

Agriculture Diversification in India - An Institutional Approach

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ABSTRACT

Changing consumption patterns, high income levels, urbanisation, Globalisation female employment have set the diversification in agriculture. Changing dietary habits of the people increased the consumption of high value commodities like fruits, vegetables, live stock etc., had increased the demand for processed and semi processed items. In response to these change and export competitiveness, the Indian food system undergoing structural change.

In India agriculture is dominated by small holders. The challenge here is how to link the small farmers with the emerging changes in markets and consumption patterns. While cooperatives have had a long legacy in India in some cases, been successful in bringing farmers under one network. By 2025 the value addition of food products is expected to increase from 8% to 35%. Fresh Fruit and Vegetable processing is also expected to increase from 2% to 25% of total production by 2025. In this context there is a need for institutions like Cooperatives, Grower associations and contract forming which increases large scale production and marketing in agriculture. In this paper I have examined the growth of high value agriculture, the share of small holders in high value agriculture and some success stories of institutions in promoting high value agriculture.

I. INTRODUCTION

Changing consumption patterns, high income levels, urbanisation, Globalisation female employment have set the stage for the diversification in agriculture. Changing dietary habits of the people increased the consumption of high value commodities like fruits, vegetables, live stock etc., had increased the demand for processed and semi processed item both in urban and rural areas. In response to these changes and export competitiveness, the Indian food system undergoing structural change.

In India agriculture is dominated by small holders. The challenge here is how to link the small farmers with the emerging changes in markets and consumption patterns. While cooperatives have had a long legacy in India in some cases, been successful in bringing farmers under one network. By 2025 the value addition of food products is expected to increase from 8% to 35%. Fresh Fruit and Vegetable processing is also expected to increase from 2% to 25% of total production by 2025. In this context there is a need for institutions like Cooperatives, Grower associations and contract forming which increases large scale production and marketing in agriculture.

➤ *Objectives of this study:*

- To study the growth of High value Agriculture.
- To identify the small land holders participation in High Value Agriculture.
- Linking the farmers to markets through institutional innovations.

➤ *Data:*

This study is based on secondary data collection.

➤ *Trends in High Value Agriculture:*

Changing dietary patterns and consumption patterns throughout the world increases the consumption of High Value Products and processed foods both in rural and urban areas.

Increasing incomes, liberalisation, increased health awareness about the consumption of fruits and vegetables, milk, milk products, etc., have forced the agriculture towards the production of High value products. Production systems and processing units in agriculture are moved towards producing high value products. In this context we will examine the agricultural diversification by examining the area and production of various major crops in India.

Crop	Area				Production			
	2004-2005	2014-15	2015-16	Annual growth rate %	2004-2005	2014-15	2015-16	Annual growth rate
Fruits	5049	6110	6405	4.83	50867	86602	91443	5.59
Vegetables	6744	9542	9575	0.35	101246	169478	166608	-1.69
Loose	118	249	243	-2.53	659	1659	1545	-6.86
Spices	3150	3317	3264	-1.61	4001	6180	6350	3.97
Plantations	3147	3534	3683	4.23	9835	15575	15477	-0.63
Total	18208	22752	23170		166608	279494	281423	

Table 1. Area and production of Horticultural crops .

(Area in 000ha, Pro in 000'tonnes).

Department of Agriculture, cooperation and farmers welfare. Annual Report 2016-17.

In the above table-1 it is observed that production of fruits, vegetables , plantations are increased after 2004-05. The annual growth rate in area also increased in fruits and vegetable production. The increase in area and production of horticultural crops shows that there is a definite transformation of agriculture crops towards high value commodities.

II. SMALL HOLDERS AND HIGH VALUE AGRICULTURE

In India more than 85% of small holders are holding less than 2 hectares in agricultural sector. High value agriculture requires more labour resources and small holders have plenty of labour resource. But small holder are not in a position to invest capital, inputs, technology and access to markets. This is a barrier to diversification towards high value agriculture. Let us examine the participation of small holders in High value Agriculture.

Category	Vegetables	Fruits	Dairy
	Participation rate (%)		
Small(<2.0 ha)	16.7	6.0	42
Medium (2.0-4ha)	15.1	3.0	57.8
Large (>4.0 ha)	11.5	4.1	69.7
	Distribution of participating households		
Small (<2.0 ha)	85.6	89.4	79.5
Medium (2.0-ha)	12.2	8.2	14.6
Large(>4.0 ha)	5.4	5.3	9.5
	Share in area production (%)		
Small(<2.0 ha)	62.3	52.9	69.2
Medium (2.0-4ha)	21.2	20.2	17.2
Large (>4ha)	19.2	29.9	15.6

Table 2. Participation of small holders in production of high- value commodities

Source: For fruits and Vegetables, GOI(1999) For Dairy GOI(2005)

Table -2 shows the contribution of small holders in selected high value commodities. When compared to other medium and large households, there is a better participation of small households in fruits and vegetables. On the other hand participation of small holders in dairy is less when compared to others.

Participation of small holders are high in high value agriculture. They constitute 84% of vegetable growers and 89% of fruit growers. There is a considerable growth in milk production.

➤ *Linking the farmers to markets through institutional innovations:*

Though the small holders are making considerable contribution to high value agriculture but their access to markets is limited. There is a need for institutional support in technology, capital, inputs and marketing. In this connection I have examined some successful models of institutions like Cooperatives, Grower associations, Contract forming.

A. *Cooperatives:*

In cooperatives dairy is one of the successful model in linking the farmers to markets in India. To save the producers from the exploitation the first cooperative in Dairy was established in Gujarat in 1946. Cooperatives market the milk and milk production in more than 1000 cities and towns in India.

The existence of cooperatives not only in milk products but also in oil seeds, fruits and vegetables. Mega Grapes in Maharashtra and HOPCOMS in Karnataka are the two important cooperatives. Mega grapes have now 18 grower's cooperatives with more than 3000 farmer members. It supplies technology and capital to the farmers and empowers the farmers to produce international quality food. It also gives facilities like cold storage, refrigeration, transport to the farmers. They export grapes worth of millions of dollars.

B. Growers associations:

MDFVL (Mother Dairy Fruits and Vegetables Ltd) is quite successful in linking fruits and vegetable farmers to markets. It is an Export oriented institution in I Mumbai. They provide fresh, frozen and processed foods and sale on the brand name of SAFAL. MDFVL is an ISO-9002 certified firm. Major exporting countries of SAFAL products are Japan, USA, Singapore and Australia. There other grower associations Apache Cotton Company in Tamil Nadu promoted by self help groups and Agrocel Industries Ltd in Gujarat.

III. CONTRACT FARMING

A. Contract forming can be of three types:

Market specialisation contracts:

Under these contracts only sale and purchase conditions are specified.

Resource - providing contracts:

Corporate firm come to an agreement to supply agricultural inputs, credits and final produce is bought at the contracted price.

Production Management contracts:

Asks the farmer to follow a particular production method and invests all capital and technical know-how in the field and the farmer provides land and labour.

Contracting in Agriculture in India can be traced back to the Sugarcane sector which was primarily organised under cooperative structure. In 1970's the Dairy sector was benefited through operation flood program. Contract farming is successful in potato production, basmati rice, poultry industry primarily led by corporate firms. Contracting in high value commodities like fruits, mangos, grapes, oranges, vegetables like baby corn, capsicum, and tomatoes chillies are quite popular.

Punjab has been a pioneering state in introducing contract farming with the entry of Pepsi Company in tomato in 1989. Poultry farms such as Suguna, Santhi, Pioneer Godrez Agro vat and Venkateswara Hatcheries are under contract farming in Andhra Pradesh and Tamil Nadu.

B. Fruits and Vegetables:

Private firms both multinational and domestic, cooperatives, farmer groups are the leaders of the contract farming in fruits and vegetables. The entry of private firms can be traced back to the operation of Pepsi Company in Punjab in 1989 and later agro processors, few retailers are joined in the example of contract farming.

In a public private partnership, the council for citrus and juices in Punjab has ventured into contract farming of citrus orchards to supply "Tropicana" juices a product of Pepsi Company. They acquired the land of 5187 acres of which 2700 acres have been planted with sweet oranges. They targeted to cultivate 10,000 acres under citrus cultivation by 2009.

A private company in Andhra Pradesh named San Aristech's engaged in contract farming for mangos, grapes, and pomegranate etc.,. Recently Reliance entered into contract farming in vegetables in Madanapalle in Andhra Pradesh.

C. Dairy:

Dairy sector in India is developed with cooperatives. Operation flood (1970-1996) was major breakthrough in the Indian dairy sector that rendered dairying a profitable occupation for millions of farmers resulting in a significant impact on the livelihoods of small and marginal farmers. With the amendment of MMPO in March 2002 the number of private companies entered into dairy market.

In Punjab Nestle India started its operations with 185 farmers increased to more than one lakh contract farmers to source its daily requirements of liquid milk. Nestle follows two types contract agreements. Those who produced milk with more than 25 milk animals it enters into a legal contract.

D. Poultry:

It is highly susceptible to production and marketing risks which affect its profitability particularly in small holdings. Some large firms like Venkateswara Hatcheries Ltd, Suguna Poultry firm limited and Godrej agro vet limited entered into contract farming to minimise the risks to the producers and sustain growth and profitability. These firms begin vertically integrating breeding hatchery, feed and veterinary enterprises with broiler production through institution of contract forming in the late 1980s and 1990s.

Venkateswara Hatcheries broiler prices are fixed by BROMARK. Suguna's model provided contract growers with quality, feed medicines and technical support and guidance.

E. Gramin Vikas Thrust and KRISHCO:

GVT recognises the need for linking farmers to markets under cooperative arrangements as this would ensure a return on farmer's investments and the supply of what the retailer the processor needs. GVT recognises that cooperatives, Grower associations and contract farming as an alternative to market linking that can shorten the supply chain. After an extensive research a pilot project KRISHCO started in Uttar Pradesh under 20c company.

KRISHCO provides technical assistance and supplies inputs to farmers. It ensures the procurement of contracted produce from producer's door steps. It explains the institutional benefits to the farmers in promoting high value agriculture.

IV. CONCLUSIONS

Changing consumption patterns and dietary habits globalisation have led to structural transformation in agriculture. Traditional agriculture is diversifying towards high value products. There is a vertical coordination in food and marketing system. Indian agriculture is dominated by small holders. It implies a greater need for a strong linkage between production and markets. Central and state governments are giving fiscal incentives to food processing industry. Business expansion in agriculture requires more transport facilities, cold storage facilities, marketing facilities etc.,

Integration of small holders on the supply chain is a challenging factor. It is essential to strengthen the institutional mechanism and integrating the small holders to institutions like cooperatives, business groups and contract forming. Strengthening agriculture by increasing infrastructural facilities in rural areas is an urgent requirement. Food processing industries should be developed to meet the increasing demand for processed products.

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