

Needs_SIEM

Sub-sector	Policy/ Institutional	Infrastructure	Human resource/ Capacity	Provision/ Support	Information/ Knowledge
Seed	<ul style="list-style-type: none"> • Seed Certification • Regulation on seed multiplication • Timely supply of seeds • Private Sector Involvement • Promote quality rice (long grain, aromatic, stress tolerance, etc.) 	<ul style="list-style-type: none"> • Breeding facilities • Germplasm storage • Seed quality testing laboratory 	<ul style="list-style-type: none"> • Researchers (breeder, agronomist) • Seed Inspectors • Technicians (production) • Training for seed producers • Training of farmers on seed use 	<ul style="list-style-type: none"> • Incentives for quality • 340 MT of certified seeds • Foundation seeds of 8 improved varieties 	<ul style="list-style-type: none"> • Regional/ International research collaborations • Admixtures of foundation and certified seeds
Fertilizer	<ul style="list-style-type: none"> • Tariff reduction/exemption for fertilizer imports • Encourage private sector participation by facilitating bulk procurement and distribution 	<ul style="list-style-type: none"> • Blending , storage and transportation facilities (private sector) • Soil testing laboratories and equipments 	<ul style="list-style-type: none"> • Training of farmers, stockists, distributors, traders • Technicians (soil testing, demonstrations) • Training courses for technicians 	<ul style="list-style-type: none"> • Organic manure (3.6 m MT), NPK (71,500 MT), Urea (35,750 MT) • Micronutrients 	<ul style="list-style-type: none"> • Site-specific recommendations • Additional types of fertilizers • Effectiveness of rice by-products (straws, husks, etc) as organic fertilizers

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Irrigation/ Water Management	<ul style="list-style-type: none"> • Marshland development plan (to be upgraded) • Policy on water user association (to be approved) • Private sector participation in marshland development/maintenance 	<ul style="list-style-type: none"> • Rehabilitation and maintenance of old and new marshlands • Water sheds, Rainwater harvesting structures 	<ul style="list-style-type: none"> • Training Irrigation WUA members, agronomists, supervisors, administrators • Agronomists, Soil Technicians for new marshlands 	<ul style="list-style-type: none"> • 14,000 Ha new marshlands • Annual increment of cultivated area (1,750 Ha) 	<ul style="list-style-type: none"> • Water requirements of different varieties • Alternate wetting and drying technologies
On farm technology dissemination (E)	<ul style="list-style-type: none"> • Review of major pests & diseases every 3 years • Private-Public partnerships in Extension services • Monitor & Evaluate the effectiveness of extension service delivery systems • Regular and routine farmers training schedules 	<ul style="list-style-type: none"> • Screen houses • Plant Protection Laboratories 	<ul style="list-style-type: none"> • Entomologists, Pathologists, Rice Extension agents • Training of technical, extension staff and service providers • Training of farmers through Farmer Field School approach 	<ul style="list-style-type: none"> • Surveillance of pests and diseases • Pesticides, Fungicides • Routine farmers training programs 	<ul style="list-style-type: none"> • Integrated pest management packages • Appropriate production technologies

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Mechanization	<ul style="list-style-type: none"> • Land Use Policy • Cooperative farming • Contractual Farming • Encourage private Sector in provision of mechanization services • Tariff reduction for imported machineries 	<ul style="list-style-type: none"> • Electricity in rural areas (public) • Workshops in rural areas (private) • Assembly centres (private) 	<ul style="list-style-type: none"> • Training and motivation of farmers • Training of agro dealers, stockists of spare parts • Training of rural artisans, operators, and service providers • Engineers, technicians 	<ul style="list-style-type: none"> • Small tools (levellers, weeders, cutters, threshers, winnowers) 	<ul style="list-style-type: none"> • Mechanization options for rice farming systems • Ergonomic designs and sources • Socioeconomic impacts • Profitability
Quality Improvement	<ul style="list-style-type: none"> • Standards of harvested paddy and milling activities • Regulation of milling plants 	<ul style="list-style-type: none"> • Drying yards • Storage/Paddy Collection Centres in marshlands 	<ul style="list-style-type: none"> • Training on quality testing • Supervisors for milling/grading standards 	<ul style="list-style-type: none"> • Quality testing equipments/tools for cooperatives 	<ul style="list-style-type: none"> • Improved post harvest, handling and storage practices
Access to Market	<ul style="list-style-type: none"> • Predetermined contracts between growers and millers/traders • Transparent and organized rural trading regulations 	<ul style="list-style-type: none"> • Communication network • Road network 	<ul style="list-style-type: none"> • Training of post-harvest technologists, traders, farmers 	<ul style="list-style-type: none"> • Registration of millers and other rural traders 	<ul style="list-style-type: none"> • Market information on prices of farm inputs and paddy grains • Consumer preference • Survey on household consumption of rice

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Access to Credit	<ul style="list-style-type: none"> • Short-term Loans on inputs, machineries to farmers, service providers • Crop Insurance schemes • Soft Loans 	<ul style="list-style-type: none"> • Rural banks • Microfinance institutions in rural areas 	<ul style="list-style-type: none"> • Bank field officers • Training of lenders • Training of farmers cooperatives on business skills and financial management 	<ul style="list-style-type: none"> • Business models/ Financial plans for cooperatives • Mortgages against stored paddy for performing cooperatives • Awareness on credit schemes 	
Policy Tools	<ul style="list-style-type: none"> • Establish “Rice Secretariat” for implementation of NRDS • Continuous monitoring and Evaluation of environmental degradation in marshlands 		<ul style="list-style-type: none"> • Sector coordinator 		<ul style="list-style-type: none"> • Post impact analyses of NRDS implementation and rice-related policies • Profitability studies in rice value chain