



ISSUES, CHALLENGES AND FUTURE OF THE INDIAN

AGRICULTURE : A REVIEW

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Introduction:

Agriculture refers to the cultivation of land, raising of animals, and production of crops and livestock for food, fuel, and other products. It is the science and art of cultivating plants, animals, and other life forms for sustenance and economic gain. Agriculture has been a critical component of human civilization for thousands of years and continues to play a vital role in feeding the world's growing population. Modern agriculture employs a variety of techniques and technologies, including precision agriculture, biotechnology, and sustainable practices, to increase yields and improve the quality of crops and livestock.

History of the Agriculture:

The history of agriculture dates back to thousands of years, with evidence of early agricultural practices found in civilizations such as ancient Mesopotamia and Egypt. These civilizations used simple

tools and techniques to cultivate crops and raise livestock, and their successes in agriculture allowed them to develop into complex societies with a surplus of food.

Agriculture continued to evolve over the centuries, with innovations such as the use of irrigation systems, the domestication of new crops and animals, and the development of more sophisticated tools and techniques. In Europe, the agricultural revolution of the 18th and 19th centuries brought about significant changes in the way crops were grown and livestock was raised, leading to increased productivity and efficiency.

In the 20th century, advances in science and technology revolutionized agriculture, leading to the widespread use of fertilizers, pesticides, and genetically modified crops. Today, modern agriculture is a complex and highly developed industry that employs a variety of technologies and practices to produce crops and livestock for a growing global

population. Despite the challenges posed by climate change, overpopulation, and food insecurity, agriculture remains a critical component of human civilization and will continue to play a vital role in feeding the world for generations to come.

Indian Agriculture:

Agriculture has been a significant part of the Indian economy for thousands of years and continues to play a critical role in providing food and livelihoods for a large portion of the population. In India, agriculture accounts for around 18% of the country's Gross Domestic Product (GDP) and employs over 50% of the workforce.

India has a diverse range of crops and a varied agro-climate, which allows for the cultivation of a wide variety of crops, including rice, wheat, sugarcane, cotton, jute, tea, and spices. In recent years, Indian agriculture has seen significant growth and modernization, with the adoption of new technologies, such as precision agriculture, genetically modified crops, and drought-resistant varieties. The government of India has also implemented various policies and initiatives to support the growth of the agricultural sector, such as the PradhanMantriFasalBimaYojana (PMFBY) and the PradhanMantriKrishiSinchaiYojana (PMKSY).

Despite these advances, Indian agriculture still faces several challenges, such as low productivity, limited access to credit and technology, and poor infrastructure. In addition, climate change, land degradation, and water scarcity are major concerns that need to be addressed to ensure the long-term sustainability of Indian agriculture. Nevertheless, with its diverse range of crops, skilled workforce, and government support, Indian agriculture has the potential to become a major player in the global food market and contribute significantly to the country's economic growth.

Present status of the Indian Agriculture:

Present condition of Indian agriculture is complex and characterized by both strengths and weaknesses. On the one hand, Indian agriculture has seen significant growth and modernization in recent years, with the adoption of new technologies, such as precision agriculture and genetically modified crops, and the implementation of government initiatives, such as the PradhanMantriFasalBimaYojana (PMFBY) and the PradhanMantriKrishiSinchaiYojana (PMKSY). These efforts have led to increased productivity and efficiency in the sector, and India is now one of the

largest producers of crops such as rice, wheat, sugarcane, cotton, and spices in the world.

On the other hand, Indian agriculture still faces numerous challenges, including low productivity, limited access to credit and technology, poor infrastructure, and declining soil fertility. In addition, climate change, land degradation, and water scarcity are major concerns that threaten the long-term sustainability of Indian agriculture. The agricultural sector is also heavily dependent on monsoon rains, and frequent droughts and floods have resulted in significant losses for farmers in many parts of the country.

In addition to these challenges, the COVID-19 pandemic has had a major impact on Indian agriculture, disrupting supply chains, and causing a decline in demand for crops. The Indian government has responded with a number of measures to support the agricultural sector, including increased procurement of crops, price support measures, and financial assistance to farmers.

Overall, the present condition of Indian agriculture is a mix of positive developments and ongoing challenges. Nevertheless, with its diverse range of crops, skilled workforce, and government support, Indian agriculture has the potential to overcome these challenges and

contribute significantly to the country's economic growth and food security in the years to come.

Challenges in Indian Agriculture :

Indian agriculture faces numerous challenges, which if not addressed, can impede its growth and sustainability. Some of the major challenges are:

1. **Low productivity:** Indian agriculture is characterized by low yields, which are often the result of poor soil quality, limited access to credit and technology, and outdated farming practices.
2. **Water scarcity:** India faces significant water scarcity issues, with over-extraction of groundwater leading to declining water tables and reduced crop productivity.
3. **Climate change:** Climate change is having a major impact on Indian agriculture, leading to changes in precipitation patterns, increasing frequency of droughts and floods, and altering the growing seasons of crops.
4. **Land degradation:** Overuse of chemical fertilizers and pesticides, as well as deforestation and soil erosion, have resulted in land degradation, leading to reduced agricultural productivity.
5. **Poor infrastructure:** Lack of rural infrastructure, such as roads, storage

facilities, and cold chains, results in significant post-harvest losses for farmers and reduced competitiveness in the global market.

6. Marketing and pricing issues: Indian farmers often receive low prices for their crops due to lack of bargaining power, limited access to markets, and lack of price discovery mechanisms.
7. Farmer indebtedness: Many Indian farmers are trapped in a cycle of debt due to high input costs and low crop prices, which can lead to financial hardship and even farmer suicides.
8. Dependence on monsoon rains: Indian agriculture is heavily dependent on monsoon rains, and frequent droughts and floods have resulted in significant losses for farmers in many parts of the country.

To address these challenges, the Indian government has implemented various policies and initiatives, such as the PradhanMantriFasalBimaYojana (PMFBY) and the PradhanMantriKrishiSinchaiYojana (PMKSY), to support the growth of the agricultural sector and ensure the long-term sustainability of Indian agriculture. In addition, increased investment in research and development, infrastructure, and marketing and distribution networks will be critical to addressing these challenges

and ensuring the continued growth and success of Indian agriculture.

Future of the Indian Agriculture :

The future of Indian agriculture is dependent on the ability of the sector to overcome the challenges it faces and capitalize on the opportunities that lie ahead. Here are some of the key trends and developments that are likely to shape the future of Indian agriculture:

1. Adoption of technology: Indian agriculture is likely to see increased adoption of technology, including precision agriculture, genetically modified crops, and precision farming techniques, which will help to improve productivity and efficiency.
2. Expansion of irrigation: To address the challenges of water scarcity and dependence on monsoon rains, the government of India is likely to increase investment in irrigation infrastructure, such as canals, dams, and wells, to expand the area under irrigation.
3. Increased exports: With its diverse range of crops, skilled workforce, and growing reputation for quality, Indian agriculture is well-positioned to increase exports and become a major player in the global food market.

4. Increased private sector involvement: The private sector is likely to play an increasingly important role in the future of Indian agriculture, with investment in research and development, marketing, and distribution networks likely to drive growth and competitiveness in the sector.
5. Increased focus on sustainability: With growing concerns about climate change, land degradation, and water scarcity, Indian agriculture is likely to place an increased focus on sustainable practices, such as organic farming, conservation agriculture, and agroforestry.
6. Government support: The Indian government is likely to continue to play an important role in the future of Indian agriculture, with policies and initiatives aimed at addressing the challenges faced by the sector and supporting its growth and competitiveness.

Overall, the future of Indian agriculture is bright, with the sector poised for significant growth and development in the years to come. However, addressing the challenges and capitalizing on the opportunities will require a collaborative effort by farmers, the private sector, and the government, working together to

ensure the continued success of Indian agriculture.

Conclusion:

The future of Indian agriculture is both promising and challenging. While the sector faces numerous hurdles, including low productivity, water scarcity, climate change, and poor infrastructure, it also has tremendous potential for growth and development. The adoption of technology, expansion of irrigation, increased exports, increased private sector involvement, increased focus on sustainability, and continued government support are all likely to play important roles in shaping the future of Indian agriculture.

To ensure the long-term sustainability and success of Indian agriculture, it is important that all stakeholders, including farmers, the private sector, and the government, work together to address the challenges and capitalize on the opportunities. This will require continued investment in research and development, infrastructure, and marketing and distribution networks, as well as a commitment to sustainable agricultural practices. By doing so, Indian agriculture can meet the needs of a growing population, support economic growth, and ensure food security for generations to come.

References:

1. "Agriculture in India: Issues and Challenges" by B.S. Dhillon and Ashok Gulati
2. "Green Revolution in India: An Economic Study" by V.M. Dandekar
3. "Indian Agriculture: Performance and Challenges" by D. Narasimha Reddy
4. "Indian Agriculture: A Study of Agricultural Development and Agricultural Policies" by J.S. Saini
5. "Agricultural Marketing in India: Issues and Challenges" by S.C. Tripathi and R.K. Verma
6. "Agricultural Policy Reforms in India: The Experience Since 1991" by Ashok Gulati and M.S. Swaminathan
7. "Indian Agriculture: The Last 60 Years" by T. Haque and M.R. Pattnaik
8. "Indian Agriculture in the Era of Globalisation" by N.K. Singh and C.S. Pandey