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A Study on Challenges and Opportunities for Agricultural Development in India

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ABSTRACT

Agriculture is one of the strongholds of the Indian economy and accounts for 14.6 per cent of the country's gross domestic product (GDP) in 2009-10, and 10.23 per cent (provisional) of the total exports. Furthermore, the sector provided employment to 55 per cent of the work force. India's agriculture and allied sector grew by 3.8 per cent in the first six months of the current fiscal (2010-11), against one per cent in the year-ago period on the back of better Kharif crop output. According to the GDP data released by the Central Statistical Organisation (CSO) on November 30, 2010, the country's farm sector grew by 2.5 per cent and 4.4 per cent each in the first two quarters of the current fiscal, against 1.9 per cent and 0.9 per cent, respectively, in the same period last year. The Government is giving highest priority to agriculture and allied sector. The Eleventh Plan allocation has been considerably higher over the Tenth Plan allocation. An amount of US$ 19 billion has been allocated for the Ministry of Agriculture during the Eleventh Five Year Plan. Capital investment in agriculture has increased from US$ 1.2 billion in 2007-08 to US$ 3.26 billion in 2010-11 (inclusive of State Plan Scheme Rashtriya Krishi Vikas Yojana), as per a Ministry of Agriculture press release dated August 3, 2010.In this study focus on history, importance and problems of Indian agriculture and also discuss about modern agricultural development.

Keywords: Agriculture, GDP, Global Positioning System, Development.

INTRODUCTION

Agriculture in India is the means of livelihood of almost two thirds of the work force in the country. It has always been INDIA'S most important economic sector. The 1970s saw a huge increase in India's wheat production that heralded the Green Revolution in the country.

The increase in post -independence agricultural production has been brought about by bringing additional area under cultivation, extension of irrigation facilities, use of better seeds, better techniques, water management, and plant protection. Dependence on India agricultural imports in the early 1960s convinced planners that India's growing population, as well as concerns about national independence, security, and political stability, required self-sufficiency in food production. This perception led to a program of agricultural improvement called the Green Revolution, to a public distribution system, and to price supports for farmers. The growth in food-grain production is a result of concentrated efforts to increase all the Green Revolution inputs needed for higher yields: better seed, more fertilizer, improved irrigation, and education of farmers. Although increased irrigation has helped to lessen year-to-year fluctuations in farm production

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resulting from the vagaries of the monsoons, it has not eliminated those fluctuations.

Objectives of the study

This study mainly aims at the following objectives,

1. To indicate history and importance agriculture
2. To discuss issues and challenges of agricultural development in India

METHODOLOGY

The study is basically a descriptive one that makes use of secondary data only, published in books, journals and annual reports of the department.

History

Indian agriculture began by 9000 BC as a result of early cultivation of plants, and domestication of crops and animals. Settled life soon followed with implements and techniques being developed for agriculture. Double monsoons led to two harvests being reaped in one year. Indian products soon reached the world via existing trading networks and foreign crops were introduced to India. Plants and animals—considered essential to their survival by the Indians—came to be worshiped and venerated. The middle ages saw irrigation channels reach a new level of sophistication in India and Indian crops affecting the economies of other regions of the world under Islamic patronage. Land and water management systems were developed with an aim of providing uniform growth. Despite some stagnation during the later modern era the independent Republic of India was able to develop a comprehensive agricultural program.

Importance of agriculture

The agricultural division plays an important role in the sphere of given that large scale employment to people. Large and fairly large farms employ workers to undertake the various jobs relating to farming of crops and care of farm animals. In most of the countries of the world, agriculture still remains the biggest division responsible for the employing and feeding a large percentage of the population. Agriculture is also important from the viewpoint of assessing the standard of a country's development, based on the capability of its farmers. Poorly trained farmers cannot apply the higher methods and new technologies. The importance of science and technology in the development of agriculture is fairly clear from the words of Deng Xiaoping -

The growth of agriculture depends primary on policy, and next on science. There is neither any limit to developments in science and technology, nor to the role that they can play in the field of agricultural growth'. Even if agriculture frequently plays a contributory role in the 'Gross Domestic Product' - GDP - of most countries, it nevertheless requires a substantial increase from both the local and the international community. Agriculture is conventionally based on bulk manufacturing. Harvesting is done once a season, most of the times, and stocked and used later. In fact, some thinkers opine that people have begun to adopt 'batch processing' and 'stocking' in manufacturing, as a result of the practices from agricultural thinking. Before industrialization, people with the biggest stocks of food and other supplies were considered more stable, and they were able to face challenges of nature without having to starve.

So important is the role of agriculture that new concepts keep 'cropping up' to give the traditional activity a modern turn. One such new idea the world is gibbering about these days is - the importance of 'organic farming'. There is evidence that, apart from their numerous other benefits, organic farms are more sustainable and environmentally sound, giving agriculture a new measurement. The importance of agricultural practices was further established when 'Organic food' began as a small movement decades ago, with gardeners and farmers refusing the use of conservative non-organic practices. With the growth of the Organic food market now outpacing much of the food industry, many big companies

have ventured into it. With the emergence of multi-national companies, and with the creation of a legal certification structure such as the Soil Association, there is every hesitation that the very definition of natural food will change, making it more of a commercial activity than ever before!

In fact, modern agriculture has already undergone a sea-change from the olden times. Nowadays, the importance of agriculture lies in the fact that it is practiced both for survival as well as profitable reasons! Investment in Agriculture is now an ordinary managed investment option for investors with a focus on a number of key Australian agricultural commodities such as forestry and horticulture. A key feature of agribusiness investing is the tax effectual feature providing substantial tax deductions supported by an Australian Taxation Office Product Ruling. Agribusiness is an alternative asset class that offers returns generated from a traditional income source. Agribusiness offers investors another level of diversification because it is not correlated with interest rates, share markets, bonds or property markets.

Issues and challenges

It is here the challenge arises considering the implementation of the technology at various levels in the Global community. The need of the hour is not application of the technology but the adoption of appropriate technology, which would suit the particular level of the global community. In India, the farming practices are too haphazard and non-scientific and hence need some forethought before implementing any new technology. Applications of agricultural inputs at uniform rates across the field without due regard to in-field variations in soil fertility and crop conditions does not yield desirable results in terms of crop yield. The management of in-field variability in soil fertility and crop conditions for improving the crop production and minimizing the environmental impact is the crux of precision farming. Thus, the information on spatial variability in soil fertility status and crop conditions is a pre-requisite for adoption of precision farming. Space technology including global positioning system (GPS) and GIS holds good promise in deriving information on soil attributes and crop yield, and allows monitoring seasonally- variable soil and crop characteristics, namely soil moisture, crop-phenology, growth, evapotranspiration, nutrient deficiency, crop disease, and weed and insect infestation, which, in turn, help in optimizing inputs and maximizing crop yield and income. Though widely adopted in developed countries, the adoption of precision farming in India is yet to take a firm ground primarily due to its unique pattern of land holdings, poor infrastructure, lack of farmers' inclination to take risk, socio-economic and demographic conditions.

Factors Contribution to Decline of Agriculture: Slow Down in Agricultural and Rural Non-Farm Growth: Both the poorest as well as the more prosperous 'Green Revolution' states of Punjab, Haryana, Andhra Pradesh and Uttar Pradesh have recently witnessed a slow-down in agricultural growth and it ultimately lead for farmer's suicide. Some of the factors hampering the revival of growth are

- Poor composition of public expenditures: Public spending on agricultural subsidies is crowding out productivity-enhancing investments such as agricultural research and extension, as well as investments in rural infrastructure, and the health and education of the rural people. In 1999/2000, agricultural subsidies amounted to 3 percent of GDP and were over 7 times the public investments in the sector.

- Over-regulation of domestic agricultural trade: While economic and trade reforms in the 1990s helped to improve the incentive framework, over-regulation of domestic trade has increased costs, price risks and uncertainty, undermining the sector's competitiveness.

- Government interventions in labor, land, and credit markets: More rapid growth of the rural non-farm sector is constrained by government interventions in factor markets -- labor, land, and credit -- and in output markets, such as the small-scale reservation of enterprises.
- Inadequate infrastructure and services in rural areas. Infrastructure is also a significant factor in the process of development but country like our rural Bharat has not posses the infrastructure such as roads, electricity, fertilizer and pesticides availability which caused the vulnerable damage to the growth of agriculture. Weak Framework for Sustainable Water Management and Irrigation: Inequitable allocation of water: Many states lack the incentives, policy, regulatory, and institutional framework for the efficient, sustainable, and equitable allocation of water. Deteriorating irrigation infrastructure: Public spending in irrigation is spread over many uncompleted projects. In addition, existing infrastructure has rapidly deteriorated as operations and maintenance is given lower priority. Inadequate Access to Land and Finance: Stringent land regulations discourage rural investments: While land distribution has become less skewed, land policy and regulations to increase security of tenure (including restrictions or bans on renting land or converting it to other uses) have had the unintended effect of reducing access by the landless and discouraging rural investments. Computerization of land records has brought to light institutional weaknesses: State government initiatives to computerize land records have reduced transaction costs and increased transparency, but also brought to light institutional weaknesses. Rural poor have little access to credit: While India has a wide network of rural finance institutions, many of the rural poor remain excluded, due to inefficiencies in the formal finance institutions, the weak regulatory framework, high transaction costs, and risks associated with lending to agriculture. Weak Natural Resources Management: One quarter of India's population depends on forests for at least part of their livelihoods. A purely conservation approach to forests is ineffective: Experience in India shows that a purely conservation approach to natural resources management does not work effectively and does little to reduce poverty.

Weak resource rights for forest communities: The forest sector is also faced with weak resource rights and economic incentives for communities, an inefficient legal framework and participatory management, and poor access to markets. Weak delivery of basic services in rural areas: Low bureaucratic accountability and inefficient use of public funds: Despite large expenditures in rural development, a highly centralized bureaucracy with low accountability and inefficient use of public funds limit their impact on poverty. In 1992, India amended its Constitution to create three tiers of democratically elected rural local governments bringing governance down to the villages. However, the transfer of authority, funds, and functionaries to these local bodies is progressing slowly, in part due to political vested interests. The poor are not empowered to contribute to shaping public programs or to hold local governments accountable. Measures Needed Areas:

Enhancing agricultural productivity, competitiveness, and rural growth

Enhancing productivity: Creating a more productive, internationally competitive and diversified agricultural sector would require a shift in public expenditures away from subsidies towards productivity enhancing investments. Second it will require removing the restrictions on domestic private trade to improve the investment climate and meet expanding market opportunities. Third, the agricultural research and extension systems need to be strengthened to improve access to productivity enhancing technologies. The diverse conditions across India suggest the importance of regionally differentiated strategies, with a strong focus on the lagging states.

Improving Water Resource and Irrigation/ Drainage Management: Increase in multi-sectoral competition for water highlights the need to formulate water policies and unbundle water resources management from irrigation service delivery. Other key priorities include: (i) modernizing Irrigation and Drainage Departments to integrate the participation of farmers and other agencies in irrigation management; (ii) improving cost recovery; (iii) rationalizing public expenditures, with priority to completing schemes with the highest returns; and (iv) allocating sufficient resources for operations and maintenance for the sustainability of investments.

Strengthening rural non-farm sector growth: Rising incomes are fueling demand for higher-value fresh and processed agricultural products in domestic markets and globally, which open new opportunities for agricultural diversification to higher value products (e.g. horticulture, livestock), agro-processing and related services. The government needs to shift its role from direct intervention and overregulation to creating the enabling environment for private sector participation and competition for agribusiness and more broadly, the rural non-farm sector growth. Improving the rural investment climate includes removing trade controls, rationalizing labor regulations and the tax regime (i.e. adoption of the value added tax system), and improving access to credit and key infrastructure (e.g. roads, electricity, ports, markets).

Improving access to assets and sustainable natural resource use

Balancing poverty reduction and conservation priorities: Finding win-win combinations for conservation and poverty reduction will be critical to sustainable natural resource management. This will involve addressing legal, policy and institutional constraints to devolving resource rights, and transferring responsibilities to local communities. Improving access to land: States can build on the growing consensus to reform land policy, particularly land tenancy policy and land administration system. States that do not have tenancy restrictions can provide useful lessons in this regard. Over the longer term, a more holistic approach to land administration policies, regulations and institutions is necessary to ensure tenure security, reduce costs, and ensure fairness and sustainability of the system. Improving access to rural finance: It would require improving the performance of regional rural banks and rural credit cooperatives by enhancing regulatory oversight, removing government control and ownership, and strengthening the legal framework for loan recovery and the use of land as collateral. It would also involve creating an enabling environment for the development of micro-finance institutions in rural areas.

Strengthening institutions for the poor and promoting rural livelihood

Promoting Community: Based Rural Development: State Government efforts in scaling up livelihood and community-driven development approaches will be critical to build social capital in the poorest areas as well as to expand savings mobilization, promote productive investments, income generating opportunities and sustainable natural resource management. Direct support to self-help groups, village committees, user's associations, savings and loans groups and others can provide the initial 'push' to move organizations to higher level and access to new economic opportunities. Moreover, social mobilization and particularly the empowerment of women's groups, through increased capacity for collective action will provide communities with greater "voice" and bargaining power in dealing with the private sector, markets and financial services.

Strengthening Accountability for Service Delivery: As decentralization efforts are pursued and local governments are given more prominence

in the basic service delivery, the establishment of accountability mechanisms becomes critical. Local governments' capacity to identify local priorities through participatory budgeting and planning needs to be strengthened. This, in turn, would improve the rural investment climate, facilitating the involvement of the private sector, creating employment opportunities and linkages between farm and non-form sectors.

CONCLUSION

"Agriculture is the backbone of the Indian Economy"- said Mahatma Gandhi five decades ago. Even today, as we enter the new millennium, the situation is still the same, with almost the entire economy being sustained by agriculture, which is the mainstay of the villages. Not only the economy, but also every one of us looks up to agriculture for our sustenance too. India's agriculture and allied sector grew by 3.8 per cent in the first six months of the current fiscal (2010-11), against one per cent in the year-ago period on the back of better Kharif crop output. According to the GDP data released by the Central Statistical Organisation (CSO) on November 30, 2010, the country's farm sector grew by 2.5 per cent and 4.4 per cent each in the first two quarters of the current fiscal, against 1.9 per cent and 0.9 per cent, respectively, in the same period last year.

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