

# Challenges in Promoting Agribusiness and Analysis of E-Commerce Technology as a Solution in Context of Uttarakhand

<sup>1</sup>Dr.Anil Kumar Kapil, <sup>2</sup> Sweta Sharma,

<sup>1</sup>Professor MHU Roorkee, <sup>2</sup>Research Scholar MHU Roorkee,

<sup>1</sup>Dean ,Faculty of Mathematics and Computer Science,  
Motherhood University ,Roorkee, Uttarakhand, India

**Abstract:** The study undertakes a review of basic and contemporary literature available and tries to explain the issues and challenges encountered in the Agribusiness sector under Uttarakhand Decentralized Watershed Development Programme (UDWDP) in Uttarakhand. Watershed describes an area of land that contains a common set of streams and rivers that all drain into a single larger body of water, such as a larger river, a lake or an ocean. An explanatory research has been applied for this study in order to formulate agribusiness as profitable venture; it is required to adopt the advance E-Commerce technological approach towards agriculture marketing as well as eliminating the vast number of intermediaries who come across in supply chain. An analysis is conducted on the E-Commerce framework incorporated in agribusiness scenario to analyse the current scenario of agribusiness and to explore the possibilities to make it profitable by reducing the steps and number of intermediaries and increasing the market intelligence through dissemination of Information technology.

**Index Terms -** Agribusiness, E-Commerce, Market Intelligence

## I. OVERVIEW OF AGRICULTURE AND AGRIBUSINESS IN UTTARAKHAND

Agriculture is the main source of employment in Uttarakhand and around 58 per cent of workers earned their livelihood from this sector in 2011.[6]. Agribusiness is a term taken from agriculture itself which also defines marketing of agriculture produce. We can define in this way also as:

Agriculture + Business= Agribusiness

As said by our honourable President: "**Our basic strategy for social and economic transformation of India towards its vision as developed society by 2020, would be a strong focus on providing urban amenities in rural areas in a most creative and cost effective manner.**" - APJ Abdul Kalam, President of India [1]. Farmers in Uttarakhand are small by land holding size and yield volume of crop and are highly fragmented across geographical areas. In this traditional supply chain model, farmers supply their products to the consumers through channels of various intermediate partners who generally grab the entire price share in the market [5].

Agriculture is the back bone of the Indian economy. The sustainability of Agriculture is an important issue. Agribusiness has potential to provide sustainability to Agriculture .The success of agribusiness depends on viable market linkages and supply chain management. In present scenario, the intermediaries has significant role in driving the Indian economy.

The intermediaries help in driving the business statistics. An intermediary identifies the potential markets for agribusiness. It acts as a connection between the producer and the customer. The intermediaries are equipped with marketing knowledge, the ability to sense the pulse of the market and selling expertise for implementation of marketing strategies .The intermediaries plays vital role in turning the wheel of Agribusiness in many ways like:

- a) Provide Logistic Support: Intermediaries are engaged mostly in logistic support thereby ensuring smooth and effective physical distribution of goods.
- b) Provide Transactional Functions: The Intermediaries keep themselves close to market intelligence (MI). They use their contacts to effectively aid market coverage
- c) Burden Sharing, Cost and Time Saving
- d) Adversely Affect Revenue and Communication Control: As the chain of distribution becomes longer, a manufacturer sometimes loses control over the process sometimes intermediary may distort information.
- e) Products are Side-lined: The success of a business largely depends on the cooperation, knowledge and enthusiasm of its intermediaries. The moment the intermediaries lose interest in a particular product, that product is doomed.
- f) Arrangements of Advance money: The Intermediaries provide the advance money to farmers which socially and economically support their family and production cycle in adverse conditions.
- g) Ensuring arrangements of inputs: - Intermediary also provides agri inputs to farmers or federation. Barter system is applied in which intermediary provides the agri inputs to farmers and in return farmers sells their produce through intermediary. As farmers are not in a position to determine the price for their own produce due to lack of Market intelligence.
- h) Ensuring good quality to the consumers:- Provision for standardization and grading of the produce for ensuring good quality to the consumers and better prices for farmers. Lack of information, the farmers hardly has any information regarding the

price prevailing in the market and hence they have to sell the commodities at the lowest price thereby suffering losses. In this situation intermediary provides all possible markets trends to farmers.

## II. OBJECTIVES OF THE STUDY

The present study has been carried out to achieve the following objectives:

1. To identify the issues and challenges related to Agribusiness promotion in rural mountain areas affected by intermediaries in Uttarakhand.
2. To Analyse the present trends of ecommerce in agribusiness
3. To understand the evolution of ecommerce solution for agribusiness
4. To analyse a step towards better agriculture marketing using E-Commerce technology

Presently, there are five agriculture sector related projects being implemented with the assistance of the World Bank. These projects are related mainly to watershed development and soil and water conservation measures (natural resource management) as well as overall agricultural development and allied issues [8].

## III. LITERATURE REVIEW

A large volume of literature is available on the concept of applying the e-commerce technology in agriculture sector. Studies were made on marketing agriculture produce through ICT or e-commerce advancement in relating to agribusiness. A brief view of relevant literature is done below. Dariusz Strzembicki viewed in his article, "The analysis was conducted on the example of Poland, which is a country with a specific structure of the agricultural market. Also, farmers may use electronic commerce in order to strengthen their position. Electronic commerce offers great opportunities for collaboration and joining forces by farmers. An example is the electronic consortia-owned marketplace of beef called Wołowina Sudecka. It was created by cattle ranchers, who thanks to this electronic marketplace and their own slaughterhouse sell to food industry enterprises and consumers avoiding intermediaries"[9].

## IV. PRESENT TRENDS OF MARKETING AGRICULTURE PRODUCE IN UTTARAKHAND

**Case1: Individual:** In individual marketing system, the farmer does not get the optimum price for its produce as he does not give more emphasis on the quality of produce. He just ends up by filling up the sack to handover it to the middlemen for sale. Finally, receive the price which is decided by the middlemen. In this case farmer is fully dependent on the middlemen for market intelligence and profit.

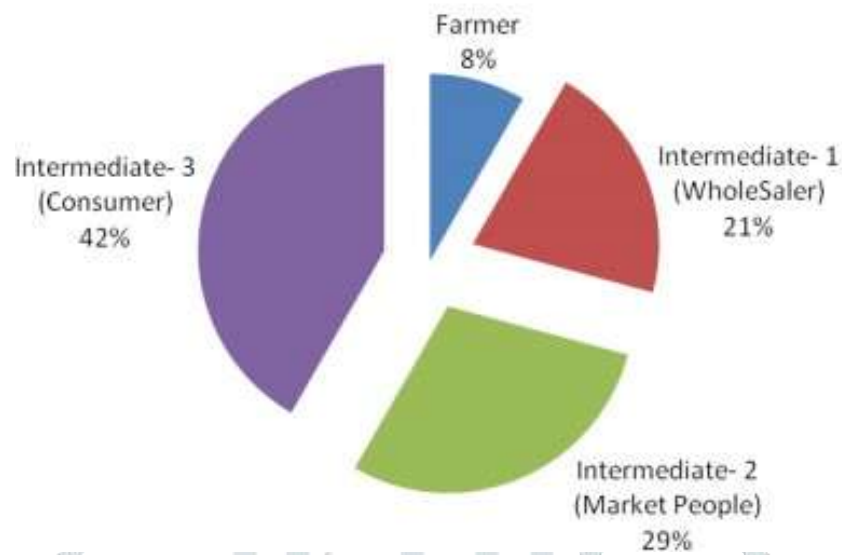
**Case 2: Federation /FIGs through collection centres**

Some Farmers forms groups, farmer's interest groups and farmers' federation so that they gain the confidence to fix price for their graded produce. A Farmer Interest Group (FIG) is a self-managed, independent group with a common goal and interest. The members work together to achieve this goal by pooling their existing resources like: planning the crops for cultivation, varieties, time period, Package of Practices (PoPs), harvesting and basic value addition of vegetables and fruits to fetch high price in market, gaining better access to other resources and to share in the resulting benefits. It tries to access the up-to-date market information that helps in fetching better price to farmers for their produce. The basic aim of developing self-help approaches among the farmer's and to have surplus production to have bargaining power with them. It also helps in providing pooled resources to farmer members as and when needed that helps them to exploit economies of scale.

Farmers remain poor as they are not able to obtain better prices in spite of the hard work they do in order to reap harvests. As we know that since ages, the middlemen exist in the supply chain and provide all possible support to the farmers. Hence it is not possible to completely eliminate the middlemen from the marketing chain. However; the steps can be taken to minimize the role of middlemen to some extent and to create transparent mechanism. For this to happen, firstly, it is quite essential to gain the confidence of the producers who are already trapped in the marketing system controlled by middlemen that is running since ages. Suddenly breaking the chain, may not give the positive impact and keeping a balance is vital.

Uttarakhand is primarily an agricultural state although its share in the country's total area and production is very small. A large share of the fruit and vegetable produce from Uttarakhand state used to send to the mandis in Haldwani, Delhi, Dehradun, Khatima, Bareilly, etc. (Modi et al., 2009)[5]. Middlemen are usually responsible for farmer's poor share in the consumer rupee and are seem to be responsible for exploiting the farmers.[3]

## Negative Impact Due to Intermediaries



In the above example all three middlemen are sharing the profit margin of the farmer. As a result farmer fails to get the appropriate price of their produce. In order to make agribusiness a profitable venture it is necessary to have a holistic approach to various activities inherent to it. In order to release the true potential it is necessary to establish efficient linkages between production and marketing. In addition to providing sufficient storage capacity, it is also necessary to introduce a sound marketing system so as to minimize losses. [1].

### V. STEPS TOWARDS STRENGTHENING AGRIBUSINESS IN RURAL MOUNTAINS : E-COMMERCE AS A SOLUTION FOR AGRIBUSINESS

Rohatash K. Bhardwaj has suggested in his research that “ICT Portal providing market information (price, demand and supply situation), name and address of service providers and other value chain actors. The portal can also assist in providing critical current issues affecting production and sales of tomatoes such as farming practices, pest infestation and measures to take, etc. The portal can seek advertisement from the various commercial service providers and value chain actors and can become sustainable” [4].

Currently, three measures are being undertaken, though not on large scale, to shorten the intermediary chain and promote competition:

- i. E-Commerce initiatives that ease the information constraint of the farmers relating to prevailing prices and other variables;
- ii. Contract farming which entitles the farmer to sell a fixed quantity of a product at a stipulated time and price to a buyer; and
- iii. Direct farming or the interaction between farmers and direct buyers at the retail or wholesale level.

The first method enables the farmer to have information about several markets, thus giving him the freedom to make a choice from various sales alternatives [2].

### VI. E-Commerce as a way Forward :

Selecting the correct and effective distribution channel for the products is vital for the success of agribusiness. An E-commerce system is significant in promoting the agribusiness with improved communication and transparency. It establishes online marketing of agriculture produce & products so as to maximize the profit of farmers. This way it minimises the involvement of middlemen to a certain extent and also create possibilities to gain more benefits/price from the traditional trading chain due to competition and options available for marketing. It also dents the monopoly of middleman. As a pilot system, E-commerce can

be used in such a way that some percentage of produce can be sold through ecommerce and rest could be channelized through on going traditional system to have comparison as well as scope for keeping up the trust and relation intact. This will also be helpful to check the feasibility of new system i.e E-commerce in context of rural marketing for marginal farmers.

One of the key challenges faced to provide best of benefits to farmers in agribusiness segment is the presence of vast number of intermediaries (I1, I2...In) in the supply chain which is a hurdle as well as service provider between the farmers and direct consumers. As a result farmer's fails to obtain the valid price for their produce and at last direct consumer's are forced to take the produce at high cost, in this case both the parties remains discontented such disappointment can be minimized at some stage by developing a competent online web application.

In the above Fig.1.2 Scenario(A) depicts the current status that after harvesting , farmers takes their produce to market and meet various number of intermediaries (I1, I2...In) for selling the produce . Hence, farmers unwillingly have to share his profit with the intermediaries .As a result somehow farmers doesn't satisfy. In Scenario (B) Intermediaries are minimized to some extent ,Farmers needn't to interact with vast number of intermediaries (I1, I2...In), He just have to register(free of cost) himself on the E-Commerce portal with all information like harvesting period , crop details, area etc. Scenario (B) can open the doors of globalization i.e. eliminating geographical limitations, gaining new and wide range of customers and off course!! farmer can determine at what price he/she wants to sell.

### A detailed logical Framework of E-Commerce in Agribusiness in a watershed of Uttarakhand

#### Farmers taking their produce to market

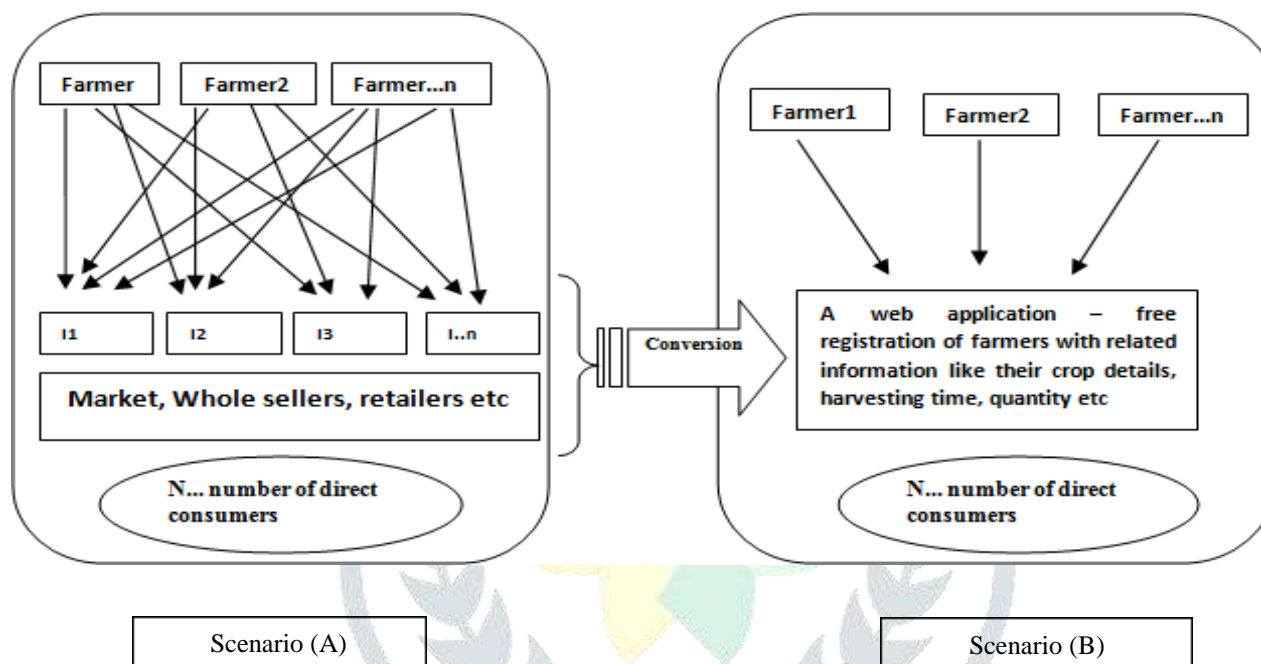


Fig1.2 Minimization of Intermediaries between consumers and farmers

#### VII. Major outcomes after using Ecommerce:-

The Major Outcomes that can be forecast based on examples of Amazon, e-bay etc. are:-

- 1) As a pilot system, E-commerce system will provide option and could refine the traditional system to a great extent .It will also utilize the market intelligence (MI) and ultimately will increase in profit margin. It will further enhance the transparency for rates, quality, etc.
- 2) The produce/products flowing through intermediary will be minimized and certainly make intermediaries to rethink the whole system by providing better rates to farmers. Intermediaries will facilitate in logistic arrangements with reducing their profits and with better communication and support.
- 3) This way e-commerce with the help of MI will provide possible solution and option towards agribusiness oriented queries i.e. what to be produced, how much quantity has to be produced, when (time period) to produce, in what form to sell (raw, semi processed or processed, etc.), at what price to sell, when to sell and where to sell. Further, the government interventions in Market Intelligence with portals for agriculture like: AGMARKNET – www.agmarket.nic.in, ITC's e- CHOUPAL etc. will also help the farmers in creating intelligence and to create better facilities for them.
- 4) E-commerce system will also generate and maintain the data of sowing and transplanting date along with various information of crop varieties, PoPs applied to have estimation of produce in coming months. This way the forecast of produce will be entered as a tuple in Data Warehouse.

**VIII. CHALLENGES OF ECOMMERCE**

- a) Not every farmer is ICT friendly. Thus motivation, awareness and trust building through rigorous training to be imparted to avoid the risk and to change their mindsets.
- b) While creating the data warehouse, accuracy and authenticity of data has to need be maintained.
- c) How to bring collective approach of agribusiness in scattered and far flung areas is to be worked out to execute the agribusiness work as this is need for success of E-commerce system. An agreement and sort of understanding is prerequisite..
- d) Ecommerce system should be developed in such a way that it should provide quality of data not GIGO (Garbage in and Garbage Out).

**IX. CONCLUSION**

A research indicated on the challenges encountered by the farmers at the time of selling their produce in the markets. After analyzing the scenario a framework is suggested in which the advance technology i.e. E-Commerce is incorporated for maximizing the profit returns earned by the farmers. As a result, it will somehow give the solution to the food security also as production and distribution should go hand in hand. Last but not the least ,the above framework Fig1.2 can be used in future by all the stakeholders whether they are customers , producers, government programmes, etc. as it will yield an innovative fruit in the form of “Contented Farmers with the maximum profit returns from their produce”

**X. REFERENCES**

- [1] <http://agropedia.iitk.ac.in/content/extension-stratiges-Uttarakhand>
- [2]<http://www.thehindubusinessline.com/todays-paper/tp-opinion/freeing-farmers-from-intermediaries/article1621707.ece> [3]Vetrivel.N, 2017, Intermediaries Impact on Agricultural Products – From Farmer’s Perspective, IJARIII.
- [4]Rohatash K. Bhardwaj B. K. Sikka M. L. Sharma Ashutosh Singh N. K. Singh, 2011, Sustainable Agriculture for Increasing Efficiency of Tomato - Value Chain in Uttarakhand (India), ICT BM.
- [5]Saurav Negi, Neeraj Anand ,2015,Supply Chain of Fruits & Vegetables' Agribusiness in Uttarakhand (India): Major Issues and Challenges, Journal of Supply Chain Management Systems
- [6][http://www.du.ac.in/du/uploads/Academics/centres\\_institutes/Agricultural\\_Eco/22.2015%20AGRI.Profile%20UK-Usha%20Tuteja,%202015.pdf](http://www.du.ac.in/du/uploads/Academics/centres_institutes/Agricultural_Eco/22.2015%20AGRI.Profile%20UK-Usha%20Tuteja,%202015.pdf)
- [7]Modi, P., Mishra, D., Gulati, H., & Murugesan, K. (2009). Uttarakhand state cooperative federation: Can it help the horticulture farmers?, VISION-The Journal of Business Perspective
- [8] [eands.dacnet.nic.in/PDF/State\\_of\\_Indian\\_Agriculture,2015-16.pdf](http://eands.dacnet.nic.in/PDF/State_of_Indian_Agriculture,2015-16.pdf)
- [9]Dariusz Strzembicki,2015, The Development of Electronic Commerce in Agribusiness – The Polish Example, 2nd Global Conference On Business, Economics, Management And Tourism

