

## Review of Challenges and Reforms for Punjab Agricultural Economy

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### Abstract

*Punjabi society is most globalised, while its economy is least globalised. It has a relatively developed agriculture without much direct linkages with the industrial development. During sixties, India's agriculture experienced a spectacular increase in production, especially, in that of wheat and rice. It was mainly through an increase in productivity per hectares of these crops. The jump in the rate of increase in productivity of these crops was so sudden and conspicuous that some economists termed the new change as 'Green Revolution' The main benefits of green revolution were: Increase in food grain output, increase in market surplus, generation of more employment opportunities in the agricultural and non-agricultural sectors, having such great benefits green revolution was not a blessing for the farmers in Punjab. It added lots of problems in the lives of the farmers and made their life full of misery. Punjab has produced a number of paradoxes. The thrust of the paper is to suggest agricultural reforms for future course of growth and development for agriculture sector and ways and means to improve sustainability of agriculture production.*

**Keywords:** Challenges and Reforms, Agricultural Economy etc.

### Introduction

Introduction of high yielding varieties of wheat and rice during late 1960s, coupled with an appropriate policy environment and progressive farming community put the agricultural economy of the State on a high growth path during the green revolution era. Consolidation of holdings, development of irrigation, high capital investment, improved infrastructure and strong institutional reforms and net-work provided very conducive environment for success of green revolution technology in the state. This enabled the state to remain on high growth trajectory and also led to increase in real farm income. This technology led strategy resulted into the transformation of agriculture and rural economy in the state and converted Punjab into food bowl of the country.

Agriculture continues to be an important sector of the State's economy in terms of employment and contributes about 22% of the Gross State Domestic Product (2010-11). The State has about 4.2 million hectares of cultivable area, which is 3% of the net area sown in the country. It produces about 19% of India's wheat and 11% of rice from 12.4% and 6.7% of the total area under wheat and rice, respectively. It has contributed 25-50% of rice and 38-75% of wheat to the central pool of food grains over the last four decades. Punjab ranks 7th as gross producer of wheat in the world, it generates third largest

marketable surplus after Canada and Australia which is about one tenth of the global trade in wheat. In the case of rice its marketable surplus is 2nd only to Thailand. These two crops which have low production risks and negligible marketing risks due to procurement at Minimum Support Prices are now occupying about 80% of the cropped area. Cotton is another important crop of the state which is grown over 5.2 lakh hectares (2011-12) which constitutes about 5% of the total cotton area, and 9% of the total cotton production in the country. Of late, some disturbing trends have emerged in the agriculture sector of the state. The over dependence on wheat and rice and intensive use of farm land with more than 200% cropping intensity have led to a crisis in terms of over exploitation of natural resources viz. soil and ground water.

### Performance of Agriculture Sector

It is unfortunate that Punjab has been unable to formulate an integrated policy on its economic development. The debate mainly centered on sectors of the economy and not in its totality. Within sectors policy interferences are drawn with regard to agriculture which has been considered as a mainstay of Punjab's economy. It has experienced a massive slowdown from 3.2 per cent in 1990s and 2.6 per cent in 2000s. The contribution to growth from agriculture has been reduced to 18 per cent from 27 per cent. The share of industry has gone up to 32

per cent from 28 per cent and contribution of service sector has been remarkable as it touched 50 per cent in the 2000s as compared to 45 per cent in 1990s. Agriculture has been in a state of disarray in Punjab for the past decade. The 1990s have been a decade of slumber in Punjab, particularly in Punjab agriculture. In the 1970s

Punjab's growth rate in net domestic product (NDP) at constant prices was 5.4 percent compared to the national average of 3.4 percent for India. In the 1980s the remaining states in India caught up with Punjab with a national average of 5.1 percent of growth in

NDP while Punjab was still marginally ahead with 5.4 percent growth rate. However, in the 1990s Punjab has slid back with 4.3 percent growth of NDP while the rest of India has registered a growth rate of 6.1 percent.

### Need for Reforms

The agriculture sector needs well-functioning markets to drive growth, employment and economic prosperity in rural areas of India. In order to provide dynamism and efficiency into the marketing system, large investments are required for the development of post-harvest and cold-chain infrastructure nearer to the farmers' field. A major portion of this investment is expected from the private sector, for which an appropriate regulatory and policy environment is necessary. Also, enabling policies need to be put in place to encourage the procurement of agricultural commodities directly from farmers' fields and to establish effective linkage between the farm production and the retail chain and food processing industries. Accordingly, the state governments were requested to suitably amend their respective APMC Acts for deregulation of the marketing system in India, to promote investment in marketing infrastructure, thereby motivating the corporate sector to undertake direct marketing and to facilitate a national integrated market. The Department of Agriculture and Cooperation also formulated a model law on agricultural marketing for guidance and adoption by the state governments. The model legislation provides for the establishment of private markets/yards, direct purchase centres, consumer/farmers' markets for direct sale and promotion of Public-Private Partnership (PPP) in the management and development of agricultural markets in India. Provision has also been made in the Act for constitution of State Agricultural Produce Marketing Standards Bureau for the promotion of grading, standardisation and quality certification of agricultural produce. This would facilitate pledge financing, direct purchasing, forward/future trading and exports. Several state governments have initiated steps for amending their respective APMC Acts.

### Challenges to Punjab Agriculture

Globalization of world agriculture brings new challenge to Punjab. The key question is can Punjab penetrate the world markets? The world agriculture is changing quickly

with new rules of the game and with the WTO Agreement on Agriculture. Market access, domestic support, and export subsidies have become three major pillars of the Agreement on Agriculture. Furthermore, sanitary and phyto sanitary issues have come to play a major role in the Agreement on Agriculture. TRIPS have also played a major role in protecting intellectual property rights. There has been a growing presence of multinational corporations in developing countries, particularly in trading agricultural commodities. Increasing concentration and growing scale in food business in terms of processing, distribution, and retailing has been prevalent in developing countries. In world trade negotiations India has achieved reasonable tariff cover and has a larger room to play. Tariffs on sensitive items such as milk powder, maize, and rice have also been renegotiated.

Working against Punjab agriculture, however, is also the developed country agriculture, which is highly distorted due to producer subsidies. There is an argument in India among the policymakers that since developed countries provide subsidies to the farmers it justifies developing country farmers such as Indian farmers to have their own share of subsidies from their governments. But the argument does not recognize the affordability of such high subsidies given that the state finances in India are already in bad shape. The major question is then how do we compete in this distorted world. One answer lies in more engagement in the WTO negotiations and building effective and meaningful alliances with other negotiating partners such as Cairns Group, and China. It is also important that we team up with trade experts around the globe to tackle the major distortions imposed by developed country agriculture.

#### 1. Imbalance in the economy

Green revolution recording to some economists, has created, what they call 'development duality' in the agriculture sector. This means that the green revolution has created and accentuated imbalance in the economy has benefited mainly those farmers, who had the money to use new technologies, quality seeds, chemical fertilization in the agriculture and the farmers have not been able to reap the benefits of new agricultural technology due to lack of money power, so it was not blessing for them. This new technology has also created differences in agricultural productivity within the same region. For example Ropar and Hoshiarpur district in Punjab are still backward in agriculture due to poor irrigation facilities which have stood in the way of adoption of new pursuits.

#### II. Uneven progress in crop production

There is uneven progress in the spread of high yielding varieties of different crops. Among five crops (wheat, rice, maize, Jowar and Bajra) originally selected there has been

a real break through only in the production of wheat and rice. The production of pulses, oily seeds, cotton and jute was suffered because of poor farmers having limited land confined to wheat and rice only. Which farmers can experimented and produced any crop instead of wheat and rice but the poor those occupy the large portion were confined called the change as 'wheat-rice revolution', instead of 'green revolution'.

### *(iii) Wide Disparity in the Distribution of income*

No doubt, green revolution resulted in interregional disparities because of variations in the, availability of irrigation facilities, difference in the suitability of different regions for production of wheat and paddy and because of some structural and physical differences of various regions. At the same time, it led to another type of disparity in the states experiencing green revolution. It was the disparity in income generated on farms of different sizes.

The green revolution was no doubt, size neutral. However, it was not resource neutral. Large farmers gained more because of their capacity to invest liberally in the new inputs. The gap between the productivity on large farms and that on small farms grew. And as a result, difference in the income of the large farmers and that of the small farmers widened.

There was yet another factor responsible for the widening of such disparities.

The practice of reverse leasing (i.e., larger farmers leasing in land, from small farmers) as well as the fall in the area leased out by the large farmers to small farmers after the advent of green revolution, further increased the disparity in the size of operational holdings. This, in turn, added to the inter-farm disparity in income. The rising number of suicides in

Punjab directly exposes the extremity of rural insecurity environmentally and economically unsustainability in Punjab's agriculture.

The number of 2990 farmers had committed suicide in just two districts- 1256 in Bathinda and 1634 in Sangrur District- between 2000 and 2008. And in the state where green revolution took place in 1960's the adverse conditions of the farmers and their suicides are the well mark proof to us that how far green revolution brought misery for them rather happiness.

### *(v) Social Tension in Rural Areas*

The new agricultural technology has created

A class of farmers who have resources and opportunities to prosper while others have lagged and stagnated. There is now a very conspicuous difference in the economic status of the two groups of farmers. This has led to a social polarisation in the rural areas.

## **Reform Areas in Punjab Agriculture**

### *(a) Price Policy*

The major underlying objective of the Indian government's price policy is to protect both producers and consumers<sup>2</sup>. Currently, food security system and price policy basically consists of three instruments: procurement prices/minimum support prices, buffer stocks and public distribution system (PDS). There is a need to provide remunerative prices for farmers in order to maintain food security and increase incomes of farmers. There has been a debate on price vs. non-price factors in the literature. In our view both price and non-price factors are important in raising agricultural production

One criticism of procurement policy is that it is limited to few crops and few states. Our field visits to different states reveal the following farmers' perceptions about agricultural prices. The cost of cultivation is increasing due to increase in input prices. Particularly agricultural wages have increased due to National Rural Employment Guarantee Scheme (NREGS) in several states. They want to resort to mechanization due to labour shortages in peak season. Farmers respond to prices as shown by increase in yields of wheat in Punjab and other states with significant increase in MSP. Farmers have to undergo distress sales due to lack of procurement in states like Bihar, parts of UP, M.P. and Orissa. If rice production is to be shifted to Eastern region, rural infrastructure including procurement centres has to be improved. Pulses production can be enhanced in several states with higher MSP and procurement. Provision of electricity has to be raised in order to exploit ground water in Eastern region. In the context of globalization, tariff policy becomes important for agricultural commodities. In other words, it is important to monitor exports, imports, global supply and demand and fix tariffs accordingly. There is a need to balance between producer prices and consumer prices by careful calibration of minimum support prices and tariff policy (import duties).

There is a need for reforms in buffer stock operations and targeted public distribution system (TPDS). Buffer stock operations are becoming expensive. As FCI gets full reimbursement for its procurement, handling and storage costs, the scope for its efficiency improvement through reduction in operating costs need to be examined. Similarly, there are significant leakages in PDS. There can be better ways of more efficient food management practices in procurement, buffer stock and PDS. Policy reforms are needed here. Private sector can be involved in storage and some other activities with regulations.

### *(b) Subsidies and Investments in Agriculture*

One major reform needed in agriculture sector relates to reduction in subsidies and increase in investments. Agricultural subsidies are fiscally unsustainable and

encourage misuse of resources, leading to environmentally malignant developments. There is trade-off between subsidies and investments. Public investment declined from 3.4% of agri. GDP in the early 1980s to 1.9% in 2001-03. At the same time subsidies increased from 2.9% to 7.4% of agri. GDP (GOI, 2007). Rise in public and private investment is crucial for enhancing agricultural growth. Fortunately, gross capital formation in agriculture has increased from 12% of agricultural GDP in 2004-05 to 14.2% of GDP in 2007-08 (Table 4). Public sector investment has increased significantly during this period. However, we need 16% agricultural GDP as investment in order to get 4% growth in agriculture. In this context, the announcement of *Bharat Nirman* programme in 2005 by the Government of India in order to improve agriculture and rural infrastructure is in the right direction. However, the pace of this programme has to be improved.

#### *(c) Land Issues*

Some argue that small size of farm is responsible for low profitability of agriculture. Chinese and the experience of other East Asian countries show that it is not a constraint. On land market, the Report of the Steering Committee recommended the following. "Small farmers should be assisted to buy land through the provision of institutional credit, on a long term basis, at a low rate of interest and by reducing stamp duty. At the same time, they should be enabled to enlarge their operational holdings by liberalizing the land lease market. The two major elements of such a reform are: security of tenure for tenants during the period of contract; and the right of the land owner to resume land after the period of contract is over". There are some emerging land issues such as increase in demand for land for non-agricultural purposes including special economic zones, displacement of farmers, tribals and others due to development projects. There is a need for careful land acquisition. Land alienation is a serious problem in tribal areas.

#### *(d) Irrigation and Water Management*

Water is the leading input in agriculture. Development of irrigation and water management are crucial for raising levels of living in rural areas<sup>3</sup>. Major areas of concern in irrigation are: decline in real investment, thin spread of investment, low recovery of costs, decline in water table, wastages and inefficiencies in water use and, non-involvement of users Both investment and efficiency in use of water are needed. Major areas of reforms needed in irrigation are: stepping up and prioritizing public investment, raising profitability of groundwater exploitation and augmenting ground water resources, rational pricing of irrigation water and electricity, involvement of user farmers in the management of irrigation systems and, making groundwater markets equitable. In a recent study, new watershed guidelines

based on Parthasarathy Committees recommendations were accepted by the Central Cabinet in March 2009. The implementation has to be stepped up in order to obtain benefits in rainfed areas. National Rainfed Area Authority has big responsibility in matters relating to water conservation and watershed development. Assets created under NREGS can help in improving land and water management.

#### *(e) Research, Extension and Technology Fatigue*

The yield growth for many crops has declined in the 1990s. Technology plays an important role in improving the yields. The National Commission on Farmers indicates that there is a large knowledge gap between the yields in research stations and actual yields in farmers' fields. The yield gaps given by the Planning Commission range from 5% to 300% depending on the crop and State.

National Food Security Mission (NFSM) has been launched to increase 20 million tonnes of foodgrains (10 m.t. for rice, 8 m.t. for wheat and 2 m.t. for pulses) during the 11th plan period. It has already shown some results by increasing yields in different regions. There is a need to strengthen this mission to increase productivity.

The issue of technology fatigue in agriculture is well known now. There is a need to shift away from individual crop-oriented research focused essentially on irrigated areas towards research on crops and cropping systems in the dry lands, hills, tribal and other marginal areas. In view of high variability in agro-climatic conditions in such unfavourable areas, research has to become increasingly location-specific with greater participation or interaction with farmers. Private sector participation in agricultural research, extension and marketing is becoming increasingly important especially with the advent of biotechnology and protection being given to intellectual property. However, private sector participation tends to be limited to profitable crops and enterprises undertaken by resource rich farmers in well endowed regions. Therefore, the public sector research has to increasingly address the problems facing the resource-poor farmers in the less endowed regions. The new agricultural technologies in the horizon are largely biotechnologies. There has been a revolution in cotton production due to success of BT cotton in this decade<sup>4</sup>. Similarly, there is a need to strengthen extension. The ATMA (Agricultural Technology Management Agency) scheme was launched in 2005 to support state governments' efforts to revitalize the extension. This scheme gives an opportunity to improve extension system.

#### *(f) Credit*

According to the expert group on Financial Inclusion (GOI, 2008) only 27% of farmers have access to institutional credit. It is true that there have been some improvements in flow of farm credit in recent years. However, the Government has to be sensitive to the four distributional

aspects of agricultural credit. These are: (a) not much improvement in the share of small and marginal farmers; (b) decline in credit-deposit (CD) ratios of rural and semi-urban branches; (c) increase in the share of indirect credit in total agricultural credit and; (d) significant regional inequalities in credit.

#### *(g) Diversification to Hi-value Agriculture and Marketing*

There has been diversification of Indian diets away from foodgrains to high value products like milk and meat products and vegetables and fruits. Since risk is high for diversification, necessary support in infrastructure and marketing are needed. Price policy should also encourage diversification. The Government wants to have second „green revolution“ by diversifying agriculture in crop sector and allied activities. To promote holistic growth of the horticulture sector through area based regionally differentiated strategies, the National Horticulture Mission (NHM) was launched in the country during 10th Plan. The impact has to be strengthened further to improve productivity in horticulture sector.

For small and marginal farmers, marketing of their products is main problem apart from credit and extension. In recent years, there has been some form of contract arrangements in several agricultural crops such as tomatoes, potatoes, chillies, gherkin, baby corn, rose, onions, cotton, wheat, basmati rice, groundnut, flowers, and medicinal plants.

There is a need to revamp some of the legal hurdles for agro processing and APMC Act<sup>6</sup>. Several State Governments have already amended their APMC Acts allowing varying degrees of flexibility. However several States are yet to notify the relevant rules that would make the amendment fully operational. These steps should be speedily completed to provide a boost to promotion of direct marketing, contract farming, and setting up of markets in private and co-operative sectors. Most important problem for the farmers is output price fluctuations. There is a big gap between producer prices and consumer prices. There are different models for marketing collectively by the small and marginal farmers. These are: self help group model, co-operative model, small producer co-operatives and contract farming. *Apni Mandi* in Punjab, *Rytu Bazars* in Andhra Pradesh, dairy co-operatives are some of the successful cases in marketing. The real challenge lies in organising the small and marginal farmers for marketing and linking them to high value agriculture. Thus, group approach is needed for getting benefits from marketing.

#### *Equity in Agriculture*

*Regional Disparities:* Growth rates in agriculture SDP were high for many states during the period 1984/85 to 1995/96. However, growth decelerated in all the states except Bihar during the period 1995/96 to 2004/05 (GOI, 2007)<sup>7</sup>. The deceleration is the highest in the states with

greater proportion of rain-fed areas (Gujarat, Rajasthan, M.P., Karnataka and Maharashtra). Recent experience, however, shows that Gujarat recorded the highest growth of around 9 per cent during 2000/01 to 2007/08 (Gulati, 2009). During this period, six states viz., Gujarat, Rajasthan, Himachal Pradesh, Andhra Pradesh, Chattisgarh and Bihar recoded more than 4% growth per annum. Public investment in infrastructure like irrigation, power, roads, watersheds, check dams, technology like BT cotton and diversification in agriculture played crucial roles in raising agricultural growth in Gujarat. Other states can learn from the experience of Gujarat. There is a need to shift rice cultivation to Eastern region from Punjab and Haryana for growth, equity and environment reasons. In order to encourage the States to invest more towards agriculture and allied sectors and to achieve 4% growth in agriculture, the government launched the Rashtriya Krishi Vikas Yojana (RKVY) in 2007-08 with an outlay of Rs.25,000 crores for the 11th Five Year Plan. The scheme requires the States to prepare District agriculture plans and provides adequate flexibility and autonomy to State governments. The States should make use of this scheme to improve the agriculture sector.

#### *Small and Marginal Farmers*

It is known that more than 80% of India's farmers belong to the categories of small and marginal farmers with an area share of more than 40%. The support systems and policy changes have to support in raising productivity and incomes of the small and marginal farmers. National Commission on Enterprises for Unorganized Sector (NCEUS, 2008) suggests special programmes for small and marginal farmers. Principal activities proposed under this include promotion of marginal-small farmers" groups, enabling greater access to institutional credit, training and capacity building, support for strengthening and non-farm activities, gender-focused activities and planning for development of marginal and small farmers.

#### **Concluding Remarks**

As various reforms have been already implemented but still the immediate need is to identify a legislative mechanism to promote contract farming and to ensure the enforceability of such contracts in producing high value crops. Freeing up of land lease markets and computerization of land records will help in easing land transactions among farmers. Ensuring that land tenancy laws are not a constraint to agro industry development is also important. Market reforms related to rationalization of input subsidies and removal of all restrictions in terms of stocking limits, movements, and levies in transporting food grains should be implemented. In conclusion, it is important that the Punjab policymakers bring the brains together, both domestic and international to bear on the fire development strategies of Punjab. Getting the bankers, entrepreneurs, and farmer leaders on the same

table and meeting their needs in order to make progress will be essential in the near future. Last and not least, getting the legislation cleaned up for all the controls that are pulling down the agricultural economy will be important.

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