

Namo Drone Didi: Women Piloting India's Agricultural Future

Barnamala Kalita^{1*}, Boishali Dutta¹ and Arnab Rajkumar²

¹College of Agriculture, Assam Agricultural University, Jorhat-785013

²College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar-751003

Corresponding Author

Barnamala Kalita

Email: barnamalak@gmail.com



OPEN ACCESS

Keywords

Women Empowerment, Drone Technology, Agriculture, Self-Help Groups, Rural Development

How to cite this article:

Kalita, B., Dutta, B., and Rajkumar, A. 2025. Namu Drone Didi: Women Piloting India's Agricultural Future. *Vigyan Varta* 6(4): 1- 4.

ABSTRACT

The Namu Drone Didi Yojana is a central sector scheme aimed at empowering women-led Self-Help Groups (SHGs) by providing them with drone technology for agricultural services. This initiative seeks to modernize farming practices, improve productivity, and create new income opportunities for rural women. By integrating drone technology, the scheme enhances agricultural efficiency through precise pesticide and fertilizer application, crop health monitoring, and resource management. The initiative also promotes sustainable farming by reducing chemical overuse and minimizing environmental impact. To ensure accessibility, the government provides 80 per cent subsidies on drone costs and offers low-interest loans to SHGs. Beyond economic benefits, the initiative plays a key role in women's empowerment, positioning them as leaders in technology-driven agriculture. It fosters entrepreneurship, equipping women with the skills needed to contribute actively to modern farming practices. With government backing and community engagement, the Namu Drone Didi Yojana ensures that women are not just beneficiaries but active drivers of agricultural transformation.

INTRODUCTION

Empowering women is essential for building a strong and developed nation. When women achieve economic independence, they contribute significantly to rural development (Patil and Babus 2018). In the heart of India's villages, a new revolution is taking flight. With the launch of the Drone Didi initiative under the *Namo Drone Didi Yojana* rural women are being empowered like never before. It is a central sector scheme aiming to empower women-led Self-Help Groups (SHGs) by providing them with drone technology to provide agricultural services. The Scheme was launched by Prime Minister Narendra Modi through video conferencing on November 30, 2023 by opening the first-ever Mahila Kisan Drone Kendra. Under the Drone Didi scheme, the government will spend Rs 1,261 crore and drones will be provided to 15,000 women self-help groups with this money through Krishi Vigyan Kendras (KVKs) across the during the period from 2024-25 to 2025-2026. This initiative is expected to generate an additional income of at least Rs. 1 lakh per year for each SHG, contributing to economic empowerment and sustainable livelihood generation. This ambitious scheme aims to train and equip women in Self-Help Groups (SHGs) with agricultural drones, transforming them into tech-savvy entrepreneurs and modern-day farm champions

Women and Drones: A Game-Changing Combination

Agriculture has long been the backbone of India's economy, but traditional methods often limit productivity. Drones, with their ability to spray pesticides, fertilizers, and monitor crop health, bring a high-tech edge to farming (Rajeeb *et al* 2022). The *Namo Drone Didi* Scheme offers numerous benefits, particularly in empowering women within the agricultural sector. By providing specialized training in

drone technology, the scheme equips women with valuable skills that are increasingly essential in modern agriculture. This knowledge enables them to perform tasks like crop monitoring, soil analysis, and precision farming more efficiently. Drone technology enhances agricultural efficiency by allowing for the precise application of pesticides and fertilizers, reducing chemical overuse and minimizing environmental impact. The scheme also fosters skill development, as women learn to apply inputs accurately and manage water resources through advanced tools like drones for irrigation and field analysis. Beyond technical skills, the scheme creates community and networking opportunities, where women can connect with peers, industry experts, and mentors, cultivating collaboration, knowledge sharing, and professional growth.

Flight to Well-being

The scheme not only modernizes farming practices but also strengthens rural economies by positioning women as key players in the agricultural sector. It also opens new avenues for young entrepreneurs to explore the growing field of drone technology, which holds vast potential. One major technological advancement in agriculture has been the use of liquid fertilizers through drones, making application more precise and efficient. This method significantly reduces waste, ensures fertilizers reach the crops directly, and minimizes environmental harm. Recognizing its benefits, the government has promoted this technology as part of its vision to revolutionize Indian agriculture. The introduction of drones in farming is set to transform traditional agricultural practices by automating key processes, improving efficiency, and reducing manual labour (Kiran *et al* 2024). Additionally, the government has taken significant steps to reduce India's reliance on

imported fertilizers by reviving old, closed-down fertilizer units and establishing new ones under the Atmanirbhar Bharat initiative. These efforts have helped protect farmers from unpredictable price fluctuations in the global fertilizer market. With subsidies on fertilizers, farmers have been able to access them at the right price and time, ensuring better agricultural output. The COVID-19 pandemic and recent global conflicts have posed significant challenges to the agricultural sector, particularly in the fertilizer industry, where prices soared to unprecedented levels. In response, the government promoted indigenous research to develop alternative fertilizers, reducing dependence on imports and stabilizing the supply chain. These efforts have strengthened India's agricultural sector and reinforced food security. The adoption of Kisan Drones has brought numerous possibilities for transforming farming practices. Spraying pesticides and fertilizers through drones has significantly improved efficiency compared to traditional methods, reducing human effort and minimizing health risks. Drones ensure uniform distribution and reduce resource wastage, making farming more sustainable and cost-effective (Komatineni *et al* 2024). Additionally, the manufacturing of drones and related equipment has created employment opportunities, particularly for rural youth, in roles such as pilots, mechanics, and spare-part dealers.

The Road to Empowerment

Under the scheme, each SHG will receive financial assistance to purchase drones, along with hands-on training. Women will be taught how to operate, maintain, and use drones efficiently, allowing them to provide agricultural services in their communities. This opens up new income opportunities and strengthens women's financial independence. These women-led Scheme offers a range of features designed to make drone technology

more accessible and beneficial for women in agriculture. It provides a substantial subsidy of 80% of the drone cost, up to 8 lakhs, to Women DAY NRL-SHG, with the remaining cost available through a loan facility from AIF at an easy 3% interest rate. As part of the package, participants receive comprehensive drone pilot training, enabling them to effectively operate the technology. The scheme also offers a unique opportunity for women to generate additional income, with the potential to earn up to 1 lakh per year by renting out drone spray services to local farmers. This combination of financial support, training, and income-generating opportunities helps women become key players in modernizing agricultural practices within their communities.

CONCLUSION

The "Namo Drone Didi" initiative stands as a powerful symbol of progress in both the technology and aviation sectors, highlighting India's commitment to empowering women in fields that have traditionally been dominated by men. By offering specialized training in drone technology, this program equips women with the skills needed to thrive in an industry that is rapidly evolving and plays a critical role in modern-day logistics, surveillance, and beyond. What makes this initiative even more impactful is that it contributes to India's larger vision of gender equality and the breaking of societal barriers. Moreover, India's leadership in the aviation sector is undeniable, as it proudly ranks first in the world for the number of women commercial pilots. This achievement not only reflects the country's dedication to creating opportunities for women in high-skill professions but also emphasizes the importance of nurturing an environment where women can excel and contribute to shaping the future of technology and aviation. This initiative is a game-changer, as it combines women's empowerment with technological progress, offering multiple



avenues for economic growth. It ensures that women are not just participants but leaders in the rural economy. With drones in their hands and determination in their hearts, India's Drone Didis are proving that the sky is not the limit—it's just the beginning.

REFERENCES

Komatineni, B. K., Makam, S., & Meena, S. S. (2024). A comprehensive review of the functionality and applications of unmanned aerial vehicles (UAVs) in the realm of agriculture. *Journal of Electrical Systems and Information Technology*, 11(1), 1-28.

Kiran, V., Harini, K., Thirumalai, A., Girigoswami, K., & Girigoswami, A. (2024). Nanotechnology's role in ensuring food safety and security. *Biocatalysis and Agricultural Biotechnology*, 103220.

Patil, B., & Babus, V. S. (2018). Role of women in agriculture. *International journal of applied research*, 4(12), 109-114.

Rejeb, A., Abdollahi, A., Rejeb, K., & Treiblmaier, H. (2022). Drones in agriculture: A review and bibliometric analysis. *Computers and electronics in agriculture*, 198, 107017.