THE DIRENESS OF CULTIVABLE LAND SPOTTED ON AGRICULTURAL: A SPECIAL REFERENCE TO RICE PRODUCTION IN SOUTH INDIA

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ABSTRACT

The agriculture production is reduced due to land degradation, climate change, and other human activities that directly and indirectly affect the agriculture and ecosystem. The Indian’s produce 80% of agriculture production and remaining 20% are imported from foreign countries. The cultivable lands are gradually converted into residential areas and industrial estates. Rice is one of the primary sources for the South Indians. It was reduced from 99 million tonnes to 89 million tonnes. On another side, the amount of grain harvested worldwide production increased from 631 million to 1.65 billion tons but it is not enough to feed the entire population. The grains had increased to 1.6 times at the same time the world also population increased to 1.9 times (Brown, 2010). Therefore 0.3 times population grows faster than the production of agriculture. The agricultural production has grown slowly when compared to the population growth. Thus there is a gap between the growth of population and agricultural production. The suggestions are given to the government of India to promote organic farming and the modern sustainable agricultural system is to protect the cultivable land and to safeguard the soil, water and biodiversity.

Keywords: Agriculture, Population explosion, Cultivatable Land, Rice, South India

INTRODUCTION

The land is covered with the geographical feature such as grassland, cropland, forest, marshes, desert and mangrove. The Indian agricultural production is highly dependent on the rainfall, climate condition, good environment and wealth of the soil. Asia possessed 58% of the world’s population but it has only 26% of the cultivable land (Thirtle, 2003). The situation is particularly serious in the Pacific regions and Asia countries especially in India because most of the wealth agricultural lands have been utilized for other purpose. “This region had about 0.14 hectares of cultivable land per head of population in 1990 when it compared to world 0.4 hectares”. Outside Asia and the Pacific, agricultural expansion has more or less kept pace with population growth. The fact that it has not kept pace with population growth in Asia and the Pacific is the region’s principal cause of land degradation. The Indian agricultural sector had contributed around 16% to the Gross Domestic Product (GDP) that has fallen from 43% in 1970 (Pao, 2011). It is estimated by Patel that around 50% of Indian’s occupation
is agriculture (Patel, et. al., 2012). It is estimated that Indian has producers of 80% through agriculture production so the remaining 20% were imported from foreign countries (Ahluwalia, 2002).

According to the report of World Agriculture Statistics FAO, stated that India is the world largest producer of spices, jute, millets, castor oil seed, fresh fruits and vegetables. India also considered as the world second-largest producer of wheat and rice (Ray, 2012). During 1991 the total cultivable land in India is about 18,15,860 sq. km, whereas it was reduced to 17,95,730 sq. km in 2010. This statistical figure is clearly shown that the cultivatable land was rapidly declining as shown in the below chart-1.

Due to various reasons, the cultivatable land was reduced. It was mainly affected by the human activities such as urbanization, industrialization, deforestation, industrial waste, climate change, land degradation, soil erosion, soil acidic problems, chemical fertilizers, pesticides (Sinha, 1991, Forman, 2014). Flood and drought are also considered as major causes for the decline of agricultural production. Even, the industrial waste forms acid rains that increase the amount of siltation in the river. Due to the high amount of chemical contained in the soil cause to acidification which could reduce the soil quality (Malmqvist, 2002).

According to the World Bank report 2008, “Slow agricultural growth is a concern for policymakers as some two-thirds of India's people depend on rural employment for their living. Current agricultural practices are neither economically nor environmentally sustainable and India's yields for many agricultural commodities are low (Mohan, 2006). Poorly maintained irrigation systems and almost universal lack of good extension services are among the factors responsible. Farmers access to markets is hampered by poor roads, rudimentary market infrastructure, and excessive regulation”.

One of the main reasons for the decline of agriculture production is also the population explosion. The most of the cultivable lands were occupied by humans. The cultivable lands are gradually converted into residential areas and industrial estates. The population explosion is the hide endangered which raised a big question for the survival of human being in the future. The below chart-2 shows the total cultivable land slowly reduced in South India. It will directly affect the production of agricultural majorly caused by the population explosion.
In the above chart display the South Indian state of agricultural land (Karnataka, Kerala, Orisha, Tamilnadu, Andhra Pradesh including Telanaga). Orisha, Karnataka and Tamilnadu the cultivable land were started to decline slowly. In agricultural, it is considered as a one the biggest problem faced by the today’s world. According to the report of UN Population Fund, world population is likely to touch 8.5 billion at the end of 2030 and it would reach to 10 billion in the mid of 2050 (The World Conservation Union, 2013). On another side, the amount of grain harvested worldwide production increased from 631 million to 1.65 billion tons; it is not enough to feed the entire population. The grains had increased to 1.6 times at the same time the world also population increased to 1.9 times (Brown, 2010). Therefore 0.3 times population grows faster than the production of agriculture. Thus there is a gap between the growth of population and agricultural production.

In the above chart-3, it is very clearly shown that the total Indian population has risen to 1.33 billion in 2017 and it was projected that to 1.50 billion in 2030 and 1.70 billion in 2050 (Evans, 2009). So it is a compulsion to framing a strategy for sustainable agriculture in order to feed the entire existing population as well as future demand and also improve the agricultural production capacity.
The rice is the primary grains for the South Indians. The modern agricultural system helps to grow faster within the months of 4-5 for harvesting. On an average, 8000 pound of rice yield per acre. The India has contributed to 20% of world rice production. The rice is the best grain crops in the tropical region which need for the humid and hot climate. The average temperature required for good production is 25% Celsius and moreover, 100 cm of rainfall is needed for a suitable condition for rice production (Vergara, 1976). In the above chart-4 reveals that the production of rice is gradually increased, when compared to last three year the production has started to decline. In 2010, the total rice production in south India is 89 million tonnes when compared to 2009 is 99 million tonnes (Sinha, 1991). The production of rice as shown in the below chart-5 represent the state of South India are Andhra Pradesh including Telangana, Karnataka, Kerala, Orissa and Tamilnadu.

The above statistical data are indicated that the production of rice is slowly declining in South India. Some of the major factors that could affect the agriculture production are, first of all, there are only very few farmers are practising modern agricultural system. Second, the western countries like Germany, UK, USA, France, Switzerland, etc are following an organic farming system that could improve their agricultural productivity as well as plant nutrients. The food system in the developing countries is not well organized. Third, the problems of population explosion, urbanization, industrialization, deforestation, land degradation, lack of resources, excess use of chemical fertilizers, pesticides are the key factors for the decline of agricultural production. Those factors are leads to health problems and environmental problems. The excessive use of groundwater, elaboration of urban and rural areas, industrialization, execution of mining, and modernization are the major threats for agricultural (Sinha, 1991). In developing countries, it is continued to be stressed harmfully affects quality and food safety supplies. “People in developing countries are therefore exposed to a wide range of potential food quality and safety risks” (Sinha, 1991).
This study concluded that the cultivable lands were reduced over a period of time. Due to the population explosion, unplanned urbanization, industrialization and migration of farmer had a direct impact on the agriculture. The Indian agriculture produces 80% of its needs and remaining 20% is imported from abroad. The Government of India (GoI) must take necessary steps to stop converting agricultural land into some other usage and also control the growth of population. Further, the GoI should launch a program about the modern agricultural system and organic farming. They should maintain a database about the entire agriculture based on that it should suggest to a farmer which is the best crop to cultivate in their land based on the soil characteristics.

REFERENCES

7. Pao, H. T., & Tsai, C. M. (2011). Multivariate Granger causality between CO2 emissions, energy consumption, FDI (foreign direct investment) and GDP (gross domestic product): evidence from a panel of BRIC (Brazil, Russian Federation, India, and China) countries. Energy, 36(1), 685-693.