Furrow Irrigated Raised Bed Wheat Production

Smart Irrigation, Bountiful Harvests

This technique involves creating raised beds with furrows for planting crops, which ensures even irrigation and optimal soil moisture while reducing soil erosion and preventing waterlogging. It is effective with specific irrigated wheat varieties. In Ethiopia, suitable varieties include Amibera, Ga'ambo, Kakaba, Fentale-2, Shorima, Dandaa, and Ogolcho. In Nigeria, the varietie…

ICARDA
Science for resilient livelihoods in dry areas

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This technology is TAAT1 validated.

7•7 Scaling readiness: idea maturity 7/9; level of use 7/9

Gender assessment 4

Climate impact 7

Problem

- **Flooding wastes water:** Raises production costs.
- **Scattered fertilizer:** Costs more, harms environment.
- **Uncontrolled moisture:** Lowers yields, hurts productivity.
- **Limited freshwater:** Weakens drought resistance, hurts yields.

Solution

- **Saves water:** Targets furrows for optimal soil moisture.
- **Protects crops:** Raised beds prevent waterlogging and improve drainage.
- **Reduces waste:** Precise fertilizer application minimizes cost and environmental harm.
- **Boosts harvests:** Rainwater harvesting and controlled irrigation maximize water use for resilient crops.

Key points to design your project

This technology empowers women (less irrigation labor) & promotes climate-smart agriculture (water conservation, reduced erosion) - supports SDGs 2 (Zero Hunger), 5 (Gender Equality), & 13 (Climate Action). To integrate in a project, consider:

1. **Partnerships:** Collaborate with research institutions, extension services, and cooperatives (consider IITA).
2. **Training:** Train farmers on bed construction, furrow management, and best practices (~$50-100/farmer).
3. **Land & Seed Selection:** Evaluate land slope (<3% ideal) and soil texture. Choose drought-resistant, high-yielding wheat varieties.
4. **Cost Estimation:** Seeds (~$5-10/kg), tools (~$10-20/farmer), labor & inputs (~$300/hectare).
5. **Water Management:** Choose efficient method (canals, wells) based on budget and needs.
6. **Implementation:** Construct beds & furrows, monitor water usage. Plan for recurrent bed reconstruction every 3 seasons.

Cost: $$$ **300 USD**
labor and input per ha

360 USD	**100—250 USD**	**IP**
sheet plastic per ha	water from planting to harvest	Open source / open access

Technology originally documented by

ProPAS

Commodities

Wheat

Sustainable Development Goals

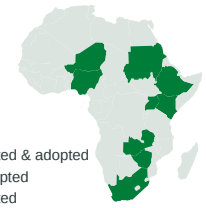
Categories

Production, Practices, Water management

Best used with

- Expanded Production of Irrigated Wheat ›
- Minimal Tillage and Surface Mulching of Soils ›

Tested/adopted in



Where it can be used

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