

# Sudan: Taking Action for Sustainable Development



Nuclear science helps Sudanese women turn dry lands into vegetable fields © Nicole Jawerth / IAEA

## What are the bold actions being taken by the Government to achieve the Sustainable Development Goals in Sudan?

Water is key to food security. Crops and livestock need water to grow. Agriculture requires large quantities of good quality water for irrigation and various production processes.

In Sudan, supported by the International Atomic Energy Agency (IAEA) in cooperation with the Food and Agriculture Organization (FAO), a [Drip Irrigation Project](#), which applies nuclear science and techniques, has been ongoing since 2015 in Kassala (eastern Sudan) to make the most of limited water supplies and to optimize fertilizer use in the area. Through the project, scientists from the Sudan Agricultural Research

Cooperation (ARC) have been trained by experts from the Joint FAO/IAEA Division. The scientists learned how to use nuclear and isotopic techniques to optimize soil, water, and fertilizer use for growing crops using the “drip irrigation” system. As a result of the training, the drip irrigation system has successfully led to the reduction of water use by up to 70 per cent, while increasing food yields by more than 40 per cent in the area.

Local NGOs, such as the Sudanese Red Crescent (SRC) and Talawiet, have been working closely with those scientists to help over 1,000 women set up and run more than 85 small-scale

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*We used to have nothing. We had little food, and we had to buy it at the market. We did not even know how vegetables were grown. [...] We now know how to deal with the soil and how to grow our own food. We are very eager to expand and to have all of our neighbours and other women in the village use this method, too.*

**Fatima Ismail**  
Farmer / Participant  
in the Drip Irrigation Project

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*If the women are empowered, they can share in the decision-making in the family and the community. It helps to reduce poverty, and it makes future planning more effective. When women are empowered, the community is more empowered.*

**Rashid Sir El Khatim**  
Coordinator  
Talawiet Organization for  
Development, Sudan



**SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD

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Scientists carry out studies on the atoms in soil, water, fertilizer and crops to determine how to best grow crops and manage soil and water resources. © Nicole Jawerth / IAEA



Nuclear science helps women farmers in Sudan leave poverty behind. © Nicole Jawerth / IAEA

farms and home gardens. Following the success of the project in Kassala, ARC, Talawiet and SRC are currently working to establish another 15 drip irrigation systems for over 450 women in north and south Kassala State and Red Sea State. There is also a plan to expand the drip irrigation system into the neighbouring regions.

## ***Why do the above actions matter to the people in Sudan?***

Agriculture is the primary source of income and livelihood for up to 80 per cent of the population in Sudan. This is particularly relevant for thousands of women who have been living constrained lives with few opportunities for change. In the country, while men are allowed to work, many women are not allowed to leave their homes to work.

In addition, many of the residents in Kassala are refugees from neighbouring countries or internally displaced people from other parts of the country who often have limited sources of income and food. This means at times they cannot afford to buy food, and many people in rural villages are malnourished.

Furthermore, women have been another important focus in the project because they play a key role in improving health and well-being of their families.

Statistically, women in developing countries invest much more of their earnings (90 per cent) into their children's education and health than men do (30-40 per cent). Empowering women in rural areas is increasingly important for making the life of their families and communities better.

## ***What SDGs have been particularly advanced through the project?***

The project fundamentally focuses on Goal 5 on Gender Equality, Goal 6 on Water and Goal 15 on Life on Land.



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