ADAPTATION FUND
Climate Innovation Accelerator
SMALL GRANTS. BIG IMPACT.



SOLUTION FACTSHEET

P-Vita: Turning farm waste into climate-resilient farming in hot, water-scarce regions

2025–2027

UN WFP World Food Programme | INNOVATION ACCELERATOR

Solution Summary

Location:
Egypt

Solution type:
Agricultural waste upcycled into microalgae biofertilizers

Innovation stage:
Proof of Concept

Grantee:
P-Vita for Green Intelligence technology

Implementing entity:
World Food Programme

Funding received:
USD 181,000 (Adaptation Fund)

ADAPTATION FUND

The Adaptation Fund Climate Innovation Accelerator provides grants and technical assistance to innovative solutions for adapting to climate change.

Adaptation Innovation

- P-Vita closes the loop on Egypt's farms. Crop and palm residues that would otherwise be burned become a growth medium for microalgae, which in turn become biofertilizers that help smallholders grow more with 25–30 percent less chemical fertilizer and less water, even in heat reaching 45°C.
- Heat- and salinity-tolerant microalgae, grown on upcycled farm waste, become biofertilizers that rebuild soil biology and help crops stand up to heat and drought. Two Egyptian patent applications.
- Farmers supply the waste and buy back the product: less open burning, lower input costs, healthier soil. Community Development Associations deliver it in Upper Egypt.

Climate Impacts

The solution is helping Egypt adapt to:

Drought and water security

High temperatures and heatwaves

Key Achievements

- Farmers report using 25–30 percent less chemical fertilizer and 20–25 percent less irrigation water, with up to 192 percent more flowering and net income about 25 percent higher. Seventy-seven percent buy again.
- P-Vita has opened new income opportunities for 13,000 smallholder farmers, while keeping tons of palm waste out of open fires and dumps.
- P-Vita's fertilizer is now in use on more than 100,000 acres across Egypt.
- P-Vita has launched a pilot with Silal Innovation Oasis to test its products in an arid climate.

Replication and Scaling Potential

- MENA regions that share Egypt's agricultural waste challenges offer strong potential to scale.
- Expansion plans include adapting the technology to agricultural waste streams beyond palm.
- P-Vita is exploring markets with similar gaps, including Iraq, Jordan, Kenya, Saudi Arabia and Tunisia.

To learn more, visit WFP-AFCIA P-Vita

Investment Potential

- **Business model:** Product sales through the Mahsoulak joint venture in Egypt, operating since October 2026, with licensing fees and royalties from regional partners from 2027.
- **Revenue per year:** USD 500,000 in 2026
- **Sustainable approach:** Egyptian operations run through a self-funding joint venture with an industrial partner. P-Vita is raising a USD 1.5 million seed round (Q1 2027) to fund Africa and GCC licensing and animal feed products.

Project Location



Last updated: 30/10/2026