

Enabling implementation of Rwanda's National Rice Development Strategies

1. Synopsis of the CARD initiative

In 2008, the Coalition for African Rice Development (CARD) initiative was launched at the Tokyo International Conference on African Development (TICAD IV). It is spearheaded by JICA, NEPAD and AGRA. The other core partners include research centers and regional/international financial institutions such as AfricaRice, AfDB, FAO, FARA, IFAD, IRRI, JIRCAS and World Bank.

CARD has set out a goal of doubling of rice production in Sub-Saharan Africa from 14 to 28 million tons in 10 years through addressing the issues of: (i) the whole rice value chain approach, (ii) the salient rice-growing agro-ecological zones, (iii) capacity building and (iv) South-south cooperation.

The objectives of CARD are : (i) rationalize and increase investment for rice sector development mainly through existing funding frameworks, (ii) develop capacities of governments to effectively manage rice sector development as well as to secure government funding and donor investment, (iii) provide enabling environment for rice-related investment both for development agencies and governments and (iv) better coordinate interventions based on the shared view on rice development through NRDS which has to be in line with overarching development frameworks (PRSP, CAADP...etc).

CARD presently supports the following 23 Sub-Sahara African countries:

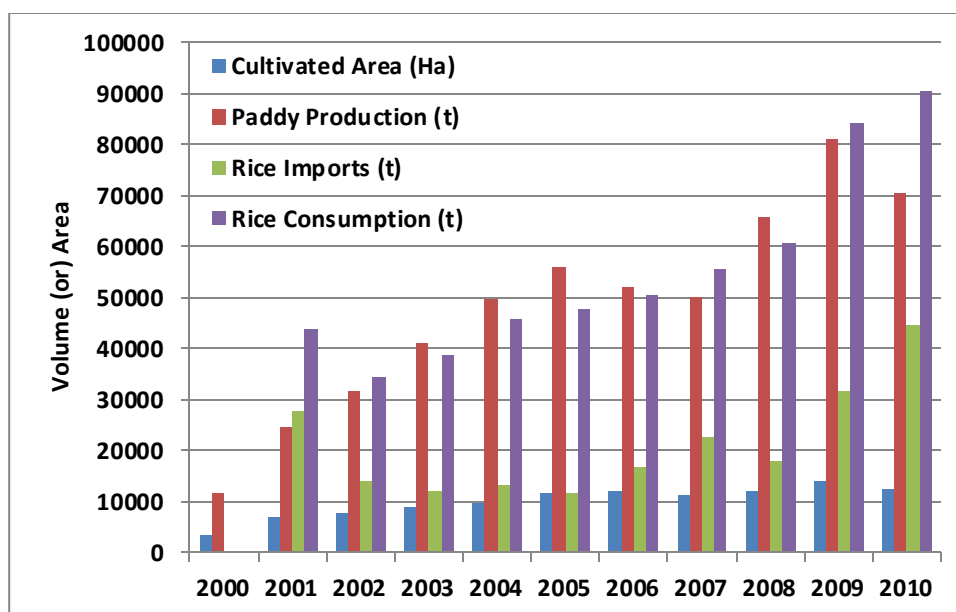
First group: Cameroon, Ghana, Guinea Conakry, Kenya Madagascar, Mali, Mozambique, Nigeria, Senegal, Sierra Leone, Tanzania and Uganda

Second group: Benin, Burkina Faso, Central African Republic (CAR), Côte d'Ivoire, Democratic Republic of Congo (DRC), Ethiopia, Gambia, Liberia, **Rwanda**, Togo and Zambia

2. NRDS formulation and implementation

Rwanda joined the CARD initiative as one of the second group countries in May 2010 and quickly set up a task force to develop Rwanda's National Rice Development Strategies (NRDS). The task force members gained instructions on developing NRDS in a workshop organized by CARD at Benin in July 2010. The taskforce received further assistance in developing NRDS through consultancy services in defining the strategies that are currently being endorsed by the stakeholders.

In 2010, Rwanda produced 70,680 tons of paddy from a total of 12,400 Ha over two seasons. Rice is grown almost exclusively in irrigated conditions in marshlands. The average productivity of 5.7 t /Ha is the highest in East African region, and surpasses that of several traditional rice growing countries in Asia. Owing to the government's firm commitment on rice sector, Rwanda has increased the area under rice cultivation by 3.5 fold and production by 5.9 fold since 2000 (Fig. 1).



Despite such significant progress in production, Rwanda currently imports an average of 26,736 tons of milled rice from elsewhere. This is mainly due to rapid rise in demand for consumption and the lack of competitiveness of locally produced rice grains in markets. Thus the country faces serious challenges in increasing its production to meet the domestic requirements.

The NRDS aims to attain self sufficiency and improve competitiveness of Rwanda rice in local and regional markets by 2018. The strategies aspire to increase the area under rice cultivation to 28,500 Ha and produce surplus for exports by 2018.

3. NRDS: Summary and measures identified

NRDS envisages firm linkages along the rice value chain through the following four strategic axes;

1. Expand Production area with adequate irrigation facilities
2. Increase productivity with maximizing land potential in sustainable manner
3. Improve quality to be well positioned in Local and Regional Market
4. Capacity development for sustainable development of Rwandan rice sector

Rwanda's NRDS identify nine key subsectors within the rice sector that requires interventions for effective integration of rice value chain. The following table provides a glimpse of the necessary interventions required under each sub-sector;

Sub-Sectors	Strategic elements set forth in NRDS
A. Seed	Varietal improvement, maintenance of rice cultivars, and access to adequate certified rice seed to satisfy national demand
B. Fertilizer	Public and private sector participation in procurement and distribution, Validation of site specific fertilizer applications

Sub-Sectors	Strategic elements set forth in NRDS
C. Irrigation and water management	Expansion of cultivable area through establishment of irrigation structures, marshland reclamation, marshland rehabilitation and sensitization of irrigation water user associations in marshlands
D. Extension (on-farm technology dissemination)	Public-private partnerships in service provision, dissemination of improved soil, water and crop management technologies, and promotion of farmer-to-farmer dissemination of improved practices
E. Mechanization	Service provisions in land preparation and threshing activities. Public-private partnerships in increasing access to machineries, implements and storage activities
F. Quality improvement	Minimize the losses in production and quality through improved harvest and post-harvest handling technologies, and raise the standards of milling through knowledge creation and capacity building
G. Access to Market	Facilitate mechanisms for improving the marketing and trading of harvested paddy grains in marshlands
H. Access to Finance	Accessibility to agriculture finance for purchase of agricultural inputs and machineries for rice farmers and linkages with actors along the rice value chain
I. Overall Policy Tools	Coordination of rice sector development through NRDS secretariat, and overall integration of rice value chain through effective delivery systems and increased public-private partnerships

4. Harmonization of NRDS priorities with the interests of key stakeholders of rice sector development

Government of Rwanda has endorsed rice as a priority crop. The Vision 2020 aspires a viable transformation into market-oriented agriculture. The Economic Development and Poverty Reduction Strategies (EDPRS) set marshland development for rice cultivation as an important strategy in revamping agriculture sector. It also seeks to promote value chains by assigning greater roles to markets and the private sector in policy implementation. The sustainable expansion of land, improvement of marketability, increase in productivity and capacity building in research and extension envisioned under the NRDS greatly align with the four pillars of CAADP respectively.

Program for Social Transformation through Agriculture (PSTA) provides the policy and investment frameworks of CAADP in Rwanda. The key strategic elements of NRDS are in concurrence with the objectives of the four main programs of PSTAII and hence could serve the key interests of stakeholders in poverty reduction and economic development of the country. Thus the approaches envisaged in NRDS are in line with overarching development goals and strategies set for Rwanda by the national and regional programs in agriculture sector.

5. The rice sub-sector analysis and the proposed list of interventions for the immediate future

Rwanda's NRDS task force members analyzed the sector by looking at the issues faced by the various stakeholders along the rice value chain and how to address them in a sub-sector specific fashion. This is presented in a matrix called 'Subsector Intervention Element Matrix' (SIEM). The SIEM showing the current needs of the rice sector in Rwanda is shown below:

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) 	<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 recommendation Additional types of fertilizers Effectiveness of rice by-products (straws, husks, etc) as organic fertilizers
Irrigation/ Water Management	<ul style="list-style-type: none"> Marshland development plan – upgrade Policy on rice water user association 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

Sub-sector	Policy/ Institutional	Infrastructure	Human resource/ Capacity	Provision/ Support	Information/ Knowledge
On farm technology dissemination (E)	<ul style="list-style-type: none"> • Private-Public partnerships in Extension services • Monitor & Evaluate extension service delivery systems • Regular 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
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 machineries 	<ul style="list-style-type: none"> • Electricity in rural areas (public) • Workshops in rural areas (private) • Assembly centers (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 (levelers, 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 harvest, post harvest and milling activities • Regulation of milling plants 	<ul style="list-style-type: none"> • Drying yards • Storage/Paddy Collection Centers 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"> • Pre determined 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 input and output prices • Consumer preference • Household consumption of rice

Sub-sector	Policy/ Institutional	Infrastructure	Human resource/ Capacity	Provision/ Support	Information/ Knowledge
Access to Finance	<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 and cooperatives on business skills and financial management 	<ul style="list-style-type: none"> • Business models/ Financial plans for cooperatives • Mortgages against storage for performing cooperatives • Awareness on credit schemes 	
Policy Tools	<ul style="list-style-type: none"> • “Rice Secretariat” for implementation of NRDS • Continuous monitoring and Evaluation of sustainability in marshlands 		<ul style="list-style-type: none"> • Sector coordination staff 		<ul style="list-style-type: none"> • Post impact analyses of NRDS implementation and rice-related policies • Profitability studies in rice value chain

Given the activities of several on-going projects in rice sector, the taskforce analyzed the degree of sufficiency of these projects (on-going and on pipeline) in addressing the above needs. In the matrix below, those subsector intervention elements (cells) that are insufficiently funded are shown in yellow color. Cells colored in blue show those elements that are currently addressed by various projects. Green colored cells indicate those subsector interventions that are not addressed (gaps) by any of the projects. After analyzing the gaps and the matching of needs and resources, the task force prioritized eight (8) sub sector interventions that require immediate attention by the stakeholders through the next funding cycle (shown in red).

Sub sector/ Intervention	Policy / Institutional	Infrastructure	Human resources capacity	Provision / Support	Information / Knowledge
Seed					
Fertilizer					
Irrigation / Water management					
On farm technology dissemination (E)					
Mechanization					
Quality improvement					
Access to market					
Access to credit					
Overall policy tools					

6. Concept Notes

The taskforce identified two intervention topics from each of the prioritized sub-sector/intervention element (red colored cells shown above) that requires urgent funding from the stakeholders. The concept notes developed by the task force on each of these topics are shown in the annexes 1 through 16. These concept notes show the goals, objectives, components (activities), the expected results, duration, budget and the potential sources of funding.

The budget estimates of all the proposed projects and their percentage share of the total budget is shown in the table below:

Sl. No	Project Title	Estimated Budget (USD)	Percentage of Total
1	Encouraging private sector in rice seed production and distribution in Rwanda	350,000	0.45
2	Institutional Support for improving quality and competitiveness of rice in Rwanda	1,750,000	2.26
3	Infrastructure development for rice improvement in Rwanda	950,000	1.23
4	Capacity building for testing the purities of seeds produced in Rwanda	900,000	1.16
5	Stimulation of procurement and distribution of fertilizers in rice growing areas	1,520,000	1.96
6	Validation and site-specific recommendations of fertilizer	940,000	1.21

Sl. No	Project Title	Estimated Budget (USD)	Percentage of Total
	use in rice schemes		
7	Rehabilitation and Maintenance of reclaimed marshlands in Rwanda	9,000,000	11.63
8	Reclamation of marshlands to increase rice cultivation in Rwanda	49,000,000	63.30
9	Empowering rice growers on water sharing and integrated soil and water management in marshlands	1,650,000	2.13
10	Capacity building for improving soil and water management for sustainable rice production in marshlands	1,150,000	1.49
11	Promoting public-private partnerships in extension services in rice growing areas in Rwanda	550,000	0.71
12	Monitoring and Evaluation of the effectiveness of extension service systems	510,000	0.66
13	Capacity building of rice extension services in Rwanda	700,000	0.90
14	Regular and periodical training of rice growers through Farmer Field School and other approaches	3,600,000	4.65
15	Improve quality of locally produced rice through training and provision of post harvest management technologies in Rwanda	4,700,000	6.07
16	Capacity Building of milling, grading and quality testing standards	134,000	0.45
	Total	77,404,000	