

Viksit Bharat: Agriculture, Rural Economy and Strengthening of Farmer Welfare

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INTRODUCTION

The story of india's freedom struggle is incomplete without understanding the vision of mahatma gandhi. Guided by gopal krishna gokhale, gandhi travelled across the country and realized that india's soul lived in its villages. He believed that true freedom would come only when rural india was uplifted. Though india achieved independence, many village problems remain. Even today, there is a wide gap between cities and villages. Agriculture, the backbone of india, supports nearly half of the population, yet many farmers struggle with low income, debt, lack of education, and poor infrastructure. Rural youth often migrate to cities due to unemployment and limited opportunities. The vision of viksit bharat cannot be fulfilled without strengthening agriculture and improving farmer welfare. Farmers need fair prices, modern technology, irrigation facilities, crop insurance, and financial support. Along with this, rural development must focus on education, skill training, agro-based industries, and digital connectivity. A truly developed india will not be judged by urban growth alone but by the prosperity of its villages. Strengthening agriculture and ensuring farmer welfare is the key to building a strong and self-reliant nation.

IMPORTANCE OF AGRICULTURE IN INDIA

Agriculture is a cornerstone of india's economy, providing livelihood to nearly 55% of the population. With the world's second-largest agricultural land area, india is a global leader in farm production. It ranks first in milk, pulses, and spices, and second in fruits, vegetables, wheat, rice, cotton, and sugarcane. The sector plays a vital role in ensuring food security both nationally and globally. In recent years, agriculture has shown strong growth. In fy25, the sector grew by 5.4%, and exports reached a record ₹4,40,000 crore (us\$ 51.86 billion). Agriculture and allied activities contributed 17.8% to india's gdp in 2023–24. Foodgrain production is projected at a record

3,539.59 lmt in 2024–25, reflecting rising productivity. The food processing industry further boosts rural development by promoting value addition, employment, and supply chain growth. To achieve the vision of *viksit bharat*, farmer welfare must remain a priority. Fair prices, modern technology, irrigation, crop insurance, and better market access are essential.

RURAL ECONOMY IN INDIA

Rural development holds immense significance in india, as a large portion of the country's population resides in villages. The progress of rural areas is directly linked to the overall growth and prosperity of the nation. Rural india supplies essential resources such as food grains, milk, drinking water, and raw materials to urban centres, thereby sustaining industries and supporting the national economy. Therefore, balanced development between rural and urban regions is necessary for inclusive national progress. Improvement in rural education, healthcare, sanitation, and employment opportunities can significantly reduce social and economic disparities. When rural communities are empowered with better facilities and infrastructure, problems such as urban migration, slum expansion, unemployment, and begging can be minimized. Strengthening villages ultimately strengthens the nation as a whole. To fully understand rural development in india, it is important to examine its meaning, objectives, and historical evolution. Rural development aims to improve the quality of life of people living in villages by enhancing agricultural productivity, creating employment opportunities, ensuring social justice, and providing basic infrastructure. Both government initiatives and the active participation of non-governmental organizations (ngos) play a vital role in implementing rural development programs. In conclusion, rural development is not merely about economic growth; it is about improving living standards, ensuring equality, and promoting sustainable progress. The development of rural india is essential for building a strong, self-reliant, and developed nation.

STRATEGIES FOR ACHIEVING RURAL DEVELOPMENT

Empowering rural communities begins with access to quality education and skill development. Education enhances awareness, confidence, and decision-making ability, while vocational training equips rural youth with practical skills in agriculture, small-scale industries, digital literacy, and entrepreneurship. By providing opportunities for learning and skill enhancement, rural populations can secure better employment, increase income, and reduce migration to urban areas. Thus, education and skill development form the foundation for sustainable rural growth. Women play a vital role in agriculture and household management in rural India. Promoting their active participation in development activities strengthens both families and communities. When women are educated, financially independent, and involved in self-help groups, farming, and small enterprises, rural economies grow faster and more sustainably. Ensuring equal access to education, credit facilities, healthcare, and leadership opportunities empowers women and promotes gender equality, which is essential for balanced rural development. Non-governmental organizations (ngos) significantly contribute to rural development by supporting education, healthcare, skill training, environmental awareness, and women's empowerment programs. They often work at the grassroots level, identifying local needs and implementing community-based solutions. Ngos bridge the gap between government schemes and rural beneficiaries, ensuring effective delivery of services. Their efforts complement government initiatives and play an important role in improving the quality of life in rural areas. Together, education, women's empowerment, and the active role of ngos create a strong foundation for comprehensive and inclusive rural development.

Rural development is essential for India's overall progress because a large part of the population lives in villages and depends on agriculture and allied activities. To ensure balanced growth, special ideas such as developing smart villages with digital connectivity, solar energy, clean water, and proper sanitation should be promoted. Strengthening self-help groups and encouraging women entrepreneurship can improve financial independence and social empowerment. Establishing agro-based industries and farmer producer organizations will help farmers get better prices and reduce dependence on middlemen. Skill development programs for rural youth in areas like food processing, dairy farming, handicrafts, and digital services can generate employment and reduce migration to cities. Improving infrastructure such as roads, irrigation, storage facilities, and healthcare services will further enhance rural living standards. By combining technology, sustainable farming practices, and local entrepreneurship, India can create self-reliant villages and achieve inclusive and

sustainable national development.

STRENGTHENING FARMER WELFARE

Farmers are the backbone of India's economy and supporting them is essential for national development. There are several effective ways to strengthen farmers and improve their livelihoods. First, ensuring fair prices for crops through minimum support price (msp) and better market access helps farmers earn stable incomes. Strengthening farmer producer organizations (fpos) can increase their bargaining power and reduce middlemen exploitation. Second, providing affordable credit and crop insurance protects farmers from financial risks caused by natural disasters, crop failure, or price fluctuations. Easy access to bank loans and government schemes reduces dependence on moneylenders. Third, promoting modern technology and sustainable farming such as drip irrigation, use of quality seeds, soil health management, and organic farming can increase productivity while protecting the environment. Training and awareness programs should be organized regularly. Fourth, improving rural infrastructure like irrigation systems, storage facilities, cold chains, and transportation helps reduce post-harvest losses and improves market connectivity. Finally, encouraging diversification into dairy, fisheries, poultry, and agro-processing industries can provide additional income sources and reduce dependence on traditional farming alone. By ensuring fair income, financial security, technological support, and strong infrastructure, India can create a secure and prosperous future for its farmers.

SUPPORTING FARMERS IN THE VETERINARY & DAIRY SECTOR

Supporting farmers in the veterinary field is very important because animal husbandry plays a major role in rural income. In India, millions of small and marginal farmers depend on dairy farming as a regular source of daily income. Unlike crop farming, which gives seasonal returns, milk production provides steady cash flow throughout the year, making it a reliable source of livelihood. India is one of the largest milk-producing countries in the world, and the dairy sector contributes significantly to rural employment and economic stability. Cows, buffaloes, goats, and poultry are considered valuable assets for farmers and are often called the "atm of villages" because they generate daily earnings. Improving access to veterinary healthcare in villages through regular vaccination programs against diseases like foot-and-mouth disease and brucellosis, disease control measures, and mobile veterinary clinics can reduce livestock mortality and increase productivity. Providing training and awareness about animal nutrition, balanced feed, green fodder cultivation, hygienic milk production, and proper shed management helps farmers maintain healthy livestock and improve milk yield and quality. Promoting artificial insemination and improved high-

yielding breeds further enhances production and income, while livestock insurance schemes protect farmers from financial losses due to animal diseases or sudden death. Strengthening dairy cooperatives and milk processing units, along with expanding cold chain systems and village-level milk collection centres, ensures fair prices and reduces wastage. Additionally, strategies such as promoting fodder banks, encouraging women's participation in dairy cooperatives, offering low-interest loans for quality livestock, using digital payment systems for transparency, and supporting value-added dairy products like cheese, paneer, and yogurt can significantly boost the dairy sector. By integrating strong veterinary services, scientific breeding, cooperative marketing, and financial support, India can empower dairy farmers, increase rural income, and build a self-reliant and prosperous nation.

ROLE OF TECHNOLOGY AND INNOVATION IN AGRICULTURE, RURAL DEVELOPMENT & DAIRY SECTOR

Technology and innovation are transforming Indian agriculture, rural development, and the dairy sector through data-driven, precision-based, and value-chain-oriented approaches. In agriculture, precision farming using GPS-enabled tractors, geographic information systems (GIS), remote sensing, and drone-based crop monitoring allows farmers to optimize input use and improve yield efficiency. Internet of things (IoT) sensors measure soil moisture, temperature, and nutrient levels in real time, enabling site-specific nutrient management (SSNM) and fertigation through drip and sprinkler irrigation systems. Climate-smart agriculture integrates weather-based advisory systems and decision-support tools that reduce climate risks. Biotechnology interventions such as hybrid seeds, biofortified varieties, and integrated pest management (IPM) reduce crop losses and improve productivity sustainably. Mechanization through combine harvesters, seed drills, and laser land levelling enhances operational efficiency and reduces labour dependency. In rural development, digital infrastructure supported by Bharat Net and rural broadband connectivity enables e-governance platforms, direct benefit transfer (DBT), and digital land records management. Financial inclusion through digital payment systems, UPI-based transactions, and Kisan Credit Card digitization ensures transparent and timely financial access. Agri-tech startups use blockchain for supply chain traceability, reducing information asymmetry and improving price discovery. Cold chain logistics, pack houses, reefer transport, and warehouse management systems minimize post-harvest losses and enhance market integration. Skill development initiatives focus on agri-entrepreneurship, rural business incubation, and value addition in food processing, contributing to diversified rural income streams.

In the dairy sector, advanced reproductive

technologies such as artificial insemination (AI), embryo transfer technology (ET), and genomic selection improve herd genetics and productivity. Automated milking systems (AMS), bulk milk coolers (BMC), and milk analysers ensure quality control by monitoring fat percentage, SNF (solid-not-fat), and bacterial load. RFID-based livestock identification and digital herd management software enable health tracking, vaccination scheduling, and productivity monitoring. Cold chain integration from village-level milk collection centres to processing plants reduces spoilage and maintains quality standards. Data-driven dairy cooperative models ensure transparent procurement, digital payments, and efficient logistics management. Overall, the integration of precision agriculture, digital governance, advanced breeding technologies, and value chain modernization enhances productivity, sustainability, and income security. Technological innovation not only increases efficiency but also builds resilience against climate change and market volatility, strengthening India's agricultural and rural economy in a scientifically sustainable manner.

CONCLUSION

In conclusion, the vision of *Viksit Bharat* can only be realized when agriculture, rural economy, and farmer welfare are placed at the centre of national development. India's strength lies in its villages, and true progress will be measured not merely by urban growth but by the prosperity, dignity, and empowerment of its farmers. Agriculture remains the backbone of the nation, supporting livelihoods, ensuring food security, and contributing significantly to GDP and exports. However, sustainable progress demands more than production; it requires fair pricing systems, financial security, inclusive rural infrastructure, women's empowerment, and access to education and skill development.

Strengthening the rural economy through agro-based industries, cooperative models, digital connectivity, and entrepreneurship will create employment and reduce migration. In the dairy and veterinary sectors, scientific breeding, preventive healthcare, insurance coverage, and value-added processing can significantly enhance farmer income and resilience. Moreover, the integration of advanced technologies such as precision farming, IoT-based monitoring, biotechnology, cold chain logistics, and digital governance ensures efficiency, transparency, and sustainability. A developed India must be built on the foundation of empowered villages, productive farms, and secure farmers. When rural communities are self-reliant, technologically equipped, and economically stable, the nation as a whole becomes stronger. Therefore, investing in agriculture, rural development, dairy advancement, and farmer welfare is not merely a policy choice; it is the pathway to building a prosperous, inclusive, and self-reliant *Viksit Bharat*.