

REVIVAL OF AGRICULTURE IN INDIA – A THEORITICAL PERSPECTIVE.

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ABSTRACT : India was recognized across the globe as an agrarian economy very first five year plan during 1951-56 gave importance to agriculture. The need of 1950's compelled or pressured the existence of agriculture sector, planners and policy makers also to formulate and shape of the country accordingly. Gradual improvements and the development of the country diverted from agriculture to industrial and service sector, really well appreciated and advancement but every Indian should realize the importance of mother earth which is providing agricultural output has been food for existence of every human being but current trend has totally changed to focus more and service sector then industrial sector least importance to agriculture sector this is the policy framework side, the other way round environmental factors climatic change, average rainfall, fertility of the soil needed input for agriculture totally disturbing. The current need of the society to think and do proactive measures has rightly pointed out by the first Prime Minister Pandit Jawaharlal Nehru, 'everything else can wait but not agriculture'. Revival of agriculture is the need of hour with this understanding, the article is classified into four divisions; firstly, it start with introduction and highlight the glorious performance of agriculture in India. Secondly, exhibits the declined trend of agriculture during the time of new economic policy. Thirdly, it analyse the recent trend of agriculture in India. Finally, this article suggests the concrete measures for future fruitful agricultural development in India.

Introduction

Agriculture and allied activities are the prime source for livelihood support to about 70 percent of India's population living in over 6.40 lakh villages (as per 2011 census) consequently, agricultural development is a important to all strategies of rural development. Agricultural employees almost half of the workforce where alternate source of employment is limited and likely to remain limited in a income country like India.

Rural India shows a very positive development during the last decade moving towards high income activities like dairying, poultry, horticulture and aquaculture along with group formation. The income augmentation enterprises have shown positive dynamism with market innovations. Dominated by food security concerns, the policies in past were more centric to green revolution technologies and regions leaving behind sizeable geographies, which are water stressed.

While the average investment in the irrigated command development ranged from Rs.2.5 to Rs. 3.0 lakh per hectare, only Rs. 0.12 to 0.15 lakh per hectare was invested in rainfed areas through integrated water management programme (IWMP). The estimates suggest that for unlocking the potential of rainfed agriculture, an investment of Rs. 0.50 lakh per hectare or more is needed. Huge regional disparities were also observed in seed, fertilizer and marketing services and infrastructure and the post harvest infrastructure. The government adopted three pronged strategy to increase investment, better infrastructure and governance in agriculture for the sustainable rural development. The main production activities have been mainstreamed by the ongoing centrally sponsored schemes with broadening of their reach, the reforms in agriculture marketing; contract farming, land leasing, price, trade policy and agricultural credit have been introduced for inclusive development of rural India rather than agricultural sector.

Indian agriculture sector has been source of supply or raw materials to our leading industries. Cotton and Jute, Textile industries, Sugar and sugar mills, Vanaspati and Plantations all these depend on agriculture directly. There are many other industries which depend on agriculture in an indirect manner. Many of the Small-scale industries and Cottage industries like handloom weaving, oil crushing, rice husking, etc. depend upon agriculture for their raw materials together they account for 50 percent of income generated in the manufacturing sector in India.

Agriculture during the time of new economic policy:

Rising population and incomes, coupled with the scarcity of basic natural resources such as land and water, have been major drivers for the modernization of agriculture and input growth in India. The severe constraint of cultivable land area as a source of production growth has led to substantial dependence on raising yields. This has led to an intense focus on science and technology to increase yields, which has resulted in numerous discoveries and developments of new technologies and inputs. This includes the followings;

- Better genetics / high yielding variety seeds,
- Better plant nutrition through fertilizers,
- Better water provision through water sourcing technology and management,
- Better pest control through pesticides,
- Farm power and machinery for better physical and time efficiency.

In recent times, the efforts have included not only government systems and institutions but also private sector industries and business which invest, innovate and contribute to agricultural growth. This has galvanized the development of various new agro – industries and agribusinesses. These include the seed industry, fertilizer industry, irrigation equipment and construction industry, agro – chemical industry, farm machinery industry and others. These are now making huge contributions to overcoming the land and resource constraints in agriculture. It is unthinkable now to envision feeding the world today and in the future without the significant contribution of these vital industries.

Growth in selected Agricultural inputs

Year	Certified quality seeds sales (in lakh quintals)	Fertilizers consumption in nutrients (in lakh tonnes)	Pesticides technical grade material sales (in 000'tonnes)	Groundwater irrigation (wells, tube wells) Net irrigated area (in lakh hectares)	Tractors sales (in 000)
1983-84	45.0	77.1	55.0	193.9	74.3
1991-92	57.5	127.3	72.1	260.4	150.6
2001-02	91.8	173.6	47.0	351.8	225.3
2005-06	126.8	203.4	39.8	360.7	296.1
2010-11	277.3	281.2	55.5	390.6	545.1
2011-12	294.9	277.9	53.0	405.4	607.7
2012-13	313.4	258.0	45.6	412.6	590.7
2013-14	301.4	239.6	58.2	N.A.	696.8
2014-15	N.A.	255.8	N.A.	N.A.	626.8
Increase (multiple)	6.7	4.2	1.2	2.2	8.4

Sources: Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India, 2014 & Fertilizer Association of India, 2013. N.A. = Not Available

The above table provides a quick picture for some of the major agricultural inputs from early 1980s to 2014-15 shows that the seed business has grown by 6.7 times from 45.0 to 301.4 lakh quintals. The fertilizer business has grown 4.2 times from 60.6 lakh tones to 255.8 lakh tones. Groundwater irrigation and its equipment business has more than doubled in giving coverage from 187.4 to 412.6 lakh hectares. The tractor business representing farm machinery has increased the most by over 8 times from 74.3 to 626.8 thousand tractors.

Progress of Agriculture since 1951

The progress of agricultural sector brings out the tremendous progress the country is achieved since the first plan, even though, the targets fixed in each plan might not have been fully met. Between 1950-51 and 2014-15, production of food grains had increased by nearly 5 times, production of oilseeds by 7 times, sugarcane by 6.3 times and cotton by over 12 times. The increase of wheat has been really spectacular by 15 times.

Growth of the Agricultural sector since 1950-51

Year	In Agriculture and Allied sector	GDP
1951-61	3.3	3.8
1961-71	2.2	3.7
1971-81	1.7	3.3
1981-91	3.9	5.7
1991-2001	2.8	6.7
2002-2007	2.1	7.5
2007-2012	3.6	8.1

Source: 1. CMIE, Basic statistics relating to Indian Economy, vol. I, August 1992 to Aug.1994, 2. Eleventh Five year plan (2007-2012), 3. CSO, National Accounts statistics, 2011.

Rate of growth in yield since 1950-51

In the beginning of first five year plan, there was rapid extension of irrigation and application of intensive methods of cultivation. After the introduction of modern agricultural practices including the adoption of hybrid seeds since 1964-65, there has been a steady and continuous increase in yield per hectare of all crops. The following table explains the yield of growth rates in India since 1950-51;

Per Hectare yield of Principal Crops since 1950-51

Items	1950-51	1964-65	2013-14
1. Food grains:			
Rice (in quintals)	7.1	10.8	24.2
Wheat (in quintals)	6.6	9.1	30.8
Cereals (in quintals)	4.3	5.1	16.8
Pulses (in quintals)	4.0	5.2	7.6
2. Non-food grains:			
Oil seeds (in quintals)	5.2	5.6	11.5
Sugarcane (in tonnes)	34	47	70
Cotton (in kgs.)	95	122	532
Potato (in quintals)	66	84	221

Source: Economic survey, 2014-15, Agricultural statistics at a Glance, 2014.

During the pre-green revolution period (1951-65), rice recorded the most impressive growth rate in yield from 7 quintals per hectare in 1950-51 to nearly 11 quintals by 1964-65, the annual growth was 2.1 percent. Yield per hectare in the production of wheat raised from 6.6 quintals in 1950-51 to 9.1 in 1964-65.

During the second period of green revolution (1965 – 2014), however, the most spectacular growth was recorded by wheat (3.0 percent per annum). Pulses recorded a growth rate of 0.68 per cent per year and oilseeds, a mere 1.7 percent per year. It shows that the new bio-chemical technology was adopted particularly, suited to wheat production but was not efficient in the case of other crops.

Present status of Indian Agriculture:

During the last 68 years of planning, India's agricultural development more commonly called the Green revolution has been appreciated the world over and many developing countries have started considering India their role model. Initially,

India renamed a food deficit country for almost two decades since independence. But with the green revolution, India became not only self-sufficient in food grains but accumulated a huge food surplus about 58 million tonnes in January 2002.

The agricultural situation started improving after the middle of 1960s with the introduction of high yielding varieties (HYVs) of crops and the development of agriculture infrastructure for irrigation, credit, other input supply, storage and marketing. The high production potentials, input-responsive HYVs motivated Indian farmers to adopt improved and modern technologies. The government came out with minimum support prices (MSP) and procurement of agricultural commodities and expanded the storage, marketing and distribution of food grains at the national level.

The major factors for the all-round success of agriculture were; increase in the net area sown, expansion of irrigation facilities, land reforms, specially consolidation of land holdings this was the first phase (1947-65) of agricultural development since independence, development and introduction of high yielding seeds, extensive use of chemical fertilizers, pesticides and improved crop production technologies this was the second phase (1965-85) of development in the agriculture sector; price policy based on MSP and procurement operations, infrastructure for storage/cold storage, increase in investments this could be broadly called the third phase of agricultural development in India.

In spite of the spectacular achievements, various constraints and disturbing trends have always continued to hamper the requisite growth of the agricultural sector.

- (i) Agriculture, still a gamble in the monsoons: Despite almost six decades of planning agriculture in India has continued to be a gamble in the monsoons, failure of rainfall in some parts of the country and excessive rains and consequent floods in certain other area of the country. It appears that the planning commission should have devoted more attention and more resources to the control of the vagaries of the monsoons.
- (ii) Limited use of New Agricultural technology: since 1961, the emphasis shifted to the use of seed-fertiliser-water technology, known as the new agricultural strategy. But the new strategy succeeded only in wheat and to a small extent in rice, other food and non-food crops did not show perceptible improvement in production. Dry land cultivation was not touched at all by the new agricultural strategy.
- (iii) Decline in investment in agriculture: The government investment was significant in boosting growth in agriculture. Besides, the role of the government was not only to raise investment but also induce private investment in agriculture.
- (iv) Failure of land reforms: The middle of the 1970s the government hoped to implement land reforms, specially tenancy legislation and ceiling on land holdings. The government failed to implement land reforms measures and there was very little of the redistribution in favour of marginal farmers and landless labourers.
- (v) Failure to control growth of rural population: The government failed to control the rapid growth of population in rural areas and also to create non agricultural employment in the rural sector

Many regions had continued to be poor and backward, indicating the necessary for a balanced growth of agriculture as between regions. Crop yields were low in these areas and therefore, the use of modern inputs in these areas would raise agricultural productivity considerably.

Many classes of farmers, specially marginal and small farmers in the less developed areas, were having low levels of income. They used very little of modern inputs. More financial assistance to these farmers and greater encouragement to them to use modern inputs would have good output response and rise of purchasing power of the rural poor.

Indian agriculture displayed another type of imbalance in the form of disparities in growth between food grains and non-food grains and between different food grains. Part of these inter-crop disparities in growth also reflected regional imbalance.

The various weaknesses of the agricultural sector mentioned above indicate the main concerns and thrusts of the successive Five year plans. Outlining the strategies of agricultural development during the seventh plan, the planning commission wrote; "broadening the base of agricultural growth and modernization through infrastructure development like irrigation, drainage, roads, markets and credit institutions in the less developed regions, extension of new technology, particularly break-through in dry land farming, afforestation and appropriate price and procurement policies for crops are essential for accelerating the growth of agricultural output, reducing annual fluctuations in output and for correcting inter-regional, inter-crop and inter-

class disparities. Such a pattern of growth can also provide the necessary impetus to rural development through the dispersal of agro-industries. This is how agriculture can contribute more effectively to the fulfillment of the national objectives of self-reliance, removal of poverty, increase in productivity and eco-preservation.

Recommendations:

In Indian context, organic farming has to be practiced without synthetic pesticides, but complete exclusion of fertilizers may not be advisable under all situations. A holistic approach involving integrated nutrient management (INM), integrated pest management (IPM), enhanced input-use efficiency and adoption of region-specific promising cropping systems would be the best organic farming strategy for India.

As organic farming is attracting worldwide attention and there is a potential for export of organic agricultural produce, this opportunities has to be tapped with adequate safeguards so that the interest of small and marginal farmers is not harmed.

Organic farming may be practiced in crops, commodities and regions where the country has comparative advantage. To begin with the practice of organic farming should be for low volume high-value crops, like spices, medicinal plants, etc. beside fruits and vegetables, for which R & D support is required.

Organic farming should not be confined to the age old practice of using cattle dung, other inputs of organic / biological origin, but an emphasis needs to be laid on the soil and crop management practices that enhance the population and efficiency of below-ground soil biodiversity to improve nutrient availability. Performance of cultural techniques for weed control and that of bio pesticides for pest management need to be evaluated under field conditions, preferably, under cultivators' management conditions. Besides the identification of regions suitable for the adoption of organic farming, the crops and their products should be identified which are amenable for production through organic ways and have the potential to fetch a premium price in the international organic market.

Conclusion:

Agriculture sector as the backbone of our economy, the government should intervene much and to make new policies to save our agriculture sector. The Government should encourage those who cultivating the food crops and non-food crops as organic farming also exempted from the taxes in future. In our nation, most of the people like the organic products like fruits, vegetables and the government would provide to sell farmers commodities at the appropriate place. It is suitable for the country like India, though the overpopulation nation will gives much priority to produce in organic farming. Most of the peoples are welcoming the organic farming products. The government should encourage the farmers with a special award towards achieving in the organic farm production highly and setup a separate body for this organic farming products and assurance to the reasonable prices to the farmers.

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