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.

Africa Rice Center
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This technology is TAAT1 validated.

8·8 Scaling readiness: idea maturity 8/9; level of use8/9

Inclusion 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 program

Precision Rice Irrigation and Surface Leveling can be integrated into rice value chain development, irrigation development, climate-smart agriculture, and food security programs to improve water-use efficiency, increase rice productivity, and reduce production costs. Its adoption contributes to **SDGs 1, 2, and 8.** To integrate this technology into your project, plan and budget for the following activities and prerequisites:

- **Facilitate access** to land-leveling equipment, irrigation facilities, water lifting technologies, and mechanization services.
- **Establish partnerships** with AfricaRice, irrigation and mechanization service providers, national agricultural research and extension services, and farmer organizations.
- **Conduct** demonstration plots and training on precision land leveling and irrigation management, and **monitor** technology adoption, water-use efficiency, and rice productivity.

30—80 USD	1 000 USD	800 USD	IP
Hand-operated pumps	Solar-powered pump	High-pressure pumps	Unknown

Technology from

ProPAS

Commodities

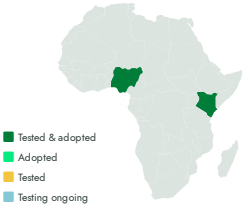
Rice

Sustainable Development Goals

Categories

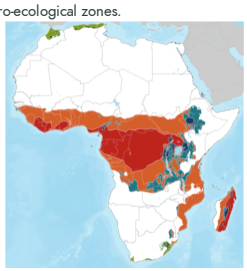
Pre-production, Practices, Water management

Tested/adopted in



Where it can be used

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



Target groups

Farmers