



Agricultural Water Management for Sustainable Intensification of Smallholder Farms

**Role of Irrigation in
African Smallholder
Farming Systems**

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USAID



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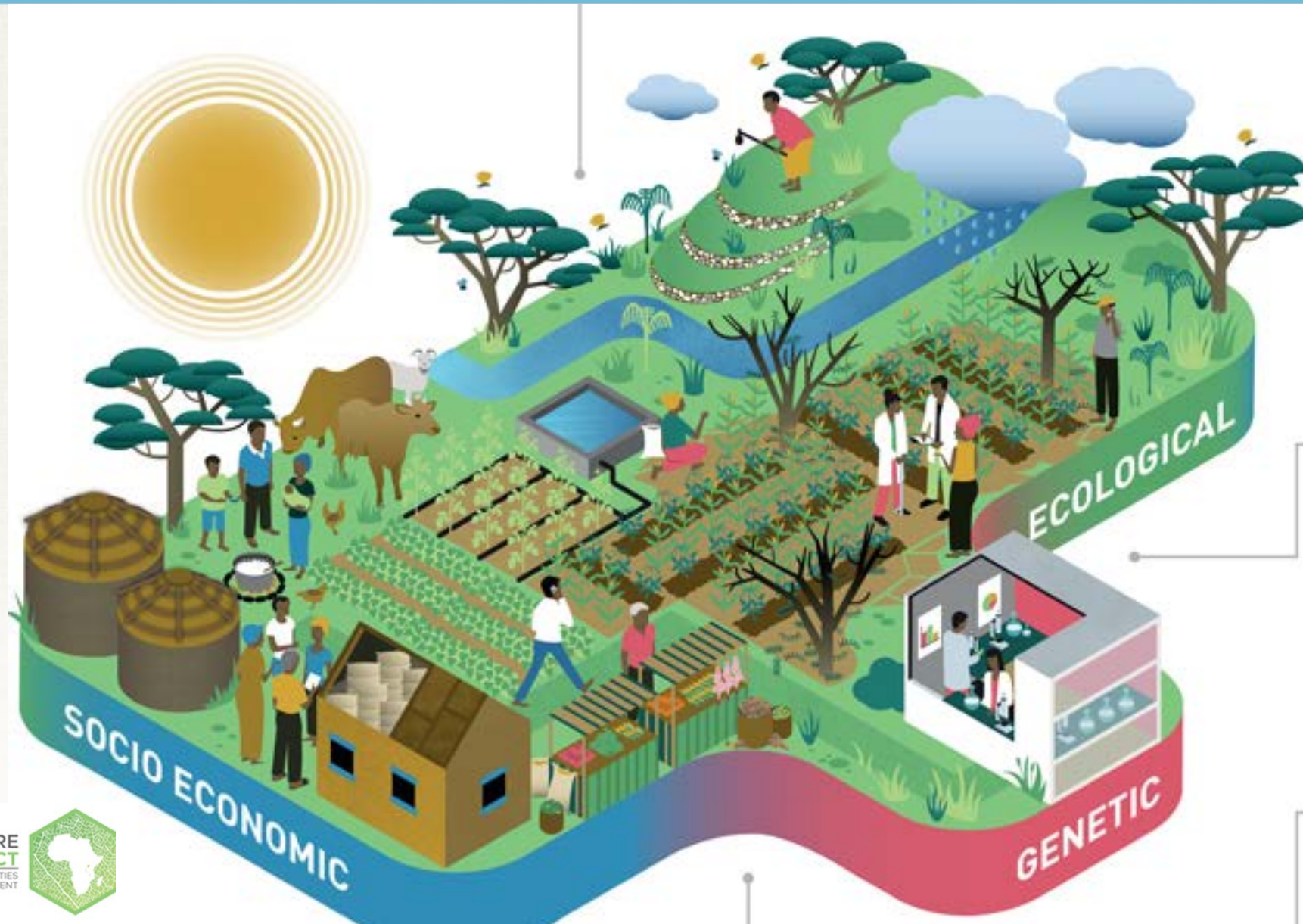
Sustainable Intensification:

- Increased productivity per unit land, labor, capital, etc
- Considers whole-farm & household issues
- Efficient, prudent use of inputs
- Conserve or enhance natural resources
- Increased resilience
- ‘Livelihood lens’ takes into account socio-economic, nutritional, gender, & cultural conditions



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Program in Sustainable Intensification:

- Africa Research in Sustainable Intensification for the Next Generation (Africa RISING)
- Cereal Systems Initiative for South Asia (CSISA)
- International Fertilizer Development Center
- Integrated Pest Management Innovation Lab
- Small-scale Irrigation Innovation Lab
- Sustainable Intensification Innovation Lab

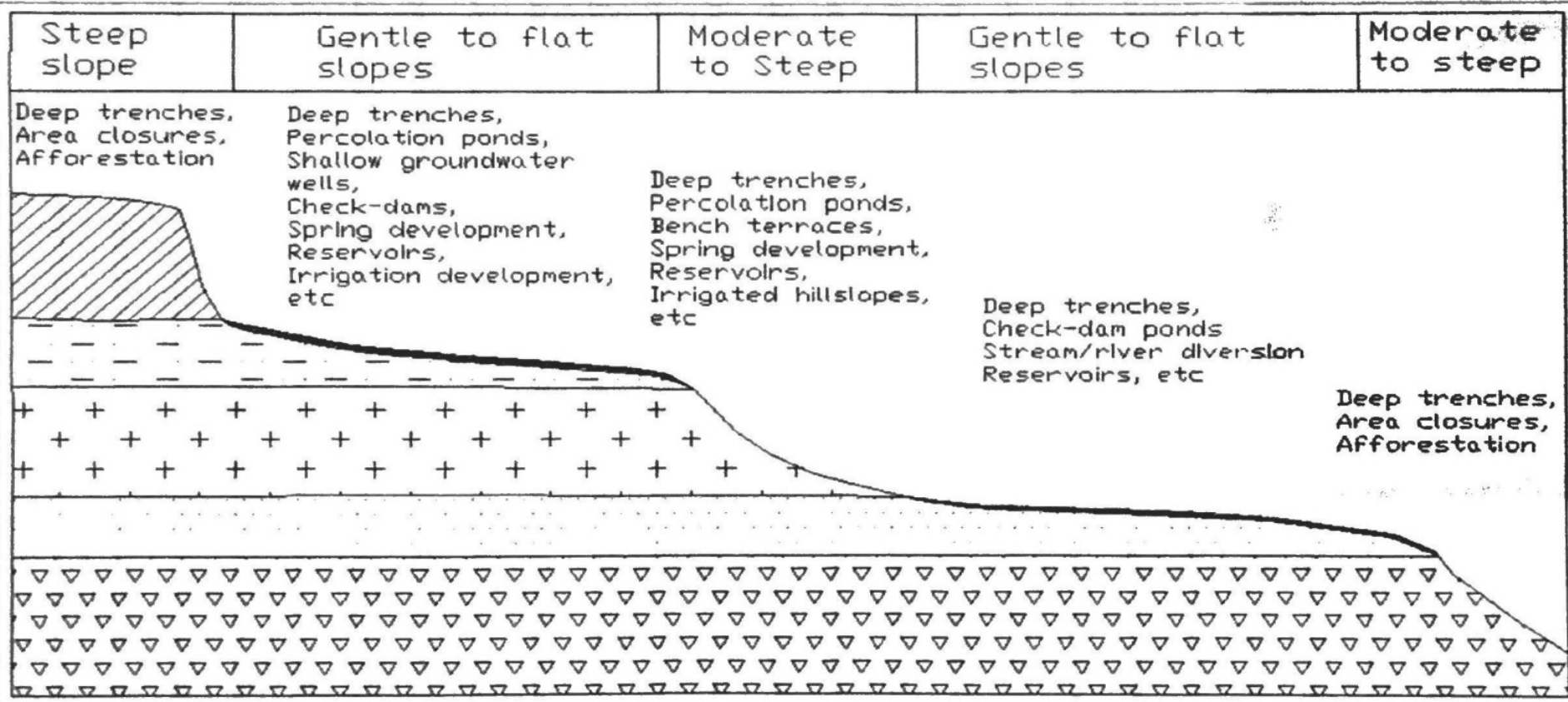


Smallholder Irrigation: Multi-use and opportunistic

- Integrated Watershed Management
 - Benefits of improved soil and water management, especially in complex landscapes, increases opportunities
 - Greater productivity drives profitability and re-investment in soil and water conservation
- Livestock revolution
 - Doubling of demand in next 2-3 decades in developing countries
 - Much of the increased livestock production will come from croplands—increasing the need for irrigation
- Diversification of agricultural systems provides opportunities to diversify irrigation systems



Innovation Lab for Small Scale Irrigation and Africa RISING: Integrated watershed management with embedded research on crop varietal selection and agronomic practices, improved livestock feeding and management, introduction of improved and alternative forages, introduction of higher-value horticultural crops, and irrigation strategies





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- Landscape-scale water management opens opportunities for small-scale irrigation enterprises—and opportunities for youth





- Irrigation reduces the risk of investing in higher value enterprises, such as precocious fruit tree varieties





- Greater demand for livestock products has increased the demand for improved and alternative forage and fodder, including crop residues, and more efficient feed management—driving use of diverse irrigation systems





- Need for reliable access to water for irrigation, especially in dry periods, encourages re-investments in soil and water conservation, which in turn are leveraged to increase livestock feed production.





- Increased opportunities are driving accelerated technology and information transfer, even to resource poor farmers.
- Champion female farmer uses 4 different irrigation strategies on less than 0.5 hectares





Bottom line: Countries characterized by smallholder farms in complex landscapes won't graduate from development assistance without greatly improved agricultural water management at multiple scales and expansion of a diversity of irrigation strategies.

