

Needs_Subsector Intervention Element Matrix of Ethiopia's rice sector

	Policy / Institutional	Infrastructure	Human resource capacity	Provision / support	Information / knowledge
Seed	Seed Regulatory Laws Private Sector Seed Certification	Storage Facilities Breeding Facilities (Germplasm, Glasshouse)	Breeders, Seed technologists, Technicians Plant Protection Scientists	Ecology specific varieties Hybrid rice Salt/Stress tolerant rice Aroma/Flavour/Cooking quality	Seed Use Sources of availability
Fertilizer	Incentives Access to Credit	Soil laboratory equipments, chemicals	Soil technicians Soil Scientists Agronomists Extensionists	Soil reclamation Site-specific fertilizer recommendations and Integrated Soil Fertility Management Soil testing services	Timely availability/distribution Price fluctuations Profitability (advantages) Fertilizer Use Efficiency Micro Nutrients Integrated Soil Management
Agrochemicals	Adulteration Regulation (quality, expiry)		Plant Protection Scientists Extension Agents	Emergency reserves of chemicals against major epidemics Seasonal Forecasting Efficiency of new chemicals	Awareness of appropriate chemicals, availability and usage
Irrigation / water management	Ownership and responsibility conflicts of irrigation schemes, structures Water Fees	Catchments in Uplands Rain Water Harvesting Bore-wells Dams River diversions Canals Rehabilitation of existing infrastructure Pumps	Short term training courses for farmers, development agents, and specialists	Irrigation scheme designs Water potential assessment Technical assistance on operation and maintenance of small pumps	Water Use Efficiency Maintenance and responsibility of irrigation structures Drainage
On-farm technology dissemination (E)		Training Center of Excellence	Extension/Development agents Extension Researchers Technology Evaluation	Comprehensive packaging of technologies Extension Materials Demonstration/Promotion	Communications of research information

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Mechanization	Raising the limits of foreign currency Tariff reduction (Small scale import tariff, sales tax) on machineries, spare parts, implements Incentives (soft loans, tax)	Training and Testing Center	Rural artisans Mechanics Operators Extension agents Engineers Post harvest technologists	Small Tools (weeders, sprayers) Implements (levelers, threshers, power tillers, rotavators) Service/Maintenance	Awareness Profitability (Cost/Benefits) Knowledge of applications
Quality improvement	Standards of mills and milling process Grading (at local mills) Quality/Standards (purities, broken %, hygiene, packaging) Incentive (Differential pricing for good quality rice) Rice Millers Association	Assembly Hubs Rural Electric Supply Fuel Storage in rural areas Quality testing laboratories	Food technologists Milling technicians Training on post harvest handling, storage and marketing	Small Mills and other machineries Value Addition	Awareness on linkage between quality and price Best post harvest handling and storage practices
Access to market	Minimum support price Rural trading of paddy Predetermined Contracts between cooperatives and millers Cooperative output markets	Feeder roads Transportation Storage Market Information Infrastructure (Price, trade)	Economists Market Informers Trading Entrepreneurs	Rural communication facilities Monitoring of trade activities Training on trading Collective bargaining (Cooperatives)	Market Information (Price, trade (import/export volumes)