

# **Priorities and Possibilities of Investment for Accelerated and Inclusive Agricultural Growth in Bihar**

**17<sup>th</sup> March 2012, Hotel Pataliputra Ashok, Patna**

## **Discussion paper**

### **1. Introduction**

A number of civil society organizations led by PAIRVI, ICCO Cooperation and Beyond Copenhagen, in collaboration with ICAR and NCAP (Delhi), ICAR, Eastern Regions, (Patna) is organizing a one day Consultation on “Priorities and Possibilities of Investment for Accelerated and Inclusive Agricultural Growth in Bihar” on 17<sup>th</sup> March 2012, at Patna. The objective of the Consultation is to review agricultural performance and growth in the light of investment and need for further public and private investment in critical sectors of agriculture in the state.

### **2. Context**

Agriculture is the backbone of Indian economy and plays a significant role in the overall socio-economic fabric of India. Agriculture is measured to be the very basis of political and social steadiness of a nation since times immemorial. Growth and development in agriculture sector is not only essential to secure food security, it plays an important role in employment generation as well. However, growth of agriculture depends on various factors investment contributes most. Despite this fact investment process is quite ignored in agriculture sector especially in State like Bihar. The State has suffered from low priority in terms of public investment in agriculture. Investment in agriculture as a ratio of the agricultural GDP in Bihar is much lower than that in most of the other states in the country. It is also felt that private investment in agriculture is also subject to public investment and creation of a competent rural and agricultural infrastructure that the state lacks. Immediate scaling up is needed for improving social as well as physical infrastructure, and for boosting public as well as private investment in the critical areas of the agriculture sector.

#### **2.1 Economic dependence and performance of Agriculture in the state**

Agriculture contributes nearly 33 per cent to the state’s GDP, but its share in the workforce is 74 per cent (as per 2008 figures). This asymmetry between the SGDP from agriculture and the workforce dependent on it has widened over a period of time. The task of reviving Bihar's economy and ensuring the welfare of its people, therefore, hinges on agricultural development.

The agriculture in Bihar has shown certain changes both in terms of its contribution to the SGDP as well as in terms of its composition. While the contribution of agriculture in the state has remained very high as compared to the national average, and other states, the dependence of population on agriculture has remained consistently high. In composition of agriculture, the dominance of crops has been followed by consistent rise in contribution of livestock.

Share of agriculture and allied activities in SGDP has declined but it still contributes one-third to the Bihar economy. While the contribution of agriculture to the national economy was only 18 per cent in 2006 it contribute around 33 per cent share in the state’s economy. 78 per cent of Bihar’s rural

workforce is still employed in the agricultural sector. In fact, the low agricultural productivity per worker is attributed to the large number of people tied to agriculture and the limited opportunities available for rural non-farm employment. The low labour productivity is a major factor contributing to the high level of poverty in the state. A much higher proportion of the workforce needs to be moved from agriculture to the non-agricultural sector to make agriculture more rewarding and viable for those employed in it.

Crops, livestock, fisheries and forestry constitute the core sectors of agriculture. The crop sector is the principal source of output of the agriculture sector, followed by livestock. Although agriculture continues to be the main source of livelihood in Bihar, its share has declined substantially from around 66 per cent in 2001 to half in a decade, to about 48 per cent in 2006. On the other hand, there was a steep increase in the share of the livestock during the same period, and it increased from about 26 per cent in 2001 to 41 per cent in 2006, a clear indication of the growing importance of the livestock sector. Fisheries, which accounted for less than 4 per cent of the agricultural economy till 2001, witnessed an increase in its share to 5 per cent in 2006.

### **2.3 Structural changes in agriculture, increased demand and constraints**

Significant structural changes have been observed within the crop sub-sector, which showed a clear pattern of diversification. Cereals continue to dominate the crop-sub sector, though their proportionate contribution to the value of output from crops declined from 40 per cent in 2001 to 34 per cent in 2006. Among the major cereals, maize showed a marginal increase in share while the share of paddy and wheat together declined from 36 per cent to about 30 per cent. The share of sugar in the value of crop output increased from 2.3 per cent in 2001 to 2.8 per cent in 2006. The contribution of pulses declined from 4.7 per cent to 3.9 per cent while that of oilseeds remained stagnant at 1.1 per cent between 2001 and 2006.

Fruits and vegetables have occupied a very important place in Bihar's crop economy. Their importance increased further as their share in the crop output increased from 41 per cent in TE 2001 to 47 per cent in TE 2006.

The total demand for cereals in Bihar is projected to grow to 22.5 million tonnes (mt) by 2020-21. The demand for pulses during the same period would grow to 1.4 million tonnes. The demand for milk and milk products is projected to increase to 5.5 mt by 2020-21. Projections for other commodities for the year 2020-21 are 0.8 mt for edible oil, 18.9 mt for fruits and vegetables, 0.8 mt for meat, egg and fish and 0.9 mt for sugar. In order to meet the projected demand, the state's production needs to increase each year by about 5.4 per cent for cereals and 11.2 per cent for pulses, by 22.8 per cent for edible oil, 4.8 per cent for sugar and meat, egg and fish each and 0.8 per cent for milk and milk products.

The required growth rates are much higher than the growth rates experienced during the last few years in the case of foodgrains, edible oil and sugarcane. On the other hand, the required growth rates for meeting the projected demand for fruits and vegetables, milk and other livestock products are lower than the actual growth rates achieved in the past.

In Bihar, milk production was estimated to be 1.57 million tons in 1951, which contributed 9.24 per cent of the total milk production in the country; and the per capita per day milk availability was also higher in Bihar (153 gms) than at the national level (124 gms). Ironically, even as production was

increasing in the state, Bihar's share in national milk production continuously declined from 9.24 per cent in 1957 to 3.12 per cent in 2002. During the last three years, the rate of increase in milk production in Bihar has been much higher than at the national level. Presently, Bihar accounts for nearly 5 per cent of the country's milk production. Nearly 64 lakh households in the state are engaged in this activity. Of those employed in the livestock sector, women constitute 70 per cent of the labour force. The distribution of livestock is more equitable than that of land, and livestock also serves as an insurance mechanism for poor farmers. More striking is the case of ownership of sheep and goats. While landless and marginal farmers holding less than one hectare of land, together account for 91 per cent of the total sheep and goat ownership, as many as 69 per cent of the households still do not have these assets.

The National Dairy Development Board (NDDB) has selected the state for accelerated dairy development. Twenty districts, which have a good potential for dairy development, have been identified, and another eighteen districts will need greater efforts to exploit their potential. It is suggested that with proper supportive steps, that is, institutional reforms, adequate investment and, wherever essential, grants and subsidies, the growth in milk production in the state can be raised from the level of 138 lakh kgs of liquid milk per day to 172 lakh kgs during the Eleventh Five Year Plan period.

### **3. Areas of Further intervention**

The state government has claimed to hike the investment in agriculture in a decade from 200 crore to 800 crore from 2003-2004 to 2009-2010. The endeavour of State Government to revive and revamp the investment is praiseworthy but there are several concerning area which is still neglected and lot has to be done.

**3.1 Land development:** Bihar accounts for 2.8 per cent of the country's area and 8.1 per cent of its population. The pressure of population on land is extremely high and hence the per capita availability of land is among the lowest in the country. High rural population density implies intensive land use. A very high proportion of the land including marginal and wasteland, village commons, river beds are brought under cultivation. Around 60 per cent of the reporting area is cultivated in the state as compared to 47 per cent in the country as a whole. The area under pastures has declined and so has that under permanent and current fallows. The area under forests is very low as compared to the national average. Vertical intensification is not high and cropping intensity is 135 per cent. In Bihar, there is virtually no scope for bringing additional land under cultivation. The Gross Cropped Area (GCA) can be increased only by enhancing the cropping intensity. The area under non-agricultural use is very high, and is expected to increase further with urbanization and industrialization.

**3.2 Water resources/irrigation:** Bihar is extremely rich in water resources. The state has adequate rainfall all over, a network of perennial and semi-perennial rivers, and a sufficient supply of ground water at low depth. In terms of the sown area, the per ha. availability of water from river flows in Bihar is twice that for the country as a whole. Yet the gross irrigated area in Bihar is approximately 60 per cent of the cultivated area, while it is 95 per cent in Punjab and 67 per cent in Uttar Pradesh. Nearly 2.389 million ha. of groundwater is available for irrigation, after accounting for drinking water and other uses. Hardly 40 per cent of the groundwater is developed, leaving a vast untapped potential in this area. While North Bihar is a victim of frequent floods, and 40% of the total cropped area is damaged every years due to floods, a significant part of South Bihar witnesses periodic droughts.

**3.3 Rural infrastructure, Road connectivity and electricity:** These are the two other critical areas in which the state needs to make massive investments to improve agricultural performance and productivity. There have been substantial improvements in road connectivity in recent years but the situation in terms of the power supply has not improved much. The lack of power is one of the most important factors hindering the agricultural development of the state. The extensive use of expensive diesel pumps has considerably raised the production cost of farmers in Bihar.

**3.4 Credit:** Institutional credit is a pre-requisite for increasing agricultural production and its value addition, particularly in Bihar, because more than 90 per cent of the farm households belong to marginal and small categories (owning <2 ha of land), whose income is not even sufficient to meet their consumption requirements. The 59<sup>th</sup> Round of the NSS Survey has shown that only 33 per cent of the rural households have access to credit in Bihar, as against a national average of 48.6 per cent. Only 23 per cent of the borrowing households obtained loans from institutional agencies in the state, and the share of institutional credit in total borrowings by the farmers was only 24 per cent. The credit-deposit ratio of commercial banks in Bihar in 2005-06 was 30 per cent as compared to 42 per cent in Uttar Pradesh, 65 per cent in Orissa, 102 per cent in Maharashtra, and 106 per cent in Tamil Nadu. The situation is exacerbated because of low banking density (with one branch catering to 13 villages) and under-staffed rural branches of the commercial banks.

**3.5 Marketing:** The experience of agricultural development in Bihar has shown that the existing system of marketing of agricultural output has not been adequate and efficient in reaching the benefits of technology to all sections of farmers. Farmers are not able to sell their surplus produce remuneratively and there are widespread distress sales, particularly by marginal and small farm households. Structural weaknesses of agricultural markets like unorganized small producers pitted against organized buyers, weak holding capacity of the small producers, and the perishable nature of the produce in the absence of any storage infrastructure in Bihar, have further constrained farmers to benefit appropriately from the markets. In fact, farmers in the state have got lower prices than MSP at times.

**3.6 Crop insurance and risk coverage:** It is necessary in the event of regular floods in Bihar and droughts in certain districts. Marginal and small farmers benefit significantly in terms of the subsidy involved in payment of premium and also claims paid in lieu of crop failure. Also, Bihar has not been able to take full advantage of MSP scheme primarily because the produce, mainly food grains, of individual farmers is meager in quantity. This is in sharp contrast to the agriculturally more advanced states like Punjab.

**3.7 Agriculture research and development:** The investment in agricultural research and education in the state is a paltry 0.2 per cent of the state agricultural GDP (as against 0.5 per cent at the national level). About 95 per cent of the expenditure on agricultural research and education is incurred on salaries, while the bulk of the remaining amount is earmarked for establishment expenses, leaving hardly any funds for operational expenses. There are about 300 technical persons employed in the agricultural department and more than 50 per cent of the positions are lying vacant.

Agricultural research and training in the state is spearheaded by the Rajendra Agricultural University (RAU). The University once considered a premier institution, has become largely dysfunctional by the mid-1990s. At present, a large number of posts of scientists in the University are lying vacant. The same is true of the state Agricultural Department and the state Animal Husbandry Department. Bihar is also covered by a number of national agricultural research networks with the Indian Council of Agricultural

Research (ICAR) as the apex organization. There is, however, very little synergy between the Agricultural University and the ICAR/research centres/stations located in the state. Besides, the ICAR supports State Agricultural Universities in a major way. Bihar has not been able to take full advantage of the various schemes offered by ICAR.

**3.8 Agricultural Extension:** The weakest link in agriculture is extension. A nation-wide survey of farmers conducted by the NSSO in 2003 reported that only about 5.7 per cent of the farmers, and a dismal 0.4 per cent of them in Bihar, received information on modern technology from extension agents. This is the lowest percentage among the major Indian states. There are three main public players for the dissemination of agricultural technology in Bihar. These institutions include the *Krishi Vigyan Kendras* (KVKs), government departments and the Agricultural Technology Management Agency (ATMA). In Bihar, KVKs have already been established in all the 38 districts—30 by RAU, one each by the ICAR and Sone Command Development Authority, and six by different NGOs. The KVKs of RAU are under-staffed. Despite 100 per cent financial support by the ICAR, the University has failed to fill even 50 per cent of the technical positions in KVKs. Funds for creating infrastructure like buildings, farmers' hostels and laboratories are not being utilized by the University, which has adversely affected the functioning of KVKs, particularly in organizing training and disseminating modern agricultural technologies in Bihar. As mentioned earlier, there is a shortage of technically trained personnel in the government departments.

The Government of Bihar has established ATMA in all the 38 districts. While ATMA has been able to revitalize agricultural extension to some extent, the studies and assessments conducted by the state government and also the World Bank have also pointed out certain weaknesses in the performance of this model in the state. All the ATMA do not have the desired number of offices/staff, including the Project Director and Deputy Project Director, which has adversely affected their performance. There is also a lack of co-ordination among different extension agencies the KVKs, ATMA and government departments. Further, ATMA in each district are headed by the District Magistrate (DM). The arrangement has not worked out well due to severe demands on the time of the DMs.

#### **4. Expected outcome**

The Consultation will assess the performance and growth in agriculture and its linkages with investment. It is expected to emphasize focus area for further investment by state and private sources. The Consultation will draw and long term intervention plan with the state to increase investment in agriculture in the state.

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