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AGRICULTURAL PRODUCTIVITY AND FOOD SECURITY

1. **Ranichandran C S,** Reg.No. 20113111032046, Research Scholar, Department of Economics and Research Centre, Nesamony Memorial Christian College, Marthandam – 629 165, Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli – 627 012, Tamil Nadu.

2. **DR. S.Binduja,** Associate professor, Sree Devi Kumari Women's College,Kuzhithurai-629163, Affiliated to Manonmaniam Sundaranar University,Abishekapatti, Tirunelveli – 627 012, Tamil Nadu

[1] Correspondingauthor:ranics@rediffmail.com

ABSTRACT

Having access to food grains is the most important requirement for guaranteeing food security. The inability of the growing population to obtain food grains is the biggest problem facing the Indian government. After the green revolution, India's domestic food grain production is largely self-sufficient, but it could not be enough to meet the country's rising demand. This study's primary goal is to determine the relationship between a country's food security and agricultural productivity. The majority of the work is based on secondary data.

Key Words: Food Security, Food Grains, Gross Domestic Product, Global Hunger Index.

Iintroduction

Ensuring food security and accessibility for all is a significant global concern. "When all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life," is what is meant to be understood as "food security" (FAO, 2010). Although many view it as a fundamental human right, about one billion people worldwide continue to suffer from chronic poverty and undernourishment, particularly in low-income developing nations and areas where there is a food shortfall. The three primary components of food security are as follows: (i) food availability: comprise three components linked to production, distribution, and trade; (ii) food access: associated with affordability, including wealth and income, preferences, and provision; and (iii) food utilization: critical components linked to dietetic value, social value, and food safety. One further crucial aspect of food security is sustainability. This implies that in order to meet the demand for food in the future, food production must continue. Both national and global physical, social, economic, and political issues affect food security as well as sustainable food security. Rapid urbanization, population expansion, demographic shifts, wealth growth, and advancements in technology and agricultural production are some significant socioeconomic drivers. Among them agricultural productivity is the main component that determine the food security at a great extent. Both are really carries a positive correlation between each other. By balancing supply and demand and guaranteeing a high degree of food security, agricultural productivity can be a key factor in economic growth. Increasing agricultural productivity can boost food production and guarantee that there are enough food grains available to feed the growing population. The amount of agricultural production generated for a specific amount of input, or set of inputs, is measured as agricultural productivity. There are several approaches to identifying and quantifying production. Conventional productivity measures are

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the amounts of output divided by the quantities of inputs. Productivity remains constant when output rises at the same rate as inputs. Conversely, though, if the rate of growth in output outpaces that of the consumption of inputs, then productivity is positive.

OBJECTIVES OF THE STUDY

1. Examine the positive correlation between agricultural productivity and food security.
2. Analyse the causes of food insecurity
3. To examine the role of per capita availability of food grain production for ensure food security.

METHODOLOGY OF THE STUDY

The study is mainly based on secondary data. The data has been collected from various sources such as Economic Survey of India.

NEED OF THE STUDY

Since food security affects a person's ability to obtain the foods necessary to meet nutrient needs, it plays a critical role in determining whether or not they can live an active and healthy life. A key component of food security is the process of cultivating food and producing an adequate quantity of food grains. The nation should have enough food grains available per person, and those resources should continue to rise over time. Food security is largely dependent on maintaining high agricultural productivity. India is ranked 111th out of 125 countries in the 2023 Global Hunger Index. This suggests that the country's hunger problem is "severe." This is likewise a decline from the ranking of 107 from the previous year (2022). India has a GHI score of 28.7 out of 100, with 0 representing the highest score (no hunger) and 100 representing the worst.In January 2024, the population of India was 1.44 billion. According to data, between early 2023 and early 2024, India's population expanded by 13 million (+0.9%).Food prices are going to increase unless agricultural output is high. It will be difficult for those with less money to obtain a sufficient and nourishing food. It could be difficult for subsistence farmers to generate enough food for their families and themselves in the interim.In this context the topic has a great importance to be analyzed in a relevant context..

AGRICULTURAL PRODUCTIVITY

With the world population continuing to rise, agricultural production is becoming increasingly significant. In many regions of the world, agriculture plays a critical role in ensuring food security, as the FAO study from 2004 noted. The research goes on to say that through lowering food prices, generating jobs, boosting farm revenue, and raising salaries, agriculture helps to lessen poverty. Food security will improve with increased agricultural productivity. The primary significance of agricultural output as a source of national income makes it more significant from an economic perspective for a country. The ratio of agricultural outputs to inputs is how agricultural productivity is calculated.Two measures of agricultural productivity can be used to analyse it: yield per hectare of land and output per person employed. The first is referred to as labour productivity, and the second as land productivity. Usually, the production of the land is taken into consideration. Therefore, a nation's ability to achieve economic development depends heavily on its agricultural sector and productivity. Given the current situation, this paper is extremely relevant because Indian agricultural productivity has been drastically dropping recently.

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IMPACT OF LOW AGRICULTURAL PRODUCTIVITY

With the country's rapid population growth, agricultural productivity trends have not been as satisfying since economic planning was implemented in India. Despite the fact that the green revolution brought about the introduction of contemporary methods, the use of hybrid seeds, the expansion of irrigation systems, and the use of intensive farming practices, the per capita availability of food grains is still insufficient to provide food security.India is the third-largest producer of rice. When we compare China's agricultural output to India's, we find that China is significantly more productive than India, despite China having the largest population. In terms of agricultural output, China has surpassed India if population pressure is taken into account. The primary causes of India's low productivity, aside from the country's population pressure, are uneconomic land holdings, a lack of entrepreneurship, monsoon unpredictability, our farming system's subsistence nature, a disorganized resource base, and declining soil fertility. This is a highly important situation that requires careful consideration and a solution to get out of this pitiful state.

FOOD SECURITY

Food is a fundamental human need and food security is a flexible concept and it has both economic and physical dimensions according to the economic dimension it referring to economic access and later to physical availability of food grains in sufficient quantities required for an active and healthy life. According to the FAO World Submit, 1996, food security is a whereby " all people, all at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food healthy life". Food security is not just a matter of the availability of food but it is a matter of the access of households and individuals to sufficient nutritious food. That means access to safe drinking water, hygiene and sanitation facilities etc. So food security is analyzed with the availability access and absorption.

Food security is strongly influenced by social, cultural, political, economic and environmental factors The main factors which influence the food security of India are the climate change, global warming, scarcity of land for farming, technological barriers, inadequate supply of water for irrigation, population increase, urbanization and globalization.

FOOD INSECURITY

Food insecurity refers to lack of access enough food. There are two kinds of food insecurity, transitory and chronic. Transitory food insecurity is a temporary decline in a house holds access to enough food. Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. It affects household that persistently lack the ability either to by enough food or to produce their own. Hence poverty is considered the root cause of chronic food insecurity.

Causes of food insecurity:

The main reason for food insecurity is low agricultural productivity of India in recent years. The food production of India has remained insufficient. The area under cultivation has continuously slow down from 1850 lakh hectare in 1980 to 1830 lakh hectares in 2003. Every year approximately around 2.25 lakh hectare agricultural land is diverted for non agricultural usage and in India the amount of green land is continuously decreasing as per the records.

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Table No.1

Gross area under major crops (Million Hectares)

Year	Commodity								
	Food grains	Cereals	Pulses	Rice	Wheat	Jowar	Bajra	Oilseeds	Sugarcane
1990-91	127.8	103.2	24.7	42.7	24.2	14.4	10.5	24.1	3.7
2000-01	121.0	100.7	20.3	44.7	25.7	9.9	9.8	22.8	4.3
2010-11	126.7	100.3	26.4	42.9	29.1	7.4	9.6	27.2	4.9
2011-12	124.8	100.3	24.5	44.0	29.9	6.2	8.8	26.3	5.0
2012-13	120.8	97.5	23.3	42.8	30.0	6.2	7.3	26.5	5.0
2013-14	125.0	99.8	25.2	44.1	30.5	5.8	7.8	28.1	5.0
2014-15	124.3	100.7	23.6	44.1	31.5	6.2	7.3	25.6	5.1
2015-16	123.2	98.3	24.9	43.5	30.4	6.1	7.1	26.1	4.9
2016-17	129.2	99.8	29.4	44.0	30.8	5.6	7.5	26.2	4.4
2017-18	127.5	97.7	29.8	43.8	29.7	5.0	7.5	24.5	4.7
2018-19	123.9	94.9	29.0	43.8	29.1	3.8	6.9	25.5	5.1

Source: Economic Survey 2019-20, volume 2.

Gross area under major crops during the period 1990-91 to 2018-19 can be observed from the Table No.1. The area of food grain production in 1990-91 is about 127.8 million hectares. But in 2000-01 it was only 121.0 and in the year 2018-19 its only 123.9 million hectares. In the case of cereals it was 103.2 in 1990-91 and 2018-19 its only 94.9.In the case of our staple crop rice the area of production is very much less and it is only 43.8 million hectares in 2018-19.

FOOD GRAIN PER CAPITA AVAILABILITY

In India per capita availability of food grains and cereals has been tremendously decreasing at the time when the government is planning a law for ensuring food security in the country. According to the Union Ministry of Agriculture the per capita availability of food grains in the country is showing a declining path. The per capita availability of food grains during 2006 was 445.3 gm which declined 438.6 gm in 2010.

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Table No.2

Per capita net availability of food grains (provisional)

Year	Population per thousand	Production		Net availability	1. Per capita net availability	
		Gross	Net		Kg. per year	Grams per year
Rice						
2016	1273986	104410	96475	85646	67.2	184.2
2017	1288522	109700	101363	86051	66.8	183
2018	1302896	112758	104188	90196	69.2	189.7
2019	1317013	116419	107571	90994	69.1	189.3
Wheat						
2016	1273986	92290	81123	92857	72.9	199.7
2017	1288522	98510	86590	85909	66.7	182.7
2018	1302896	99870	87785	80138	61.5	168.5
2019	1317013	102190	89825	85840	65.2	178.6
Cereals						
2016	1273986	235220	205818	206329	162.0	443.7
2017	1288522	251980	220483	204099	158.4	434.0
2018	1302896	259597	233072	210193	161.3	442.0
2019	1317013	261554	234973	213454	162.1	444.0
Pulses						
2016	1273986	16350	14306	20016	15.7	43.0
2017	1288522	23130	20239	25736	20.7	54.7

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2018	1302896	25416	22239	24115	18.7	51.3
2019	1317013	23398	20473	23017	17.5	2.7.9
Food grains						
2016	1273986	251570	220124	226345	177.7	486.8
2017	1288522	275110	240721	229834	178.4	488.7
2018	1302896	285014	255311	234608	180.1	493.3
2019	1317013	284952	255446	236470	179.6	491.9

Source: Economic Survey 2019-20, volume 2.

Table No.2 shows the per capita net availability of food grain production. So it is clear that per capita availability of food grains in the country is more or less showing a declining tendency.

The government of India framed long term and short term policies for achieving food security. As a part of long term policy the government tries to maintain sustainable food production, increase the food production, and increase the employment opportunities and providing proper education and health care system to the people. Through the short term policies government try to focus for the hunger reduction and sustain food security through the targeted public distribution system with the subsidized food grains. Besides that government of India announced and launched so many welfare programs for providing food security in India like mid day meal scheme, ICDS and food for work programs. On July 5, 2013, government of India issued an ordinance which guaranteeing food security to the Indian people and it provided a legal entitlement of food grains at a subsidized price. This law would be covered 75% of the rural people and 50% of the urban people. Per person it would be provided 5 kg food grains to all beneficiaries at subsidized prices. Those households which covered the AAY scheme would get 35 kg of food grains monthly at a government pre determined price.

It is very clear that agriculture helps to provide food security at a great extent the livelihoods most of the household those where food insecure are still depend on agricultural activities so it is very clear that growth in agricultural sector can bring a much more effect on food security than any other sector. Because agriculture has a prominent and influential role in society through its ensuring power on increase in production of food grains and fiber and also the capacity to ensure socio and economic development. Food security and agriculture plays a main role in the implementation of the 2030Agenda for Sustainable Development and the Sustainable Development Goal(SDGs).Agriculture can play a key role for ensuring food security and reduction in hunger. Agricultural development can improve food security and nutrition. It can increase the quantity and diversity of food and also providing the primary source of income for many.

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Impact of Agricultural Trade on Food security

Trade boost imports also increase the availability of variety food items greater specialization may increase due to the food production and productivity improvements may be triggered by greater competition. Liberalization in trade policies and globalization increased the trade and it also enhance more availability of food items and also enlarged the concept of food security at a great extend. Greater variety of food available may promote a more balanced diet. There may be greater consumption of food that is cheaper, high in calories and low in price value.

As per the Union Budget of India 2020_21 allocation of $40.06bn was made to the ministry of agriculture . India ranks first in number of organic farmers and ninth in terms of area under organic farming . As per the National Accounts Statistics the total investment in irrigation and agriculture is almost half of the amount spent by the government on subsidies in agriculture. Public investment reduces rural poverty through improved growth in agricultural production. Public policy and budgetary decisions regarding infrastructure also have a profound effect on agricultural production.

CONCLUSION

For ensuring food security increasing agricultural production is inevitable. Through the targeted approaches India had achieved a lot to overcome undernourishment and malnourished at a great extent. But still a large portion was suffering from undernourishment. If we compare the food production and food security it is not as much of the population of nearly 125 crore and it is not possible to import this amount of food grains which we needed. To achieving the food security in all aspects it's very needed to achieve self-sufficiency in the production of food grains. So we can conclude that there is a positive correlation between agricultural productivity and food security.

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