

Agriculture and Economic Development - A Study

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Abstract

The agricultural sector is an important for economic development and has a significant impact on the economic growth of the nation. The greatest source of livelihood for the entire country of India is agriculture, which supports about 3/4th of the population hence, industries rely on the agriculture sector for their raw materials; hence, without a thriving agriculture sector, a sizable portion of the economy will be declined. Agricultural prosperity has played a vital role in supporting economic development. This article highlights the importance of agriculture in economic development and the challenges of the agriculture.

Keywords: *Agriculture, Economic Growth, Agricultural Prosperity and Industry.*

Introduction

Agriculture sector plays a strategic role in the process of the economic development of a country. The services sector is now contributing more to India's economic growth and helping the country's 7.1% annual growth rate. Even though the fact that agriculture is still continuing to be the backbone of the economy is hardly exaggerated. The agriculture sector, though contributes 18.8 percent to total GDP in 2021-22 and it provides employment to 41.49 percent of the total population and constitutes the major source of their livelihood. It has a 10.24 percent share in the total exports and is the 4th largest contributor in the world. It is well understood that "with 75 percent of the world's poor in rural areas and most of them dependent on farming, agriculture must be part of world economic growth, poverty reduction, and environmental sustainability (UNDP, 2012)". Until 1960-70, India used to import several food items to meet its domestic demand. Then the Indian government reformed the agriculture policy and brought about the "Green Revolution" in the year of 1965, which helped in increasing farm output significantly in the states of Haryana, Karnataka, Uttar Pradesh, Punjab and later in West Bengal and Odisha and helped in ensuring food security. A large chunk of India's exportable is constituted by agricultural products such as jute, tea, tobacco, coffee, spices and sugar. It helps in increasing the foreign exchange earnings. The major crops include cereals, pulses, tea, coffee, fresh vegetables, fresh fruits, dry fruits, coconuts, major spices, milk, millets, cotton, jute, and castor oil seed. India ranks as the world's largest producer of jute, lemon, mango, milk, papaya etc. And is the world's second largest producer of wheat, rice, cotton, onion, silk, tea, and tomato, as well as a major exporter of rice and wheat to Nepal, Bangladesh, and Africa.

Review of Literature

A review of some important research studies in the field of Agriculture and economic development conducted by different scholars at various points of time has been made.

Awokuse, O. T. (2009) in his paper titled "Does Agriculture Really Matters for Economic Growth in Developing Countries?" Analyzing time series data from 15 developing and transitioning economies in Latin America, Asia, and Africa, researchers explored the dynamic link between agricultural productivity and economic growth in general. Export, agriculture value added per worker, real GDP per capita, population as a proxy for labour, gross capital formation per worker as a proxy for capital, and export were the economic variables used for the period of 1971 to 2006. These variables were taken from the World Bank's development indicators and international monetary system. To determine the empirical link between the variables, the co integration and auto regressive distributed lag models were utilized. The conclusions drawn from the results show that agriculture has a significant role in economic growth. Empirical evidence supports the roll of private and public resource allocation to agriculture and infrastructure development. It was suggested that trade openness impact is positive and favorable on GDP per capita so should be increased.

Oyakhilomen, O. and Zibah, R.G. (2014) in their research work titled "Agricultural Production and Economic Growth in Nigeria: Implication for Rural Poverty Alleviation" asserted that agricultural production and economic growth in Nigeria are positively related. Using time series data on the index of agricultural production, real gross domestic product, interest rate, exchange rate and inflation rate, the bounds testing (ARDL) approach to co integration is employed to analyze the data leading to the key finding of the study. It is established that agricultural production is positively related to economic growth in Nigeria and the relationship is significant both in the long run and in the short run.

Awan, A.G. and Vashma, A. (2014) in their paper titled "Impact of Infrastructure Development on Economic Growth" tried to examine the major determinant of agricultural sector and mutual relationship between agriculture economic development and GDP. 31 observations were used since 1980 to 2010. Gross domestic product and agriculture growth were taken as economic variables. Data were taken from the World Bank Meta data of Pakistan. Co integration and vector error correction model was used as econometric technique for measuring the variable relationship. Results show that there exists statistically significant and positive relationship between agriculture growth and GDP growth. It was suggested that the agriculture growth is very essential for economic growth.

Statement of Problem

Agriculture plays a very important role in economic development and the improvement of the standard of living of the people. If India is to be in the list of developing countries today, the role of agriculture is also important. Today, agriculture is not only limited to economic development but also provides employment opportunity, production of various crops, food supply, increase in capital, improved standard of living of the people, improvement of the social sector, up gradation of industries with supply of raw materials, high level of export, development in education and research sector, etc are important development sectors. Apart from this, all the sectors suffered losses due to COVID-19 during the period 2019 to 2021, but only the agriculture sector engaged in its work activities and gave a 20% profit to the country's economy. Apart from that, many projects have been implemented for the development of the agricultural sector, but the agricultural sector needs to be developed like the development of other sectors. Today's agriculture sector and farmers are suffering from a lot of problems due to things like drought and drought, unsatisfactory agrarian system, technical drawbacks, weak human factors,

inadequate provision of finance, technological unawareness, and problems in agriculture marketing. The agriculture sector still needs to move towards development due to difficulties like this. When agriculture is free from all difficulties, there is no doubt that agriculture contributes more to the country's economy.

Significance of the Study

This research aids in determining the state of agricultural economic growth. It also helps to understand agricultural and farmer difficulties, as well as to find future solutions to problems.

Research Methodology

The research methodology is based on secondary data gathered from numerous publications, reports, research studies and government official websites, There's no primary data used in the study.

Objectives

1. To analyses the relevance of agriculture in economic development.
2. To examine the performance of agriculture in terms of Production, GDP and Exports.
3. To study the problems and challenges of agricultural sector.
4. To suggest suggestion in the light of the findings of the study.

The Relevance of Agriculture in Economic Development.

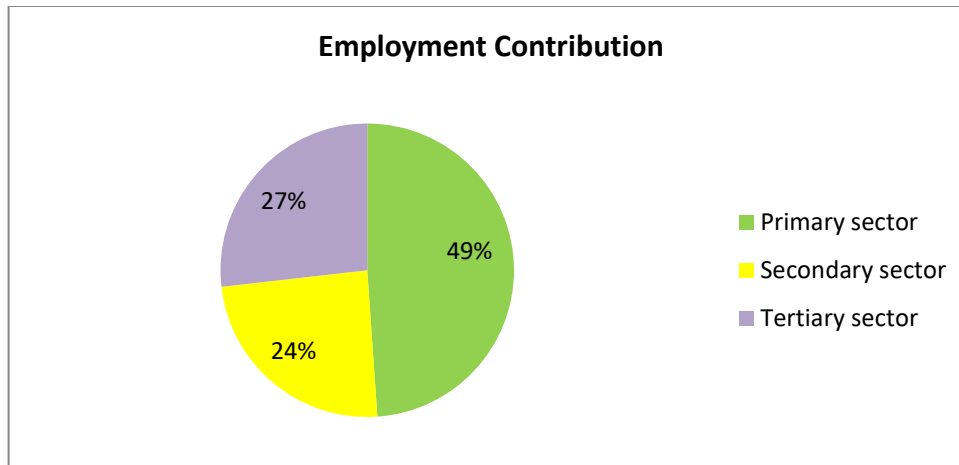
Agriculture is the backbone of an economy that provides the basic ingredients for humanity, as well as raw materials for industrialization and more job opportunities for rural people. Thus, it has helped the country's economy by providing opportunities like this.

Employment contribution: Agriculture provides employment opportunities for rural people on a large scale in underdeveloped and developed economies. It is an important source of livelihood. The production of the agriculture industry will rise, as well as new employment opportunities. Crop expansion and direct employment in those fields also create jobs in other industries. The total number of employees (%) in primary, secondary, and tertiary sectors in 2021-22 is shown in table 1.

Table 1 : Employment Contribution

Sectors	Employers in%
Primary sector	48.90%
Secondary sector	24.30%
Tertiary sector	26.80%
Total	100.00%

Source: Indian Economy Tutorial



As per data available in table 1, the primary sector contributed 49% of the highest employment opportunities to people, the secondary sector contributed 24% and the tertiary sector contributed 27%. So the agriculture sector is a very important sector to reduce unemployment.

Pre requisite for raw material: Agricultural advancement is important for raising the availability of raw materials for the agro-based industries, particularly in developing countries. The shortage of agricultural products has its impact on industrial production and the resulting increase in the general index. It'll impede the expansion of the country's economy. The flour mills, rice sellers, oil & deciliter mills, bread, meat, milk products, sugar factories, wineries, jute mills, textile mills, and numerous different industries support agricultural products.

Creation of infrastructure: The development of agriculture requires roads, market yards, storage, transportation, railways, postal services, and many others for infrastructure, creating demand for industrial products and the development of the commercial sector.

Relief from Capital Shortage: The agricultural sector's activity has alleviated the burden on many developed countries that were beginning to experience a lack of foreign capital. If foreign capital is available with "strings" attached, it will result in another significant disadvantage. Because agriculture requires less capital for development, it reduces the growth drawback of foreign capital.

It is beneficial to reduce Inequality: In a country that is primarily agricultural and overpopulated, there is a greater disparity in financial gain between agricultural and urban areas. To reduce this disparity in financial gain, agriculture must be given higher priority. Agriculture's prosperity would increase the financial gain of the majority of the agricultural population, reducing inequality in financial gain to an extent.

Build Better Demand: The development of the agricultural sector would tend to increase the purchasing power of agriculturists which will help the growth of the non-agricultural sector of the country. It will provide a market for increased production. In underdeveloped countries, it is well known that the majority of people depend upon agriculture and it is they who must be able to afford to consume the goods produced. Therefore, it will be helpful in stimulating the growth of the non- agricultural sector. Similarly, improvement in the productivity of cash crops may pave the way for the promotion of exchange economy which may help the growth of the non-agricultural sector. Purchase of industrial products such as pesticides, farm machinery, etc. also provides a boost to industrial dead out. Helpful in Phasing out

Economic Depression: During the depression, industrial production can be stopped or reduced but agricultural production continues as it produces necessities of life. Thus it continues to create effective demand even during adverse conditions of the economy.

Improving Rural Welfare: It is past time for an underdeveloped country's rural economy to rely on agriculture and related occupations. Rising agricultural surpluses result from increased agricultural production and productivity, which tends to improve social welfare, particularly in rural areas. The rural masses' living standards improve, and they begin to consume a nutritious diet rich in eggs, milk, ghee, and fruits. They live a comfortable life with all the modern conveniences—a better house, a motorcycle, a radio, television, and better clothing.

Make an Effective Contribution to Capital Formation: Underdeveloped and developing countries require a large amount of capital to develop economically. Agriculture is a significant source of capital formation in the early stages of economic development. Require:

Emerging Markets: As agricultural progress continues, the market for industrial products will grow in size. Increased agricultural productivity raises rural population income, which in turn raises demand for industrial products, resulting in the development of the industrial sector. "Increased agricultural production and per capita income of the rural community, together with industrialization and urbanization, lead to increased demand for industrial production," says Dr. Bright Singh. As a result, the agricultural sector contributes to economic growth by serving as a supplement to the industrial sector.

Performance of agriculture in terms of Production, GDP and Exports

Gross Value Added (GVA) In Agriculture: Lessons from the economic history of many industrialized countries show that agricultural prosperity contributed significantly to economic growth. It is rightly said that "the major industrialized countries of today were formerly mostly agrarian," yet agriculture continues to dominate underdeveloped economies and contribute significantly to national GDP. This industry still accounts for 18.8% of the national GDP in India.

Table 2 : Year wise GVA and agriculture sector

Years	Total GVA in %
2012-13	18.2
2013-14	18.6
2014-15	18.2
2015-16	17.7
2016-17	18
2017-18	18.3
2018-19	17.6
2019-20	18.4
2020-21	20.2
2021-22	18.8

Source: Based on data of DAFW.

*As per 1st Advance Estimates of National Income, 2021-22.

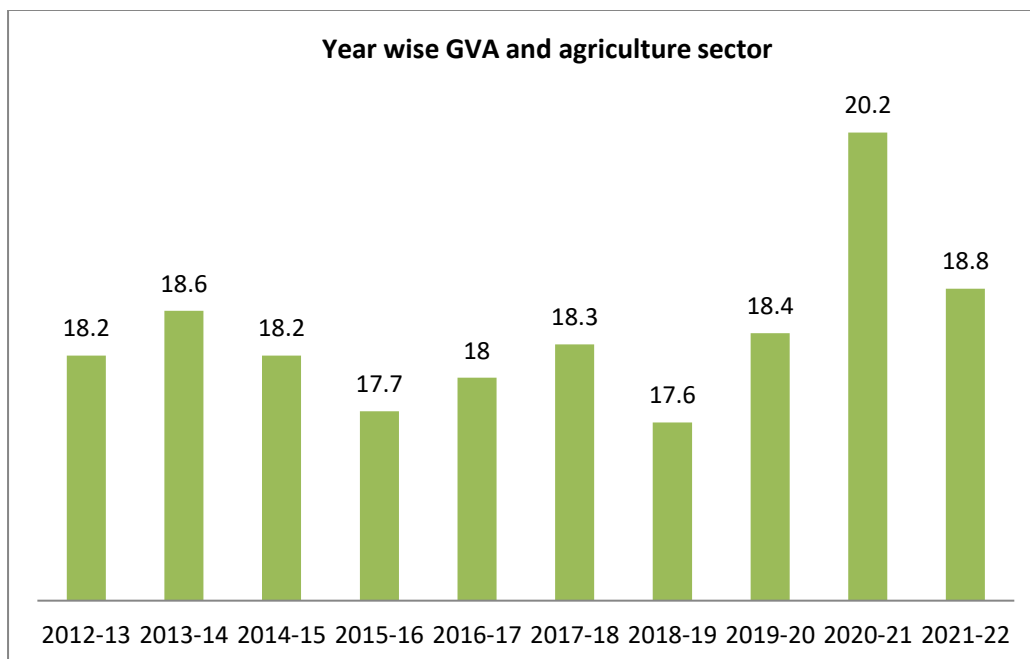


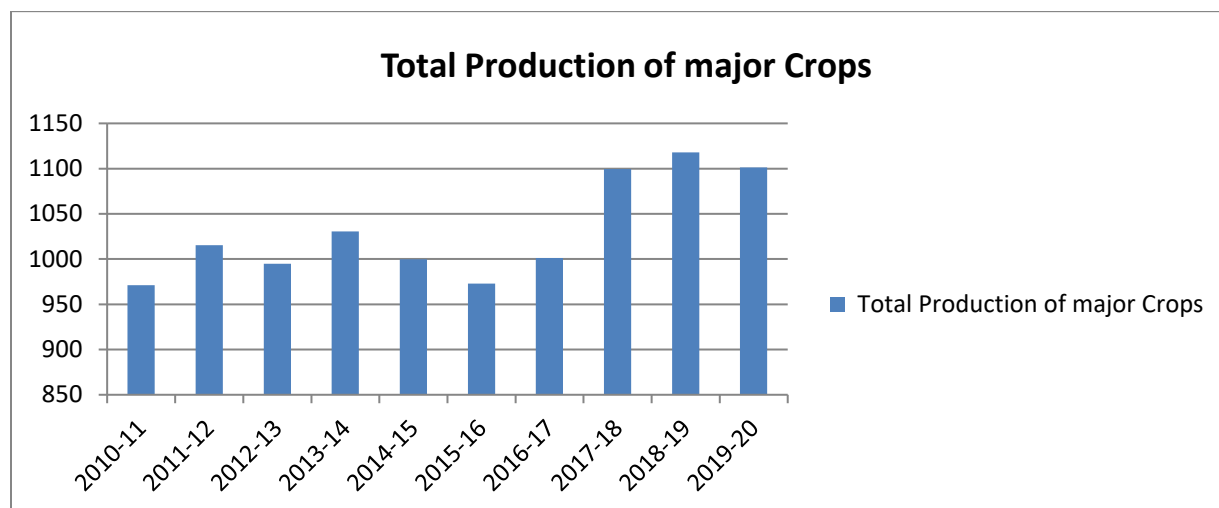
Table 2 shows the trend in the percentage share of agriculture and allied sectors in the total GVA of the economy at current prices over the last ten years. The sector's share of total GVA in the economy has a long-term trend of around 18%. However, the agriculture and allied sector's share of total GVA increased to 20.2 percent in 2020–21 and 18.8 percent in 2021–22.

Production: India is one of the world's largest producers of agricultural and food items. The agriculture industry in India is expected to develop at a 3.9% annual pace in 2021-22, up from 3.6% in the previous year. Rice, wheat, lentils, oilseeds, coffee, jute, sugarcane, tea, tobacco, groundnuts, dairy products, fruits, and other crops are grown in the nation.

Table 3 : Year-wise Total Production of major Crops

Year	Total Production of major Crops(Million tons)
2010-11	971.04
2011-12	1015.47
2012-13	994.72
2013-14	1030.49
2014-15	999.65
2015-16	972.88
2016-17	1001.27
2017-18	1099.37
2018-19	1117.87
2019-20	1101.15

Source: Economic Survey 2020-21 Statistical



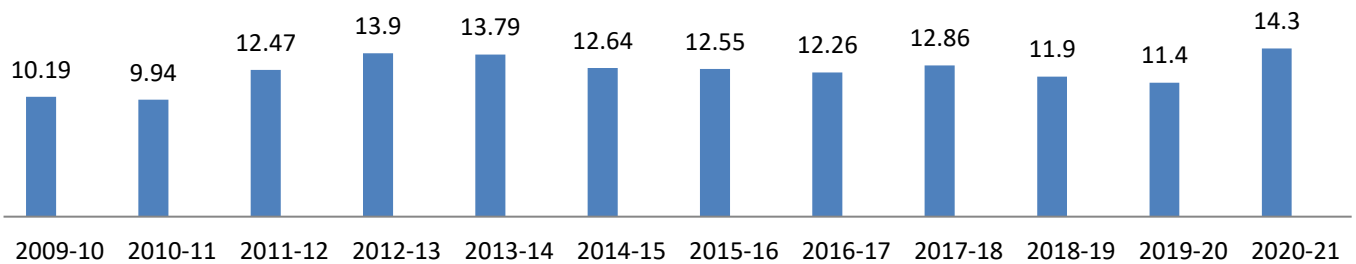
India's tea production was 1,280 million kg in 2020–21. During the same time frame, coffee production increased by 19% year over year, reaching 354 million kg. Oilseed output in India is expected to exceed 37.15 million tons in 2021-22, while other products such as rice, wheat, maize, legumes, mustard, and sugarcane are expected to set new records. Table 4 displays the overall output of key crops in India during the last ten years. The agricultural industry produced 1117.87 million tons in 2018-19, the greatest production from 2010 to 2020.

Export: India is one of the world's largest agricultural product exporters. The country's total agricultural exports increased by 14.3% in 2020–21, with a 2.9% increase in 2020–21. Table 4 shows the major share of India's exports.

Table 4 : India's Exports of Principal Agricultural Commodities

Year	% Share of Agricultural in national exports
2009-10	10.19
2010-11	9.94
2011-12	12.47
2012-13	13.9
2013-14	13.79
2014-15	12.64
2015-16	12.55
2016-17	12.26
2017-18	12.86
2018-19	11.9
2019-20	11.4
2020-21	14.3

Total share of agriculture commodities export



India's agriculture sector primarily exports agro and allied products, marine products, plantations, and textile and allied products. Exports of agricultural and related products Rice is the largest exported agricultural product from India and contributed to more than 19% of the total agriculture exports during the years 2020–21. Sugar, spices, and buffalo meat are among the largest exported products, with a contribution of 9%, 8%, and 7% to 2020–21 agriculture exports, respectively.

Problems and challenges of agricultural sector

Seeds of poor quality: Today, in India, the provision of poor quality seeds may be a major downside and a challenge in agriculture. Poor seed quality ends up with low vigor and poor growth. They're also jointly at risk of weeds, insects, and diseases. The matter arises as most farmers in India tend to save their own seeds and don't tend to try and do any seed processing to confirm varietal purity or seed quality. Most farmers are located in rural areas, and they don't have adequate finance to shop for sensible quality seeds. Once farmers use poor quality seeds, there are numerous issues touching on crop institutions. These are low germination, mixed varieties, low plant vigor, pathological plants, or the introduction of weeds. The seed supply could also be stained. The seeds could also be of various sizes and varieties. Inert, weeds, or alternative matter could also be included within the seed supply.

Inadequate training, extension, and education in agricultural research and difficulty to adopt and learn new technology: Agricultural research has advanced sufficiently, but there is no coordination between farms and research labs in the various agro-climatic zones of the nation. As a result, the benefits of new agricultural research are not being felt by common cultivators, particularly marginal and small farmers. Education and training of farmers in the adoption of new agricultural inventions and strategies to boost their agricultural production receive very little attention.

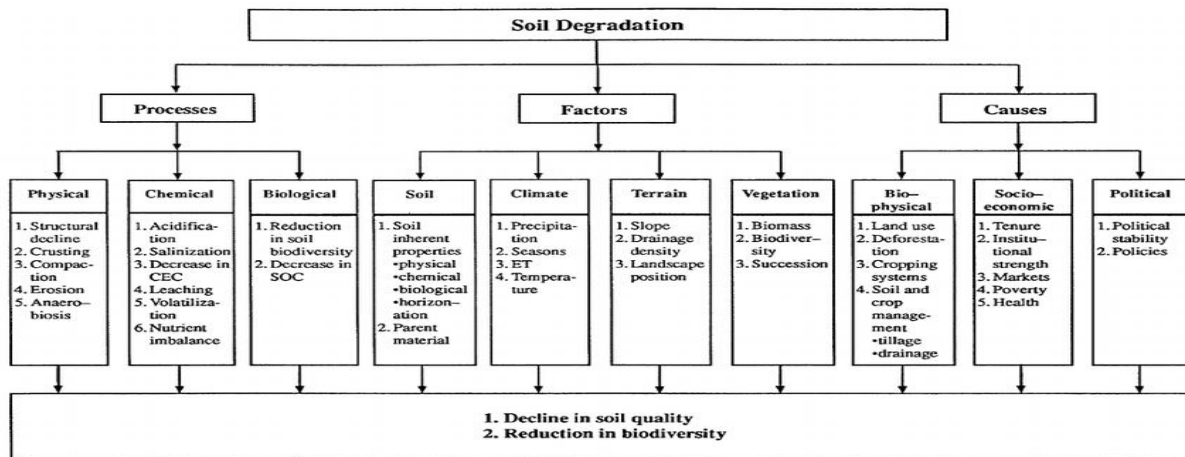
Indebtedness and poverty among farmers: Although cultivators are indebted across the board in subsistence farming, nowhere is this impact more devastating than in India. Unfortunately, more than 85% of all farming households are in debt. Several thousand farmers have committed suicide during the past 10 years in Andhra Pradesh, Karnataka, Tamil Nadu, Maharashtra, Orissa, Gujarat, Punjab, and Uttar Pradesh due to high debt. Small and marginal farmers continue to rely on moneylenders who charge high interest rates for loans (25 to 40 per cent per annum). If they don't pay, the money lenders seize the property they owe on their mortgage, leaving them penniless. To address the issue of farmer debt, some special provisions have been included in the draught of the Eleventh Five-Year Plan.

Agriculture marketing: Villages are where the majority of farmers reside. Villages have not established organized markets to sell their goods. Therefore, there are no markets in rural areas to provide agricultural

products to consumers or agricultural inputs to farmers. As a result, the agricultural market is still disorganized. Rural agricultural marketing is still in a state of chaos. Farmers are compelled to rely on neighborhood merchants and intermediaries to sell their agricultural products, which are sold at a loss because they lack viable marketing channels.

Soil degradation: Soil degradation is projected to occur over more than a hundred million hectares of land in India. It includes 130 million hectares due to water erosion; 16.03 million hectares due to acidity; 12 million hectares due to floods; 5-7 million hectares due to wind erosion; 6 million hectares due to salt; and 7 million hectares due to different environmental factors. It is alarming because India accounts for 18 percent of the world's population but has only 2.4% of the world's total land area. Agricultural output, forestry, and aquaculture account for 17.5% of the country's GDP and occupy roughly half of the actual employment. Overburden clearance from mining sites causes substantial losses of flora and very fertile soils to the surrounding areas. The degradation of soil is naturally occurring as well as induced by human activities (Bhattacharyya et al., 2015). This list includes many natural disasters, including seismic activity, typhoons, storms, hurricanes, falling trees, rock falls, volcanic activities, storms, thunderstorms, and bush fires (Brausmann & Bretschger, 2018). Man-made soil degradation is brought on by land clearing and deforestation, inadequate agricultural practices, poor chemical waste disposal, grazing, mineral extraction, rapid urbanization, and commercial growth. There are a number of sociopolitical causes for soil erosion in India, including rapid urbanization, decreasing per individual land area, farm leasing, illiteracy, and a rising population. In conclusion, the main contributors to soil deterioration in varied agro-climatic regions include climate change, farming techniques, and fertilizers (Bateman, 2019). Table 5 will show the soil degradation processes, factors, causes.

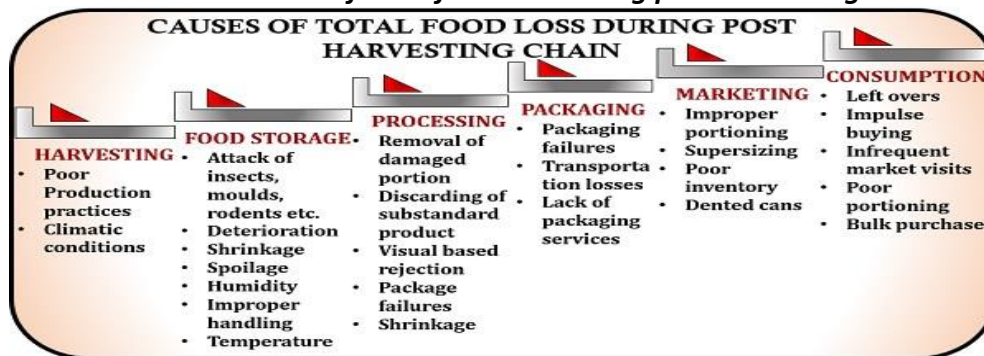
Table 5 : processes, Factors, Causes of Soil Degradation



Post harvest losses: In terms of food production, India is in second place next to China, and its food processing sector is estimated to be worth around \$70 billion (Lathamani, 2021). This year's total food grain production was about one-and-a-half times the combined amount of fresh vegetables. Postharvest losses in fresh foods and commodities, such as dairy products and eggs, are estimated to be between 10 and 25 percent in most cases. It was estimated that between 30 and 40% of the projected losses in fruits and vegetables would occur (Hegazy, 2013). These figures are undesirable and have a negative effect on the Indian economy. Crop loss after harvest starts to accumulate rapidly in the production chain. Following post-harvest, there are four major stages in this production chain: harvesting and production; processing

and product management; and market place connections. Efficiency is always an issue for crops. Efficiency is always an issue for crops. Incidence of post-harvest loss is considerable in the first two periods, with severe effects for small holders' farmers earnings (Ganesh et al., 2018). However, there has been minimal attention paid to value chain efficiency or examining the causes behind PHL trailing output. This exhibit illustrates many important post-harvest value chain inefficiencies that together lead to post harvest losses. There are several causes behind the Post-harvest losses, summarized details are mentioned in table 6.

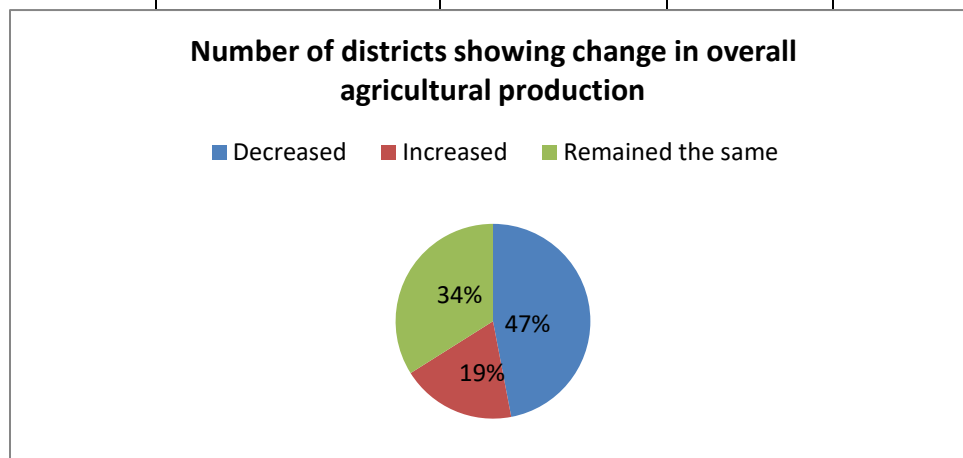
Table 6 Causes of total food loss during post harvesting chain



The COVID-19 Crisis and its Impact on India's Agriculture Sector: The impact of the nationwide lockdown imposed by COVID-19 on overall production levels in the agricultural and allied sectors has been significant, with overall production levels in the agricultural and allied sectors declining in 47% of the sample districts (Table 7). However, 19% of the districts reported an increase in the overall level of production in the sector, while 34% of the districts reported no change in the levels of production in agriculture and allied sectors. Some of the reasons for the decline in agricultural activities include a lack of labor and machinery, the need for social distance, and restrictions on men's free movement.

Table 7 Production Levels In The Agricultural And Allied Sectors In COVID-19.

Parameters	No.of Districts	percentage
Decreased	360	47%
Increased	146	19%
Remained the same	260	34%
Total	766	100%



Suggestion

- Providing quality seeds to achieve greater productivity
- Availing market facilities for remote areas for better connectivity.
- Educating farmers and developing their skills in modern technology and new strategies to achieve better results
- Measures to reduce wastage in various stages of cropping to end users

Conclusion

Agriculture is critical to the growth of an economy. It is the bedrock of our economic system. Agriculture employs a large number of people in addition to producing food and raw materials. In terms of culture, India is a one-of-a-kind country. It has a large amount of level land, rich soils, wild climate variations suitable for various crops, plenty of sunlight, and a long growing season. India's net planted area is currently around 143 million hectares. As a result, agricultural output has reached an all-time low. Monsoon rain is critical for agriculture. Food crops account for the vast majority of the output. One-third of the land holdings are small, less than one hectare in size. Crop storage facilities are also in short supply. Considering all of these facts, one can conclude that agricultural growth is critical to a country's economic development. Even rich countries prioritise agricultural development. "Agricultural progress is critical to providing food for a growing non-agricultural labour force, raw materials for industrial production, and savings and tax revenue to support the rest of the economy's development in order to earn foreign exchange and provide a growing market for domestic manufactures,"

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