

Farmers Participation In Market of The Potato Value Addition

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ABSTRACT

A number of factors have driven the growth in demand and consumption of potato, ranging from lifestyle changes, historical and cultural factors and evolution of tastes and preferences for roots and tubers. The rate of population growth and urbanization is increasing and also the level of potato consumption, especially in the form of chips and crisps. Value chains include all of the vertically linked, interdependent processes that generate value for the consumer, as well as horizontal linkages to other value chains that provide intermediate goods and services. Value chain is characterized by a sequence of functions and linkages and coordination between the various actors and supporters. The term market has got a variety of meanings. Traditionally, market can be defined as a specific geographical area where buyers and sellers meet for exchange of goods and services. The most common way of obtaining goods and services that are not produced in a particular area is to buy such goods and services from another area that specializes in producing it. Potato producers in Pakistan are facing a continued downward trend in potato commodity prices. This is due to some problems like no value addition, no proper system, lack of modern knowledge, higher input costs and low output returns and climate change. It is being warned that climate change will severely threaten agriculture sector in future. Respondents have no response related to the constraints of market participation and value addition of potato. Respondents visited market fortnightly and weekly. Respondents said that they visit the market monthly and daily. Majority of the respondents have no difficulty in selling their products. Respondent has difficulty in selling their product. There must be proper cleaning of commodities. Cleaning method must be properly handled. Efficient extension services and more efficient input supply mechanisms are required for wider diffusion and adoption of improved technologies. Super markets must be established in different areas of country. Availability of market participation by all the growers.

INTRODUCTION

Pakistan is one of the countries in universe which have different seasons and the fertile land for fruits, vegetables and crops. Like Middle East, Afghanistan, Iran and the emerging markets like China, Central Asian Republics along with the highly competitive but profitable markets of

Europe and Far East, it has also got the ranking both biologically and strategically to improve their production for export to the traditional markets (Ali *et al.*, 2013).

Internationally, vegetable production has grown commonly especially on a per capita basis, which increased 60 percent over the last 20 years. This trend is predominantly strong in developing countries. World's total agricultural area vegetables cover about 1.1 percent, with the region of Central Asia and Europe contributing with 12 percent of the total global area. Caucasus and Turkey are producing three percent of total world production of vegetables. 136 million tonnes of vegetables in 2010 were produced by the region of Central Asia and Europe (FAO, 2010).

Potato is fourth most important food crop worldwide, after rice, wheat, and maize, and one of the most diverse crops in the world. Since early 1960s it has exceeded all other food crops in developing countries in terms of growth in production area. This trend is on-going and expected to continue. The crop is fundamental in diets of populations in different countries (Hellin and Higman, 2003; IYP, 2008).

A number of factors have driven the growth in demand and consumption of potato, ranging from lifestyle changes, historical and cultural factors and evolution of tastes and preferences for roots and tubers. The rate of population growth and urbanization is increasing and also the level of potato consumption, especially in the form of chips and crisps (FAO, 2010).

Farmers receive necessary inputs, such as fertilizer, seeds, and pesticide, either from input sellers or from processor's supply agents, and cultivate potato either on their own land, shared cropping land, or on leased land. Apart from using commercial inputs, farmers sometimes use their own organic fertilizer, and self-retailed seeds. Farmers usually keep a small portion of potatoes for their own consumption and sell the rest to traders or directly on the local market. All contract farmers in the same geographic area receive necessary inputs and training jointly from the sponsor company. Other farmers often share transportation costs through purchasing bulk seed or jointly selling their production (USAID, 2014).

Value Addition

It include all of vertically associated, interdependent processes that generate value for the consumer, as well as horizontal linkages to other value chains that provide intermediate goods

and services. It is characterized by a sequence of functions and linkages and coordination between the various actors and supporters. It exists where operators share a common vision and goals for managing the chain processes, thus allowing for mutual decision-making on how to link production with markets while sharing risks and benefits. The better all value chain partners cooperate, the greater will be the value generated for the individual operator at every stage of the chain (Webber and Labaste, 2010).

The opportunities exist for rural households to improve their incomes and diversify their livelihoods through value addition (Lundy *et al.*, 2002).

Value addition improves the shelf life of agricultural products and generates income for participants (Lawal and Jaiyeola, 2007). Value adding activities to cassava can serve as useful tools for sustainable poverty alleviation (Ukpongson, 2011). Value addition stands the opportunity of generating employment and increased income to value-adders (Olukunle, 2013).

Market participation holds significant potential for unlocking the appropriate opportunity sets essential for providing enhanced incomes and sustainable livelihoods for smallholder farmers (Omiti, et al., 2009). There are different determinants which are influencing the decision of potato value addition are non-farm come, total annual potato harvest, total land owned, and access to services of extension and distance to the nearest market. Monthly non-farm income of farmers affects their decision to add value to potato. The farmers who earn outside the farm are more likely to spend more time there than to the post-harvest practices that would produce through value added. However, this is a barrier that non-farm income would encourage investments into technologies at the farm (Diro and Sam 2013).

METHODOLOGY

This study will use primary data collected from farmers in Pakpattan district. District Pakpattan consists of two tehsil *viz* Pakpattan and Arifwala. Multistage sampling technique was used in sample selection and data collection. At first stage, out of the two tehsils, one tehsil i.e., was selected purposively. In the second stage, two union councils were selected randomly. A union council usually comprises of more than 5-7 villages in the study area. Then, 5 villages were selected at random from the each union council. Total villages were 10 from the study area. The

list which I got from Agriculture Extension Department was comprised of 350 potato growers. Total sample size consists of 120 respondents. Through systematic random sampling every 3rd person from the list were considered as a sample.

RESULTS AND DISCUSSION

Major hybrid potato varieties

Varieties play an important role in the better production of crops. Production of potato is directly influenced by varieties. Different varieties of potato are given below:

Distribution of respondents according to their major hybrid potato varieties

Hybrid varieties	Frequency	Percent
Extres	17	14.2
Croda	27	22.5
Armus	11	9.2
Mozzika	51	42.5
Larra	8	6.7
Pepsi LHR	3	2.5
Chilli red	3	2.5
Total	120	100.0

It is shown from the table that less than half (42.5%) of the respondents were growing Mozzika variety. This variety is suitable for the climate of the study area. Less than one-fourth (22.5%) of respondents were growing Croda variety. Few respondents were growing Extres, Armus, Pepsi LHR and chilli red. Most of the respondents preferred local varieties which were suitable for the climate.

Constraints in value addition of potato

The constraints in value addition of potato are the main barrier in better production of crops. Farmers faced different problems due to their awareness and negligence. Here some constraints were categorized below:

Distribution of respondents according to their constraints in value addition of potato

Constraints	Yes		No	
	F	%	F	%
Price fluctuation	15	12.5	105	87.5
Low output	27	22.5	93	77.5
Lack of skills	29	24.2	91	75.8
Lack of resources	17	14.2	103	85.8
Lack of social security	33	27.5	87	72.5
Small landholding	17	14.2	103	85.8
Lack of awareness	28	23.3	92	76.7
Lack of information	16	13.3	104	86.7
Difficulty in storage	39	32.5	81	67.5
Less access to super market	15	12.5	105	87.5
Less access to entrepreneur	28	23.3	92	76.7

It is indicated from the table that less than one-third of the respondents have problem related to the difficulty in storage their product. More than one-fourth of the respondents have problems related to the lack of social security. Less than one-fourth of the respondent's problems related to lack of skills, less access to entrepreneur, lack of awareness and low output. Few respondents have problems related to lack of resources like financial resources, lack of information, price fluctuation and less access to super market. Majority of the respondents have no response related to the constraints of market participation and value addition of potato.

Ranking of sources regarding the price information of potato market

Service	Ranking	Mean	Standard Deviation
Newspaper	1	1.8500	.35857
Commission agent	2	1.8000	.40168
Radio	3	1.7500	.43483
Hawker	4	1.7083	.45644

Beopari	5	1.6917	.46374
Personal visit to the market	6	1.0250	.15678
Fellow farmers	7	1.0250	.15678
Cell phone	8	1.0167	.12856

It is indicated from the table that sources of information regarding the price of potato market is ranked 1-8. Newspaper, commission agent, radio, hawker, beopari, personal visit to the market, fellow farmers and cell phone were ranked 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th with mean value of 1.8500, 1.8000, 1.7500, 1.7083, 1.6917, 1.0250 and 1.0167

Factors affecting in decision about value addition of potato

Decision about value addition is a very important step for the profit maximization. Farmers can get more profit due to this step. There are various factors which affect on the value addition of potato. Perceptions of farmers regarding the factors which are affecting in decision about value addition of potato are given below:

- Lack of markets
- Price fluctuation
- Low price of output
- Lack of Information
- Lack of skills
- Poor access to market
- Lack of capital or resources
- Cost of physical losses
- High Processing cost
- High transportation costs
- Poor quality of products
- Poor trading
- Lack of markets for the new products
- Higher marketing costs due to other competitors in the market
- Lack of information and training about the possible value added products

Distribution of respondents according to their factors affecting in decision about value addition of potato

Factors affecting in decision about value addition of potato	Strongly disagree		Disagree		Agree		Somewhat agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
Lack of markets	6	5.0	104	86.7	6	5.0	4	3.3	0	0
Price fluctuation	0	0	7	5.8	105	87.5	0	0	8	6.7
Low price of output	0	0	7	5.8	100	83.3	3	2.5	10	8.3
Lack of Information	0	0	29	24	85	70.8	0	0	6	5.0
Lack of skills	1	0.8	30	25.0	80	66.7	8	6.7	1	0.8
Poor access to market	1	0.8	52	43.3	32	26.7	23	19.2	12	10.0
Lack of capital or resources	0	0	19	14.4	25	20.8	33	27.5	43	35.8
Cost of physical losses	0	0	8	6.7	27	22.5	84	70.0	1	0.8
High Processing cost	2	1.7	10	8.3	56	46.8	49	40.8	3	2.5
High transportation costs	21	17.5	74	61.7	12	10.0	13	10.8	0	0
Poor quality of products	3	2.5	48	40.0	62	51.7	7	5.8	0	0
Poor trading	1	0.8	51	42.5	66	55.0	0	0	2	1.7
Lack of markets for the new products	0	0	8	6.7	66	55.0	5	4.2	41	34.2
Higher marketing costs due to other competitors in the market	1	0.8	12	10.0	103	85.8	2	1.7	2	1.7
Lack of information and training about the possible value added products	0	0	10	8.3	49	40.8	22	16.7	39	32.5

It is indicated from the table that decision making is a very important step towards the value addition of potato. This is affected by different factors. More than one-third (35.8%, 34.2%, 32.5%) of the respondents decision making said their decision making was highly affected by lack of capital or resources, lack of markets for the new products and lack of information and training about the possible value added products. Less than three-fourth (70%) of the respondents decision making were affected by cost of physical losses. Physical losses are caused due to packaging, handling, storing and transporting. Less than half (40.8%) of the respondents decision making were affected by high processing cost. Less than one-fourth (19.2%) of respondents decision making were affected by high processing cost. More than three-fourth (87.5%, 85.8%, 83.3%) were agreed that decision about value addition of potato was affected price fluctuation, low price of output and higher marketing costs due to other competitors in the market. More than half (51.5%, 55%) of respondents agreed that decision about value addition of potato was poor trading and poor quality of product.

Ranking of factors affecting in decision about value addition of potato

Factors	Ranking	Mean	Standard Deviation
Lack of capital or resources	1	3.8333	1.08723
Lack of information and training about the possible value added products	2	3.7500	1.00628
Lack of markets for the new products	3	3.6583	1.02487
Cost of physical losses	4	3.6500	.61699
High Processing cost	5	3.3417	.73902
Low price of output	6	3.1333	.63422
Price fluctuation	7	3.0750	.56750
Poor access to market	8	2.9417	1.03140
Higher marketing costs due to other competitors in the market	9	2.9333	.46261
Lack of Information	10	2.8583	.65203

Lack of skills	11	2.8167	.59385
Poor quality of products	12	2.6083	.63901
Poor trading	13	2.5917	.60106
High transportation costs	14	2.1417	.83310
Lack of markets	15	2.0667	.48043

It is indicated from the table that there are various factors which affect on decision about value addition of potato. It was ranked 1-15. Lack of capital or resources, Lack of information and training about the possible value added products, lack of markets for the, cost of physical losses new products, high processing cost, low price of output, price fluctuation, poor access to market, higher marketing costs due to other competitors in the market, lack of information, lack of skills, poor quality of products, poor trading, high transportation costs and lack of markets were ranked 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th and 15th with mean value of 3.8333, 3.7500, 3.6583, 3.6500, 3.3417, 3.1333, 3.0750, 2.9417, 2.9333, 2.8583, 2.8167, 2.6083, 2.5917, 2.1417 and 2.0667.

Distribution of respondents according to their participation in potato-based value added entrepreneurship

Participation	Frequency	Percent
No	43	35.8
Improve economic growth	38	31.7
Resources to high level	6	5.0
Build relation	2	1.7
Provision of value addition	9	7.5
Social security	22	18.3
Total	120	100.0

The participation of potato-based value addition entrepreneurship is very important for profit maximization. It is indicated from the table that more than one-fourth (35.8%) of the respondents have no response about the participation in potato based value entrepreneurship. Less than one-fourth (31.5%) of the respondents said that participation in potato-based value added entrepreneurship improve the economic growth. Less than one-fourth (18.3%) of respondents said that participation in potato-based value added entrepreneurship provide a social security.

Few respondents said that participation in potato-based value added entrepreneurship provide resources to high level, provide value addition and build relation.

REFERENCE

- Akhter Ali, A., M. Sharif, K. Mahmood and N. Akmal. 2013. Determinants of Cherry Production and Marketing in Pakistan: A Propensity Score Matching Approach. *Agricultural Economics Review*. 14(1): 45-58.
- Food and Agric. Organization, 2010. *Statistical Yearbook of the Food and Agricultural Organization*. FAO, Rome, Italy.
- Hellin, J. and S. Hignman. 2003. Feeding the market: South American farmers, trade and globalization. ITDG Publishing and Latin American Bureau. Pp: 256.
- Lundy, M., C.F. Ostertag and R. Best. 2002. Value adding, agro enterprise and poverty reduction: A territorial approach for rural business development, CATIE, Turrialba, Costa Rica.
- Olukunle, O.T. 2013. Evaluation of income and employment generation from cassava value chain in the Nigerian agricultural sector. *Asian J. Agri. and Rural Develop.* 3(3): 79-92.
- Omiti, J.M., D.J. Otieno, T.O. Nynamba and E. Mc-Cullough. 2009. Factors influencing the intensity of market participation by smallholder farmers: A case study of rural and peri-urban areas of Kenya. *Afri. J. Agri. Eco.* 3(1): 57-82.
- Sam Orinda, M.A. 2013. Analysis of factors Influencing Sweet Potato Value Addition amongst Smallholder Farmers in Rachuonyo South District, Kenya. (MSc Dissertation) Retrieved from ir-library.egerton.ac.ke.
- Ukpongson, M.A., J. Chikaire, F.C. Anaeto, R.N. Nwakwasi, O.O. Aja and C.L. Ike. 2011. Effects of cassava processing and value added products on sustainable poverty alleviation in Ikwuano Area of Abia State, Nigeria. *New York Science J.* 4 (10):73-77.
- USAID. 2014. Agricultural value chains project Bangladesh. Value chain selection report, end market and value chain analysis. September, 30.

Webber, C.M. and P. Labaste. 2010. Building Competitiveness in Africa's Agriculture: A Guide to Value Chain Concepts and Applications. The World Bank, Washington DC. Pp: 204.

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