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A Study On Population On Agriculture Growth In India

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ABSTARCT

Agriculture has a long history of 10,000 years and it is considered as the backbone of Indian economy. It plays a vital role in the socio-economic development of the country. Indian agriculture is a diverse and extensive sector involving a large number of factors. The performance of the agricultural sector influences the growth of Indian economy. Agriculture has been a way of life and continues to be the single most important livelihood of the masses. India is the second most populous country in the world with 1.21 billion people (according to census 2011) and there has been an increase of 181 million people since the census 2001, which is nearly equivalent to the population of Brazil. India occupies 2.4% of the world's land area and supports over 17.5% of the world's population.

1. INTRODUCTION

India has more arable land area than any country except the United States, and more water area than any country except Canada and the United States. Indian life therefore revolves mostly around agriculture and allied activities in small villages, where the overwhelming majority of the population live. As per the 2011 census, 68.84% of the population lives in rural areas and the remaining 31.16% lives in urban areas. Thus, agricultural sector, at present, provides livelihood to 65% to 70% of the total population. The sector also provides employment to 54.6% (according to 2011 census) of country's workforce and is the single largest private sector occupation. The contribution of agricultural and allied activities accounted for 13.7% of Gross Domestic Product (GDP) in 2013-14. Thus, the impact of growing population on agriculture has paved way for imbalance in the economy.

2. OBJECTIVES OF THE STUDY

- To explore and analyse the impact of growing Population on Agricultural growth in India.
- To provide suggestions and recommendations for eradicating the existing problems in agriculture in order to improve the agricultural productivity in India.

3. METHODOLOGY

The study is exploratory in nature, and this study uses the method of secondary data which are obtained from various articles, journals, related to the topic under study. It also makes an

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attempt to develop and analyse the impact of growing population on agricultural growth in India.

THEORETICAL BACKGROUND

The impact of population growth on agriculture was first propounded by an English economist Thomas Robert Malthus in his work "An Essay on the Principle of Population" (1798). According to Malthus, population growth will always continue to be a problem due to the passion between the sexes, which increases geometrically (1, 2, 4, 16, 32, 64, 128, 256, etc.) in relation to food supply which only increases arithmetically (1, 2, 3, 4, 5, 6, 7, 8, etc.) since, population increases in geometrical progression and the food supply in arithmetical progression, population tends to outrun food supply. Thus, an imbalance is created which leads to over-population. To control this imbalance Malthus suggested preventive checks such as late marriage, chastity, moral restraint and positive checks such as vice, misery, war, famine, floods, etc.

The statement given by Malthus regarding the inability of agricultural production in accordance with population growth is not applicable in the developed nations (like Canada, U.S.A, U.K) because these countries were able to control their rising population along with the tremendous increase in agricultural production with the help of technological advancement. But this theory proves to be true in case of over populated and developing countries like India, where population is increasing at a faster rate and food supplies is also increasing but at a slower rate. Thus, India is moving into a grave situation in near future.

PAST TRENDS AND CURRENT STATUS OF AGRICULTURE IN INDIA (1951-PRESENT)

With the growth of Indian economy the share of Agriculture in GDP has declined over the years and even today productivity of some agricultural products is lower compared to countries like USA & China. The growth in Indian agricultural sector has had its moments of glory, nonetheless. **Green Revolution** (Pioneering work by agriculture scientists and the efforts of farmers, popularly known as the "Green Revolution', had helped achieve a breakthrough in the agriculture sector in the 1960) has been the major success story of free India. The nation that was frequently plagued by famines and chronic food shortage before green revolution today faces surplus. From a food grain production around 55 million tons at the time of independence, we now boost of production of more than 250 million tons of food grain (2011). Unlike developed nation, agriculture still remains the backbone of our country. The Agriculture Sector occupies centre stage in Indian economy embodying three thrust areas as (1) to promote inclusive growth, (2) to enhance rural income, and (3) to sustain food security. It accounts for nearly 14% of GDP, about 11 % of exports and supports half of the country's population as its principal source of income.

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GROWTH OF FOODGRAINS PRODUCTION IN INDIA

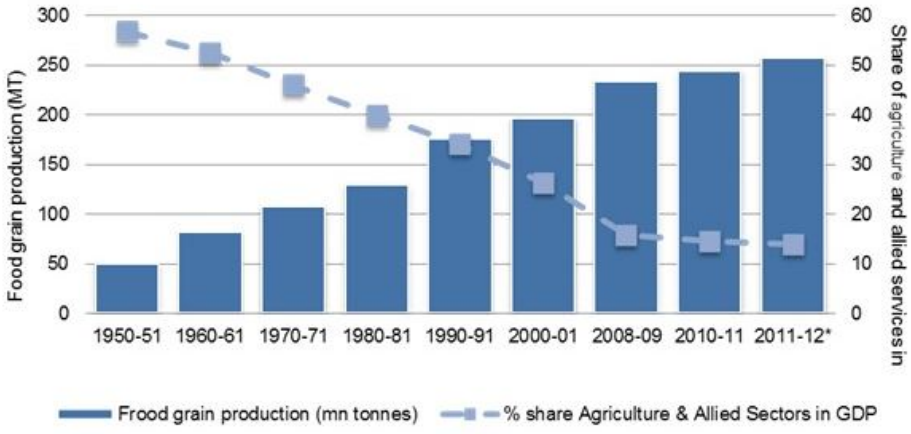

FIG 1

The chart above represents, foodgrains production in the (left) and share of agriculture and allied sectors in GDP on the (right) as given in the chart the share of agriculture and allied activities has been declining each decade from the times of independence as more and more people shifted to industries and service sectors. During the period of 1950-51 share of agriculture to total GDP was 51.9% after this the share of agriculture and allied activities shows a successive fall in every decade to reach as low as 13.7% of GDP in the year 2011-12. On the other hand the total food grain production (in million tonnes) has been rising very slowly as such in 1950-51 the total food grain production was 50 million tonnes, which rose to around 250 million tonnes in the year 2011-12.

GROWTH TRENDS OF FOODGRAINS (IN MILLION TONNES) Vs. POPULATION (IN MILLIONS) INDIA

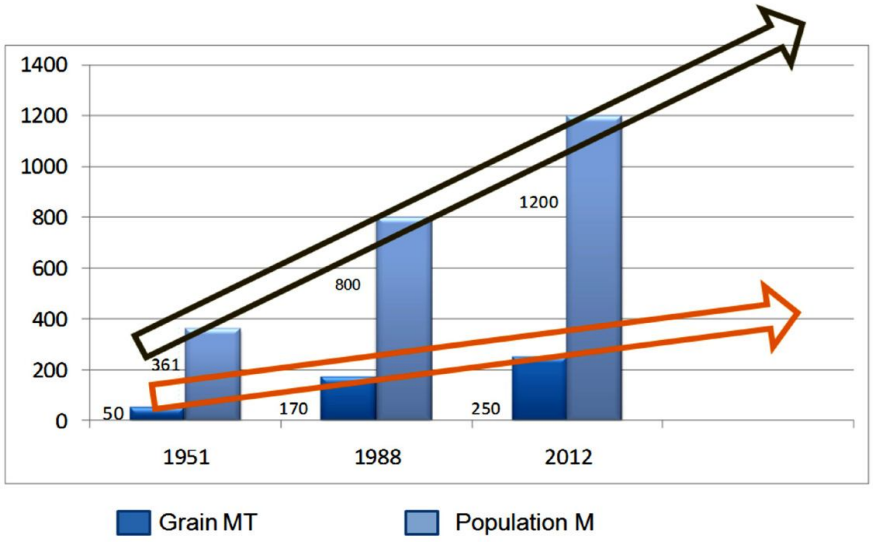

FIG 2

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The major contributing factor in achieving the phenomenal increase in agricultural production was the research input in providing improved technologies. The increased food production has helped the country in meeting the demands of the swelling population which increased from 361 million in 1951 to nearly 1200 million in 2012. However, high levels of poverty, food insecurity and malnutrition pose a serious concern and challenge. Current population is estimated to be 1.27 billion, which is expected to cross 1.45 billion mark by 2030, making India the most populous country. Thus, if this rapidly increasing population remains unchecked it will lead to serious food crisis in a decade or so. Therefore, it is high time that necessary measures must be taken to control the population in one hand and increase agriculture productivity of the foodgrains on the other hand. The US Census Bureau has released "population projections of India" in one of its report on 2011. According to which:

CURRENT CHALLENGES FACED BY INDIAN AGRICULTURE

Indian is plagued by several problems and challenges; some of them are natural while some others are manmade. Some of the major challenges of Indian agriculture are discussed as follows:

- Increase in population in the country is out numbering agricultural production by a huge margin. Further it leads to deficit balance of payment as imports increases to cover the deficit of various food grains. On the other hand, exports decreases so as to fulfil domestic demand. Thus, it negatively affects the international stand of the country.
- If this outburst of population continues to grow at the current rate of 1.2% per annum, Then by 2030, India is predicted to surpass china in terms of population to become the world's most populous country, but total foodgrains productions is not increasing in the same pace as increase in population.
- In near future the problem of over-population is going to be worse with slow increase in food grains production compared to rapidly growing population. There will be a huge gap between the demand for food grains and the supply for the same.
- This gap between the demand and supply side is going to put intense pressure on the countries balance of payments, external and internal debts, etc. further this situation will surely lead to poverty, starvation, distributional inequalities. Moreover, it will dampen the development process of the Indian economy as a whole.
- Agriculture is mostly followed in rural India, where there is no institutional credit available for the farmers, hence, this leads to non-institutional credit taken from indigenous money lenders, with high rate of interest and inability of paying back the money has led to debt on farmers moreover this became a common reason for farmers suicide in India.
- The problem of small and fragmented land holdings is severe in India as land is passed from as inheritance. For example- A 5 hectares land holding of a father is equally distributed to his 5 sons (i.e. 1 hectare each) thus the size of the land holding reduced again this size of the holdings will further decrease with infinite subdivision of the land holdings.
- Seed is a critical and basic input for attaining higher crop yields and sustained growth in agricultural production. Distribution of good quality seed is a not proper and out of the reach of majority of farmers, especially small and marginal farmers mainly because of exorbitant prices of the better seeds.

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- Indian soils have been used for agricultural purpose for over 10,000 years this continuous usage of the land has made in low in productivity. The average yield for almost all the crops are among the lowest in compared to the world's average yield.
- Only one-third of the cropped areas is under irrigation except Punjab and Haryana, the problem of irrigation is prevalent in almost every state. Dependence on monsoon for irrigation is a risk as in tropical monsoon country like India where rainfall is uncertain.
- Lack of mechanization in agriculture process is one of the major defects of Indian agriculture. Almost all the process from ploughing, sowing, irrigating, pruning, weeding, harvesting etc are done manually without the use of any machinery. Thus, this makes it a time consuming affair to produce food grains.
- There is a lack of agricultural marketing, storage facilities, and transport facilities for food grains.

REMEDIAL MEASURES TO IMPROVE AGRICULTURAL PRODUCTIVITY

- Instead of cropping for one crop and to be without work for off-seasons, Multiple cropping can be started which aims at maximizing production per unit of land and per unit of time by taking three or four crops in a year. By adopting multiple cropping, there are two advantages as of getting increased returns and economy of the farm resources.
- To increase agricultural productivity Genetically Modified Crops can be used which improves the nutritional quality of the product as well as increases quantity of total production. Although this area is new and therefore needs more in-depth research and study.
- To overcome the problem of reduced land holding and increased cost of production Consolidated Farming can be practiced, it means to combine small and marginal land together for cultivation, with modern equipment and machineries. Which will in turn decrease per head cost of production and increase productivity and profit for the farmer. This farming is practiced in china extensively.
- Government has established many Krishi Vigyan Kendra, Kissan Call Centres to help uneducated poor farmers to learn new techniques of production and to provide direction in respect of crop rotation, selection of quality seeds, use of proper manure, treatment of soil, selection of crops etc. this government initiatives should be spread and reach each and every farming village of India, which will surely increase our gross food grains production in some years.
- Government of India started National Seeds Corporation (NSC) in 1963, the State Farmers Corporation of India (SFCI) in 1969, and in addition to this 13 State Seed Corporations (SSCs) are established to augment supply of improved seeds to the farmers. The distribution of this seeds must be monitored by a higher authority which will be accountable for the distribution of improved seeds in centre and state levels.
- The problem of low productivity of the land can be solved by using appropriate manure and fertilizers. Further it is government's responsibility to ensure distributional justice in providing fertilizers, manures etc. The government should give subsidies to small and marginal farmers so that they can buy good quality fertilizers and manures.
- To provide proper irrigation facilities to every states intermingling of all the major rivers in the country is a must as it will solve the problem of less rainfall as well as problem of flood can also be tackled simultaneously.

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- Government strategies and programmes have been directed towards replacement of traditional and inefficient implements by improved machineries. Nowadays, government is providing financial support and special loans to farmers (with low interest) to own tractors, tillers, harvesters, and other machineries. These initiatives should be further enhanced to make India agricultural production more productive.
- Government should take initiatives to shape up a sound marketing system without local middlemen to take away farmers share. There should be Government to Farmer link for selling the farm produce at prices in which farmer can earn normal profit.
- Government should establish new and modern warehouse for proper storage of food grains production. Furthermore, a proper and efficient transport facility is also required to send the product from farm to warehouses and from warehouses to market. This will surely minimize the loss of food grains in transport and storage.

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