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A Study of Emerging Trends in Agriculture Sector in India

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Abstract

Agriculture – the most important sector for any country. Similarly, agriculture has special importance in India. It is an economy based sector that involves more than half the population of the country. We can say that agriculture is the backbone of India. Our livelihood completely depends on it. Therefore, Indian agriculture and Indian farmers both are essential in every manner. For the same, the Indian government and Indian peoples take many steps to help them and the sector's growth. As a result, today, agriculture has become an emerging sector with the latest trends. Emerging Trends in Agriculture are major reasons for the sector's growth. Emerging trends in agriculture mean new technologies and new strategies which become higher with time. For the last several decades, the agriculture sector has been undergoing new changes, and at the same time, new technologies have also expanded in this sector. Due to all these things, the sector is growing. The recent development in agriculture makes agriculture activities more suitable and comfortable for farmers. These changes or trends help not only in agriculture growth but also farmer's conditions.

Keywords: Agriculture, Industry, Green Revolution, India, Problems etc.

Introduction

Growth in the agriculture sector may well be judged by the increase in agricultural production over time. In economic terms, relative changes in prices of different crops also may affect substitution. In the Indian context, rice, wheat, maize, millets and pulses are the major food crops. Oilseeds, sugarcane, cotton, jute & Mesta, and potatoes are the major cash crops. Tobacco, chilies, ginger, onions, turmeric, tapioca, sweat potatoes, etc. are minor cash crops. Among plantation crops tea, coffee and rubber are important. We observe that cereals and pulses occupy about 3/4th of the gross area under cultivation. A clear trend in an increase in the percentage area under the cash crops is discernible. Plantation crops occupy a very small percentage (less than 1%) of the total area under crops. Among the food crops, area under wheat has the highest growth rate followed by maize, rice and pulses in that order. The growth rate of area under millets is negative. Among the major cash crops, area under potatoes has grown fastest, followed by oilseeds, sugarcane, cotton and jute in that order. Among the food crops, wheat exhibited the highest growth rate of yield per hectare.

Objectives of the Study

1. To study importance of agricultural sector in Indian economy.
2. To study the role of Agriculture in Economic Development
3. To study of Emerging trends in Indian Agriculture.
4. To study the challenges ahead in Indian agriculture sector.

Research Methodology

For the said research study the data pertaining to the above objectives was collected by the review of the literature on the subject concerned. The literature was thus collected by visiting libraries and various concerned websites. The present research study is based on the secondary data. Such secondary data is collected from various reference books on agriculture, Management, Commerce, National & International Journals, Publications from various websites which focused on various aspects of agriculture.

Importance of Agriculture

Agriculture plays a crucial role in the life of an economy. It is the backbone of our economic system. It is not only provides food and raw material but also employment opportunities to more than half of India's population. It is considered as an agrarian economy where nearly 70% of its total population directly or indirectly involved in agriculture for their Survival. It provides food security to all the citizens of India. Agriculture is the main source of livelihood for a labor surplus country like India as it provides direct employment to 52.1% of the total workforce. Though its share in national GDP is 14.6% in 2009-10, still it is the largest economic sector and a significant piece of the overall socio-economic development in India. Pani found that 1% increase in agricultural production increases the net domestic product by about 0.56%. During 1971-72, Rangarajan estimated 1% fall in agricultural output causes 0.70% fall in GDPR. Ahluwalia and Rangarajan using data from 1960-61 to 1980-81 have obtained that 1% fall in agriculture output was likely to lead to a fall in overall output by about 0.8%. India ranks second worldwide in the production of farm output. Due to special emphasis placed on agriculture in the five-year plans and steady improvements in irrigation, technology, application of modern agricultural practices and provision of agricultural credit and subsidies since the Green Revolution, productivity of all crops have shown a rising trend. India is the largest producer of milk, jutes and pulses and ranks second in the cattle population. It is the second largest producer of rice, wheat, sugarcane, cotton, fruits, vegetables, and silk. India was the third largest producers of oranges, coconuts, eggs, tomatoes, peas and beans. Over last 45 years, India has shown a steady average annual increase in various agricultural items (Kg/ hect.) because of the introduction of Green Revolution, improvement in transport and communication, infrastructural development, knowledge gains, adoption of modern cost effective technology and reforms.

Role of Agriculture in Economic Development

The agriculture sector is the backbone of an economy which provides the basic ingredients to mankind and now raw material for industrialization.

- Contribution to National Income
- Source of Food Supply
- Pre-Requisite for Raw Material
- The Shift of Manpower
- Creation of Infrastructure
- Relief from Shortage of Capital

- Helpful to Reduce Inequality
- Based on Democratic Notions
- Create Effective Demand
- Source of Foreign Exchange for the Country
- Contribution to Capital Formation
- Employment Opportunities for Rural People
- Improving Rural Welfare
- Extension of Market for Industrial Output

Current Status in agricultural sector in India

The Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) is responsible for the collection:

A. Weekly and daily wholesale prices

B. Retail prices of essential commodities

C. Farm harvest prices

The weekly wholesale prices cover 140 agricultural commodities from 620 markets. Retail prices of essential commodities are collected on a weekly basis from 83 market centers in respect of 88 commodities (49 foods and 39 non-foods) by the staff of the State Market Intelligence Units, State Directorates of Economics and Statistics (DESs) and State Department of Food and Civil Supplies. Farm Harvest Prices are collected by the field staff of the State revenue departments for 31 commodities at the end of each crop season and published by the DESMOA.

Investments in agricultural sector in India:

Some major investments and related developments in agriculture in the recent past are as follows:

- Mahindra and Mahindra (M&M), India's leading tractor and utility vehicle manufacturer, announced its entry into pulses retailing under the brand 'NuPro'. Going forward, the company plans to foray into eretailing and sale of dairy products.
- Fertilizer cooperative IFFCO launched a joint venture with Japanese firm Mitsubishi Corp for manufacturing agrochemicals in India.
- Acumen, a not-for-profit global venture fund, has invested Rs 11 crore (US$ 1.7 million) in Sahayog Dairy, an integrated entity in the segment, based at Harda district in Madhya Pradesh.
- Rabo Equity Advisors, the private equity arm of Netherlands-based Rabo Group, raised US$ 100 million for the first close of its second fund – India Agri Business Fund II. The fund plans to invest US$ 15–17 million in 10–12 companies.
- Oman India Joint Investment Fund (OIJIF), a joint venture (JV) between the State Bank of India (SBI) and State General Reserve Fund (SGRF), invested Rs 95 crore (US$ 14.62 million) in GSP Crop Science, a Gujarat-based agrochemicals company.
- The world's seventh-largest agrochemicals firm, Israel-based ADAMA Agrochemicals plans to invest at least US$ 50 million in India over the next three years.
- Belgium-based Univeg has collaborated with Mahindra & Mahindra to develop a fresh fruit supply chain.
- Companies from the US, Canada, Australia, Israel, the Netherlands and other European countries have shown strong interest to transfer the best practices, linkages between scientific institutes, agriculture storage, cold-chain management, market access, and productivity enhancement such as the introduction of new technology in seed and plant biotech.

- Canada-based International Food Security Research Fund has major investments in food security research in several Indian universities. These strengthen food-processing and sustainable agricultural techniques.

Government Initiatives

Some of the recent major government initiatives in the agricultural sector are as follows:

- India and Lithuania have agreed to intensify agricultural cooperation, especially in sectors like food and dairy processing.
- Gujarat Government has planned to connect 26 Agricultural Produce Market Committees (APMCs) via electronic market platform, under the National Agriculture Market (NAM) initiative.
- The State Government of Telangana plans to spend Rs 81,000 Crore (US$ 12.1 billion) over the next three years to complete ongoing irrigation projects and also undertake two new projects for lifting water from the Godavari and Krishna river.
- The National Dairy Development Board (NDDB) announced 42 dairy projects with a financial outlay of Rs 221 Crore (US$ 34.02 million) to boost milk output and increase per animal production of milk.
- The government planned to invest Rs 50,000 Crore (US$ 7.7 billion) to revive four fertilizer plants and set up two plants to produce farm nutrients.
- The Ministry of Food Processing Industries took some new initiatives to develop the food-processing sector that would enhance the income of farmers and export of agro and processed foods, among others.
- The Government of Telangana allocated Rs 4,250 crore (US$ 654 million) for the first phase of the farm loan waiver scheme. The scheme is expected to benefit 3.6 million farmers who took loans of Rs 100,000 (US$ 1,539) or below before March 31, 2014.

Emerging Trends in Agriculture

Indian agriculture production has increased with time due to the latest trends in India. It has made us self-reliant and prevented us from becoming a begging bowl for food as a net exporter of agriculture and other products after independence. As per the Second Advance Estimates for 2019-20, the total country's food grain production is estimated to be a record 291.95 million tonnes. It is good news, but the Indian Council of Agricultural Research (ICAR) forecasts that the demand for food grains will increase to 345 million tonnes by 2030. These all things are happening because of agriculture trends

1. Increase Food Production

Indian agriculture has seen a dramatic increase in food production since introducing new technologies like the Green Revolution in agriculture practices. An annual growth rate of 2.08% was recorded during the 1970s. An annual growth rate of 3.5% was recorded in food grains in 1980. These growth rates in food grains is a hallmark of the Green Revolution which enabled India to become self-sufficient in food grains and even a marginal exporter. The annual growth rate has fallen to 1.7% in the 1990s, almost equal to the annual population growth. As the decade of the 1990s couldn't maintain this pace. The total production of food grains has increased from 176.39 million tonnes in 1990-91 to 233.9 million tonnes in 2008-09. With the increase in population size and increase in income, the demand for food grains is likely to increase in the near future. As per the latest estimate of 2010, food grains demand is likely to increase at 2.6%. So, if India can maintain a 4% growth

rate in agriculture production, then after meeting the domestic market demand, the country can export excess food grain to foreign countries.

2. Agricultural Diversification

Agriculture not only completes the demand for food grains, but it is also fulfilling other development needs. In recent years, the farming industry has been diversified to produce commercial and horticultural crops such as fruits, vegetables, spices, cashew, areca nut, coconut and flour products such as flowers, orchids, dairy, animal husbandry and products. The demand for these products is also increasing. The liberalization of the economy has created ample scope for the development of the agricultural sector in terms of growth in both production and trade.

3. Emerging Trend in Horticulture Production

India is considered the largest producer of fruits and the second-largest vegetable producer. The diversity of geographical, climatic and soil features enables India to grow a large variety of horticultural crops, including fruits, vegetables, spices, cashew, coconut, cocoa, areca nut, root and tuber crops, medicinal and aromatic plants etc. The total production of fruits has increased from 29.0 million tonnes in 1990-91 to 63.5 million tonnes in 2007-08. The total production of vegetables has raised from 67.29 million tonnes in 1994-95 to 125.9 million tonnes in 2007-08. India is known as the largest producer of cashew nuts. The total production of cashew has increased from 3.7 lakh tonnes in 1991-92 to 6.0 lakh tonnes in 2003-04.

4. Raise in Floricultural Output

Presently, flowers are grown in about 31,000 hectares of land spread over Karnataka, Tamil Nadu, Andhra Pradesh and West Bengal. However, since the establishment of liberalization, commercial cultivation of floriculture has been gradually increasing. As a result, the demand for Indian cut flowers is growing continuously in the international market. The total amount of export of cut flowers has increased from Rs. 28.7 crore in 1994-95. 96.6 crore in 1998-99. Under the liberalized regime, India has enormous potential to export floriculture products in the near future, expected to exceed the Rs. 200 crore figure by 2010.

5. Free Trade

Liberalization has removed all restrictions on the movement of agricultural produce within the country. It has helped in the expansion of trade in agricultural products, especially food grains.

6. Agriculture Exports

India is the biggest exporter of agricultural products. Hence, it is one of the important emerging trends in agricultural marketing under liberalization. Due to the deregulation, the volume of agricultural exports is growing under the WTO's rule and its growth prospects in the near future. India is in a favorable position in terms of agricultural exports as the agriculture sector is subject to low import material, low cost of labour, good climatic conditions and low unit cost of inputs. Agriculture exports play a very important role in the growth of the agriculture sector. Also, it is increasing the number of employment opportunities and diversifying agricultural operations.

7. Developing New Biological Techniques

During the Green Revolution, the increased application of chemical fertilizers and pesticides was encouraged on a large scale to meet the growing demand for the food needed

to feed the increasing population. Increasing population, the ever-increasing demand for food and unlimited exploitation of natural resources has posed a severe threat to the environment and the agriculture sector. In order to avoid further damage to the environment and the agriculture sector, there is an increasing emphasis on the use of biological technology for agricultural operations, and more emphasis is being laid on developing new organic technology. These are recent trends in agriculture that increase agricultural production and improve the condition of the sector. Also, these trends help to improve employment as well as farmer's conditions. In addition, they make future agriculture in India brighter and more successful.

Challenges Ahead in Indian Agriculture Sector

While Indian agriculture has performed fairly well during the last two decades in terms of record production, diversification towards high value horticulture, livestock and marine products and doubling its share in global trade in agriculture, the sector is currently saddled with issues, especially related to sustainability, nutrition, adoption of new agricultural technologies and, perhaps most importantly, income levels of the population dependent on farming which require long-term reorientation of food, agriculture, and farm policies. Some of the major challenges faced by the farm sector are highlighted in this section.

1. Climate Change

The climatic factors continue to have a significant impact on the agricultural productivity in India. Rising temperature along with increased occurrences of extreme weather conditions have made climate change a major threat to Indian agriculture and productivity loss. Season-wise analysis shows that months pertaining to the rabi season have recorded maximum changes in rainfall and temperature. Long-term co-movements show that the change in different climatic variables have different implications for rabi and kharif crops.

2. Agricultural Waste Management

Agricultural waste management poses another major challenge as crop residue burnings in the northern states increase the air pollution levels, create health hazards and contribute to global warming. At all India level, crop residue burning touched a figure of 48.6 million tonnes during 2018 and out of this, 50% was contributed by paddy alone. Short gap between the kharif harvest and rabi sowing in the northern states along with difficulties faced by farmers in residue management – physical and economical – induces the small and marginal farmers to go for in situ residue burning which leads to air pollution.

3. Fragmented Landholdings

Over the years, the number of farm holdings in India has increased but the area under farming has come down. As a result, the average size of holdings has decreased substantially. The average size of landholding in the country has come down to 1.08 hectares in 2015-16 from 2.28 hectares in 1970-71. Marginal and small holdings together constitute 86% of total holdings in India. Such fragmentized land occupancy structure makes it almost impossible for farmers to viably invest in tube wells, drip irrigation, storage or bulk inputs.

4. Disguised Unemployment

As per Census statistics, the rural population in India stands at 833 million, constituting almost 68% of the total. While the agriculture sector engages 49% of the total labour force in the country, its contribution to overall GVA is only 17% which shows the overdependence of Indian labour force on agriculture resulting in significant hidden or disguised unemployment in the sector and thus lower labour productivity.

5. Food Inflation and Volatility in Food Prices

As agricultural production in India is still heavily dependent on rainfall and its spatial distribution, adverse climatic conditions like draught, flood and unseasonal rains tend to disrupt both aggregate supply and supply chains, imparting large volatility to food inflation trajectory. In addition, inefficiencies in the food supply chain – high and volatile retail mark ups on wholesale/farm gate prices and limited level of development of the food processing industry – impact food inflation in India.

Conclusion

There are large disparities among India's states and territories in agricultural performance, only some of which can be attributed to differences in climate or initial endowments of infrastructure such as irrigation. Realizing the importance of agricultural production for economic development, the central government has played an active role in all aspects of agricultural development. Planning is centralized, and plan priorities, policies, and resource allocations are decided at the central level. Food and price policy also are decided by the central government. Thus, although agriculture is constitutionally the responsibility of the states rather than the central government, the latter plays a key role in formulating policy and providing financial resources for agriculture.

There is no doubt that without agriculture, country cannot exist and without industry, country cannot develop. Agriculture is the backbone of industry. Both the sectors are interdependent with each other one can't survive without other. So it's necessary for a country to have both- agriculture as well as industry. Through Indian economy has diversified if the share of agriculture in GDP is 14.6%, it provides source of live hood to 65 to 70 cores of Indian population. Agriculture also provides food and raw materials. Agriculture in Indian suffers from many problems like low productivity, defective marketing practices, lack of finance and storage facilities etc. The main problem of defective marketing was solved through development of cooperative marketing in 1960s.

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