Role of Technology in Agricultural Development

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Abstract

The economy of India is the seventh largest in the world by nominal GDP and the third largest by purchasing power parity the agriculture sector is main occupation in India's economy but contributes to a declining share of its GDP, India ranks second worldwide in form output. New technologies are needed to push the field frontiers further, utilize inputs more efficiently and diversity to more sustainable and higher value cropping patterns. Indian agriculture has been changed the very face of this sector. The green revolution, blue revolution and yellow revolution and white revolution have been the important milestones in Indian agriculture. One thing common in all these revolutions was use of technology. The revolutions would not have accrued without relevant technologies.

Keywords : *GDP, Green Revolution, Blue Revolution, Yellow Revolution, White Revolution, Technology, Agricultural Development.*

Classification-JEL : *Q 10, Q 13, Q 16, Q 33*

1. INTRODUCTION

Agriculture sector of Indian Economy is on of the most significant part of India.

Agriculture is the only means of living for almost two thirds of the employed class in India. Agriculture has acquiring 18 % of India's GDP in 2006-07 in economic data of financial year. In India agriculture sector occupies almost 43 % of geographical area. Agriculture is the only largest contributor to India's GDP. Agriculture plays a vital role in the growth of socio-economic sector.

2. INSTITUTIONAL STRUCTURE

Indian agriculture is characterized by predominance of small and marginal farmers. Institutional reforms will be so pursued as to channelize their energies for achieving greater productivity and production. Particularly in rural areas land reforms will focus on the following areas.

- Consolidation of holding all over the country on the pattern of north western state.
- Redistribution of clling surplus lands and waste lands among the landless farmers, Unemployed youth with initial start up capital.
- Tenancy reforms to recognize the rights of the tenants and share croppers .
- Development of lease natural for increasing the size of holdings by making legal provisions for giving private lands on lease

for cultivation and agri-business Reorganization of women's rights in land.

3. RESOURCE CONSERVING TECHNOLOGIES

Resources are an important asset for on country. The indiscriminate use of chemicals for increasing productivity and disease controls have polluted water bodies and degraded soils. Resource conservations technologies aim to produce more at less cost while at the same time enhancing the natural resource base and maintenance of soil quality in fairly good conditions, the input use efficiency also gets increased due to the right placement of the seeds and fertilizers at right time and at right depth. Sustainable inten of agriculture is a good alternative to avoid localized chronic food and nutrition insecurity when between 75 and 90% of staple foods are produced and consumed locally.

4. INCENTIVES FOR AGRICULTURE

The government will endeavour to create a favourable economic environment for increasing capital formation and farmer's own investments by removal of distortions in the incentive regime for agriculture, improving the terms of trade with manufacture sectors. It will seek to besto n the agriculture sector in as many respects as possible benefits similar to these obtaining in the manufacturing sector such as availability of credit and other inputs, and infrastructure facilities for development of agri-business in industries and development of effective delivery systems. A favourable economic environment and supportive public management system will be created for promotion of agricultural exports. In order to protect the interest of formers in contact of removal of quantitative restrictions continuous monitoring of international prices will be undertaken and appropriate tariffs protection will be provided, Import duties on manufactured commodities used in agriculture will be rationalized. The domestic agricultural market will be liberalized hindering increase in farmers income will be reviewed and all relished to ensure that agricultural receive prices commensurate with their efforts, investment.

5. INVESTMENT IN AGRICULTURE

The agriculture sector has been starved of capital. There has been decline in the public sector investment in the agriculture sector. Public investment for narrowing regional imbalances, accelerating development of supportive and transparent pricing of inputs will be formulated to encrerage fudicius input use and to generate resources for agriculture. A conducive eliminate will be created through a favourable price and trade regime to promote farmers own investments as also investment by industries producing inputs for agriculture and agro based industries. Rural electrification will be given a high priority as the prime mover for agriculture development. The quality and availability of electricity supply well be imprisoned and the demand of the agriculture sector will be met adequately in a reliable and cost effective manner sources of energy for irrigation and other agricultural purpose will also be encouraged. Bridging the gap between irrigation created and utilized , completion of all on going projects restoration and modernisation of irrigation informing and implementing an integrated plan of augmentation and management of national water resource will receive special attention for augmenting the availability and use of irrigation water.

6. MECHANIZATION

Mechanization is also another important aspect for enhancing agricultural production. Unfortunately mechanization is very low in India. Still today farmers use their traditional implements which

hamper their performance. Farm mechanization and use of modern gadgets/ machines/equipments and effective completion of different operation in agricultural field is one of the most important factors for maximizing profitability. Mechanization will help to enhance

the overall productivity and production with the lowest cost of production.

7. GREEN REVOLUTION

Manu revolution have occurred and changed human lives. In the mid and late – 20th century a revolution occurred that dramatically changed the field of agriculture and this revolution. The green revolution was a period when the productivity of global agriculture increased drastically us a result of new advance. During this period. New chemical fertilizers and synthetic herbicides and pesticides were created. The chemical fertilizers increase productivity provided they got sufficient level of nutrients they required could not be supplied with the traditional composites because they have too concentration of nutrients contents and required bigger area. The newly developed synthetic herbicides and pesticides controlled weeds and prevented diseases, also resulted in higher productivity.

Various methods were used in green revolution as double or multiple cropping system, Proper irrigation system, HYV seeds use of tractors , harvesters, threshers.

In addition to chemical advance, high yield crops were also developed and introduced. High yield crops are crops that are specifically designed to produce more yield. A method known as multiple cropping was also implemented during the Green Revolution and lead to higher productivity.

Multiple cropping is done when two or more crops were grown. These new farming techniques and advance in agricultural technology were utilized by farmers all over the world.

As a result of Green Revolution and due to adoption of new techniques agricultural productivity increase.

The ability to grow more food on the same amount of land was also beneficial to the environment because it meat that less forest or natural land needed to be converted to farmland to produce more food.

8. MULTIPLE OR DOUBLE CROPPING

It was a primary feature of the Green Revolution. The idea was only for farmers to have two crop seasons within one year. It means that crop production would be double within one year. This was based primarily on the natural one monsoon per calendar, year. For farmers to have to double the crops per season there would have to be one artificial monsoon. These were created from a large irrigation facility. Dams were built in rural areas to collect large volumes of monsoon rainwater. This was a simple irrigation technique that rural farmers adopted. Countries involved in the Green Revolution have subsidies in past with the pries of the fertilizers, pesticides and the production of wheat and rice. In the beginning there was no problem with the Green Revolution until the farmers and government started to see problems arising.

9. CONCLUSION

Information technology is expanding rapidly which is touching almost all areas of human activity. Green Revolution brought drastic change in the lives of farmers. Mechanisation also plays a vital role in the field of agriculture sustainable intensification of agriculture is a good alternative to avoid food and nutrition insecurely. Various techniques and method have been adopted to increase agricultural productively.

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