

Role of Supply Chain Members (Market Intermediaries) in Indian Agro Supply Chain

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ABSTRACT

Indian agro industry is highly dispersed industry across every hook and corner of the subcontinent. The producers of this industry are scattered all over the country. Unlike most of the industries, Indian agro industry does not have any hub or specified area of production. Therefore it constitutes a great challenge for the supply chain members to collect production from various farms all over the country and place at the disposal of the end consumers. These consumers too are dispersed at a large geographical area. Moreover, just ensuring availability is not enough; right quality, quantity, and right price also present a challenge before such members. Under such circumstances, the role of intermediaries becomes extremely significant. Thankfully India has a large number of Agricultural supply chain members, who are day night engaged in ensuring the real time availability of agro products to the end consumers This paper highlights the role of such members on the basis of logistics and marketing value addition, post-harvest services and real time information sharing by these member in the Purvanchal area of Uttar Pradesh. A significant difference in the wholesale and retail price is also spotted. The study highlights the negligent role of these supply chain members which is the result of lack of integration and collaboration among them. The paper opens up new avenues for the researchers' to propose a new model of agricultural supply chain where the intermediaries are streamlined and setting an overall value chain objective, thereby maximizing profits for each member of the supply chain.

Keywords: Supply Chain Network, market intermediaries, Indian agro industry.

INTRODUCTION:

Studies have shown that approximately most of the farmers in the developing economies are marginal farmers, where each farm is no more than 2 hectares and is typically family operated Lowder et.al (2011). India is no exception. Their contribution is significant as far as their total contribution at the global scale is considered. Such farmers contribute approximately 1/3rd of the total food supply in the world. (wegner and Zwart, (2011). India is the second largest producer of fruits and vegetables in the world next only to China. With diverse agro-climatic conditions and distinct seasons, Indian farmers are able to grow a wide range of vegetables which are an important constituent of Indian diet(Mishra snehal et.al,(2014). But unfortunately this section of the farmers suffer the most. They face number of challenges such as timings of the decision. Most of the farmers have the habit of deciding upon production quantities and harvest their crops before knowing the actual price of the crops in the markets. This uncertainty in prices leads to poor production and harvesting decisions. Farmers also have little knowledge about the selling of the crops through proper channels.

The most frequently chosen options are to sell through traders who come to their farm gates or sell through local market place. These local traders pass on these products further in the supply chain.

Agricultural produce while moving in the pipeline from the farmer to the end consumers, travel in the hands of unprofessional entities at every stage thereby reducing its quality as well as quantity. The absence of an

integrated supply chain in Indian agricultural industry is proving fatal for the food producers. Most of these members are unprofessional in their approach, as a result of which the whole Indian agro supply chain is in its worst condition. There are five generally recognized broad groups of intermediaries- Village Commission Agents/brokers, District Commission agents, wholesalers, Sub- wholesalers and retailers.

Village Commission Agents:

The entity directly in contact with the farmers and their representatives. Though they do not own the product directly, they have possession of the product and make it available to the other members of the distribution channel. Farmers most of the time are indebted by these entities and thus they sell their products through these entities. They earn through fees or commission against the services they charge.

District Commission Agents:

Same services as those of Village Commission Agents, only the difference is that they are the representatives of the farmers of the entire district.

Wholesalers:

They take the ownership of the products, do some value addition in the form of grading, sorting and packaging. Pass on the products to the sub-wholesalers and retailers after adding their margins.

Sub-wholesalers:

Their working is similar to that of wholesalers at a large extent, only the difference is that they deal with more varieties of the agricultural produce.

Retailers:

These are of various sizes from convenient stores to large chains such as Big Bazar, Wal Mart etc. Irrespective of their sizes, retailers are those independent entities in the supply chain who purchase products from different distributors/ wholesalers and provide a large variety of every item to the consumers under one roof only.

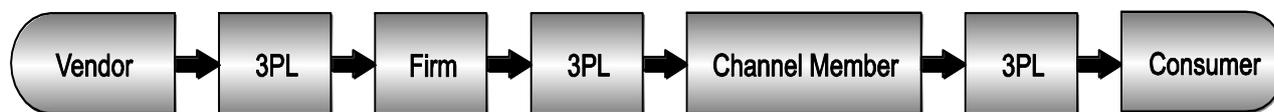
A close look at the Indian agricultural supply chain reveals that most of the channels are unorganized; presence of multiple routes in the flow of agricultural commodities makes it more complex and non-profitable for the farmers. There is a blurred line between the duties and responsibilities of these members. The absence of organized procurement slows the flow of products resulting in deterioration of quality and quantity at every stage. The organized procurement is very low and mostly happens with the government procurement policy coupled with few private procurement bodies such as ITC or MSSL. Government procurement centers are unable to attract the farmers. With the interview of the farmer's at Varanasi region, it was revealed that farmers prefer selling their products to the old commission agents at prices lower than MSP due to the various operational deficiencies at the government procurement centers.. In the world of global competition today, best practices of supply chain management is a key success factor of a corporate enterprises in most of the industrial sectors including agro and food industry. Coordination in the supply chain involves structured relationships among producers, traders, processors and consumers to specify details about roles and responsibilities of each member in network. Supply chain network members who are also known as distribution network in Indian agro Industry: intermediaries, marketing intermediaries or middlemen are a crucial element of distribution channel. These are external groups, individuals or businesses that provide a channel between the producers and the consumers. The functions of these members are not differentiated and most of the time overlaps each other. The basic objective of this distribution method is to physically move the agricultural produce from one hand to another till it reaches the final consumers. In this process there is high wastage and pilferages, deterioration of quality and above all high escalations in the prices. There is a wide gap in between the farmers and these intermediaries. The farmer has no knowledge regarding the market and its dynamics. The changing scenario of the consumer's tastes and preferences is not being communicated to the farmers. This results in the piling of stock at farmers end during good harvest as there is no demand of the products. The poor farmer has now no option left how he could get rid of it. Finally, either his products get wasted or are sold at a very low price in the local markets where the demand is almost missing. All his efforts go in vain.

Supply Chain Network:

Supply Chain network is a process which is engaged in the movement of products, within and outside the firm. In this process it interacts and interfaces with the external bodies such as vendors, carriers, warehousing

agencies and third parties services providers such as transporters, packagers etc. It is primarily important for the transfer of products and information, timings of services along with its cost and integration of external and internal activities. Therefore, we can say that Supply Chain Management involves managing outbound and inbound flow of goods, services and related information, so that all the firms involved in the distribution of goods may get benefitted. Normally there are 7-8 members in the supply chain.

Figure 1: Supply Chain Network



Source: Agarwal 2010

Supply Chain Management can be defined as a Management of all the traditional business functions strategically between 3-4 more firms which are directly connected by anyone of the upstream and downstream flow of goods, services, finance and information from the source of inception to the source of consumption.(Agrawal, 2010).

Now a days SCM is widely considered as a source of core competency in most of the industrial sectors across the world to gain long term competitive advantage in the market place. This ensures high productivity and constant profitability. Gradually SCM has occupied an important position in the overall performance of the firm. Previously, it merely held operational states in the overall affairs of the firm. (Agrawal, 2010).

According to Copacino (1992), there are 5 ways to significantly gain a competitive advantage by the use of supply chain management. These are –ensuring low cost, superior customer services, value added services, flexibility and regeneration. This principle if applied to Indian agriculture can prove to be a game changer.

LITERATURE REVIEW:

According to Stantal et.al.(1994), there are at least eight basic functions performed by the intermediaries irrespective of the size and the type of intermediary. These functions are physical possession, ownership, promotion, negotiation, provision of market information, financing, payment and risk bearing. The degree of efficiency of performance depends upon the understanding of the intermediaries about the important roles played by them. According to Negi & Anand,(2014), The local traders/auctioneers and commission agents procures the Fruits &Vegetables from small marginal farmers and just play the role of an aggregator. Further they sell these produce to the Mandi. Very few big farmers used to sell their produce directly to the market place on their own. Sidhu et al. (2010) explains that in India, more than 90 percent of the producers sell their produce by taking the help of commission agents/wholesalers and a small proportion sell through retailers and directly to consumers. The agents collect the produce from the small farmers and sell to the big trader who then transports the commodity to the Mandi after processing or some value addition. The wholesaler buys these produce from the Mandi through auction and then sells to the retailer which includes pavement shops, cart vendors, family run 'mom and pop' stores and roadside shops. From here the produce finally reaches the final consumers. This whole process involves large number of intermediaries i.e. agents (commission agents), auctioneers, wholesalers and traditional retailer apart from farmers and customers. This long chain of intermediaries not only eat up the major portion of the consumers price, they also do not add any value to the overall supply chain. The very basic function of supply chain is transparency which is completely missing in Indian agro supply chain. Bhagat and Dhar(2011), described that presence of dedication and transparency among the supply chain members largely determine the success of agriculture supply chains. Through transparency, they possess sufficient knowledge about uncertainties inherent in the very nature of agriculture and the various rights of farmers and all other stakeholder in the overall supply chain. This helps in improving sense of responsibility, improving relationship among intermediaries in the supply chain thereby building trust among them focusing on customer centered orientation.

But the situation is quite pathetic in reality. Modi et al.(2009). In his studies highlighted that in India, the existing supply chain in Fruits and Vegetables sector involves many intermediaries who eat up all the share of about 75 percent of the total net margin accruing to the entire supply chain In a study by FAO, (1990), Gross marketing margins for different fruits in several countries were very high, ranging between 30 % to 81 % of consumer price due to large number of intermediaries present in the marketing process. Mitra et. al. (2012), established that middlemen in the potato market swallowed 34%- 89% of consumers price during 2008 in West Bengal.

RESEARCH METHODOLOGY:

The paper focuses on the role of intermediaries in agricultural supply chain. This role has been noticed through analysis of primary as well as secondary data. The prudent blend of both these types of data has made available a clear picture of the roles that is being played by the various intermediaries in the long agricultural supply chain. The primary data was collected from few important mandis of UP. All these mandis hold a leading position in the Purvanchal area. The data was collected through the questionnaire from 70 intermediaries (big& small), namely Village Commission Agents, District Commission Agents, Wholesalers, Sub- Wholesalers and retailers performing different functions in the agro supply chain through convenient sampling method. These respondents were asked to rate various roles played by them on the 5 point scale of strongly disagree to strongly agree. Facts were also derived from the personal interview, observation on the spot. To validate the data, the mean was calculated for various functions performed by these intermediaries. A mean value of less than 2.5 has been assigned as low and the remaining as high.

Secondary data was collected from reliable sources such as annual reports of the agriculture ministry, journals, magazines of the area, and research papers of various authors on the topic, articles and books of reputed publisher etc.

FINDINGS AND DISCUSSIONS:

Intermediaries not only complete the exchange of products in the supply chain but also perform few very important functions. Looking from the value chain perspective they broadly perform the functions of – Logistical Value Addition, Marketing Value Addition, Services at the farm gate and Real Time Information.

Table: 1 Role of Supply Chain Members with respect to Functions Performed

Type of intermediary Logistics Functions performed	Village Commission Agent	District Commission Agent	Wholesalers	Sub - wholesalers	Retailers
Breaking bulk	2.41	3.5	2.2	2.5	3.58
Accumulation of products	3.33	3.25	3.5	4.08	3.16
Assortment of products	2.66	3.75	2.8	3.25	2.16
Systematic settlement of exchange	2.41	2.58	2.08	2.08	2.50
Availability of proper storage	1.91	3.08	2.4	3.33	2.58
Order processing and fulfillment	2.75	2.58	2	3.75	3.50
Average Contribution Marketing Functions performed	2.47	3.14	2.49	3.4	3.24
Prominent display and pleasure purchase environment	1.08	1.25	1.5	2	3.75
Product holding and risk sharing	1.58	2.33	1.5	1.83	2.0
Market coverage and Penetration	1.16	2	2.3	2.25	4.25
Supporting byers in purchase decision	1.66	2.58	1.2	1.41	4.33
Trust Building	3	1.58	1.3	3.41	4.16
Local Brand Building	2	2.08	2.0	1.83	4.33
Average contribution Post Harvest Services provided	1.66	1.80	1.63	2.12	3.80
Cold Rooms	1.08	1.83	1.6	2	2.58
Packaging Houses	1.5	1.41	1.8	2.41	2.83
Silo Bags	1.5	1.16	1.25	2.08	2.25
Refrigerated Trucks	1	1.75	2.0	2.83	2.91
Regional Collection Points	1.66	2.5	2.0	2.58	2.75
Warehouses	1.75	1.25	2.33	2.66	2.33
Transportation and storage facility on farms	1.75	1.91	1.4	1.58	2.75

Type of intermediary Logistics Functions performed	Village Commission Agent	District Commission Agent	Wholesalers	Sub - wholesalers	Retailers
Average contribution Information Availability regarding	1.46	1.68	1.76	2.3	2.62
Product performance	2.16	2.66	1.7	2.16	2.66
Market knowledge	2.75	1.91	2.08	2.91	3
Consumer’s preferences &tastes	1.83	1.33	2.25	2.91	2.25
Prevailing market price scenario	1.25	1.66	2.08	1.83	2.75
Demand Pattern	1.41	2.41	2.75	2.83	2.75
Competitors actions &reactions	2.08	1.5	2.16	2.08	2.08
Effectiveness of current promotional strategy	1	1	1.66	1	2.58
Average	1.81	1.61	2.08	2.12	2.58

Logistic Value Addition ensures real time flow of goods and smooth exchange. It comprises of functions like breaking bulk, accumulation, assortment, and systematic settlement of exchange, availability of proper storage, order processing and fulfillment. Through Marketing Value addition, the firm ensures a difference in the market place thereby increasing the customer base of the firm. It includes prominent display and pleasure purchase environment, Product holding and risk sharing, Market coverage and Penetration, supporting buyers in purchase decision, trust building and Local brand building. Agrawal Durgesh et.al.(2006).

Big intermediaries now a days facilitate farmers by providing services at their farm gate because most of the farmers do not have an easy access to the mandis. These Post Harvest services provided a great help to the farmers and reduce post-harvest losses to a great extent. These includes availability of cold rooms, Silo Bags, packaging houses, refrigerated trucks, regional collection centers, warehouses, transportation and storage facility at the farm gates. Information availability is the heart of efficient supply chain management. These intermediaries play an important role in transferring real time information from the point of inception to the point of consumption across the supply chain. Types of information includes information regarding product performance, market knowledge, consumer’s tastes and preferences, prevailing market price scenario, demand pattern, competitor’s actions and reactions and effectiveness of current promotional strategies.

Table 2: Role of Supply Chain Members and value addition/ Functions attributes:

Value Addition Type of Intermediary	Logistics Value Addition	Logistics Value attributes	Marketing Value Addition	Marketing Value Attributes	Services at farm gate	Value Attributes	Information Availability	Inf. Attributes
Village Commission agent	2.47	HIGH	1.66	LOW	1.46	LOW	1.81	LOW
District Commission Agent	3.14	HIGH	1.80	LOW	1.68	LOW	1.68	LOW
Wholesaler	2.49	HIGH	1.63	LOW	1.76	LOW	2.08	HIGH
Sub-Wholesaler	3.4	HIGH	2.2	LOW	2.3	LOW	2.12	HIGH
Retailer	3.24	HIGH	3.80	HIGH	2.62	HIGH	2.58	HIGH

Table 2 indicates that there is divergence in the value addition services provided by the various intermediaries. For the purpose of simplicity, specific attributed have been assigned to value addition namely, LOW and High. Low refers value less than 2.5 high is above 2.5 in the scale of 1-5 as portrayed in the table 1. From the analysis the picture comes out as shown in the above table. Both Village Commission Agents and District Commission Agents are found to be HIGH only on logistics value attribution and LOW on all other attributes. Wholesalers and Sub Wholesalers are HIGH on Logistics Value Attribution and Information Attribution but LOW on both Marketing Value Attribution and Services at Farm Gate Attribution. While analyzing the role of Retailers it was found that they are the only one who are HIGH on all the four attributes. But by the time products reaches this

stage of the supply chain the crucial time for making many strategic decisions had already passed away. It has already gone through the unprofessional hands and all the deterioration in the quality and quantity has already happened. The escalations in the prices can be very well understood at this stage.

At the time of the data collection, through personal interviews and observation it was found that there was a wide gap in the wholesale and retail prices of mango in the mandis of Uttar Pradesh.

The retail price of mango in the month of July in was 80-100Rs. /kg. The wholesale price of the same was 25-30 Rs. /Kg. which was fixed at the beginning of the mango season in the month of April May when the retail price was 40-50Rs/kg. There was a high fluctuation in the retail prices within these 3 months at the retailer's end. Not only this it has been found that the retail price fluctuate from morning to evening but the wholesale price is fixed. The poor farmer who has put all his blood and sweat into the cultivation of mango is completely out of this game and had to satisfy himself with the 30-35% of the consumer's price paid to him.

The heavy fluctuation in prices in the Gola Mandi, Varanasi was also observed. For instance, processed cashewnuts when sold by the farmers (those with processing units) to the large stockiest costs around 250-300/kg. which after more processing costs the final consumers 900-1000/kg. From the interview of the retailers it was revealed that the procurement and carrying cost is very high which results in the high price escalations at the consumer's end.

In the same way, according to a news in TOI, wholesale prices of pomegranate has fallen down to 20-50rs/kg due to bumper crop in the month of Dec.2017, but the retail consumer had still to pay 80-100 Rs./kg. According to news in Hindustan, the whole sale and retail prices compared at the time of Daala chhat shows a huge difference

Table 3: Difference Between Wholesale and Retail Price

S No	Items	Wholesale Rate	Retail Rate
1	Apple	700-900(15kg box)	Rs.120-150/kg
2	Pomegranate	500-700(10 kg box)	Rs. 150-180/kg
3	Singhara	150(5kg)	Rs.80-100/kg
4	Guava	250(5kg)	Rs.80-100/kg

Same case is with the apples, according to Satish et.al, the overall margin is allocated to various members in the supply chain (excluding the farmer), wholesalers, sub-wholesalers, and retail based average wholesalers' margins are estimated to about 20% of the costs and the retail margin is about 35% of the total costs.

Mango marketing in India has a different pattern. 90% of the mango producers sell the harvesting rights of their orchards to contractors at the flowering stage. Only 10% sell their produce directly to market themselves, mainly in the hope of getting better prices singh V (2015).

CONCLUSIONS:

Appraisal of Indian Agro supply chain reveals that not much attention is being paid to the smooth flow of agricultural products across the country. The long Indian agro supply chain has proved to be curse to the agro industry. There is lack of collaboration and integration among various partners of the chain. There is a need to effectively gain the advantage of an efficient supply chain network for the purpose of which firms need to streamline the distribution by involving with the intermediaries and setting an overall objective of value chain to maximize profit for each and every entity of the whole supply chain.

There is a need to build an association among supply chain partners to equally divide the risk and increase the efficiency of overall pipeline. This objective can be achieved only when the role of each and every agro supply chain partner is objectively analyzed and redefined. These supply chain partners will have to ensure high quality Logistic and Marketing Value addition along with providing services at the farm gate to prevent farmers from the hands of local traders. Supply chain efficiency heavily relies on the real time information flow in relation to the market knowledge, product performance, consumer's preferences and tastes, prevailing market price scenario, demand pattern and trust building. Therefore it is the primary duty of the intermediaries to provide this information on time which can prove to be the game changer of the industry.

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