

# Engineered irrigation surfaces and water lifting

Optimize rice farming with precision-engineered surfaces and efficient water lifting for increased yields and resource conservation.



AfricaRice

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The technology of engineered irrigation surfaces and water lifting involves 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.

✓ This technology is **TAAT1 validated**.
8•8
Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment 👍 4

Climate impact 👍 7

### 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 project

Engineered irrigation surfaces and water lifting technologies address challenges in traditional rice improving productivity. To integrate them,

- Raise awareness, identify suitable methods, provide small loans, assess equipment needs,
- Consider delivery costs, engage trainers, develop communication materials,
- Collaborate with institutes, and associate with Motorized weeders for a comprehensive and sustainable approach.

Cost: \$\$\$ **4 700—5 500 USD**

Add-on equipment

<b>30—80 USD</b> Hand-operated pumps	<b>1 000 USD</b> Solar-powered pump	<b>800 USD</b> High-pressure pumps	<b>IP</b> Unknown
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Technology originally documented by  
ProPAS

Commodities  
Rice

Sustainable Development Goals

Categories  
Production, Practices, Water management

Tested/adopted in

■ Tested & adopted  
■ Adopted  
■ Tested

Where it can be used

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

Target groups  
Farmers

