

Agriculture, Agribusiness and Small Farmers

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Abstract—*The present study attempts to explore some of the key development challenges in agriculture and way forward under three broad areas; (a) Status of agri-input and their accessibility by small holders. There is raising demand for purchased inputs. Irrespective of farm-size, institutional credit is used to meet short-term production activities and there is lack of credit for creation of permanent assets. (b) India contributing significantly in production in many commodities in the world, but low in terms of product processing. Food processing industry (FPI) is one such window which provides better opportunity for product diversification and within FPI there is ample scope for fruits and vegetable processing to grow further. (c) Participation of private sector in agribusiness passed through institutional changes from traditional, small family owned enterprises to multinational companies. Though various business models such as contract farming, co-operative farming, e-choupal etc, are successful to provide better price to the farmers, but there reach is still limited. Some of the measures in terms of innovations to reduce transaction cost to reach small farmers and increasing professional management of agri-business will help to diversify the agri-business.*

Keywords: Agri-inputs, agribusiness, smallholders.

1. INTRODUCTION

Recent developments in Indian agriculture witnessed an accelerated growth and regional convergence in agricultural productivity across the states. Faster growth in the low productive states and product diversification could be the major drivers for the accelerated growth in agriculture. Despite presence of degree of regional convergence in agricultural growth across the states, absolute productivity is still low in majority of the states (Nithyashree *et al.*, 2013; and S.J. and Pal, 2014). Also this appreciable agricultural growth is still not reflecting in the national income. Since agriculture is a major source of livelihood for most of the farming community and majority of the rural population, the raising farm income and sustainable production, are key development challenges. The question is how to increase income of farm households and to reduce rural-urban disparity. The related challenges are development of infrastructure from production to distribution and investment for the sustainable agriculture, especially in the dry land regions. These challenges hold good for all the stakeholders in agriculture, and unless the small holders get the benefits of growth, the holistic development is not possible, because of their dominance not only in terms of

number but also in terms of area coverage. In this context, this paper discusses some of the key development challenges in agriculture and way forward by understanding recent developments in the input and output markets, which in turn indicate the availability and arrangements, made for agricultural input and output flow, and how agribusiness is playing its role in these areas. More specifically, the paper examines the status of agri-inputs and their accessibility by small holders; product diversification and utilization; and finally role of agri-business in reaching small holders.

2. DATA DESCRIPTION

The study is mainly based on the secondary data. To study the status of agri-inputs and their accessibility, data were compiled from the Input Survey and other publications of the Ministry of Agriculture, Government of India (GoI). Key indicators of situation of agricultural households in India were taken from the report published by the Ministry of Statistics and Programme Implementation, GoI. To study product diversification data on processing were culled out from Ministry of Food Processing Industries and Agricultural and Processed Food Products Export Development Authority (APEDA) published by Ministry of Commerce and Industry.

3. RESULTS AND DISCUSSION

3.1 Agri-inputs and public investment in agriculture

Increasing farm income and reducing rural-urban disparity is one of the key development challenges in today's agriculture in India. As the average size of holding is decreasing steadily i.e. decreased to 1.15 ha in 2010 from 2.69 ha in 1960 and yet much of the population pressuring the agriculture for their source of livelihood. This demands more productivity from the limited land resource both in terms of quantity and quality. On the other hand, increasing consumer expenditure and health awareness demands more of fruits and vegetables and other protein rich food along with quality food grains. This has encouraged the commercialization of agriculture and farmer's willingness to pay for quality and timely availability of inputs which in turn raised the share of purchased inputs. As shown

in Figure 1, use of major agricultural inputs such as seeds, fertilizers and pesticides showed an

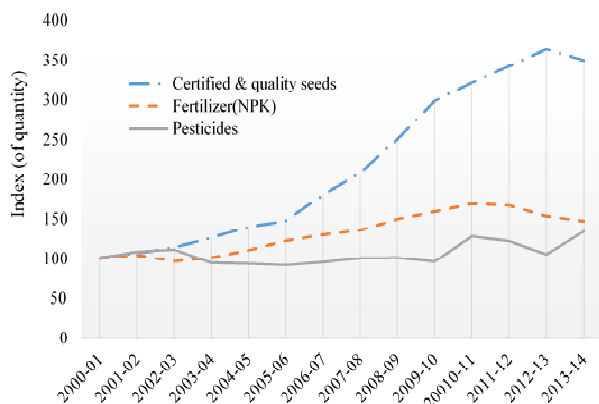


Figure 1: Trends in Use of Major Agricultural Inputs

Source: Based on Data in Agricultural Statistics at a Glance, DES, New Delhi, 2014

increasing trend, which is expected to increase further in the years to come. Use of quality and certified seed recorded 301.39 lakh qtls in 2013-14, which is almost 4 times of that in 2000-01. Consumption of fertilizer in terms of NPK increased from 16,702 thousand tonnes in 2000-01 to 24,482 thousand tonnes in 2013-14, during the same period per hectare consumption of fertilizer rose to 36 kgs. Pesticide consumption during 2000-01 to 2013-14 recorded an increase from 43.58 to 58.21 thousand tonnes. These trends clearly indicate the rising demand for purchased agri-inputs. Increasing use of purchased and modern inputs with farmers' inadequate saving resulted in increased dependency on external source of fund through public and/or private agencies. Keeping the importance and role of credit in agriculture, Government of India (GoI) approaching continuously with various policy initiatives to cover all the farmers particularly small and marginal farmers under institutional credit, so that they can afford timely and quality inputs without depending on moneylenders with huge interest burden. As on date, flow of institutional credit to agriculture is Rs. 711621 crore, which is almost 4 times more as compared with the period 1990-2000 (MoA, 2014). Despite various initiatives taken by the government *viz.*, farm credit package, interest subvention to farmers, collateral free loans, Kisan credit card scheme etc, accessibility of credit through institutional source to all the farmers in general and small holders in particular remained as one of the key challenges in agriculture. As shown in Table 1, majority of the Indian operational holdings are small and marginal and their accessibility to institutional credit is limited to 32.85 % and 19.64% respectively. Though overall credit accessibility is low, i.e. 25% for all size groups, compared to medium (39.44%) and large (40.07%) farmers, small and marginal farmers remain far from institutional source of credit. Apart from the loan accessibility, higher indebted of these small (63.6%) and marginal (18.4%) households not only indicating the high dependency on external source and also

their low farm earning. On the other hand, supply of institutional credit taken more for meeting short-term productive credit requirements. It is clear from Table 1 that out of total institutional credit taken, 63.69 % is short-term loan, 19.51% is medium-term and 16.81% is long-term loan. Irrespective of farm-size, consumption of short-term loan is high, which indicates the lack of investment by the farmers in permanent assets which generates income in future. Therefore it may adversely affect the capital formation in agriculture. Along with increasing the flow of long-term loan there, is a need of public investment to accelerate capital formation in agriculture.

As already mentioned, public investment is very crucial for capital formation in agriculture and the trend is shown in Figure 2. This Figure clearly shows that share of capital expenditure in total agricultural expenditure has risen during 1992-93, reaching its peak in 2006-07, but it decreased thereafter. The study by Landes (2008) also indicated that India has substantially lower rates of public investment in agriculture. Therefore, supply of credit either through cash and/or kind alone will not find the solution for low farm income. Along with the input supply (including credit) at farm-level, there should be supplementary support (as public investment) at macro level to strengthen sustainability of the farm income in general and those of small farmers in particular.

Table 1: Farm-Size Wise Accessibility to Institutional Credit and Incidence of Indebtedness in Rural India (%)

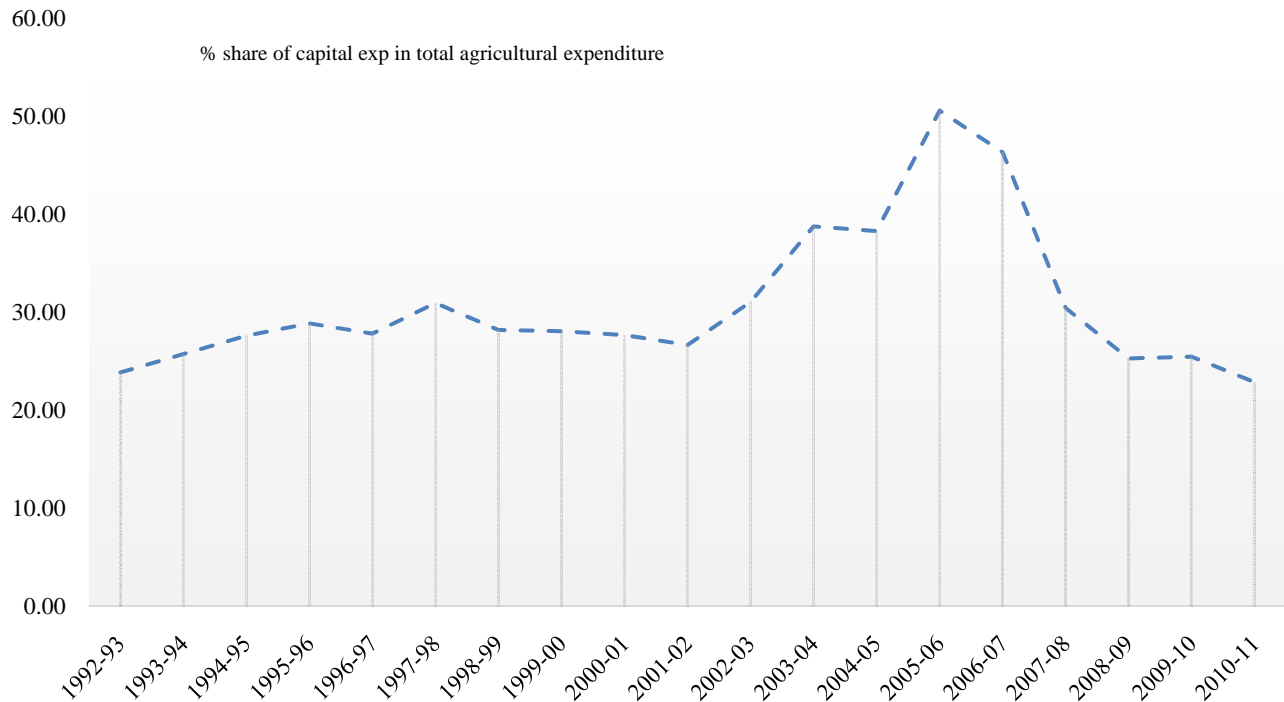
Size Group (ha)	Share of Operational Holdings	Operational Holdings Taken Institutional Credit	Indebted Agricultural Households	Amount of Institutional Credit taken by Type of Loan		
				Short-Term Loan	Medium-Term Loan	Long-Term Loan
Marginal (Below 1.00)	63.9	19.64	63.6	71.02	19.24	9.75
Small (1.0-1.99)	18.6	32.85	18.4	66.86	20.28	12.86
Semi-medium (2.0-3.99)	11.1	34.55	12	62.97	18.81	18.22
Medium (4.0-9.99)	5.30	39.44	5.4	52.64	19.67	27.69
Large (10 and above)	1.00	40.07	0.6	46.67	20.08	33.24
All Size Groups	100	25.02	100	63.69	19.51	16.81

Source: Input Survey 2006-07, NSS Key Indicators of Situation of Agricultural Households in India, GoI.

3.2 Product diversification and its utilization

India's position in world agriculture is showcasing the country effort to transform itself from food deficit to food surplus country. As India ranks first in pulse, jute, and milk production and second in most of the commodities (rice, wheat, groundnut, vegetables, potato, onion, sugarcane,

cotton) in the world production. Food grains and horticulture contributing equally of 25 % each and livestock and commercial crops contributing 33% and 17% respectively to the total agriculture output in India (Figure 3). How best these produce are utilised domestically and internationally is a matter of concern.

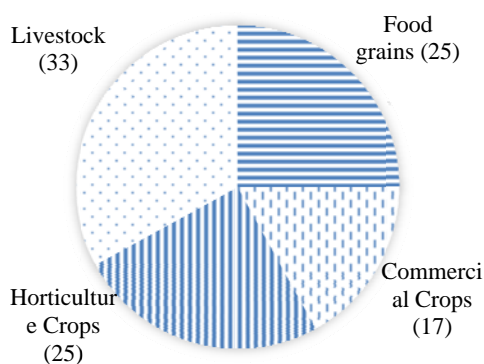


Source: Adopted from Singh et al, 2014.

Figure 2: Trend in Public Expenditure on Agriculture

Food processing industry (FPI) is one such window which allows the fresh commodities to extend its self-life by reducing huge post-harvest loss and to earn income by capturing increasing demand for quality and processed food at domestic and international market. As shown in Table 2, currently FPI contributing 1.5% and 12.2 % to gross domestic product (GDP) and agricultural GDP, respectively. As an important source of investment, share of foreign direct investment (FDI) to FPI is raised to 1.8% in 2012-13 from 0.33% in 2008-09. However, compared with other manufacturing industries, FPI contribution to the country's output is stagnant at 1.5% during the past five years with very little fluctuation in between. On the other hand, increasing horticulture production did not contribute much in the list of exported FPI commodities. It is clear from the Tables 2 and 3, share of processed fruits and vegetables to FPI-exports decreased to 1.99% in 2012-13 from 3.76 in 2008-09 and its share in terms of total value within the FPI is least, i.e. 1.56%.

As Government has been focusing on many policy reforms during post-2000, no industrial licence is required to start industry (except few items like alcohol, beer, etc.). Food parks and export zones as an export promotion which provides benefits like duty free imports and exempt from corporate taxes etc. The government also allowed 100% FDI in FPI. Within FPI there is ample scope for fruits and vegetable industries to grow further. Nevertheless, processing industries facilitate proper product diversification and its utilization, which can gear up employment to the rural youths, and thereby economy can get more of skilled/semi-skilled manpower. This will be a shift from casualized temporary jobs as proportion of casual labours has risen to 47 % from 33 % during 2004-2010 (Nithyashree and Pal, 2013).



Source: Ministry of Agriculture, GoI, New Delhi.

Figure 3: Sector Wise Share of Agricultural Output in 2013.

3.3 Role of agri-business in agri-input and output markets.

Participation of private sector in providing services in agriculture is not a new concept in India. However, the growth of these private sectors in agribusiness and its changing mode of participation is worth to discuss here. Transformation of agribusiness in agri-input and service sector passed through many institutional changes from traditional small family owned enterprises to organised national companies and then to multinational companies.

Table 2: Contribution of Food Processing Industry (FPI) in Country's Output and Export (%)

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
Share of Manufacturing Industries to GDP	9.2	8.0	8.5	9.6	9.8
Share of FPI to GDP	1.5	1.3	1.4	1.6	1.5
Share of FPI to Agricultural GDP	10.3	9.9	10.4	12	12.2
Share of Processed Fruits and Vegetables to FPI-Exports	3.76	2.79	2.17	1.85	1.99
Share of FPI in Total FDI	0.33	1.08	0.88	0.48	1.79

Source: National Accounts Statistics, MoFPI and APEDA, GoI.

The size of operation has also increased many-fold. Along with these institutional changes, changes driven by demand due to urbanization and income growth brought other changes in market structure to sustain them globally. These changes in turn benefit the farmers by providing alternate platform to operate differently from their as usual business and to make profit. Some of these, agro-industry are moving close to

farmers through direct procurement and are increasing demand for quality assurance services such as standardization, grading and certification. Consolidation of business, organized retail chains, compression of supply chains for cost-effectiveness and market linkages, improved market integration and rising trade in agriculture are other note worthy changes. Though various business models such as contract farming, co-operative farming (Amul), ITC initiative e-choupal etc. are successful in providing better prices to the farmers, their reach is still limited. Some of the measures in terms of innovations to reduce transaction cost and to increase the diversity of the agri-business models, regulations to facilitate scale of operation and inclusiveness of the model, increasing professional strength for management of production operations, and marketing will help to reach these models to small holders and other stakeholders engaged in agriculture.

Table 3: Commodity Wise Share and Volume of Output in Food Processed Industries

Particulars	Total Value (Rs. Lakh)	Share (%)
Meat	1689441	2.42
Fish and related	1679663	2.41
Fruit and vegetables	1090514	1.56
Vegetable, animal oils and fats	16547145	23.70
Dairy products	8245921	11.81
Grain mill products, starches and starch products	18232517	26.11
Other food products	19927247	28.54
Prepared animal feeds	2408334	3.45
Total	69820782	100.00

Source: Ministry of Food Processing Industries, GoI.

4. CONCLUSIONS

Recent developments in Indian agriculture witnessed an accelerated growth and regional convergence in agricultural productivity across the states. Despite the presence of degree of regional convergence, productivity level is still low in many of the states. In order to increase agricultural productivity there are certain key development challenges which need to be addressed. Increasing farm profitability is one among them. Subsistence farming to commercialization of agriculture and farmers' willingness to pay for quality and timely availability of inputs increase the use of major agricultural inputs such as seeds, fertilizers and pesticides. On the other hand, farmers' inadequate saving demanding credit through financial institutions. Despite of various initiatives taken by the GoI, credit accessibility is limited to only 25% of the farmer. Irrespective of the farm-size, institutional credit is used more for short-term consumption, which indicates the lack of investment by the farmers in permanent assets. Along with increasing the flow of long-term credit to farmers, there is a need of public investment to create capital formation in agriculture.

Food processing industry (FPI) is one such window which allows the fresh commodities to extend its self-life by reducing huge post-harvest loss and to earn income by capturing increasing market demand for quality and processed food both at domestic and international market. However, FPI contribution to the country's output is stagnant at 1.5% since the past five years. Since horticultural production is rising faster, there is ample scope for fruits and vegetable processing industries to grow further and provide gainful employment.

Participation of private sector in agribusiness particularly in agri-input and service sector, passed through many institutional changes. These changes have benefited the farmers by providing better services and prices to them. Though various business models such as contract farming are successful to offer better price to farmers, some measures like innovations to reduce transaction cost, promote inclusiveness, and increase professional strength for management further diversify the markets and improve efficiency of services to farmers.

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