CLIMATE RESILIENCE & EMPOWERING EGYPTIAN FARMERS

WFP
World Food Programme

SAVING LIVES
CHANGING LIVES

August 2024

The United Nations World Food Programme (WFP) is the world's largest humanitarian organization, saving lives in emergencies and using **food assistance** to build a pathway to **peace, stability** and **prosperity** for people recovering from **conflict and disasters** and **the impact of climate change.** This is in addition to helping individuals and communities find **life-changing solutions to the multiple challenges they face in building better futures.**

FOUR CROSS CUTTING PRIORITIES

1. Protection & Accountability to Affected Populations
2. Gender Equality & Women's Empowerment
3. Environmental Sustainability
4. Nutrition Integration

AGRICULTURE IN EGYPT

WFP supports farmers with improved agricultural practices, access to markets and sustainable water management solutions - helping mitigate the impact of climate change and increase production.

Communities in Upper Egypt rely predominantly on agriculture; it accounts for over **63 percent** of the zone's employment and contributes to about **40 percent** of its rural income. While agriculture is a source of income for about **85 percent** of Upper Egypt's rural households, it is a sole source of income for about **60 percent** of its rural households.

Climate change is expected to negatively impact agricultural production due to vulnerability of crops to higher temperatures and extreme weather events and changes. Upper Egypt, which is also the poorest region of the country, is at risk of losing up to **30 percent** of its total food production by 2050 as a result of reduced availability of agricultural land, soil degradation, sand encroachment, climate change and water scarcity.

RURAL DEVELOPMENT

To address these challenges, WFP Egypt, in partnership with the Ministry of Agriculture and Land Reclamation (MALR), launched its rural development programme in 2013, assisting smallholders in Upper Egypt and Delta in governorates identified under the Presidential 'Decent Life' initiative (Sharkeya, Sohag, Assiut, Qena, Luxor and Aswan).

Between 2013 and 2024, the project supported the livelihoods and resilience-building of over **600,000 smallholders** in over **205 villages**. Land and water management systems of over **30,000** acres were improved, increasing productivity by up to **40 percent**, reducing the cost of inputs by **25-40 percent**, and reducing losses of harvest by up to **50 percent**.

CURRENTLY

- WFP upscaled its rural development programme, currently reaching **240,000 beneficiaries** in **150 villages** in the six governorates.

- WFP extended models of integrated collective farming in over **20,000 acres** and supported over **30,000 men and women** to diversify and enhance their agricultural-based livelihoods through animal production.

- As a common strategy, WFP adopts an integrated approach in developing rural communities by placing the household at the centre of its plans, ensuring that all household members benefit from WFP's activities through livelihood enhancement, education, school feeding, nutrition and agricultural interventions.

INTERVENTIONS

- EARLY WARNING SYSTEMS
- INTEGRATED WATER MANAGEMENT
- LAND CONSOLIDATION
- SOLAR ENERGY
- POST-HARVEST PRACTICES
- IN-KIND ANIMAL LOANS

EARLY WARNING SYSTEMS

To reduce crop loss during erratic weather changes and climatic shocks, a simple **early warning system** serves farmers through local Community Development Associations (CDAs) in over **150 villages**. The online early warning system provides a five-day weather forecast with technical recommendations to minimize losses and sustain crops. WFP monitoring results revealed that the system helped reduce losses in extreme weather spells.

WFP has partnered with the Ministry of Agriculture and Land Reclamation (MALR) and the Egyptian Meteorological Authority (EMA) to establish this online early warning system in five governorates. The warning system provides weather data matched with relevant crops and based on which, experts provide relevant technical recommendations to protect and **reduce crop-loss by 45 percent**. The early warning system is available through the CDAs, a webapp, and mobile application for the public and currently serves about **600,000 farmers**.

INTEGRATED WATER MANAGEMENT SYSTEM

Mud water canals are lined with cement to reduce water seepage during irrigation and to provide water more efficiently to downstream plots. Through this enhancement, water usage, diesel fuel and maintenance costs of canals are reduced significantly.

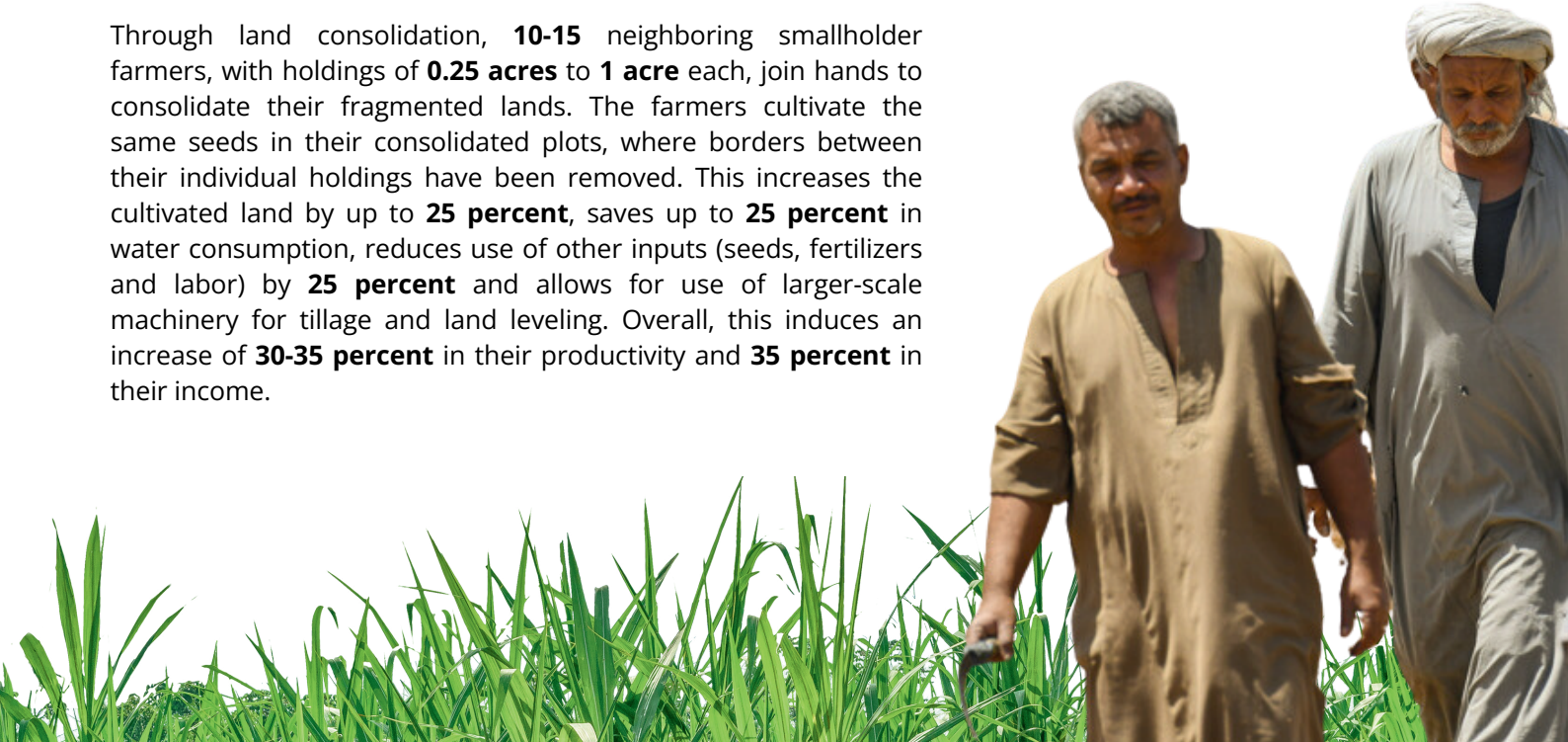
The lined canals led to a **55 percent** reduction in water consumption, **50 percent** reduction in fuel consumption and **70 percent** reduction in canal maintenance costs, marking a significant increase in the profits earned by farmers.

WFP also installs underground water pipes as an alternative to the use of canals where possible. This helps save additional land areas that can be cultivated to generate more income for farmers and further increase water savings by **30 percent**. Furthermore, in a bid to introduce the use of seedlings and drip irrigation systems (up to **40 percent** water savings), demonstration fields were set-up in select sugarcane fields as examples of such technologies used in enhancing production of this water-intensive crop.

WFP supports the establishment of water user associations to operate and maintain improved irrigation facilities, ensuring efficient irrigation and savings on water and irrigation costs. Additionally, WFP applies drip irrigation techniques in sugarcane plots, instead of furrow or flood techniques, to reduce water usage and increase productivity.

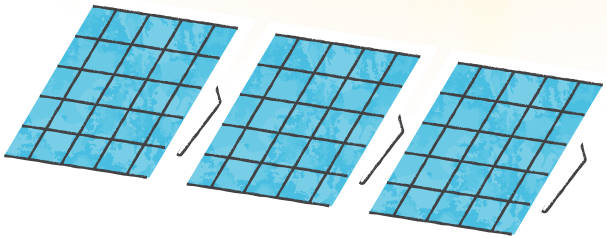
LAND CONSOLIDATION

Through land consolidation, **10-15** neighboring smallholder farmers, with holdings of **0.25 acres** to **1 acre** each, join hands to consolidate their fragmented lands. The farmers cultivate the same seeds in their consolidated plots, where borders between their individual holdings have been removed. This increases the cultivated land by up to **25 percent**, saves up to **25 percent** in water consumption, reduces use of other inputs (seeds, fertilizers and labor) by **25 percent** and allows for use of larger-scale machinery for tillage and land leveling. Overall, this induces an increase of **30-35 percent** in their productivity and **35 percent** in their income.



SOLAR ENERGY

The project establishes photovoltaic systems that consist of solar panels combined with an inverter and other electrical and mechanical hardware, commonly referred to as the "balance of system". The systems used are off-grid home solar systems which imply that a generator is included to store that charge in the event that solar energy alone is not enough. No batteries are installed for cost-saving purposes. The use of renewable energy provides a sustainable, cost-effective and environmentally friendly alternative to the use of diesel fuel with **50 percent reduction in energy cost**. Since 2013, about **62** units have been established with a total capacity of **1860 kW**.

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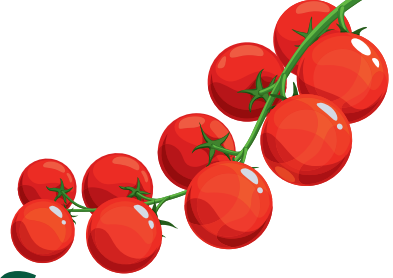

POST-HARVEST PRACTICES

WFP introduces agro-processing to diversify and augment income sources, such as improved post-harvest practices and small-scale food processing. Using WFP-established sun-drying units in six communities, **600 tomato growers** were able to preserve their crops for extended periods of time beyond the standard crop season. Each unit employed around **100 women and 40 men** throughout the **100 days harvest season** to process up to **60 tons of tomatoes**.

This ten-day processing technique saves farmers from selling their fresh tomatoes when prices are at their lowest and allows them to produce sundried tomatoes that have **13 times the value of regular tomatoes**, leading to a **30 percent increase in income earned**.

Similarly, pomegranate arils separation and refrigerating units help small pomegranate farmers increase profits. Each unit processes **2 tons of pomegranate** on average per day during the **30 days harvest season** every year.

It is worth noting that these agro-processing units are run mostly by women, helping improve their livelihoods and empowering them to pursue economic opportunities to better support themselves and their families.

IN-KIND ANIMAL LOANS

Further promoting the diversification of livelihoods, WFP provided trainings on livestock raising to more than **18,000 people**, **17,000** of whom received **in-kind loans** (and **90 percent** of which are women) since 2020. The in-kind loans provide improved breeds of ducks and goats that are more tolerant to the higher temperatures prevailing in the region. In parallel, vet services, training and technical assistance on animal nutrition help ensure sustainable and healthy animal production. With this, beneficiaries have reported up to a **30 percent increase in household income**.

Additionally, in-kind loans in the form of beehives were distributed to more than **311 rural community members** since 2020. The in-kind loans were provided alongside technical trainings on how to properly and safely manage apiaries for the production of honey.

PARTNERSHIPS

To achieve effective and sustainable results, WFP collaborates with governmental, local entities and the banking sector in the implementation of smallholders' support activities. In addition to the Ministry of Agriculture and Land Reclamation (MALR), the Ministry of Water Resources and Irrigation, the Agricultural Research Center (ARC) and local universities continue to provide technical assistance and backstopping support, while the Egyptian Meteorological Authority (EMA) provides weather forecasts for early warning systems. Men and women representatives of local communities are also involved in the planning of various activities and capacity of local community development associations is strengthened through trainings, enabling them to implement and sustain activities at the village level.

THE WAY FORWARD

Based on the Egyptian Government's request to upscale WFP target communities to 500 Egyptian villages (to reach **1,000,000 smallholders**), WFP is seeking to upscale its integrated rural development programme by replicating successful interventions.

Bastawy Nasser Mohamed, smallholder famer in Aswan

Bastawy always relied on his ancestors' agriculture techniques. As part of WFP and the Government's rural development programme, he was empowered with the know-how and resources to increase his production using a variety of heat-tolerant seeds and modern agriculture

> **We did not know what seeds to use and how to tell the most suitable time to start the agriculture process, we just did what our grandparents used to do.**

Anwar Ahmad,
smallholder famer in Luxor

Like many farmers in Upper Egypt, Anwar struggled with water distribution challenges, sometimes leading to disputes with other farmers on the allocation of water for each person's plot. Considering Egypt's water scarcity challenge, WFP helps upgrade water canals to reduce water loss during irrigation and raise efficiency. The installation of solar panels also supports farmers like Anwar with sustainable and cost-effective alternatives. Before this support, the water used to take an hour or two to reach Anwar's land. Now, the water reaches within 15 minutes of turning on the water pumps. Anwar can now water the land in only two hours; a task that used to take him five hours to complete.

"These solar panels made our lives much easier. Now we press the button, and we get plenty of water"

THANK YOU

FOR CHANGING THE LIVES OF SMALLHOLDER FARMERS

(in alphabetical order)

ADAPTATION FUND

THE Coca-Cola FOUNDATION

german humanitarian assistance
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