(IJPS) 2026, Vol. No. 21, Special Issue 2 **e-ISSN: 2455-6270 p-ISSN: 2455-7455**

Adoption of Ancient Techniques for Contemporary Crop Cultivation in Viksit Bharat 2047

Dr. N. Mallesham
Associate Professor, Department of History
Government Degree College, Alair, Telangana

DOI:10.37648/ijps.v21i02.047

[1]*Received: 30/11/2025; Accepted: 31/12/2025; Published: 07/01/2026*

Abstract

Iron plows, sophisticated irrigation systems (reservoirs, canals), early crop domestication (wheat, barley) around 9000 BCE, and sustainable farming methods including crop rotation and organic fertilizers (cow dung, ash) were all features of ancient India's advanced agricultural technology. Utilizing winnowing fans, sickles, sieves, and bullock-drawn plows, farmers developed terraced farming and mixed cropping while incorporating Ayurvedic soil health expertise. Increasing the gross domestic product (GDP), ensuring food security, creating rural jobs, and improving farmer income are the primary goals of India's "Viksit Bharat" (Developed India) vision by the year 2047. This transformation will be accomplished primarily through the adoption of technology (such as artificial intelligence, drones, and sensors), climate resilience, value chain development, and the empowerment of small farmers. Agriculture will be transformed into a sustainable and modern sector that is essential for overall national growth. This strategy is detailed in key PDF publications from NITI Aayog, ICRIER, and other organizations, with an emphasis on innovation and sustainability as some of the driving forces. The agricultural sector and adjacent businesses in India have been seeing remarkable growth. In the period between 2024 and 2025, it is projected that the agricultural sector will see growth of 3.8%, which will serve as evidence of the industry's ability to assist India in its remarkable journey towards Viksit Bharat. In the year 2047, it is anticipated that the food processing industry will reach a value of two trillion dollars, with agriculture and food processing exports amounting to seven hundred billion dollars. According to the findings of the study, the production of food grains is anticipated to rise by 2% between the years 2024 and 2025, reaching approximately 3357 lakh tonnes. The overall success of India's exports is impressive, which demonstrates the sector's resilience and significance in the context of international agricultural trade affairs. The value of agricultural exports increased substantially, going from more than 39 billion US dollars in 2013–2014 to more than 52 billion US dollars in 2022–2023.

1. Introduction

The vision of "Viksit Bharat @ 2047" emerges as a blueprint for the development of the nation precisely at the time when India is getting closer to commemorating its independence in the year 2047. This vision establishes the lofty objective of transforming India into a fully developed nation, with a particular emphasis on economic growth, social fairness, technical advancement, environmental sustainability, and global leadership. According to Jayasingh, Anand, and Sahoo (2024), the centenary of India's independence serves as a symbolic target that propels the nation's ambitions for a successful and sustainable future. In the centre of this vision is the agricultural sector, which is a fundamental component of India's economy that not only assures food security but also provides a means of subsistence for millions of people. Agriculture has always been and will continue to be the foundation of the Indian economy. It is responsible for a sizeable amount of the country's total income and employs a big number of people. The transformation of India's agriculture industry is becoming increasingly important as the country works towards becoming a developed nation. It is essential to make the transition toward sustainable agriculture not only in order to satisfy the increasing food

[1]*How to cite the article:* Mallesham N (2026); Adoption of Ancient Techniques for Contemporary Crop Cultivation in Viksit Bharat 2047; *International Journal of Professional Studies*; Vol 21, Special Issue 2, 321-325; DOI: http://doi.org/10.37648/ijps.v21i02.047

Presented in National Seminar on "Viksit Bharat @ 2047: The Strategies and Challenges" on 8-9, January 2026, Nagarjuna Govt. College (A), Nalgonda, Telangana.

requirements of a growing population, but also in order to guarantee the preservation of the environment and the viability of the economy.

There is no possible way to emphasize the significance of sustainable agriculture in the process of realizing the vision of Viksit Bharat@2047. As a result of the fact that the population of India is anticipated to surpass 1.6 billion by the year 2047, the need for food, feed, and raw resources is anticipated to considerably increase. At the same time, the agricultural sector is confronted with a multitude of issues, such as the effects of climate change, the limitations of available resources, and the requirement for technical developments. There is a way to solve these difficulties while simultaneously assuring long-term food security and ecological balance through the practice of sustainable agriculture, which blends environmental health, economic profitability, and social equality.

By incorporating cutting-edge technology like the internet of things (IoT), artificial intelligence (AI), and robotics into farming methods, the agricultural industry is currently undergoing a fundamental change in order to meet the expectations of the future. It is possible for India to improve its agricultural practices in terms of both production and sustainability by utilizing these technologies, which would be in line with the more comprehensive objectives of national development. In addition, the "Viksit Bharat @2047" vision emphasizes the importance of having a solid policy framework and strategic planning in order to successfully traverse the complex problems that are now being faced by the agriculture sector. In order to foster innovation and support sustainable agriculture practices, it is vital to have effective governance, public-private partnerships, and focused expenditures in research and development. Furthermore, the function of agricultural finance, which includes the participation of financial institutions, microfinance, and cooperative societies, is essential in enabling farmers to adopt environmentally friendly methods and have access to contemporary technologies.

2. Agricultural Practices in Ancient India

India is a country that is well-known for its history and the many different cultures that it possesses. Additionally, India has a strong history connecting agriculture to the country. Agriculture has always been the foundation of Indian civilization, from the cultivated plains of the Indus valley civilization to the terraced fields of the South Peninsula. This has been the case throughout the course of Indian history. Agriculture has evolved alongside every other aspect of life that is cantered on the fundamental human ideals of work and collaborative labour; it is a key component of India's prosperous and dynamic culture and civilization. The nation's economy and health are both significantly impacted by agriculture, which plays a crucial role in both of these areas.

In ancient India, agricultural practices were built on the foundation of the customary wisdom that was handed down from generation to generation and culture to culture over the course of various ages. The Vedas, the Upanishads, and the Purina’s are examples of books that provide a wealth of knowledge concerning seasonal calendars, agricultural techniques, and the importance of respecting the natural world. The concept of "Ritualistic Agriculture," in which agricultural deities were appeased by the performance of ceremonies and rituals, is a way of affirming the spiritual part of farming.

The Indus Valley Civilization utilized technologies such as wheeled carts and ploughs to boost the production of a variety of crops, including wheat, barley, rice, maize, and millets, according to the findings of archaeological digs conducted at Mohenjo-Daro, Rakhigarhi, Lethal, and Harappa. The vast majority of individuals who were not directly involved in agriculture focused their attention on the expansion of horticulture in the areas surrounding metropolitan hubs. When referring to the Harappa culture, which existed between 3500 and 1500 B.C., it would be proper to refer to it as the "age of irrigated farming."

Furthermore, the archaeological investigations make it abundantly clear that agriculture and animal husbandry coexisted at the same time of existence. The domestication of cattle can be traced back to the pre-Harappa levels of Kalimantan in western Rajasthan before the Harappa period. Said to have originated in India, mung and mash are similar in appearance. Over the course of the Vedic and Post-Vedic centuries, mash had a significant role in the improvement of the Indian nutrition, cuisine, and religious practices. It is generally accepted that India, Burma, or Indo-China was the places where rice was first cultivated. Rice is the crop that is currently grown all over the world

and is consumed as a staple food. As a result, one of the most significant achievements of the Neolithic Revolution was the discovery of agriculture, horticulture, vegetation, and animal husbandry.

The Vedic scriptures also suggest that Vedic cultivators understood land fertility, seed selection and treatment, planting and harvesting seasons, crop rotation and other cultural practices, minoring to improve crop output, and other themes. According to the Jaittiriva Samhita, pulses are sown in winter and rice in summer on the same field. People farmed throughout the Buddhist era. The people also understood cattle's value. Buddhist monasteries and temples helped enhance gardening. To improve agriculture, forest products, pasture lands, cows, horses, and elephants was also important in Mauryan times. The people received veterinary care, and animal husbandry improved. Chanakya, or Kautilya, produced the Arthashastra, a comprehensive dissertation on economic policy, government, and statecraft. Its pages provided vital information about ancient Indian agriculture. Kautilya set strict agricultural management laws because he knew how important it was to the economy. Arthashastra advocated equal land distribution among cultivators. In agricultural management, “Kshetra” (land) and “Kraya” (selling) were key. Kautilya stressed the need of fruitful land and adequate irrigation systems and suggested harsh punishments for irrigation canal neglect. Arthashastra mentions sali, Varichi, tila, masha, masura, yoda, godhead, atasi, and sarshapa (mustard). Horses originally ate mash pulse during Mauryan and Kushan times. Arthashastra also advised building granaries (Koshthagara) to store extra crops and ensure food security. Ancient Indians were cognizant of economic concerns, as shown by this proactive agricultural management.

Asoka (273–232 B.C.) promoted horticulture and arboriculture. State-run veterinary hospitals flourished across the empire during Asoka. The Sunga’s ruled India after the Mauryans. Many brick-wells and finer iron farming equipment were found. Lots of rice and coconut palm were grown. Agriculture flourished alongside science, literature, and the arts. However, Gupta land taxes were hefty. As land taxes grew, trade and commerce taxes declined. The king taxed one-fourth to one-sixth of produce. The peasants also had to feed the royal army when it travelled through the countryside.

The Kama sutra by Vatsyayana, the Brhatsamhita by Varahamihira, and the Amarakosa by Amarsimha provide additional information regarding Gupta agriculture and horticulture. Brhatsamhita by Varahamihira covered botany, zoology, and agriculture. It described animal features and plant disease treatments. Interestingly, the Brhatsamhita and Purina’s, especially the Agnipurana, covered land selection, minoring, cultivation, gathering, seed treatment, sowing, planting, reaping, and grafting. Several plant names and propagation methods were listed in the Brhatsamhita.

The Amarakosha of Chandragupta II's scholar Amarasimha covers soil, irrigation, and farming instruments. The Vaisyavarga analysed soil kinds and whether they can cultivate maize, cestrum, and rice. Arabic and Persian periodicals covered Indian water works and technology. Persian and Indian irrigation systems spread, creating an irrigation system that fuelled material culture and the economy. Agricultural “zones” produced millets, wheat, or rice. Rice dominated Gujarat, while wheat ruled north and central India. In 1857, the Rampur canal was created among several Sutlej River irrigation canals. Small quantities of rice, cotton, opium, and dye were exported by the British Raj. In the late 1800s, agricultural output grew by about 1% annually as land under cultivation rose. Because of their large canal networks for irrigation, Punjab, Andhra Pradesh, and the Narmada Valley led agrarian reforms.

3. Ancient and Modern Crop Culture for Viksit Bharat

Agriculture that is sustainable, profitable, and tech-savvy is the focus of the strategy for a Viksit Bharat (Developed India). This is accomplished by reviving traditional farming practices (such as millet, crop rotation, and natural farming) in conjunction with digital tools (such as artificial intelligence and drones), infrastructure, and crop diversification (such as pulses and oilseeds) in order to empower farmers as leaders, thereby ensuring food security, economic growth, and environmental resilience. India’s journey toward becoming a developed nation is guided by the transformative vision of Viksit Bharat 2047, which is an ambitious roadmap that was revealed to mark one hundred years of independence between India and the United States. The objective of the project is to construct a nation that is distinguished by its economic power, technical progress, infrastructure development, social inclusion, and environmental sustainability. A number of major directions for putting this vision into action were offered in the Union Budget 2025-26. These directions placed an emphasis on the empowerment of youth, women, farmers, and other

underprivileged groups. The agricultural sector, which is the foundation of the Indian economy, continues to play a crucial role in the accomplishment of this developmental milestone. In response to this, the government of India has initiated a number of flagship projects with the goals of modernizing the industry, increasing production, and ensuring that people can maintain their livelihoods. A comprehensive rural agricultural transformation is the aim of the Prime Minister's Dhan-Dhaanya Krishi Yojana, which is one of these programs. This transformation is accomplished through district-level planning, convergence of schemes, and digital monitoring. Through the promotion of chemical-free, ecosystem-based agriculture, the National Mission on Natural Farming works to strengthen the connection between eco-friendly farming techniques and conventional agricultural knowledge. A similar objective is pursued by the Mission for Aatmanirbharta in Pulses, which is to attain self-sufficiency in the production of pulses, so guaranteeing both economic and nutritional security. These projects, when taken as a whole, demonstrate the government's dedication to transforming the agricultural sector in India into one that is resilient, sustainable, and globally competitive. This will contribute to the overarching objective of Viksit Bharat.

4. PM Dhan-Dhaanya Krishi Yojana (PMDDKY)

On October 11, 2025, the Honourable Prime Minister of India took part in a special Krishi program that was held at the Indian Agricultural Research Institute (IARI) in New Delhi. This event was a significant step in strengthening India's agricultural environment. It was during this event that the Prime Minister unveiled, inaugurated, and laid the foundation stone for a number of key projects and schemes that collectively have a value of over 42,000 cores of rupees. These projects and schemes are intended to accelerate growth and innovation in agriculture and allied areas. The Prime Minister's Dhan Dhaanya Krishi Yojana (PMDDKY) is an ambitious program that will require an annual expenditure of 24,000 crore rupees for a period of six years. Through the implementation of this transformative plan, one hundred agricultural districts that are not doing well will be transformed into growth engines that will contribute to rural prosperity. The program's primary objectives are to increase agricultural productivity, the promotion of crop diversification, the improvement of irrigation efficiency, the strengthening of post-harvest management, and the facilitation of easier access to agricultural loans. Among the distinctive characteristics of this Yojana is its convergence approach, which incorporates 36 pre-existing programs from eleven different ministries in order to guarantee the comprehensive growth of agriculture and the sectors that are related to it. The effort intends to directly assist around 1.7 crore farmers, with the goal of creating growth that is both inclusive and sustainable. It is the responsibility of the individual collectors to develop district-level plans in conjunction with agricultural institutions and NITI Aayog. This will ensure that the planning process is localized and that the implementation process is efficient. A sophisticated digital ecosystem will be established in order to guarantee openness and accountability. This ecosystem will include a dashboard for real-time monitoring, a mobile application that is focused on farmers, and a rating system for district performance. Data-driven decision-making will be supported by these digital tools, which will also improve collaboration across the authorities responsible for implementation.

5. National Mission on Natural Farming

Natural Farming (NF) is an environmentally friendly kind of farming that doesn't use any harmful chemicals. It involves using diverse planting patterns based on traditional Indian knowledge and including livestock, particularly native cow breeds. Launched in November 2024 as a stand-alone Centrally Sponsored Scheme, the National Mission on Natural Farming (NMNF) aims to promote ecosystem-based farming practices across 7.5 lakh hectares through 15,000 clusters. With a total outlay of Rs. 2,481 crores, one crore farmers will benefit from this initiative, which acknowledges the interconnectedness of soil, water, microbes, plants, animals, climate, and human needs. To guarantee timely input distribution and farmer help, the mission has deployed over 70,000 skilled Krishi Sakhis and aims to set up 10,000 Bio-input Resource Centres (BRC). With a two-year incentive program offering Rs. 4,000/acre, more than 10,000 farmers had signed up by July 2025, 1,100 model farms had been set up, and 806 training institutes were actively involved in capacity building.

6. Conclusion

It is crucial that we learn from the experience of our ancestors and capitalise on the transforming power of agriculture as India embarks on a path of sustainable development and equitable prosperity. This will allow us to construct a

future that is successful and resilient for everyone. By combining traditional wisdom with modern science and technology, we have the ability to bring about a renaissance in agriculture that takes into account the possibilities of the future while also paying homage to the legacy of the past. The road to Viksit Bharat 2047 is profoundly anchored in the idea of bolstering India's agrarian foundation through the implementation of innovative, inclusive, and environmentally responsible practices. In order to solve the structural difficulties that are present in agriculture, the Prime Minister Dhan Dhaanya Krishi Yojana (PMDDKY) is promoting convergence, decentralization, and accountability. On the other hand, the National Mission on Natural Farming is reviving farming techniques that are kind to the environment and require less input, and they are associated with traditional knowledge. Complementing these efforts, the Mission for Aatmanirbharta in Pulses provides nutritional and economic self-sufficiency through technical intervention, assured procurement, and quality seed distribution. The spirit of Sabka Saath and Sabka Vikas is embodied by these projects collectively, which make it possible for rural areas to flourish and for the environment to be protected. Through the empowerment of farmers, the fortification of food systems, and the promotion of sustainable growth, these programs build a firm foundation for a resilient, equitable, and developed India, thereby bringing the vision of Viksit Bharat to fruition by the year 2047.

References

Anish, D., & Ravi, K. (2022). Identifying practical applications of block chain technology in agriculture. *International Journal of Science, Engineering and Management*, *9*(10), 70–72. https://e-2456-130

Bordoloi, P. (2023). Effect of biofertilizer based organic nutrient management in soil health and productivity enhancement of pea (*Pisum sativum*) in North East India. *Biological Forum - An International Journal*, *15*(5a), 421. https://www.researchgate.net/publication/376679157

Hamid, M., Singh, A. K., & Rahaman, I. (2024). The Kisan Credit Card scheme in India: A progress review. *Remarking An Analisation*, *9*(5). https://doi.org/10.5281/zenodo.13358229

Kumar Acharya, D., Shrivastava, M., & Padhi, P. (2023). A comprehensive study on the impact of blockchain in agriculture based supply chain management. https://www.researchgate.net/publication/371956469

Kumar, R. K., Senthamizhkumaran, V. R., Alagendran, S., Chitra, M., Kumar, K. R., Tyagi, T., & Tyagi, A. (2024). Advances in agricultural biotechnology: Enhancing productivity and sustainability in India: A review. *Journal of Scientific Research and Reports*, *30*(7), 366–383. https://doi.org/10.9734/jsrr/2024/v30i72154

Prasant, P. (2024). Vikshit Bharat @2047: A vision for India's sustainable development. *Vidhyayana*, *9*(02), 399–408. https://www.vidhyayanaejournal.org

Ravi Ranjan, K., & Kumar, M. (2024). Agriculture's inclusive growth in India: The role and trend of agricultural finance institutions. *Journal of Emerging Technologies and Innovative Research*, *11*(05). https://www.researchgate.net/publication/381775436

Singh, V., Pawariya, V., & Yogi, V. (2022). An analysis of crop diversification and factor affecting the diversification in Indo-Gangetic Plains of India. *Indian Journal of Economics and Development*, *18*(1), 201–207. https://doi.org/10.35716/IJED/21313