

WOMEN FARMERS IN NIGER EMBRACE DRIP IRRIGATION AND BECOME SMALLHOLDER PRODUCERS

HOW THE NIGER IRRIGATION PROGRAM
(NIP) ENABLED TRANSFORMATION
FOR WOMEN FARMERS AND THE
COMMUNITY.





PROJECT LOCATION

Niger



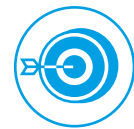
FUNDING

USD 1.5M from the Climate Investment Funds' Pilot Program for Climate Resilience (PPCR).



PARTNERS

International Finance Corporation (IFC), the Climate Investment Funds (CIF), and Netafim, with the support of the Government of Niger.



GOALS

Test small-scale irrigation techniques through the private sector, develop the drip irrigation market, and promote sustainable agriculture.



NUMBER

900 smallholder farmers trained, 60 percent of whom were women.



FARMING IN NIGER

Agriculture accounts for 40 percent of Niger's GDP¹. Most of it is based on smallholder farming, and nearly 85 percent of the population depends on agriculture for their subsistence². Nigerien farmers manage to cultivate the land and grow crops amidst challenging conditions. On one side, two-thirds of the country are desert and agriculture is rain-fed. On the other, the rainy season is short and irregular, while the dry season is long and hot. Climate change further aggravates these limitations, with temperatures in the Sahel rising 1.5 times faster³ than the global average, accompanied by stubborn droughts and devastating floods. Furthermore, private land ownership is limited, and farmers lack technical knowledge and skills.

Women farmers are particularly affected by the constraints of rain-fed agriculture, technical limitations, cultural barriers to land ownership, and low productivity—plots cultivated by women yield 20 percent⁴ less per hectare than those managed

by men. During the rainy season, men cultivate the land for a profit. Throughout the dry season, which lasts nine months out of the year, women are granted access to the plot to grow vegetables. To irrigate their crops, women make multiple trips to a well to fetch water, which is labor-intensive and unsafe. The harvest is used to feed their families and sell the surplus in local markets. At the beginning of the rainy season, women relinquish the land back to male farmers, which hinders their involvement in the agricultural local economy and ability to grow their incomes.

Investing in women farmers and agriculture's productivity has the potential to stimulate their employment, support food security, and rise people out of poverty—half of Nigerien children under five suffer from chronic malnutrition⁵ and the population of 24 million is expected to triple by 2050⁶. Improving women's access to training, finance, and the labor market can also improve gender inclusion—the country ranks 154 of 162 in gender inequality⁷—given their prominent role in farming and the preservation of household self-sufficiency.

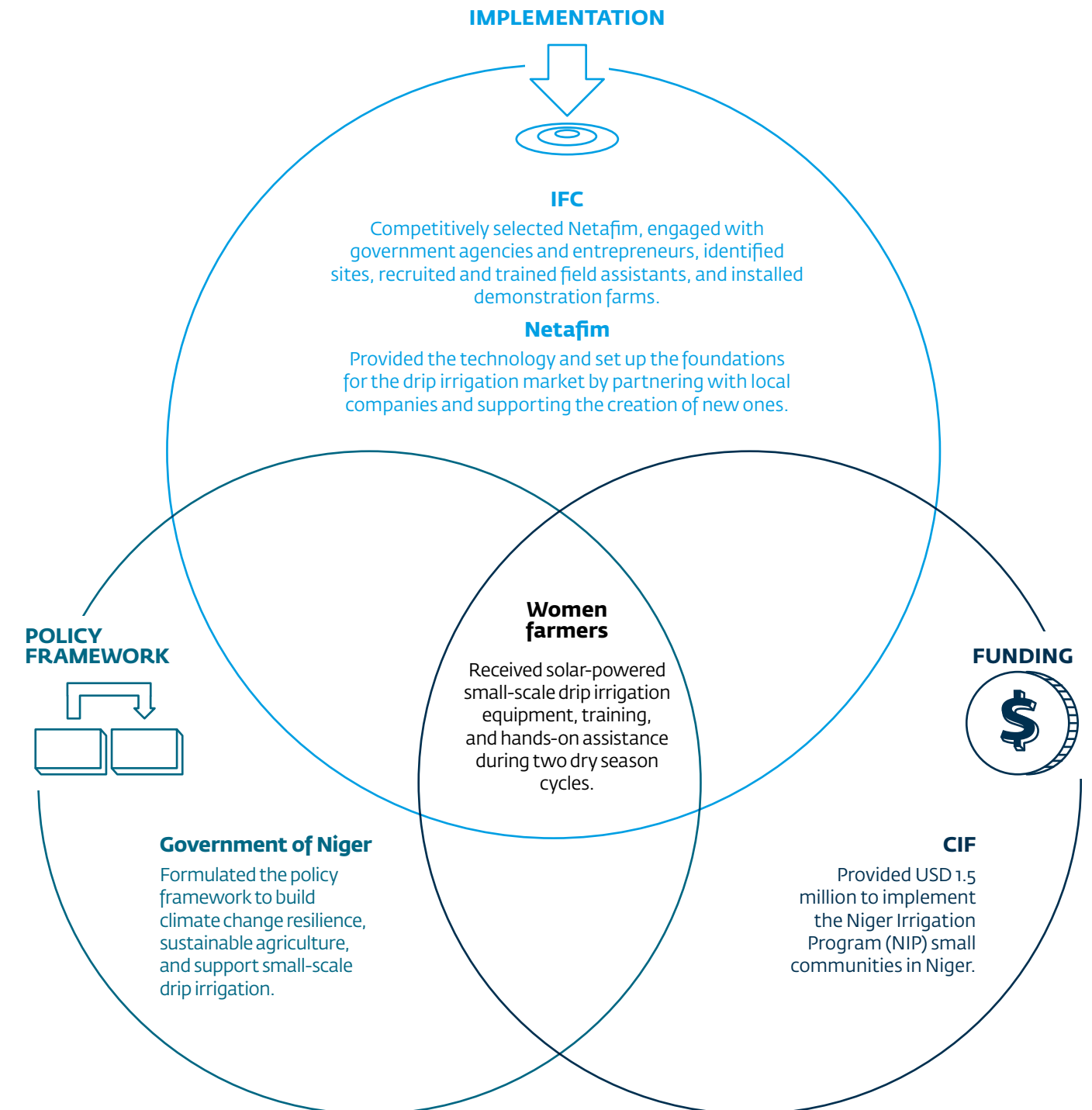
THE NIGER IRRIGATION PROGRAM (NIP)

The Niger Irrigation Program (NIP) was born out of the collaboration between the Nigerien government, the [International Finance Corporation \(IFC\)](#), the [Climate Investment Funds \(CIF\)](#), and [Netafim](#), a global leader in micro-irrigation technology.

Funded by the Climate Investment Funds' Pilot Program for Climate Resilience (PPCR) with a USD 1.5 million grant, the goal of NIP was to test the commercialization of small-scale irrigation techniques through the private sector and to enhance the understanding of drip irrigation benefits, strengthen demand and supply linkages along irrigated agricultural value chains, and promote sustainable agri-

culture. NIP was designed in alignment with Niger's government long-standing strategy to address low agricultural yields, increasing food demand, as well as to develop climate change resilience and enhance private sector participation in agriculture.

As the implementing partner, IFC competitively selected a private sector company, Netafim, to test and help develop the irrigation market in Niger. Netafim, an Israeli manufacturer of irrigation equipment, knew the Nigerien market and had extensive experience in drip irrigation technologies. IFC played a key role in fostering favorable conditions for private sector involvement in agriculture through private-public partnerships, collaborating with government agencies, and engaging with Nigerien entrepreneurs to ensure drip irrigation business and services continuity.



ROLL-OUT AND THE ROLE OF WOMEN

Netafim started by engaging with farmers in the provinces of Tillaberi and Dosso. Local, community engagement was determinant to address the farmers' ingrained misconceptions and skepticism around drip irrigation. The company set up small promotional stands with irrigation kits at local markets and mosques so that farmers could look at the equipment, ask questions, and gain awareness about the new technology. Additionally, IFC and Netafim identified and set up demonstration sites where farmers could directly experience how drip irrigation technology could help them increase their yield by allowing them to work the land during the dry season.

Almost 60 percent of the 900 farmers who purchased the first kits were women, making them a key entry point to the market and the foundation for the success of the program. The purchase of the kit included installation support, training, and post-sales assistance. For the first time, women farmers were receiving hands-on, personalized support and access to new farming skills.

It was an easy decision for women. Adopting the technology translated into important time-savings and increased their income. Before NIP, women spent several hours each day fetching water from a well to irrigate their crops. The trips were time-consuming and unsafe. With the new drip irrigation, women farmers only spent an average of two hours watering and caring for the crops, which enabled

them to dedicate time to their household or other income-generation activities.

Fatima Heruma, a 70-year-old farmer who grows okra and melons, says

“I’ve been a farmer for more than 30 years. Nowadays, there is not enough rain. Also, the heat is hotter than before. I earn more money now with drip irrigation. It helps me afford breakfast for my children and grandchildren and pay their school fees.”

It was a complex operation. Netafim provided the drip irrigation kits through its local supplier, Agri-mex, and partnered with local company Talbus to distribute and install solar-powered water pumps. In response to demand from the project, Netafim supported the creation of Nirritech to train locals as Community Field Assistants (CFAs). The CFAs

were trained to provide last-mile support, including training to farmers, maintenance services, identifying links to markets, and day-to-day assistance. Throughout the lifespan of the project, there was also continuous collaboration with the government to ensure the pilot's success.

Harnessing the abundant solar energy through panels offered additional efficiency gains: farmers no longer had to buy and transport the motors for the water pumps, so they saw an important reduction in variable costs like fuel. Altogether, NIP followed the efforts started by the Ministry of Agriculture and Livestock to strengthen the resilience of small-scale farmers.

Fatima Heruma
Farmer



A NEW MARKET CREATES MOMENTUM FOR WOMEN PRODUCERS

With the new water management system in place, more onions, okra, cabbages, tomatoes, and canary melons started to grow. During the program's first farming season in 2018, 187 women reported using drip irrigation technology to grow at least one crop cycle. Thanks to the new systems, many enjoyed harvests twice—or even three times—as big as usual. In fact, 87 percent of the farmers involved (both men and women) reported increased yields. By the end of the program, in 2021, at least half of trained female farmers continued using drip irrigation. "Lotti lotti kandé dogonay," says Hadiza Abdou, a women member of the program farming on a 1.5-hectare community plot with an irrigation system, "Drip makes life easier."

Four out of five women using the system reported increased incomes, and the impact was multiplied when 90 percent of women indicated they invested their earnings in family healthcare, savings, and household necessities.

"When I first started on the project, my husband was very skeptical," said Rahina, a woman who now only needs to tend to her crops three times a week. "He said I was wasting my time. When he saw how much money I made in the first year, he started to pay attention and is now helping me on the farm, along with my brother-in-law. I'm so grateful to the project because it has given me the opportunity to provide education and healthcare for my children."

Safety was another important outcome. Nine out of 10 women reported a feeling of increased personal safety given they no longer had to walk long distances to fetch water for their crops. Moreover, 83 percent of women now spend less time in the field than before drip was installed, giving them more free time to rest, dedicate time to their families, and invest in learning and additional income generating activities.

The program strengthened the drip irrigation market ecosystem. It created new opportunities for local companies such as Agrimex, Talbus, Agrotech, and

"Women understand they no longer need to work all day in the field."

Seyni Ganda
Founder, Nirritech

Entreprise Habib Ibrahim Bawa, and gave rise to new entrepreneurial endeavors like Nirritech. These companies are now vying to offer their services for irrigation expansion and management, thus demonstrating the viability of the commercial market in Niger. Together, they have helped women farmers in Niger gain a more equal footing while remaining profitable, taking a collective step towards tackling poverty, food insecurity, and vulnerability to climate change.

"Women understand they no longer need to work all day in the field," says Seyni Ganda, the founder and manager of Nirritech, which now has seven full-

time employees. "Some women are becoming richer than men. They can now buy goats and support their families financially."

Ganda advises that while NIP resulted in 50 hectares of irrigated land, his company has now installed systems on an additional 70 hectares in the subsequent two years that followed NIP's launch. Typically, farmers put 15 percent down for a new installation and then pay anywhere between 10 to 50 percent of the remainder that they owe at harvest time. "If we want things to change," says Ganda, "it's our commitment as engineering professionals to push to make it possible."

This momentum in the market is giving rise to unexpected social change. On some of the large community plots of land where women farm in the small village of Garou, women farmers decided it was time to be independent and own their own land with drip irrigation in place. To meet such demand, Netafim and Nirritech redesigned its system with piping for 1.5 hectares to fit the size of their plots so women could grow their own gardens close to home for both their family's consumption and to sell all year-round. Male farmers in the community quickly noticed the benefits of the drip system and requested their own equipment. Now, everyone is growing on small plots of land, with equal status—all benefiting from in-field irrigation.

WOMEN BECOME SMALL PRODUCERS

2X



Women enjoyed harvests twice—or even three times—as big as usual.

9 of 10



women reported an increase in personal safety.



90%

of women who participated invested their earnings in family healthcare, savings, and household necessities.

87%



of the farmers involved (both men and women) reported increased yields.

83%



of women now spend less time in the field than before drip was installed.

Frédéric Dollon, a Netafim agronomist and project manager for NIP, knows of a group of women in Garou who stopped allowing a male seller to take their produce to market for offtake, which is the traditional way that crops are sold. “They decided to go to the market and sell the produce themselves,” he said. “They knew it would be more beneficial to do so directly.”

In the village of Garou, there is a new spirit of excitement among women farmers—and an air of confidence. Dollon has noticed that women are increas-

ingly organizing themselves, understanding the value of working together and sharing resources such as water. An oasis of green, the village represents what the future could be like not just in Niger, but in other Sahelian countries.

“We knew this project was a success when men became jealous,” he says. “Women have taken on more and more importance in agriculture compared to men in Niger. They’re now closer to equality.”



ENDNOTES

1. The World Bank in Niger. <https://www.worldbank.org/en/country/niger/overview>
2. Food and Agriculture Organization of the United Nations (FAO). <https://www.fao.org/agriculture/ippm/projects/niger/en/>
3. Intergovernmental Panel on Climate Change. https://www.ipcc.ch/site/assets/uploads/2018/02/WGIAR5-Chap22_FINAL.pdf
4. Climate Investment Funds. “Seeding a Climate-Resilient Future: Creating Markets for Irrigation Technologies in Niger” June, 2020. https://www.cif.org/sites/cif_enc/files/knowledge-documents/niger_cif_case_study_full_case_study_o.pdf
5. World Food Programme. Country profile: Niger. <https://www.wfp.org/countries/niger/overview>
6. Swaroop, V. Razafimandimby, L. “Can Niger escape the demographic trap?” World Bank Blog. January, 2020. <https://blogs.worldbank.org/african/can-niger-escape-demographic-trap>
7. (World Economic Forum. Global Gender Gap Report 2022. <https://www.weforum.org/reports/global-gender-gap-report-2022/>



CONTACT INFORMATION



International Finance Corporation

2121 Pennsylvania Avenue, NW
Washington, DC 20433 USA



Richard Colback, rcolback@ifc.org
Sanola Daley, sdaley@ifc.org
Liudmila Pestun, lpestun@ifc.org



www.IFC.org/agrigender
www.IFC.org/gender



[@WBG_Gender](https://twitter.com/WBG_Gender)



IFC International
Finance Corporation
WORLD BANK GROUP

Creating Markets, Creating Opportunities

With funding from

CIF
CLIMATE
INVESTMENT
FUNDS

