

Impact of the NAMO DRONE DIDI Scheme in Agriculture

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SUMMARY

NAMO Drone DIDI scheme is one of the most technologically innovative schemes to help the farmers gain interest in the scientific approach of farming. Though the small farmers might be a little reluctant about the scheme the large farmers might want to try on a new technique. The scheme not only empowers the farmers with a technology but also reduces the labor to some extent. As soon it will be a familiar technology among the farmers and the small farmers might also try to use it for the judicious use of their resources.

INTRODUCTION

Namo Drone Didi is a central sector scheme aiming to empower women-led Self-Help Groups (SHGs) by equipping them with drone technology to provide agricultural services. The scheme was launched on 30th November 2024 and is a collaborative venture between the Department of Agriculture and Farmer's Welfare, the Department of Rural Development, the Department of Fertilizers, Lead Fertilizer Companies (LFCs), and other supporting entities. The scheme aims to provide drones to 15000 selected Women SHGs during the period from 2024-25 to 2025-2026 for providing rental services to farmers for agriculture purpose (application of liquid fertilizers and pesticides for the present). 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.

Key Features of the Scheme:

- Subsidy to Women DAY NRL-SHGs for Purchase of Drone
- 80% of Drone Cost as Subsidy upto 8 Lakhs
- Loan facility from National Agriculture Infra Financing Facility for remaining cost of Drone
- Easy Loan @ 3% interest rate
- Drone Pilot training as a part of Drone Package
- Chance to earn additional 1 lakh PA through Drone
- Renting of Drone Spray Service to Farmers through Women SHGs

Benefits of the Namo Drone Didi Scheme:

India is basically an agricultural economy and the rural population is certainly getting benefitted by this. The benefits of this scheme are as follows:

Empowerment of Women: The scheme provides specialized training in drone technology, equipping women with advanced skills that are increasingly valuable in modern agriculture. This knowledge enables them to perform tasks like crop monitoring, soil analysis, and precision farming more efficiently.

Enhancement of Agricultural Efficiency: Drone technology significantly enhances the precise application of pesticides and fertilizers, transforming traditional agricultural practices. Equipped with advanced GPS and sensor technology, drones can be programmed to follow precise flight paths over fields, ensuring even and targeted application. This precision reduces the overuse of chemicals, minimizing environmental impact and lowering costs for farmers.

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Skill Development and Knowledge Expansion: The scheme provides specialized training in drone technology, enabling women to acquire advanced skills in modern agricultural practices such as applying fertilizers, pesticides, and herbicides accurately, ensuring even distribution and optimal usage. Soil and field analysis is streamlined with drones, enabling detailed surveys and fertility assessments. Women can also enhance irrigation management by identifying areas needing more or less water, detecting leaks, and managing water resources efficiently.

Community and Networking Opportunities: Women can connect with a supportive network of fellow participants, fostering a sense of community and collaboration. They have the chance to join forums and workshops where they can share experiences, challenges, and best practices, enhancing their collective knowledge and skills. The scheme also provides access to industry experts, mentors, and agricultural professionals, creating avenues for mentorship and professional growth.

Operational guidelines of NAMO DIDI SCHEME

The operational guidelines for the Namo Drone Didi Scheme released by GOI are:

- The project aims to benefit 14,500 selected women self-help groups (SHGs).
- The plan proposes to deploy drones for agricultural purposes, allowing women to rent out liquid fertilizer and pesticide applications. It is scheduled to be implemented over two years, from 2024 to 2026. The initiative will be implemented in several rural areas across India.
- The government would provide 80% financial help for drone purchases and associated expenses, with a maximum of Rs 8 lakh. Those selected will receive training for drone operations and agricultural applications.
- Moreover, Rs. 1,261 crore has been allocated for this initiative by the Ministry of Agriculture and Farmers Welfare.
- The Namo Drone Didi Scheme represents a departure from India's typical usage of drone technology, which has mostly been limited to military applications and surveillance.

Training for the SHGs

- Each SHG will pick one member for mandatory 15-day drone pilot training on agricultural applications such as nutrient and pesticide spraying.
- A family member will be trained as a drone helper, specializing in repair and maintenance.
- Training will be provided at DGCA-approved Remote Pilot Training Organizations (RPTOs).

Furthermore, leading fertilizer companies will play an important role in the scheme's execution, working with state departments, drone manufacturers, and farmers.

The system will be effectively monitored by an IT-based Management Information System (MIS), also known as the Drone Portal, which will serve as end-to-end software for service delivery and monitoring, fund flow, and fund disbursement. The platform will also follow each drone's actions and provide real-time information on drone utilization. The scheme's activities are expected to give SHGs with long-term business and livelihood support, as well as opportunities to earn additional money. The initiative will aid in the integration of new technologies into agriculture, resulting in higher efficiency, increased crop yield, and lower operating costs for farmers.

While the government has reportedly said that it will provide 80% financial assistance, the scheme requires SHGs to raise the remaining 20% of the cost through loans. This may push financially vulnerable groups into debt, especially if the economic returns from drone usage in agriculture do not meet expectations. The loan-based model could amplify financial risks, making it challenging for SHGs to gain net economic benefits.

Functionality of the Drones

Drones are classified by the Central Government based on their maximum all-up weight, including payload, into the following categories:

- Nano: Weighs less than or equal to 250 grams
- Micro: Weighs more than 250 grams but less than or equal to 2 kilograms
- Small: Weighs more than 2 kilograms but less than or equal to 25 kilograms
- Medium: Weighs more than 25 kilograms but less than or equal to 150 kilograms
- Large: Weighs more than 150 kilograms

Additionally, the maximum altitude for flying a drone in India is 400 feet (120 meters) above ground level (AGL). The operational guidelines for the Namo Drone Didi Scheme state that for medium rotorcraft specifically, the drone must operate within the vLOS and below the altitude restriction of 400 feet. (vLOS stands for "visual line of sight," meaning that the drone operator must keep the drone within their line of sight while flying)

Empowering women

The NAMO Drone Didi Scheme empowers women-led Self-Help Groups (SHGs) in rural India by providing drone technology for precision agriculture, enhancing their income and modernizing farming practices. The NAMO Drone Didi scheme is an ambitious Central Sector scheme launched by the Government of India, aimed at promoting the use of drone technology in agriculture, especially among women-led Self-Help Groups (SHGs). This scheme brings together several government bodies, such as the Department of Agriculture & Farmers Welfare (DA&FW), Department of Rural Development (DoRD), and Department of Fertilizers (DoF), to empower women SHGs with the tools, skills, and financial support to transform modern agriculture.

Role of Fertilizer companies in NAMO DIDI Scheme

It's a visionary initiative to empower women-led **Self Help Groups** (SHGs), Garuda Aerospace has announced that it has secured an order of a total of **500 Garuda Kisan Drones** from **10 leading fertiliser companies** under the NaMo Drone Didi scheme. **National Fertilizers (NFL)**, **Rashtriya Chemicals and Fertilizers (RCF)**, **The Fertilisers and Chemicals Travancore (FACT)**, **Hindustan Urvarak & Rasayan (HURL)**, **KRIBHCO Fertilizers, Gujarat State Fertilizers & Chemicals (GSFC)**, **Brahmaputra Valley Fertilizer Corporation (BVFC)**, **Matix Fertilizers & Chemicals**, **Paradeep Phosphates (PPL)**, and **Mangalore Chemicals and Fertilizers (MCF)** are the 10 companies which have placed an order for Garuda Aerospace's **Kisan drones** under the scheme,

Garuda Aerospace's Kisan drones can support with **spraying of fertilisers and pesticides**. Given its precision capabilities, **Kisan drones** can reduce the quantity of pesticides used in addition to eliminating long exposures to harmful chemicals. Kisan drones are equipped with **AI, ML and GPS sensors** to help farmers with accurate and **real-time information** about their crops and farms. The drones also reduce the use of **water** and are equipped to cover **large farming areas** in a relatively shorter time. Garuda Kisan Drones can help increase crop yield by 60% and reduce loss of crop by 20 percent. Speaking on adding another 500 Kisan Drones to the company's order book, **Agnishwar Jayaprakash**, Founder and CEO, Garuda Aerospace said, "Drones have the power to **transform farming and agriculture** in India. At Garuda Aerospace, we have been front runners advocating the use of agriculture drones for **multiple purposes**. The order of 500 Kisan drones is a win for us as a company as well as the **agriculture economy**. It will improve efficiency and enable farmers to harness the numerous benefits of this revolutionary technology. We are confident that this partnership with the 10 fertiliser companies under the NaMo Drone Didi scheme will go a long way."

Announced in December 2023, the **NAMO Drone Didi** scheme helps **women** become integral stakeholders of their **local farming supply chains** and **rural prosperity**. Garuda Aerospace has successfully trained over 185 rural women under this scheme since its launch. Prime Minister Narendra Modi had flagged off Garuda Aerospace's **Kisan Drone Yatra** by simultaneously launching 100 drones across 100 Indian villages. The Yatra aimed to create awareness and **democratise** the use of drones and **drone technology** within the agriculture sector. Backed by **MS Dhoni** who is an investor and brand ambassador in the start-up, Garuda Aerospace raised INR 25 crore in a bridge round in October 2023 and is currently preparing for its IPO in 2024.

CONCLUSION

The scheme offers a great deal of technical advancement in the field of agriculture and in the initial phase it might look little skeptical in terms of implementation but can be a boon to the agriculture sector if it succeeds. With every new technology that comes up comes the risk of adoption and the fruitfulness of it, as soon as the farmers get handy with ideas and it gives good results it is widely appreciated.

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