ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2019; 5(3): 153-156
www.allresearchjournal.com
Received: 05-01-2019
Accepted: 08-02-2019

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Agricultural condition during pre and post application of new agricultural technology

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Abstract
The New Agriculture Technology has revolutionary change in agriculture, modern agricultural technology is introduced in 1960s this helped peoples from hunger and starvation. New Agricultural practices have focused on the improvement of rice yields carried out at the International Rice Research Institute, Manila, Philippines. New Agricultural Technology has been the emergence and diffusion of new seeds of cereals consisted the use of improved seeds, NPK fertilizers, pesticides and fungicides, weedicides, modern agricultural implements, improved irrigation practices and moisture conservation techniques in soils which require intensive research. This paper thoroughly focused on the agricultural conditions pre and post application of new agricultural technology.

Keywords: Agriculture, technology, Agricultural condition, Development

Introduction
New agricultural technology in crop cultivation is commonly called the "Green Revolution" for which vital inputs of HYVs were developed by Dr. Norman Earnest Borlaug in 1950s. At that time, Dr. Borlaug was the in charge of Wheat Development Programme in Mexico and was the genetic architect of the dwarf wheat. New agricultural technology means the application of all modern farm inputs and services such as the high-yielding varieties (HYV) of seeds, assured irrigation facility, use of chemical fertilizers, application of insecticides/pesticides/weedicides, application of improved farm machineries etc. The term green revolution was first used by the former Administrator of the U.S., Agency for International Development (AID), William S. Gaud on 8 March 1968 in Washington D.C, when he was addressing the Society for International Development on the subject "Green Revolution : Accomplishment and Apprehensions". The green revolution technology in India was adopted in 1966-67 which add the new dawn in the development of Indian agriculture**.**

Objectives
1. To highlighted how new agricultural technique is evolved.
2. To identify agricultural status during pre and post application of new agricultural technique.

Genesis of New Agricultural Technology in India
New Agricultural techniques were first developed by the Rockefeller Foundation's Research Institute (now known as Centro Internaceunal de Mejoramiento de Maize y Trigo, (CIMMYT), D.F., and Mexico. Dr. Borlaug and his co-workers succeeded in bringing to fruition a broad, complex programme of agriculture improvements for the developing countries. Dr. Borlaug began his work with the Rockefeller Foundation in 1943 by experimenting in Mexico with varieties of wheat in an effort to improve various qualities of that cereal. Improvements in wheat included its yield, its resistance to fungus disease, its protein content, its adaptation to various growing seasons and its ability to take in a large amount of fertilizer to mature a heavy year of grain on a short stem without falling over. Dr. Borlaug and his Mexican colleagues collected wheat varieties from many parts of the world and began to inter-breed them to proceed with new strains of wheat. The result was to evolve a dwarf variety with a strong stem.

Secondly, New Agricultural practices have focused on the improvement of rice yields carried out at the International Rice Research Institute, Manila, Philippines, drawing upon more than 20,000 varieties of rice, new highly productive strains were developed and passed on to rice growing farmers. By 1970, the president, Ferdinand, E. Marcos of Philippines announced that "the rice revolution has been permanently won".

Success came in 1965 when a new variety of rice seed IR-8-288-3 was developed at IRRI, Manila with a yield potential of 9000 kg. per hectare. These varieties of seeds then were known as '*miracle seeds*'. Following the achievements of CMMIYT and IRRI, the Government of India imported from Mexico in 1965, two varieties of wheat seeds-Lerma Rojo and Sonora 64 (1800 tonnes) and rice from Manila, and distributed the quantity to be sown in wheat and rice growing areas in the country. Moreover, the Government of India later on emphasized to the scientists working at the *Indian Agricultural Research Institute*, New Delhi to develop a number of HYVs of wheat, rice, maize, jowar and bajra. For those areas where millets, pulses and oilseeds were the main crops, the establishment of *International Crop Research Institute* for Semi-Arid Tropics at Pattancheru near Hyderabad in 1972 facilitated the process greatly.

After independence, the planning for solving the food problem of the country has remained an unfinished task although the production of food grains increased more than that of during pre-planning period. However, the demand for food and other agricultural products have increased at a higher rate than the rate of growth of production. For example, in India, the production of food grains was about 50,825 thousand tonnes in 1950-51 and the same was increased to 1, 50,469 thousand tonnes in 1985-86. This shows that the production has increased by 196.05 per cent during the last 35 years. In 1950-51, the total population of the country was 361.1 million and that increased to 685.2 million by 1980-81. It shows that the population of the country increased by 89.75 per cent. The average growth rate per year was about 3 percent. Moreover, per capita income of the country also increased on account of these two main reasons, the demand for food grains increased higher than that the rate of growth of food production.

The government realized after launching of *First* and Second *Five Year Plans* that Indian can also make strides towards the higher levels of economic growth only by achieving rapid developments in the agricultural sector and this mainly depends on sizeable increases in farm productivity. However, in the second plan, production of food grains did not increase as per target. For making an overall assessment of agriculture problems in the country was facing the government of India invited a team of agricultural scientists from the Ford Foundation in 1959. The members of the team were taken to different places in areas and they made a comprehensive survey about the performance of agriculture and made some important suggestions in a report entitled 'Report on India's *Food Crisis* and Steps to Meet it' (259pp.) submitted to the Ministry of Food and Agriculture, and Ministry of Community Development and Cooperation Delhi, 1959 by the Agricultural Production Team, sponsored by the Ford Foundation. This oft-quoted report, which was prepared by American experts made recommendations on how India might proceed and may increase agricultural production quickly to meet the "food-gap". The recommendations dealt with such things as the role of cooperatives, marketing research, extension works, soil and water conservation, chemical fertilizers, improvements in productions, livestock development, mechanization and food habits.

The team made recommendations about several policies to be adopted. One of the important suggestions the team made was that, if the country intends to increase her agricultural production, technological improvement are very much needed. On the basis of recommendations of Ford Foundation's team, the *Intensive Agricultural District Programme (IADP)* also known as 'Package Programme' was initiated in some selected districts of the country in 1961. The district of Aligarh was also the part of this programme. The objectives of IADP were to increase levels of agricultural production through incorporating technological change, finance and administrative structure. In the beginning, this programme was introduced in seven states only. Among these seven states, four were rice growing states (Andhra Pradesh, Madhya Pradesh, Tamil Nadu and Bihar); two were wheat producing states (Uttar Pradesh and Punjab) and one was millet growing state (Rajasthan).

The government launched the *"Intensive Agricultural Area Programme (IAAP)"* in 1964-65 for intensive development crops: wheat, rice, millet, cotton, sugarcane, pulses, etc. This programme was initially launched in 114 districts belonging to various states. The deficiency in the package programme was resolved in 1966 when the high-yielding varieties (HYV) programme in wheat, rice, maize, sorghum and small millet was introduced.

National Seeds Corporation (NSC) of India was established in 1963. It undertook the production of breeder seeds on its own farmer foundation and certified / quality seeds through contract growers, agricultural universities, state seeds corporation and state farms corporation of India. National Seeds Programme was launched in the year 1977 in collaboration with World Bank covering 9 states of Punjab, Haryana, U.P, Bihar, Orissa, Maharashtra, Karnataka, Andhra Pradesh and Rajasthan in the country.

'New Agricultural Technology' has been the emergence and diffusion of new seeds of cereals consisted the use of improved seeds, fertilizers, pesticides and fungicides, modern agricultural implements, improved irrigation practices and moisture conservation techniques in soils which require intensive research.

In the early sixties, the cabinet Minister of Food and Agriculture Mr. C. Subramanian took interest in new varieties of wheat seeds. A committee, under the Chairmanship of L. K. Jha, was appointed for recommending the prices of agricultural commodities in January 1965 and the Food Corporation of India was also established. All India Prices Commission (APC) which was later renamed as Commission for Agricultural Costs and Prices (CACP) in 1985 and Food Corporation of India (FCI) were two initiatives of the new strategies for recommending the price of the commodity, storage and availability of food in the country. During this time, the government encouraged the IARI to introduce improved methods of crop cultivation in agricultural practices. At this stage, Indian Council of Agricultural Research was reorganized and all the national level institutes were brought under the direct control of ICAR. Moreover, in all states, Agricultural Research Services were established. It was recognized that if the

country tries to increase agricultural production substantially without a scientific approach, the exercise may end in a disaster.

Several reforms are needed with respect to land policy, irrigation programme, policies on necessary inputs, credit, market and transport facilities. The success of green revolution is the only way to develop our country, it was a slogan given by different agencies interested in agricultural improvements in the country.

B. Agricultural conditions during pre and Post New Agricultural Technology

New Agricultural technique in India is an example of modern agricultural development initiatives that brought changes in agricultural development processes. This technique has been included such as HYVs of wheat and rice, but the adoption of HYVs of seed was alone not enough to highlight the phenomenal achievements of the new agricultural technology. There were multiple changes and well-coordinated programme became a key factor for the success in increasing agricultural production. The development of New Agricultural technology in the 1960s in wheat, rice and maize was the message of hope on striking a balance between the rates of growth in population and food production.

Prior to launch of the new agricultural technology, Indian had followed subsistence agriculture which was not enough to fulfill the food requirements of the people of the country. Continuous lag of required food had resulted in food shortages and famines which were somehow managed by huge imports of food grains from other countries. During this period, it was attempted to break these conditions and increase food production within the country for making the country self-sufficient.

The Indian government soon realized that some step have to taken for the winning the cooperation of Indian farmers in order to achieve the targets of green revolution. Government of India realized that the farmers of the country must have to be convinced about the adoption of the hybrid varieties of seeds, which would become the reason for the success of new agricultural technology and a substantial increase in crop yields. The government has been provided the supply of good quality of seeds, chemical fertilizers and provisions for adequate storage space. The government also had to train farmers through network extension so that farmers can do cultivation at right time.

The government was and is obliged to carry out all these changes with the help of various related organizations. When India was facing severe food shortages the Food Corporation of India (FCI) was set up in 1965 to buy surplus food grains from areas and to distribute them in areas having shortages. Agricultural Price Commission was also set up in 1965 to ensure a minimum support price to farmers for the farm produce so that there were no deterrents for increased production. Seed and Fertilizer Corporation was set up to ensure supply of better quality seeds and good fertilizers. Agricultural scientists were offered attractive pay scales and better infrastructural facilities for research to hold the scientific talent. The government had established 100,000 demonstration plots across the country to prove that HYVs of seeds are more productive than the wild ones.

New Agricultural techniques succeeded by implementing the conscious and well conceived programs. It was adopted as a right approach to fulfill the needs and aspirations of farmers in the country. Many planned initiatives failed because they were started without proper understanding of the conditions necessary for their fulfillment. New Agricultural techniques became fairly successful in making India self-sufficient in foodgrain within a decade and doubled the production. Due to success of this programme, the government in the year 1974 declared that the country has achieved self-sufficiency in foodgrain production.

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