

Progression of Agricultural Sector in India

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Abstract

Agriculture is a fundamental sector of the Indian economy. Though the contribution of this sector towards the Gross Domestic Product (GDP) has experienced a decline from about 30 percent in the year 1990 - 1991 to less than 15 percent in the year 2011 - 2012. The agricultural sector forms the mainstay of the country's development. Food is an essential requirement of every individual, and an average Indian spends half of his total expenditure on food. Approximately half of the Indian workforce is employed in the agricultural sector in order to acquire livelihood. Agriculture is considered to be both a source of livelihood and food security, for a vast majority of poverty stricken, low income and marginalized sections of the society. The main purpose of this research paper is to understand the progression of the agricultural sector in India. The main areas that have been taken into account are, significance of agriculture, changing agrarian economy since independence, major programs implemented in agriculture and allied sectors, performance of essential factors required for agricultural production, and capital formation in agriculture. The agricultural sector forms the resource base for the number of agro-based industries and agro-services. This sector should not just be observed from the farming perspective, but should be considered as the holistic value chain, it includes number of areas, such as farming, using agricultural techniques, wholesaling, warehousing, processing and retailing. It is essential to employ innovative techniques and methods in the agricultural sector, in order to enhance production. If the economy is growing at nine percent per annum, it is important that agriculture should grow at least by four percent per annum.

Keywords: Agricultural Sector; Workforce; Economy; Changes; Programs; Capital Formation

Introduction

Agriculture continues to be the backbone of the Indian economy. Agriculture is defined as the support of Indian economy primarily because of three reasons. First, agriculture institutes large share of the country's national income, though the share that has declined from 55 percent in early 1950s to about 25 percent in early 2000s. Second, more than 213rd of the workers of the country were employed within the agricultural sector until 1971. Recent census data for the year 2001 indicates that agriculture workers, which includes the cultivators and agricultural labourers account for 58.4 percent of the workforce of India. Third, development of other sectors and complete economy depends on the performance of agriculture to a significant degree. Agriculture has also contributed an important part as foreign exchange payee. Because of its regressive and advancing connections with the other economic sectors, transformations in agricultural performance have a

multiplier effect on the entire economy. Its performance, therefore, is central in the jobs of decrease and ultimate abolition of poverty in India [1].

India has made a great degree of progress in the field of agriculture since independence in terms of development in output, yields and area under many crops. It has gone through a green revolution, a white revolution, a yellow revolution and a blue revolution. Today, India is the largest producer of milk, fruits, cashew nuts, coconuts and tea in the world, the second largest producer of wheat, vegetables, sugar and fish and the third largest producer of tobacco and rice [1].

Significance of agriculture

Around 70% of the people in India reside in rural areas, agriculture is the main occupation of the people in rural areas. In these areas, people are mainly residing in remote and backward regions,

they are backward in terms of literacy and reside in the conditions of poverty. Higher priority given to the agricultural sector will contribute in achieving the goals and objectives of causing a reduction in poverty and malnutrition. Attaining an eight to nine percent rate of growth in overall gross domestic product may not distribute much in terms of poverty lessening without the agricultural growth increases at a rapid rate. At the same time growth with inclusiveness can be attained only when agriculture growth hastens and is also generally common amongst people and regions of the country. All these factors point to just one thing, that agriculture has to be kept at the centre of any reorganisation program or planning process, in order to make a substantial impression on poverty and malnutrition, and to make sure the achievement of long-term food security for the people [2].

Agriculture plays an imperative role within the Indian economy, it has a significant share in the national income of the country. It is the largest employment providing sector, agricultural sector makes provision of employment opportunities for the individuals. In India, there are individuals who belong to marginalized groups and socio-economically backward sections of the society, when they migrate to urban areas in search for jobs, they work minority jobs, such as, labourers, plumbers, carpenters, painters etc. When they return to their villages, the only occupation that they practice is that of farmers and agricultural labourers. The agricultural sector plays an important part in the formation of capital. The raw materials that are available to the industries are produced within the agricultural sector and it is a market for industrial products [3]. The various examples of crops that are produced within the agricultural sector are wheat, rice, coarse cereals, pulses, oil seeds, sugar, fibres, drugs and narcotise, condiments and spices, fruits and vegetables, cotton, sugarcane, tobacco, and so forth. Increasing urbanization and economic growth has led to an increase in the demand for these products.

Changing agrarian economy since independence

There has been immense changes in the agrarian economy since independence. The major changes have taken place with respect to the following areas, these have been stated as follows [4].

Land use pattern: The basic aspect in agriculture is land. Information about land use pattern is crucial to understand whether the operation of land in India is at its complete prospective or far from its complete prospective. In India, the organization of land has had its roots in agricultural statistics. Till 1950, the land in India was

largely classified into five categories: (i) area under forests; (ii) area not available for cultivation; (iii) uncultivated lands including current fallows; (iv) area available under current fallows; and (v) net area sown. But then it was understood that such a classification did not provide a valid picture of the actual area under different categories of land use required for agricultural planning. Hence, a reclassification was adopted from March 1950. Under it, land in India now is categorized under nine different categories. These are: (i) forests; (ii) barren and uncultivable lands; (iii) land put to non-agricultural uses; (iv) cultivable wastes; (v) permanent pastures and other grazing lands; (vi) miscellaneous tree crops and groves not included in the net area sown; (vii) current fallows; (viii) other fallows; and (ix) net sown area.

Changing agricultural structure: The changing structure of the Indian agricultural sector is looked in terms of two aspects, these are employment and land holding. The share of the agriculture in employment has declined from about 82 percent in 1950-51 to about 72 percent by 2001. During the same duration, the share of agriculture in total GDP also declined from 54.66 percent in 1950-51 to 24 percent by 2001. Amongst the agricultural sector workers, about 45.6 percent are registered as agricultural labourers and the remaining, i.e., 54.4 percent as cultivators while 28.1 percent was registered as agriculture labourers and the remaining as cultivators in 1950-51.

Changes in cropping pattern: By bringing about changes in the cropping patterns, this means, the fraction of area used under different crops at a particular period of time. A change in cropping pattern means a change in the fraction under different crops. The area under non-food crops as a fraction of the total cropped area is growing but still there is prominence of food crops. At the beginning of the economic planning in India, 76.7 percent of the land was put under food crops and about 23.3 percent on non-food crops. By 2001, area under food crops had decreased to 65.83 percent and under non-food crops has increased to 34.17 percent. This transference in the distribution of area from food crops to non-food crops reproduces a change from subsistence cropping to commercial cropping. This transferring of land from food crops to non-food crops was primarily inclined by the predominant price in the market and profitability per hectare.

Input use pattern: Agricultural production and efficiency largely depend upon the inputs applied and the methods utilized. The main inputs that are used in the agricultural sector are, technology,

water, manure, fertilizers, insecticides, pesticides, seeds and agricultural implements. In India, as there has been an increase in the population, the land surface is fixed and of this only a certain section is available for cultivation. In addition, possibility for generating additional land under the plough is incomplete. If more production is to be generated in this existing area, the problem has to be dealt with on a wide front. This can be done by making application of inputs in a more intensive manner and by employing current methods of production through utilization of enhanced technology, besides making a satisfactory provision for institutional financing, better methods of marketing, and so forth.

Major programs implemented in agriculture and allied sectors

There are schemes sponsored by the central government, which are intended to increase agricultural production and overall income of the farmers [5].

National food security mission: In 2007, the Government of India launched the National Food Security Mission (NFSM) initiative to progress the country's whole crop production, especially that of rice, wheat and pulses. The main objective of NFSM is to introduce technological constituents, that include farm machines, implements as well as improved quality variants of seeds, soil ameliorants, plant nutrients and plant protection measures.

Rashtriya krishi vikas yojana: In FY08, the government introduced Rashtriya Krishi Vikas Yojana (RKVY), with an expense of Rs 25,000 crore i.e. US\$ 4.7 billion, to reassure states to increase public investment in agriculture and allied services. The program enables implementation of national priorities as sub schemes, thereby, making provision of suppleness in project selection and application to state governments.

Macro management of agriculture: The Macro Management of Agriculture (MMA) scheme was launched during the 10th Five Year Plan with an investment of Rs 4,154 crore i.e. US\$ 777.4 million, and modified in 2008 to assist the states progress in the agricultural production. The original scheme attained the dealing of vast amounts of degraded land, and the large scale distribution of farm equipment. The reviewed scheme initiated recently decreases the intersections between the NFSM and RKVY, and justifies cost and subsidy norms. As per the modified scheme, assistance to state governments will be based on distribution criteria of 90:10, wherein 90 percent of the total assistance will be a grant and 10

percent will be loans to states and union territories. Though, in case of North Eastern states, the central government's entire share of 100 percent is in the form of a grant.

Integrated scheme of oilseeds, pulses, oil palm and maize: Integrated Scheme of Oilseeds, Pulses, Oil Palm, and Maize (ISOPOM) programme is mainly marked at small and marginal farmers who increase oilseeds under rain fed conditions in the arid and semi-arid areas of the country. In the 11th plan period, the programme has been implemented across fourteen states for oilseeds and pulses, fifteen states for maize and nine states for palm oil.

National mission for sustainable agriculture: NMSA programme was initiated after the agreement of The Prime Minister's Council on Climate Change in September 2010. The main objective of the programme is to guarantee food security as well as to protect various resources such as land and water and biodiversity and genetic resources. The programme is also aimed at enabling the Indian agriculture to undergo challenges and problems such as changes in the climatic conditions.

Performance of essential factors required for agricultural production

The main factors that are vital for the agricultural production have been stated as follows [5].

Technology: In the present existence, India's current Research and Development spending on agriculture is only 0.6 percent of the total agriculture GDP. There has been low development of technology within the agricultural sector. The technologies developed by the public sector are often unsuccessful in catering to the needs and perceptions of the average rural farmer. The commercialization of technology has been dependent upon the extension systems, the extension systems do not have proper workers that would cater to the variety of farmer requirements. There are lack of skills that may efficiently contribute in addressing to the technological issues and operations of technologies.

Seeds: The Indian agriculture sector experiences the tasks of suitable availability of seeds and lower seed replacement rate (SRR). Moreover, inadequate supply of seeds, because of scarcities in production by certified agencies, remains to be a problem. While the sector has experienced substantial growth in the production of certified and breeder seeds; the supply of breeder seeds is regularly higher than the varieties unconstrained by the central and state

governments. This specifies that breeder seeds are not made use of as per their potential in the production of certified seeds.

Irrigation: The area under irrigation increased by more than four million hectares from 2004-05 until 2006-07. This led to an increase in the irrigated net sown area from 40 percent in 2003-04 to 43 percent in 2006-07. However, the growth in the area under irrigation is significantly reduced in comparison to the increase in private and public investments in the agriculture sector. Furthermore, about 80 percent of the public investments are focussed towards cultivating the irrigation system established within the country. The Desert Development Program (DDP), Drought Prone Areas Program (DPAP), and the Integrated Watershed Development Program (IWDP) were combined to form Integrated Watershed Management Program (IWMP).

Fertilisers: Chemical fertilisers have contributed a significant part in making India self-reliant in terms of production of food grains. However, the inappropriate utilization of nutrients and micro-nutrients has undermined the optimal combination of fertiliser consumption and food grain production. Additionally, fertiliser subsidy has augmented significantly, principally due to the increasing fertiliser consumption and increasing per unit subsidy component. Fertiliser subsidy, defined as a ratio to the value of crop output, increased from 3.5 percent in 2000-06 to 4.8 percent in 2007-08, and to more than 10 percent in 2008-09. This growth is attributable to the rise in the price of imported fertilisers.

Agricultural credit: Agricultural credit is considered important in leading to an increase in agriculture. Therefore, it is essential to make availability of credit to the farmers. The government has focused on the improvement of the flow of credits through the system of Kisan Credit Cards (KCC), introduced in the year 1998-1999. Under the 11th plan, reliable development was observed in the establishment of Self Help Groups (SHGs). According to the SHG bank linkage programme, 6,121,147 SHGs, with saving bank accounts, had savings of Rs 5,546 crore i.e. US\$ 1 billion on 31 March 2009, whereas, 5,009,794 SHGs accounted for savings of Rs 3,785 crore i.e. US\$ 709.7 million on 31 March 2008.

Capital formation in agriculture

Capital formation is important for comprehensive and maintainable development of the agriculture and allied sectors that has shown a positive relation with the agricultural output. Public sec-

tor investment has been an important source of GCF in agriculture and an empowering influence in preserving agricultural growth. For example, the moderately developed growth rate of agriculture between 2004-05 and 2007-08 was principally on account of amounts taken to pervade public investment in the sector. The much required capital mixture in agricultural research and extension was facilitated by the implementation of schemes like Rashtriya Krishi Vikas Yojana (RKVY), National Horticulture Mission, National Agricultural Innovation Project, central support to state extension programmes, and so forth. As a consequence, the proportion of public sector GCF in agriculture, i.e. base: 2004-05 = 100 augmented between 2004-05 and 2006-07, after which it started falling in assessment to the private sector's share. Historical analysis shows that public sector investment in agriculture cannot be completely additional by the private sector investment. Most of this capital is a public good in nature and, therefore, is important to motivate private investment sector [6].

Under the revised series with base year of 2011-12, the sector-wise rate of investment in agriculture and allied sector, measured as a ratio of GCF to GVA of the sector. The level of GCF in agriculture and allied sector observed a sharp decline of 12.9 percent in 2012-13 as compared to 2011-12. This was primarily on account of a decline in private household investment, which constitutes 85 percent of the total GCF in the sector. However, with the rising up of investment in the public sector, the fall in GCF was mostly comprised in 2013-14 [6].

Conclusion

There has been substantial progression in the agricultural sector, ever since the country achieved its independence. The main areas in the field of agriculture that have witnessed progression include, growth in the output, yields and most other crops and food grains. The allied sectors include, fisheries, crop and livestock sub-sectors. The main changes in the agrarian economy since independence are relating to land use pattern, changing agricultural structure, changes in cropping pattern and input use pattern. The major programs implemented in agriculture and allied sectors are, National Food Security Mission, Rashtriya Krishi Vikas Yojana, Macro Management of Agriculture, Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize and National Mission for Sustainable Agriculture. The important factors that are required for agricultural production are, technology, seeds, irrigation, fertilisers and agricultural credit.

Investment is one of the critical features defining the development rate of agricultural sector. The government contributes a significant part in enhancing agricultural progression through its increased investment in this sector as also encouraging the private investment in agriculture. The figures presented by the government in the economic survey reveals the common role of the two parties. Though the complete development of the Indian economy has depended much upon the performance of agriculture, over the years, not much public investment has been made on its growth. There is a stable deceleration in public investment in gross capital formation in agriculture. At the same time, private investment has been increasing over the period of time.

Foreign trade of agricultural commodities have increased over the years, India is a leading producer of many agricultural commodities. The exports from India are largely categorized into numerous categories like agriculture and allied products, oils and minerals, manufactured goods, mineral fuel and so forth. Among them, agriculture and allied products are employed into a noteworthy position in the total export earning of the country. Agriculture and allied products solely contributed 31.7 percent of the total export earning of India in 1970-71, which declined to 30.6 percent in 1980-81. The agriculture and the allied sector continues to contribute a central role for the success, growth and development of the Indian economy. Meeting the food and the nutritional requirements of 1.3 billion Indians, is the imperative role of the agricultural sector; besides this, it also contributes to production, employment and demand generation. This sector has well established and appropriately organized itself in the alleviation of the conditions of poverty and generating sustainable development of the individuals.

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