

Precision Rice Irrigation and Surface Leveling

Level Up Rice Yields with Precision Irrigation and Resource Conservation

These technologies involve creating flat surfaces in rice fields and using pumps to evenly distribute water. This helps farmers save water, energy, and nutrients, improving rice growth and increasing yields.



AfricaRice

Africa Rice Center
Sali Atanga Ndindeng

Technology from

ProPAS

Commodities

Rice

Sustainable Development Goals



Categories

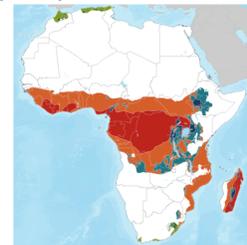
Production, Practices, Water management

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers



This technology is **TAAT1 validated**.

8-8



Scaling readiness: idea maturity: 8/9; level of use: 8/9

Cost: \$\$\$ **4 700—5 500 USD**

Add-on equipment

30—80 USD

Hand-operated pumps

1 000 USD

Solar-powered pump

800 USD

High-pressure pumps



Unknown

Problem

- The variation in ground level significantly impacts rice yield, with a notable decrease.
- Leveling the land requires substantial effort from farmers.
- The irrigation methods employed by farmers can be costly and, at times, stress the plants.

Solution

- Engineered irrigation surfaces ensures a uniform distribution of water across the crop, optimizing growing conditions.
- Laser-guided systems and mechanized tools reduce the manual effort required, making the process more accessible for farmers.
- Water lifting technologies provide efficient water delivery also contributes to healthier plant growth, alleviating stress on the crops.

Key points to design your business plan

Engineered irrigation surfaces and water lifting technology are beneficial for fleet managers and farmers to reduce rice yield losses.

- Fleet managers should identify reliable sources for equipment, consider transportation methods, and explore storage facilities.
- Costs vary based on size, and potential customers include farmers, development projects, and cooperatives.
- For farmers, choosing the right equipment size is crucial, with costs ranging from 4,700 to 5,500 USD for small-scale soil leveling systems and 30 to 1,000 USD for water lifting tools.

Gender assessment



Climate impact



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Last updated on 21 August 2024, printed on 22 August 2024

Enquiries techs@taatafrica.org