

VISION FOR VISHWA GURU INDIA: INITIATIVES FOR GLOBAL LEADERSHIP BY 2047

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Editors in Chief

Dr. Ahila. D

Dr. N. Bagyalakshmi

Department of Commerce
NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
(Autonomous), Pollachi, Tamil Nadu
95th Rank in NIRF

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Website: www.ngmc.org Email:ngm@ngmc.org

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Dr. N. Bagyalakshmi**

Editors : **Ms. G. Nithya
Dr. S. Kaleeswari
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TECHNOLOGICAL REFORMS IN AGRICULTURAL GROWTH

Dr.P. Gomathi Devi

Assistant Professor, Department of Commerce (CA),
Nallamuthu Gounder Mahalingam College, Pollachi

Ms.A. Madhumitha & Ms.A. Rizwana

II.B.COM (CA)
Nallamuthu Gounder Mahalingam College, Pollachi

Abstract

In India, Agriculture is an important sector. It plays a vital role in the process of economic development in less developed countries like India. In Indian economy, it is indispensable for the substance and Growth. The Critical issues that plague Indian agriculture at present are the knowledge deficit and infrastructure deficit, especially in the rural areas. Now a days, Problems are related to irrigation infrastructure. In this, Lack of delivery mechanisms are the Major Issue in India. So, we not have effective delivery mechanisms. There are many Numbers of schemes. The Agricultural need to be increased so that farmers can get more remuneration from the same piece of land with less labours

Keywords: Agriculture, Infrastructure and India.

Introduction

In Indian there are 1.3 billion people, and it ranks second in terms of the agricultural output. In 2021, the gross value added (GVA) was accounted 16.4% in forestry and fishing sector. In country's population, there are more than 50% of serving primary source of livelihood. These sector accounts for majority of the poor of the country. Over 58 percent of the rural households depend on agriculture.

In Demand side factors include, awareness and knowledge about technology, that access to credit and relevant inputs, risk implications and marginal returns. In Supply side factors includes, policy support, investment in agricultural research and extension system, availability of infrastructure, and institutional arrangements for the delivery and benefit sharing of technologies.

Importance

The crops produced in this manner are sufficient because of the expanding population. The reforms after independence are consequently given priority. The agricultural development helping crop producers or farmers by offering various forms of support in the agricultural industry. This development includes offering security, assisting with research, using cutting-edge methods, preventing pests, and promoting diversity.

Agricultural technology assists farmers in overcoming operational challenges such as financing, supplies, and crop productivity. The farmers can increase overall production, reduce their impact on natural ecosystems, and ensure safer growing conditions. Agricultural technology provides farmers with improved worker facilities, increased efficiencies, and low prices.

Roles Agricultural Technologies

During 1960s, the institutional approach was shelved to make the way for the technocratic approach only to remerge during post liberalization period. The main motto behind these initiatives was to improve farmers access to institutional credit. A large number of institutional agencies are involved in the disbursement of credit to agriculture. A large number of formal institutional agencies like co-operatives, Regional Rural Banks (RRBs), Non-banking Financial institutions(NBFIs), Self-help Groups(SHGs),etc.

Agricultural technology plays a crucial role in the agriculture industry by helping farmers overcome various challenges they face in their day-to-day operation. It helps farmers in various aspects of their farming operations. From increasing crop production to reducing water, fertilizer, and pesticides to improving working conditions for farm workers. and it plays a vital role in making the agriculture industry more efficient and sustainable.

Roles of agricultural reforms are,

- Precision agriculture
- Climate prediction through AI
- Use of *sensor* in agriculture
- Biotechnology in agriculture
- Digital solution for *financing and supplies*
- E-commerce solutions for selling *agricultural products*.

Impacts

It Increase in agricultural products both import and export. Technologies can enable the transition of modern agriculture in the field. While some technologies have transformed the way we operate, there is a need for spreading technological advancements in agriculture like, artificial intelligence and machine vision. Farmer can have ready availability of weather information and disaster warnings. The three main aspects of agricultural reforms are liberalization, privatization and globalization. Agriculture is the primary source of income in rural India, and any reforms will have a direct impact on the nation's economy and vice versa. Agriculture reform has a significant impact on the following areas:

- Increase in agricultural products both import and export.
- Improvements in agricultural technology and rural infrastructure are two areas where progress is being made.
- Agricultural methods are becoming more prevalent
- Agriculture and food security prices are maintained.

Merits and Demerits

Merits	Demerits
Productivity is boosted by Technology and they reduce the time.	Excessive Use of Fertilizers and Pesticides.
Water supply becomes easy by using Modern Technology.	High Maintaining Cost.
Modern machines can control the efforts of farmers.	It is efficient but has many side effects and drawbacks.
Better marketing and exposure to the price. And irrigational technology.	Lack of practical knowledge the farmers cannot handle the machines properly.
Low run of chemicals and also waste materials into seas and water.	The robotic machine could not change their culture, we have to set their Programmes manually.
Decrease the use of water, fertilizers which keeps the prices down. And improve the fertility of the soil.	Improve the scouting programmes.
Facilities in online trading and E-commerce. And suitable for the campus environment.	Most of the farmers are illiterates so they are unable to use the modern machines.

Conclusion

The food and agriculture sector is crucially important in the green growth. Because it is major user of land water and marine resource. And biodiversity has important linkages and agriculture has given so much to society. In India technological it is rapidly growing field with potential boost food security and create new jobs and rural development. The region has had to face problems of food insecurity. In some countries have needed food aid for IDPs and refugees.

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