Rwanda

Technical Track _ Progress Chart

Country Name	TT-1: Listing of machineries to be manufactured domestically (short, medium, long terms)	TT-2:Testing& Certification: Identify machineries, implements and technical capacity needs (Legal Framework/ Infra/ Human Resources)	TT-3: Human Resources: List human resources and training needs of the stakeholders focusing on Ag machinery supply chain (incl. Maintenance support in rural areas based on existing capacities)	TT-4: Matching of equipments and Selection of machineries and implements, Cost analyses of critical field operations (tillage, harvest, milling & others)
Cameroon				
Madagascar				
Senegal				
Rwanda	✓	✓	✓	**To be identified**
Tanzania				
Uganda				

Policy Track _ Progress Chart

Country Name	PT_1: Policy tools enabling environments for private sector incl. local manufacturing sector, dealers and service providers	PT_2: Institutional/ Organizational requirements in implementing technical tracks (e.g. testing)	PT_3: Policy Tools for issues identified from TT_4
Cameroon			
Madagascar			
Senegal			
Rwanda	✓	✓	**To be identified**
Tanzania			
Uganda			

Expected Outputs from Group Work/Rwanda

TT_1 (Listing of machineries to be manufactured domestically (short, medium, long terms)

- Reviewed country's list of machineries to be manufactured locally within 3 years

Machineries/ Implements (accessories)	Current Import Tarif & VAT (Rwf)	Views
Moldboard Plough	0%	1-Once local manufacturers started manufacturing those equipments Government should protect them by necessary enabling policy. 2-manufacturing equipment locally can reduce prices, create jobs, have an adapted equipment which satisfy farmers demand
Rotary plow	0%	
Iron wheels	0%	
Rice threshers	0%	
Winnower	0%	
Solar Dryer	0%	
Mechanical weedder	0%	
Trailers, water pumps	0%	

- Reviewed country's list of machineries to be manufactured locally within 10 years

Machineries/ Implements (accessories)	Current Import Tariff & VAT	Views
Paddler	0%	1-Once local manufacturers started manufacturing those equipments Government should protect them by necessary enabling policy. 2-manufacturing equipment locally can reduce prices, create jobs, have an adapted equipment which satisfy farmers demand
Disc harrow small and medium size	0%	
Powered weedder, seed drills	0%	
Nursery plate	18%	When manufactured locally, taxes are avoided, equipment are delivered for farmers on time.
Steering system and handle bar for rice planter	18%	
Power tiller steering system, handle bar	18%	
Chassis	18%	

- Reviewed country's list of machineries to be manufactured locally beyond 10 years

Machineries/ Implements (accessories)	Current Import Tariff & VAT	Why, if changed the category? (Advantages)
Tires	18%	When manufactured locally, taxes are avoided, equipment are delivered for farmers on time.
Power tiller clutches	18%	
Batteries	18%	
Electric network	18%	
Starter	18%	
Milling machines	18%	
Small size harvesters	0%	1-Once local manufacturers started manufacturing those equipments Government should protect them by necessary enabling policy. 2-manufacturing equipment locally can reduce prices, create jobs, have an adapted equipment which satisfy farmers demand
Rice transplanter	0%	
Sprayers	0%	

TT-2: Testing& Certification: Identify machineries, implements and technical capacity needs (Legal Framework/ Infra/ Human Resources)

- Identification of technical capacity needs for Rwanda

N	Establishment	Certification agency	GUIDLINES	Assistance
1	National Center for testing	RBS	1-Testing Center have to link with RBS for certification 2-Establish a test Codes, safety standards,	Regional Network on agricultural machinery-UNIDO

- Legal limitations (copy rights, etc.)
  Policy track have to be established for property rights

TT-3: Human Resources: List human resources and training needs of the stakeholders focusing on Ag machinery supply chain (incl. Maintenance support in rural areas based on existing capacities)

- List Human Resources required for the Supply Chain Only
  1-Research & Development 2- Raw materiel 3- Manufacturing 4- Assembling 5- Testing 6- Certification 7- Marketing 8- Delivery System 9 –Maintenance & Support

N	**Field**	**Profiles**	**Qty**	**Trainings**	
				Training course	**Type**
1	R&D	Engineers	8		
2	Raw Materiel	Metallurgists	8		
3	Manufacturing	Mechanical, electric engineers, Artisans	24	Welding, carpentry, theory of machines	Short term
4	Assembling	Mechanics, technicians	16		
5	Testing	Mechanical, electric engineers, operators	3	Performance testing, environmental impact of machines, operation Safety use testing	Short term
6	Certification	Legal advisor	1	Machinery Certification process	
7	Marketing	Sales engineer, Marketing officers, economist	24	accountancy skills, marketing skills, cooperation skills	Short term
8	Delivery System	Rural networking of dealers	8		
9	Maintenance	Service Engineers, Mechanics, Technicians, Blacksmiths	32	Maintenance of machinery	Short and medium term

- ✓ Institutions available to handle some training: MINAGRI/TF I&M, KIST, ISAE
- ✓ Other trainings can be done with the collaboration of other International Partner

TT-4: Matching of equipments and Selection of machineries and implements, Cost analyses of critical field operations (tillage, harvest, milling & others)

- Based on farm size, agro-climatic OR production zones and other crops
  Excel Sheet not yet complete (E.Sheet)

PT_1: Policy tools enabling environments for private sector incl. local manufacturing sector, dealers and service providers

Subject matter (item of reform)	
• **Mechanization promotion/involvement of the private sector**	
Current status of the subject matter	
Strategy is available	
What changes do you suggest to this subject matter?	
Introduction of subsidies of agricultural machinery - Farm machinery subsidies according to the land size - Investment subsidies	
Who do you think will benefit as a result of this change and how?	
Who?	**How?**
Supply chain (private sector)	Different farm machinery are delivered Competitions are created
Farmer	Different farm machinery are available and promoted
As side effects, who do you think will be negatively affected by this change and how? In other words, who may oppose to this change and why?	
Who?	**How? / Why?**
Is there any measure to mitigate the above negative effects? If yes, what?	
Which ministries / organizations / companies are in charge of this matter? Who are the key persons to consult?	
Institution	**Key persons**
MINAGRI	PS, Chairman TF I&M, DG RAB
MINECOFIN	PS
MINICOM	PS, DG Trade and Industry
PSF	Chambers……
RBS	DG,
RDB	Investment Unit

PT_2: Institutional/ Organizational requirements in implementing technical tracks (e.g. testing)

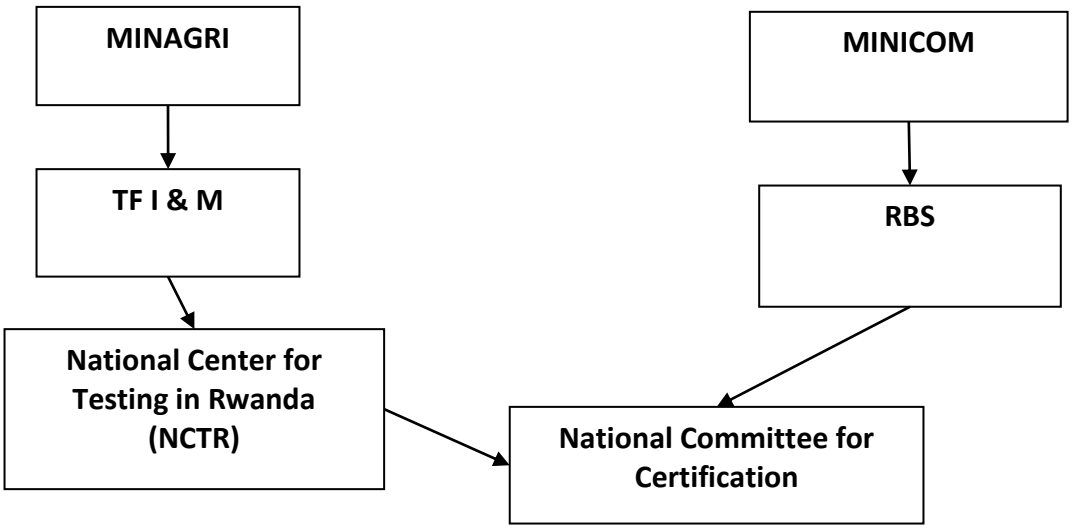

Figure 1: Organization Chart of Testing and Certification of Agricultural Machinery

Policy

1- Empower RBS to certify agricultural machinery and implements on the base on report and recommendation made by the Certification Committee (comprised member of the National Center for Testing/MINAGRI and RBS/MINICOM)
2- Promote alignment and consistence in standards of agricultural machineries and implements in Regional Network.

PT_3: Policy Tools for issues identified from TT_4

- Policy related to adaptation of attachments to the HP of the tractor or a Power tilles.

Matching Farm Equipment to Farm Size

Step	Area	Range	2 wheel tractor	4 wheel tractor	Small combine	Combine
1	Critical Operation (plow,plant,harvest)		Plow			
2	Area covered (ha)		25.00	70.00	50	200
3	Number days to do job		20.00	20.00	5	10
4	Number working hours per day		6.00	8.00	10	10
5	Area require to covered (m2)/hr	Area/days/hrs/dayx 1000	**2083.33**	**4375.00**	**10000.00**	**20000.00**
	Equipment size					
6	Speed operation (km/hr)	2-8km/hr	3.00	7.00	3	3
7	Width equipment (m)	Area (hr)/ operating speed/3600	0.60	1.50	0.93	1.85
8	Field efficinecy (%)	40-70%	25.00	50.00	60	70
9	Actual width required (m)	Width/ 100/Fe	2.40	3.00	1.54	2.65
10	Check sizes commercially available	Disc	**0.65**	**2.50**	**1.8**	**3**
	Power requirement					
11	Equipment Width (m)	0.5m	0.60	2.50	1.80	3.00
12	Draft (kN/m)	Disc 5-8, Moldbord 6-8, Tine 5-6	4.00	7.00	4	4
13	Speed (kM/hr)	km/hr	3.00	7.00	3.00	3.00
14	Drawbar power(kW)	Width x Draft x Speed/3.6	2.00	34.03	6.00	10.00
15	Mechanical efficiency (%)	dry 40%, wet 30%	30.00	40.00	30	30
16	Engine power (kW)	Drawbar power/ME	6.67	85.07	20.00	33.33
17	Commercially available		**10**	**30**	**20**	**40**
18	Tractor Purchase price	($)	3000	18000	20000	60000
19	Usage (hrs/year)	hrs	1200	150	100	150
20	PlowPurchase price	($)	500	2500		

Country Road Map: [Rwanda]

Action	Dates	Remarks
2nd Regional WS in Nairobi	22-24 Oct. '12	
Stakeholders Meeting	7th November	
Technical Tracks Meeting	14th November	
Policy Tracks Meeting	21st November	
	28th November	
Presentation of the final Report to stakeholders	5th December	
Submission of the report to the CARD Secretariat	15 Dec. ' 12	
Clarifications and Modifications		
(Presentation at the 5th General Meeting of CARD in Dakar)	5-6 Feb. ' 13	(for those selected only)

Action	Dates	Remarks
CARD GM5 in Dakar	5-6 Feb. ' 13	
Submission of the report to the CARD Secretariat	30 Apr. '13	
Clarifications and Modifications		
(Presentation at the side event of TICAD V)	June ' 13	(Consolidated by the CARD Secretariat)