

Global Good Practices in Agricultural Marketing



Editors :

Sunil Kumar
Hema Yadav

Chandra Shekara P
Shikha Verma



August 2019

CCS NATIONAL INSTITUTE OF AGRICULTURAL MARKETING (CCS NIAM)

(An Autonomous Organization of Ministry of Agriculture & Farmers Welfare, GOI)

Jaipur, Rajasthan, India, www.ccsniam.gov.in

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FOREWORD



India is bestowed with one of the biggest network of Agricultural Universities and Agricultural Scientists serving the farming community. Every year, more than 80,000 Agricultural graduates are passing out from Agricultural Universities out of which 10,000 to 12,000 are postgraduates and doctoral students. They invest their precious two to three years of their productive period for completing their research work. These ten to twelve thousand research thesis

need to make an effort to solve field level problems of farmers. Then only, Scientific Social Responsibility of professionals and institutions are fulfilled.

CCS NIAM made an attempt to harness the attention of these young minds towards field level problems of farmers through research internship programmes. These Researchers spent one month in CCS NIAM and work with a faculty member addressing a field level problems of the farmer.

Scanning of Agricultural Marketing systems across the globe provides us very valuable ideas for improving systems, processes and programmes in Agricultural Marketing. One such attempt made by young intern of CCS NIAM by compiling the successful Agricultural Marketing approaches across the world, which provides valuable learning for Academician, Policy makers and Practitioners.

I am sure, this book will inspire other interns to work on problem solving mode and inform Policy makers and Academicians about the global Good Practices in Agricultural Marketing. I am sure; any concrete action in this direction is expected to benefit farming community definitely. This is the ultimate purpose of this book.

I would like to compliment the intern and CCS NIAM faculty for joining hands in this mission.

(Dr. P. Chandra Shekara)

**Director General,
CCS NIAM, Jaipur**



PREFACE



The reforms in Agricultural Marketing is enabling policies to provide opportunities for direct market linkages, alternative markets, private partnership to bring growth and profitability.

Linking small and marginal farmer with effective market system and provides remunerative price of farmer product is necessary to achieve profitability for enhances their income. These issues can be addressed in a two-pronged approach, first by developing institutions, and second by investing in infrastructure.

This book highlight the experience of developing institutions to bring farmers together by establishing direct links through Collective action approach, Direct farmer linkage, Contract farming, Public Private Partnership along with collective action and e-marketing system. On the other side infrastructure reform include development of storage infrastructure, grading and quality certification facilities, connectivity like road and broadband facilities etc. at farm level so farmer can able to provide quality product to consumer as well as seller in market.

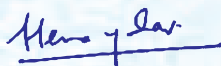
In digital world, e-commerce like B2C model can be potential instrument to bring producer and consumer closer through disintermediation process in agriculture. To bring transparency in marketing system some model like e-trading platform is helpful and it can remove the market information gap between seller and farmer which help farmer to benefit from price discovery. To strengthen small and marginal farmers, farmer organization like cooperative, farmer producer organization play significant role for overall development of farmers. These organizations can give access to formal, post-harvest credit or engaging directly with institutional buyers (retailers, exporters, processors). Conversely, these farmer groups can act as institutions that can work as a conduit for conveying information and material from institutional buyers to individual farmers.

Private sector through Public Private Partnership can play a constructive role in supply chain management of agricultural product which increases the efficiency of both producers and buyers in marketing system. Direct marketing is another concept that has been emphasized to provide maximum price and quality product benefit to both producer and consumer. In India some government initiatives such as “Rythu Bazars” in Andhra Pradesh, “Apni Mandi” in Punjab and “Uzhavar Santhai” in Tamil Nadu are some successful example of direct marketing model. These market help urban areas get fresh farm produce at low prices and better returns to farmers.

E-commerce has been used by a few enterprising people in agricultural marketing as well. Big Basket, as well-known grocery home-delivery business, books orders online from consumers and delivers sorted and cleaned groceries, vegetables, and fruits to them.

Through the study of several marketing models present across worldwide, a four-pronged approach has been identified to help meet the objectives of improving farm incomes and reducing prices for the consumer and these approaches have been compiled in this book. First one is integration of markets through electronic medium at a national level, Secondly, it is observed that customization at a local level plays a critical role, and hence direct marketing initiatives, contract farming and FPOs have been identified as institutional mechanisms that can create organized market structures at local levels and solve issues of scale and grassroots customization. Thirdly, emphasis on investment in infrastructure is to improve the broad umbrella of infrastructure which is considered to cover warehousing and storage both regular and cold, grading, testing and quality certification, and market information services. Fourth, focus on value addition through primary processing and branding activities for enhance maximum farmer participation in value chain is considered to be of very Important.

I hope the information and approaches adopted in book for increasing farmer income will be useful to academicians, practitioners and help in devising suitable strategies and Programmes for the benefit of farmer.



(Dr. Hema Yadav)

Director CCS NIAM, Jaipur

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Acronyms

NASFAM	National Smallholder Farmers' Association of Malawi
AMC	Association Management Centres
ICT	Information and communications technology
WHT	Withholding Tax
NGO	Non-governmental organizations
PPP	Public private partnership
FIML	With full information maximum likelihood estimation
UPFS	Urban Producer Field Schools
FDI	Foreign direct investment
NDC	National Development Council
EPVs	Export Production Villages
USAID	United States Agency for International Development
BOD	Board of Directors
CEO	Chief Executive Officers
SFB	Syngenta Foundation Bangladesh
SFSA	Syngenta Foundation for Sustainable Agriculture
FHs	Farmers' Hubs
PRC	People's Republic of China
IoT	Internet of Things
IC	Integrated circuit cards
SSVTMO	Shandong Shouguang vegetable trading market online
RAPID	Regional Agribusiness and Perennial Initiative and Development
GRN	Good Receiving Notes
FPOs	Farmer Producing Organizations
PO	Producer Organisation
SFAC	Small Farmers' Agribusiness Consortium
FIGs	Farmers Interest Groups
BOD	Board of Director
eNAM	National Agriculture Market
APMC	Agricultural Produce Market Committee
SFAC	Small Farmer Agribusiness Consortium
SP	Strategic Partner
WDRA	Warehousing Development and Regulatory Authority
NWR	Negotiable Warehouse Receipt
CSA	Community Supported Agriculture
PYO	Pick-your-own
CIP	International Potato Centre
KCC	Kissan Credit Card
ARYA	Attracting and Retaining Youth in Agriculture
ICAR	Indian Council of Agricultural Research
MAYA	Motivate and Attract Youth in Agriculture
READY	Rural Entrepreneurship Awareness Development Yojana
ITK	Indigenous Technical Knowledge
AUs	Agriculture Universities
RAWE	Rural Awareness Works Experience



Case 1. Cocoa Development Centres: business-oriented farm extension outreach system in Indonesia

Problem:

Traditional marketing model of agriculture in Indonesia face different challenges like lack of knowledge about good agricultural practices, lack of market accessibility, shifting livelihood aspirations, off-farm employment opportunities and the physical limitations of ongoing farm expansion. They need such agribusiness model which can help in sustainable cocoa production as well as globalize their production value chain to develop a shape of future agricultural system in the country.

Solution:

Response to this problem Indonesian government policy maker has focused on two main issues:

1. How to ensure national-level self-sufficiency in basic food products especially cocoa, rice, beef, sugar, maize and soybeans.
2. How to encourage the downstream processing of agricultural products within Indonesia as well as outside to capture a greater share of value added product.

To solve this issue they come with business-oriented outreach activity as an innovative institutional mechanism for developing new skills and innovative marketing strategy to the cocoa farming community in Indonesia.

Model

Hub-and-Spoke model

Mr. Mars Inc. has been lot off experiences because he was actively participant in cocoa farming activity across Sulawesi and encourages sustainable cocoa farming practices. He is number one private sector actor and his company developed an innovative business-oriented farm extension that is hub-and-spoke model. Cocoa Development Centres (CDCs) are major knowledge hubs and they linked with Cocoa Village Clinics (CVCs). Cocoa Village Clinics set up and running by cocoa doctors who are local entrepreneurial farmers. This is largely promoted model as a business-oriented farm extensions system that develop the entrepreneurial spirit among rural households through providing agricultural service, knowledge sharing, better marketing linkage and motivating farmers to adopt sustainable production interventions. CDCs established different centres for training, experimentation and demonstration of good

agricultural practices and also identifying and developing region suitable agricultural practices and variety of cocoa. Further CDCs supported by a Mars-funded Cocoa Academy which was known as centralized field-training centre for sustainable agricultural practices and in business management. Cocoa development centre owned and operated by wholesaler (large cocoa buyers) and it supervise by local people who known as farmer facilitator (normally facilitator from agriculture education background). Unique feature of this model is they identifying potential local entrepreneurial farmers for running cocoa village clinic as a business oriented approach. The identification of these farmers is done by CDCs.

Extension approach through farmer field school: CDC also provides extension expertise and services for rapport building and being regular in touch with farmer through their cocoa doctor (local entrepreneurial farmers). At village level CVCs responsible for developing economically self-sustaining rural enterprises, with the technical help of CDCs. Cocoa doctor who run CVCs at village level trained by CDC in term of technical and business skills. Doctor demonstrates to local farmers about the financial benefits of applying an improved productivity package at their own farms. In this model men and women are actively involved in the management of CVC business. CVCs generate income from farm production by offering rehabilitation and agronomic services selling products such as seedlings from their own nurseries, fertilizers and farming tools and establishing composting stations for the benefit of other farmers and their clients. There is no fixed model of CVC, they are working as per specific need of their client and surrounding community. CVC run nurseries for offering improved planting materials to their across Sulawesi. It is the most successful aspect of this innovative model and it is unique from previous failed attempts that was, distribution of planting material through centralized, top-down institutional models. CVCs also provide administrative services like Certification programmes, operating an Internal Control System (ICS) managers, which may help farmers in future as an incentive for longer-term corporate investment through the CDCs.

In Indonesia, where cocoa production is continuously declining, and farmers leaving cocoa farming and adopting various other livelihood option. In this case cocoa buyers need some important and attractive intervention for encouraging cocoa farmer as well as farming. As a result, important stakeholders of cocoa value chain are motivated to invest in the establishment of CDC training centres as a means to ensure long-term supply sustainability. Generation of skilled employment within the CDCs and nurturing business opportunities through the CVCs respond to the changing social and economic realities of rural Indonesia. As the country

undergoes a profound agrarian transition away from agriculture, earlier they are selling raw bean now they are processed and sell. It is due to development of skill among farmers and export text policy on raw beans by the government. It is primarily the relocation of international, export oriented grinders to Indonesia that has reshaped the value chain in recent year towards greater domestic integration. New investments by Barry Callebaut and Cargill are encouraging enhanced integration up the chain and the forging of closer relationships with farmers. There is a great shift in cocoa marketing value chain and farmers across Sulawesi. They sell half-dried, unfermented cocoa beans to local village collectors, who then sell on to larger town traders and eventually either to large trading firms in the city of Makassar for export as raw beans or increasingly sold to the growing number of domestic processors. The study conducted in Polewali district showed that farmer received between 70 and 80 percent of prevailing world cocoa prices through new business model value chain. The institutional innovations of CDCs business model are indirectly related to the marketing of sustainably certified cocoa beans but also the certification schemes of CDCs provide an important conduit for linking farmers with corporate actors in the cocoa marketing channel. The CDCs approach of cocoa marketing business model utilized entrepreneurial farmers (cocoa doctors) as change agent of whole value chain.

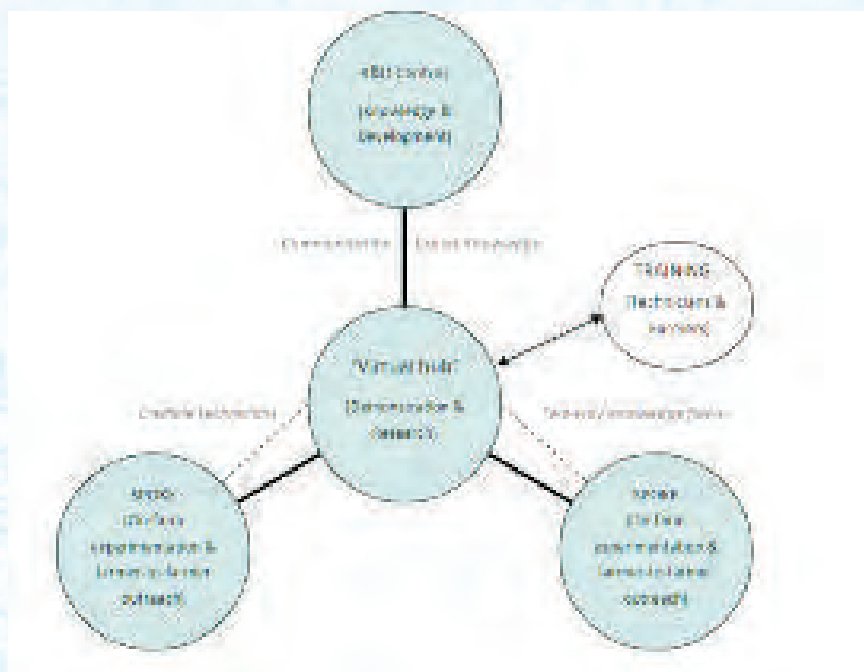


Figure 1: Virtual hub and Spoke Model

This model have been adapted to local conditions in Indonesia, and it can be look forward as aninstitutional model where sustainable farm practices can be developed in a partnershipbetween smallholder farmers and corporate actors in the value chain. Although, thechallenges are immense, the particular supply constraints found similar like global cocoasector provides. But an interesting set of circumstances that are encouraging such innovationsthat may indicate a likely future for various other agricultural commoditiesproduced by smallholders in the developing world.

Supply chain of Cocoa development centre:





Case 2. Linking producer directly to consumer: A Case of Ecuador's central highlands

Problem:

Major issue among the farmers in Ecuador is the dissatisfaction of farmers with the conventional market system in which they are having very less share in consumer rupee. Conventional marketing system gives them limited bargaining power and full price control power in the hands of intermediaries which leads to injustices treatment of farmers. Product prices are speculative and vary dramatically, while for smallholders, particularly indigenous ones, trading relationships are characterized by inequalities, discrimination and disempowerment. Secondly was the change in food chain system with the part of consumer and their dissatisfaction with the food quality, prices, and supply volatility. Today consumers want fresh and quality product. So consumers and citizens are demanding for new food policies and value chain that have closer ties between urban and rural areas as well as consumer and producer. This value chain movement is similar to the food value chain movement that took place earlier in Canada, the United States of America and Europe, which seek direct linkages between consumers and producers in case of consumption of local foods.

Solution:

With response to solve the above problem, number of direct market value chain access initiatives were put forward by the government, this includes family farmer approach, local farmer market, agro-ecological farmers' markets (ferias), farm shops, food circles, public procurement and box schemes etc. These models are linking farmer directly to consumer, it is an approach to develop an innovative concept of "alternative local agrifood networks", and it promotes very good relationships between producers and consumers.

Model:

"Alternative Local Agrifood Networks"

Developing direct linking between smallholder producer and consumer were totally new experiences and a major source of gaining knowledge about how they group will perform in fair trade and global marketing system. Along with this, what will be the impact of this direct linkage on economic, social and ecological sustainability, capacity building and the development of innovation in market. For identifying these issues two case studies were conducted on different groups.

- I. **Association Nueva Generation** smallholder association in the Tzimbuto community, and the box scheme consumer group Canasta Comunitarian Utopía. Association Nueva Generation is medium association having 52 families from the Tzimbuto community and it is mainly led mainly by women. It was established in 2005 and the objective of this association was to supporting its members' economically, enhances productivity and develop social and organizational initiatives.
- II. **Canasta Comunitaria Utopía** association since 20 years and it was formed by urban consumer of Riobamba city with the objective of vertical food price increase and economic crisis in 1990s. The total members of this association are around 100 families.
- III. **Fundación Utopía** is a NGO formed in 2000 with the aim of proper representation and dissemination of urban consumer interests in food and vegetable market through promotion of group approach.

The new consumer worries about quality of foodstuffs like pesticides used in vegetable and origins of such foods. Eko Rural, helps to build the rapport of rural community organizations. It involved in developing various relationships between producers and consumers as a result producer take care of consumer need and there food habit. Thus, in 2010, the concept of direct linkage between farmer and consumer was developed as an action research and learning approach. They development a box office scheme under this concept. Around 150 farmers started delivering products to this scheme. Some of them are regular delivered their product and are on different frequencies and the self-sustaining mechanism of this approach was direct negotiations between farmer and producer. After some time some other producer organizations and individual producers also joined this innovative approach. The number of consumer vary upon commodity, need of producer and area.

The Agreements between producer and consumer facilitating by some organizations. These formal organizations develop a number formal arrangements that currently help in governing negotiations and business opportunities in this model of direct linkage. This institutional arrangements for market access are therefore seen as highly innovative and workable. In the early stage many difficulties arise due to cultural differences between urban and rural families, limited experience of agro-ecological production and direct marketing in alternative markets. There is also an issue of coordination and organization of product and its collection, quality control and delivery of product. This issue force to rethinking about model and they find out common ground where relationships could be restored in order to

achieve a win-win situation in terms of profitability, equity and autonomy. A fundamental change in agricultural production system occurred at field level. Farmers planned cropping pattern and grow according to the demand of consumer. It leads to farm planning and improved delivery and quality control mechanisms

A significant impact of this approach access to new plant species by farmer and change in food habit of consumer. The major issue in this approach is pricing fixing of commodity for befitting both consumer and farmers. Price always decided based on wholesale market reference price. The economics and rationale of small-scale farming are not governed by management or cost criteria and consumers have no access to knowledge on how food costs are formulated. Farmer fortnightly delivering their product to the box scheme, they keep record like number and identity of participants, types of product, transacted amounts, producer prices and price of wholesale market for same commodity. For solving price issue some workshops, group discussion among members were conducted. The data on production and marketing costs for the main foodstuffs which are include in boxes also collected. Finally, they agreed on reference charges in each area for the use of such items as land, irrigation water, and farmer-produced organic manure, own seed and family labour. These information not only form base for price negotiations between farmers and Canasta Communitarian Utopia representatives but also served as an indicator for farmers of whether they were financial winners or losers in this direct marketing linkage model. Price information and its use from multiple perspectives is a major innovation in the context of market access for smallholders in this approach. The producer and consumer both are benefited through this approach. Even some the consumer said that they are ready to pay extra for quality product supply services, especially in case of organic or agro-ecological products. All the consumers highly valued the involvement of organized farmers' groups as suppliers of plants and agricultural products. In contrast to the top-down approach used in this systems with multiple intermediaries, the intermediary in this case did not promote external control mechanisms. A simple quality control mechanism develop as a consumer visit of production plots. This type of activity help in trust building between producer and consumer and consumer can see the how is produce and what is the qualities of this particular product which they are going to consume. They can also know the sources of food form where is come and what is the manufacturing process. It is also provide an opportunity to consumer learn more about rural reality and the importance of eating and supporting locally sourced foodstuffs.

Impact:

A survey was conducted in 2013 with 30 farming families and asked them what changes had occurred since they began delivering their produce to the box scheme. More than 90 percent said that major changes occurred in their production methods. They reported that farmer increased the number of crops planted and started growing of different vegetables and crop in their small holdings. A group of participants (60 percent) said that farmers now plan better, having mixed farming system, they eat more of the foodstuffs they produce, they are independent from market price fluctuations and have better marketing access option for marketing of their product. Consumer is well satisfied with the direct linkage scheme of box and major reason of this was organic/agro-ecological products" followed by "variety/quantity" and "quality" which they got from farmers.

Challenge:

For smallholders, collective sales of multiple products present unique challenges, including inequitable price dynamics, costs, the ability to deliver on time and differences in product quality, with the result that every producer and consumer not has same benefit or satisfaction. For a farmer selling a set of products, the overall balance may be the most important criterion, but not when a delivery necessitates dividing the profits among producers and by product, as in a box scheme. This is illustrated by a clear disparity in returns between women and men and by differing market opportunities for different products.



Fig 2: Linking producer directly to consumer: Ecuador's central highlands



Case 3: Cooperative model with PPP in Ghana

Problem:

The Kraft Foods Inc. private limited is the largest chocolate manufacturer and suppliers in the world. They face a serious problems in securing its supply of high quality cocoa beans especially organic certified from African region. The problems are cultivation of cocoa is time and labour intensive, cocoa trees are prone to pests and diseases and 90% of cocoa producer are smallholder's farmers. The major challenge before the cocoa producers is to maintain quantities and quality of cocoa i.e. continuously declining in recent years but there is consistently rising global demand for cocoa. There is only way to sustain cocoa supply chain with Kraft Foods was to work directly with smallholders to improve their situation and enhance production processes.

Solution:

Kraft Foods started working with smallholder farmers to identify major challenges in its existing supply chain and cocoa production with smallholder farmers. The major problem which they identified are low levels of knowledge about sustainable cocoa bean cultivation, its processes and marketing. Cocoa trees were affected by several diseases and pests. Inappropriate storage practices and high level of agrochemicals use led to pollution and health issues. Smallholder's farmers also faced some economic problem like insecurity due to volatile cocoa beans price and lack of proper representative of their interests through cooperatives. Distance to markets where they easily sell their produce also a challenge because Kraft food cannot reach them to purchase their product.

Model:

As solution of these issues, Kraft Foods decided to work directly with cocoa smallholders with the help of some partner organisations. It design several attractive solution for smallholders. They developed a cooperative with several partner organization. Through cooperative they provide market security to smallholder and said that cooperative would buy all their certified cocoa beans from farmers for Kraft food. For maintaining production standard they comply with the rainforest alliance. Kraft food also provide a transport services to bring cocoa beans from the cooperatives to the processing plants. NGO developed a farmer field school which provide knowledge about good agricultural practise in cocoa production. This institute also help in capacity building of smallholder farmers in different

area like development of basic business skills, techniques for managing smallholder cooperatives and enhancing linkage with cocoa value chain.

Operational mechanism and stakeholder:

The major stakeholders of this cooperative model is Kraft Foods. Along with Kraft Foods some partner organizations are Armajaro Trading Holdings Limited, Soft commodity trading company, GIZ, USAID, the Rainforest Alliance and the local Ivorian National Extension Service. These cooperative implemented as part of the market oriented promotion of certified sustainable cocoa production project (PPDC). Members (smallholder farmers) of these cooperatives were aggregated into six cooperatives and they collect cocoa bean at collection centre. Armajaro Trading Holdings Limited is buying cocoa beans from collection centre on behalf of Kraft Foods. GIZ and the Ivorian extension service provide education services through the Farmer Field Schools.

Impact:

Farmers learned improved cocoa production practices which result in increasing their production by 50 percent. They received higher price of certified cocoa bean that is around 6000/tons. Around 6,000 smallholder farmers were trained in good cocoa production practices according to the standard developed by Rainforest Alliance for sustainable agriculture through farmer field school. After joining project many of the smallholders decided to renew their certificate. As a result, Kraft Foods is able to collect source high-quality certified cocoa from smallholders for its chocolate industry which provide higher profits to Kraft Foods and protecting its reputation globally.

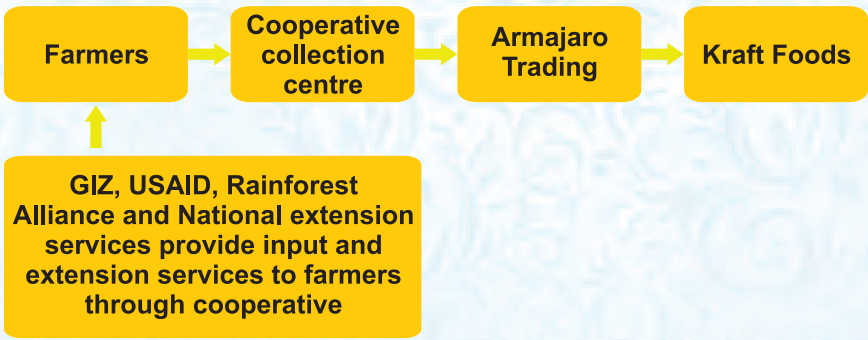
Fig 3: Major actor of chain PPP in Ghana



Value chain of cocoa:

Farmers received input services, training and good cocoa production practices through cooperative with the help of all partner organization. Farmer send their product to cooperative collection centre which deal with the buyer behalf of individual farmers. Armajaro Trading Company buy product from farmers behalf of kraft foods and collect product form cooperative collection centre. Farmer field school was act as an innovative institution for enhances overall knowledge of farmers in this model.

Fig 4: Value chain of coco





Case 4: National Smallholder Farmers Association of Malawi (NASFAM): Rural producer organization

Problem:

Agricultural sector in Malawi dominated by small and marginal farmers. These smallholders are still unprofitable and is characterised by low uptake of improved farm inputs, weak links to markets, high transport costs, few farmer organizations, poor quality control and lack of information on markets and prices.

Solution:

Collective action approach, organized small farmers in farmers organizations at ground level is the major approach for solving the problem of these small and marginal. Similarly, in Malawi the organized farmer group also make an association at national level i.e. national smallholder farmers' association.

Model:

Collective Action Approach: NASFAM

Farmer club/group/ association: It is a group of farmers with special interests and concerns with developed structure, formal membership, status and functions for its members and with a set of byelaws and rules.

History of NASFAM: Stepping stone of NASFAM was made in 1997 by 14 farmer group associations but it is formally incorporated as a registered farmer association on February 11, 1998. Slowly, farmers recognized the importance of farmer association and farmers started making association in different part of country. These farmer association feel the need of an apex body for managing and controlling all association uniquely at national level. Each association elect their representative for formation of National Smallholder Farmers' Association of Malawi (NASFAM) at national level. The vision of NASFAM is to lead smallholder owned business and development organisation in Malawi that promotes farming as a business, producing economic and social benefits for its members, their communities and the country. It is promoting and marketing of cash and food crops like chillies, groundnuts, cotton, rice, soya, paprika, tobacco, beans, cassava, and potatoes. It is democratically governed system by its members.

Membership criteria: Most of the population in Malawi depend on agricultural activity for their livelihood. In which more than 80 percent are small and marginal farmers. A person who having less than one hectare of land and support a family of six people should become the member of this

organization. Membership is open for both men and women, and NASFAM's gender programme ensures equal participation of both in farming and association leadership. The ratio of member crop production is divided into 60:40. It means members of this association should grow 60 percent cash crop and 40 food crop on their field seasonally.

Operational mechanism of NASFAM: NASFAM is organised into a unique extension network to support member farmers. It is totally farmer-member controlled system. At grass root level, the smallest operational unit of NASFAM is the Club. The club is made by 10 to 15 individual farmers. Clubs are responsible to form action groups and the action groups are the key points in the extension network for dissemination of information and services to members. Upper level, action groups combined made NASFAM Associations. NASFAM Associations are legally-registered entities, member-owned and managed by farmer Boards. The Associations are further grouped based on geographical location into Association Management Centres (AMCs). These AMCs provide management and operational support to the associations in terms of production, marketing and community development. At national level there is national assembly and national board of directors. The national assembly has direct link with general assembly. General assembly comprised of action committee and individual farmers. NASFAM functions are split into commercial and development activities. NASFAM commercial activities include the marketing of inputs to farmers and produce from farmers. NASFAM development activities deliver community development and capacity-building services to members. Both commercial and development units are governed and managed by a farmer board, which is elected democratically by the membership each year. NASFAM's policy and advocacy is guided by its policy platform. The policy of organization is developed in a participatory manner with all farmer members. Different issues that are related to smallholder farmer development are discussed in details and their major reason is determined. These issues are grouped into four pillars like issues related to access to markets, agricultural commercialisation, access to financial services and infrastructure development). The findings thereof are used to develop policy position papers/ briefs that are used for various advocacy and lobbying initiatives at organization and national level.

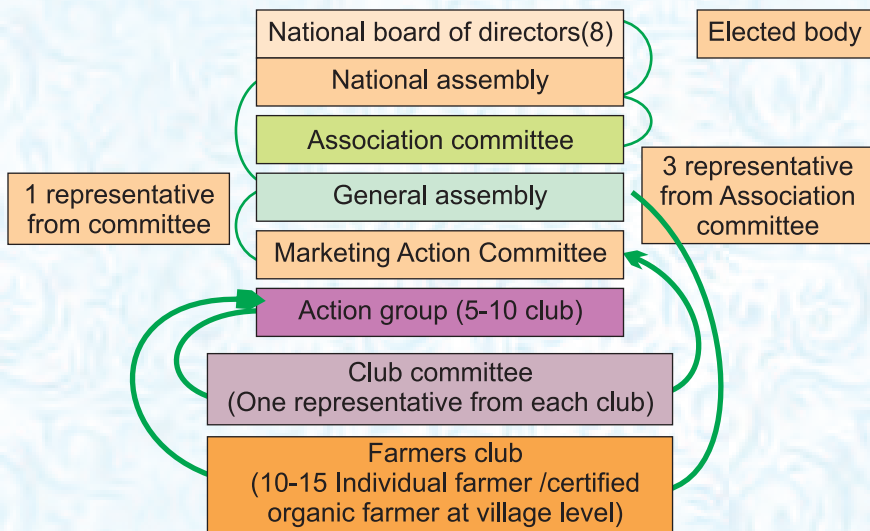


Fig 5: Organizational set up of NASFAM

Marketing channel of NASFAM:

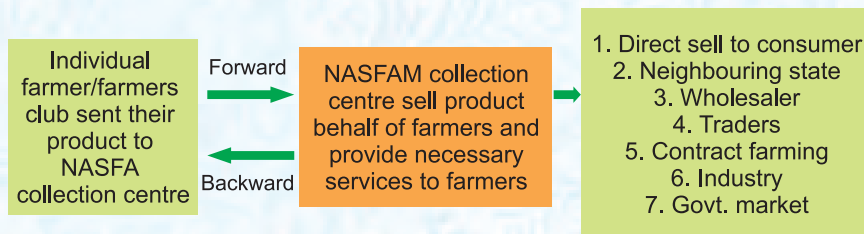


Fig 6: Marketing Channel of NASFAM

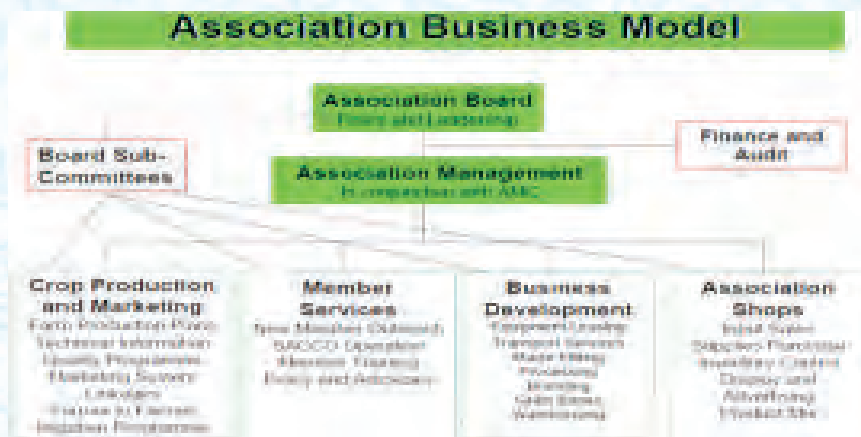


Fig 7: Association Business Model of NASFAM

Services of NASFAM to members:

NASFAM provides guidance and develop skill among members about how to organise themselves to farm business. For this they provide advice and technical support on crop selection and production, training on agronomic practices, access to inputs, field crop management, harvesting and post-harvest management. NASFAM services divided into two different unit i.e. Commercial Unit and Development unit. Commercial unit provide commercial services like improved access to output and input (e.g. seed and fertiliser) markets and expanding range of value-addition opportunities. Development unit provide different developmental services including comprehensive training support in best agricultural practices using conservation principles adapted to climate challenges, social programmes on gender equality, food and nutrition security etc.



Fig 8: NASFAM Association Programmes

Services are delivered through direct member contact supported by radio and ICT approaches and supported by active engagement in the policy arena. Both unit operations are divided between an independently registered for-profit company and a legally registered NGO and governed by a farmer board, which is democratically elected body.

Benefit of NASFAM:

- It reducing the transaction costs of marketing through collective marketing.
- It builds social capital among smallholder farmers.
- Some study show that member farmers got 33 percent improvement price (15.5 percent of the international price) compared non-members farmer who got 30 percent of the auction price (12 percent of the international tobacco price).
- NASFAM provide different alternative market to farmer for selling their product.

- Major role of this organization is they developed a women specific targeted approach, focusing on female farmers and addressing their constraints to market participation, such as access to credit, will have positive spill over effects for their household's welfare.
- It strengthens institutional linkages and extension structure in country.
- Lobbying government on their behalf by improving smallholder capacity to make direct impact and contributions to policies and programs that affect their livelihood.
- Commercialization of agriculture in Malawi (price setting), infrastructure (rural roads) and taxation.
- Successfully advocated for removal of Withholding Tax (WHT), hessian tax, and tax on some farm equipment.
- Stimulating farmers to share skills, knowledge and experience among each other.

Benefit of NASFAM at country level:

- Around 65% geographic area of Malawi cover under formal marketing through farmer organization.
- Reduced over reliance on maize and tobacco through promotion of a diversified crop portfolio for improved household food and income security.
- Processing and adding value to smallholder produce for retail – Rice and Groundnuts/peanuts.
- Entry into European Fair-trade system that is the big achievement of NASFAM.
- Credit for members from financing institutions.
- Successful representation on behalf of members on policy issues.
- Adult Literacy training to over 31,000 members.
- Infrastructure development – bridges, feeder roads, warehousing, office facilities in country for people welfare.

Challenge of NASFAM:

- Crop finance to allow associations buy adequate quantities in good time is not possible through NASFAM at large scale.
- Buying Centres facilities at the Association level are not adequate.
- Marketing/Storage facilities for whole NASFAM are not available up to the mark.
- High demand for further expansion of the Farmer to Farmer is not mitigate as per demand
- Providing business training to members and association staff is difficult and they not have facilities to update about new technologies and services as per global standard.



Case 5: Cafédirect model of new cooperative based PPP in Ghana and other African countries

Problem:

Coffee plays major role on Ghanaian economy and is a major source of government revenue. But due to coffee price unpredictability in market, small landholding size farmers and inadequate knowledge about cultivation, quality and quantity is decreasing continuously. This is continuously creating a negative impact on farmers interest and government revenue.

Solution:

Cafédirect Company developed cooperative producer organization in 1991. The main aim of this organization was to save smallholder farmers from rapidly falling coffee prices by Oxfam, Traidcraft, Equal Exchange and Twin Trading.

Model:

Cafédirect PPP model

With the aim of delivering physical positive impact to these smallholder farmer, Cafédirect as a part of its company develop a producer group and keep a producer representatives from group in their board of directors to ensure smallholders interests in business decisions. With the concern of provide good market accessibility, Cafédirect works exclusively with smallholder organisations and cooperatives. They believed that if cooperative is developed based on principles of voluntary membership and democratic control, it is effective mechanisms of community development. Cafédirect work worldwide in different country with 38 producer organization, representing more than 280,000 farmers. Commodity purchasing process of this organization is based on fair-trade principles of agreements. Company decide a minimum price of product in case of price falling of particular commodity with smallholder farmers. When price fall they will pay fixed price even in case of market price is less than fixed price. When world market prices rise above these minimum prices, the company pays the market price. In addition, they also provide incentive to members based on both quality differentials and quantity-based. They maintain long-term relationships with producer organisations through providing a secure market of their product.

Operational value chain:

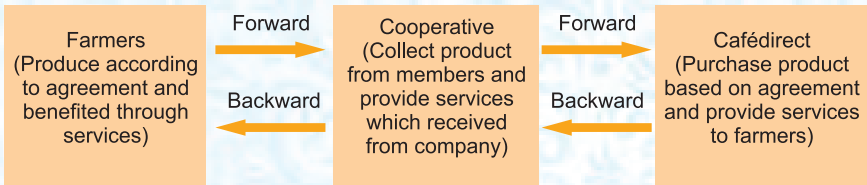


Fig 9: Cafédirect Operational Value Chain

The unique feature of this cooperative business model is that company (Cafédirect) committed with farmer cooperative to re-invest at least one-third of its profits. That is beyond from Fairtrade requirements. Company also developed a charity “Cafédirect Producers' Foundation” for providing other social services to members. Charity strengthen smallholders access to training, education and information services. The foundation is running through principle of by the growers for the growers.

Impact: Impact of this public private partnership can be seen from the growth of byCafédirect company growth in world market. By 2011, Cafédirect had become the UK's largest fair trade coffee company and the ninth largest hot beverage company in the UK with a turnover of €20m in 2011.



Case 6: Public Private Partnership In African countries: Contract Farming model

Problem:

Farmers of African countries face different agricultural problems like financial constraints, poor and inadequate access to inputs supply, lack of technical skills, lack of assured market and lack of support from government institutions.

Solution:

Government condition in case of agricultural development was very poor. They are not able to support agricultural production system without any support taken from outside agencies. The PPP model helps them to bring out with a solution as a contract farming model. Contract farming works as an institutional arrangement that helps them to get an adequate supply of input, credit, insurance, and provide an assured market for their product. Contract farming helps to improve the livelihood of African farmers.

What IS PPP

Public Private Partnership (PPP) is a long-term contract between a private sector and a government entity, for providing a public asset or service on the basis of mutual benefit, in



Fig 10: 3P (Public Private Partnership)

which the private party bears significant risk and management responsibility, and remuneration is linked to performance. Under 3P model many sub model is there in which Contract farming is one which highly successful model of PPP in developing countries.

Contract farming:

Contract farming is an agreement between farmers and processing or marketing firms for the production and supply of agricultural products under forward agreements, based on predetermined prices and services agreement between both entities. Contract farming has three major components of contract agreement between partners :

1. Market provision: Both partners (farmer & contractor) committed themselves for supplying and purchasing a specific contracted agricultural commodity.

2. Resource provision: The buyer committed to providing credit, inputs and technical services to the farmer as per agreement.

3. Management specifications: The farmer committed to follow all recommended production process, input regimes, and delivering the product as per agreement price and policy.

There is five basic model of contract farming existing particular in agriculture that are given below:

1. Centralized model:

It is a classical model in which a central contractor makes a contract with large number of farmers. This model have a high degree of vertical coordination among farmer and contractor. This allows farmers to strictly follow all the parameter like quality controls of the product and quantity which determined at the beginning of the growing season of product. This model is mostly used commercial crop like sugar cane, tea, coffee, milk, etc . These crops required a high degree of processing because the quality of the final product after processing is tightly dependent on the quality of the inputs used. In this model the contractor mostly are processing industry.

2. Nucleus Estate model:

In this type model contractor contract for purchasing product from farmers as well as contractor also invest in production activities through a plantation estate. This type model generally used in state government farm. Contractor reallocated agricultural land to former workers, ensures provision of raw materials for the processing plant but can also be used for research and breeding purposes and it is used more often for perennial crops.

3. Multipartite model:

This model is a multi-stakeholder. It is a joint venture established between an agribusiness companies and local entity. This is popularised during liberalization of agriculture in many developing country through the contract farming.

4. Informal model:

In this model a farmer may have verbal or informal contract with a small enterprise or small firm for one season. The contractor here has less economic and political power and cannot provide much supporting services to farmers. Vertical integration is very low. This model is useful for products which require a low degree of processing, such as sorting, grading and packaging.

5. The Intermediary model:

It is a mix of centralized and informal models. It involves at least three parties for contract a contractor (processor or trader), an intermediary collector (or

middleman) and a farmers. Then contractor first contract with middlemen and middlemen contracts with a number of individual farmers. This model have some limits for vertical integration. The processor or trader does not have a direct link with the farmers. Limitation of this model is main contractor have very little control over the production process.

Tables 1: Major contract farming model and their impact in African countries

S.No.	Countries	Commodity	Impact
1.	Indonesia	Poultry; Maize; Rice	Contracting improves returns to capital for poultry and maize seed, but not for rice seed. Contract farmers had 71% and 160% increase in gross margin for seed corn and poultry, respectively, over sample average.
2	Senegal	Groundnuts	Heckman selection model used to estimate increased income. Increases in gross agricultural revenues are 55% greater than average non-contacting farmer. Participation in contract farming associated with 39% increase in gross agricultural income over non-contract farmers.
3	Uganda	Coffee	Positive revenue effect for contract farmers compared to a control group on non-contracting Jones, 2009 farmers. With full information maximum likelihood (FIML) estimation, the average effect is a revenue increase of 75% in net coffee revenue relative to no contract participation.
4	Uganda	Cocoa	Contract participation increased real net cocoa revenue by 58% to 168%, depending on the econometric model used.
5	South Africa	Fruits Vegetables, Poultry	Contract farmers benefit from a seven -fold increase in income, significant at 5% level, and Poultry better access to services and resources and opportunities to participate in new markets. Participation remains limited however, mostly involving the better-off farmers.
6	Indonesia	Palm Oil	Estimated contract participation increased net household income by 60% (significant at the 10% level). Results show that while contract farming has a significant positive effect on smallholder income overall, poorer smallholders are less likely to benefit.

Source: World bank group

Limitation of contract farming

- Small land holding among the farmers is major limitation of contract farming.
- Conflicts between contractors and farmers is reason of failure of contract between them.
- Lack of trust between contractor and farmer
- Side selling by the farmer and manipulation of quality by the contractor
- Farmers face the risks of both market failure and production problems when he introducing new crop or variety as per contract
- Contractor may be unreliable or exploit the farmers through his monopoly position in market
- Poor management and lack of consultation with farmers may lead to farmer discontent from contract farming



Case 7: Vegetable Box Scheme in Cape Town, South Africa

Problem:

Mainly smallholder farmer live near the city Cape Town. Most of these farmers are women farmers, who are engaged in vegetable gardening at backyard or home gardens and community gardens in order to earn some money for their livelihood. But they not getting good price due lack of ensure market and appropriate market channel.

Solution:

The solution of this was to identify a organized suitable and innovative marketing strategy for Value chain development for their product. Same time they notice that demand of organic products are increasing in the city. Then they come with an idea to setting up of a marketing system selling boxes of organically grown, in-season vegetables and it should delivered to consumer on a weekly basis.

Model

Vegetable Box Scheme- participatory approach

This is a participatory approach; in this farmers are organized in small group as informal farmer organization. After joining they are trained in agribusiness systems. They have a simple contract to grow particular crops in a given size plot for pre-planned yields as well as pre-determined prices, to be harvested on targeted dates. All agricultural practices like quality control, harvesting, cleaning and bunching of vegetables will be done by farmer themselves. Staffs of marketing unit were picks up the vegetables from the farmer from their plot in once a week and deliver them to the packing centre, which is near to the Abalimi office. They have all necessary equipment which needed to process vegetables. They weighed the vegetables (to record the amount of vegetables delivered by each garden) and done the all post-harvest activity like washing cutting and packaging of vegetable. An equal number of vegetables are packed in each box. The core packing staffs consists of about five people, including Abalimi field staff. In addition, several producers work in the packing shed work on a rotational basis to learn about the entire process of processing and marketing.

They made two type box that is big box and small box:

Big Box: The big box contains between 9 to 12 different vegetables depending upon the season and costs of production. Standard vegetables

in the box are potatoes, onions, carrots, a salad pack and bean sprouts. Other vegetables, depending on the season, include tomatoes, green peppers, butternut, baby marrows, sweet potatoes, beans, peas, pumpkins, spinach, Swiss chard and beetroot. Boxes also contain a special and expensive vegetable, such as mushrooms, cherry tomatoes, red or yellow peppers, which are supplied by other farmers.

Small Box: The small box containing 6 to 7 varieties of vegetables. After the packing, the marketing staff delivers the boxes to the collection points, most of which are primary schools (about 15-20 in total) in the suburbs of Cape Town, but also some institutions and a retail outlet. Schools seem to be the best distribution places, as parents come for taking children home back in evening from school they also collecting food box as per their need.

Role of Abalimi society:

The major role of society was to monitors the sustainability of all gardens on the basis of several parameters which is pre-defined between producer and society. Based on predefined parameter they ensure that the producers are ready to become part of Harvest of Hope. They also developed production planning for each garden through a planning tool which shows foreach week of the year how much needs to be planted in each garden to obtain a certain amount of kilos per week per box. They plan 10 percent extra as surplus so they can able to cope with production loss and maintain supply regularly. Urban Producer Field Schools (UPFS, are part of the RUAF) help to train producers in several areas of production activity. All needed input and services provide through society. These are either free or subsidised, depending on the price of the input. Abalimi believes that subsidies and services are necessary for any farming activity nowadays especially for smallholder. As part of marketing strategy and developing relation with consumer they informed consumer weekly through emails, contact number. They also ask consumer to participate as a volunteer or join a weekly tour to the gardens and the pack shed to become part of the CSA activity. They also take consumer feedback on different perspective of their services.

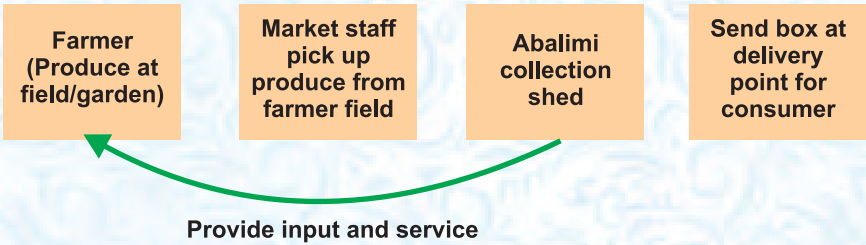
Impact:

This scheme help to access small-scale producers to a new market and is working towards the cooperation for creation of an alternative food system. It enhances the quality of life of poor communities in an innovative ways. It provides monthly income 3000 per producer from an average 500 meter square size plot.

Limitation:

The low level of participation of younger people may have sustainability implications in the long run. They mostly delivered their box at school, when the schools close during the holiday there is no alternative market outlet, so sale volumes can be very low.

Figure 11: Value chain-Vegetable Box Scheme





Case 8: E-commerce/marketing in Agriculture: new business models for smallholders in African countries

Problem:

Conventional marketing of agricultural product have a large value chain involve multiple intermediaries between farmers and consumers. Generally, farmer sells their product to local middlemen at village at low price without much bargaining about price of product. Farmers get very less price of product. Product before reaching to end consumer is pass through many intermediaries. Similarly, consumer also paid high price of product. In this process middlemen earned major share without doing much effort. So there is need to contact farmers directly to consumer through different value chain development.

Solution:

There were many options to develop a value chain to contact producer directly to consumer. In which E-commerce also a good innovation to quick and easy access between producer and consumer. Sometime due to large geographical distances between producer and consumer they cannot able to contact with each other. In this case the E-commerce marketing model help to develop a linkage between stakeholders.

Model:

E-commerce is process of electronic buying and selling goods or services or information. It is a way to sell and buy goods (and services) over the Internet. The main aim of this is to digitization of the different aspects of the agricultural value chain for minimize the value. If value chain is short in nature there will be more share of producer in consumer rupees. In agricultural sector e-commerce have a significant impact. The reason for this, is the supply chain of agricultural commodity mainly controlled by the middlemen. Maintaining perishable products is difficult task especially by the farmers. In case of agricultural product still consumer prefer to buy groceries in-person rather than online, given the inconsistent physical appearance of fresh produce, especially fruit and vegetables. Now, in the consumer market, online grocery store for agricultural product also started where we need to reach desirable product and supplier deliver it at consumer doorstep. Among digital platforms, mobile phone play significant role in many areas of the agricultural sector in developing regions for example mobile technologies are used to provide different valuable farming services to farmers as well as consumers.



Fig 12: E-marketing process

E-commerce platforms can enable farmers to eliminate middlemen and sell directly to consumer, retailers, and other customer groups. This leads to increased efficiency of the supply chain and generating fairer incomes, as well as a transaction history for farmers. Today E-marketing of agricultural product plays a significant role in market reform and becomes an innovative business model of agricultural marketing in different developed and developing countries. A grass root approach is adopted in online marketing that feels the pulse of the farmers and small businesses towards addressing their inputs and marketing needs by effectively partnering with all relevant stakeholders, and using our robust online platform to enable the farmers maximize utilization, derive full benefits from these available resources of our time for better marketing of products and for economic growth. As a result, E-commerce agricultural marketing has the potential to increase value chain efficiency and transparency, boost farmers' incomes and improve productivity levels over time.

Table 2: Growth of E-Marketing in African countries

S.NO.	Country	Status of E-Marketing
1	Tanzania	Ninayo connects farmers with large buyers. In mid-2018, Ninayo reported that revenues are on track to double for the third year in a row, breaking the \$100,000 mark
2	Kenya	Twiga Foods launched in 2014 with five delivery routes. By the start of 2019, it had expanded to 90 delivery routes, processing around 2,500 daily orders through a network of 17,000 farmers.
3	Indonesia	Eragano launched its Agri e-commerce service in 2015, selling a range of produce including coconuts, chillies and potatoes. It now has 7,000 active farmers and 25 large industrial buyers on its platform, served by 25 full-time staff and 50 agents. It plans to extend its service beyond Java into other regions of Indonesia that meet its expansion plans
4	Colombia	Frubana is an online platform that enables farmers to sell directly to restaurants in Bogotá. It launched in 2018 and served 200 restaurants in its first three months, providing ingredients for more than 1 million dishes
5	Gambia	FarmFresh launched in 2014 and accumulated 50 customers in the first few months. By 2018, the Agri e-commerce business served around 300 customers and had 20 farmers registered on the platform.
6	Nigeria	In April 2019, Nigerian agri-tech start up Farmcrowdy launched an agricultural commodities marketplace. This builds on the online platform it created in 2016, which connects individual investors to farmers through sponsorship packages that fund higher yields for a share of the returns. Farmcrowdy has empowered more than 12,000 farmers across 14 states.

Table 3: Impact of E-Marketing model in African countries

S.No.	Country	Services
	African countries	Esoko: Esoko was started in 2004 as an application from the Ghanaian software provider BusyLab, founded by Mark Davies. Esoko has been described as 'a simple sort of eBay for agricultural products. With Esoko, market information can be delivered automatically to mobile phones, specified by days, markets and commodities for which to receive prices, or commodities and locations from which one would like to receive offers. Agents and users can upload critical market data from their phones directly from the field and into their public or private networks. They do so by using a set of codes or a Java application available as a free download on Esoko. Registered users can also create and send SMS via the system. Already almost 800,000 price records have been entered from 10 countries, making this the largest SMS-based MIS system on the African continent. Over 12,000 registered users are profiled in the system, and almost 500 markets are covered. It is a PPP model.
	Uganda	Google Trader: A trading system under development by Grameen Foundation's AppLab in Uganda. It is SMS-based, with messages charged at twice the price of standard SMS. Although often mentioned as a promising project, the Google Trader website has been inaccessible for extended periods.
	Nigeria	Mobiashara: It helps to help farmer clients use mobile phones to order and purchase agricultural product, agri-inputs, such as fertilizer. Payment is made through one of the mobile money partners such as M-PESA, Airtel or MTN. The system also has a fertilizer inventory system built-in.
	Kenya	M-Farm: It provides pricing data to remove price asymmetry between farmers and buyers, making it possible for farmers to earn more.
	Ghana	Farmerline and AgroCent: Mobile and web technologies that bring farming advice, weather forecasts, market information, and financial tips to farmers, who are traditionally out of reach, due to barriers in connectivity, literacy, or language.
	Malawi	MACE: Some study on E-marketing using mobile services is finding that mobile phone usage in agricultural marketing by smallholder farmers in Malawi is positively and significantly enhances the, local market accessibility, current value of assets, crop income and provide real time market information to farmers.

Benefit of E-marketing:

- Identifying additional buyers and having multiple buyers available is advantageous to producers.
- Using market information to obtain higher prices and manage sale of agricultural product.
- E-commerce help smallholder farmers to reduce transport and logistics costs of marketing process.
- Better traceability, compliance with quality and safety standards through E-marketing.
- Buyer and seller can access everywhere in the world and it open for 24*7 for all.
- It removes all geographical limitation and distances from the practice of buying and selling.
- E-marketing helps in build rapport and strengthens relationships with customers and suppliers.
- E-commerce decreases the cost of creating, processing, distributing, storing, and retrieving paper-based information from marketing channel.

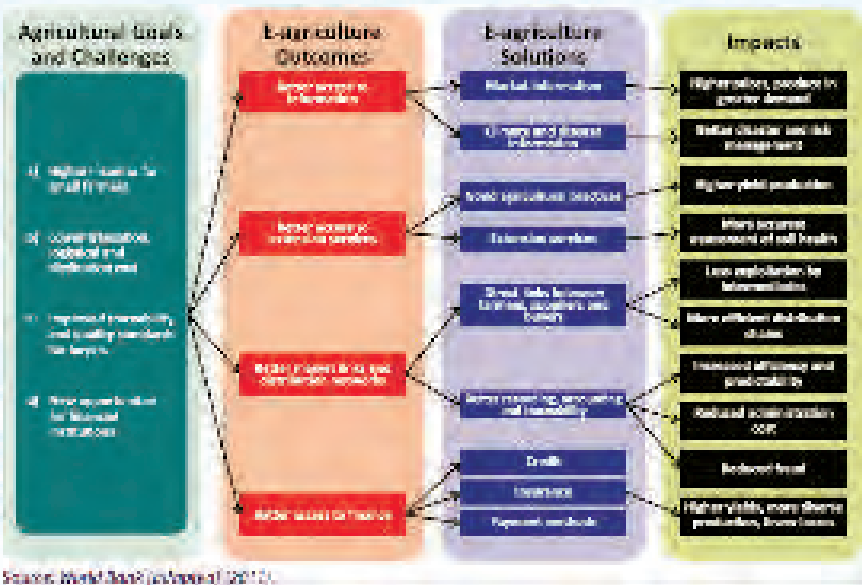


Fig 13: E-commerce/marketing model

Limitation

- There is a lack of system security, reliability, standards, and some communication protocols. Insufficient telecommunication bandwidth.
- Lack of trust between seller and customers in online trading.
- Lack of touch and feel online. Some customers like to see the product like vegetable before purchasing about the freshness and quality of product which may be they cannot see in online trading.
- Electronic commerce could result in a breakdown of human relationships
- Accessibility to the internet is still expensive and in many remote area it is not possible to access with internet
- Lack of online services in remote area
- Illiteracy among farmers also a big issue in accessibility of E-marketing process.
- Private and public corporation is not involved jointly to grow the business of e-commerce.
- In developing countries there is a culture of buying product by negotiating price with seller, which is not easily possible in case of e-commerce in developing countries because of lack of infrastructure facility.



Case 9: Farmer companies: A collective action Agri-business model in Sri Lanka

Problem:

The major issue of smallholding farming are low crop productivity and output due to less mechanization, low farm family income, low adoption of farm technologies due to small land holding etc. The prices of agricultural product which produced by small farmers have not get remunerative price. Sometime they are not getting cultivation cost of particular commodity after selling in market.

Solution:

The ministry of agriculture of Sri Lanka think to formulate an institution which helps small and marginal at ground level through collective action approach. With the help of FDI and NDC, government of Sri Lanka ready for formation of Farmer Companies in all districts under its new agricultural policy. These companies are help to solve the major issue faced by farmers like procurement of inputs, obtaining technology, value addition to their products and marketing. So farmer companies play major role in transforming small farmers from subsistence farming to commercial farming.

Model:

Farmer companies

Farmer Company is as a commercialized public/ private business firm run by farmers which is organized, managed and funded corporately by farmer shareholders themselves to provide and promote specialized technical and economic services and act as a legal business entity to do various business activities/services related to those areas for making profits (Senanayake 2002). Farmer companies are investor-owned companies established under the Sri Lanka Companies Act as people's companies. These are registered as people's companies to safeguard against possible private ownership by imposing restrictions on membership and share trading. The membership of these company is allowed only to farmers and other stakeholders involved in agriculture activity and they should living within a particular geographical region. The share is not tradable except among farmers eligible for membership. In addition, the maximum number of shares one can own is limited to 10% of shares issued at a given time according to the relevant provision of the act.

The farmer companies in Sri Lanka came into existence in the late 1990s, but the history of farmer companies goes back to the early 1980s when the government of Sri Lanka introduced the concept of people's companies. The EDB taken an initiative to establish Export Production Villages (EPVs) in the village with the aim of integrating the village level producers with the exporters. Farmer companies as a pilot project was started in Sri Lanka with the help of FDI and USAID under national agriculture policy program. Under this two farmer companies, Huruluwewa Farmer Company and Nilwala Farmer Company were established as pilot projects. In addition, the National Development Council (NDC), Department of Agriculture, Ministry of Irrigation and Mahaweli Authority also established farmer companies based on the people's company concept in the late 1990s. The most common approach adopted by the Department of Agriculture in establishing farmer companies is first the made interest groups and once this group sustain and become viable business ventures they converted it into farmer companies.

Operational mechanism:

The formation process of farmer companies and its organisational setup, can be understand with the help of a very successful example of Ridi Bendi Ela Farmer Company in Sri Lanka.

The Ridi Bendi Ela Farmer Company is located in the Ridi Bendi Ela and it established under irrigation scheme in the north western province of Sri Lanka. Ridi Bendi Ela is an old irrigation system since 1950's. It was established in 1998 as a part of pilot test of the farmer company concept with the aim of commercializing agriculture. In the process of establishing, Sri Lanka government provide financial and technical support to FC for initial three years. The shareholder of this company was farmer and they are mainly from 11 farmer organizations representing the irrigation scheme. To become the member of companies farmer should purchase and the value of share to be decided by company board of directors. In case of this FC they keep share value Rs 10 and the decided that if farmer want to involve in the activities of the farmer company, they should own 25 to 40 shares. Shareholders have increased from 430 in 1998 to 2,234 in 2004, and about 80% of the total 2,796 farming families living in the irrigation scheme are already shareholders of the farmer company.

Company have seven farmer directors which are elected by the members of Ridi Bendi Ela Farmer Company. The directors are elected on majority vote and one director is elected as the chairperson by the entire elected director. They also have Board of Directors (BOD) which is supported by an externally recruited management team headed by a general manager. The

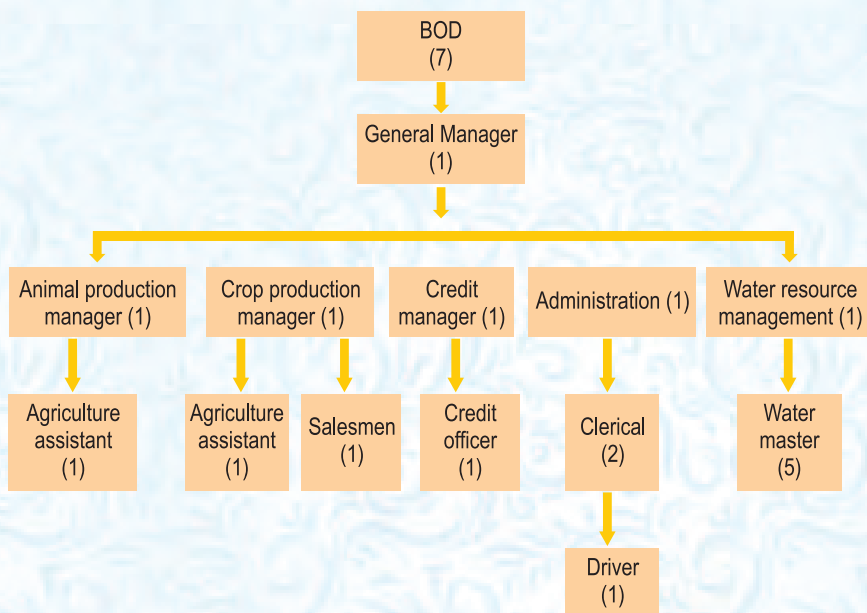
general manager of the company is the Chief Executive Officer (CEO) and he is professionally qualified officer appointed by the board of directors. The general manager is responsible for all the activities in company. The board of directors look after the functional organizational structure in company with several sections such as agriculture, livestock, credit, administration and water resources. A professionally qualified officer heads each of the five sections. Out of the five sectional heads four are university graduates. The company has 18 employees working in various capacities from general manager to driver.

Establishment of FC follows five steps:

1. Venture seeking stage
2. Company formalizing stage
3. Market link building /expanding stage,
4. Strategic Planning for long-term sustainability
5. Sustainable business operations (high degree of autonomy and self-reliance).

The structure of the FC consisted of three partners that are shareholders, board of directors, and body of management.

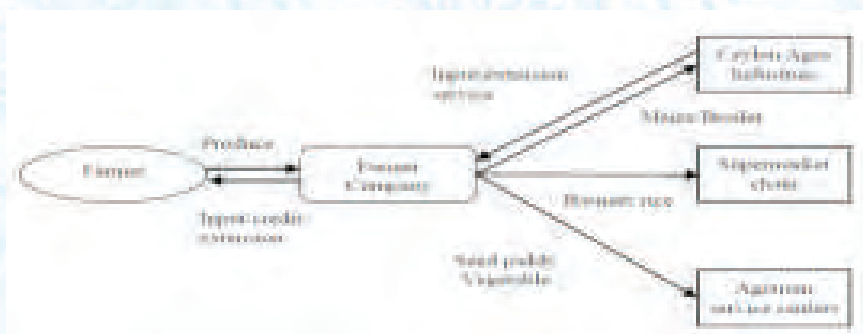
Fig 14: Organization structure of Ridi Bendi Ela Farmer Company



Major activities of Ridi Bendi Ela FarmerCompany are:

1. Company focus on commercialization of smallholder agriculture system and enhance farmer income
2. Group loan program for small and marginal farmers
3. Irrigation management

Fig 15: Farmers-agribusiness linkages in Farmer Company:



Major role of FC:

1. **Produce to market:** Encourage farmer to produce demand driven high value products. Thus, some FCs engaged in demand driven high quality rice varieties, chillies and potatoes.
2. **Input supply:** Many FCs involve in selling good quality fertilizer and agro-chemicals at low interest rates. Thus, shareholders or member farmers get discounted price lower than the market price.
3. **Partnerships with the organized private sector:** FCs maintains regular contacts with organized private sector to find out market opportunities. Thus many companies made contacts with companies involved in various kind of export processing and selling in advance.
4. **Credit supply:** Many FCs provide credit facilities to members at low interest rates and credit in kind.
5. **Mobilizing investment:** Raised company capital from equity shares to member farmers and from funds provided by the government and stakeholders. Minimum value of each company share is Rs.10/= and it varies up to Rs.15/=. Each member should purchase at least 10-100 shares.
6. **Maintain Credit worthiness:** Since many FCs receive loans from commercial banks, most of the loans should be settled on time.

7. **Providing Technology:** Many FCs involve in provides market information to shareholders, training shareholders and members on new techniques of production; conduct demonstrations on new high yielding varieties and introduce low cost cultivation methods and farming practices.
8. **Product diversification:** Since product diversification is one of the most important factor in commercial agriculture, many FCs involve in diversifying production by introducing value added products and high value crops.
9. **Business management:** All FCs should initiate program to promote small and medium farmers / producers for Agri-business. However, some FCs was unable to initiate or forward business contacts due to lack of experts for marketing and business development.

Major constraints of FC:

1. **Political influences:** Even though FCs were formed by government organizations, they are dominated by the politicians. Some FCs was formed by the politicians.
2. **Low participation of member farmers:** It is seen that many shareholders are notactively involved in decision making, planning and program implementation.
3. **Lack of entrepreneur skills:** Management of many FCs consist of political appointees and they are not trained to bear the risk of business in order to compete with private sector.
4. **Lack of coordination among stakeholders:** Even though, establishment of FCs is a grouping of traders, officers and farmers, these parties are not actively involved in business activities.
5. **No systematic approach:** Many FCs have not followed the process of establishing FCs discussed and consequently they are faced with immense difficulties in implementing business plans.
6. **The needs and priorities:** Though the establishment of FCs should base on needs and priorities of farmers, many FCs are based on priorities of officers and implementing agencies.



Case 10: Farmer hub: A business model for market access in Bangladesh

Problem:

Most of the farmers in Bangladesh are smallholders. They face many problems like lack of access to market, absence of storage facilities, middlemen, high transportation costs and of access to quality inputs and machinery equipment.

Solution:

Farmer Hub, a programme was initiated by the Syngenta Foundation Bangladesh (SFB) in 2013. They develop this model for providing support to small and marginal farmers mainly for vegetable farmers in all stage of value chain including production to marketing. Main aim of this model was to increase productivity and quality of the product, help in providing remunerative prices to farmers of their produce and also provide assistance and support to the both the farmers and the traders.

Model

Farmers' hubs

The reason behind development of farmer's hubs in Bangladesh was to establish a centre point for aggregation of the agricultural produce of the smallholder and community farmers in different areas. These aggregation points have provision for support and assistant to farmer as well as traders in all marketing related activity. It also provides backward linkage facilities to farmers for enhancing their production and quality of product. Each farmer hub have 500-1000 farmers and they all are link to 10-20 buyers, including medium to large traders, agro-processing and export companies. They serve as an aggregator for input buying and output sales as well as a provider of agricultural know-how and machinery. Farmer hub also provides storage facilities for storage of farmer product which increasing bargaining power of farmer. The Hub also provides regular market information on the price of the produce, thereby reducing the price discrimination that farmers face when interacting directly with traders in the market. Farmer hubs have good agricultural equipment facilities and they provide it to farmer on rent basis. It is a social enterprise but these types of hubs can be opened by private enterprise and they can provide services to famer on charge basis. If any local entrepreneur is interested to open this type centre in Bangladesh, SFB provides the bulk of the capital. The SFB Farmers' Hub programme was initiated in 2013 and branded as "Krishan Bazar". The overall effect is a

rise in farm yields and income. Buyers benefit from product aggregation and reliable supply. Finally farmer hub is a centralized facility that serves as an aggregator for both input buying and output sales, as well as a provider of agricultural know-how and machinery rental services to farmers.

How it work:

Farmer hub working based on collective action approach. Farmer produces vegetable and sends it at aggregation point of farmer hub. There hubs already have access with trader, wholesaler and industry behalf of farmers. The only provide facilities to contact with buyer but farmer's product is sold by farmers themselves to buyer. Buyer pays fees for using services of farmer hub. The benefit of buyer to participate in farmer hub is that they can save the transportation cost as well as getting good quality product in bulk at one place. Farmer gets technical and extension services benefit which is provided by farmer hub to farmer. So both farmer and buyer are benefit through farmer hub. Farmer hub generates revenue through fees charge for their services from buyer and rent taken from farmer on their equipment supply.

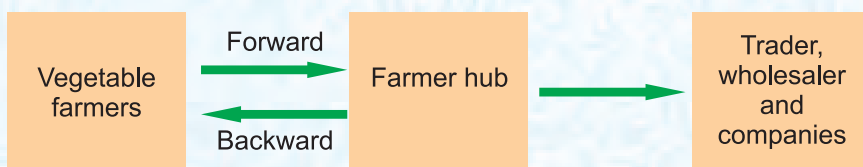


Fig 16: Linkage of farmer-farmer hub-buyer in farmer hub model

Services of farmer hub:

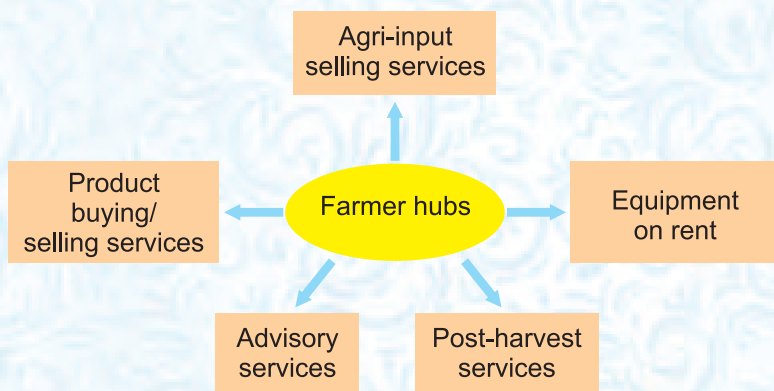


Fig 17: Services of Farmer hubs

Benefit to farmer hub operator:

Farmer hub earns revenue through their services which provide to farmer as well as buyer. They earn 60-80% of their revenue by trading farmer products, 10-20% from farm inputs sales, and 0-5% for machinery rental and post-harvest handling of their total income. Their farmer training and advice is free to all farmers who sell product through farmer hub.

E-Farmers' Hub:

Digitalization of farmer hub/ICT is called E-farmer hub. It is a mobile, digital platform, designed to help entrepreneurs keep track of daily transactions while enabling the Syngenta Foundation for Sustainable Agriculture (SFSA) to monitor progress in real time. This technology facilitates the smooth management of Farmers' Hubs (FHs) – agricultural input-output marketplaces for smallholder farmers established in Bangladesh. The project was initiated in Bangladesh in 2017 and currently it working in all farmer hub of Bangladesh. E-Hub consists of a mobile application and a reporting web dashboard. FH owners use the mobile app to enter transactional data, generate invoices, receive credit alerts, view cash flow reports and compare prices across hubs.



Fig 18: Digitization of Farmers' Hub

Meanwhile, the FH Franchisor, as well as SFSA management, enjoys the flexibility to see data from various hubs in real-time, run cross-comparison analysis, track location, and assess overall performance. Furthermore, this platform enables SMS messages to be sent to the farmers' mobile, alerting them to crop management advice as well as market information. The app is available on Android and is capable of functioning offline, printing invoices

and essentially serving as a point-of-sales system. A dedicated call centre also provides round-the-clock technical support to FH owners. Light Castle Partners, a tech-enabled consulting firm based in Bangladesh, works as the partner for this initiative. SFSA aims to expand the platform to other countries and keep on building innovative technology solutions for the development of FH.

Benefit of business model:

- Impact study of farmer hub model show that farmer who associate with model increased their profitability between 3% and 43%, whilst non-associates increased theirs by 3-15%.
- Average household income increased 52% or by \$404/household for members farmers
- Another study also show that yields of associated farmers increased by 25% on average, whilst comparison to non-associated farmers whose yield by increased 13%. In case of income, farmers who members of FH enjoyed a 25 percent increased yield and a 34 percent increased income (USD 488).
- More than 20 agricultural technologies have been disseminated through these FHs and farmers' adoption rate is about 80 percent
- The importance of market access is reinforced by an analysis which shows that those associates who sell over 70% of their produce through the hub are significantly more profitable than those who do not sell through the hub.
- Farmers' Hub owner has earned an average of USD 3,282 with the average ROI of 26.42%. That equates to around \$6/ associate farmer assuming there are 500 farmers per hub.



Case 11: Precision Agricultural Marketing model in China and USA using IoT (Internet of Things)

Problem : Agriculture land holding in China is characterized by small, marginal and scattered farms. In rural and remote areas of People's Republic of China (PRC) of China farms are not organized particularly marketing of product by farmer cost them at high price. Most of the youth leaving agriculture and moving toward city for alternative job option because they feel that agriculture is not profitable.

Solution : IT sector play a great role in in the integration, transformation, and upgrading of the PRC's rural economy, especially in the agriculture industry chain. It not only provides smart technologies for agriculture but also explore good agriculture related business. Due to precision agriculture practices through IoT youth again attracting toward agriculture as a good business option in rural areas.

Model :

Precision agricultural marketing model - IoT

The Internet of Things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. The application of this technology in agriculture marketing have significant both for farmer as well as consumer. Use of IoT in agriculture marketing is unique and become a business model for different developed and developing country.

China developed a business model of agriculture marketing called internet plus agriculture program in PRC region. They also developed some agriculture information service stations for enhancing application of IoT in agriculture marketing in villages. These station called "Farmer Friendly Information Station." According to the ministry of agriculture China, around 80000 village information services stations will be opened by 2020. Aim of these centre to educate the farmer about IoT and sell their product through this platform. Individual farmer cannot adopt this model because agriculture product which sell through IoT model required some standard in production, processing, packaging, and branding of particular product. So farmer need to make organization or collective action approach like producer organization and cooperative society. Instead of dealing direct with farmer, IoT business model work with organization to handle the production and supply side of online sales. The e-commerce model promote farmer to come with an organization through collective action approach. This approach facilitates farmers' participation in the Internet Plus agriculture program.

Internet plus agriculture based agriculture marketing model :

China develops a three tier internet plus e-marketing model. These include counties, townships and villages' level. They also developed logistics

delivery system of agriculture product in rural e-marketing model. The three tier system include county service centre at county level, township service stations at town level and village service sites at village level. Major role of county services centre are to provides public services, corporate incubation, technology training, product demonstration, and brand marketing. Role of township service stations are development of transitional link, resource coordination post, logistics reception, and dispatch units. The function of village service sites are information collection, production supervision, and convenience services. Villagers can now buy and sell product, production tools, and other goods through e-marketing. Purchased goods will be delivered to the service facilities and it provide product tractability system to consumer. Villagers can sell their own agriculture produce at these facilities. The aim of internet plus agriculture is to provide value-added services to agriculture production, improve rural life, changing consumption patterns, and enhancing the efficiency of agriculture-related supply chains in rural areas. Internet plus in agriculture is totally based on data related to different agriculture product. Through the collection and analysis of information on agriculture production, processing, storage, trade, distribution, and other processes, the agriculture marketing can be managed better by IoT system. IoT model also help maximize the production capacity, reducing risks and transaction costs in marketing and improve the efficiency of agriculture production system. This model required appropriate hardware and software facilities with a systematic linkage throughout the agriculture production. Information related the production, processing, transportation, and distribution links of particular product are collected and send into databases. These databases are processed by use of software and hardware system which is based on IoT or mobile internet.

The major stakeholders of this model are internet plus organizations, service providers and business models, consumer and seller. The application of IoT play a significant role in following area of agriculture marketing process like establishment of e-commerce platforms, business models, restructuring of agriculture logistics system, provide extension and coordination services to farmers, quality control and coordination through traceability of product flow from farm to fork.

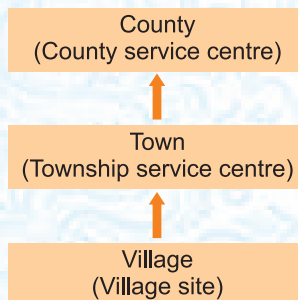


Fig: Hierarchy of internet pulse model

Operational mechanism of internet pulse agriculture:

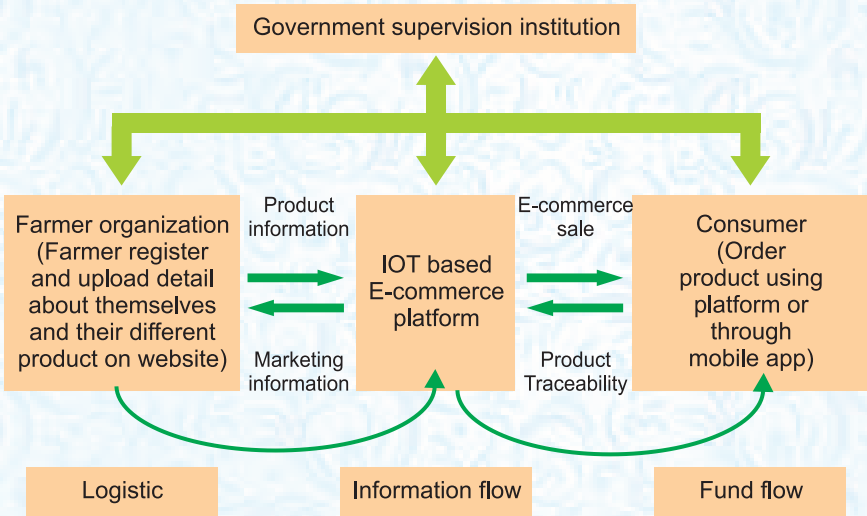


Fig 20: IoT agricultural marketing platform

Benefit of internet plus agriculture:

- Expanding Sales Channels for Agriculture Products
- Incorporating High-Quality Production and Traceability System in Farms
- Including Farmers into the Whole Agriculture Industry Chain
- Promoting Brand Building of Agriculture Products
- Application of IoT in agriculture sector help in transforming and upgrading many traditional industries into modern production modes, thereby enhancing productivity and efficiency of agriculture.
- IoT make distances smaller, time periods shorter and information more symmetrical which help in providing real-time and reliable information on agriculture production and promote both local and global sales of high-quality agriculture products.
- It help in opening new opportunities for youth in rural entrepreneurship and innovation development and motivate young people to actively engage in agriculture e-business venture.
- IoT platform connects small farmers of rural areas to the modern economic system through their electronic model, which are more cost-effective and efficient channels for selling their agriculture products and increasing their income.

Success story of IoT model:

Success story-1

The fragrant-type melon of Bachu in People's Republic of China (PRC) region is well known for its good quality. Due to lack of market information, Bachu melons and other local agriculture products are mostly sold in nearby markets on less price. During harvesting season prices of melon and other good are low. Farmer store some part of their product for selling when price of particular product increases in market. Unfortunately, melons are highly perishable commodity and lots of these melons are rotten during storage. People engaged in contract farming through rural Taobao of Alibaba. They started customer-to-customer online marketing of agriculture product using Alibaba online platform. Through e-commerce access, the melons of Bachu district become as a brand name "Bachu Fragrant Melon" and it provide a great strength to local people. Now plantation, production, and sales of melons in Tangnuer district, Yingwusitang village, Bachu are directly connected with consumer with all over the country. They deliver their product with the collaboration of Jiuye Supply Chain Management Co.Ltd. for its cold and Segmented Supply Chain logistics. The shipment and distributor of melons occurs at cold storages located near the farmer places, which help in reducing the wastage rate of melons from 10 percent to 3 percent and make easy and timely delivery within 48 hours. In addition to this, big data technologies through IoT system helps to the e-commerce merchants about the current demand of consumers for fresh agriculture products in the region. This information help seller to either export the fresh agriculture products to the region's trading capital or set up warehouses in different city market for shipping the fresh agriculture product to consumer.

Success Story-2

Dili agriculture products trading platform developed in Shouguang city for use of an electronic settlement system in logistics of agriculture products and for covering the whole range of trading transactions system. Through system they standardized the transaction process and made it more transparent, convenient and efficient for the both, sellers and buyers. The logistics system works step by step like when customers entering the park, they will register their relevant information in the settlement centre. Centre handles the market transaction card. The integrated circuit cards or IC cards (sometimes called smart cards), are bought and paid by customers in advance at the settlement centre. Inside the logistic park, buyers and sellers are free to negotiate the prices of goods. When they have agreed on the price, goods are weighed and the buyer's IC card is placed on the card reader sensor, which reads the transaction information like total weight and total amount to be paid. If everything is in order, the payment button is pressed to complete the transaction. The buyer's payment is automatically transferred to the seller's account. Meanwhile, the transaction fee charged by the logistics park is also automatically transferred through the card. During the time of exit, buyers present their purchase orders to the park management personnel, who check and release these orders. This makes the marketing process easy, less time consuming and transparent.



Case 12: Revolution in Agricultural Marketing through E-commerce In China

Problem : The major problem faced by Chinese agriculture and its marketing are difficult product sales through conventional method of marketing on remunerative price, high production cost, Industry is not competitive, low benefit in agriculture and young people are not willing to specialize in agriculture due to its traditional approach of production and marketing.

Solution : In order to solve the problem of agriculture and attracting rural youth through smart agricultural production and marketing practices, Chinese government has taken many steps in which one of the important measures is to encourage the use of information and communication technology, especially e-commerce to develop agricultural marketing and entrepreneurship among rural youth.

Marketing through E-commerce

Sharing business information, maintaining business relationships and conducting business transactions using computers connected to telecommunication network is called E-Commerce. From agriculture marketing perspective, E-commerce in agriculture marketing is using the electronic or IT platform for selling and buying the agricultural services and product even across the state and global boundary. Several models come under e-commerce marketing system in which some major are discussed below:

1. Business-to-Consumer (B2C) : In this business-to-consumer e-commerce model, buyers sell their online goods to consumers who are the end users of their products or services.



Fig 24: Business-to-Consumer (B2C)

2. Business-to-Business (B2B) : In this model companies sell their online goods to other companies without being engaged in sales to consumers.



Fig 25: Business-to-Business (B2B)

3. Consumer-to-Business (C2B) : Through this model consumers usually post their products or services online on which companies can post their bid and purchase their product.



Fig 26: Consumer -to- Business (C2B)

4. Consumer-to-Consumer (C2C): In this model consumers sell their online goods to other consumers.



Fig 27: Consumer -to-Consumer (C2C)

Advantages of E-commerce:

- Buying/selling a variety of goods and services from one place to another.
- Anywhere, anytime easily transaction and selling.
- Can look for lowest cost for specific goods or service in global and regional market.
- Businesses can reach out to worldwide clients can establish business partnerships in global market.
- Total marketing cost can be reduced
- Electronic funds transfer faster than offline payment system.
- Supply chain management is simpler, faster, and cheaper using ICT in marketing.
- Seller and buyer both can order from several vendors and monitor supplies according to their need.

Disadvantages of E-commerce :

- Electronic data interchange using EDI is expensive for small businesses
- Security of internet is not very good - viruses, hacker can attacks on e-commerce

- Privacy of e-transactions is not guaranteed
- E-commerce de-personalises shopping
- Lack of internet connectivity and knowledge about e-commerce among the customer and producer.
- Lack of trust about product which will purchase through online system also a big problem especially customers.

Model

E-commerce in China - Agro Taobao village

China reported an excellent growth in world E- marketing and become the world largest e-commerce market. They develop several e-commerce marketing model in agriculture and allied sector and their beneficial effect also appeared in rural China since the mid-2000. After seen these impact of marketing growth in e-commerce market government of China has promoted the investments and establishment of special e-commerce zones, such as the China Hangzhou Cross-border E-commerce Comprehensive Pilot Area (Hangzhou is widely considered to be the e-commerce capital of China). Many e-commerce marketing platform developed in china and they are working in several areas of marketing. The major actor in the Chinese e-commerce market is Alibaba. Alibaba develop an online platform known as Taobao (Chinese: approximate English translation: “digging for treasure” or “treasure hunt”) is a Chinese online shopping website and ecommerce platform, headquartered in Hangzhou, East China. It is founded by Alibaba group in 2003, along with another website Tmall. Both facilitate Consumer-to-Consumer (C2C) and Business-to-Consumer (B2C) retail marketing in china market by providing a platform for businesses to small, marginal, large as well as individual entrepreneurs to open online stores in rural and urban areas.

Alibaba group help in rural development in China through establishment of Taobao villages and Chinese government also support this as a potential solution to reduce the growing urban-rural divide and farming sector development. Taobao villages contribute to the economic development of rural areas in China, they need to be supported, especially because of the contradictions between the typically low-cost mode of production of most goods sold in Taobao shops and the priorities of local governance. Support from government like Taobao shops pay almost no taxes, they often do not apply basic labour and safety standards and most of them should operate informally and the workers therefore rarely have social security. According to Ali research they define the Taobao village is a village in which a large number of online merchants co-exist in a village and they are doing business mainly through Taobao.com, depend on the Taobao ecommerce ecosystem, and achieve economy of scale and synergy.

They also meet the following three criteria to qualify as a Taobao village:

- i. Merchants are registered as residents of the village and conduct business in village
- ii. The annual ecommerce GMV should be no less than RMB 10 million
- iii. The number of online merchants registered at the village should be not less than 50, or at least 10 per cent of the village households.

Till 2017, Rural Taobao has established its presence in 29 provinces, covering more than 600 counties and 30,000 villages, according to Alibaba report. Today it becomes largest online platform in china. The unique about this model is that it is particularly for rural villages where traditional agriculture or handicrafts dominate livelihoods and they are not able to sell their product in larger market. Rural Taobao provide them platform for selling their product in national and international market. There are many example of rural Taobao village which is helping particular in agriculture marketing development in China. Villagers in Shuyang, a county in rural Zhejiang, started marketing of vegetables and other specialized agricultural produce through rural Taobao. Shuyang sits on a north-south junction, enabling producer to produce and sell vegetables and fruits that are suitable in their climate and according to the need of national market. Earlier they are producing some of the product according to their local market demand. This advantage was only by their use of Taobao platform and the greatly expanded market that was available through e-commerce. Shuyang vegetable market is the best example of e-commerce in agriculture marketing through this model. Taobao village platform also help in growing demand for healthier organic produce at affordable prices in china market. Through this model sellers no longer need the middle man and they can reach market directly.

Taobao village model:

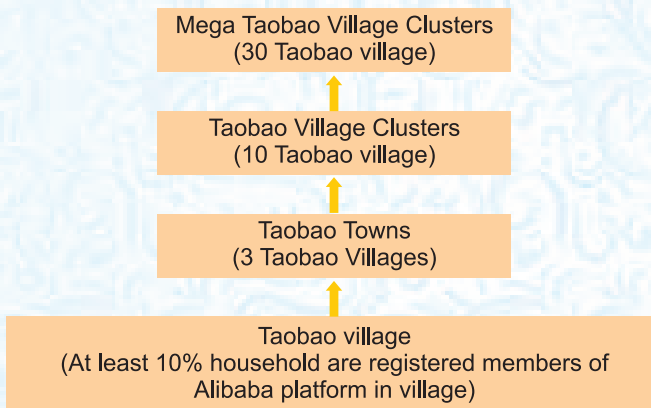


Fig 28: Hierarchy structure- Taobao Village Model

Operational Mechanism of Taobao village model:

Major aim of model is profit making from online selling. The model based on a new approach which is businessmen +electronic businessplatform+family workshops+modern logistics and transport system approach. The models are supplychain-driven, marketing-driven, product-driven, and service-driven. Particular for agricultural product B2C has turned into F2C model (producer supplies goods directly to buyer or consumer), C2B model and C2F model (which make orders for goods in farm). Through observing B2B, some novel models of E-commerce have appeared like online futures market, the bulk commodity market, and E-trade spot market etc. Business process in Taobao villages is similar to any other private sector enterprise. The required an online platform for selling their product which provide by Alibaba. Some people already known about online marketing but some of them required skill, business savvy, and resourcefulness for operating Taobao villages shop. For providing necessary skill Alibaba group opened an own training camps for e-commerce entrepreneurs training a local county training sessions. Training centre divide into two tracks: one for entrepreneurs, and one foremployees who fulfil essential but non-managerial tasks supporting online stores. Government also support to providing necessary facilities in rural areas like road connectivity and internet facilities in rural areas. Taobao villages are connected with other village as well as in their upper hierarchy level for selling surplus product to each other in different market. They are also help to each other in different ways like resources sharing, marketing, price fixation and rule and regulation for successful operating the Taobao villages. E-platform is provide direct linkage between producerand consumers, and can reduce the previous information irregularity in marketing of agricultural products. Main unit of production is family workshop. Family workshop closely links with farmer for mobilizingfamily members, production enthusiasm with members and specialized rational division of labor. Modern logistics and transport system is a key point for success of this model.

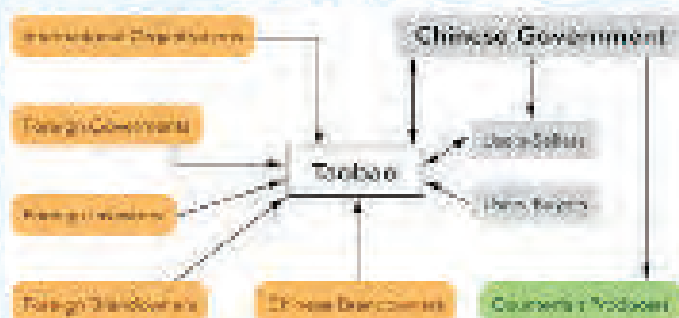


Fig 29: Relationship of Taobao villages with other stakeholder

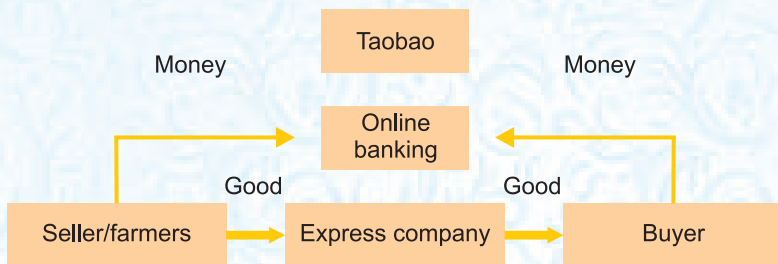


Fig 30: Taobao supply chain

Seller : They control good. After confirmation of customer order seller contact with respective company and asked for deliver the product as soon as possible.

Express company : After confirmation and receiving product from sellers the company deliver the good to buyers.

Buyer : After receiving good buyer check and payment if it is cash on delivery option.



Fig 31: Online marketing portal and management system- step by step self-learning process

Vegetable market in Shandong region of China adopt online marketing through Taobao platform and called Shandong Shouguang vegetable trading market online (SSVTMO). The market is industry and commerce administration department and approved by Shandong local government. Market are jointly organized by Chinese vegetable circulation association, Beijing gold net & tech Information system co. Ltd. and Shouguang chenlong investment consulting co., ltd. Shandong is hub of chinees vegetable production area and it is the first national maximal vegetable trading online market in china. Shouguang vegetable trading market online is an integralsystem which have of different subsystems:

- 1. Vegetable information publishes system :** Major focus of this system on gathering information, analysing information and releasing information of vegetable. It also responsible for forecasting information

of fresh vegetable in region and releases the information of current price and price trend of vegetable in local and foreign markets, in order to meet the supply and demand of vegetable. Market association formed already price of different vegetable that have big influence on international and domestic market.

2. **Transaction system** : Markets have visual digital transaction system. They include platform of spot transaction, financial system of spot transaction and management system of spot transaction. The transaction process through the electronic process and it depended on price priority, quantity priority, and time priority. This process may be charged some deposit and fees. Producer can upload the information of vegetable on the system by computer, telephone and cell phone. Through the intelligent connection engine of trade, the demand part can easily find the suppliers. E-commerce platform of market develop an order system to collect, analyse and release the information related to vegetables. Platform manages all resources like human, financial and material through information technology. The Market should transfer ordering payment for goods according to regulations specified in e-trading contract. Market carry out daily settle down for traders account according to daily price movement. Payment rate for different goods will be followed standards in the contract. The Market will charge handling fees from traders based on traded quantity on the current day as per fixed standards. The Market will carry out profit and loss statement for each trader for their daily transferred ordering goods and relevant capital.
3. **Vegetable online auction system** : Online auctions are improved computer versions of traditional auctions system in which prices are set by buyers through bidding system. Benefit of online auction system is that through internet technology, large numbers of businesses or individuals can bid with each other which help to provide best price to seller. Through online auction system, the market organizer can attract more dealers. The buyer can cut time and cost of procurement through online auction system. This model save the management charge and spot fee for the vegetable wholesale market organizer. Since 2005, market has established more than 10 offices and 30 agencies and traders expand to over all the country including 15 other countries. The turnover is between 50,000-150,000 tons per years. Platform maintain regular supply of vegetable and it is public and transparent, which can avoid the purchase cost and price increasing.

Value creation of through B2B marketplace: Buyer to buyer e-market model is two dimensional: transactional process and controlling complexity. Four phase of transactional process identified in Chinese e-markets that is information, negotiation, payment and delivery. They are systematically connected and sequenced according to the marketing process. The control dimension includes supervision and monitoring. They are responsible for controlling transaction process for security and trust.

1. **Personalized information services** : Organizer provide an office to member, which enabled them to manage their business information. Customers control, revise, change, or dispose their business information, including registration, issuance, counter offers, partners' offers, contract signing, and trade code through these office. In the negotiation phase, organizer provided customization and flexibility services to customers through multiple option like online catalogues, negotiation house and sample house services. Customers free to select these services as per wish. Active involvement of managers is enhanced through customization in the B2B exchange, which available to help customers.
2. **Control process** : Payment process is engaged with the delivery phase. It involves multiple players from transportation and storage facilities. SSVTMO and its branches act as a neutral supervisor. The structure involves SSVTMO and its branches, a specified bank, a buyer, a seller and contracted transport companies as actors. The system collect information from the different stakeholders and delivers this data to the system handlers. Extensive involvement of SSVTMO branches located national wide, provides a reliable, secure and efficient transactional environment under controlled conditions. But this approach is very costly, which can be possible with the support of the Chinese government.
3. **Partners network of SSVTMO** : A network of financial institutions, logistics companies and SSVTMO branches are responsible for handling payment and delivery. The ability of tracking and supervision the transactions coordinated SSVTMO branches help in the safety of transactions. In B2B market, they need a partner network of the bank, the transportation entity and the quality inspection entity to provide a secure and reliable payment and marketing process.
4. **Controlling complexity** : In the information phase, the control of complexity is very low. The business data about buying and selling of product is freely disseminated each other. The e-market should have ability to coordinate between order and its timely delivery to consumer. They also control on payment system so it take places in a secure and reliable manner. Alibaba launched Alipay using a third-party guarantee to promote online payment services to improve the trust deficit in online payments and long-distance purchases. For this process it is necessary to create a partner network with other stakeholders to accomplish collaboration which provide a higher level of control of complexity.

Transection process in SSVTMO:

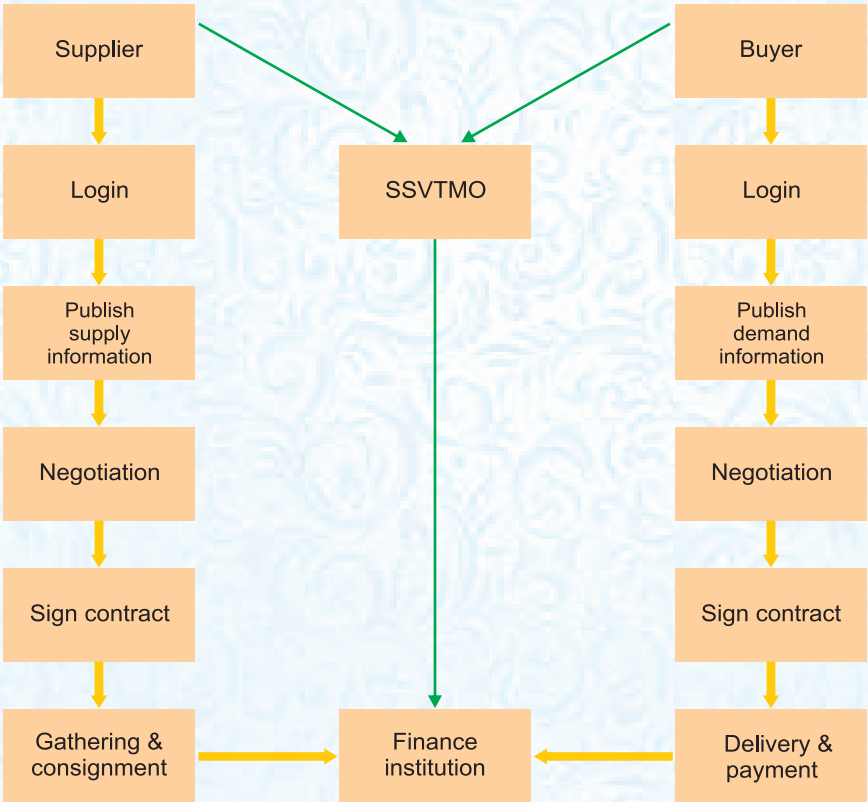


Fig: Transection process in SSVTMO

Operational flow chart of SSVTMO:

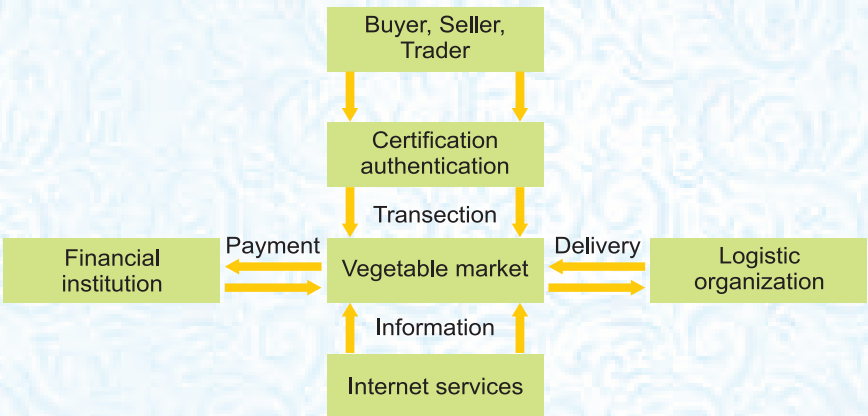


Fig 33: Operational flow chart of SSVTMO

Impact of Taobao village model:

- Part-time farmers in china become professional farmers
- 30 thousands farmers do online business and earn money from agriculture
- Low value-added products turn to high value-added products which provide high benefit to framer
- Development the concept of agro tourism along with farming system
- Young people returned in agriculture and started agriculture based e-business
- Changed the sales pattern of agricultural products and expand market of product
- Taobao village model facilitated rural economic transformation and upgrading in china through agriculture
- Provided job opportunities to farmers in rural area
- Provided entrepreneurial opportunity to young people and the unemployed graduates in rural area through E- platform of agriculture marketing
- Provided the opportunities for training and capability building
- Around 18 percent less migration toward city in Agro Taobao village compression to non-agro Taobao village in china
- There is a transparency in marketing of product through e-marketing and it provide opportunity to comparison of product price on different online site and help to choose best price product.
- Better coordination facilitation among different industry and stakeholders in value chain.

Limitation :

Major limitation of this model is lack of internet accessibility in rural area of china. They also reported transportation problem in rural areas and lack of skill about handling of e-commerce platform among the villagers. Some other problem like lack of stakeholder support and complication, interfirmconflicts, and social issues such as trust among stakeholders. Manypeople don't have trust in online shopping of product as well as online transaction. Chinese e-commerce market also faces some legal, policy and regulation problem in adopting e-commerce particular in agricultural sector.



Case 13:Public Private Partnership business model in Sri Lanka- A strategy for eliminating middlemen and enhancing share of smallholder tea farmer in value chain

Problem : One major problem in the spice sector was poor market link between farmers and exporters. There were unnecessary agents in the supply chain. These middlemen take advantage of high profit by buying the farmers' products at lower prices and selling them at higher prices creating a large gap among the price received by the farmers, auction price and the international price. It also show that high involvement of large numbers of inessential intermediaries who are mainly sales-oriented rather than market-oriented, have ultimately resulted in high wastage, low farm prices and high consumer prices.

Solution : This situation has triggered to farmer as well as company and they think about it. Farmer needs new innovative practices for improving their ability to face restructured market conditions. Finally Ma's foods introduced an innovation that is basically a public private partnership business model with limited collective action strategies by farmers. This model fulfils consumer demands and effectively integrates the farmers in the supply chain for provide high price and eliminate large number of middlemen from value chain.

Model

1. PPP model of Ma's Tropical Food : Ma's Tropical Food Processing (Pvt.) Limited, established in 1987. It is a family-owned spice processing enterprise based in the Matale district of Sri Lanka. It is leading spices processor industry in the Sri Lanka. They collect green leaves from smallholder farmer through different actor in value chain. These intermediaries are such as travelling collectors, village traders, wholesale buyers, commission agents and auction brokers. They present unnecessarily in value chain and make value chain long. They earn high profit and suppress the farmers' price and his profit in value chain. This situation has triggered the need for new innovative practices working with smallholders in improving their ability to face restructured market conditions. Ma's Foods have introduced an innovation that is basically a "business model" change with limited "collective action strategies by farmers" that fulfils these consumer demands while effectively integrating the farmers in the supply chain. Ma's Foods, which is basically a "business model" with limited "collective action strategies by farmers. Ma's Foods developed and adopted an organizational innovation and shift their tea value chain from traditional wholesale markets and brokers to use of specialized wholesalers, namely satellite farmers. These satellite farmers specialize in supplying spices in bulk, with Ma's as their main clients RAPID (Regional Agribusiness and Perennial Initiative and Development). The backward and forward is the linking arm between farmer and company in the supply chain. It provides extension services to farmer and ensuring full traceability of product on to farm level. The new model of supply chain has following

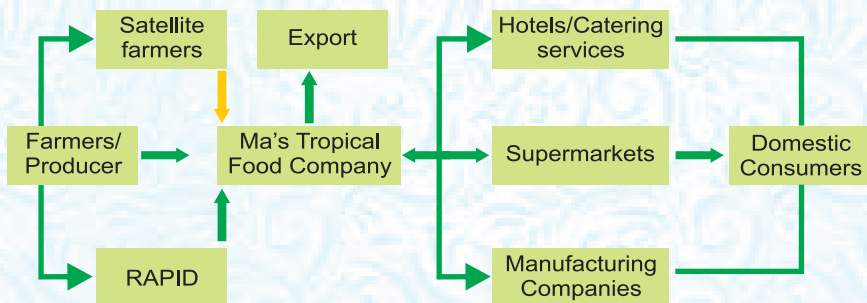
specialization:

1. **Centralized procurement** : First, the company has shifted its procurement system from a decentralized system to more centralized system of collection. Now company established RAPID as their new extension wing and they collect green leave through these centralized procurement centre. Most of the supplier farmers are smallholders and they are scattered in a larger area. Company through RAPID increases the efficiency of procurement and deploy more number of officers for procurement in rural areas. This assures a continuous supply of raw materials and eliminates nonessential intermediaries such as village traders, town traders and collectors from their supply chain. This innovation reduced transaction, procurement costs of farmer as well as company and improved information flow between the supply chain segments. Due to reduction of intermediaries from supply chain ensured that more profits are shared between farmers and the company. Farmers have to transport their produce to the RAPID centre, but transportation is sometimes provided for certain products. The RAPID centre is responsible for logistic improvements in the procurement system.
2. **RAPID** : It is regional agribusiness and perennial initiative and development centre established by company for backward and forward integration of the company's activities in the supply chain and for delivering the social responsibilities to the region. It provide some specific set of services to farmers like technical assistance in production and post-harvest practices, training for improved farm management, organic certification in spice production, supply of high quality planting material, intermediation of commercial credit from banks and training on efficient record keeping. The centre keeps all record of farmer and their product and ensure quality and traceability of product at farm level. RAPID has trained extension officers to disseminate knowledge and technical know-how to farmer. RAPID staff visit farmers once a month on average, extended to twice a month during the harvesting season. During their visits they inspect fields and provide feedback to the farmers about the field conditions and advice on improving land productivity. The centre also provide demonstration through owns model farms used for practical training activities to farmers.
3. **Own private standards** : Company develop their own set of standards for procurement of products from their suppliers. This facilitates the standardization of the products procured from different suppliers. These standards help to make company unique and their products from others company. To maintain consistence with their private standards, company motivate farmers and give premium prices of product who maintain these all standard.
4. **Logistic improvements** : Major focus of company on logistic improvements in the supply chain. They have introduced good practices which the not have earlier in supply chain like grading,

processing, packaging, labelling and trade marking. Through this company transformed their processing and packaging procedures from manual operations to full mechanised systems. This increase efficiency of company and made it more competitive in the local and international markets, enabling its products to satisfy the newly emerging trends in consumer preference.

5. **Specialized wholesalers** : The company shift their intension in centralized procurement and start purchasing from specialized wholesalers who can meet company standards. These specialized wholesalers enforce private standards on behalf of the company reducing the transaction and search cost. They identify some farmer in each area known as satellite farmers. These satellite farmers provide products in bulk quantities are prominent amongst these wholesalers. These farmers collect product from small farmers in the surrounding area behalf of company and reprocessing the collected bulk of product according to company standards. Some other like small industry also works as specialized wholesalers for the company. For maintaining quality its assurance company itself has been certified for supplying organic products. They have developed several test for guaranteed premium quality, food safety and superior by acquiring the SQF 20006 in 2003. At each stage of factory operation there are standard measures for monitoring product.
6. **Tracking and traceability procedure** : The whole production processes from farmer filed to company are fully traceable. Tracking and traceability is assured through a well-documented and computerized database procedure facilitated by Good Receiving Notes (GRN), Stock Cards, Job Cards and Batch Numbers. A GRN is issued for raw material and it contains information of supplier, its quantity supplied and the quality of the material. After testing for quality, produce complying with quality standards are released for food preparation with a stock card. A job card with batch number issued for each item produced in the factory. On job card they provide manufacturing detail like ingredient used for the production and even its production process and suppliers.

Operational mechanism of Ma's Tropical Food Company :



II. PPP model (farmer organization and private company) :

II. PPP model (farmer organization and private company) : TSHDA and RPC was institution in establishing smallholder tea societies in Sri Lanka. Most of the members of these societies are small and marginal tea growers and membership of these societies varied between 80 and 900 members. These societies were run by the framers and rule and regulation formed by respective promoting agency. The main aim behind formation of these societies was collecting and regular supply of green leaves from smallholders to factory.

The factories offered the best price of their product and also provide some input and extension services to society members. They also have provision of crop insurance scheme for society which was launched by the TSHDA in collaboration with Ceylinco Insurance Ltd. Society supply green leaves to factor based on mutual benefit principle without any contracts between smallholders and their society. Smallholders were not obliged to supply green leaves to their society. These smallholder societies play an important role in enhancing the bargaining power of smallholders through price negotiation with factory. There is a chain for collecting greens leaves which include all stakeholders of chain from the producers up to the users. Producer of this chain are mainly smallholders and the user are the large industrial person either RPCs or private individuals. Middlemen between producer and user are green leaf collector. They were the individual dealers who make revenue by being an intermediary through transferring the green leaf from smallholder to the factory. Due to less or unorganized supply china of green tea leaves dealers play an important role the supply chain and farmer forced to sell their product at less price in an imperfect market. The green leaves are transported from farm to factories by farmers themselves and factory transport agents. When farmers transport the green leaf, it is mostly to the small-scale factories, and the RPCs receive a small quantity of green leaf through their collecting agents who get paid for the transport function in the supply chain. Some factory and society have a certification system for sustainable tea cultivations. This certification system help farmer to get premium prices for their product from factory. TSHDA provide extension services in rural areas through their tea inspector. Tea inspector identified the extension needs of client through field visits and develops some need based programme for farmers. TSHDA was the only organization that offered business development training and advice to the smallholders. They also provide suitable backward and forward services to farmer society according to the need of farmers.

Supply chain of tea in PPP model :



Fig 35: Linkage of different actor in supply chain

Impact of PPP on smallholder tea farmers : This innovation has mutually benefited to both farmer and company. Result of PPP show that it improved corporate income, higher volumes of trade, turnover and farm income, added employment creation, non-monetary benefits and a spread of income throughout the year ensuring greater degree of inclusion of small farmers into the new supply

chain. The result of the innovation in supply chain are clearly evident that it enhances farmer income, getting premium price for better quality products, a stable price regardless of the price fluctuations in the market, spread of income throughout the year. Farmer are also benefited through private extension services like credit facilities, technical knowledge about production and marketing by the company. Enhancing share of producer in consumer rupees through innovative value chain was major impact of this innovation.

Limitation : There is some limitation of PPP model like higher transport charges to delivery product, delayed in payments, using cheques as the mode of payment and the low production and processing capacity of the company. Lack of coordination between farmers and company also exclude farmers from this value chain system. Quality issue and credit bound relationships of farmers with the village traders also some factor which exclude farmers from value chain.



Case 14:Farmer producer organization- A collective action approach in India

Problem : Indian agricultural sector dominated by small and marginal farmer. About 90 percent of Indian farmer are small and marginal and they face many challenge like risinginput costs and lowering margins, small plot size, lack of quality inputs, no access to timely credit, low holding capacity, low bargaining power in the market and exploitative market practices.

Solution : The collective action approach of Farmer producer organization (FPOs) is a good initiative innovation for mitigate these problem by leveraging economies ofscale, improved inputs and technologies access and bringing the small farmer to largemarkets previously out of their reach. Most importantly, the FPOs, by their ever-increasing scale, are changing the rules of engagement in agriculture markets through producer centricapproaches and fair business practices.

Farmer producer organization : Aggregations of producers, especially small andmarginal farmers, into producer organisations has emerged as one of the most effective pathwaysto address the many challenges of agriculture butmost importantly, improved access to investments,technology and inputs and markets. Producer organisations are “membership-based organisations or federations oforganisations with elected leaders accountable to their constituents”, andhave been viewed as a hybrid of private companies and cooperative societies. In India, the companies Act, 1956 was amended in 2002 to allow forincorporation of producer organisations on the basis of the recommendations of a high-powered committee chaired by Y K Alagh. It is also defined that Producer Organisation (PO) is a legal entity formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen. The PO has many form of organization. It can be a producer company, a cooperative society or any other legal form which provides for sharing of profits/benefits among the members. In case of producer companies, institutions of primary producers or farmers can only become member of PO and it called farmer producer organization.Small Farmers' Agribusiness Consortium(SFAC) is providing support for formation and promotion of FPOs.

Vision : To build a prosperous and sustainableagriculture sector by promoting and supportingmember-owned Producer Organisations, thatenable farmers to enhance productivity through efficient, cost-effective and sustainable resource useand realize higher returns for their produce, throughcollective action supported by the government,and fruitful collaboration with academia, researchagencies, civil society and the private sector.

Mission:

- To promote economically viable, democratic, and self-governing Farmer Producer Organisations (FPOs)
- To provide the required assistance and resources – policy action, inputs, technical knowledge, financial resources, and infrastructure – to strengthen these FPOs
- To remove hurdles in enabling farmers access the markets through their FPOs, both as buyers and sellers
- To create an enabling policy environment for investments in FPOs to leverage their collective production and marketing power

Objectives of FPOs

- Mobilising farmers into groups of between 15- 20 members at the village level (called Farmer Interest Groups or FIGs) and building up their associations to an appropriate federating point i.e. Farmer Producer Organisations (FPOs) so as to plan and implement product-specific cluster/commercial crop cycles.
- Strengthening farmer capacity through agricultural best practices for enhanced productivity.
- Ensuring access to and usage of quality inputs and services for intensive agriculture production and enhancing cluster competitiveness.
- Facilitating access to fair and remunerative markets including linking of producer groups to marketing opportunities through market aggregators.

Essential features of FPOs:

- FPOs formed by a group of primary producers for either farm or non-farm activities.
- FPO is a registered body and a legal entity under Indian company act.
- Only producers are shareholders in the farmer producer organization.
- Mainly FPOs deals with business activities related to the primary produce/product.
- It works for the benefit of the members of producer organization.
- In FPOs part of the profit earned through farm or non-farm activity is shared amongst the all shareholders based on their share.
- It is necessary to keep some of the money as surplus and it should be added to its owned funds for business expansion.

Principles of FPOs : The principles of FPOs are its guidelines by which FPOs will put their values into practice. There are seven major principles of FPOs

- 1. Voluntary and open membership :** The membership of FPOs are voluntary and should be open to all primary producers and they can able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.
- 2. Democratic farmer member control :** FPOs is a democratic rganisationwhich is controlled by their farmer-members who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the collective body of members. In primary FPOs farmer-members have equal voting rights (one member, one vote) and FPOs at other all levels are also organised in a democratic manner.
- 3. Farmer-member economic participation :** Farmer-members contribute equitably to, and democratically control, the capital of their FPO. At least part of that capital is usually the common property of the FPO. Farmer-members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Farmer-members allocate surpluses for any or all of the following purposes like developing their FPO, possibly by setting up reserves, part of which at least would be indivisible, benefiting members in proportion to their transactions with the FPO and supporting other activities approved by the members.
- 4. Autonomy and independence :** FPOs are autonomous, self-help organisations controlled by their farmer-members. If they enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their farmer- members and maintain their FPOs autonomy.
- 5. Education, training and information :** FPOs provide several extension services like education and training for their farmer-members, elected representatives, managers, and employees so that they can contribute effectively to the development of their FPOs. They also create awareness among people particularly young people and opinion leaders about the nature and benefits of FPOs.
- 6. Co-operation among FPOs :** FPOs serve their members most effectively and strengthen the FPO movement by working together through local, national, regional and international structures.
- 7. Concern for the Community FPOs :** The FPOs should work for the sustainable development of their local communities through policies and programme which is approved by their all shareholders.

Process for formation of FPOs : The formation and promotion of FPOs is a step by step process which contains eleven step models for development of a farmer producer organization. Effectiveness and success of farmer producer organization largely depends on what is the need of farmer in particular areas and how these need is fulfilled through the FPOs model.

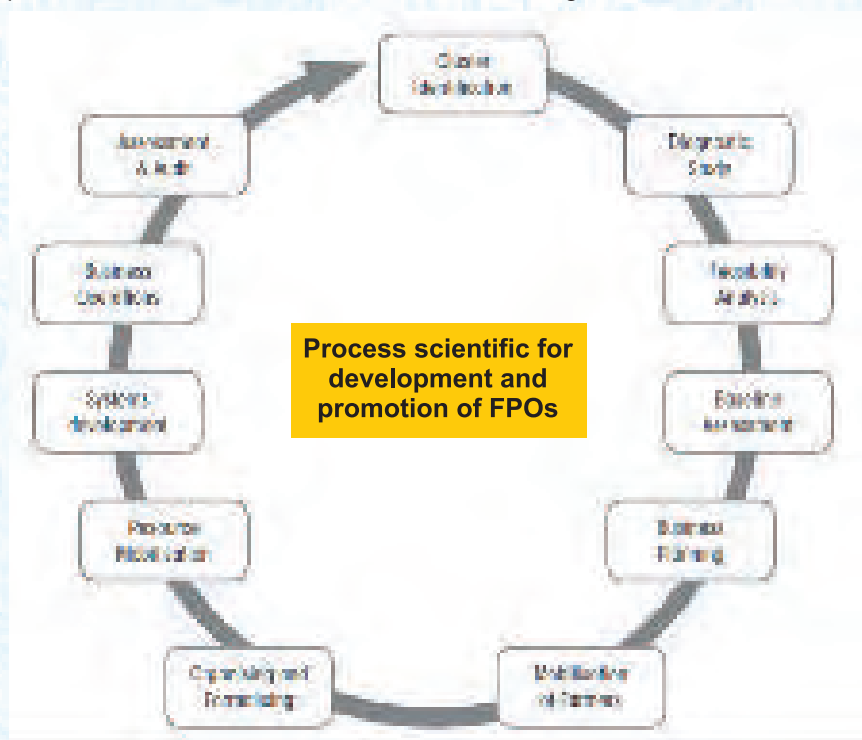
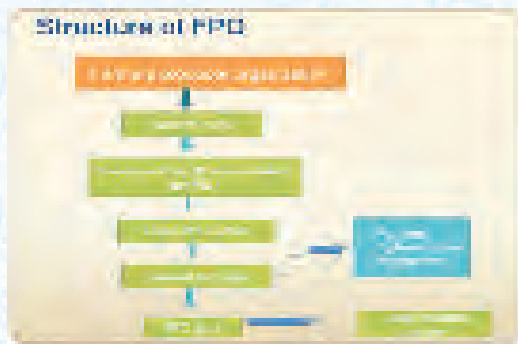


Fig 36: Flow chart of FPOs development process

FPOs organization structure and services areas : The FPO is a farmers' organization, made and run by farmers with the support from resource institution which support it in the initial few years and then it is expected that the farmers must take it forward on their own. Professionals from Producer Company guide its members for planning and budgeting macro planning for 3 years and micro planning for one year only. Professionals guide farmers for selecting the crops to be grown, area under particular crop and the price they will get on harvest. PC Professionals will be accountable to the board of directors of the PC, which will include some farmers. General body of the farmers / members will have the ownership of the PC, through an annual business plan and budget. Each farmer is paid for price of his/her produce that was determined at the time of sowing. Planning, implementation and monitoring of FPO is done by board of directors, general manager and FPO staff. The BOD is elected body of farmer producer companies and it is formed by executive body.



One FIG= 10-15 Farmers
 One village= 1-4 FIG
 One FPOs = 15-20
 village (45-60 FIG
 with 600 to 1200 farmers)

Fig 37: Organization structure of FPOs

Executive body is constituted of two farmer representative from each farmer interest group. There is limit of Board of Director (BOD) 5-15 in numbers. BOD with general manager and other shareholders are responsible for planning, implementation and management of whole organization.

Backward and Forward linkage of FPOs : The FPO will offer a variety of services to its members. It can be noted that it is providing almost end-to-end services to its members, covering almost all aspects of cultivation (from inputs, technical services to processing and marketing). The FPO will facilitate linkages between farmers, processors, traders, and retailers to coordinate supply and demand and to access key business development services such as market information, input supplies, and transport services. Based on the emerging needs, the FPO will keep on adding new services from time to time. The set of services include Financial, Business and Welfare services. An indicative list of services includes:

- i. Financial services: The FPO will provide loans for crops, purchase of tractors, pump sets, construction of wells, laying of pipelines.
- ii. Input supply services: The FPO will provide low cost and quality inputs to member farmers. It will supply fertilizers, pesticides, seeds, sprayers, pump sets, accessories, pipelines procurement and packaging services. The FPO will procure agriculture produce from its member farmers and will do the storage, value addition and packaging.
- iii. Marketing services: The FPO will do the direct marketing after procurement of agricultural produce. This will enable members to save in terms of time, transaction costs, weight losses, distress sales, price fluctuations, transportation, quality maintenance etc.
- iv. Insurance services: The FPO will provide various insurance like crop insurance, electric motors Insurance and life Insurance.

- v. Technical services: FPO will promote best practices of farming, maintain marketing information system, diversifying and raising levels of knowledge and skills in agricultural production and post-harvest processing that adds value to products.
- vi. Networking services: Making channels of information (e.g. about product specifications, market prices) and other business services accessible to rural producers; facilitating linkages with financial institutions, building linkages of producers, processors, traders and consumers, facilitating linkages with government programmes.



Fig 38: Backward and forward linkage of FPOs

Benefit of FPOs :

- Per hectare production improved by 10% by end of one year period.
- Increase in net return to farmer (Inflation+10%).
- Increase in sub-sector development for agriculture.
- Gap in availability of inputs reduced by 20-25%.
- Increased food and nutritional security.
- Market linkage for the backward and forward integration will be ensured with competitive market.
- Additional employment generated due to increased intensity of farming.
- Benchmark minimum wage rate for labour.
- Improved gender relations and decision making of women farmers enhanced in FIG & FPOs by giving them board member positions.
- Increased bargaining power for input purchase and output marketing.
- Reduced social conflicts and risks and enhanced welfare at the household level.
- Enhance producer share in consumer rupees.
- Helps in risk mitigation.
- Enhance farmer backward and forward linkage through collective action.
- FPOs play a major in in capacity building and technology adoption among farmers.

Major challenge of FPOs:

- To mobilize farmers into community organizations is very big task. It requires very high skills to convince individual producers / growers to form organizations.
- Raise share capital of FPOs is difficult in initial stage of formation.
- Lack of experiences in development of a business plan for the FPOs.
- Lack of bank linkages for financial help of FPOs.
- Farmer members have low level of knowledge regarding some legal and technical acts and regulations.
- Lack of proper convergence with the line departments.
- Lack of a range of required technical and managerial skills and competencies and people management challenges related to governance.
- Lack of skills for marketing and for undertaking complex processing or activities that add value.
- Market demand and price uncertainty / volatility that become the affect the long term sustainability of FPOs.
- Sometime the impact of government policies affects farmer producer organizations.
- The paid up capital and credit available is still low in comparison to the demand.
- Delay in recovery of sales proceeds.
- In terms of activities FPOs have low procurement of produce of shareholders, not enough emphasis on seed production, not many sources for permanent income and lack of activities relating to value addition.
- Insufficient experience in some business activities and lack of infrastructure facilities among farmer producer organization.



Case 15: National Electronic Portal of Agricultural Marketing in India e-NAM

Problem : Indian agriculture faces several challenges like high transportation cost, lack of real time price information, different selling and price procedure in integrated market and lack of proper market connectivity faced by farmer national wide.

Solution : These challenges are addressed through e-NAM by creating a unified market through online trading platform both for State and National level. This approach, Promotes uniformity and streamlining of procedures across the integrated markets, promotes real time price discovery based on actual demand and supply, removes information asymmetry between buyers and sellers, promotes transparency in auction process, access to a nationwide market for the farmer along with prices commensurate with quality of his produce, promotes online payment and availability of better quality produce at reasonable prices to the consumer.

e-NAM : National Agriculture Market (e-NAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities. It seeks to network the existing physical regulated wholesale market (known as APMC market) through a virtual platform to create a unified national market for agricultural commodities. It promotes better marketing opportunities for the farmers to sell their produce through online competitive and transparent price discovery system and online payment facility. It also promotes prices commensurate with quality of produce. It seeks to create a unified national market for agricultural commodities by integrating 585 regulated markets (APMCs) with the common e-market platform that is e-NAM. Farmers will be able to get better price of their crop through e-NAM. It addresses challenges of marketing by creating a unified market through online trading platform, both at State and National level and promotes uniformity, streamlining of procedures across the integrated markets, removes information asymmetry between buyers and sellers and promotes real time price discovery, based on actual demand and supply, promotes transparency in auction process, and access to a nationwide market for the farmer, with prices commensurate with quality of his produce and online payment and availability of better quality produce and at more reasonable prices to the consumer.

Objectives of e-NAM : The objectives of e-NAM are to create a national e-market platform for transparent sale transactions and price discovery initially in regulated markets. The major objectives of e-NAM are

- To integrate markets first at the level of the States and eventually across the country through a common online market platform

- To facilitate pan India trade in agricultural commodities.
- To streamline marketing / transaction procedures and make them uniform across all markets to promote efficient functioning of the markets.
- To promote better marketing opportunities for farmers through online access to more buyers, removal of information asymmetry between farmer and trader, better and real-time price discovery based on actual demand and supply of agricultural commodities, transparency in auction process, prices commensurate with quality of produce, online payment etc. that contribute to marketing efficiency.
- To establish quality assaying systems for quality assurance to promote informed bidding by buyers.
- To promote stable prices and availability of quality produce to consumers.

Implementing agency of e-NAM in India : In India, Small Farmer Agribusiness Consortium (SFAC) is the lead agency for implementing e-NAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India. The Strategic Partner (SP) of e-NAM is Nagarjuna fertilizers and chemicals Ltd. This company responsible for development, operation and maintenance of the platform. The major role of the strategic partner is comprehensive and includes writing of the software, customizing it to meet the specific requirements of the mandis in the respective states who willing to integrate their registered agricultural market with e-NAM .

Major requirements for adopting e-NAM model : For integration of state level markets at national level through e-NAM, they will require more of supportive services than just a trading platform. Trading in a virtual market will be possible only if there is a proper grading system with harmonized standards which is reflected in market price. This is imperative for the e-NAM as the traders across the nation would participate in trading without personal physical verification of the items which is being traded. Once a reliable and foolproof grading and standards are established the adaptation of e-NAM will become easy. Second issue of this is the logistics part of marketing. Most of the regulated market in the country are lack infrastructure i.e. warehousing and cold storages. It is common practice in market yards that commodity arrives in mandis in the morning hours and the same should be lifted by buyer on the same day. Once the e-platform will be operational in state through e-NAM, there will be requirement of these infrastructure services which must be made available for wider participation of the market functionaries. The requirements for integration of state level APMC with e-NAM are as follows:

1. **Infrastructure :** Currently most of the regulated agriculture market in India lack facilities such as assaying, sorting and grading machines,

weighing machines, warehouse, cold storage, testing labs etc. The modernization and up gradation of infrastructure of these state level market are necessary for connecting them with e-NAM platform.

2. **Harmonized grading system** : Successfully running of e-NAM is largely depended on the arrangement of assaying and grading facilities at market yards. Trading on virtual platform will require a strong and well established standardizing and grading system. Establishment of harmonisation of quality standards of agricultural produce is important for selling uniform standard farm product at anywhere through e-NAM. This uniform standard of farm product help to increased number of participant for selling their product e-NAM.
3. **Warehouse receipt system in the APMC** : The other crucial factor of successful implementation of e-NAM is to creation of national level logistic network. This need a portal through which one can easily access or avail logistics services for physical delivery of product. Since the commodities will be traded on virtual platform, buyer may be from distant place and thus will require transportation and storage facilities before physical movement of commodity. For e-NAM system, the network of warehouses or information about availability of warehousing facilities near to market yard is required so that a buyer, after purchase can store the commodity in well managed warehouse without any difficulties. The same service could also be rendered by those market yards where adequate storage facilities are available or can be made available. The steps suggested are
 - a) Allow modern warehouse systems to be set up within a market area with appropriate ICT linkages, preferably in Public Private Partnership (PPP) model. The Warehousing Development and Regulatory Authority (WDRA) will regulate such warehouses.
 - b) Introduce a Negotiable Warehouse Receipt (NWR) system where as soon as a farmer brings in his/ her produce, it is graded with a standard testing protocol and given a NWR which guarantees the grade quality of the produce for a certain period of time. Until then the warehouse owner takes the responsibility to ensure that the quality is maintained and any damage to quality will be compensated through an appropriate insurance system.
 - c) These warehouses can be declared as submarket yards and linked to the mother market, thereby getting a set of ready buyers to bid for the stored produce.
 - d) With the warehouse receipt the transaction of the lot is simplified. Farmers can get a pledge loan very easily based on the NWR. At any time when they would like to sell the produce they can offer it on the Comprehensive Electronic Platform and sell produce without going to the market. This helps in preventing distress sale by farmers by making

the pledge loan facility easily available and reduces uncertainty of quality loss at the storage. Farmers will have the freedom of selling at any time. The process can further be simplified with appropriate linkages to finance.

- e) The role of commission agents will also reduce. They can instead become assayers and warehouse facility owners by acquiring proper skills, equipment and processes.
- f) Since the warehouses are created with private participation, there is a possibility of infusing next generation technologies like Internet of Things (IoT), that is 'things' like storage bins and weighing machines embedded with electronics, software, sensors, and connectivity, that enables exchange of data. Progressively, bulk storage can be introduced, thereby making storage and handling of the produce efficient.

4. Transportation and logistics system : Transportation of commodities from villages to markets or warehouses is done by the farmers through owned or rented vehicles. From primary market to secondary market or other destinations is done by transport companies who have close relation with commission agents or traders in the markets. In case of physical market, the local commission agents or traders take the responsibility of transporting the produce on behalf of the buyers. The produce that is bought through online trading shall be weighed, quality tested if necessary, and packed in a good manner by making use of the suitable packaging material, and either stored or taken to the secondary or terminal market, or to export market or to processing centres or to retail shops. Further, the produce either in transit or store must be insured against loss due either to natural or manmade. It may not be possible for the distant buyer to do all these jobs by himself. Therefore, in case the commission agents or traders, who were helping him all these years by performing these kinds of services, could continue to provide these services, it must be allowed. Unless and until these types of services are going to be in place online trading may not succeed and complete its agenda fully. Therefore, the APMC shall take up this job of finding and identifying such type of reliable logistics supporters and apprise them about the online trading and make this list available online for the benefit of the distant buyers. Necessary infrastructure like parking space for these logistics service providers shall be arranged by the APMCs.

5. Document management and accounting modernization : The role of electronic platform is to handle all post-sale documentation, like recording of weights, generation of sale bill, etc. After selling product farmer would be informed about the selling detail of their product through a SMS. This SMS is a computerized bill which will be made available soon after the sale process is completed. Manual billing systems that

are currently prevailing to be replaced. There is also a integrate of other documents which help in post selling activity like permit generation, gate exit, material accounting and filing of returns and to the extent feasible these should be auto generated, relieving market participants the need to interact with market authorities. Progressively, the accounting system in the markets will require to be modernized, adopting a double entry accounting system linked to the electronic platform.

6. **Farmer database** : The responsibility of registration of farmers with the e-NAM markets is undertaken by market secretaries. Along with the process of registration, it is also important to create a database of farmers with a unique identity number like Aadhaar and populate with details like mobile phone number, bank account number, landholding and other socio-economic details. These databases have details information of farmers with respect to agricultural production and practices. Such an exhaustive database can then be used for transfer of sale proceeds to the farmer directly. This would also be used to reach out to the farmers for capacity building or creating awareness about the schemes. As the e-NAM progresses, these farmer database can be used to monitor the future progress and impact of electronic market platform on their beneficiaries.
7. **Legal requirement** : e-NAM need a national wide uniform legal environment mainly in terms of three provisions considered vital for the implementation of the scheme. These three provisions are e-trading, single point levy of market fee and unified license system.
8. **Software and hardware requirement** : The e-NAM system for trading process require Wi-Fi connectivity in market yard, party registration system, entry & exit system, weighing, auction and mandi fee calculation system under e-NAM portal system.
9. **Conflict management mechanism** : Generally online trading of product between farmer and trader done based on the assaying information provide by farmer about their commodity. Trader are not aware about physically considering the commodity. In this type situation, there may be chances of disputes arising between the farmer seller and the buyer or other party. To short out this problem a uniform standard for sorting, grading and assaying of produce should be provided by APMCs or agencies can be promoted for these facilities. All process like weighing of the produce and generation of Lot ID auction will be automated and transparent on the platform. Final weighing of the produce has to be done before paying money. Market stakeholders involved on account of quality, weight, price, payment of sale proceeds, payment of charges of grading, cleaning, assaying, commission, etc. Therefore, there is a need to make necessary legal provision for exclusively deal with the disputes arising out of online

trading. Necessary amendments need to be brought in the rules for this purpose. Karnataka APM has some rules which are given below

91-Q Settlement of disputes relating to Online markets – if they find anything conflict, the market committee shall appoint a “Disputes Committee for Online Markets” for settlement of disputes in respect of transactions in the commodities and markets notified under Rule 91-O, consisting of –

- i. The Vice Chairman of the committee. The Vice Chairman of the committee shall be the ex-officio chairman of the Disputes Committee for Online Markets. In the absence of the Vice Chairman a person selected by the Disputes Committee for Online Markets from among themselves shall preside over the meetings.
- ii. Seven representatives of agriculturists other than the Chairman.
- iii. One representative of traders.
- iv. One representative of commission agents.
- v. One representative of cooperative societies, with preference to taluka level primary cooperative marketing society.
- vi. One representative of the entity notified under Rule 91P (Electronic Platform Service Provider).
- vii. The Secretary of the committee.

Operational mechanism of e-NAM:

In e-NAM, all marketing activities starting from gate-entry receipt to farmer (registration of farmer's name, commodity name, bank account number, lot number and quantity) to allocation of commission agent, bidding by each trader, selection of highest price bidder and announcement of final bid winner with sale price are done online. Traders can bid from 9.30

am to 1.30 pm, and final bidders will be announced by 1.30 pm. After e-auction, the system notifies the highest bidder for each lot. Notified information will be disseminated through announcement, scrolling on TV screen in the market and by SMS to farmers, traders and commission agents regarding the price, name of the farmer, trader and commission agent. If a farmer accepts the price, sale bill will be generated, and money transfer and delivery will take place by 2.30 pm. Money transfer is done from trader's account to exchange account and in turn will be transferred to farmer's account after deduction of commission and other charges. E-permit will be generated online by 2.30 p.m. on the same day. Administrative setup of eNAM is following-

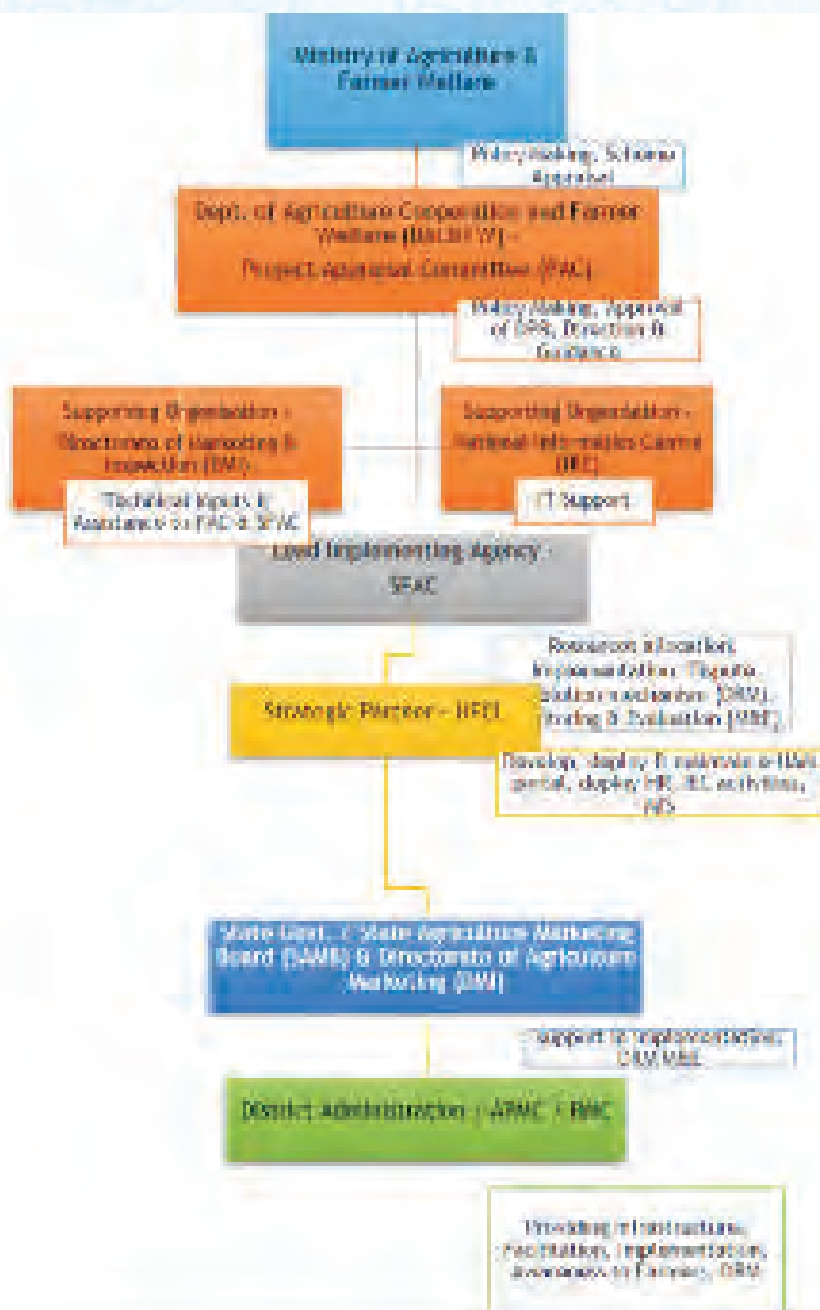


Fig 39: Administrative setup of e-NAM

Major stakeholders of e-NAM:



Fig 40: Stakeholders of e-NAM

Process flow for integration of e-NAM with APMC:



Fig 41: Flow chart of e-NAM with APMC

Flow chart of e-NAM trading system:

Farmer / Seller:



Fig 42: Process of Seller in e-NAM

Trader / Buyer:



Fig 43: Process of buyer in eNAM

APMC / Mandi Users:



Commission Agent(CA):

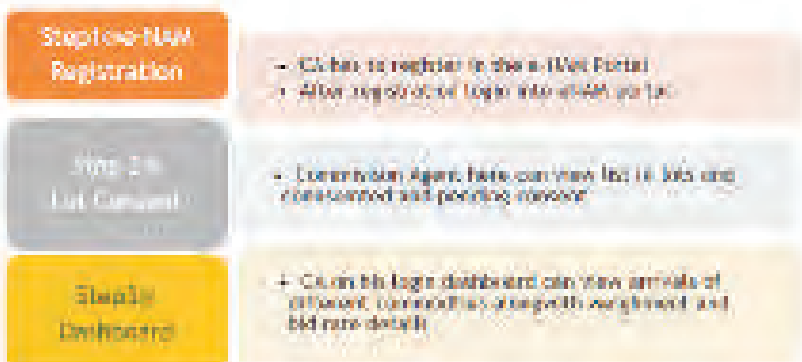
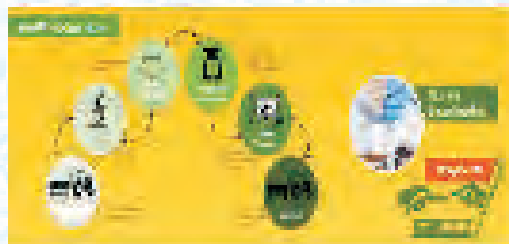


Fig 44: Process of CA in e-NAM



Fig 45:e-NAM Product Trending cycleFig



46: Seller to buyer cycle of eNAM platform

Benefit of e-NAM:

1. Benefits to the Mandis : There are lot of benefit to mandis-

- A reduction in book keeping and reporting system as they are now generated automatically.
- Better monitoring and regulation of traders and commission agents.
- Completely transparent system eliminating scope of intentional/un-intentional manipulation of tendering / auctioning process.
- By means of accounting all the transactions that are taking place in the market, market fee collection is improved.
- As tendering/auctioning process takes place through the system, manpower requirement is reduced.
- Analysis and forecasting of the arrivals and prices.
- Availability of the activities of each APMC on the government website directly.

2. Benefits to farmer/sellers :

- Access to market and real time market information
- Transparent in price discovery and payment system
- Competitive price of product
- Quick payment settlement to seller
- Quality based premium price to seller
- Better placed producers
- Incentive to quality
- Direct money transfer system to farmer account
- Reduction in transaction cost
- Encourages farmers' participation

3. Benefits to commission agent/buyer :

- Increase value and volume will lead to better commission
- May vertically integrate and enhance business base
- Availability of larger commodity base
- Direct purchase will lead to reduced cost
- Trader can work in many mandies through single license of eNAM
- Reduction in transaction cost

Challenges to e-NAM

- In order to promote the inter mandi state trade unified trade licensing is a must. But till date only few states have established the facility for the provision of these unified licenses.
- Online payment directly to the farmer's bank account by the buyers is another area of concern where the progress is quite slow.

Assaying infrastructure

- A key challenge to online trade in agri-commodities is the absence of assurance on the quality of the commodity; one has to physically examine the stock to know the quality.
- Though the Centre provides funding to set up assaying facility, as many of the 400 plus mandis connected to eNAM today do not have the infrastructure for grading and assaying.
- Assaying requires large manpower, especially in peak season.
- According to Planning Commission report 2011, only 7% of total produce sold by farmers is graded before sale.

Storage infrastructure

- There is a lack of proper and sufficient storing facilities for the produce. Every year due to unscientific storage 10 to 20% of the produce is eaten away by rats.
- As assaying is a time consuming process, produce that cannot be assayed in a single day has to be stored. Lack of storage facilities further leads to trade of goods without assaying.
- During peak arrivals, farmers need storage to wait till they get suitable prices for the goods, but storage capacity is available only to 30% of the need.
- Capacities of FCI, CWC, SWC, the cooperative and private sector put together was 126.96 million tonnes in 2015-16, a chunk of which is filled with government's procurement stock.
- Moreover the average farmer is so poor and indebted that he has no capacity to wait for better prices. He is forced to sell his output to money lender or to the trader to clear his debts.



Case 16:Community Supported Agriculture: A business model in developed country (USA&UK)

Community Supported Agriculture (CSA) : CSAs are partnerships of mutual commitment between a farm and a community of supporters that provide a direct link between the production and consumption of food. Supporters usually cover a farm's yearly operating budget by purchasing a share of the season's harvest and in some cases they assist with the farm work. In return, the farm provides, to the best of its ability, a healthy supply of seasonal fresh produce. It is a concept designed to develop a strong relationships between consumers and growers. It is also an opportunity for consumers to become more knowledgeable about their food like how to grow and what is its quality. The advantage of obtaining food locally through CSA is that the money stays within the local community.

The Principle of CSA : Principal behind CSA is that it involves consumers with mutual participation in farming. Consumer supports a farmer financially by purchasing share of farm. Consumer pay to farmer as a shareholder of farm's production prior to each growing season. This share is based on arrangements which helps farmers to buy the seeds, transplants, and other inputs they need for the growing season, and can to pay their farm labour without waiting until harvest to generate revenue. As per agreement, CSA members committed that in case of crop failure due to pest or disease problems refund will not be issued. So they understand the risk of no refund if crops are not harvested. But this share help to farmer to be continues in farming if a crop is lost or is of poor quality. The major benefit for farmers who participate in a CSA is that they can develop a long-term relationship with their members and renewing their memberships each year. Many small-scale or part-time growers could use a CSA rather than an auction to sell much of their produce. CSAs offer a more structured and scheduled distribution for products than auctions with growers receiving a predetermined price instead of relying on unpredictable auction sales. A CSA requires proper management of farm and product like advertising, planning of production to have products available on continues basis and proper schedule of delivery or pick times and places. Many CSA producers also sell their product at farmers' markets and advertise the CSA and their product during market time.

Fundamental of CSA : There is major four fundamental of CSAs-

1. **Partnership :** Here, the means of partnership is characterised by a mutual commitment to supply (by the farmers) and up-take (by the consumers) of the food produced during each season.
2. **Local :** CSAs promoting local exchange. This is help to delocalising the economy through solidarity-based partnership between producers and

consumers.

3. **Solidarity** : In CSAs, partnerships are based on solidarity between producer and consumer. It involves sharing the risks and the benefits of healthy production, natural and cultural heritage conservation. It provides fair price to farmers which helps their families to live in a dignified manner.
4. **The Producer/Consumer Tandem** : CSAs based on direct person-to-person mutual contact and trust, with no intermediaries or hierarchy and no subordination.

Type of CSA : The concept of the CSA is based on encouraging a long-term relationship between consumers and local farmers. In order to plan for CSA-based farming, it will be necessary for farmers to determine that how much control and input farmers want from third party (supporters). Farmers also decide that who should be in charge of the planning, promotion, harvesting, and other social activities. Based on these desires of farmers, the level of community involvement in CSA approach is different. CSA farms in many countries have different models. Some parameters are developed to identify the type of CSA models. They are:

- a) Numbers of farms/producers involved.
- b) Degree of participation of members.
- c) Degree of economic trust.

a) Number of Farms involved : it is of two types-

- i. **One Farm CSAs**: In this type of farm, are community-owned farms operated by the community members and producing the majority of the food according to members' need.
- ii. **Two or more farm CSAs**: In this type of CSAs, there is an agreement between each farmer and each consumer individually. Thus, the farmers are not formally coupled.

b) Degree of participation of members :

In a CSA, the relationship between consumer and farmer is closer than its normal marketing activities. In some cases, the consumers make a small contribution and he runs it as normal farm business. In other cases, the consumers have a very close relationship with the farm. In this model, there are some arrangements between farmer and consumer:

- Farmers allow consumers to come to the land and use it for any social events.
- Farmers promise to consumers that he will work according to their agreement like sign up to a charter, not using chemicals, caring for wildlife etc.

- Consumers can work volunteer at farmer farm.
- A group of consumers organises itself and makes a partnership with a farm. The consumers group makes wholesale orders for bulk amounts of food to farmer.
- Consumers committed to purchase as per agreement for example he will purchase weekly vegetable box for a whole season.
- Consumers pay in advance to farmer for whole year or for six month.
- Consumers contribute to capital costs of the farm, it can be by lending or donating money or assets or by buying shares in the farm business or land. Interest can be paid in food.
- Consumers can rent their land and have a farmer as employ on a wage to grow food for them.
- Farmer helps to consumers in growing their own local food.
- Consumers through participation, improve the farmer's conditions like by providing sick pay, health insurance, or working on the farm so the farmer can go on holiday,
- Consumers can give a fruit plant on rent to farmer for and consumer only can collect the fruit.
- Consumers can share the costs of raising a litter of pigs, including the farmers' time, and share the meat.
- Consumers in CSA should have a genuine loving relationship with the farmer and it is not defined by as contract between farmer and consumer.

c) Degree of economic trust

In some country CSA schemes have different approaches when it is deciding the control of farmer and involvement of members in CSAs. It is decided that how much money a consumer member will pay over what period of time to support the farmer(s). In many of the schemes the farmers ask for a fixed share/box price, which covers their costs and its price may be same or a little higher than prices on the organic market. In some approach the price and contribution is different for people based on their income level. CSAs can be categorised according to who organises them or the motivation behind them. These are described below:

1. **Farmer driven CSAs** : Farmer who prefer control on degree of members' involvement in CSA farming will go for this farmer driven model. This model requires that the farmer should take the majority of the responsibility from production to delivery including hiring and training paid employees. Shareholders would have little involvement with the CSA other than being responsible for picking up their share. This is a very popular form of a CSA.

2. **Consumer- driven CSAs** : The major goal of CSA is to formation of a bond between consumer and farmer. This type CSA can be organized by either the farmer or by members who would then hire the farmer and decide what to grow on their field. This type of organization takes a great deal of member commitment to organize teams. The team will assist with fieldwork, determine the share, and arrange the distribution schedule. Major group members could also plan and implement events and group activities, arrange for childcare for members when they are working at the farm, distribute announcements and publicity materials, and recruit and accept/approve potential shareholders. Core group members will need to oversee various administration tasks such as budgets, compiling and printing annual reports, and developing and distributing newsletters and other announcements. Other duties include making decisions about purchases for the CSA and how to finance expensive items. In this model consumer only decided what to grown and how to grown. For this purpose the hire a farmer based on agreement.
3. **Farmer-Consumer cooperative** : In this type model both party who mutually come for cooperation have their own land and other resources, such as buildings and equipment. This type of CSA requires a high level of consumer involvement. Farmer required a core group who willing to work with farmer on issues such as fieldwork, distribution, marketing, and recruitment process. For farmers who are interested in pursuing the idea of developing a CSA need to involvement of another farmer in this process. This type of CSA would include the involvement of two or more farmers, each of whom would provide CSA members with a different assortment of goods. All of the member of CSA can benefit from this increased product offering. In case of crop failure of one farmer or shortage, surplus goods from the other farmers can serve as a substitute. This model provides variety of product to consumer in one place and reduces the number of other shopping trips they would need to make. The business structure you choose and the insurance products you choose will help with reducing your risk management concerns.
4. **Farmer co-operative** : In farmer-driven CSA in which two or more farms co-operate to supply its members with a greater variety of produce. This model allows individual farms to specialise in the most appropriate farming for that holding (larger farms may concentrate on field scale production, smaller farms on specialist crops and upland farms on rearing livestock).

CSA France Model.

CSA member involvement :

As we know that important aspect of a CSA is to build a connection between

members and the farm where food is produced. A stronger bonding between farmer and members can be built if members are encouraged to visit the farm and have good social relationship with other members. Members who are ready for agreement of working share (in exchange for a reduced price members work a certain number of hours at the farm each week) may be more likely to visit with others and build a strong connection with the farm. For other members, CSA organizer can have some special day for celebration like harvest celebration, field day, picnic at field. That can help members feel that they are actually a part of the CSA and they will visit the farm at least on the occasion. Another method of making members aware of what is happening at the farm is creating a newsletter that can be distributed with the share. The newsletter can contain announcements, list what is included in the current share (and what will be available in coming weeks), include some sample recipes, and provide a calendar of future activities. The practice of developing a newsletter may also help reduce a number of common questions. Instead of inquiring about what they can expect in their month share, or when they can expect sweet corn, a brief newsletter can help answer these anticipated questions.

Having members work on the CSA creates a higher risk for the grower due and high engagement in farm activity. So members can perform non-field activities such as creating and distributing the newsletter, assisting at distribution sites, or supervising product pickup at the farm. Through this activity they can get their share and get products on fewer prices. Members could also be encouraged to research, compile, or contribute recipes for the newsletter. Growers need to contact their insurance provider and have a detailed risk management plan before they proceed with involving members in these and other tasks. Your insurance provider may view members working on the farm as employees, which will have a major impact on the cost of workers' compensation insurance.

Recruitment and retention of CSA members : Though several methods can be used to attract new members, a common way of promoting a CSA is to post flyers in cooperatives, at farmers' markets, churches, environmental clubs or organizations, or at members' worksites. The farmer or other CSA spokesperson speaks at venues where consumers are audience members, an announcement can be made that describes the CSA, where it is located, the website address and contact information, and that the CSA is accepting applications for membership. More traditional means of promotion can also be used to target potential members. A press release or a short article about the CSA could be submitted to the local or community paper. An opportunity may arise for a CSA representative to be interviewed by a local television reporter about the benefits of buying local produce and, that by joining a CSA, consumers can be assured that they will receive a consistent supply of produce throughout the growing season. Social media offers many marketing opportunities for the farmer and the CSA because the likely CSA

member probably has a presence on one or several social media sites. This is another method that can be used to keep members informed and updated on current events at the CSA. Be advised that any negative postings will have a major impact on the CSA, so keeping members satisfied is critical if a social media presence is used. As an incentive to join, potential members could be offered trial shares or discounts based on the number of friends they convince to join the CSA.

Another inexpensive way to promote the CSA is to create a logo for the farm and to customize t-shirts and tote bags. These can then be distributed to members. When they wear these items in public, it serves as another way to promote the CSA. Make sure that such items have as much pertinent contact information as possible included. Using quotes (with permission) from satisfied members in advertising is a tool many CSAs could use. As with any organization or association, it is not only necessary to initially recruit members but also to make an effort to retain them each year. In an effort to retain members, farmers could take certain actions to make them feel like they are a part of the farm by organizing festivals, picking berries, providing input on what crops are produced, giving canning demonstrations, and hosting farm visits for children to learn how the farm operates. If members show an interest in helping with administrative tasks, they could be asked to join the CSA advisory group or to chair a festival or event held at the CSA farm. Requesting member feedback throughout the season is crucial for a CSA's continued success. By surveying members and asking whether their experience met their expectations, the farmer and core group members can better understand problems members encountered during the season and focus on areas that need improvement. If a suggestion box is available or surveys are distributed regularly during the season, certain changes could be made very quickly. If a survey is not administered until the season's end, the farmer would not be able to implement any changes until the following year. As a result, the CSA risks losing members if their needs are not being met.

Retaining members is much easier than recruiting new members each year. If members do not renew their membership for the following year, they should be contacted to find out why they choose not to renew. Again, this information is very valuable to improving the CSA experience. If the reason they did not renew their membership was in response to an unfavourable experience, the farmer can investigate the situation and make an effort to improve the deficiency.

Products Included : Most commonly, CSAs offer eight to twelve vegetables, herbs, and fruits each week for a summer share to their member consumer. Weekly share of each member hardly consists five to seven pounds of vegetables. In case of winter shares, CSA deliver product just once a month due to lower volume and less availability of vegetable in winter. Product, which not used by members due to less consumption at

home as well as not interested product can be placed on a table for other members. During certain weeks there may not be enough of a particular produce item available to distribute to all members. One option is to divide the shares into two groups and distribute the harvest to each group on alternate weeks. In years when the harvest is more than members can use, excess can be donated to a food bank or sold to a local restaurant. Another option is to allow members to purchase additional fruits and vegetables that they can preserve for use throughout the off-season months. Certain farmers have developed a practice of trading what they grow with other farmers who grow other produce items or sell meat, fish, fowl, dairy products, honey, and bread products, thus expanding the range of products available to its CSA customers.

Distribution pattern : Each CSA have a pickup site at the farm from there all members collect their product. Apart from this CSAs deliver members share to a centralized point that is more convenient for members who living far from the farm. That point will be farmers' market, church, or Community Park. Home delivery of product may also be an option. A CSA may also have an agreement with local food cooperatives to serve as an alternative pickup point for members and these cooperatives also help in additional foot traffic which provide extra benefit to CSAs. Whatever option is chosen, the farmer should include the cost of delivery and labour for providing this service in the price of the share, as well as be very specific about the day and time that the delivery will be made and how long CSA employees will remain at the site. If the farmer realizes that members are having difficulty getting there at the predetermined delivery time, the farmer will need to adjust the delivery time or determine if this level of service is actually feasible, knowing the number of employees at the farm and the workload.

Additional benefit of CSAs : Aside from individual members benefiting from their interaction with CSAs, there are advantages for other groups as well. With homeschooling serving as an option for many families throughout the United States, CSAs can serve as a destination or outdoor classroom for these children. By coordinating with a local chapter of a homeschooling association, farmers and core group members alike can introduce students to how a CSA farm operates, the role of the farm in the community, and volunteer opportunities at the farm. Though members may be well aware of what their CSA offers, many CSAs strive to inform the public about the cost of food production, processing, packaging, transportation, and waste disposal/recycling. Some CSA growers believe that if the community is involved with planning, planting, harvesting, and packaging the crops, then they will be more likely to support such an effort. When they put time and energy into a project that they feel benefits the environment, it may encourage them to become active members. CSAs provide consumers with a valuable opportunity to obtain fresh, local produce from farmers who enjoy growing food for people in their communities. Understanding who is likely to join a CSA from both the farmer's and consumer's perspective is

invaluable to both parties and helps ensure a positive relationship. When potential CSA members are aware of what is required of them in addition to their cost for the share, they can better determine whether this opportunity truly meets their needs. A simple contract should be developed by the farmer in consultation with an attorney that outlines these expectations, as well as opportunities and the rewards they receive each week in their share.

Process of CSA : When anybody started CSA, they will need following thing at essential stage:

- Land.
- As skilled farmer.
- Organised consumers.
- A vision and motivation of CSA.
- A process and plan to bring people and resources together.

CSAs may be started by consumers, landowners and farmers. Usually there are one or two enthusiastic people who work hard and get things started. Each CSAs are may be same or may not it is depend on the need and nature of people.

Finding or forming a group of consumers : CSA may be started by farmer or consumer, they need to find an appropriate interested group of actor. After find a group it necessary to held a friendly public meeting to discuss the idea and get support from all members.

Finding a willing farmer/supporters : After meeting we need to find a farmer (if CSA identified by consumer) and supporter (if CAS is based on farmer idea) and explain idea in detail to everyone that how your idea helps them in their language. This will approach to farmer who already sell directly to the public or consumer who purchase product from market and also look for young or new farmers.

Making a clear and sensible plan : Find someone with skills to include everyone and get on with making clear decisions. They might have consultation meetings and run discussions. Make a structure for the group and allocate roles each partner. Identify each stakeholder's needs like farmer needs more labour, cash at the start of the season and a reliable market. The consumers need play space for their children and affordable organic food. The funders need evidence of environmental benefit etc. Then draw a statement about your values see that all stakeholders are agreed on your plan. Set some objectives and goals and agree who needs to do what to make them happen.

Find land : First be clear what you are trying to achieve and therefore which type of land you really need. Is it important to be certified organic? Do you need to be near a town? Will you have animals? Find need according to

the need and it is necessary that location is suitable for all stakeholders.

Advertise for land : For this it necessary to follow some common tricks. Present your group in a way that will impress landowners. Understand what landowners want. Some landowners do not trust new groups without experience. Start small and prove you are effective.

Find supporters : For getting support from supporters be clear about your vision and what your plan is. Exactly what do you want people to do to help? What is innovation in your proposal? Try to find a volunteer who is keen on marketing and spend some money and time on publicity on CSAs.

How to finance a CSA : There is several method of calculating fairly finance to CSAs-

1. **Market price:** Find out the price that people are usually paying at veggie box schemes and compose the share based on price of individual items (at Farmers markets or similar distribution channels) until you reach the approximate price of the whole share.
2. **Market value pricing:** Estimate your annual costs for season production (income you want to get for season) - A. Estimate how much people usually spend on vegetables per season - B. Divide A with B and you get number of shares.
3. **Real costs of farming based on community commitment:** Set out your total budget. Most often: Cost of production (i.e. seeds, seedlings, tools, etc.), employee's costs, machinery depreciation, investments, advisory services, and overhead cost. Then divide the total number with no. of current or potential members. Example if budget for the season is 4 000 € you have 20 members, thus the member share must be 200 €.
4. **Deliberate contributions:** You can even have the members decide what amount they would like to contribute (i.e. how much they can afford to pay to enable the total farm budget costs to be covered). This method supports creativity, freedom, solidarity and inclusion of low income members. However it is demanding on community cohesion, trust, etc. Steps:

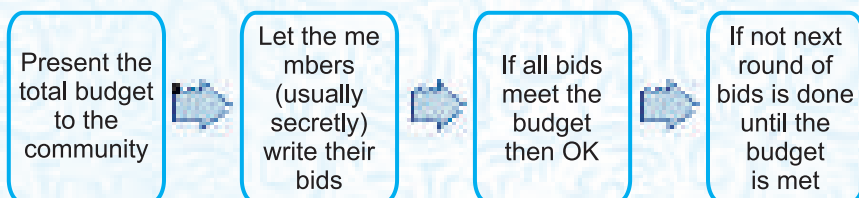


Fig 47: Bidding steps for Budgeting for CSA

- 5. Similar models pricing :** It is very simple method in which a similar CSA (in terms of production, membership, acreage, altitude, etc.) to one you want to start and enquire what their share price is. If it sounds reasonable for you, just use it that one.

Payment : First there is need to decide the frequency of payment like daily, weekly, monthly, seasonally and annually. Then type of payment how to consumer can pay to farmer like cash, bank transfer and cheques which one is suitable for both can be decided by mutually.

Distribution : There is many option of delivery of product to consumer but depending on mutual agreement how to product should deliver to individual members. Farmer can prepare individual boxes and drives them to the outlet and each consumer gets a standardized box with their share which already weighed. Other is consumer pick up their share from the pick-up point every week. Consumers can collect their shares on farm individually (if farm is in the village) or collectively (if it involves transportation) to the outlet in the city. The delivery option deepened on their personal understanding and according to this they can chose any option of product delivery even home delivery or online delivery etc.

Benefits of CSA :

Benefits to local communities

- Consumers benefit from receiving fresh food from a known source.
- The environmental benefits of fewer 'food miles', less packaging and ecologically sensitive farming with improved animal welfare.
- A local economy enhanced by higher employment, more local processing, local consumption and a re-circulation of money through 'local spend'.
- Educating people about varieties of food, its production methods and costs.
- Having an influence over the local landscape and encouraging more sustainable farming.

Benefits to farmers

- CSA secure farmer income which improves business planning and time to concentrate on farming.
- A higher and fairer return for their products by selling direct to the public.
- Increased involvement in the local community; the opportunity to respond directly to consumers' needs.
- Receive help with labour and planning initiatives for the future from members.



Case 17: Farmers Markets in developed countries: Direct linkage between farmer and consumer

Problem and solution : Most of the farmers' entrepreneurs could not afford to promote their products due to high costs involved in marketing. The lack of effective promotions had led to declining product sales and reduced farmer income. On the other hand, consumers, especially who lived in the cities would find it difficult to obtain fresh farms' products as most farmers were still unable to market their products in hypermarkets and sundry shops. Therefore, the need an appropriate platform allowing farmers entrepreneurs to get closer to the market with low cost. For solving this problem the concept of farmer market exist in developed countries in which farmer only sell their local farm product without any intermediate in value chain.

Model

Farmer Market

Farmer market is a common place where several producer or farmers gather on a regular basis to sell a variety of farm product like fresh fruits and vegetables and other locally produced food and grain directly to consumers. Farmers markets help to develop personal connections and bonding of mutual benefits between farmers, shoppers and communities. Due to direct connection between farmer and consumer community, farmers share in consumer rupees increase and consumer receive the freshest and most flavourful food in their area and local economies prosper. Each farmers market defines the term "local" according to the agriculture of its region and regularly communicates that definition to the public. Farmers markets is a formal market and operating through proper guidelines and rules that ensure the farmers market consists principally of farms selling directly to the public products that the farms have produced. In order to protect both farmers and consumers, some states have even established their own formal definitions which specify market characteristics in more detail.

Market Organization and operating system : The organizational structure of farmer market is not unique. But one common model for farmer market is that of an association of producers with a board of directors. Boards of directors take on a range of responsibilities for market management. Both BOD and producer association are final authoritative body for the market, while others take a more advisory approach. They handle major regulatory infractions and set the rules of the market, or choose to focus on the long-term goals of the markets. Boards are often elected by the members of the market association. The board also hires a market manager, a figure of utmost importance to farmers' markets. A model

which is run by a municipally corporation is also working in USA. The stakeholders of these type market are city economic planning boards, chambers of commerce, parks departments are joined hand to run farmers' market. In these cases, market manager's report directly to the municipal city chairmen. For some markets, there is only a market manager, without aboard of directors or formal relationship with municipal authority. The figure of the market manager is crucial to farmers' markets. They supervise staff, manage budgets, enforce rules, collect vendor fees, liaise with city officials, plan and coordinate advertising, and plan special events, just to list a few duties. These duties increase as market size increases. The method of employment of market managers varies among markets. Managers may be volunteers but now a days most of them are paid at least some level of compensation for their time. The majority of market managers are present during market selling hours. Key to a market manager's success is clear market rules for them to follow and enforce. Market size is strongly related to what type of rule-format is used. Smaller markets tend to just have written rules, while the prevalence of market bylaws and boards of directors increases with market size.

Model A:

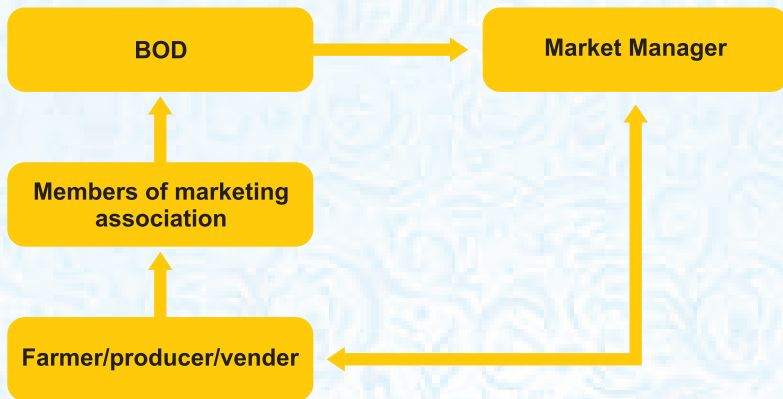


Fig 48: Members based farmer market model

Model 2:

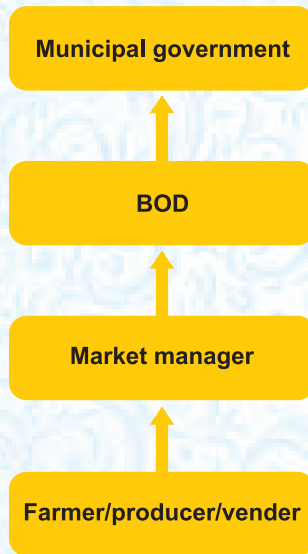


Fig 49: Municipal government farmer market model

Product selling criteria in farmer market : Product in farmer market depends on location of market, season, and market rules about what can be sold. Mainly in farmer markets only locally-grown, locally-made and/or locally processed, foods are allowed to sell. It creates a system of guidelines that ensure vendors are producing at their farms whatever they are selling in farmer market. Farmers markets are unique insofar as they give shoppers transparency while also protecting local farmers from having to compete with low-cost, low-quality, often imported meat and produce. The great thing about farmers markets is that if you are ever unsure about what a product is, where it came from, or how it was grown, you can just ask the producer directly in market. Some vendors also offer farm tours to consumers for showing how to produce food and its quality.

Time schedule of farmer market : Generally, the peak marketing season for farmer market is the harvesting season of farm produce. Some markets are only open in the spring, summer, and early autumn season due to the availability of farm produce in this season. In some places year-round farmers market is also available. Many markets are expanding their seasons or transitioning to year-round operation by offering their shoppers items including meat, eggs, dairy, bread and other products that are available fresh throughout the year. Now a days, due to off season vegetable production or protective cultivation techniques of farm product help them to maintain year round supply of fresh farm product in market and allow them open year round farmer market.

How to start farmers market : For development of effective farmer market we need to consider following point:

1. Characteristics of a farmers market
2. Create a sponsoring organization
3. Identify a location
4. Market signage
5. Identify a market manager
6. Identify and recruit farmers
7. Establish by-laws
8. Adopt and enforce rules and regulations
9. Food safety for prepared foods
10. Vendor stall arrangements
11. Create a budget
12. Determine fee structure

1. Characteristics of farmer market:

- Pedestrian oriented
- Community oriented
- Variety of vendors
- Local flavour
- Ample vendors with plentiful supply
- Easy destination for customer to get to the farm product
- Simple parking

2. Assemble a group of dedicated stakeholders to create a sponsoring organization:

For this we need to discuss objectives and goals of the planned farmer market facility in detail with stakeholders.

3. Develop a Mission statement:

Mission statement should be

- Provide an impression of the direction the market is heading
- Be concise
- Market provides valuable products or needed services
- Goal setting should describe:

- Expected achievements
- Items to be marketed
- Who will be involved
- Expected earnings

4. Site Selection Criteria:

Location of farmer market is important for its effectiveness. For selecting the location we need to consider following point:

- Access to near-by major roadway
 - Access for farmer's vehicles
 - Location visible and identifiable
 - Convenience – easy to find
 - Clean and attractive location
 - Reliable location
 - Shade, natural or manmade
 - `Solid waste disposal
 - `Restrooms for the public
5. A good locations for farmer market may be near to:
- Shopping centres and malls
 - Blocked off street connecting local businesses
 - Outdoor spaces or parking lots affiliated with religious institutions
 - State and Federal building parking lots (for weekend markets)
 - Downtown “plaza” areas
 - Public parks

6. Role of marketing manager:

Marketing manager will be responsible for following:

- Acting as main contact person for market
- Overseeing day-to-day market operations
- Collecting user fees
- Obtaining proper permits and insurance for market
- Enforcing rules and regulations
- Recruiting vendors

- Controlling vendor and product mix
- Handling complaints and disputes
- Working with market's board of directors
- Establishing strong community contacts

7. Sources for finding farmers/participants:

- County extension agents
- Cooperative Extension departments at local land-grant universities
- Farmers market associations
- State Department of Agriculture
- Word of mouth

8. Major Law/ purpose of formation of law for farmer market:

Farmer market needs to establish by law for following reason-

- Describe and define responsibilities of directors and officers
- Define the purpose, locations, and hours of operation of the market
- Define membership, dues, and fees
- Describe election procedures
- Define amendment process

9. Annual expenses associated with maintaining a farmers market includes:

- Insurance
- Permits
- Advertising
- Salaries

10. Determine fee structure:

Fees collected from participating vendors are a primary source of income for farmers markets. It determines the market manager's salary, market advertising, and amount of maintenance and improvements to the market site. It should be based on-

- Profitability
- Percentage of daily gross sales or on a seasonal/annual basis.
- Fees for hire strong, capable management
- Fees for set appropriate market standards

- Fees for develop a realistic budget and fee structure
- Arrange for a reliable and steady supply of quality farm product
- Pay sufficient attention to market publicity and community relations

B enefit of farmer market:

1. Farmer benefit:

- They are a different source of revenue, often crucial in today's difficult farming climate.
- They give to farmer's greater control over their economic lives.
- Farmers can get higher prices - as the middle man is cut out.
- Farmers diversify their skills - gaining marketing and business expertise.
- Farmers get increased networking and learning opportunities with other farmers.
- Farmers' markets strengthen links between local farmer and consumer.
- Farmers' markets bring additional outlets for farmer's produce and provide extra income through the concept of agro-tourism including along with farmer market.
- Help in building a strong network of local producer which help in conservation of local producer and local food which is produced by them in a unique ways.
- Daily income of farmer due to immediate payment and selling variety of farm product even in small quantity like selling of egg, meat and fist etc.

Benefit to consumer

- Consumers enjoy the atmosphere and experience of farmers' markets and they can know how to produced food and what is the sources of their food.
- Consumers get fresh, healthy produce usually at competitive prices comparison to other market.
- They offer increased choice, and can offer extra fresh, affordable produce in areas with few such options.
- People can re-connect with food and farmers, and they strengthen.
- Farmers' markets can be cheaper so they can get good quality product on less price.
- Wide verity of product in farmer market which help to consumer for consuming different farm product in one shop point.
- Farmers' markets can help reduce inequalities.



Case 18: On farm market for direct marketing of vegetable and fruit in developed countries

On-farm marketing is the process of bringing people into the farm to buy products directly from farmer field. This strategy includes direct buyer to consumer approach of marketing. Farmers can sell their products directly to consumers by several means. They can directly sell from the farmhouse (or other farm building), pick-your-own operations, roadside stands and markets, public farmer markets located in or near urban areas, home delivery and sales from a mobile agriculture market. Different method of on farm marketing which most common in developing and developed country are

1. House-to-house delivery : This is the most expensive (and least used) method of direct marketing for farmers. Farmers using this method perform all the marketing services of the conventional marketing system plus delivering items to the consumer's door. This method was relatively important in years past, especially for products such as milk, butter and eggs, which were purchased regularly and could be delivered on a consistent schedule. Today, this method should be attempted with caution and probably only in high-income areas and possible for high class families.

2. Peddling : This is a direct marketing option in which producers sell and deliver to retail stores, institutions, restaurants, etc. Operators might also sell from the backs of their trucks, take orders, and deliver or sell door-to-door where permissible. Advantages of peddling include low overhead cost, easy entry into the peddling business when a product surplus exists and easy exit from the business when product supply is short. Disadvantages of this method include legal some of the restrictions and required licensing, as well as the possible conveyance of a "fly-by-night" image.

3. Rent-a-tree : This method called plot arrangements. It allows the consumer to make a contract with a grower for the yield of a certain tree or row in the particular field. The agreement is based on that, the growers do all the cultural operations to produce the product and supply the equipment for harvesting on the basis of decide agreement of payment. The renters have the use of the tree or plot for the duration of the contract and do the harvesting. This is relatively new in the United States, but has been successful for many years in some European countries. The primary advantage of the rent-a-tree arrangement is reduced harvest labour expense. But the increased effort in identifying individual trees or areas and in modifying cultural practices to satisfy customers are major disadvantage of this method.

4. Selling through grocery stores : This is very common method in developed countries. Large sized farm help to farmer for producing variety

of product in large quantity. To eliminate middlemen now a day's farmer themselves open their own grocery store in market and sell their farm product. Some places they required licensing for running grocery store. Farmer should follow the quality standard of particular product for producing and selling through grocery store. They can take their own brand name for selling unique product with good packing material. Standard packing, quality and variety of product, good price and branding of products are necessary for successful running a grocery store business of farm product by farmers.

5. Pick-your-own (PYO) : This is the method of on-the-farm retailing where customers harvest their own needed fruit and other vegetable is called pick-your-own, U-pick, or "pick yourself method of on farm marketing. The concept of PYO come into existences in the 1930's and 1940's as a result of several factors. Some grower was face the problem of poor price in market and try customer harvest for their product from farm so they can save the cost of containers and commissions when taking his vegetables to the produce market. Then grower started pick your own as a novel idea because people coming to his market stand asked to pick their own berries. They find that the method had some advantages. Few early direct marketers actually planned ahead with pick-your-own in mind.

Operational mechanism of Pick-your-own :

1. Popular crops for pick-your-own operations-

Generally the suitable crop for PYO include small fruits (e.g. strawberries, blueberries, blackberries), tree fruits (e.g. apples, peaches, pears), and vegetables (e.g. beans, tomatoes, sweet corn, greens, and peas) which have high consumption rate in PYO operation areas. Other crops sold in this way include asparagus, beets, cabbage, carrots, cucumbers, grapes, gourds, okra, peppers, plums, pumpkins, squash and also grain at farm store.

2. Crop diversification-As in any type of direct market, the characteristics of potential customers must be analysed including their buying habits, tastes and preferences, their distance from the market, and their income levels. The level of competition with other competitor in the area is decided by the availability of different crops and services of the producers. To become superior and earn more benefit from farm, the producers should identify the number of similar farmers in the area, the type of crops they produce and the services offered by them. After knowing these fact producers can become superior to other competitors by effective adopting strategy of farm planning like planting variety crops at different times, long-season and early season crops, off season crop. They can also adopt some attractive method of farm product selling like bonus, vegetable box, attractive packing and easy, method of delivery like home delivery and online selling etc. Farmer

can organize some special events, services to increase exposure and attract more number of customers at farm.

3. Check-in- At the check-in point, farmer should appoint a person for customers help and provide some services like receive bags, boxes, baskets, picking instructions, brochures or perhaps an orchard (or farm) permit to enter in farm. At farm farmer should put some notice board which give some information like prices of different commodity, rules and other information. Signs should clearly indicate whether ready-picked produce is available also. When people are boarding into farm, the grower tells the customers how to pick an commodity, what varieties are ready, what the picking conditions are and other information about the farm.
4. Field supervision- Supervision of customers in the field varies from farm to farm. Some have no field supervision at all, while others find it best to employ several helpers to direct, instruct and supervise customers. Some growers keep their customers in groups as they enter the picking fields. Field supervisors give instructions and a demonstration on where to find the produce and how to pick. Supervisors also assign rows, furnish baskets and urge customers to pick their plants clean. Supervisors can help to customer and keep in contact with wagons or trucks at the home base of farm so they can call for more pickers and containers.
5. Checking out- Checking out can be a simple operation when someone properly trained is in charge of counting or weighing the produce and collecting the money. Otherwise the checkout area can become congested, confusing and complicated. Careful planning and training of employees can go a long way toward eliminating problems that arise during busy, hot days.

There may be several kinds of checkout systems :

- Drive-by checkout booth (or simply an attendant with a small table stand)
- Drive-through shed to provide shade and protection from the weather
- Portable building on wheels moved to a different field each day
- Separate weighing and money collecting operations at different locations

Recordkeeping for individual sales is very necessary because some growers simply count the amount of cash taken in at the end of the day. Others keep simple receipts showing the amounts purchased. Some keep a multi-page form showing complete details of the purchase such as the pounds, price, total charges and sometimes the address of the customer. Pick-your-own farms sell in large amounts compared with many

conventional produce markets. Some growers feel that their customers deserve a record of that purchase. There are several advantages for the grower, also, when the sale is recorded on a receipt. Receipts provide records of sales that can be analysed as to day, amount, type of produce, weather, etc. This can aid in future managerial planning. Receipts might be used to record customer names and addresses, which could be valuable in advertising. Receipt forms, given to customers when they arrive at the farm, can also be used to record the number of containers given to a customer at check-in and can double as a farm entry permit or instruction sheet.

Characteristics of successful Pick-your-own operations-Pick-your-own selling is often a totally family business and different family members performing many essential jobs such as hiring and training part-time employees, managing the payroll and record keeping, answering the telephone, stocking containers and other items in the sales area, and generally pitching in to count, weigh and collect money as needed. Successful growers are well organized and good at assigning jobs and following up to see that the work has been carried out. Now a days Pick-your-own become a profitable method of selling crops directly to the consumer. Growers should have good locations, grow the best quality and be able to cope with the problems concomitant with crowds of people is a major characteristic of successful PYO method.

Major advantages of Pick-your-own method are

- The requirements for harvest labour are reduced.
- Grading, packing and storage costs are eliminated.
- Producers receive payments for the produce directly, eliminating middlemen.
- Container costs are reduced if the customer provides them.
- Price variability risks are reduced and producers have more input into the final price.

Disadvantages of Pick-your-own to the producer are

- Producers assume liability for any accidents.
- Pick-your-own operations require long hours during the harvest season.
- Producers must assume retailer services and responsibilities.
- Bad weather or lack of customers may adversely affect returns.
- Customers must be attracted to the picking site.



Case 19: Agricultural Marketing system in Colombia

Agriculture has historically been one of the major engines of Colombian economic development. The sector accounts for 9% of the GDP, 21% of exports, and 19% of all jobs and boasts enormous, sustainable potential in terms of competitive and comparative advantages. The Colombian agriculture sector is an attractive global destination for foreign direct investment. Colombia, the world's second largest coffee grower, contributes 13-16% of the total world production each year. Bananas are second to coffee in economic importance. Other important export crops include sugarcane and cotton. Among food crops rice, cassava and maize are the most important. In Colombia, smallholder farming represents 80% of the country's agricultural production which is similar to Indian condition and employs 1 out of 2 people in the fields.

Problem : The major issue of Colombia agriculture sector is that still they have weak marketing linking. This is due to the long chain of intermediaries that makes the final profit received by smallholder farmers significantly lower than what is paid by the final consumer. In the case of vegetables, for example, it is estimated that only 17% of smallholder producers act as their own intermediary. The Brazilian experience in public food purchases has proven its effectiveness in fighting rural poverty, increasing food security and the nutritional status of policy beneficiaries, farmers and their families, and valuing local food habits.

Solution : Based on smallholder market access project in Brazil, Colombia government take an initiative to promote smallholder access to market. Government link smallholder's farmer to public food based social programme like food for feeding children, government procurement for distribution to poor etc. For these entire government programme they will purchase food from smallholder only and it is compulsory. This helps to increased and improved agricultural production and reduces the chain of intermediaries. As a result, the food-based social programs achieved through this solution helped to improve the income of family farmers and also solve marketing issue with smallholders. This is very good initiative taken by Colombia government.

Model :

Rural Productive Partnership Project

The Rural Productive Partnership Project in Colombia was the first on Public-Private Partnership model in the form of the rural producer alliance. The model works by helping organizations of small farmers upgrade their infrastructure and expertise to meet higher quality standards required by more advanced and lucrative markets. To tap these markets, the program offers capital, free managerial advice, equipment and basic infrastructure, such as a packing house. The program ensures the financial, technical, and

managerial sustainability of targeted producers by linking them to buyers and providing assistance in closing business deals that meet market requirements. PMA increases market access and helps producers meet the requirements for product quality, timeliness, price, and adherence to sanitary and phytosanitary standards. Another programme on PPP like private company target a particular crop area and help to provide establish small scale certified producer federation for commercial agriculture product which help directly help to both partner. It helps to company to supply of certified product in bulk from a single place and company provide a premium price to farmer. Rural Productive Partnerships Project has been addressing the above-mentioned challenges by establishing, strengthening, and promoting productive alliances between rural producer organizations and private agribusinesses.

Another approach, which has been employed by multilateral agencies like Catholic Relief Services, is the Agro-Enterprise Approach. This approach is all about shifting from a production-based food-security strategy to a market-oriented approach that emphasizes income generation and profit based on market demand and sale of agricultural products. The term 'agro-enterprise' refers to a business venture, typically small-scale. It may be an on-farm venture or a service that adds value to agricultural goods. An agro-enterprise generally involves groups of farmers and individual actors who provide services within the market chain, and builds relationships with the traders who buy the enterprise's products. Colombia also develops several small selling points for different agriculture product called as farmers market. Uniqueness of these markets is that, there only local produce and processed food sell by farmer not by other. Each city has farmer market outside the city and these markets develop with the concept of agro-tourism. CSA (Community Supported Agriculture) also become common in Colombia and Latin America. This is good idea to support local farmer through participation and conservation of traditional food network. It provides direct linkage between farmer and consumer and develops a social relationship between them. It helps to get ruminative price of product and ensure market.

But still in Colombia there is lack of farmer based organization in agriculture and ICT based e- marketing platform. In India two concept is FPOs and e-NAM is very successful example of agricultural marketing intervention. In case landholding and total population depend on agriculture, Colombia have similar situation to India. So they can adopt these model from India for smallholders marketing development. If we see the some good practices like CSA, farmer market and linking smallholders directly to government food programme etc. we can also adopt these programmes from Colombia. In India several government food programme running like mid-day-meal, grain distribution for BPL, food for work, food supply in government official places etc. if government can link these policy directly to smallholder it will solve the major issue of marketing of agricultural product as well enhance the income of small farmer through providing high price of their product.



20. Agricultural Marketing system in Peru

Peru is largest producer of potato. Around 80 percent of total farming population producing potato and around 70 percent population depend on agriculture for livelihood. The International Potato Center (CIP) and their partners spent years working under the regional Papa Andina Program, which helped Andean smallholders gain access to new markets for native potatoes. That program brought together public institutions, businesses and NGOs in Peru in a project called INCOPA, which elevated the potato's profile on a national level, developed markets for native potatoes, and connected farmers to those markets with a goal of reducing rural poverty.

Model : Participatory guarantee scheme is a good strategy particular for organic producer in Peru. PGS in Peru have a fairly centralized pyramid structure, in which major role play by NGOs and farmer association. Improve market access and commercialization of organic product is the major motive behind participate in PGS by farmer. It provide fixed price security to farmer for their product. Public private partnership is good example for development of small scale farmer to market access in many countries. Similarly in Peru La Gramaa private company provides important services to small farmers to connect them to the export market, including technical assistance, capacity building, organizational development, packing and export logistics, and market access particular to avocado farmer. La Grama's have good connections to the U.S. and European markets give them the buying power to export large volumes from small scale producers. Equal Exchange is excited to partner with La Grama, a company with a congruent mission of connecting small farmers to market access, to develop a Fairtrade, organic, small farmer, Peruvian avocado supply chain in Peru. There is also farmer organic association which produced some organic product and processed local food. This food supply by the certified vendor who may be farmer or some other person. They sell their product nearby urban area and it is common process in several places in Peru among smallholders organic producer. The vendors in the bioferia are certified through a participatory certification system provided by APEREC. The participatory certification was developed by the National Organic Producers' Association in Peru.

Maximum agriculture production of Peru is for export purpose. They grow more Cocoa and other commercial crop for export purpose. Government not have much support to agriculture particular marketing system. These marketing development largely depended on private and corporate sector. Demand of organic product largely increase in global market. So to maintain organic standard of product according to international market and enhancing productivity local farmer need external support from

government, NOGs or other donor agency. In this case PPP is very effectively work in Peru with some crop specific area for development of supply chain of organic product for export purpose. These all are private companies which provide guideline for production of particular crop and given technical and extension services to producers through producer or farmer organisation. This type of PPP model highly popular in these country.

Government role in agricultural development of Peru is very less. They can learn and adopt some policy for small and marginal farmer development which already exist and successful in India. PMFBY, RKVY, organic farming scheme, micro irrigation project, FPCs, NFFPC, e-NAM, new contract farming model and AMUL model of cooperative is some successful example of agricultural development in India and which will help in Peru agricultural development, if it adopted with small modification according to their situation.

In case of India we need to development of crop specific zone for easy marketing and industrial development of local producing food grain for enhancing the consumption of reliable, low cost processed food. For this purpose we need such crop specific PPP policy like Peru for development of crop specific zone in India. We need that some companies or donor agencies ready to invest in this area and build a strong Public Private Partnership which can help to produce and processed food according to global market standard and ultimately it enhance the farmers income.



21. Possibilities of adaptation of global good Agricultural Marketing practices in Indian context.

India not only achieved self-sufficient in respect of demand for food, but is also a net exporter of agri-products occupying seventh position globally for exporting different agricultural product. India having top position in producing some of the cereals (wheat & rice), pulses, fruits, vegetables, meat and marine fish and it is world largest milk producer country. These impressive agricultural growth and gains since 1947 stand as a tribute to the farmers' resilience to multiple challenges and to their grit & determination to serve and secure the nation's demand for food and raw material for its agro-industries. As our production increase the problem related to agricultural production also increasing day by days. These problem are like large tracts of arable land have turned problem soils, becoming acidic, alkaline & saline physico-chemically. Another primary factor of production, namely, water is also under stress. Climate change is beginning to challenge the farmer's ability to adopt coping and adaptation measures that are warranted.

Technology fatigue is manifesting in the form of yield plateaus. India's yield averages for most crops at global level do not compare favourably. The costs of cultivation are rising. The magnitude of food loss and food waste is alarming. The markets do not assure the farmer of remunerative returns on his produce and price fluctuations. Shrinking landholding and leavening agriculture sector by youth due to non-profit enterprise etc. These are the major problem which increasing day by days and become the serious question mark on sustainability of Indian agricultural sector and its production. In short, sustainability of agricultural growth faces serious doubt, and agrarian challenge even in the midst of surpluses has emerged as a core concern. At the basic level, agriculture when defined as an enterprise comprises two segments – production and post-production. The success of production as of now amounts to half success because still India lack behind in the post production activity like marketing facilities and value addition and therefore it is not sustainable.

Among all issue the recent and more serious problem of Indian agricultural sector is the marketing of farmer product on a profitable price. Recent agitations of farmers in certain parts of the country demanding higher prices on their produce following record output or scenes of farmers dumping tractor loads of tomatoes & onions onto the roads or emptying canisters of milk into drains exemplify neglect of other half segment of agriculture. The distress to farmers today, arises due to lack of competitive, suitable and profitable market for their product. As a solution of these issue there is a strong need of market-led approach that will stimulate demand-driven production including nutrition delivering commodities and enhance market facilities in country. Market led approach as a support activity, should enable

farmers by contributing value added inputs, on what to produce, where to send their harvest, and to administer their input and output costs accordingly. Marketing is now the forethought to develop agriculture into sustainable agri-business. The marketing system has greater responsibility to deliver relevant flow of market information, for farmers to be appropriately demand linked in all their farming and post-production activities. Without associated demand information, farmers will seek cost plus pricing rather than optimal demand linked value for their produce. The information from the marketing plays two crucial roles to empower the producers capable of producing marketable surplus. The first, by providing them with relevant demand linked information on desired quality, standards and specifications of the produce. The second, to provide information that helps the supply chain to become efficient by functioning to service a pull mode into markets. The agricultural marketing system in the country, had for a long period, mainly focused on market infrastructure and regulations, where strategic strengthening of the distribution and the supply chain network for agricultural produce was largely ignored. In this connection, a new market architecture is required, as well as various conversation to transition the Indian agricultural marketing system into good and effective marketing system which can enhance the farmer income and provide profitable price to smallholder farmer of their product. Here, some of the common marketing problem and their possible solution are disused that how to mitigate these problem in agricultural marketing with some good agricultural marketing models.

A. Major agricultural marketing issue in India and their possible solution with reference to globally good agricultural marketing practices:

1. Small and fragmented land-holdings : Around 85 percent of the total farmer are small and marginal farmers having 1-2 acre land. Due to this factor the marketable surplus of agricultural products among farmers are very low. These farmers hardly produce high surpluses for the market. The market, therefore, depends more on big farmers. The output of these few big farmers will have to reach different markets on high price and the output of small farmer cannot reach direct to market they force to sell their product to middlemen due to low quantity at low price. So the bargaining power of smallholders for right price of their product is very low.

Solution : In most of the developing and under developing countries, smallholding is the major issue. These issue can be solved by collective action approach. Collectivization of farmer for different marketing process like pre and post harvesting activity is increase farmers surplus through collection of small quantity individually and enhance bargaining power of farmer. This approach also helps in strengthening the backward and forward linkage of framers. It provides all basic input facilities, insurance, credit, knowledge and information facilities to farmers. It also act as an institution for several activity like marketing of product, contract with

companies. Today government provide direct benefit to this type organization instead of providing benefit to individual farmers and this approach act as prime institution behalf of farmers. Some example of this type approach which change the whole system of smallholder agricultural marketing and help in enhances the income level of farmer are, Cocoa development centre in Indonesia, Cooperative with PPP in African countries, FPOs in Sri Lanka, Bangladesh and India, Farmer Hub model in Bangladesh and Vegetable box scheme in Cape town. These are some evidences of institutional reform of the smallholders marketing through collective action approach and enhance marketing access of smallholders along with strengthening the backward and forward linkage of farmers. This ultimately led the economic benefit to farmer and enhances total farm income of farmers.

2. Too many intermediates : Another main defect of the Indian agricultural marketing is the presence of too many middlemen in value chain and mostly small and marginal farmers are exploited by them. Actually these middlemen exploit to both farmer and consumer. They purchase product from farmers at lower prices and sell to customers by demanding higher prices from them. Due to this the farmer share in consumer rupees is very low. The main aim of these middlemen is to derive a higher income from the middlemen processes of value chain.

Solution : Long marketing chain reduces the producer benefit and enhances consumer expenditure. To reduce the number of intermediate from marketing chain, direct linkage of producer with consumer through different model is the best solution. India can adopt by following models like e-Commerce model in China, Online trading in developed countries, Family Farming Approach, Community Supported Agriculture (CSA) in developed countries, Pick-up your own in USA, Farmer market in USA, Grocery store in developed countries Farmer Producer Organization (FPOs) are some good innovation in agricultural marketing system to contact farmer directly to consumer. Direct linkage model can help to enhance producer share in consumer rupees and it also benefited to consumer through providing fresh and quality product with low price some time their door step.

3. Lack of financial resources : Still in rural areas farmer are facing financial problem. This affect farmer in two ways, first one that due to lack of financial resources farmer cannot adopt good agricultural practices and cannot able to produce high quality and quantity product. If product quality and quantity both are poor farmer cannot get good price of their product which ultimately led to economic loss of farmer. Second, due to lack of financial resources farmers take money on high interest rate from some moneylenders, local shopkeeper, commission agent and arhitiya etc. After harvesting of crop farmer are force to sell their produce to these moneylender for repaying lone and farmer sell the crop at low price

whatever decided by moneylender. So lack of financial resources affect farmer in two ways and in both condition farmers have high economic loss.

Solution : This problem mainly faced by small and marginal farmer. This type problem can be solve with the help of Public Private Partnership (PPP) model. In which private companies provide all necessary and financial help to farmer for producing product and farmer. Some model in African countries like Cocoa development centre in Indonesia, Vegetable box scheme model, Farmer Producer Companies model and Community Supported Agriculture are major example which provides financial support to producer. The motto behind these type support are mutual benefit to both farmer and supported agencies. Farmer get quality input and financial help for agriculture practices and produce quality and high quantity per hector and supported agencies got bulk of high quality raw agriculture product form a single place which reduces the transportation cost and employee cost of company as well as produced desired quality product under the supervision of companies' employees. Contract farming approach also helps to overcome from this type problem to small and marginal farmers

4. Lack of organised marketing system : The agricultural marketing is also very defective in India because here lack of organised marketing, lack of regular markets and neglecting the agricultural marketing system by government, etc. Thus, lack of organised marketing system is harmful for the farmer's perspective. Hence the farmer sells his product personally to different people and middlemen. The middlemen take full advantage of the unorganized marketing system.

Solution : Organized marketing system is necessary for enhancing farmer share in consumer rupees as well as regulating the several kinds of malpractices in market which is generally done sellers to exploit farmers. Recently a very good initiative taken by government of India as e-NAM to bring transparency in marketing system. This type model help to bring transparency in whole marketing system as well as make the marketing process easy and digital. Digitalization of agriculture market help farmer to get quick price of their selling product and very low chances of exploitation of farmers by buyers. Similarly E-commerce marketing model, Internet of Thing (IoT) concept in marketing and formal farmer market are some innovative in development of organized marketing system model worldwide.

5. Lack of transport facilities : In India, the connectivity of village to city market still is poor. Even in remote areas farmer cannot able to carry their product in market themselves. Another is due to small quantity of surpluses product the transportation cost is too high which farmer cannot bear. Finally due to lack of transport facilities the farmer is unable to take his produce to the appropriate market and is unable to receive a fair price for his product.

Solution : This also a major issue especially with smallholder who have less quantity for sell. This again can be resolved by collective action approach where small farmer who have less quantity can drop their product at a common collection centre which is very near by them. Several approach like farmer hub centre in Bangladesh, Cocoa development centre, PPP model in Africa and Sri Lanka, Farmer companies, On farm marketing and Vegetable box scheme are common example which solve the transportation issue in marketing. They develop some common or central collection point for collecting product from smallholders in each village or in cluster of villages. Where farmers can reach by own vehicle or some time companies employees collect product from farmer at common collection point then bulk of product from these point send to companies main warehouse for further processing activities.

6. Lack of storage facilities : An important deficiency of Indian agricultural marketing is lack of storage facilities particular for storage of farmer product. Due to lack of this facility the farmer is unable to keep his product safely until it can fetch a fair price, and he is forced to sell his product at a low price. The insufficient and unscientific facilities of storage which are available, waste large quantities of grains. Approximately 20% to 30% grains are lost due to rats, insects etc. and the farmers have to bear crores of loss due to lack of these facilities.

Solution : Proper storage facilities is necessary for safe storage of farmer product. During low price season farmer need to store their product in a storage which can help to provide them loan on the receipt of storage farm product. So farmers can get benefit through selling their storage product when price is increase and repay loan. Some of collective action approach like Farmer Producer Companies in India, Farmer organization in Africa, Farmer market in USA and some PPP models provide this type facilities to farmers for storage of their product. Farmer should pay the some nominal charge to them and can store their product for some time. Even some private warehouse companies also offer services to farmer for storage their product on rent and provide receipt to farmer which help to take loan on stored farm product. In India, e-NAM also has provision for farmer to storage their farm product for some time and get loan on storage farm product. The amount of loan varies from commodity to commodity.

7. Lack of standardization : The lack of standardization and grading of product is clearly visible in the Indian agricultural marketing system, due to which fixing a deal in relation to these products becomes difficult. Due to lack of proper standardization and grading parameter, we are lack behind in exporting agriculture product even be are largest producer in word. Even the customers have problem in purchasing the product due to standardization and grading issue. These issue mainly seen in vegetable and fruit production are not fulfil the quality and standard parameter of export market. During surplus season farmer get very less price in local

market. If these product as per standard of export quality farmer can get fair price even in market surpluses by exporting product and earn profit.

Solution : India is largest producer of many agricultural products but due to lack of standard and quality of product still we are lack behind in export of several Indian agricultural products. Some of the public private model are good example in maintaining the standard of product with farmer participation. PPP model in tea producer in Sri Lanka, Cocoa production in Malawi and Community supported centre in USA are some business model who develop their own standard and participant with farmer as a contract farming or some of the as without agreement (mutual understanding as the provide services to farmer and farmer sell their product without any agreement to companies) to produce according to their standard. The incentive for farmer to participant in this type scheme is supportive agencies provides basic inputs and extension services to farmers as well as they also provide premium price to framer of their standard product. When farmer participate in this type scheme the authorised company also provide certificate as certified farmer of particulate product which help farmer directly in exporting their product. Likewise for Indian condition, if such type initiative can be taken by some prime agricultural industry with farmer participation for production of particular crop or fruit. These companies can develop their own standard or can follow international standard and collaborate with farmer for production of crop according to these standard. The monitoring of field for quality control should be done by companies' employees and farmer should provide all the necessary services and premium price of their product by company. If these type model developed in countries, the problem of quality and standard of major agriculture commodity can be solve and export of agricultural product can be increases particular in case of vegetable and fruit production and export. This type approach can help to enhance farmer income and improve the export graph of country agricultural product.

8. Lack of Information and price risk : The market for agricultural products in India is not perfectly competitive in the sense that the farmers do not usually get adequate information about the price that prevail in big and organised markets. Due to lack of communication facilities, the information about market prices rarely reaches the farmers. Farmer not aware about real price of product and what will the price in near future. Without knowing all factor farmer sell their product when price low price which led economic loss to farmer and high benefit to middlemen.

Solution : To provide proper market price especially to small and marginal farmer and farmer living in remote area are very necessary for their economic benefit. People realize this need and several programme related to providing market information to farmer are developed in different country. All are based on some web application and contacted with farmer through farmer database. Market information system in USA, e-NAM in India, Public

Private Partnership model in African countries and Sri Lanka, E-commerce and IoT in China etc. are some successful example of these types of innovation. They registered their members' farmer with either their mobile number or some other identity proof and through web based application send market related all information frequently. This type innovative model provide market related information to farmer which help them to take right decision for sell their product which is economically much better for farmers. For solving price risk problem some innovation model can be developed like during planting, the farmer has no clue about the price he is likely to get for his crop. He goes by the previous year's price and current market price which may change dramatically based on the global supply situation. Using predictive analytics, if we can develop a price prediction model which gives the farmer during planting time, an idea of the likely price of his crop, it will help him take an informed decision on crop choice. In some countries farmers sell half their crop in futures, thereby protecting their investment. Since there are no futures markets in India we need to find a creative solution.

9. Multiplicity of Charges : A related point may be noted in this context that there are multiplicity of charges on the seller. Some of these are legitimate such as commission, carriage and weighment, while others are not (such as charges for the arhitiya buyers' servants and apprentices, charity, religious festival and so on). In each case the seller has to pay more than the buyer. Due to these fair farmer not willing to bring their product at market and sell it in local person at village level. Farmers think why we should take our product at market we have to pay so many charge which may be more than our profit which we will earn after selling our product at city market and farmers sell it to middlemen at village level.

Solution : Multiplicity of charge on farmer can be control by regulated market practices. In case of this situation there is need to develop a national wide unique market system with fixed and transparent rule and regulation for both farmer and sellers. Farmer market in USA, e-NAM in India, New Contract Farming Act of Africa and India, E-commerce model in China are some good example of market which develop unique system for marketing process and removal unnecessary charge on farmer for selling their product. Another option as a solution is to direct linkage of farmer through E-commerce, grocery store, family farmer approach, on farm market and community supported agriculture with consumer. Through these approach farmer selling their product directly to consumer without sending their product in any market. So farmer can save the unnecessary cost of market and earn more benefit. Contract farming also a good option for solving this type issue. In contract farming, farmer already have agreement about what type of cost he will bear or not. So if farmer have agreement of not paying any extra charge during the time of selling process and he can save himself from unnecessary market charge which ultimately enhance their economic benefit.

10. Debt obligation and distress sales : Finally, the average farmer is almost always in debt. So he cannot wait after the harvest so as to obtain better prices in future. He has to make distress sales to the moneylender or the trader immediately after the harvest, for clearing his debt. His condition deteriorates further when, at a later date, he has to make distress purchase from the open market by obtaining consumption loan.

Solution : Steps may be taken to provide cheap credit to farmers, especially from institutional sources like commercial banks and co-operatives. Some collective action approach in different countries like small farmer organization, organic farmer association, farmer producer companies, producer organization and cooperative societies are providing credit facilities to farmers for their agricultural practices, enhance economic conditions, protecting them from the exploitative practices of village moneylenders and for helping them to get reasonable prices for their produce. In India, government started Kissan Credit Card (KCC) scheme as a very good institutional credit facilities for farmer which provide short and long term crop loan to farmer on very less interest rate. Repayments of these loans are very easy and it save farmers from distress sell of their product as well as exploitation of farmer through moneylenders in village. Warehousing scheme which provide loan to farmer on their stored product up to 75 percent of total value, also a remedial measure to overcome from distress sell of product. Some other model like contract farming model and community supported agriculture model which provide financial help to farmer through direct money supplying or providing necessary input to farmer for producing agriculture product. So farmer don't have need to take loan or money for agricultural practices from moneylender and save himself from distress sale of product. The farmer will be easily repay the debit of supported agencies through supplying agricultural product after harvesting of crop on pre-decided agreement price of product to respective agencies. These all measures are helpful in solving distress sell problem of farmers.

B. Another one important issue for future of agriculture but not directly related to marketing system i.e. Unemployment and repulsion of youth from agriculture

Today the major issue in developing countries is that the future of agriculture is not secure. Because young generation leaving agriculture and moving toward non-farm enterprise for employment generation. Even a farmer don't want that his son become farmer. They want white collar job. The major reason behind leaving agricultural profession by young generation are low profitability in agriculture, poor security of land tenure, shrinking land holding, high risks enterprise, high cost and low turnover, time consuming for money making, weather based enterprise, irrigation problem and lack of availability of smart technology for agricultural practices. Due to all these reason youth are leaving agriculture and migrate from rural areas to seek jobs in the cities.

Another major issue among youth as well as farmer itself is negative perceptions about farming. Youth think that farming is not a viable business. As we are in the modern technology world, no parent wants his or her child to become an agriculturist rather to be in a white collar job. They think happiness comes only through other business, not by farming. But this is a dangerous scenario of a country like India because the Indian economy is largely dependent on agriculture and if youth leave agriculture then what will be the future of agriculture. To realize this thing the government of India has taken many initiatives to attract youth generation toward agriculture as agricultural businessmen not as traditional farmers. There is many opportunity for youth generation to start agricultural as a business enterprise with modern technology. This is very good news that youngsters who are IIT, MBA and other degree holders are leaving their corporate sector job and started their own business enterprise with modern and smart technology in agricultural sector. But still there is need that government should promote and protect these entrepreneurs and provide all necessary input and facilities to them. It is necessary to engage youth in agriculture and make agricultural sector more popular and viable which help to change the negative perception of youngsters toward agriculture sector. There are several means of promotion of agriculture and attracting youth in agriculture in which some of them are following:

1. Linking Agriculture to Social Media : The rise of social media and its attraction among young people with access to the appropriate technologies could be a route into agriculture if the two could be linked in some way. Mobile phone use is growing rapidly and people are now much more connected to sources of information and each other. Utilising these channels to promote agriculture and educate young people could go a long way in engaging new groups of people into the sector.

2. Improve agriculture image : Farming is rarely portrayed in the media as a young person's game and can be seen as outdated, unprofitable and hard work. Greater awareness of the benefits of agriculture as a career needs to be built amongst young people, in particular opportunities for greater market engagement, innovation and farming as a business. The media, ICT and social media can all be used to help better agriculture's image across a broad audience and allow for sharing of information and experiences between young people and young farmers.

3. Strengthen higher education in agriculture : Relatively few students choose to study agriculture, perhaps in part because the quality of agricultural training is mixed. Taught materials need to be linked to advances in technology, facilitate innovation and have greater relevance to a diverse and evolving agricultural sector, with a focus on agribusiness and entrepreneurship. Beyond technical skills, building capacity for management, decision making, communication and leadership should also be central to higher education. Reforms to agricultural tertiary education should be designed for young people and as such the process requires

their direct engagement.

4. Greater use of information and communication technologies (ICT)

: Not only ICT be used to educate and train those unable to attend higher education institutions but it can also be used as a tool to help young people spread knowledge, build networks, and find employment. Catering to a technologically savvy generation will require technological solutions. Such technologies can also reduce the costs of business transactions, increasing agriculture's profitability.

5. Facilitate access to land and credit : Land is often scarce and difficult to access for young people, and without collateral getting credit to buy land is nigh on impossible. Innovative financing for agriculture and small businesses is needed. For example soft loans provided to youth who come up with innovative proposals in agriculture or micro franchising.

6. Put agriculture on the school curricula : Primary and high school education could include modules on farming, from growing to marketing crops. This could help young people see agriculture as a potential career. For example "A Project Farm" Africa is running in Africa aiming to help school children discover more about agriculture as a profession.

7. Greater public investment in agriculture : Young people may see agriculture as a sector much neglected by the government, giving farming the image of being old fashioned. Investment in agriculture is more effective at reducing poverty than investment in any other sector but public expenditure on agriculture remains low. Regional and continent-wide programmes should be developed in transforming the prominence and reputation of agriculture national wide and enhances the public private partnership investments in agricultural development.

8. Make agriculture more profitable : This is an easy statement to make but a difficult one to realise. Low yields and market failures reduce the potential of agriculture to be profitable and to provide people with a chance of escaping poverty and improving their quality of life. Making agriculture profitable requires that the costs of farming and doing business are reduced while at the same time productivity increases. Although large-scale commercial farming springs to mind, this is not necessarily the case, and small farms can be highly productive with low labour costs. Of course all of these solutions come with their own hurdles like access to education and technologies, rural development, land rights etc. Foregoing engaging youth in agriculture and the potential for transformation this could bring because of the complexities of modernising agriculture would be a huge opportunity lost.

Recently some of the innovative approach taken by government of India for attracting youth in agriculture and develop some programme for this purpose which are following-

1. Attracting and Retaining Youth in Agriculture (ARYA) : Youth plays a vital role in transforming Agriculture in India. There are emerging challenges of empowering the youth to improve their skills and to enable them to stay in the agricultural enterprise in rural situation. To address these issues, certain economic models are to be created in the villages for developing certain youth entrepreneurs in rural areas who can be a guide to others in the villages. Realizing the importance of rural youth in agricultural development especially from the point of view of food security of the country, ICAR had initiated a program on "Attracting and Retaining Youth in Agriculture (ARYA) during 2015-16. Under this scheme, special efforts are being taken up to attract the rural youth under the age of 35 years in agriculture so that the increase in the migration of rural youth towards cities is controlled.

In order to meet the challenge of providing sustainable livelihoods for a rapidly growing population and to Motivate and Attract Youth in Agriculture (MAYA), ICAR create a "Mission for Youth in Agriculture" and "Regional Platform for Youth in Agriculture" with neighbouring countries as partners and said that we need to attract youth in agriculture by providing them lucrative alternatives. ICAR emphasized that youth should to be trained as employer rather than employment seeker. The farmers in India need one stop solution for all their problems like a multi-speciality hospital. Today youth want to get involved in glamorous jobs. If such jobs are created in agriculture sector, it will bring revolution. Agri-business centres and Agri-clinics are needed on a big scale. Farm schools will have to be established in the fields of young farmers, in order to promote farmer to farmer learning. Value addition will have to be done to primary products in order to increase income.

2. Student READY : The Student READY (Rural Entrepreneurship Awareness Development Yojana) programme aims to provide rural entrepreneurship awareness, practical experience in real-life situation in rural agriculture and creating awareness to undergraduate students about practical agriculture and allied sciences. The programme will help in building confidence, skill and acquire Indigenous Technical Knowledge (ITK) of the locality and thereby, preparing the pass-out for self-employment. It also aims to provide opportunities to acquire hands-on-experience and entrepreneurial skills. To reorient graduates of agriculture and allied subjects for ensuring and assuring employability and develop entrepreneurs for emerging knowledge intensive agriculture, it was felt necessary to introduce this program in all the AU's as an essential prerequisite for the award of degree to ensure hands on experience and practical training.

Major component of this programme are following:

- Experiential Learning on Business Model / Hands on Training

- Experiential Learning on Skill Development
- Rural Awareness Works Experience (RAWEX)
- Internship / In-Plant Training / Industrial attachment
- Students Projects

The students will be required to have any three of the five components listed above depending on the requirement of their graduate education but it should be implemented for one complete year, so that their education up to level of III year may get right information and in the IV year and finally they should attain right stage of entrepreneurship. In some disciplines where some components, for example experiential learning is not possible at graduate level, the students will be given Hands on Training and/or Skill Development Training, but it should be (out of these 5 components) implemented for the complete year. All the above mentioned components are interactive and are conceptualized for building skills in project development and execution, decision-making, individual and team coordination, approach to problem solving, accounting, quality control, marketing and resolving conflicts, etc. with end to end approach.

3. Digital India : Digital India is a scheme that includes connecting all Indian villages with broadband. This will empower rural Indians, without spelling out all the details. India can be learn from China's Taobao villages, which have been bring a great revaluation through e-commerce and transformed whole marketing system including agriculture sector of China. China's e-commerce giant, Alibaba, has pioneered rural e-commerce through its rural arm, Taobao, claiming this has created 280,000 rural jobs in 2014 alone. The Chinese government has picked 55 poor counties for grants to develop industries using e-commerce. Taobao villages have risen from 20 in 2013 to 211 in 2014, and the trend continues. These villages now cover 70,000 rural producers including agriculture sector.

India's rural market is booming, but e-commerce India is associated almost exclusively with urban distribution. We need rural e-commerce for Indian Taobaos. Alibaba defines a Taobao village as a cluster of rural e-tailers where at least 10% of village households engage in e-commerce or at least 100 online shops have been opened by villagers, and transaction volume is at least RMB 10 million (\$1.6 million). Indian Taobao equivalents will have to start with more modest targets, they have limited purchasing power and limited production capacity. But, as in China, they have access to the cheapest rural labour, giving them the potential to compete, provided they overcome logistical disadvantages. The curse of every rural area is the huge gulf between what the farmer or rural artisan gets, and the much higher price paid by urban consumers. To some extent this is justified that the cost of quality control, grading, transport, wholesaling and retailing is substantial. Nevertheless, e-commerce holds the promise of slashing the

logistical costs and linking the producer directly to consumers, helping the rural producer get a better price even as the consumer gets a lower price. E-commerce has the potential to beat e-choupals and retail chains. It can go far beyond agriculture to rural manufacturing. But it will require supporting investment in rural roads, electrification and broadband. So the future of India agriculture is bright if government give proper attention to development of precision agricultural technology both for production and marketing of product. There is also need to development of public and private sector investment in agricultural sector for developing agriculture as a business enterprise. Farmer producer organization is a good innovation but still it face several issue. Some of issue which need immediate action for attracting youth toward agriculture are availability easy repaying loan, easy access to credit, capacity development for business enterprise, market reform, land availability, identification and conservation of local product, licencing and certification for agricultural product etc. The government and policy maker should give attention on these issue and develop suitable policy for attracting youth in agriculture sector as a businessmen so they should become job provider not job seekers.

About Editors



Dr. P. Chandra Shekara, PhD. Agricultural Extension Education is working as Director General of CCS NIAM Jaipur. Professional in the field of Agriculture with 28 years of experience and expertise in the areas namely Agricultural Extension Management, Agri-Entrepreneurship Development and Public-Private-Partnership. Worked as Director (Agricultural Extension) at National Institute of Agricultural Extension Management (MANAGE). Founder Director of Centre for Agri-Entrepreneurship Development (CAD), MANAGE. Programme Director of US-India-Africa Triangular International Programme funded by USAID, India, in which Agriculture Extension Professionals from Kenya, Liberia, Malawi and other 17 African and Asian countries were trained in Agricultural Extension Management during 2013-18. Organized more than 300 national and international level training programs on different aspects of Agricultural Extension Management. Published 80 Technical papers including 21 books, made 10 films and actively associated with several professional activities.



Dr. Hema Yadav, EMIB, MBA, PhD and currently Director at CCS National Institute of Agricultural Marketing Jaipur. Dr Hema Yadav, joined CCS NIAM in 2005. Prior to joining NIAM She was lecturer, Department of College Education, Govt of Rajasthan from 1992 to 2005. Specialized in International business, agribusiness management, Remote sensing and GIS, land use planning and terrain analysis. Put in 13 yrs of experience in different aspects of agricultural marketing agribusiness education, teaching, training and consultancy. In the area of agribusiness education she was Programme Coordinator from 2008 to 2017 of NIAM's two years Post Graduate Diploma in Management (Agri-Business Management), a flagship program of NIAM approved by AICTE. Organized five and international training programmes in the area of Agricultural marketing under USAID-Africa- India trilateral programme and under Feed the Future.



Sunil Kumar completed his B.Sc. (Hons.) in agricultural from SKRAU Bikaner in 2014. He did his M.Sc. in Agricultural Extension Education from ICAR-NDRI Karnal in 2016 through JRF. He got admission in PhD as research scholar in Agricultural Extension Education at ICAR-NDRI Karnal. Currently, he is pursuing PhD in Agricultural Extension Education at ICAR-NDRI Karnal. He published 10 research paper in NAAS rated journal and around 35 articles in different agricultural magazine and newspapers. He participated about 15 national and international conferences related to agricultural extension and allied agricultural subject.



Miss Shikha Verma Post Graduate Diploma holder in Agri Business Management is currently working as Consultant for International Training Programme at CCS NIAM. Served Bayer Crop Science as Business Development Manager also. Associated with International Programme and implementation of Research Internship Programme. A Graduate in Agriculture from Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, Palampur (HP)