



Wetlands and Agriculture in Rwanda



Current status of Rwanda's wetlands

- ❑ Wetlands under **full protection** (38): 56,120 ha ;
 - ❑ Conditional use (after EIA & Env mgt Plan (475): 206,732 ha;
 - ❑ Unconditional use (community /HIMO approach-347):15,689 ha;
 - ❑ Total : 278,541 ha (10.6 % of total country area)
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- Marshland potential: **219,791 ha** (Rwanda's Irrigation Master Plan, 2010)
 - Wetlands are **state-owned lands**...No individual appropriation, but can be leased for 20-49-99 years under vigilant monitoring.
 - No building or housing projects on wetlands
 - Wetland ownership (STATE) # wetland use (INDIVIDUALS)
 - Need for complying with Land law and Environment reg.

Current policies/tools used for irrigation development on wetlands

- Vision 2020
- Economic Development and Poverty Reduction Strategies (EDPRS)
- National Agricultural Policy (NAP)
- Strategic Plan for the Transformation of Agriculture – Phase III (PSTA-III)
- Marshland Master Plan, 2004
- Irrigation Master Plan, 2010
- **National Rice Development Strategy(2011-2018)**
- Government Program (2011-20 17)

Guidelines for wetlands development

Hydrology	Biodiversity	Presence /Peat Tourbe	Nearness/ a National Park	Rapid Evaluation
H0	B0	T0	P0	No limiting factor
H1 Rugezi	B1 Akanyaru	T1 Rugezi	P1 Streams towards ANP	Wetland is critical for this criteria
		T2 Kamiranzovu		Critical

Légende :

Le chiffre **zéro** signifie que le marais n'est pas critique pour le critère, le **chiffre 1** désigne que le marais est critique pour le critère.

Pour la présence de tourbe :

T1 veut dire **tourbe évoluée**

T0 tourbe non évoluée

Setting up irrigation-drainage infrastructures

Irrigation infrastructure : **Water control**

- ❑ in wet seasons (minimize flooding risks) ;
- ❑ in dry season (securing crops against drought).

Three (3 types of scheme layout) :

1.Simple intake /diversion structure : perennial stream...Local community /HIMO approach;

2.Medium-Low Cost design: GOR / NGOs staff

3.Heavy and costly design for large command area: Donors (dams, dykes, big reservoirs ...studies & implementation)→Consultants

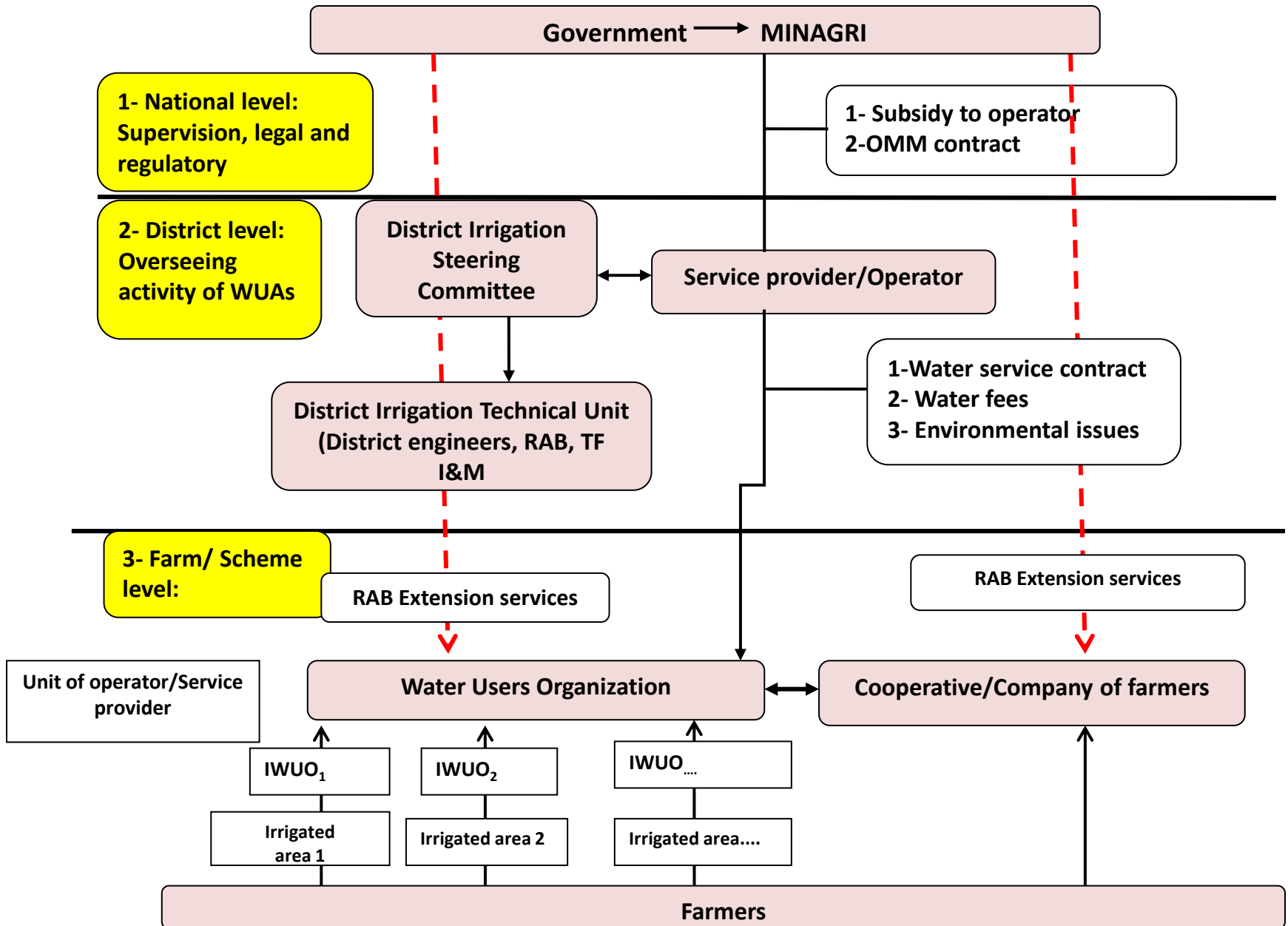
Integrated watershed management

- **Erosion control** above developed wetlands
- Soil fertility management of uplands
- Water conservation measures → steady flow
- **Afforestation** –rehabilitation of old woodlots
- Runoff control from national **road network and built-up areas**
- Promoting off-farm activities to reduce pressure
- Encourage professionalization of farmers
- Setting up marshland development Committees

Operation, Maintenance & Management (OMM)

- The Ministry of Agriculture and Animal Resources has embarked in construction of irrigation schemes within Rwanda to avoid rainfall dependence
- The new management model is based on the establishment of “**Water Users Organizations**” (**WUOs**), sole entities to collect water fees.
- The Ministerial Order No 001/11.30 of 23/11/2011 makes the establishment of Irrigation Water Users Associations in all irrigation schemes within Rwanda. Present day, **76 WUOs are in place.**
- **Cooperative** → Production & Marketing activities
- **WUO** → Operation & Maintenance of ID network
- **Service provider**: where there are heavy infrastructures

WUO -OMM Model



Rice development in wetlands

- Rice is the main staple grown on developed wetlands
- It is envisaged that the approaches will raise the productivity level from 5.8 t/ha to 7.0 t/ha and expand the area under cultivation from 6,838 Ha to 28,500 by 2018
- In 2013, people engaged in rice cultivation were 70,353.
- In Rwanda, rice farmers belong to a total of 100 cooperatives, distributed within 64 rice schemes country-wide
- Each cooperative covers rice farmers in a watershed.
- Each WUO signs a Performance contract with the Cooperative
- WUO and Cooperative are legally registered and accountable before their General Assembly/District /MINAGRI .
- And to RCA for the Coops and RGB for the WUOs→Periodic M & E

Projections of rice demand for Rwanda (RNDS, 2011)

Year	Population ('000) ¹	Consumption per capita (kg/year)	Predicted Consumption (Milled Rice, MT)
2008	9,908	6.1	60,825
2013	11,238	11.5	130,752
2018	12,568	15.6	204,110

Targets set under NRDS on area, yield, and production

	Rain-fed lowland			Irrigated			Total		
	Area (Ha)	Yield (t/Ha)	Production	Area (Ha)	Yield (t/Ha)	Production (MT/ha)	Area (Ha)	Yield (t/Ha)	Production (MT/ha)
2008	-	-	-	7,000	5.5	66,000	7,000	5.5	66,000
2010	-	-	-	6,838	5.8	70,680	6,838	5.8	70,680
2013	-	-	-	13,500	6.0	141,750	13,500	6.0	141,750
2018	2,500	2.0	5,000	26,000	7.0	369,000	28,500	-	374,000

SWOT analysis of Rwanda's rice sector.

STRENGTHS

- Suitable Ecological Niches
- High productivity (5.8 t/Ha)
- Government's commitment
- Organization of farmers
- Favorite Food Choice
- Favorable policies
- Rural and Family labor supply

OPPORTUNITIES

- Vast areas of untouched marshlands
- Special bowls for Premium rice
- Profitability
- Strong demand in local markets
- Open regional markets
- Off-shelf technologies
- Regional and International Initiatives

WEAKNESSES

- Inadequate integration of Value Chain
- Inadequate research and extension
- Low private sector participation
- Low mechanization
- Small farm size
- High post-harvest losses
- Standards of small mills
- Access to credit and market

THREATS

- Demographic pressure
- Soil fertility management
- Climate Change
- Access to water
- Pressure from pests and diseases
- Competition from imported rice
- Raising Fuel prices (input costs)
- Seasonal labor constraints

Sustainable agriculture in wetlands

- Improving productivity from current **5.5t/ha to 7t/ha** (seeds, fertilizers, diseases control, improving farm operations, water productivity)
- **Extension of area** from current 8,000 ha to 65,000 ha
- Development,/rehabilitation and maintenance of irrigation infrastructures by farmers through WUOs
- Development of post harvest **handling and processing** infrastructures **to minimize post harvest losses** and ensure high quality rice that can be competitive at regional level
- Continuous capacity building ; R&D- long grain breeds, **update Policies and Strategies to meet farmers' needs**, consumers 'demands , **Gvt regulations on natural resources management** , etc .

An aerial photograph of a vast, terraced rice paddy field. The field is divided into numerous rectangular plots by dark, narrow paths or ditches. The rice plants are in a vibrant green stage of growth. In the background, there is a line of taller crops, possibly sugarcane, and a brown, eroded hillside. The foreground shows the edge of the field with some banana plants. The text "THANK YOU" is overlaid in the center in a bold, blue, sans-serif font.

THANK YOU