of the produce is sold in APMC market. However about 6% of the produce is lost due to post harvest losses or damages.
- The farmers have to travel 27.6 Kms on an average from their place to sell the onion produce, thus making it 55.2 Kms to and from.
- The farmer has to manage the transport of the onion produce to the market and bear the expenses of the same.
- The Farmers sell their entire produce in APMC market. However they prefer to stock some of the produce and bring to market whenever they believe to get good rates for their produce.

- For the surveyed farmers, the average rate per quintal is found to be Rs. 1260.50/-.
- After selling, the farmers don't keep track of their produce
- Among the surveyed farmers 71% of the farmers were unaware of the prices of the onion commodity in the national (main) market.
- The farmers are dissatisfied with their existing trading partner.
- The survey shows that the farmers feel they can't influence the prices of their onion produce, they don't have bargaining power, their trading partners don't keep promises regarding on-time payments and the market prices are very much unpredictable. They are also willing to change their trading partner if given an option.
- It is found from the surveyed 96 farmers that, 84 farmers are of the opinion that the use of technology is beneficial for the onion farming, 03 farmers think that the use of technology is not beneficial for the onion farming, however 09 farmers feel that the use of technology is partially beneficial for the onion farming.
- 88% farmers responded that use of technology is beneficial for the onion farming however only 3% farmers were of the opinion that the use of technology is not beneficial for the onion farming.
- 74% of the farmers said that the unavailability of the resources such as information, training centers, suppliers etc. is the main reason however 14% of the farmers gave the reason of unawareness about the technology for low use of technology in onion farming.
- 53% are of the opinion that the Onion farming is highly unpredictable, 26% of the farmers think that the onion farming is loss making and only 21% farmers think that the onion farming is profitable.
- The government doesn't procure onions from the farmers in this season.
- When asked about the expectations from the Government, the farmers demanded that:
- Among the surveyed traders, only 15% of the traders have paid support facilities which include Storage, Sorting and Packaging facility for the farmers. However very few farmers are interested in using these facilities.
- The traders do not use any kind of modern technology while dealing with onion commodity. Even for the storage purpose, they prefer the traditional low cost storages over cold storage facility. The traders know about the prices of onions in other markets through Personal Contacts, Telephonic conversations, Whatsapp Groups and Communication, Newspaper, TV News.
- From the survey, the weighted average of the relationship construct of the traders with farmers is found to be 3.52 which indicate the level of below average.
- The traders sell the procured onions to the markets from where they get a better price. These markets vary from season to season. For this season, the surveyed traders are selling the onions to Mumbai, Pune, Surat, Hyderabad, Delhi and Bhubaneswar markets.

Conclusion:

In Nashik District, the agricultural value chains for the onion commodity are still in developmental stage. The use of technology is also at below average level, however farmers feel that the use of technology at various stages of the agricultural value chain of onion will be beneficial in onion farming.

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