

Marketing channels for marketing of potato in india

HARPREET SODHI¹ AND AMIT PATEL²

V. M. Patel Institute of Management,
Ganpat University, Ganpat Vidyanagar-384 002, Mehsana (Gujarat)

Received : 08 December, 2016

ABSTRACT

Marketing channels are important economic link between production and consumption and maintain a balance between supply and demand. These involve private, institutional and corporate sectors wherein number of intermediaries play important role. Different marketing systems such as conventional marketing, retail chains through corporate sector, contract farming, direct marketing, cooperative marketing and future trading are prevalent in the country. Marketing channels of potato in different potato growing states of India viz., Uttar Pradesh, West Bengal, Bihar, Madhya Pradesh, Gujarat, Maharashtra, Karnataka, Punjab, Himachal Pradesh, Andhra Pradesh and Telangana have been reviewed. As many as 17 marketing channels have been identified which include. (1) Producer (P)- Commission agent (CA)- Wholesaler (WS)- Retailer (R)- Consumer (C), (2). P-CA cum WS-R-C, (3) P- Village Merchant (VM) – CA-R-C, (4) P-VM-WS-R-C, (5) P-VM-R-C, (6) P-Cold Storage (CS)-WS-R-C, (7) P-CS-CA-WS-R-C, (8) P- State Marketing Agency-R-C, (9) P-NAFED-R-C, (10) P-MARKFED-R-C, (11) P-APMC-WS-R-C, (12) P-APMC-Supermarket –C, (13). P-APMC-Processor-C, (14) Contract Farmer- Contractor cum Exporter- Importer, (15) P-CA/Exporter- Importer, (16) P-VM-CA/WS-Exporter-Importer and (17) P-Cooperative Marketing Society- Exporter- Importer. These major channels meet the demand of domestic and export market in India.

Key words : Potato, marketing, consumption

Potato (*Solanum tuberosum* L.) belonging to the family solanaceae is an important vegetable grown all over the world. It was introduced in India in the beginning of the 17th century by Portuguese navigators. The first record of its cultivation in India is in the year 1847 in the issues of "The Gardening Monthly," a magazine published from London. By the 19th century, potato was widely grown throughout the country (Marwaha *et al.* 2003). Potato popularly known as 'The king of vegetables', has emerged as fourth most important food crop in India after rice, wheat and maize. The crop produces more food per unit time and area with high nutritional value to sustain burgeoning population. It produces 47.6 kg of food/ha/day whereas wheat, rice and maize produce 18.1, 12.4 and 9.1 kg food/ha/day, respectively (Kumar and Pandey, 2008). It has been recognized as a wholesome food and richest source of energy in most of the countries where it forms an important part of the diet.

The average productivity of potato in India is 20 t/ha which is more than the world average (17.2 t/ha). The per capita availability of potato has gone up to 23.5 kg/year from 5 kg/year in 1952. However, it is still far behind China (35.3 kg/year) and Russian Federation (122.0 kg/year) (Pandey *et al.* 2007). India is the 3rd largest potato producer in the world and accounts for about 8% of world potato production. However, its share in world potato export is only about 0.89% in volume and 0.52% in value terms. Potato is used to produce most popular value added products viz., chips, french fries, potato powder, potato starch, potato flakes and baby food.

The top five potato growing states of India are Uttar Pradesh followed by West Bengal, Bihar, Madhya Pradesh and Gujarat. Since Uttar Pradesh and West Bengal contribute around 54.9% of total production, any minor deviation in these two states affects the total Indian production. In productivity Gujarat ranks first (30.8 MT/ha) followed by Punjab (25.1 MT/ha) and Uttar Pradesh (24.5 MT/ha) (Anonymous, 2015).

¹ Ph.D Scholar, ² Registrar

Gujarat ranks seventh in area, while fifth in total production and first in productivity of potato in the country. In Gujarat, potato is cultivated in nine districts out of 27 districts. The highest area under potato is in Banaskantha district (33500 ha) followed by Sabarkantha (16880 ha), Gandhinagar (8100 ha), Mehsana (6300 ha) and Kheda (3875 ha). The similar trend for total production exists. It was 10.72 lakh MT in Banaskantha district followed by Sabarkantha (5.52 Lakh MT), Gandhinagar (2.96 Lakh MT), Mehsana (1.52 lakh MT) and Anand (1.16 lakh MT). The major potato growing talukas in Banaskantha district include Dessa and Vadgam.

Potatoes are mainly sold in the regulated markets by the farmers. The steady growth of arrivals of commodities in the regulated markets is the result of the improvement and beneficial effect of the regulated markets owing to which the sale of agricultural produce in the village has been observed to dwindle over time. This has led to considerable improvement in the market structure, conduct and performance (Shriniwas, 2011).

Potato Marketing System

Conventional

Conventionally potatoes are taken to wholesale markets through different marketing channels and then go to consuming markets or consuming centres from these markets. A chain of market intermediaries such as field procurement/ assembling agents, forwarding agents, commission agents, wholesalers, and retailers are operating to complete marketing process. Out of these, commission agents and wholesalers may act at more than one point. Due to lesser quantity of produce flowing through a particular marketing chain, the marketing efficiency of the process is generally low. For example, most of the small retailers have target of earning Rs 200 per day and they accordingly adjust their marketing margins which may be up to 100% of their purchase price. With the changes in APMC act, doors have been opened for big corporate houses to come and join the business of retail in agriculture.

Retail Chains

At present Reliance (Farm Fresh), ITC (ITC Chaupal), Bharti, Pantaloon Retail (Big Bazaar), DCM Sriram Consolidated (Haryali Kisan Bazar), Spencers Retail, Food Bazar, Adani Group (Agri Fresh), Godrej Agrovet and Subhiksha are some important names creating retail rush in this business. However, P Chengappa,

Professor of Agricultural Marketing at the University of Agricultural Sciences, Bangalore is of the view that fresh fruits and vegetables are a small part of this retail juggernaut and even if retail chains do very well, they will capture only 10 per cent of the market in another five to ten years. On one hand the new marketing system that eliminates market intermediaries by directly purchasing from the farmers and selling to the retailers, provides cheap and good quality produce; on the other it creates threat for the livelihood of estimated 1.2 crore street vendors and small retailers in our country. Out of 1.2 crore nearly 30 lac retailers are vendors are estimated to sell fruit and vegetables.

Future trading

Futures trading is an agreement between a buyer and a seller obligating the seller to deliver a specified asset of specified quality and quantity to the buyer on a specified date at a specified place and the buyer, in turn, is obligated to pay to the seller a pre-negotiated price in exchange of the delivery. However, for speculators futures trading is a process under which sellers make promises to deliver something they don't have; and buyers promise to accept delivery of something they don't want- and both legally break their promises. Here profit maximization is the prime objective of the speculator while loss minimization is hedger's aim. Both speculators and hedgers seldom allow future contracts to mature, by nullifying the contract with reverse sale or purchase of contracts. In India MCX, NCDEX and NMCE are the three major commodity future exchanges while the first two trade in potato. Price discovery, hedging and speculation are the main functions of future markets.

Contract farming

Contract farming is a written or verbal contract between buyer and seller of purchase/ sale of an agricultural commodity at pre defined terms and conditions. These terms and conditions are generally related to price, quantity and quality of the produce. Contract farming has been an important tool to cut risk in the procurement process of processing quality potatoes, seed potatoes and specialty potatoes. There are many contract farming models prevalent in various Indian states and some of them are exploitative too. The concept is still maturing in India and its popularization is required because from farmers' point of view contract farming can reduce price risk associated with excessive price volatility of farm produce. (Rana, 2014)

Direct marketing

The direct marketing system enables the farmers to meet the specific demand of wholesalers, traders, consumers according to their preferences from the farmers inventory of graded and certified produce on one hand and on other hand helps the farmers to take advantage of favorable prices. This system encourages the farmers to undertake sorting, grading and quality marking at their farms. This model has been introduced in the name of APNI MANDI in Punjab and in the name of RYTHU BAZARS in Andhra Pradesh for fruits and vegetables.

Co-operative marketing

The co-operative marketing is the system by which a group of farmers join together to carry on some or all the processes involved in bringing goods from producer to consumer. In other words, it is the association of cultivators / farmers for the purpose of helping them to market their produce in a more profitable way than private trade system.

The members of a potato co-operative society sell their surplus produce to the society. Member farmers sell their produce to the society and they get an advance. After collecting the potato from the member, the society either processes it or sells it in the *mandies* or to the processors. Sometimes, considering the unfavorable prices prevailing in the market, the society stores the produce and sells later at favorable price. As soon as the produce is sold, the society makes payment to the farmers. Thus, the co-operatives play a key role in the agricultural marketing process and they protect the interest of the farmers from exploitation of middlemen and secure better returns for their produce. The Potato Growers Co-operative Association in Gujarat, Farukhabad Co-operative Marketing Society in Uttar Pradesh etc. are associated with co-operative marketing of potato. Besides, there are other co-operative organizations like NAFED which is a well known organization because of its function as the National Apex Body of the cooperative marketing system in co-ordination with State level Marketing Federations, Regional and District level co-operative societies. The aim of NAFED is to promote co-operative marketing of agricultural produce including potato and to ensure the farmers to get ready market as well as remunerative price for their produce. (www.agrimarknet.nic.in/PotatoProfile.pdf)

Marketing channels

Marketing plays an important role in the economy of a producer farmer. Marketing is not only an economic link between production and consumption but also

seeks to maintain a balance between supply and demand in overall terms.. Efficient marketing system is an important means for raising the income level of the farmers. The involvement of various marketing functionaries increase the marketing cost but these are indispensable. It is well known that good marketing facilities, efficient marketing channels and other marketing mechanisms give higher net prices for the produce in the economy.

Marketing channels are routes through which agricultural products move from producers to consumers. The length of the channel varies from commodity to commodity, depending on the quantity to be moved, the form of consumer's demand and degree of regional specialization in production. A marketing channel is a set of practices or activities necessary to transfer the ownership of goods, from the point of production to the point of consumption. It is the way products and services get to the end-user, the consumer; also known as a distribution channel. A marketing channel may be defined in different ways:

Moore *et al.* (1973) defined marketing channel as the chain of intermediaries through whom the various food grains pass from producers to consumers constitutes their marketing channels. Kohls and Uhl (1980) defined marketing channel as alternative routes of product flow from producers to consumers.

A marketing channel is a set of practices or activities necessary to transfer the ownership of goods, from the point of production to the point of consumption. It is the way products and services get to the end-user, the consumer; also known as a distribution channel. Marketing Channels are set of inter dependent organization in the process of making a product or service available for the use or consumption (Kotler *et al.* 2007).

Marketing Channels are set of inter dependent organization in the process of making a product or service available for the use of consumption by the consumer or business user. (Kotler and Armstrong 2012).

1) Private

The different private agencies such as Producers, Commission agent, Wholesaler, Retailer and consumers are involved in the route of marketing channels of potato. These were:

Producer - Cold storage - Commission agent - Wholesaler - Retailer - Consumer
 Producer - Commission agent - Wholesaler - Retailer - Consumer
 Producer - Wholesaler - Retailer - Consumer (Fig 1)

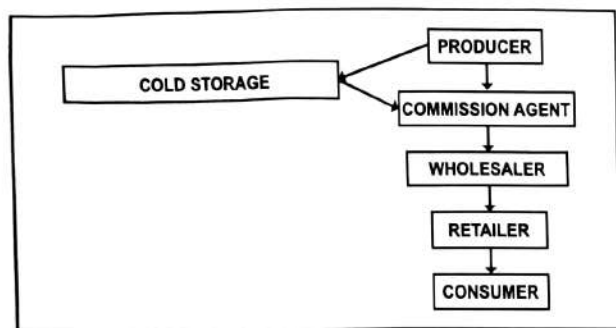


Fig 1 Private Marketing Channel of Potato

II) Institutional

Due to price fluctuations and glut situation in the market, some institutions like National Agricultural Co-operative marketing Federation (NAFED), different State Govt. Agencies, Co-operative Societies are intervening in the domestic market and Agricultural and Processed Food Export Development Authority (APEDA) for export purpose to stabilize the prices.

The institutions involve in the marketing channels of potato as follows:

Producer - State Marketing Agencies- Retailer - Consumer

Producer- Co-operative Societies- Retailer - Consumer

Producer- NAFED - Retailer - Consumer

Producer- Marketing Federation (MARKFED) - Retailer- Consumer ([www.agrimarknet.nic.in/Potato Profile.pdf](http://www.agrimarknet.nic.in/PotatoProfile.pdf)) (Fig 2)

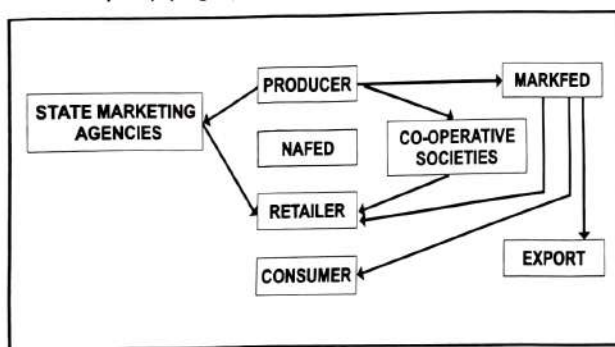


Fig 2 Institutional Marketing Channel of Potato

Marketing Channels Involved in Potato Marketing

Number of authors have described different marketing channels involved in marketing of potato which are briefly presented below:

Kiresur and Kumar (1988) examined the impact of regulation on vegetable marketing in India. They found that there were two common marketing channels through which the vegetables were sold. These were

: Channel I- Producer – Commission Agent cum wholesaler – Retailer – Consumer and Channel II – Producer – Village merchant – Commission Agent- Retailer – Consumer. The Channel I was popular through which potato moves from farmers to producers. In the second channel, the village level merchant would get more profit than other marketing agents.

Vadiya (1995) found that the most popular marketing channels for potato existing in Shimla district was: (Producer – Depot holder – Commission agent – Consumer). About 80 per cent of potato in Shimla were marketed through this channel.

Saha and Mukhopadhyay (1998) examined the channels of potato marketing in Burdwan district of West Bengal. They observed that the channels of potato marketing played pivotal role by *arathdars* at the initial stage of marketing. The channel involving the flow of total marketed surplus from farmers to *arathdars* to wholesaler represents the dominant channel. The retailers purchase potato either at farm gate or at the *arathdars* and sell potato to the consumer from their own shop. The farmers perform transportation of crop, while the remaining functions of the market were done by *arathdars*. Among these, Channel I (Producer – Wholesaler – Retailer – Consumer) and Channel II (Producer - Retailer – Consumer) were found to be most popular.

Kerur *et al.* (1998) studied cost and marketing of potato in Dharwad district, Karnataka and identified two main channels for potato marketing. It was found that many farmers sold at low prices to village merchants due to perishability and the risk involved. The major marketing channels observed were: Channel I: Producer – wholesaler – Retailer – Consumer and Channel II: Producer – Village merchant – Wholesaler- Retailer – Consumer

Yadav *et al.* (2000) conducted a survey during 1996-97 in the Basti district of Uttar Pradesh. Three potato disposal channels (I: producer-consumer, II: producer-retailer-consumer and III: producer-wholesaler-retailer-consumer) were used.

In North Gujarat only two marketing channels for potato were identified during 2001-2002 in North Gujarat. Channel I consist of sale to consumer through wholesaler cum commission agent and retailer, while in Channel II produce moved through only retailer working as middleman between producer and consumer. Among these two channels, Channel I was found to be more popular dealing majority share of

total quantity sold. About 98.09 per cent was sold through this channel in Banaskantha district, while 98.31 per cent quantity was sold in Mehsana district whereas; only 1.91 per cent and 1.69 per cent of produce were sold through channel II in Banaskantha and Mehsana districts respectively. (Anonymous, 2002)

Pandey *et al.* (2003) focused in their study both on the marketing system and estimation of postharvest losses in terms of physical and economic in Nalanda district, the leading potato growing district in Bihar and the major terminal market of Patna in India. Two marketing channels were identified: (i) Producer-cold store-wholesaler-retailer-consumer and (ii) Producer-wholesaler's field agent/wholesaler-retailer-consumer accounted for 46.8% potato disposal in Biharsharif block and 91.3% potato disposal in Noorsarai block respectively.

Thakar (2004) studied the marketing channels of potato in Banaskantha district of Gujarat and revealed that the sale of potato of selected farmers was done in market by Channel I and channel II, among which channel I was more popular than channel II. The major marketing channels observed were: Channel I : Producer – wholesaler cum Commission Agents – Retailer – Consumer and Channel II : Producer – Retailer – Consumer

Nikam *et al.* (2007) while studied the marketing of *kharif* potato in Satara district of Maharashtra and reported that main marketing agencies through which the potatoes pass from producers to the final consumers was: Producer – *Hundekari* (Transport

agency)- Commission agent cum wholesaler- Retailer- Consumer.

Singh *et al.* (2008) studied the system, method of sale and channel commonly used in marketing of potato in Ghazipur district (Uttar Pradesh). The study revealed that there were total four marketing channels prevailing in market: Channel I : Producer – consumer, Channel II: Producer – Retailer- Consumer, Channel III : Producer- wholesaler- Retailer- Consumer and Channel IV : Producer – Village Merchant- Retailer – Consumer

Ghulghule *et al.* (2009) studied the price spread in marketing of potato in Latur district of Maharashtra and observed three channels were observed viz., Channel I: Producer - Commission agent cum Wholesaler - Retailer - Consumer, Channel II: Producer - Village Merchant - Commission agent cum Wholesaler - Retailer - Consumer and Channel III Producer - Retailer - Consumer. Maximum quantity was sold through channel - I (75.74 per cent) followed by channel - II (19.52 per cent), channel - III (3.88 per cent).

Nalini Ranjan Kumar *et al.* (2009) analyzed the supply chain management in potato export from India. They identified four supply chains: Channel I : Contract farmer- contractor cum exporter – Importer, Channel II: Potato producer - commission agents/ exporters- Importer, Channel III: Potato producers - village traders- commission agents / wholesalers cum exporter-Importer and Channel IV Potato producer - co-operative marketing society - exporters- Importer.

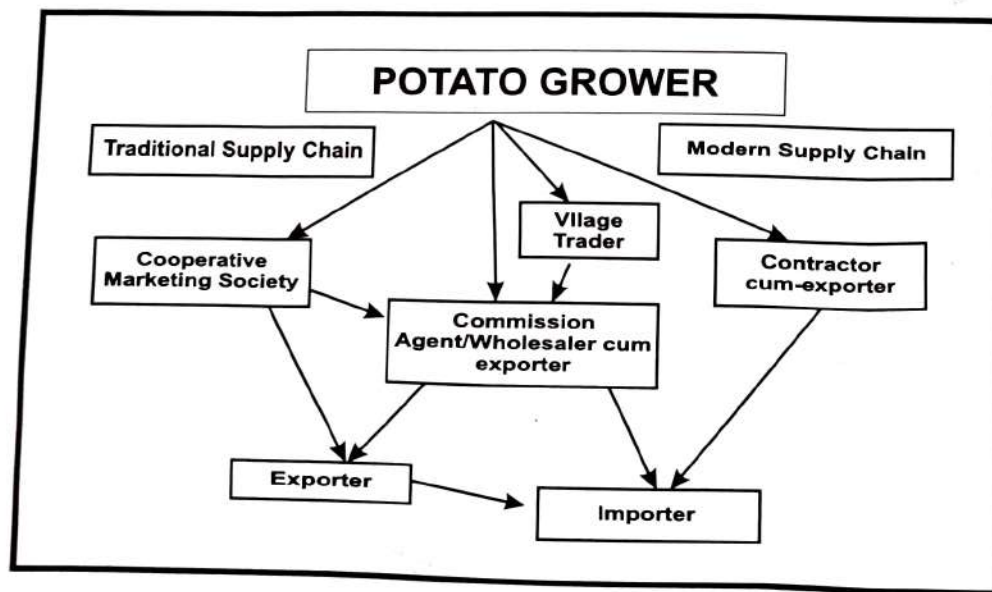


Fig 3 Supply Chains for Export of Potato

These supply chains can be categorized into two viz., modern supply chains and traditional supply chains. Modern supply chains are of recent origin in which potatoes for export are sourced through contract farming. In this supply chain there is flow of information from consumer to farmers through importer to contractor and then to farmers. In the traditional supply chains, potatoes for export are sourced through market from farmers who are not cultivating under contract farming. In this supply chain flow of information is very poor. They further identified a modern supply chain management practice for potato export. The supply chain activities in the modern marketing channel starts from selection

of potato varieties as per market demand and is decided by the contracting firm based on the demand of processing firms and importers (Fig. 3).

National Centre of Agriculture Economics and Policy Research (NCAE & PR) (2010) conducted a study on supply chain network for selected vegetables in Andhra Pradesh. For potato, the movement from Farmer (Producer) to Consumer was depicted in Fig. 4. The main channels involved were: Channel I: Producer-Middleman-Wholesaler-Retailer-Consumer, Channel II: Producer-Wholesaler-Retailer-Consumer and Channel III: Producer-Retailer-Consumer

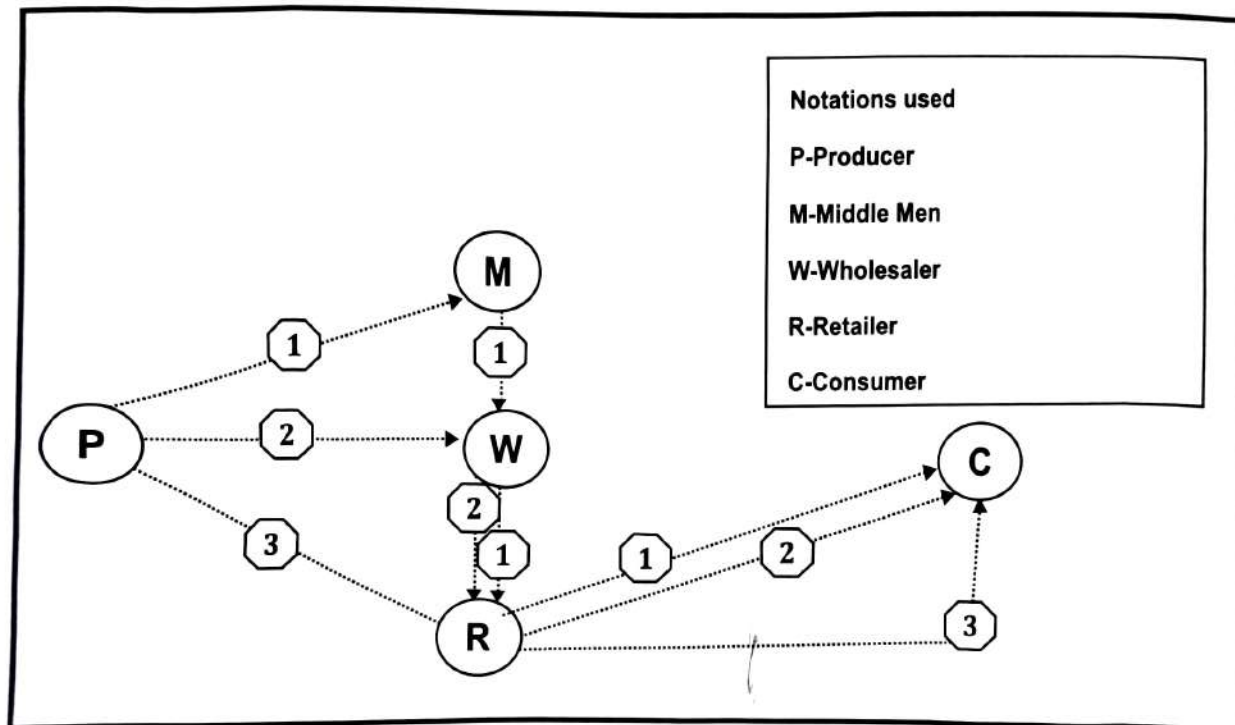


Fig. 4 Supply Chain Network for Selected Vegetable Crops including Potato in Andhra Pradesh

Shriniwas (2011) studied marketing of potato in Hassan and Belgaum districts of Karnataka State. It was revealed that farmers sell their produce in regulated markets either to commission agents or to the wholesaler which was quite substantial (64%). Nearly 28% farmers also sell at village level and hardly few farmers (8%) were involved in the direct sale. The major marketing channels observed were: Channel I: Producer – Wholesaler – Retailer – Consumer (Hassan), Channel II: Producer – Commission agent – Wholesaler – Retailer – Consumer (Hassan), Channel III: Producer – Village level trader – Wholesaler – Retailer – Consumer (Belgaum) and Channel IV: Producer – Commission agent – Wholesaler – Retailer – Consumer (Belgaum).

Shashikant Singh (2011) studied the supply chains of potato in Bihar and identified two common supply chains during peak season and off season. Supply chain during peak season (February – March) was: Farmer-APMC Market (Mandi)-Wholesaler-Retailer-Consumer and Supply chain during off season (June – August) was: Farmer-Aggregator-Cold Storage-Wholesaler-Retailer-Consumer

Sidhu et al. (2012) studied the supply chains of potato in Punjab and revealed that there were mainly three supply chains exists. These were: Channel I: Producer – Wholesaler (through commission agent) – Retailer – Consumer, Channel II: Producer – Retailer (through commission agent) – Consumer and Channel III: Producer-Consumer.

Kumar and Vasudev (2015) identified five major marketing channels in the supply chain of Potato crop in Telangana. They were: Channel I: Producer – APMC – Wholesaler – Retailer – Consumer, Channel II: Producer – APMC – Supermarket – Consumer, Channel III: Producer – APMC – Processor – Consumer, Channel IV: Producer – Wholesaler – Retailer – Consumer and Channel V: Producer – Retailer – Consumer

Sagar et al. (2015) identified three major supply chains for marketing of vegetables for the period 2009-2010 in Mandya district of Karnataka State. These were: Channel I: Farmer-Commission Agent 1 - Commission Agent 2 - Retailer-Consumer, Channel II: Farmer-Wholesaler-Retailer-Consumer and Channel III: Farmer-Retailers-Consumer (SC-III). The channel I and channel II were followed by majority of the farmers in all vegetable crops under study.

REFERENCES

- Anonymous 2015. National Horticulture Board, Area and Production Status- Final Area & Production Estimates for Horticulture Crops for 2013 - 2014. Retrieved January 26, 2015, from National Horticulture Board: <http://nhb.gov.in/area%20production.html>.
- Anonymous 2002. Department of Agriculture Economics, Sardarkrushinagar. Annual Research Report, 32nd Agricultural Extension Education, Agricultural Statistics and Agricultural Economics Sub-committee Report : 3-12.
- Ghulghule, J. N., Asmatoddin, M.; Thombre, A. P.; Birajdar, K. A. 2009. Price spread in marketing of potato (*Solanum tuberosum* L.) in Latur district of Maharashtra. *International Journal of Commerce and Business Management*, **2** (1): 21-23.
- Kerur, N.M., Gumgolmath, K.C., Karnool, N.N. and Dodmani, M.T. 1998 Cost and returns of potato marketing in Dharwad district, Karnataka. *Journal of Agriculture Science*, **11** (2): 426-431.
- Kiresur, V.R and Kumar, G.N 1988. Impact of regulation on vegetable marketing in India – A case study in Dharwad district of Karnataka. *Indian Journal of Agricultural Marketing*, **2** (1) :23-30.
- Kohls, R. L and Uhl 1980. Marketing of agricultural products. The Macmillan Company, New Yourk. 6th Edition.
- Kotler, P. and Armstrong, G. 2012. Principle of Marketing, Pearson Publication PP 341.
- Kotler, P., Keller, K. L., Koshy, A. and Jha, M. 2007. Marketing Management. 12th Edition. Pearson Pentice Hall. New Delhi. PP 621.
- Kumar, A and Pandey S.K. 2008. Potato production: Harbinger of agricultural sustainability. *Indian Farming* **58** (9) : 3-7.
- Kumar, P. S and Vasudev, N. 2015. Economics of price spreads in marketing of potatoes in Telangana. *International Journal of Tropical Agriculture*, **33** (2) :263-268.
- Marwaha R.S, Uppal D.S, Kumar D and Sandhu S.K 2003. Potato processing. In: the potato production and utilization in sub-tropics. Khurana SMP, Minhas JS, Pandey SK (ed), Mehta Publications, New Delhi, India, p 336-346.
- Moore, J.R, Johl, S.S and Khusro, A.M 1973. Indian Food Grain Marketing, Prentice-hall of India Private Limited, New Delhi, 1973.p. 35.
- Nalini Ranjan Kumar, Pandey, N.K, Rana, K. Rajesh and Pandit Arun 2009. Analysis of supply chain management in potato export from India. *Indian Journal of Agrilcultural Marketing*, **23** (1):10-19.
- NCAE & PR 2010. Report of the research study on estimation of marketing efficiency of horticultural commodities under different supply chain in India, National Centre for Agricultural Economics and Policy Research. PP. 516.
- Nikam, A.V., Shendage, P.N., Jadhav, K.L and Deokate, T.B. 2007 .Marketing of kharif potato in Satara district of Maharastra. *Indian Journal of Agrilcultural Marketing*, **21** (2): 188-207.
- Pandey, N. K., Dahiya, P. S., Anshuman K and Kumar, N. R. 2003. Marketing and assessment of post-harvest losses in potato in Dhar. *Journal of the Indian Potato Association*, **30** (3/4) :309-314.
- Pandey, N.K., Pandit Arun., Chandran, K.P, Pandey, S.K. 2007. Potato Statistics: India and World. Tech Bull No. 81, Central Potato Research Institute, Shimla, India, p 7.
- Rana Rakesh, K. 2014. Marketing and export of potato in India. E Book. Summar school on current trends in quality potato production, processing and marketing. July 8-28, 2014.

- Sagar, M., Torane, S. R., Swamy, P. S. D and Yogeesh, K. J 2015. Economic analysis of post harvest losses in different marketing channels of vegetables in Mandya district of Karnataka State. *International Journal of Agricultural Science and Research*, 5 (2) : 225-230 .
- Saha.B and Mukhopadhyay, A. 1998. Channels and potato marketing in Burdwan district of west Bengal. *Agricultural Situation in India*, 18 (11) :763.
- Shashikant Singh 2011. Farm to fork supply chain of potato in the state of Bihar. CCS Working paper No. 252. Summer Research Internship Programme. Central for Civil Society.
- Shrinivas Bhajantri 2011. Production, processing and marketing of potato in karnataka – an economic analysis, MBA Thesis, Department of Agricultural Marketing Co-operation and Business Management, University of Agricultural Sciences, Bangalore.
- Sidhu, R. S., Sudha, M., Subhasis Mandal; Basantha Singh; Khem Chand 2012. Marketing efficiency of India's horticultural commodities under different supply chains. *Outlook on Agriculture*, 41(4) :271-278.
- Singh, Manish Kumar., Singh, N P and Vikram, Ajeet 2008. A Study on Marketing and Marketing Efficiency of Potato in Ghazipur District of Uttar Pradesh. *Indian Journal of Agricultural Economics*, 63 (3): 385.
- Thakar.K.P 2004. An economic analysis and marketing of potato in Banaskantha district of Gujarat State. M.Sc.(Agri) Thesis. SDAU, Sardarkrushinagar.
- Vadiya, C.S. 1995. Marketing of seed potato in Himachal Pradesh. *Indian Journal of Agricultural Marketing*, 9 (2) :103.
- Yadav, R. K., Pandey, Y. K., Ramashrey Singh and Singh, B. N. 2000. Price spread and marketing problems of potato in Basti district, U.P. *Journal of the Indian Potato Association*, 27 (1/2): 35-39.