What’s Next
Drone Sisters
By Neha Bhatt

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www.ssir.org
Email: editor@ssir.org
Drone Sisters

When 38-year-old Banita Sharma’s husband developed a health condition recently that left him unable to work, her small pickle business proved insufficient to meet her family’s needs. Few job opportunities exist in her village of Bado Brahmanan, in the northern Indian state of Haryana—especially for women.

“That’s when I heard about a new [program] for women to train as drone pilots,” she says. “It would certify us to run our own drone-rental service, adding another source of income.”

In November 2023, India’s government launched the NAMO Drone Didi (“didi” is Hindi for “elder sister”) program. Rural women comprise 65 percent of the agricultural workforce, but their work is labor-intensive and poorly paid, with limited ownership of land. The Drone Didi program aims to make them stakeholders in the rural economy through skill development, while also modernizing agriculture through technology and boosting yield and precision farming. The target is to train 15,000 rural women selected from women’s collectives in drone operation for agricultural purposes, mainly to spray fertilizers and pesticides on crops. Hundreds of women have already completed the two-week training program, which qualifies them to purchase a drone at a 50 to 80 percent subsidized cost through a low-interest loan offered by the national agriculture financing facility, with state banks covering the remaining cost.

The government’s ministries are collaborating with educational organizations, fertilizer companies, rural women’s collectives, drone manufacturers, and pilot-training institutes to implement the program nationwide. The government has also allocated 1,261 crores (more than $152 million) over the next two years for the project. The cost of the training is being largely covered by fertilizer companies, who are investing in Drone Didi because it uses fertilizers in crop cultivation.

The Drone Didi training programs are held at drone-training centers in cities across the country. Sharma traveled three hours from her village to attend a two-week residential course in Manesar, a town near the capital of New Delhi. The course was run by the Indian Farmers Fertiliser Cooperative (IFFCO) in partnership with Drone Destination, a remote-vehicle-training organization based in New Delhi.

“We learned air traffic regulations, drone applications, putting a drone together, loading fertilizers, mapping, flight simulation, [and] spraying,” Sharma explains. “I learned how this technology is helpful in reducing water usage, manual labor, and...
the cost of fertilizers.” An area that would take half to one day to spray manually can be covered in less than 10 minutes with a drone.

Social and gender barriers have made training participants challenging. “Many of [the women] have not been in an organized learning environment for a long time or worked outside the home before,” says Drone Destination CEO Chirag Sharma. “It is a culture shock.”

A project like Drone Didi “serves a higher purpose of democratizing technology and cuts through gender biases by enabling women to venture beyond their homes for educational and employment opportunities,” says Somjit Amrit, CEO of iHub, a technology innovation center at the Indian Institute of Technology, Mandi (IIT Mandi), in the North Indian state of Himachal Pradesh. IIT Mandi is conducting a more expansive 10-week Drone Didi program in partnership with the National Skill Development Corporation. The program is tailored to a wider range of women from both rural and urban areas: It is taught in both Hindi and English and includes modules on entrepreneurship, communication, and leadership.

Shashi Bala, 22, a drone-pilot trainee at IIT Mandi, is the first woman in her family to study and seek work outside her hometown of Kangra. She is eager to break gender barriers with the tools she has been given by the program. “With the drone industry growing rapidly, I am optimistic about building a career in this sector, gaining job experience, and then starting my own venture,” she says.

A partnership ecosystem is gradually being built around the Drone Didi program to support the drone pilots to increase women’s access to financing and work opportunities. Government agencies and training organizations are currently devising loan plans with drone manufacturers and banks to help the pilots buy drones. Drone Destination is working on an app to support the more than 560 women pilots it has trained so far across 13 states to connect them with job opportunities. Physical hubs, too, are under construction to handle drone maintenance.

For many women like Sharma, the program has catalyzed greater social change and fueled even bigger dreams. “I am the first in my village to become a drone pilot,” she says, “so I hope it will set a trend of more jobs for women and change how we are perceived.”

NEHA BHATT is an award-winning journalist and author based in New Delhi, India. She reports on gender politics, public health, human rights, education, environmental issues, and culture.

CITIES

Not Building From Scratch

The city of Paris is turning empty properties into homes to relieve a supply-strapped housing market.

BY CHLOÉ ROUVEYROLLES

For most Parisians, buying an apartment has become almost impossible. To acquire a property in the City of Light, a first-time buyer needs to earn roughly £97,500 ($106,000) per year—more than double the average annual salary of a white-collar worker—and have the 10 percent down payment to qualify for a mortgage.

It is unsurprising, then, that approximately 10,000 people leave Paris each year because they can no longer afford to live there. Paris is the fourth most population-dense city in the European Union, so it has little space to build more housing.

Housing conversion has become an increasingly popular approach to the housing shortage in the French capital, garnering support from public-housing companies and local politicians alike, including Paris mayor Anne Hidalgo. Since the Institut Paris Région began registering conversion projects in 2013, every year empty nonresidential buildings are turned into a quarter of the city’s new housing units.

Now a decade in, the once emerging trend has become a revolution. “We’re living in a sort of golden age of social housing,” says Stéphanie Jankel, an urbanist at Apur, a nonprofit Parisian urban-planning workshop.

Yet as with any revolution, the effort has come with challenges, particularly that of design.

“We can’t plan just as we like; there’s a lot of technical work beforehand to find out how many units we can produce,” says