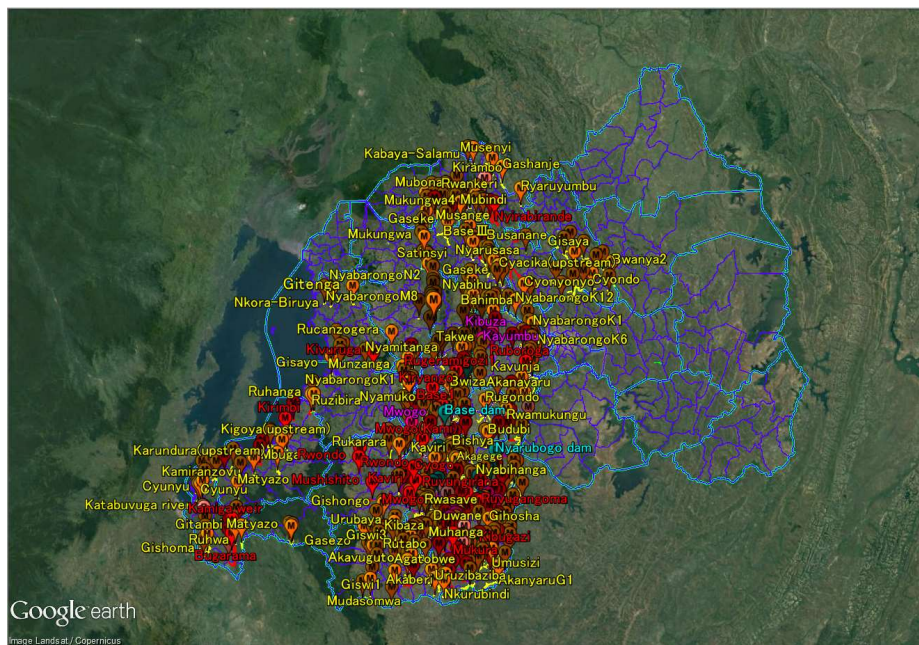




The Marshland Survey in Rwanda



August 2018

RAB/JICA Team

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ABBREVIATIONS AND ACCRONYMS

ACZ	Agroclimatic zone
EDPRS	Economic Development and Poverty Reduction Strategy
GoR	Government of Rwanda
GIS	Geographic Information System
Ha/ha	Hectare
IFAD	International Fund for Agriculture Development
IMP	Irrigation Master Plan
IMT	Irrigation Management Transfer
IMTA	Irrigation Management Transfer Agreement
IWUO	Irrigation Water Users Organization
JICA	Japan International Cooperation Agency
KWAMP	Kirehe community based Watershed Management Project
LIM	Land Husbandry, Irrigation and Mechanization Department
LWH	Land Husbandry, Water Harvesting and Hillside Irrigation
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government
MINIRENA	Ministry of Natural Resources
NISR	National Institute of Statistics of Rwanda
NGOs	Non-Governmental Organizations
O&M	Operation and Maintenance
PADAB	Bugesera Agricultural Development Support Project
PAIRB	Bugesera Natural Region Rural Infrastructure Project
PAPSTA	Support Project to Strategic Plan for Agriculture Transformation
PIA	Potential Irrigation Area
PIM	Participatory Irrigation Management
QWMP	Quick Win Marshland Development Program
RAB	Rwanda Agriculture and Animal Resources Development Board
REMA	Rwanda Environment Management Authority
RNRA	Rwanda National Resources Authority
RSSP	Rural Sector Support Project
SPIU	Single Project Implementation Unit
SSIT	Small Scale Irrigation Technology

Marshlands in Rwanda's four Provinces

1. Outline of Rwanda's four Provinces

(1) Outline of Rwanda's four Provinces

The country is organized in four Provinces in addition to the Kigali city, 30 Districts, 416 Sectors, 2148 Cells and 14 837 Villages

Southern Province is composed of eight Districts; Gisagara, Huye, Nyaruguru, Nyamagabe, Nyanza, Ruhango, Muhanga and Kamonyi.

Western Province is composed of seven Districts; Karongi, Nyabihu, Rubavu, Rusizi, Ngororero, Nyamasheke, and Rutsiro.

Northern Province is composed of five Districts; Burera, Gicumbi, Gakenke, Musanze, and Rulindo.

(Source: <http://www.statistics.gov.rw/survey/districts-baseline-survey>)

Total area of Rwanda = 26,338 km²

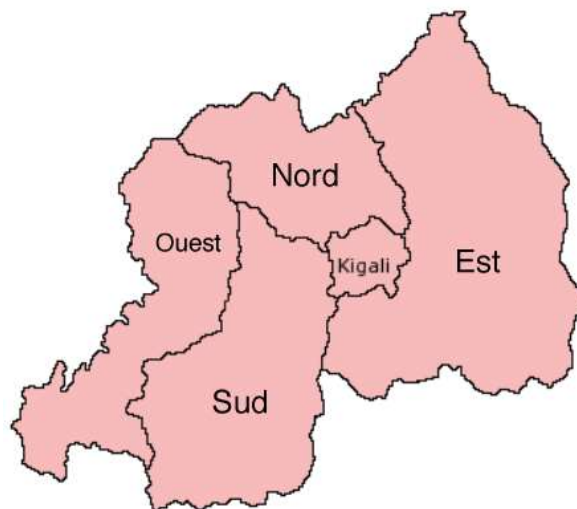
Total area of Rwanda's four Provinces = 24,935 km²

Total area of Southern Province= 5,963 km²

Total area of Western Province= 5,883 km²

Total area of Northern Province= 3,276 km²

Total area of Eastern Province= 9,813 km²



(Figure1: The Province of Rwanda; Sud: Southern, Ovest: Western, Nord: Northern, Est: Eastern, Kigali: Kigali-City)

(2) Population

The census population of the Rwanda is totalled 10,537,222 people, including 5,074,942 males and 5,462,280 females, with a percentage of 48.2% and 51.8% of the total population of the province respectively .

(Table1: The population of the Province of Rwanda, 2002, 2012)

Province	2002	2012	Change (2002-2012)	Annual Growth rate	Density (person/km ²)
Southern	2,058,674	2,594,110	26.0%	2.3%	435
Western	2,043,555	2,476,943	21.2%	1.9%	421
Northern	1,560,862	1,729,927	10.8%	1.0%	528
Eastern	1,700,137	2,600,814	53.0%	4.2%	265
Four Provinces	7,363,228	9,401,794	27.7%	2.4%	377
Kigali-City	765,325	1,135,428	48.4%	3.9%	1,555
Rwanda	8,128,553	10,537,222	29.6%	2.6%	400

At the Province level, Eastern Province is the most populated with 2,600,814 inhabitants, while the Province of Northern (1,729,927 inhabitants) is the least populated.

During the intercensal period (2002-2012), the population of Rwanda has increased by 29.6% of its population in 2002. This increase is the largest in the Province of Eastern (53.0%) and relatively lower in the Province of Northern (10.8%).

This population increase is also expressed by the average annual growth rate which is 2.3% for Rwanda. It is higher in the Province of Eastern (4.2%) and relatively low in the Province of Northern (1.0%).

The population density of the Rwanda is 400 persons per sq.km. This density is higher in the Northern Province (528 persons per sq.km) and lowest in the Eastern Province (265 persons per sq.km).

Source:(<http://www.microdata.statistics.gov.rw/index.php/catalog/65>)

2. Irrigation Plan of Rwanda

(1) Potential irrigable areas per Province in Rwanda

Based on the IMP(Irrigation Master Plan), the potential irrigable areas are clarified as below.

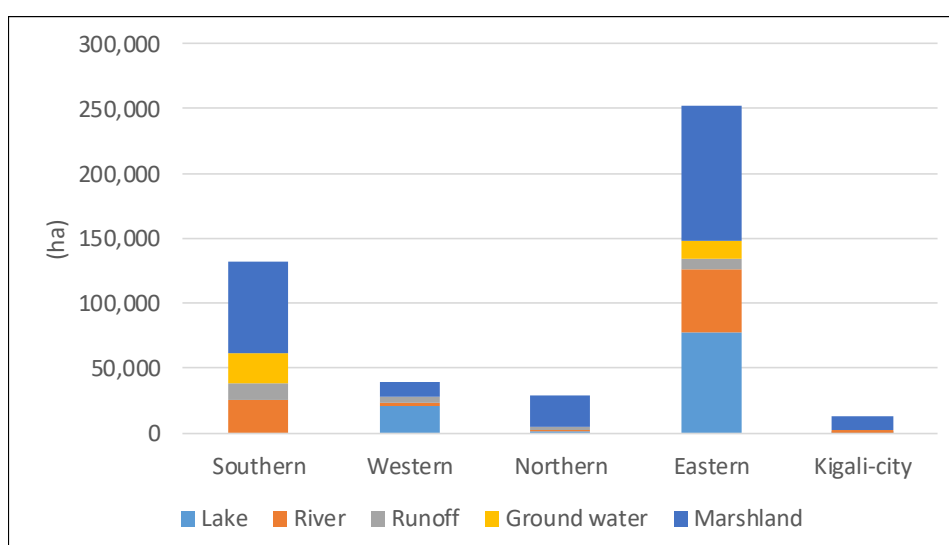
- Lake water resources 100,107ha
- Direct river and flood water 27,907ha
- Runoff for dams 125,627ha
- Ground water resources 36,432ha
- Marshlands 219,793ha
- Runoff for small reservoirs 125,627ha

The Areas in each Province is as follow (Table 2).

(Table 2 Potential irrigable areas per Province,2010)

Province	Irrigation Domain (ha)					Total
	Lake	River	Runoff	Ground water	Marshland	
Southern	0	26,123	12,148	22,636	70,674	131,581
Western	20,644	2,024	5,262	0	11,379	39,309
Northern	930	1,317	2,475	0	24,104	28,826
Eastern	77,995	48,373	8,022	13,796	103,387	251,573
Kigali-city	538	2,010	0	0	10,249	12,797
Total	100,107	79,847	27,907	36,432	219,793	464,086

※Total Potential Irrigable Areas in Rwanda is 464,086ha+125,629ha (Runoff for small reservoirs)= 589,713ha



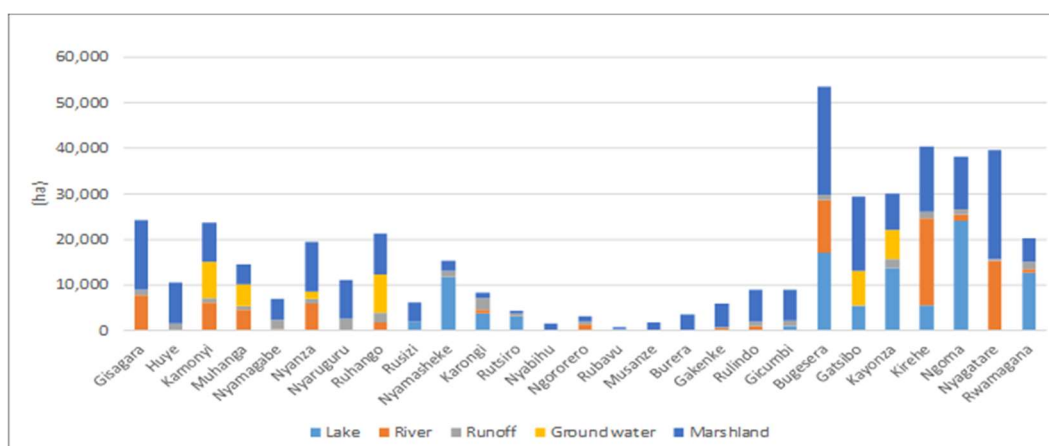
(Graph1: Potential Irrigable areas in Rwanda,2010)

(2) Potential irrigable areas in each District

The Irrigation domain for the Irrigable areas per Districts from Irrigation Master Plan is as below. Total area is 451,289ha, and the biggest Potential irrigation domain is that of Marshland, 209,544ha.

(Table3: Potential irrigable areas per District,2010)

Province	District	Irrigation Domain (ha)					Total
		Lake	River	Runoff	Ground water	Marshland	
Southern	Gisagara	-	7,584	1,272	-	15,324	24,180
	Huye	-	-	1,413	-	9,036	10,449
	Kamonyi	-	6,063	1,032	7,934	8,626	23,655
	Muhanga	-	4,575	767	4,747	4,462	14,551
	Nyamagabe	-	303	2,064	-	4,478	6,845
	Nyanza	-	5,967	954	1,633	10,920	19,474
	Nyaruguru	-	-	2,415	-	8,698	11,113
	Ruhango	-	1,631	2,231	8,322	9,130	21,314
	Sub total	0	26,123	12,148	22,636	70,674	131,581
Western	Rusizi	1,889	-	-	-	4,209	6,098
	Nyamasheke	11,587	-	1,419	-	2,264	15,270
	Karongi	3,737	704	2,648	-	1,178	8,267
	Rutsiro	3,048	-	566	-	716	4,330
	Nyabihu	-	-	-	-	1,522	1,522
	Ngororero	-	1,320	629	-	1,123	3,072
	Rubavu	383	-	-	-	367	750
	Sub total	20,644	2,024	5,262	0	11,379	39,309
Northern	Musanze	-	-	-	-	1,616	1,616
	Burera	-	-	168	-	3,378	3,546
	Gakenke	-	433	246	-	5,139	5,818
	Rulindo	-	884	951	-	7,112	8,947
	Gicumbi	930	-	1,110	-	6,859	8,899
	Sub total	930	1,317	2,475	0	24,104	28,826
Eastern	Bugesera	17,115	11,507	1,128	-	23,845	53,595
	Gatsibo	5,308	-	205	7,497	16,398	29,408
	Kayanza	13,587	-	2,130	6,299	7,984	30,000
	Kirehe	5,391	19,329	1,309	-	14,436	40,465
	Ngoma	23,930	1,514	1,250	-	11,485	38,179
	Nyagatare	-	15,193	486	-	23,971	39,650
	Rwamagana	12,664	830	1,514	-	5,268	20,276
	Sub total	77,995	48,373	8,022	13,796	103,387	251,573
	Total	99,569	77,837	27,907	36,432	209,544	451,289



(Graph2: Potential Irrigable areas per District,2010)

3. Surveyed Marshlands in each District

(1) The outline of Surveyed Marshlands in each District

The targeted Marshlands Survey was not only Developed marshlands but also Non-Developed. Non-Developed marshlands are identified in collaboration with District and Sector agronomist. The extent of each Marshlands was decided referring to the marshland GIS polygon data arranged from Land center.

Southern, Western, Northern and Eastern Province have Four Hundred Seventy Nine(479) marshlands, with 49,329ha. There are One Hundred Twenty Three(123) Developed Marshlands, with 21,484ha, Fourteen(14) Roughly Developed Marshlands, with 483ha and Three Hundred Forty Two(342) Non-Developed Marshlands, with 27,362ha.

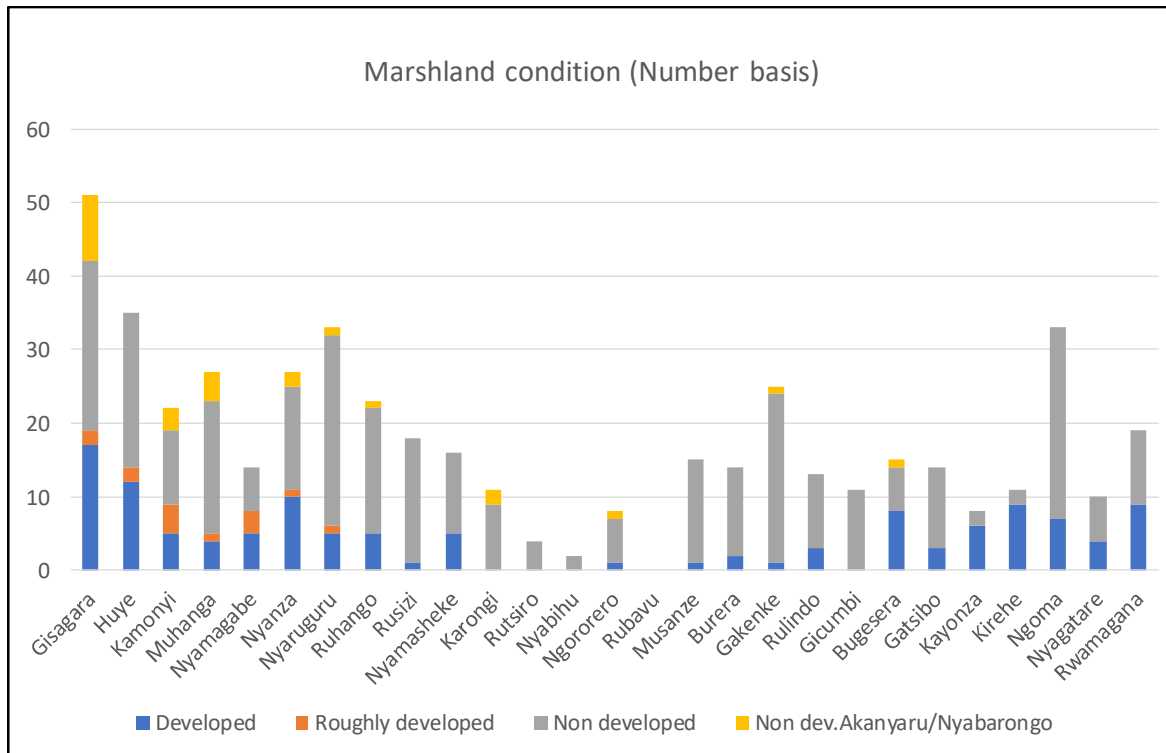
Some of the Non-Developed Marshlands are located along Akanyaru and Nyabarongo river. There are Twenty Five(25) Akanyaru/Nyabarongo marshland, with 10,307ha. “Roughly Developed” means the marshland has irrigation facilities but no structures.

(Table4: Surveyed Marshlands(Number) per District,2016-2018)

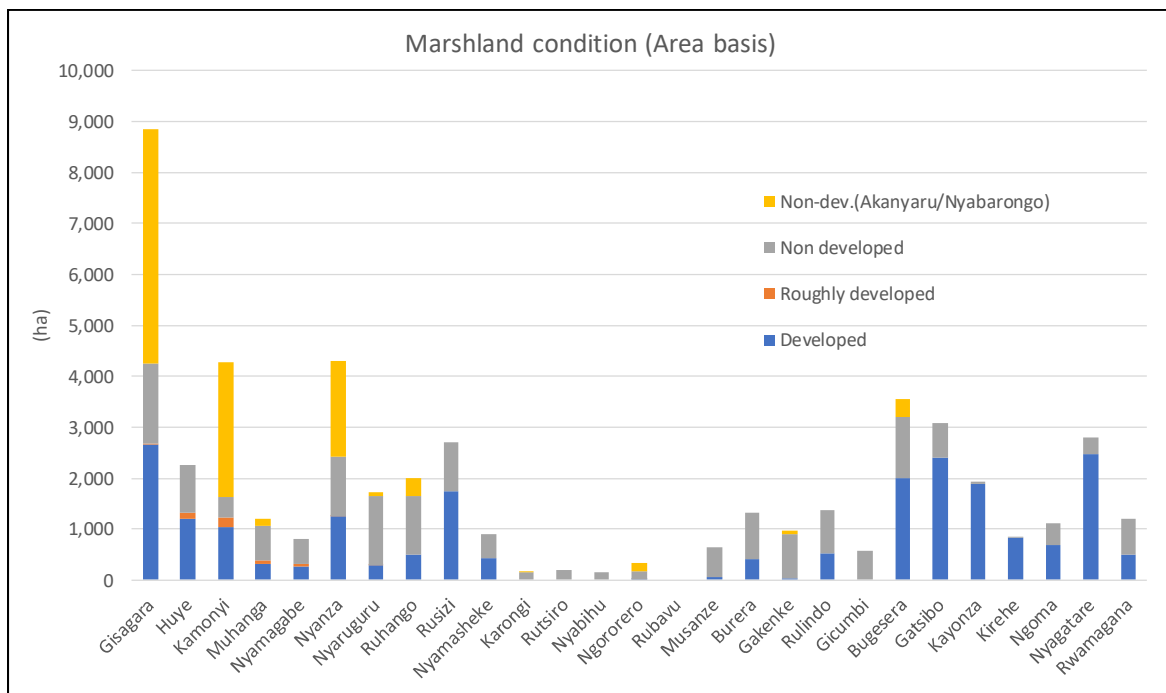
Province	District	Developed	Roughly developed	Non developed	Non dev. Akanyaru/Nyabarongo	Marshland
Southern	Gisagara	17	2	32	9	51
	Huye	12	2	21	0	35
	Kamonyi	5	4	13	3	22
	Muhanga	4	1	22	4	27
	Nyamagabe	5	3	6	0	14
	Nyanza	10	1	16	2	27
	Nyaruguru	5	1	27	1	33
	Ruhango	5	0	18	1	23
	Subtotal	63	14	155	20	232
Western	Rusizi	1	0	17	0	18
	Nyamasheke	5	0	11	0	16
	Karongi	0	0	11	2	11
	Rutsiro	0	0	4	0	4
	Nyabihu	0	0	2	0	2
	Ngororero	1	0	7	1	8
	Rubavu	0	0	0	0	0
	Subtotal	7	0	52	3	59
Northern	Musanze	1	0	14	0	15
	Burera	2	0	12	0	14
	Gakenke	1	0	24	1	25
	Rulindo	3	0	10	0	13
	Gicumbi	0	0	11	0	11
	Subtotal	7	0	71	1	78
Eastern	Bugesera	8	0	7	1	15
	Gatsibo	3	0	11	0	14
	Kayonza	6	0	2	0	8
	Kirehe	9	0	2	0	11
	Ngoma	7	0	26	0	33
	Nyagatare	4	0	6	0	10
	Rwamagana	9	0	10	0	19
	Subtotal	46	0	64	1	110
Total		123	14	342	25	479

(Table5: Surveyed Marshlands(Area) per District,2016-2018)

Province	District	Developed	Roughly developed	Non developed	Akanyaru/Nyabarongo	Marshland
Southern	Gisagara	2,649	30	6,165	4,599	8,845
	Huye	1,195	121	953	0	2,269
	Kamonyi	1,044	193	3,034	2,647	4,271
	Muhanga	309	85	807	143	1,202
	Nyamagabe	264	39	501	0	805
	Nyanza	1,247	11	3,034	1,877	4,291
	Nyaruguru	288	4	1,432	72	1,725
	Ruhango	506	0	1,493	358	1,999
	Subtotal	7,502	483	17,420	9,696	25,405
Western	Rusizi	1,752	0	963	0	2,715
	Nyamasheke	421	0	489	0	910
	Karongi	0	0	160	19	160
	Rutsiro	0	0	187	0	187
	Nyabihu	0	0	160	0	160
	Ngororero	12	0	337	176	349
	Rubavu	0	0	0	0	0
		Subtotal	2,186	0	2,295	195
Northern	Musanze	65	0	582	0	646
	Burera	409	0	914	0	1,323
	Gakenke	34	0	938	67	971
	Rulindo	532	0	847	0	1,379
	Gicumbi	0	0	579	0	579
		Subtotal	1,039	0	3,859	67
Eastern	Bugesera	2,004	0	1,547	350	3,551
	Gatsibo	2,393	0	685	0	3,078
	Kayonza	1,880	0	60	0	1,940
	Kirehe	830	0	26	0	856
	Ngoma	692	0	415	0	1,107
	Nyagatare	2,467	0	338	0	2,805
	Rwamagana	492	0	717	0	1,209
		Subtotal	10,758	0	3,788	350
	Total	21,484	483	27,362	10,307	49,329



(Graph3: Surveyed Marshlands(Number) per District,2016-2018)

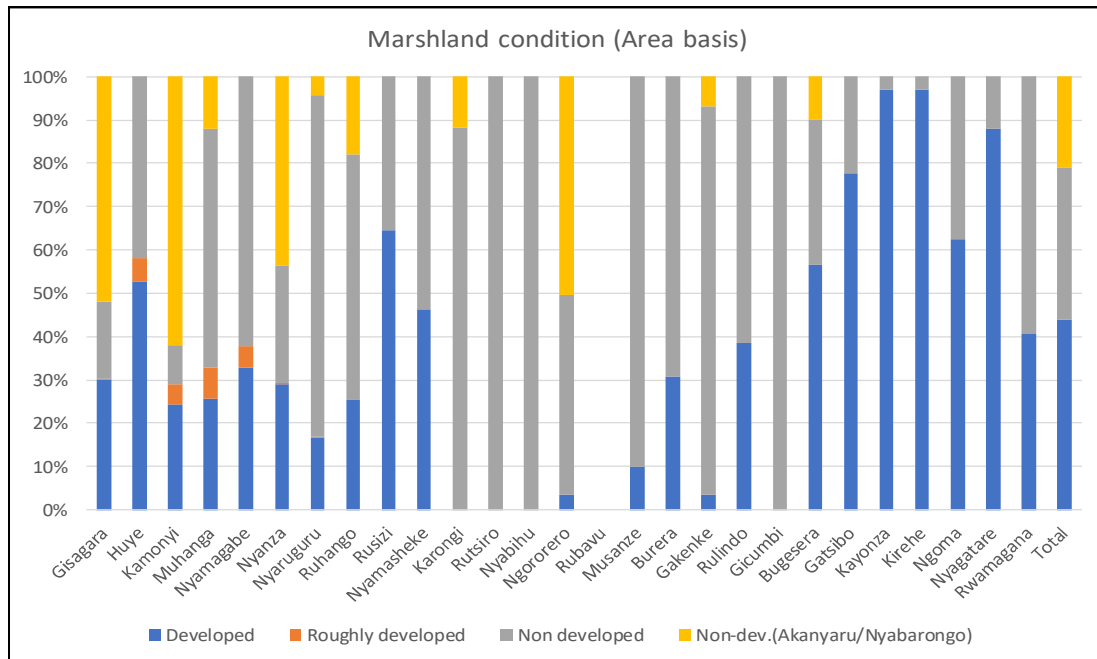


(Graph4: Surveyed Marshlands(Area) per District,2016-2018)

The total area of Marshlands of Southern, Western, Northern and Eastern Province is 49,329ha, including Developed Marshlands,21,968ha, Non-Developed Marshlands, 17,055ha, and Non-Developed Marshlands along Akanyaru/Nyabarongo river, 10,307ha, with a percentage of 45%, 35% and 25% of the total Surveyed Marshlands areas of Four Province respectively.

(Table 5: Surveyed Marshlands(Area, Ratio) per District,2016-2018)

Province	District	Developed(+Roughly)	(%)	Non developed	(%)	Akanyaru/ Nyabarongo	(%)	Marshland
Southern	Gisagara	2,680	30%	1,566	18%	4,599	52%	8,845
	Huye	1,316	58%	953	42%	0	0%	2,269
	Kamonyi	1,237	29%	388	9%	2,647	62%	4,271
	Muhanga	394	33%	664	55%	143	12%	1,202
	Nyamagabe	303	38%	501	62%	0	0%	805
	Nyanza	1,257	29%	1,157	27%	1,877	44%	4,291
	Nyaruguru	292	17%	1,360	79%	72	4%	1,725
	Ruhango	506	25%	1,135	57%	358	18%	1,999
	Subtotal	7,985	31%	7,724	30%	9,696	38%	25,405
Western	Rusizi	1,752	65%	963	35%	0	0%	2,715
	Nyamasheke	421	46%	489	54%	0	0%	910
	Karongi	0	0%	141	88%	19	12%	160
	Rutsiro	0	0%	187	100%	0	0%	187
	Nyabihu	0	0%	160	100%	0	0%	160
	Ngororero	12	4%	161	46%	176	50%	349
	Rubavu	0	####	0	####	0	####	0
	Subtotal	2,186	95%	2,100	47%	195	4%	4,481
Northern	Musanze	65	10%	582	90%	0	0%	646
	Burera	409	31%	914	69%	0	0%	1,323
	Gakenke	34	3%	871	90%	67	7%	971
	Rulindo	532	39%	847	61%	0	0%	1,379
	Gicumbi	0	0%	579	100%	0	0%	579
	Subtotal	1,039	21%	3,792	77%	67	1%	4,898
Eastern	Bugesera	2,004	56%	1,197	34%	350	10%	3,551
	Gatsibo	2,393	78%	685	22%	0	0%	3,078
	Kayanza	1,880	97%	60	3%	0	0%	1,940
	Kirehe	830	97%	26	3%	0	0%	856
	Ngoma	692	63%	415	37%	0	0%	1,107
	Nyagatare	2,467	88%	338	12%	0	0%	2,805
	Rwamagana	492	41%	717	59%	0	0%	1,209
	Subtotal	10,758	74%	3,438	24%	350	2%	14,546
Total	21,968	45%	17,055	35%	10,307	21%	49,329	



(Graph 5: Surveied Marshlands (Area, Ratio) per District,2016-2018)

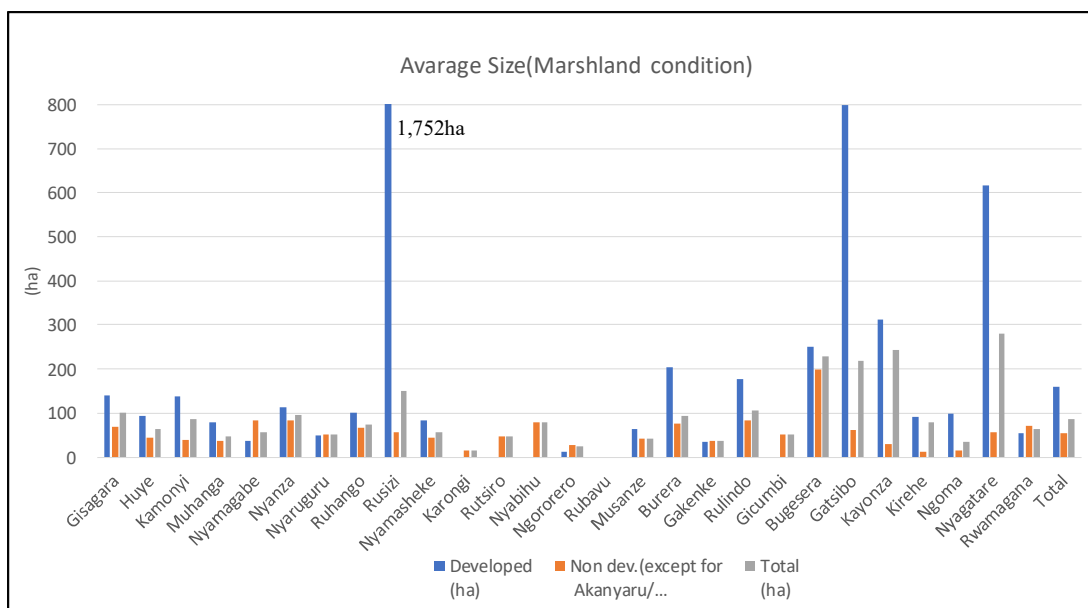
(2) The Average Size of Surveied Marshlands

The average size of Surveied Marshlands is 86ha, with 160ha of the Developed Marshlands and with 54ha of the Non-Developed Marshlands except for Akanyaru/Nyabarongo marshlands respectively.

The big average size of the marshlands per District is 1,752ha of the Developed Marshlands in Rusizi and 798ha of the Developed Marshlands in Gatsibo. The small average size of the marshlands is 13ha of the Non-Developed Marshlands in Kirehe and 16ha of the Non-Developed Marshlands in Ngoma and Karongi.

(Table 6: The Average Size of Surveyed Marshlands per District, 2016-2018)

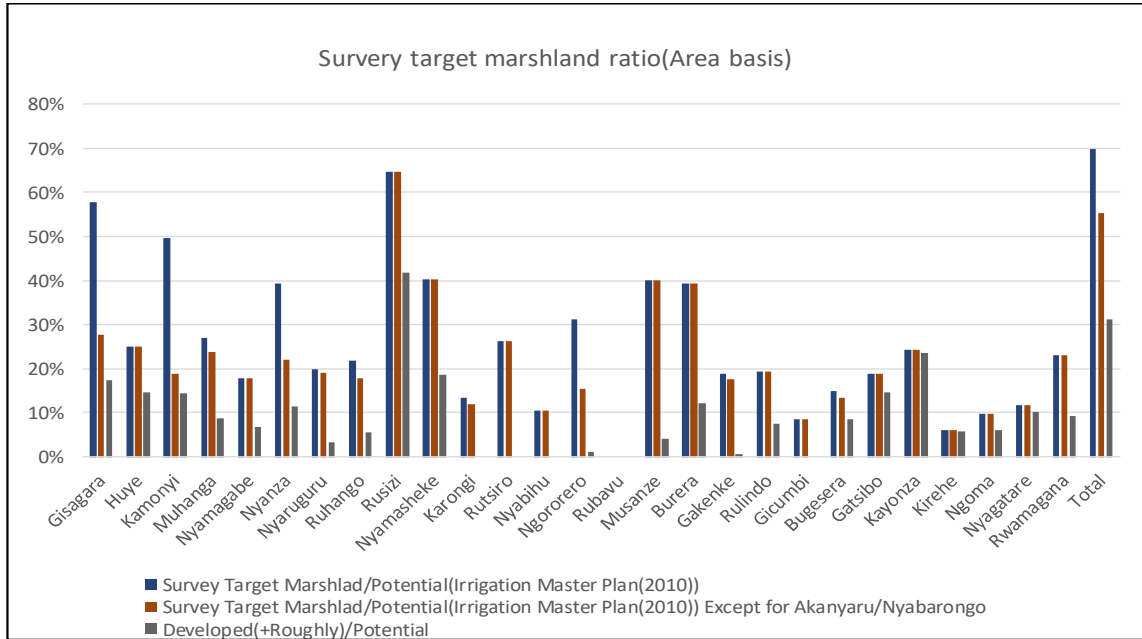
Province	District	Developed (ha)	Non dev.(except for Akanyaru/ Nyabarongo)(ha)	Total (ha)
Southern	Gisagara	141	68	101
	Huye	94	45	65
	Kamonyi	137	39	85
	Muhanga	79	37	46
	Nyamagabe	38	84	57
	Nyanza	114	83	97
	Nyaruguru	49	52	52
	Ruhango	101	67	75
	Sutotal	104	57	74
Western	Rusizi	1752	57	151
	Nyamasheke	84	44	57
	Karongi	#DIV/0!	16	16
	Rutsiro	#DIV/0!	47	47
	Nyabihu	#DIV/0!	80	80
	Ngororero	12	27	25
	Rubavu	#DIV/0!	#DIV/0!	#DIV/0!
	Sutotal	312	43	77
Northern	Musanze	65	42	43
	Burera	204	76	94
	Gakenke	34	38	38
	Rulindo	177	85	106
	Gicumbi	#DIV/0!	53	53
	Sutotal	148	54	63
Eastern	Bugesera	251	200	229
	Gatsibo	798	62	220
	Kayonza	313	30	243
	Kirehe	92	13	78
	Ngoma	99	16	34
	Nyagatare	617	56	281
	Rwamagana	55	72	64
	Sutotal	234	59	130
Total	160	54	86	



(Graph 6: The Average Size of Surveyed Marshlands per District, 2016-2018)

(3) Surveyed Marshlands Ratio in the Potential from IMP

The percentage of the total Surveyed Marshlands, 49,329ha compared to the total Potential Irrigable marshlands in four Province’s District is 24%, and Surveyed Marshland except for Akanyaru/Nyabarongo marshlands,39,023ha (21,968+17,055) is 19% and the Developed marshlands,21,968ha, is 10%. The development of marshlands should focus on the Non-Developed marshlands, 17,055ha.



(Graph 7: The Ratio of Surveyed Marshlands in Potential Marshlands, 2016-2018)

(Table 7: The Ratio of Surveyed Marshlands in Potential Marshlands, 2016-2018)

Province	District	Developed (+Roughly)	Non developed	Except for Akanyaru/Nyabarongo	Marshland	Potential Marshland	Survey Target Marshland/Potential(Irrigation Master Plan(2010))		Developed (+Roughly)/Potential
								Except for Akanyaru/Nyabarongo	
Southern	Gisagara	2,680	6,165	1,566	8,845	15,324	58%	28%	17%
	Huye	1,316	953	953	2,269	9,036	25%	25%	15%
	Kamonyi	1,237	3,034	388	4,271	8,626	50%	19%	14%
	Muhanga	394	807	664	1,202	4,462	27%	24%	9%
	Nyamagabe	303	501	501	805	4,478	18%	18%	7%
	Nyanza	1,257	3,034	1,157	4,291	10,920	39%	22%	12%
	Nyaruguru	292	1,432	1,360	1,725	8,698	20%	19%	3%
	Ruhango	506	1,493	1,135	1,999	9,130	22%	18%	6%
	Subtotal	7,985	17,420	7,724	25,405	70,674	36%	22%	11%
Western	Rusizi	1,752	963	963	2,715	4,209	65%	65%	42%
	Nyamasheke	421	489	489	910	2,264	40%	40%	19%
	Karongi	0	160	141	160	1,178	14%	12%	0%
	Rutsiro	0	187	187	187	716	26%	26%	0%
	Nyabihu	0	160	160	160	1,522	11%	11%	0%
	Ngororero	12	337	161	349	1,123	31%	15%	1%
	Rubavu	0	0	0	0	367	0%	0%	0%
		Subtotal	2,186	2,295	2,100	4,481	11,379	39%	38%
Northern	Musanze	65	582	582	646	1,616	40%	40%	4%
	Burera	409	914	914	1,323	3,378	39%	39%	12%
	Gakenke	34	938	871	971	5,139	19%	18%	1%
	Rulindo	532	847	847	1,379	7,112	19%	19%	7%
	Gicumbi	0	579	579	579	6,859	8%	8%	0%
		Subtotal	1,039	3,859	3,792	4,898	24,104	20%	20%
Eastern	Bugesera	2,004	1,547	1,197	3,551	23,845	15%	13%	8%
	Gatsibo	2,393	685	685	3,078	16,398	19%	19%	15%
	Kayanza	1,880	60	60	1,940	7,984	24%	24%	24%
	Kirehe	830	26	26	856	14,436	6%	6%	6%
	Ngoma	692	415	415	1,107	11,485	10%	10%	6%
	Nyagatare	2,467	338	338	2,805	23,971	12%	12%	10%
	Rwamagana	492	717	717	1,209	5,268	23%	23%	9%
		Subtotal	10,758	3,788	3,438	14,546	103,387	14%	14%
	Total	21,968	27,362	17,055	49,329	209,544	24%	19%	10%

(4) Problems in Developed and Non-Developed Marshlands

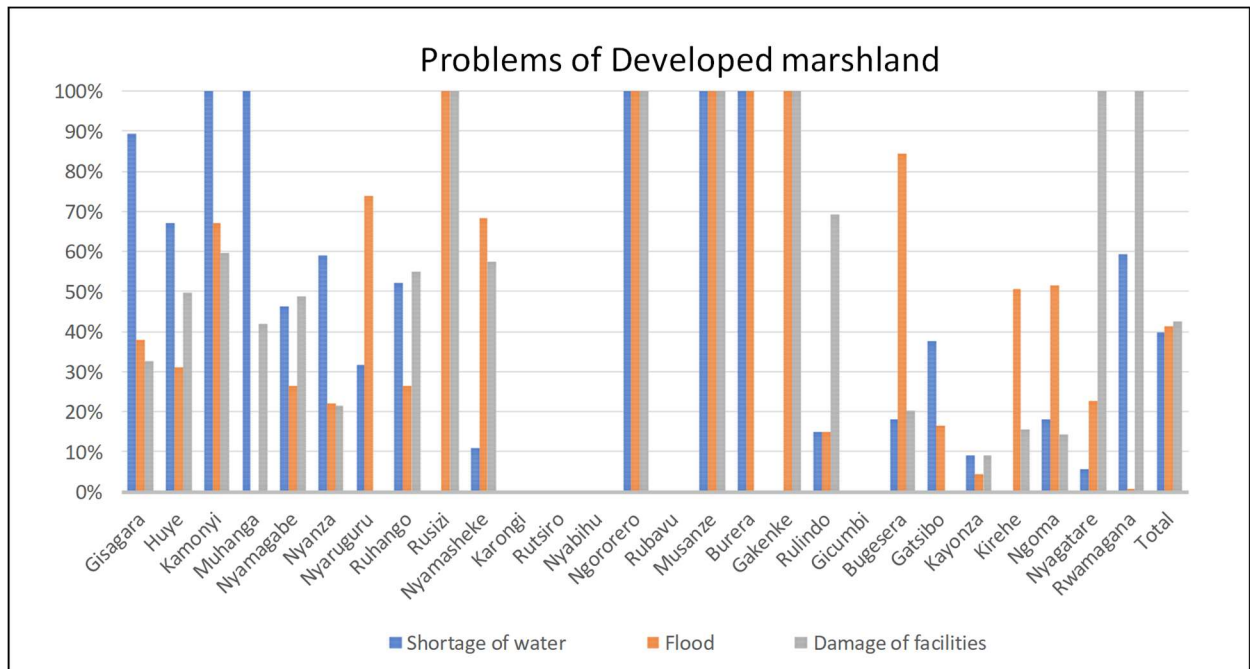
There are mainly three problems, 1) Shortage of water, 2) Flood, 3) Damage of facilities.

1) Shortage of water and 2) Flood are serious problems not only for the Non-Developed Marshland but also for the Developed Marshlands. 3) The damage of facilities is the big issue for the Developed Marshlands.

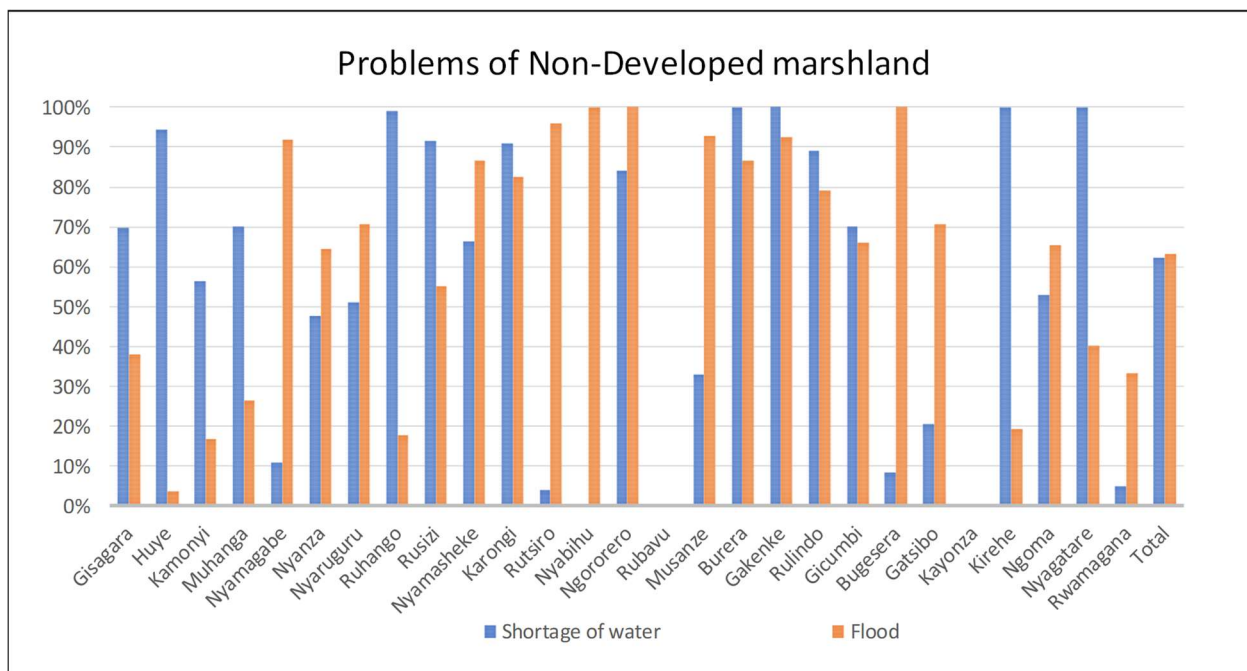
*Akanyaru/Nyabarongo Marshlands are excluded from Non-Developed Marshland.

(Table 8: Problems of the Survey marshlands in each Districts, 2016-2018)

Province	District	Developed (+Roughly)	Shortage of water		Flood		Damage of facilities		Non developed	Shortage of water		Flood	
				(%)		(%)		(%)			(%)		(%)
Southern	Gisagara	2,680	2,392	89%	1,012	38%	870	32%	1,566	1,092	70%	595	38%
	Huye	1,316	881	67%	410	31%	655	50%	953	898	94%	36	4%
	Kamonyi	1,237	1,237	100%	829	67%	736	60%	388	219	56%	65	17%
	Muhanga	394	394	100%	0	0%	165	42%	664	465	70%	175	26%
	Nyamagabe	303	141	46%	80	26%	147	49%	501	54	11%	460	92%
	Nyanza	1,257	739	59%	277	22%	269	21%	1,157	550	48%	747	65%
	Nyaruguru	292	93	32%	216	74%	0	0%	1,360	696	51%	961	71%
	Ruhango	506	264	52%	134	26%	279	55%	1,135	1,123	99%	202	18%
Western	Rusizi	1,752	0	0%	1,752	100%	1,752	100%	963	880	91%	532	55%
	Nyamasheke	421	46	11%	288	68%	242	57%	489	325	66%	423	86%
	Karongi	0	0	#DIV/0!	0	####	0	####	141	128	91%	116	83%
	Rutsiro	0	0	#DIV/0!	0	####	0	####	187	8	4%	179	96%
	Nyabihu	0	0	#DIV/0!	0	####	0	####	160	0	0%	160	100%
	Ngororero	12	12	100%	12	100%	12	100%	161	135	84%	302	188%
	Rubavu	0	0	#DIV/0!	0	####	0	####	0	0	####	0	####
Northern	Musanze	65	65	100%	65	100%	65	100%	582	191	33%	540	93%
	Burera	409	409	100%	409	100%	0	0%	914	914	100%	791	87%
	Gakenke	34	0	0%	34	100%	34	100%	871	938	108%	806	93%
	Rulindo	532	80	15%	80	15%	368	69%	847	755	89%	669	79%
	Gicumbi	0	0	#DIV/0!	0	####	0	####	579	405	70%	382	66%
Eastern	Bugesera	2,004	364	18%	1,690	84%	404	20%	1,197	100	8%	1,487	124%
	Gatsibo	2,393	900	38%	393	16%	0	0%	685	141	21%	483	71%
	Kayonza	1,880	170	9%	86	5%	170	9%	60	0	0%	0	0%
	Kirehe	830	0	0%	419	50%	129	16%	26	26	100%	5	19%
	Ngoma	692	124	18%	357	52%	100	14%	415	220	53%	271	65%
	Nyagatare	2,467	140	6%	557	23%	2,467	100%	338	338	100%	136	40%
	Rwamagana	492	292	59%	4	1%	492	100%	717	35	5%	239	33%
Total		21,968	8,742	40%	9,103	41%	9,355	43%	17,055	10,633	62%	10,763	63%



(Graph 8: Problems ratio in the Developed Marshlands per District, 2016-2018)



(Graph 9: Problems ratio in the Non-Developed Marshlands per District, 2016-2018)

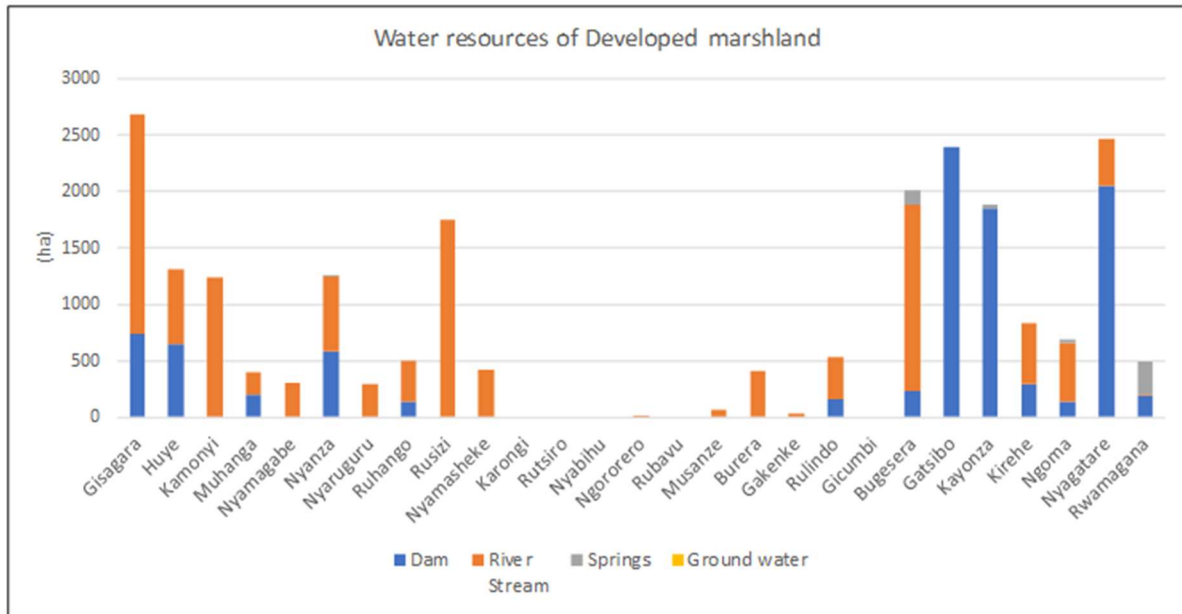
(5) Water Resources in Surveyed Marshlands

Water Resources of Marshland are Dam reservoir, River/ Stream, Springs or Underground water. The percentage of Dam reservoir is 44%, River/Stream is 54% and Springs is 2% in Developed marshlands and the high ratio of dam/reservoir is in Southern and Eastern provinces.

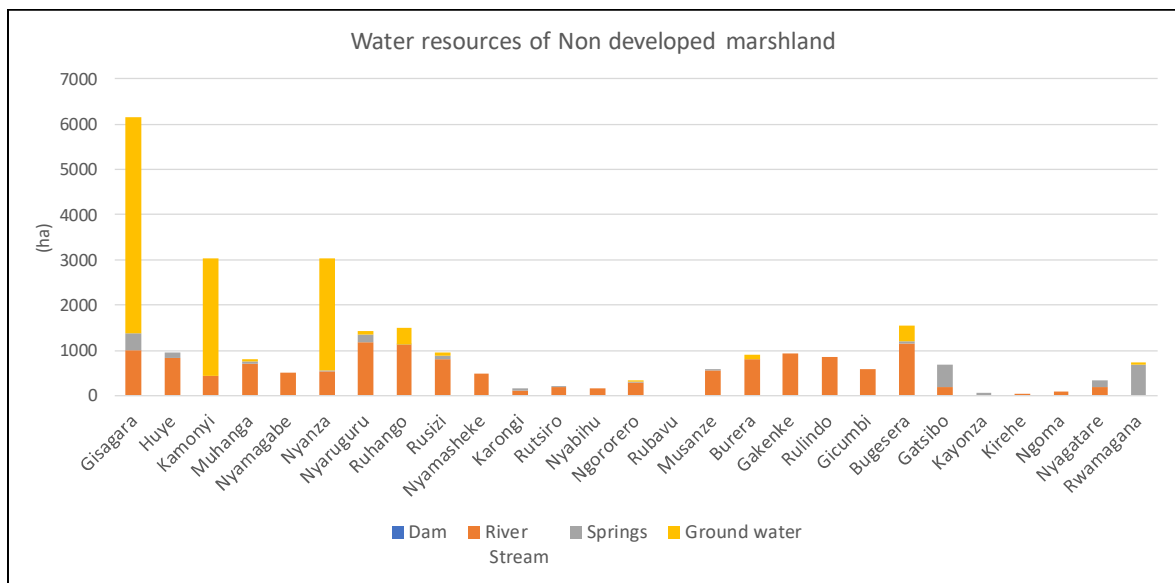
The percentage of River/Stream is 50%, Springs is 10% and Underground water is 40% in Non-Developed marshlands. Even if River/Stream water flow is not used for irrigation now, they are judged as potential Water Resources.

(Table 9: Water Resources of the Surveyed Marshlands, 2016-2018)

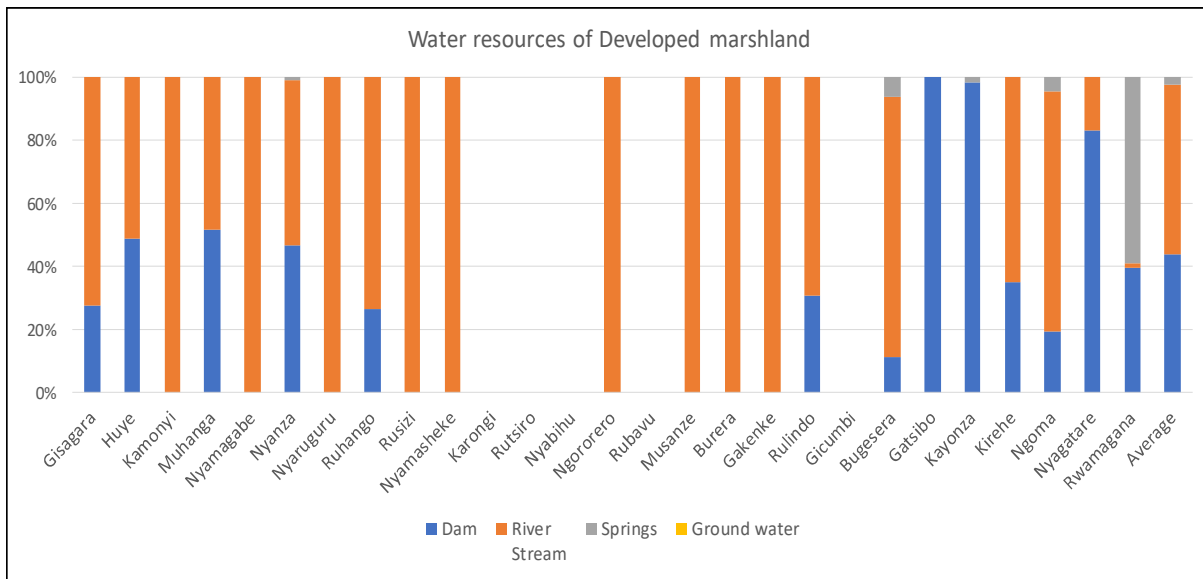
Province	District	Developed (+Roughly)				Non developed				Marshland				River				Ground water					
		Dam (%)	River Stream (%)	Springs (%)	Ground water (%)	Dam (%)	River Stream (%)	Springs (%)	Ground water (%)	Dam (%)	River Stream (%)	Springs (%)	Ground water (%)	Dam (%)	River Stream (%)	Springs (%)	Ground water (%)	Dam (%)	River Stream (%)	Springs (%)	Ground water (%)		
Southern	Gisagara	2,680	742 28%	1,938 72%	0 0%	6,165	0 0%	1,002 16%	380 6%	4,783 78%	8,845	742 8%	2,940 33%	380 4%	4,783 54%	380 4%	2,940 33%	380 4%	4,783 54%	380 4%	2,940 33%	380 4%	4,783 54%
	Huye	1,316	644 49%	672 51%	0 0%	953	0 0%	840 88%	113 12%	2,603 86%	4,271	0 0%	1,668 39%	0 0%	2,603 61%	0 0%	1,668 39%	0 0%	2,603 61%	0 0%	1,668 39%	0 0%	2,603 61%
	Kamonyi	1,237	0 0%	1,237 100%	0 0%	3,034	0 0%	431 14%	0 0%	2,603 86%	4,271	0 0%	1,668 39%	0 0%	2,603 61%	0 0%	1,668 39%	0 0%	2,603 61%	0 0%	1,668 39%	0 0%	2,603 61%
Southern	Muhanga	394	204 52%	191 48%	0 0%	807	0 0%	697 86%	62 8%	48 6%	1,202	204 17%	888 74%	62 5%	48 4%	0 0%	888 74%	62 5%	48 4%	0 0%	888 74%	62 5%	48 4%
	Nyamagabe	303	0 0%	303 100%	0 0%	501	0 0%	501 100%	0 0%	0 0%	805	0 0%	805 100%	0 0%	0 0%	0 0%	805 100%	0 0%	0 0%	0 0%	805 100%	0 0%	0 0%
	Nyanza	1,257	587 47%	660 52%	11 1%	3,034	0 0%	529 17%	21 1%	2,484 82%	4,291	587 14%	1,189 28%	32 1%	2,484 58%	32 1%	1,189 28%	32 1%	2,484 58%	32 1%	1,189 28%	32 1%	2,484 58%
Southern	Nyaruguru	292	0 0%	292 100%	0 0%	1,432	0 0%	1,185 83%	176 12%	71 5%	1,725	0 0%	1,477 86%	176 10%	71 4%	0 0%	1,477 86%	176 10%	71 4%	0 0%	1,477 86%	176 10%	71 4%
	Ruhango	506	134 26%	372 74%	0 0%	1,493	0 0%	1,123 75%	12 1%	358 24%	1,999	134 7%	1,495 75%	12 1%	358 18%	12 1%	1,495 75%	12 1%	358 18%	12 1%	1,495 75%	12 1%	358 18%
	Subtotal	7,985	2,310 29%	5,664 71%	11 0%	17,420	0 0%	6,309 36%	764 4%	10,347 59%	25,405	2,310 9%	11,973 47%	774 3%	10,347 41%	774 3%	11,973 47%	774 3%	10,347 41%	774 3%	11,973 47%	774 3%	10,347 41%
Western	Rusizi	1,752	0 0%	1,752 100%	0 0%	963	0 0%	795 83%	73 8%	95 10%	2,715	0 0%	2,547 94%	73 3%	95 4%	0 0%	2,547 94%	73 3%	95 4%	0 0%	2,547 94%	73 3%	95 4%
	Nyamasheke	421	0 0%	421 100%	0 0%	489	0 0%	489 100%	0 0%	0 0%	910	0 0%	910 100%	0 0%	0 0%	0 0%	910 100%	0 0%	0 0%	0 0%	910 100%	0 0%	0 0%
	Karongi	0	0 0%	0 0%	0 0%	160	0 0%	122 76%	38 24%	0 0%	160	0 0%	122 76%	38 24%	0 0%	0 0%	122 76%	38 24%	0 0%	0 0%	122 76%	38 24%	0 0%
Western	Rutsiro	0	0 0%	0 0%	0 0%	187	0 0%	179 96%	8 4%	0 0%	187	0 0%	179 96%	8 4%	0 0%	0 0%	179 96%	8 4%	0 0%	0 0%	179 96%	8 4%	0 0%
	Nyabihu	0	0 0%	0 0%	0 0%	160	0 0%	160 100%	0 0%	0 0%	160	0 0%	160 100%	0 0%	0 0%	0 0%	160 100%	0 0%	0 0%	0 0%	160 100%	0 0%	0 0%
	Ngororero	12	0 0%	12 100%	0 0%	337	0 0%	272 81%	25 7%	40 12%	349	0 0%	285 82%	25 7%	40 11%	0 0%	285 82%	25 7%	40 11%	0 0%	285 82%	25 7%	40 11%
Northern	Rubavu	0	0 0%	0 0%	0 0%	0	0 0%	0 0%	0 0%	0 0%	0	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
	Subtotal	2,186	0 0%	2,186 100%	0 0%	2,295	0 0%	2,017 88%	143 6%	135 6%	4,481	0 0%	4,203 94%	143 3%	135 3%	0 0%	4,203 94%	143 3%	135 3%	0 0%	4,203 94%	143 3%	135 3%
	Musanze	65	0 0%	65 100%	0 0%	582	0 0%	560 96%	22 4%	0 0%	646	0 0%	625 97%	22 3%	0 0%	0 0%	625 97%	22 3%	0 0%	0 0%	625 97%	22 3%	0 0%
Northern	Burera	409	0 0%	409 100%	0 0%	914	0 0%	805 88%	0 0%	109 12%	1,323	0 0%	1,214 92%	0 0%	109 8%	0 0%	1,214 92%	0 0%	109 8%	0 0%	1,214 92%	0 0%	109 8%
	Gakenke	34	0 0%	34 100%	0 0%	938	0 0%	938 100%	0 0%	0 0%	971	0 0%	971 100%	0 0%	0 0%	0 0%	971 100%	0 0%	0 0%	0 0%	971 100%	0 0%	0 0%
	Rulindo	532	164 31%	368 69%	0 0%	847	0 0%	847 100%	0 0%	0 0%	1,379	164 12%	1,215 88%	0 0%	0 0%	0 0%	1,215 88%	0 0%	0 0%	0 0%	1,215 88%	0 0%	0 0%
Northern	Gicumbi	0	0 0%	0 0%	0 0%	579	0 0%	579 100%	0 0%	0 0%	579	0 0%	579 100%	0 0%	0 0%	0 0%	579 100%	0 0%	0 0%	0 0%	579 100%	0 0%	0 0%
	Subtotal	1,039	164 16%	875 84%	0 0%	3,889	0 0%	3,728 97%	22 1%	109 3%	4,898	164 3%	4,603 94%	22 0%	109 2%	0 0%	4,603 94%	22 0%	109 2%	0 0%	4,603 94%	22 0%	109 2%
	Bugesera	2,004	227 11%	1,652 82%	125 6%	1,547	0 0%	1,160 75%	47 3%	340 22%	3,551	227 6%	2,812 79%	172 5%	340 10%	0 0%	2,812 79%	172 5%	340 10%	0 0%	2,812 79%	172 5%	340 10%
Eastern	Gatsibo	2,393	2,393 100%	0 0%	685	0 0%	172 25%	513 75%	0 0%	0 0%	3,078	2,393 78%	172 6%	513 17%	0 0%	0 0%	172 6%	513 17%	0 0%	0 0%	172 6%	513 17%	0 0%
	Kayanza	1,880	1,848 98%	0 0%	60	0 0%	26 43%	60 100%	0 0%	0 0%	1,940	1,848 95%	0 0%	92 5%	0 0%	0 0%	1,848 95%	0 0%	92 5%	0 0%	1,848 95%	0 0%	92 5%
	Kirehe	830	291 35%	539 65%	0 0%	26	0 0%	26 100%	0 0%	0 0%	856	291 34%	565 66%	0 0%	0 0%	0 0%	565 66%	0 0%	0 0%	0 0%	565 66%	0 0%	0 0%
Eastern	Ngoma	692	135 20%	525 76%	32 5%	415	0 0%	77 19%	338 81%	0 0%	1,107	135 12%	602 54%	370 33%	0 0%	0 0%	602 54%	370 33%	0 0%	0 0%	602 54%	370 33%	0 0%
	Nyagatare	2,467	2,050 83%	417 17%	0 0%	338	0 0%	180 53%	158 47%	0 0%	2,805	2,050 73%	597 21%	158 6%	0 0%	0 0%	2,805 73%	597 21%	158 6%	0 0%	2,805 73%	597 21%	158 6%
	Rwamagana	492	194 39%	8 2%	290 59%	0 0%	717	0 0%	678 95%	39 5%	1,209	194 16%	8 1%	968 80%	39 3%	0 0%	8 1%	968 80%	39 3%	0 0%	8 1%	968 80%	39 3%
Total	Subtotal	10,758	7,138 66%	3,141 29%	479 4%	3,788	0 0%	1,615 43%	1,794 47%	379 10%	14,546	7,138 49%	4,756 33%	2,273 16%	379 3%	0 0%	4,756 33%	2,273 16%	379 3%	0 0%	4,756 33%	2,273 16%	379 3%
	Total	21,968	9,612 44%	11,866 54%	490 2%	27,362	0 0%	13,669 50%	2,722 10%	10,970 40%	49,329	9,612 19%	25,535 52%	3,212 7%	10,970 22%	0 0%	25,535 52%	3,212 7%	10,970 22%	0 0%	25,535 52%	3,212 7%	10,970 22%



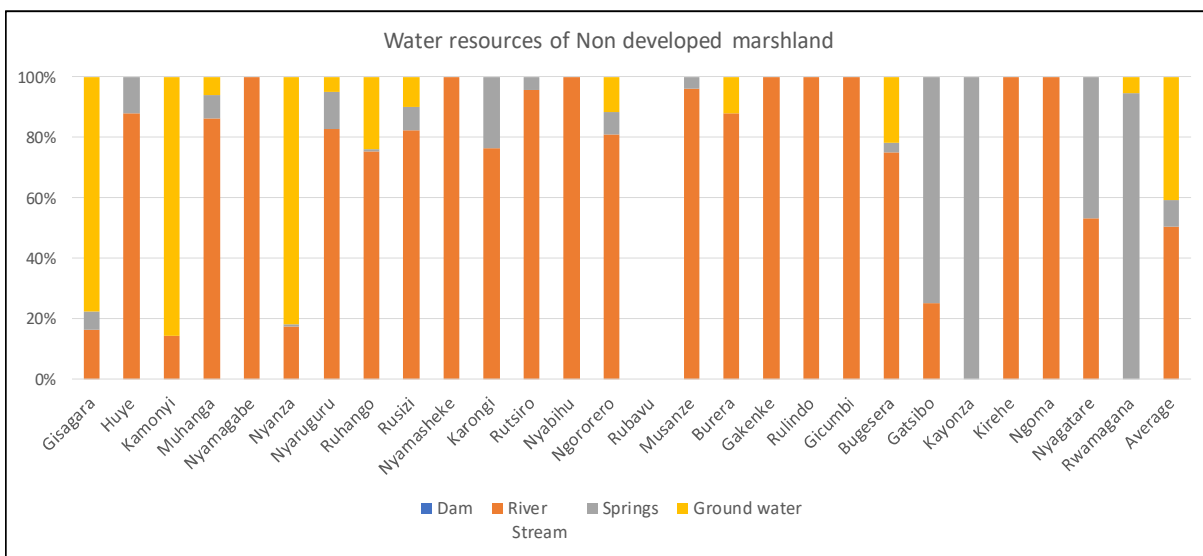
(Graph 10: Water Resources in Developed Marshlands,2016-2018)



(Graph 11: Water Resources in Non-Developed Marshlands,2016-2018)



(Graph 12: Ratio of Water Resources in Developed Marshlands,2016-2018)



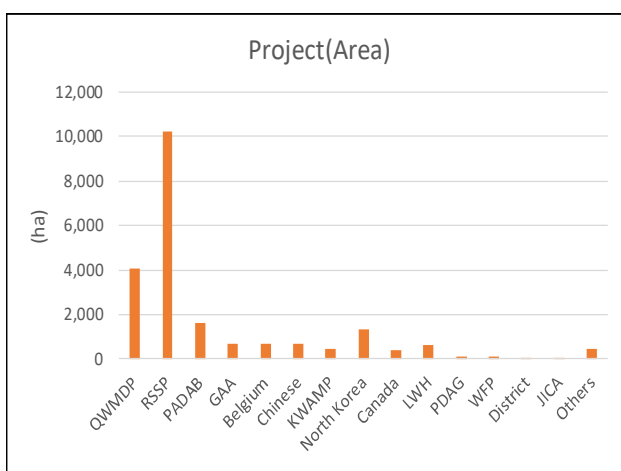
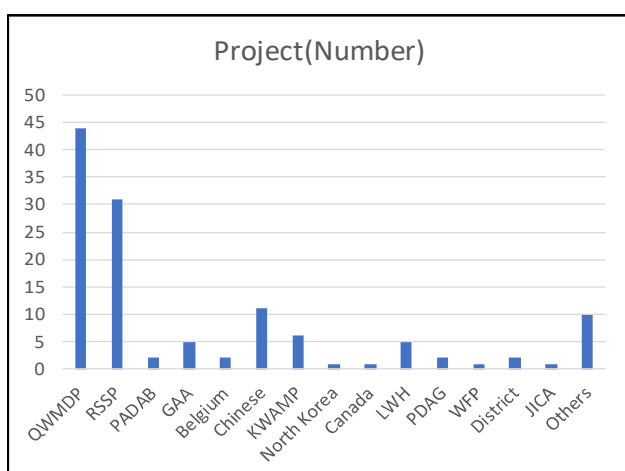
(Graph 13: Ratio of Water Resources in Non-Developed Marshlands,2016-2018)

(6) Marshland development Projects

All the developed marshlands were developed by projects under MINAGRI or other stakeholders. Main projects are QWMDP, RSSP, PADAB/PAIRB in Bugesera, GAA, KWAMP in Kirehe, Belgium, Chinese, North Korea, Canada, LWH, and other old projects. RSSP and QWMDP projects contributed much for development of Marshlands in four Provinces, because RSSP developed Thirty one (31) Marshlands with 10,213ha (47.5%) and QWMDP developed Forty four (44) Marshlands with 4,089ha (19.0%). However, some facilities of RSSP project in early days and QWMDP project are not working well. We should check and make the plan to rehabilitate them.

(Table 10: Marshland development projects in four provinces, ~2018)

Project	Number	Area(ha)	Ratio
QWMDP	44	4,089	19.0%
RSSP	31	10,213	47.5%
PADAB	2	1,600	7.4%
GAA	5	687	3.2%
Belgium	2	685	3.2%
Chinese	11	690	3.2%
KWAMP	6	445	2.1%
North Korea	1	1,307	6.1%
Canada	1	417	1.9%
LWH	5	653	3.0%
PDAG	2	89	0.4%
WFP	1	85	0.4%
District	2	59	0.3%
JICA	1	35	0.2%
Others	10	431	2.0%
Total	124	21,484	100.0%



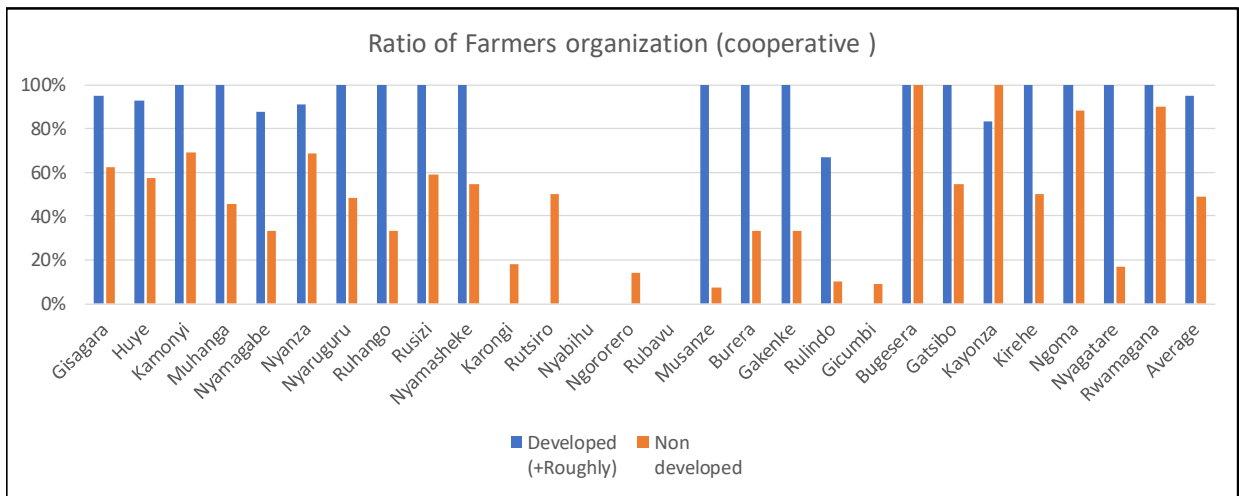
(Graph 14: Marshland development Projects in four provinces, ~2018)

(7) Cooperatives & WUOs in Surveyed Marshlands

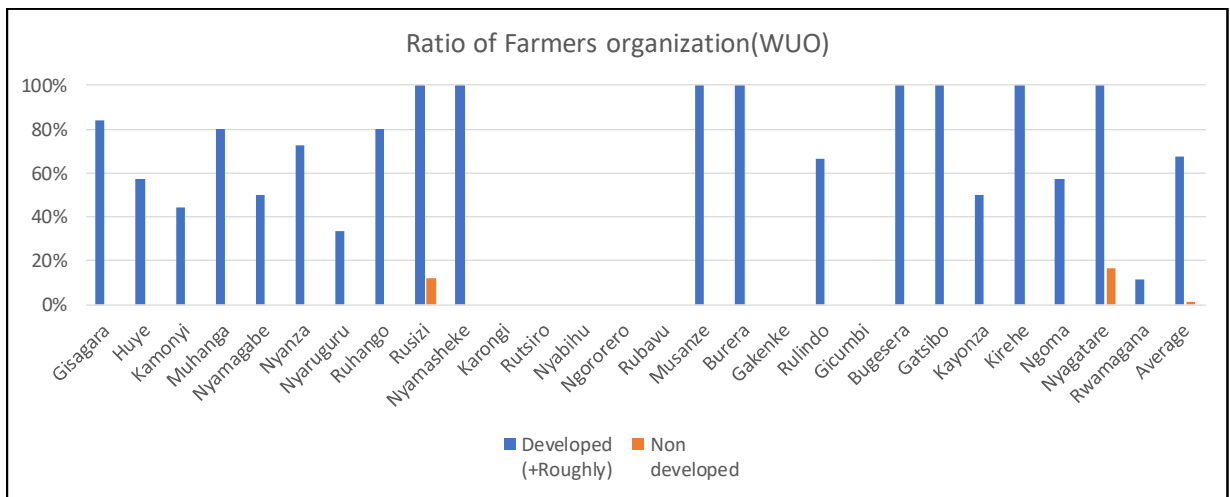
There are around Three hundred (298) Cooperatives and Hundred (96) WUOs in Four hundred eighty (479) Surveyed Marshlands in four Provinces. Number basis ratio of Cooperative and WUO is 95% and 93% in the Developed Marshlands. On the other hands, the ratio of Cooperative and WUO is 42% and 1% in the Non-Developed Marshlands. Compare to the cooperatives, there are few WUOs, especially for the Non-Developed Marshlands.

(Table 11: Cooperatives & WUOs in Surveyed Marshlands in four provinces, 2016-2018)

Province	District	Cooperative									WUO					
		Developed (+Roughly)	Non developed	Marshland	Developed (+Roughly)		Non developed		Marshland		Developed (+Roughly)		Non developed		Marshland	
					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)				
Southern	Gisagara	19	32	51	18	95%	20	63%	38	75%	16	84%	0	0%	16	31%
	Huye	14	21	35	13	93%	12	57%	25	71%	8	57%	0	0%	8	23%
	Kamonyi	9	13	22	9	100%	9	69%	18	82%	4	44%	0	0%	4	18%
	Muhanga	5	22	27	5	100%	10	45%	15	56%	4	80%	0	0%	4	15%
	Nyamagabe	8	6	14	7	88%	2	33%	9	64%	4	50%	0	0%	4	29%
	Nyanza	11	16	27	10	91%	11	69%	21	78%	8	73%	0	0%	8	30%
	Nyaruguru	6	27	33	6	100%	13	48%	19	58%	2	33%	0	0%	2	6%
	Ruhango	5	18	23	5	100%	6	33%	11	48%	4	80%	0	0%	4	17%
Western	Rusizi	1	17	18	1	100%	10	59%	11	61%	1	100%	2	12%	3	17%
	Nyamasheke	5	11	16	5	100%	6	55%	11	69%	5	100%	0	0%	5	31%
	Karongi	0	11	11	0	####	2	18%	2	18%	0	####	0	0%	0	0%
	Rutsiro	0	4	4	0	####	2	50%	2	50%	0	####	0	0%	0	0%
	Nyabihu	0	2	2	0	####	0	0%	0	0%	0	####	0	0%	0	0%
	Ngororero	1	7	8	0	0%	1	14%	1	13%	0	0%	0	0%	0	0%
	Rubavu	0	0	0	0	####	0	####	0	####	0	####	0	####	0	####
Northern	Musanze	1	14	15	1	100%	1	7%	2	13%	1	100%	0	0%	1	7%
	Burera	2	12	14	2	100%	4	33%	6	43%	2	100%	0	0%	2	14%
	Gakenke	1	24	25	1	100%	8	33%	9	36%	0	0%	0	0%	0	0%
	Rulindo	3	10	13	2	67%	1	10%	3	23%	2	67%	0	0%	2	15%
	Gicumbi	0	11	11	0	####	1	9%	1	9%	0	####	0	0%	0	0%
Eastern	Bugesera	8	7	15	8	100%	7	100%	15	100%	8	100%	0	0%	8	53%
	Gatsibo	3	11	14	3	100%	6	55%	9	64%	3	100%	0	0%	3	21%
	Kayonza	6	2	8	5	83%	2	100%	7	88%	3	50%	0	0%	3	38%
	Kirehe	9	2	11	9	100%	1	50%	10	91%	9	100%	0	0%	9	82%
	Ngoma	7	26	33	7	100%	23	88%	30	91%	4	57%	0	0%	4	12%
	Nyagatare	4	6	10	4	100%	1	17%	5	50%	4	100%	1	17%	5	50%
	Rwamagana	9	10	19	9	100%	9	90%	18	95%	1	11%	0	0%	1	5%
Total		137	342	479	130	95%	168	49%	298	62%	93	68%	3	1%	96	20%



(Graph 15: Ratio of Cooperatives number of Surveyed Marshlands in four provinces, 2016-2018)



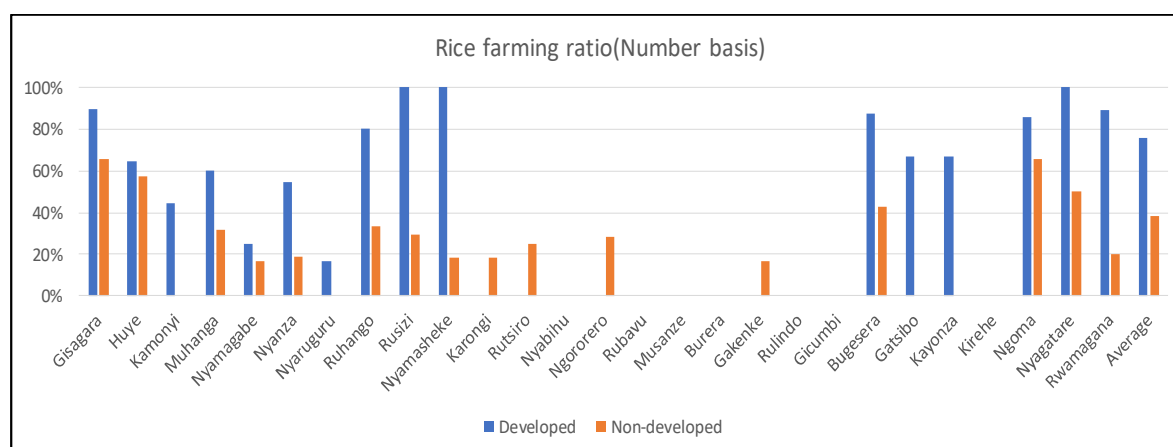
(Graph 16: Ratio of IWUOs number of Surveyed Marshlands in four provinces, 2016-2018)

(8) Rice Fields in Surveyed Marshlands

There are many rice fields in the Marshlands in Southern, Eastern Province and Rusizi, Nyamasheke District of Western Province. Farmers prefer cultivating rice to other crops. Regarding the rice fields of the Non-Developed Marshlands, they should consider about developing them and pursuit good quality of rice.

(Table 12: Rice fields in Surveyed Marshlands,2016-2018)

Province	District	Developed	Non-developed
Southern	Gisagara	89%	66%
	Huye	64%	57%
	Kamonyi	44%	0%
	Muhanga	60%	32%
	Nyamagabe	25%	17%
	Nyanza	55%	19%
	Nyaruguru	17%	0%
	Ruhango	80%	33%
Western	Rusizi	100%	29%
	Nyamasheke	100%	18%
	Karongi	#DIV/0!	18%
	Rutsiro	#DIV/0!	25%
	Nyabihu	#DIV/0!	0%
	Ngororero	0%	29%
	Rubavu	0%	0%
Northern	Musanze	0%	0%
	Burera	0%	0%
	Gakenke	0%	17%
	Rulindo	0%	0%
	Gicumbi	#DIV/0!	0%
Eastern	Bugesera	88%	43%
	Gatsibo	67%	0%
	Kayonza	67%	0%
	Kirehe	0%	0%
	Ngoma	86%	65%
	Nyagatare	100%	50%
	Rwamagana	89%	20%
Average		76%	39%



(Graph 17: Rice Fields in Surveyed Marshlands, 2016-2018)

4. General Recommendations

RAB & JICA Team identified the Existing Marshlands in four Provinces as four hundred seventy nine (479) with a total size of 49,329ha. Developed Marshlands are 123 with 21,484ha, Roughly Developed Marshland are 14 with 483ha and Non-Developed Marshlands are 342 with 27,362ha. These marshlands are facing some issues related to shortage of water in dry season, floods during rainy season, damage of facilities and inefficiency of some irrigation facilities.

(1) Rehabilitation of some Developed Marshlands

Some irrigation facilities developed many years ago need to be rehabilitated to increase water use efficiency. Based on this survey, RAB should study in detail some schemes for their rehabilitation or improvement of irrigation facilities. Some marshlands developed under QWMD without studies are facing the shortage of water in dry season but also water distribution is not easy. Construction of reservoir and improvement of canals is necessary in some Developed Marshlands.

(2) New marshlands development

Most of Non-Developed marshlands are small scale (average is around 50ha) and suffer from many problems like the shortage of water, flood, and difficulty of water distribution. RAB should launch the development of some Non-Developed Marshlands.

(3) Small Scale Irrigation Technology

Small Scale Irrigation Technology can be introduced in small marshlands with a shortage of water in dry season.

(4) Decentralization

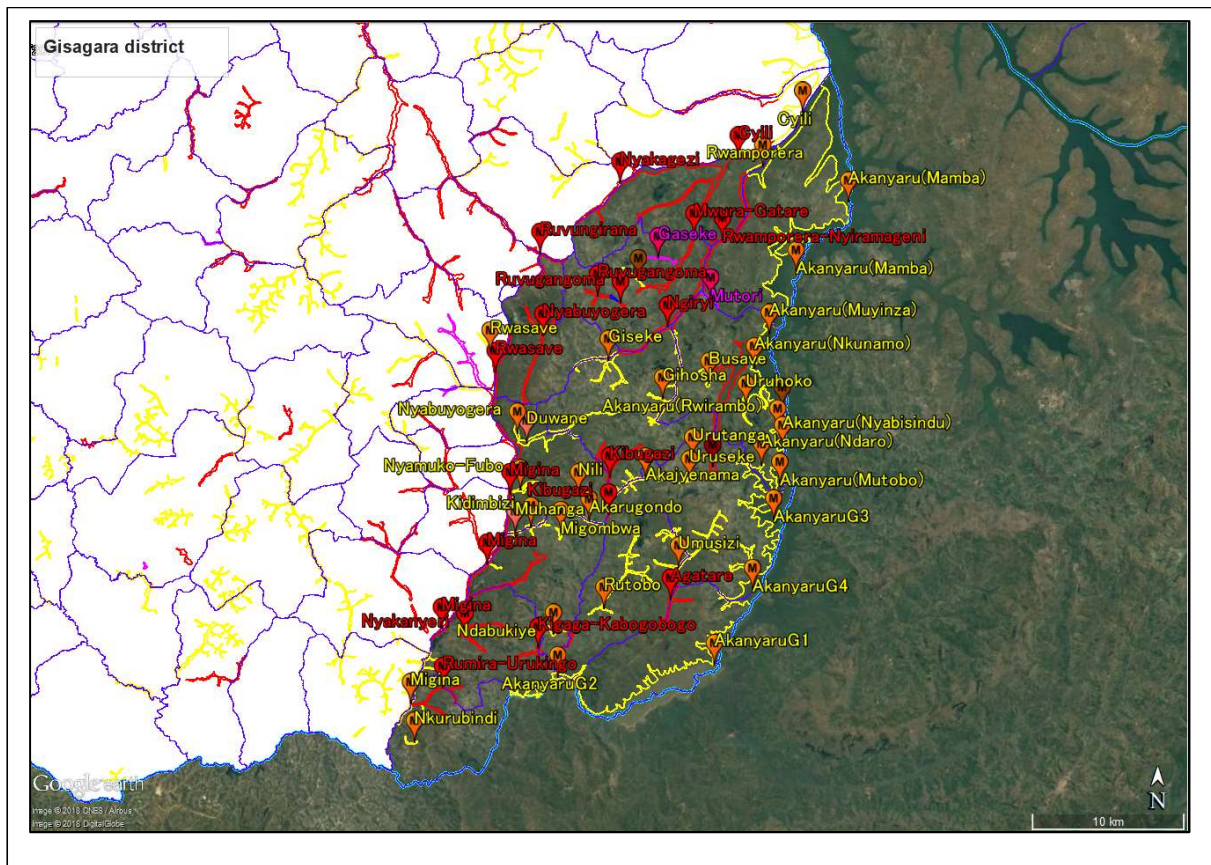
There are many surveyed Marshlands with a small size (less than 20ha) RAB should consider about the decentralization to Districts for small irrigation projects.

(5) Hydrologic data collection

It is very important to collect the data around marshlands like the river flow and climatic data for hydrologic studies. RAB should set up the data collecting station in different areas for future development or rehabilitation and good management of irrigation scheme.

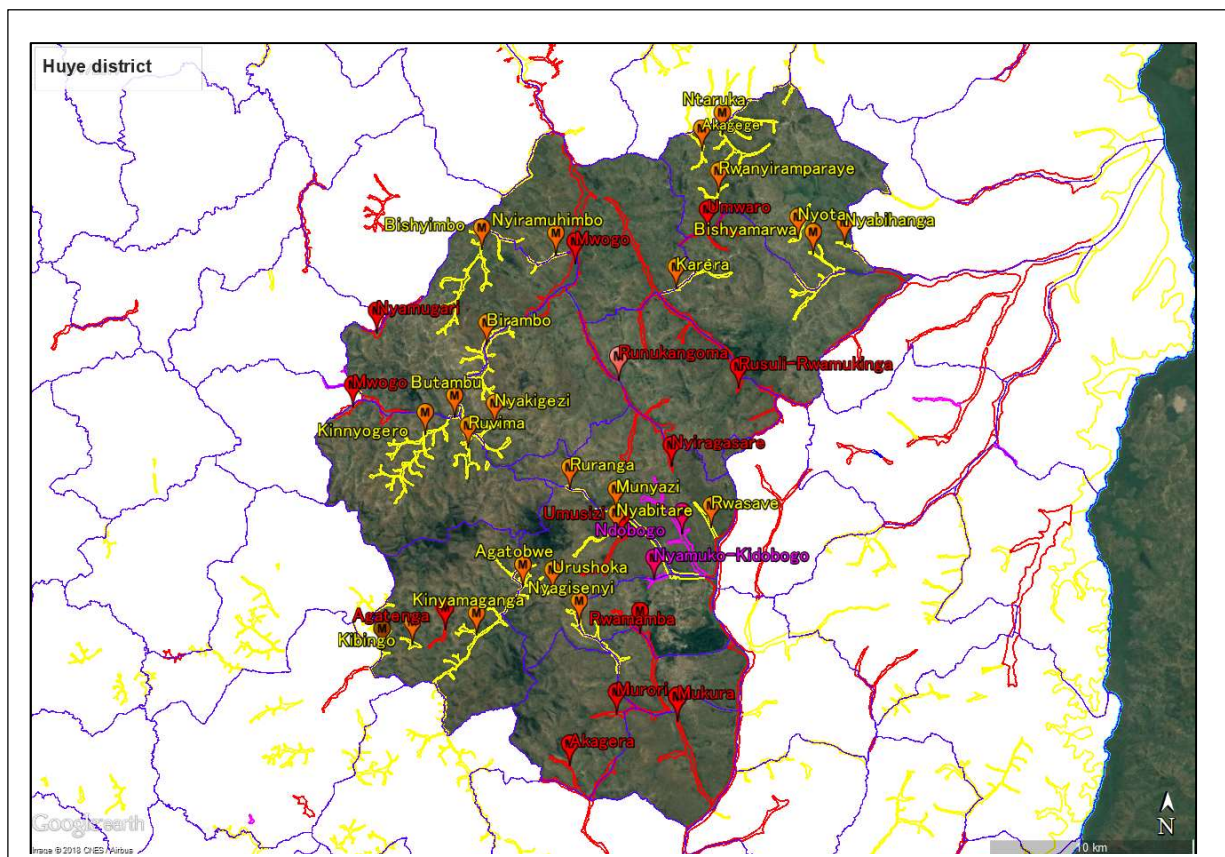
5. The District data of Surveyed Marshlands

(1) Gisagara District



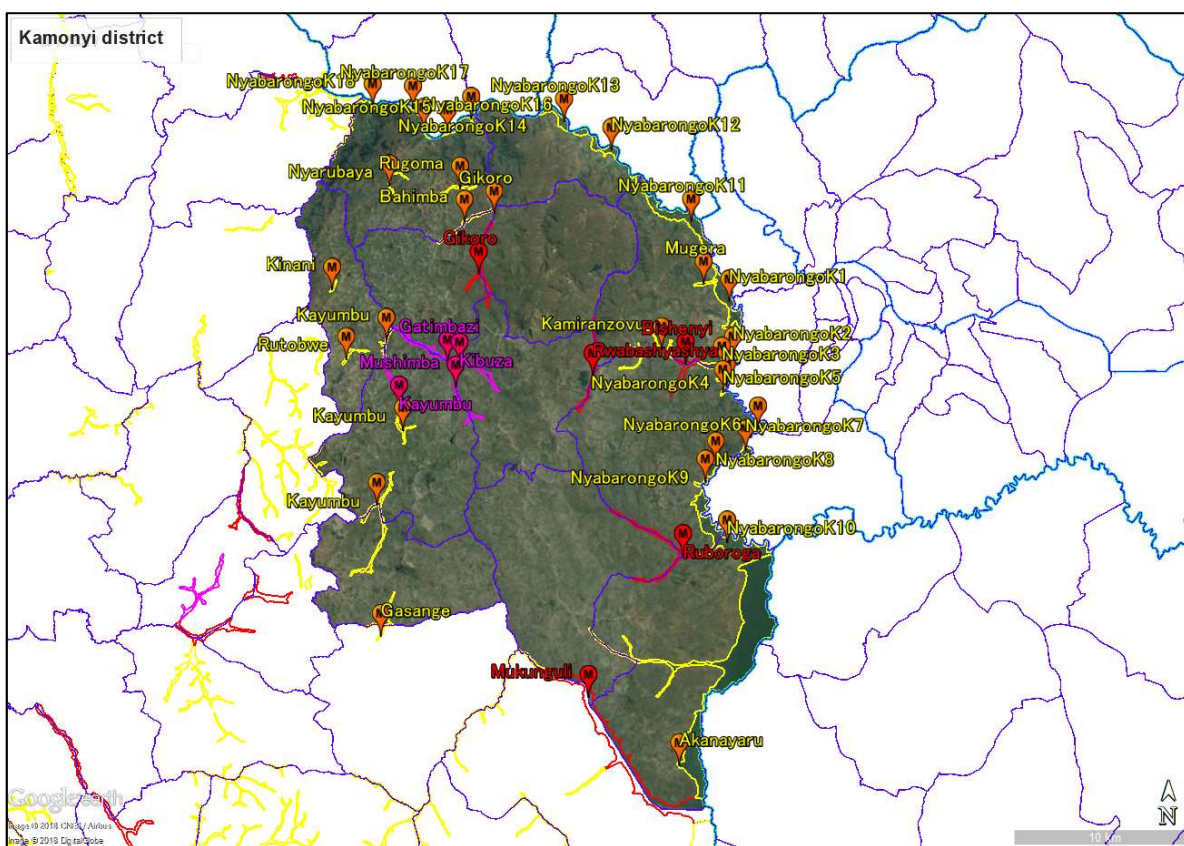
No	Name	Developed	Google earth size(ha)	No	Name	Developed	Google earth size(ha)
1	Nyakanyeri	QWMDP	58.5	1	Ndabukiye	No	10.0
2	Rumira-Urukingo	QWMDP	70.4	2	Akanyaru	No	952
3	Kigaga-Kabogobogo	QWMDP	63.2	3	Umusizi	No	136
4	Akaboti	QWMDP	77.1	4	Cyili	No	350
5	Kibugazi	QWMDP	80.3	5	Rwasave	No	26.2
6	Mirayi	Belgium/RSSP	506	6	Rwamporerera	No	124
7	Ngiriyi	Belgium	179	7	Akanyaru(Mamba)	No	1,680
8	Rwamporerera-Nyiramageni	QWMDP	242	8	Busave	No	28.8
9	Mwura-Gatare	QWMDP	114	9	Akanyaru(Nkunamo)	No	346
10	Nyabuyogera	QWMDP	99.9	10	Uruhoko	No	24.3
11	Agatare	QWMDP	59.6	11	Akanyaru(Akarugi)	No	193
12	Migina	QWMDP/rehabiri. RSP	288	12	Akanyaru(Rwirambo)	No	21.2
13	Cyili	RSSP	469	13	Akanyaru(Ndaro)	No	145
14	Nyakagezi	QWMDP	109	14	Akanayru(Muyinza)	No	88.9
15	Rwasave	RSSP	122	15	Akajyenama	No	55.2
16	Ruvungirana	QWMDP	74.7	16	Urutanga	No	10.3
17	Ruvugangoma	QWMDP	36.7	17	Uruseke	No	10.3
18	Gaseke	Roughly developed	18.0	18	Akanyaru	No	1050
19	Mutori	Roughly developed	12.2	19	Rutobo	No	92.8
				20	Nili	No	109
				21	Nyamuko-Fubo	No	24.0
				22	Muhanga	No	15.9
				23	Kidimbizi	No	26.9
				24	Nkurubindi	No	8.1
				25	Migina(downstream)	No	129
				26	Gihosha	No	104
				27	Giseke	No	95.2
				28	Duwane	No	134
				29	Akarugondo	No	28.9
				30	Kigaga	No	11.3
				31	Migombwa	No	12.0
				32	Akanyaru	No	123

(2) Huye District



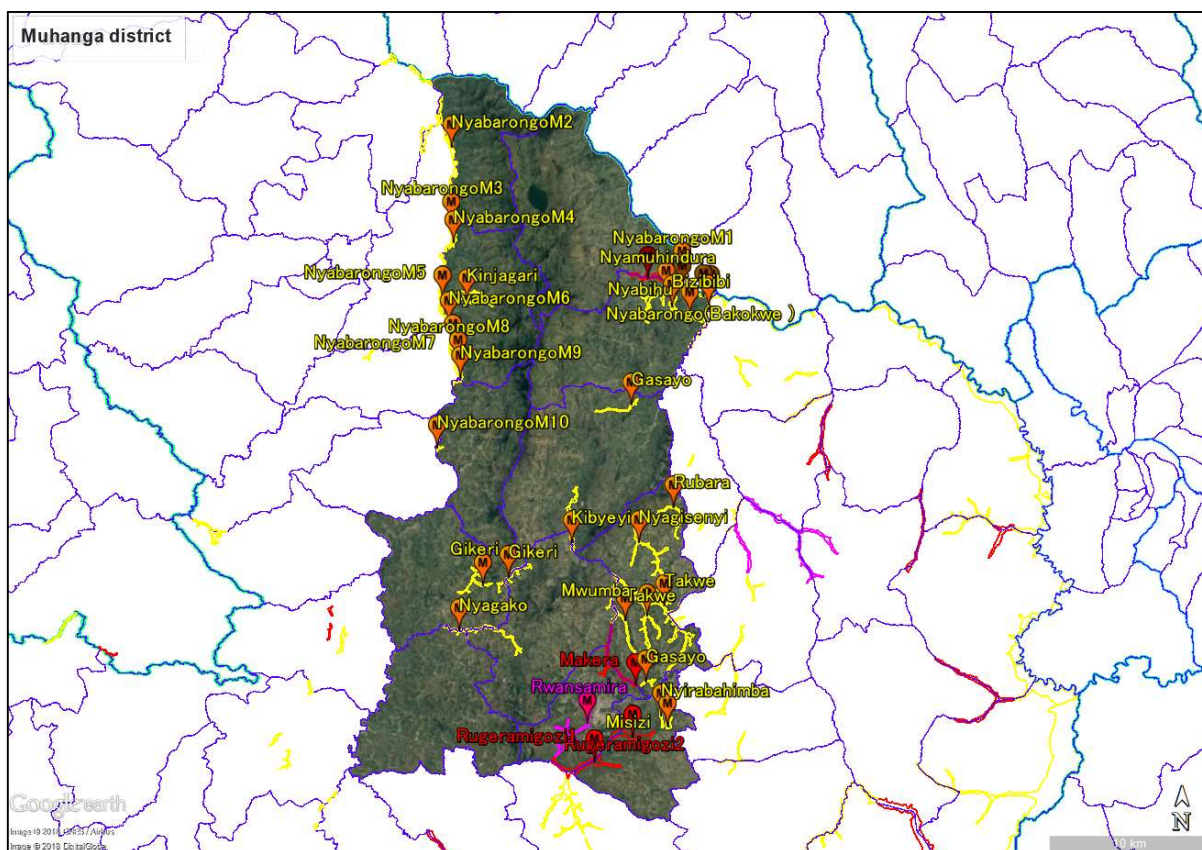
No	Name	Developed	Google earth size(ha)	No	Name	Developed	Google earth size(ha)
1	Mwogo(upstream)	PDAG	73.0	1	Bishyimbo	No	125
2	Nyamugari	WFP	39.7	2	Nyiramuhimbo	No	21.0
3	Mwogo(downstream)	GAA	314	3	Birambo	No	128
4	Umusizi	QWMDP	52.5	4	Nyakigezi	No	17.0
5	Agatenga	Red Cross	25.0	5	Butambu	No	64.9
6	Nyamuko-Kidobogo	Roughly(Prison(RCS),UR)	14.7	6	Kinnyogero	No	34.4
7	Rwamamba	QWMDP	70.9	7	Ruvima	No	36.0
8	Murori	QWMDP	57.2	8	Ruranga	No	10.7
9	Mukura	QWMDP	92.1	9	Munyazi	No	140
10	Ndobogo	Roughly by farmer	106	10	Nyabitare	No	20.0
11	Nyiragasare	WFP	85.0	11	Urushoka	No	9.2
12	Rusuli-Rwamukinga	RSSP	245	12	Kinyamaganga	No	15.6
13	Runukangoma	RSSP	95.9	13	Kibingo	No	15.2
14	Umwari	QWMDP	45.0	14	Nyagisenyi	No	75.6
				15	Karera	No	42.0
				16	Nyota	No	25.9
				17	Nyabihanga	No	17.9
				18	Bishyamarwa	No	87.9
				19	Ntaruka	No	39.5
				20	Akagege	No	14.3
				21	Rwanyiramparaye	No	12.8

(3) Kamonyi District



No	Name	Developed	Google earth size(ha)	No	Name	Developed	Google earth size(ha)
1	Gikoro	QWMDP	89.4	1	Kayumbu	No	57.8
2	Kibuza	Roughy by KOICA	45.1	2	Kinani	No	6.1
3	Gatimbazi	Roughy by KOICA	68.8	3	Rutobwe	No	19
4	Mushimba	Roughy by KOICA	41.6	4	Mpombori	No	51.1
5	Rwabashyashya	QWMDP	60.4	5	Bahimba	No	36.2
6	Kayumbu	Roughy by KOICA	37.2	6	Nyabarongo	No	43.6
7	Bishenyi	QWMDP	61	7	Rugoma	No	19
8	Mukunguli	RSSP	699	8	Nyarubaya	No	15.6
9	Ruboroga	QWMDP	134	9	Kamiranzovu	No	65.1
				10	Akanyaru	No	1380
				11	Kavunja	No	104.0
				12	Mugerera	No	13.7
				13	Nyabarongo	No	1,223

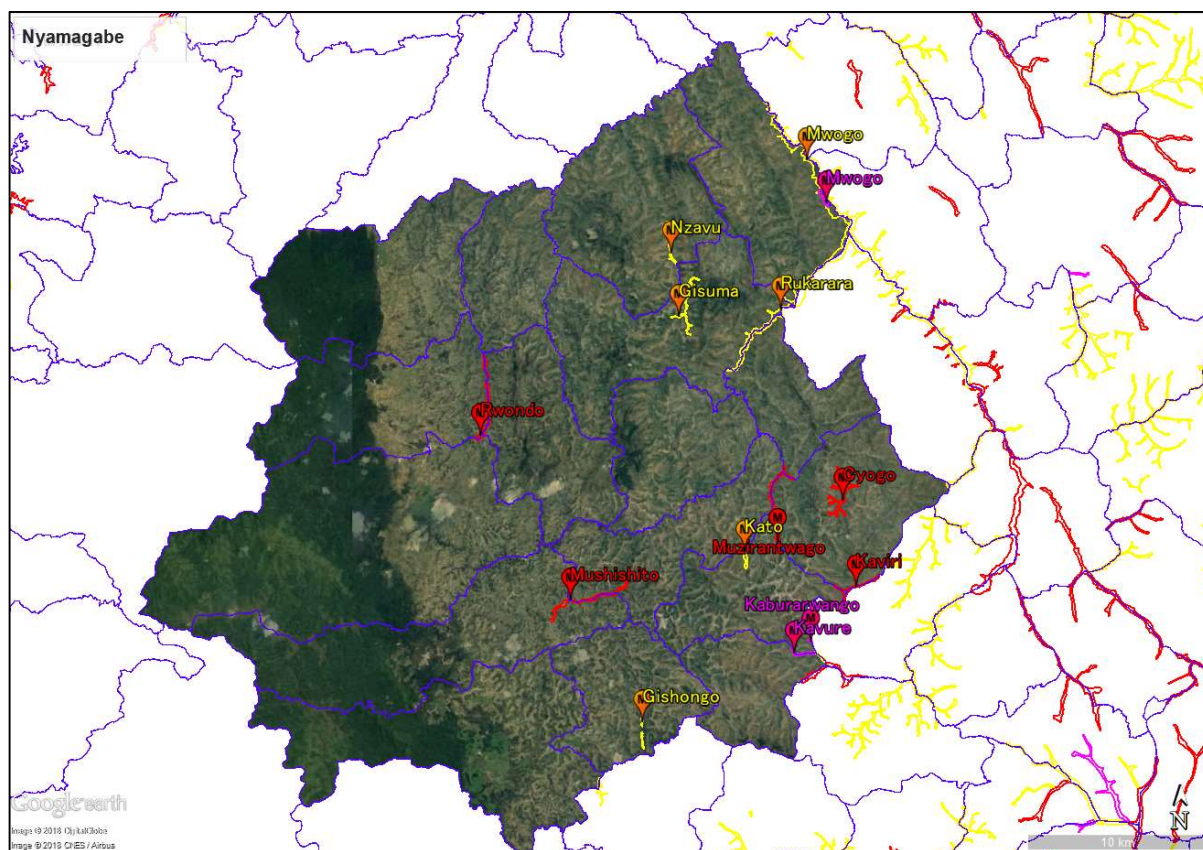
(4) Muhanga District



No	Name	Developed	Google earth size(ha)
1	Rugeramigozi I	RSSP 2	70.4
2	Rugeramigozi II	GAA	63.2
3	Rwansamira	Rough WFP	77.1
4	Makera	QWMDP	80.3
5	Ruterana	KOICA/RCSP	34.8

No	Name	Developed	Google earth size(ha)
1	Rubara	No	58.5
2	Gasayo	No	506
3	Misizi	No	179
4	Nyirabahimba	No	242
5	Takwe	No	114
6	Nyagisenyi	No	99.9
7	Nyagako	No	59.6
8	Gikeri	No	136
9	Nyabarongo	No	288
10	Mwumba	No	469
11	Gasayo	No	109
12	Bizibibi	No	122
13	Nyamuhindura	No	74.7
14	Nyabarongo(Bwayi)	No	36.7
15	Nyabihu	No	18.0
16	Nyabarongo(Kabahara)	No	12.2
17	Nyabarongo(Bakokwe)	No	30.7
18	Nyabarongo(Nyamiseke)	No	15.2
19	Kibyezi	No	56.9
20	Kinjagari	No	34.7
21	Nyabarongo	No	79.5
22	Nyabarongo	No	33.3

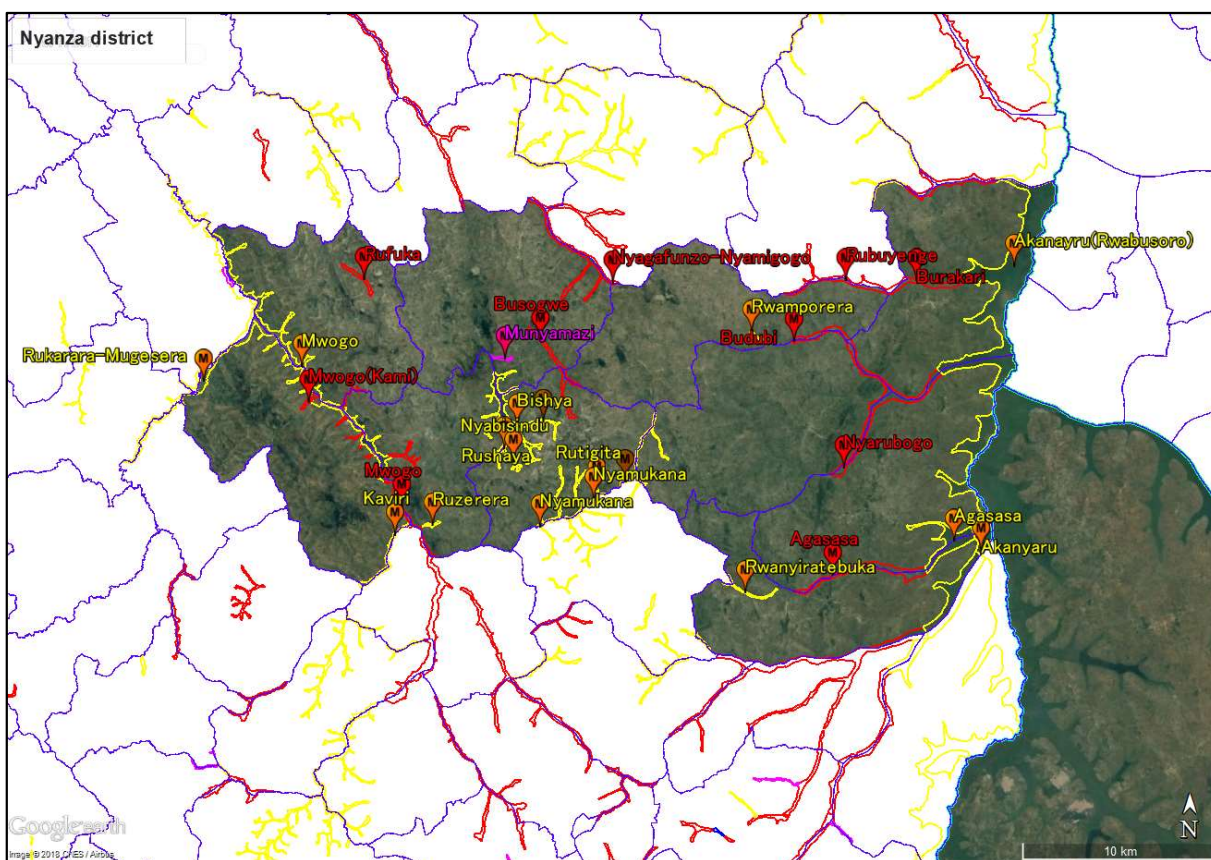
(5) Nyamagabe District



No	Name	Developed	Google earth size(ha)
1	Mushishito	QWMDP	63.0
2	Rwondo	QWMDP	60.3
3	Mwogo	Rough(NGO with District)	17.0
4	Cyogo	QWMDP	53.4
5	Kaviri	PDAG	15.6
6	Muzirantwago	QWMDP	71.5
7	Kabururwango	Rough(KOICA)	9.8
8	Kavure	Rough(KOICA)	12.6

No	Name	Developed	Google earth size(ha)
1	Gishongo	No	6.4
2	Mwogo	No	247
3	Rukarara	No	194
4	Nzavu	No	18.4
5	Gisuma	No	23.1
6	Kato	No	12.4

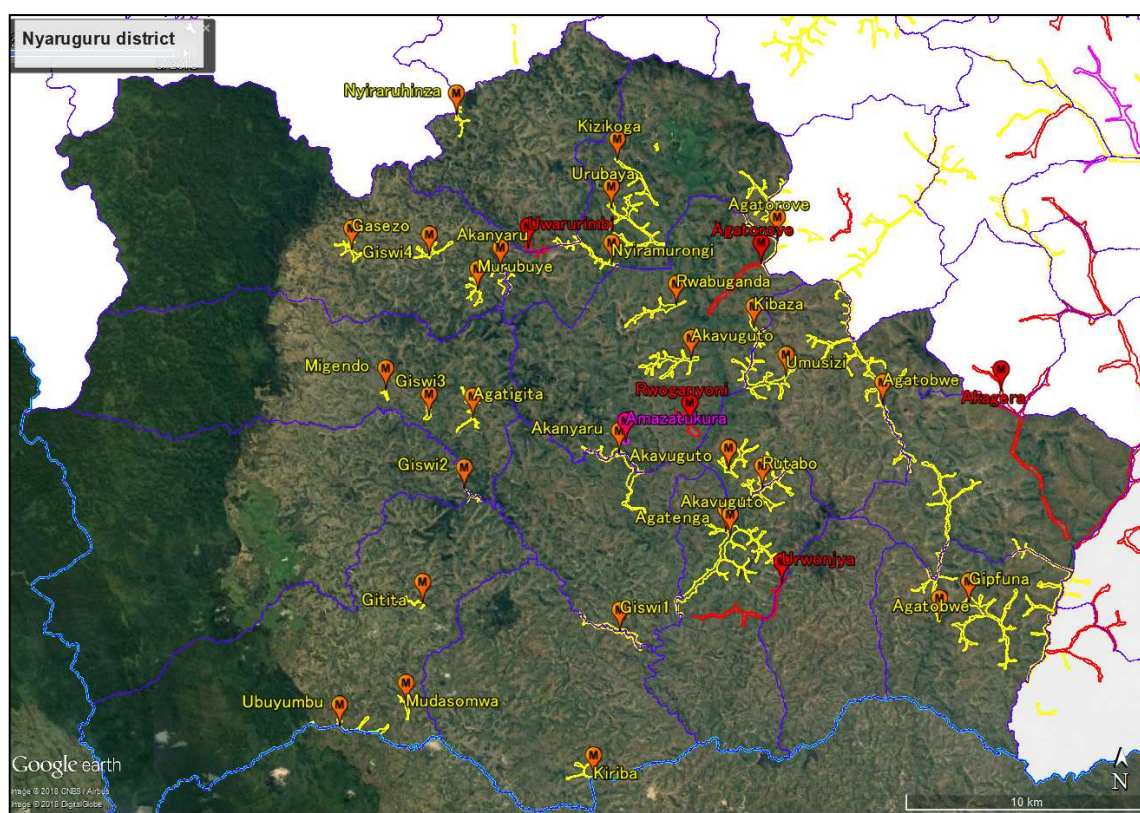
(6) Nyanza District



No	Name	Developed	Google earth size(ha)
1	Agasasa	RSSP	181
2	Nyarubogo	RSSP	241
3	Budubi	QWMDP	135
4	Rubuyenge	QWMDP	134
5	Burakari	QWMDP	112
6	Mungamazi	Roughly by NGO	10.6
7	Rufuka	QWMDP	31
8	Mwogo	LWH	149
9	Mwogo(Kami)	LWH	15.7
10	Busogwe	QWMDP	95.8
11	Nyagafunzo-Nyamigogo	QWMDP	152

No	Name	Developed	Google earth size(ha)
1	Rwanyiratebuka	No	25.2
2	Agasasa	No	200
3	Akanyaru	No	120
4	Rwamporera	No	6.9
5	Akanyaru(Rwabusoro)	No	1757
6	Mwogo	No	407
7	Kaviri	No	48
8	Rukarara-Mugesera	No	51
9	Ruzerera	No	8.9
10	Nyabisindu	No	14.0
11	Rushaya	No	27.4
12	Bishya	No	170
13	Akaziga	No	15.6
14	Rutigita	No	16.1
15	Nyamukana	No	113
16	Gisharara	No	53.5

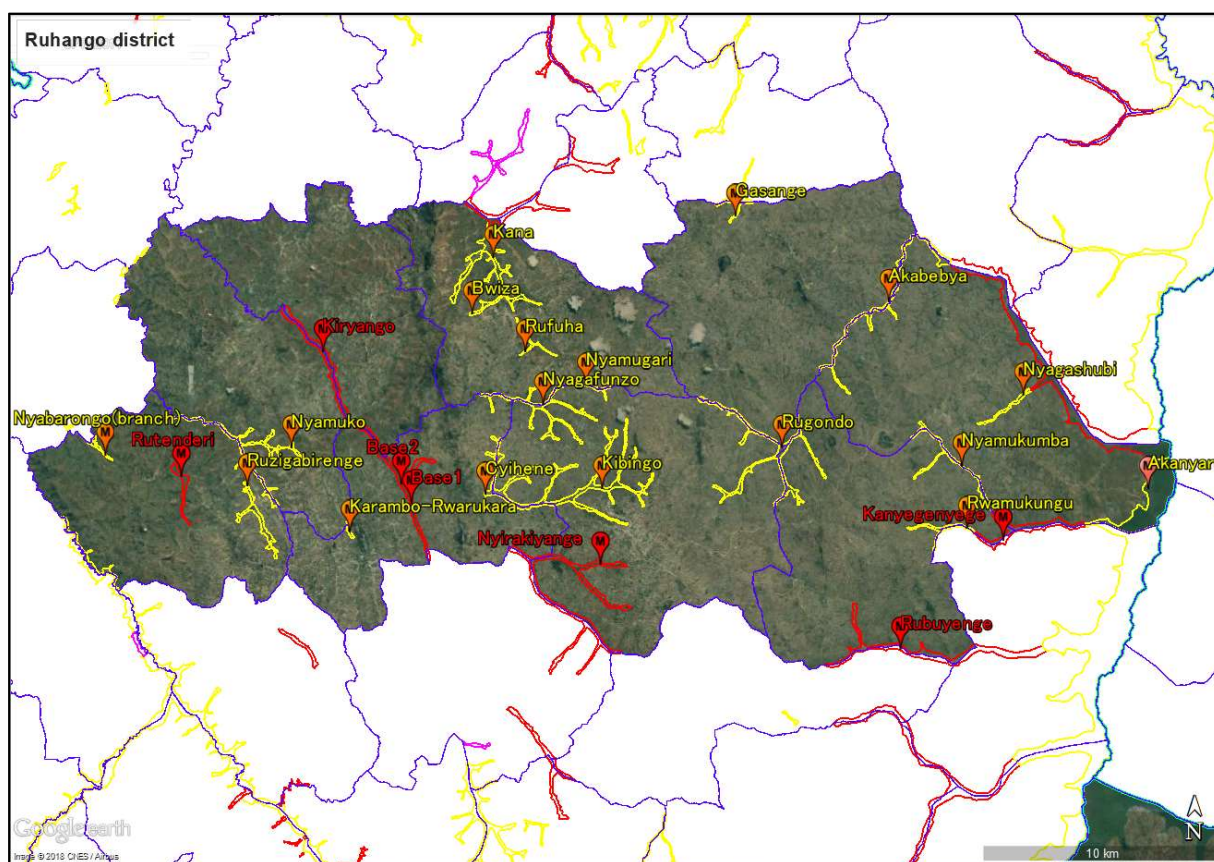
(7) Nyaruguru District



No	Name	Developed	Google earth size(ha)
1	Rwoganyoni	District	22
2	Agatorove	District	37.3
3	Akagera	QWMDP	158
4	Urwonjya	QWMDP	53.5
5	Amazatukura	Roughly KOICA	4.3
6	Uwarurimbi	World Vision	17.1

No	Name	Developed	Google earth size(ha)
1	Gifuna	No	95.0
2	Agatobwe(downstream)	No	356
3	Akavuguto	No	217
4	Agatenga	No	10.0
5	Akanyaru	No	71.9
6	Rwabuganda	No	31.4
7	Kibaza	No	20.4
8	Umusizi	No	76.0
9	Rutabo	No	81.0
10	Giswi1	No	42.6
11	Kiriba	No	13.8
12	Mudasomwa	No	7.2
13	Ubuyumbu	No	25.2
14	Gitita	No	6.9
15	Giswi2	No	7.3
16	Migendo	No	4.1
17	Giswi3	No	9.6
18	Agatigita	No	19.9
19	Agatorove(upstream)	No	99.0
20	Kizikoga	No	29.3
21	Urubaya	No	71.4
22	Nyiramurongi	No	31.8
23	Nyiraruhinza	No	10.2
24	Akanyaru	No	36.0
25	Murubuye	No	17.8
26	Giswi4	No	21.8
27	Gasezo	No	19.7

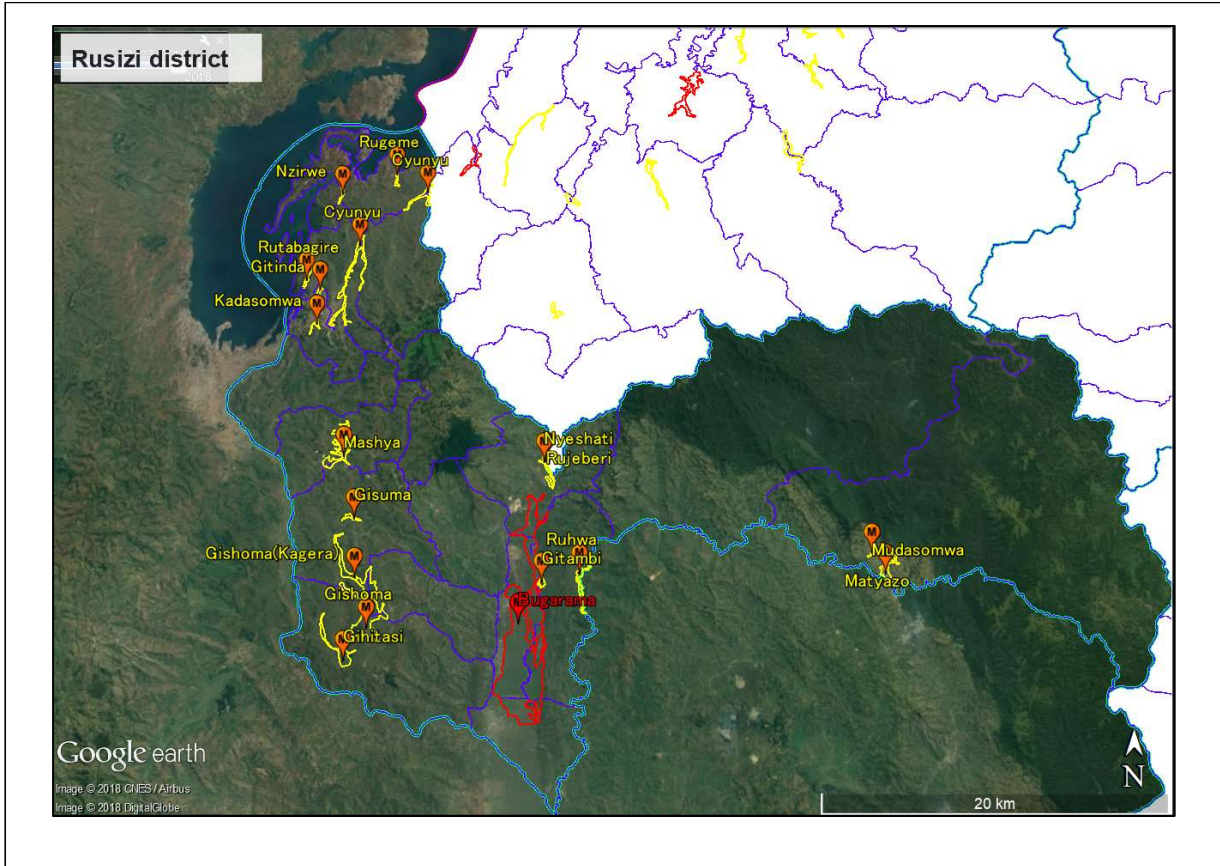
(8) Ruhango District



No	Name	Developed	Google earth size(ha)
1	Nyrakiyange	QWMDP	98.5
2	Base	GAA	134
3	Kanyegenyeye	QWMDP	129
4	Kiryango	GAA	108
5	Rutenderi	GAA	36.6

No	Name	Developed	Google earth size(ha)
1	Kibingo	No	190
2	Nyagafunzo	No	91.6
3	Cyihene	No	81.5
4	Rwamukungu	No	33.3
5	Akanyaru	No	358
6	Nyagashubi	No	21.7
7	Nyamukumba	No	54.7
8	Kana	No	134
9	Rufuha	No	14.4
10	Bwiza	No	17.3
11	Nyamugari	No	11.8
12	Nyamuko	No	101
13	Nyabarongo(branch)	No	12.2
14	Ruzigabirenge	No	57.0
15	Karambo-Rwarukara	No	8.4
16	Rugondo	No	153
17	Akabebya	No	124
18	Gasange	No	29.0

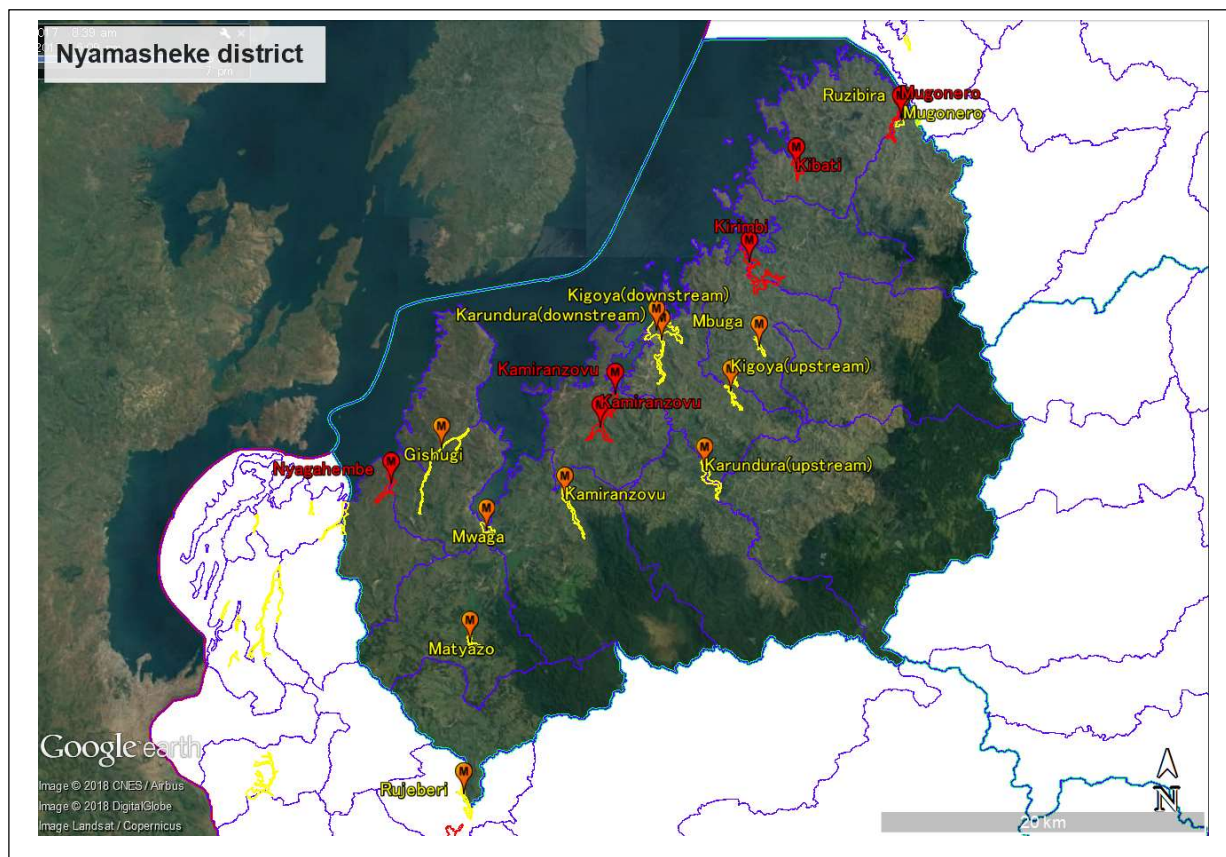
(9) Rusizi District



No	Name	Developed	Google earth size(ha)
1	Bugarama	North Korea, RSSP	1,752

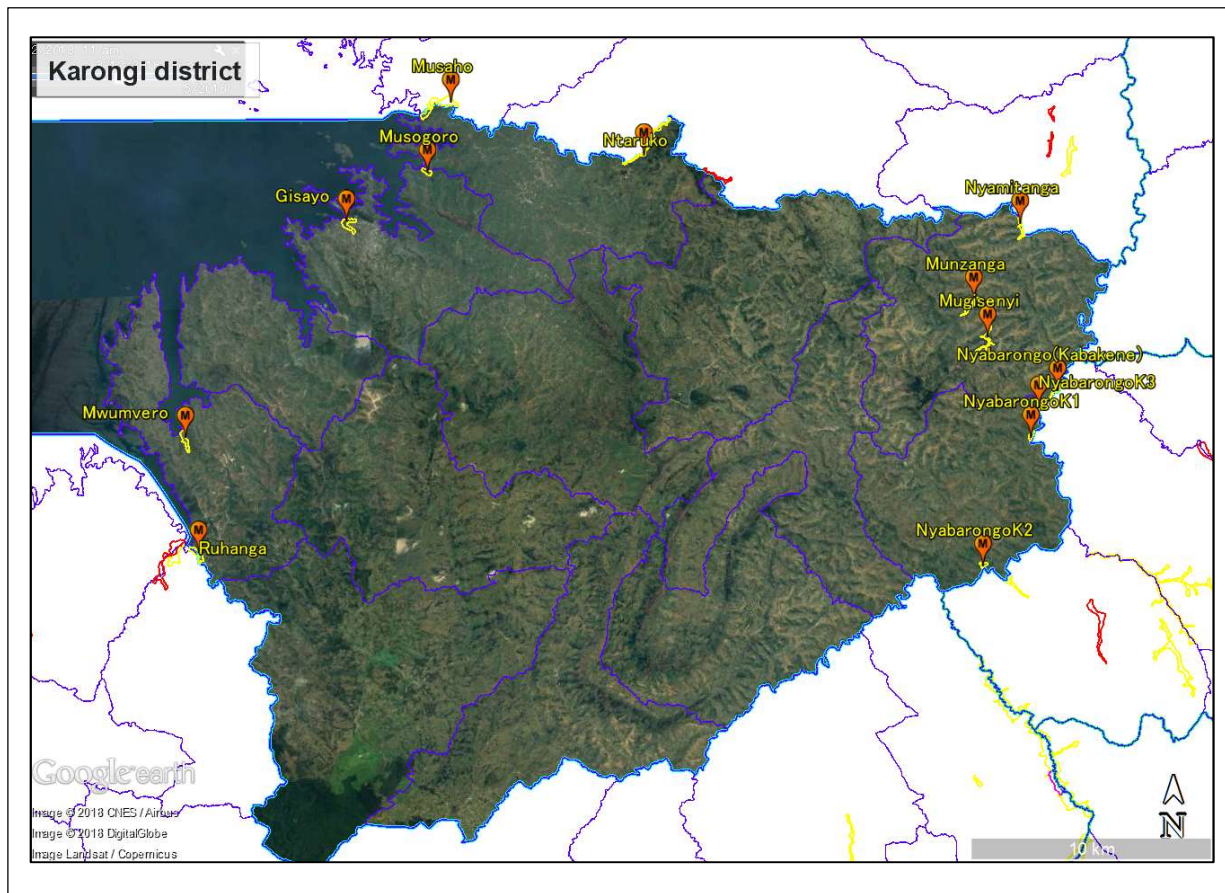
No	Name	Developed	Google earth size(ha)
1	Nyeshati	No	30.3
2	Gitambi	No	15.8
3	Ruhwa	No	45.7
4	Gihitasi	No	95.3
5	Gishoma	No	336
6	Gishoma(Kagera)	No	66.0
7	Gisuma	No	14.8
8	Mashya	No	95.4
9	Cyunyu(upstream)	No	103
10	Gitinda	No	11.1
11	Kadasomwa	No	9.0
12	Rutabagire	No	11.6
13	Nzirwe	No	7.8
14	Rugeme	No	8.6
15	Cyunyu(downstream)	No	60.0
16	Matyazo	No	47.9
17	Mudasomwa	No	4.9

(10) Nyarasheke District



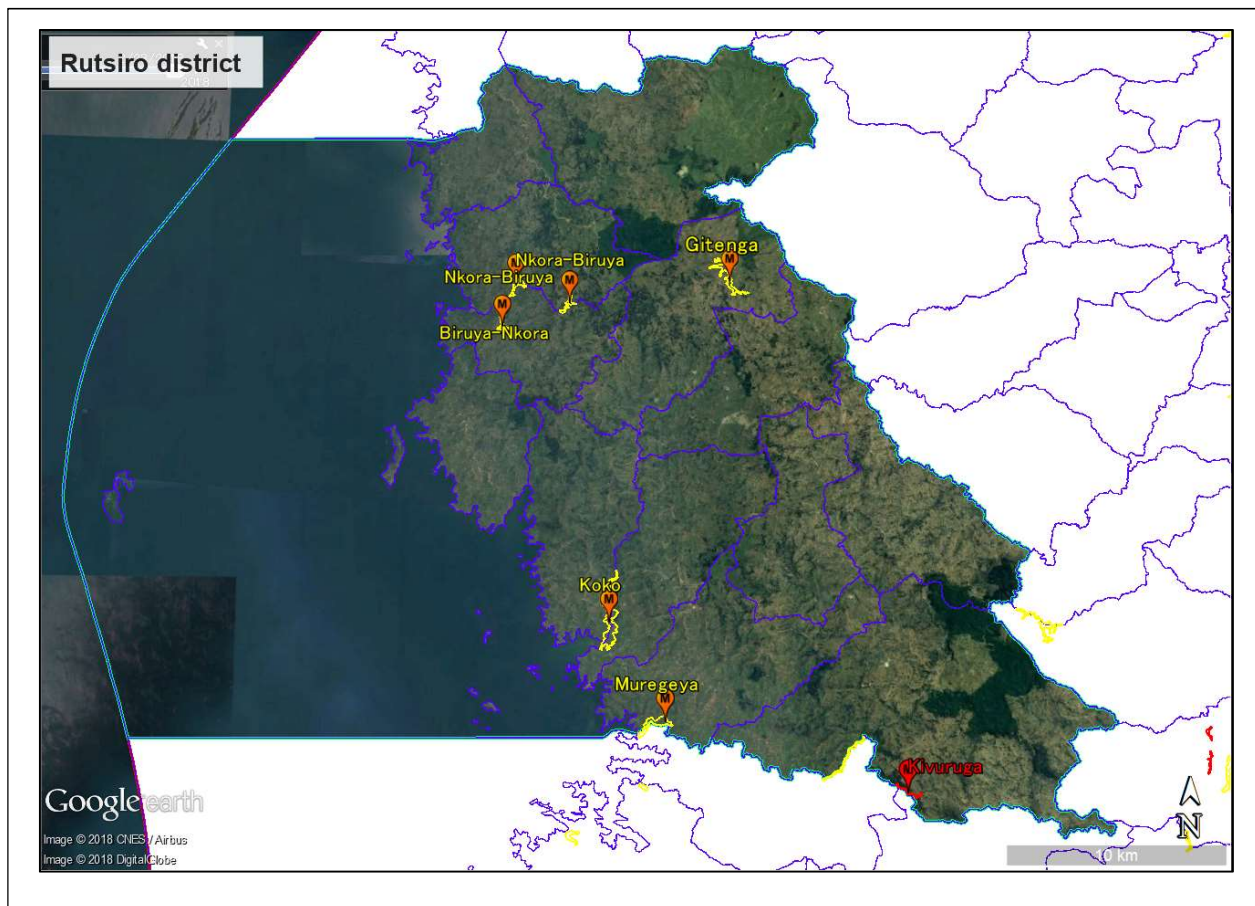
No	Name	Developed	Google earth size(ha)	No	Name	Developed	Google earth size(ha)
1	Nyagahembe	QWMDP	46.4	1	Mwaga	No	27.9
2	Kamiranzovu	RSSP	133	2	Matyazo	No	23.0
3	Mugonero	QWMDP	55.7	3	Kamiranzovu	No	58.5
4	Kibati	QWMDP	31.4	4	Rujebiri	No	11.4
5	Kiriubi	RSSP	155	5	Gishugi	No	43.2
				6	Karundura(upstream)	No	68.0
				7	Karundura(downstream)	No	42.4
				8	Kigoya(downstream)	No	148
				9	Mbuga	No	14.7
				10	Kigoya(upstream)	No	32.4
				11	Ruzibira-Mugonero	No	19.2

(11) Karongi District



No	Name	Developed	Google earth size(ha)
1	Musaho	No	39.7
2	Gisayo	No	16
3	Ruhanga-Uwaruhinamavi	No	14.4
4	Mwumvero	No	13.4
5	Musogoro	No	6.5
6	Nyabarongo(K1~3)	No	14
7	Ntaruko	No	17.8
8	Nyabarongo(Kabakene)	No	4.9
9	Mugisenyi	No	12.3
10	Munzanga	No	12
11	Nyamitanga	No	8.6

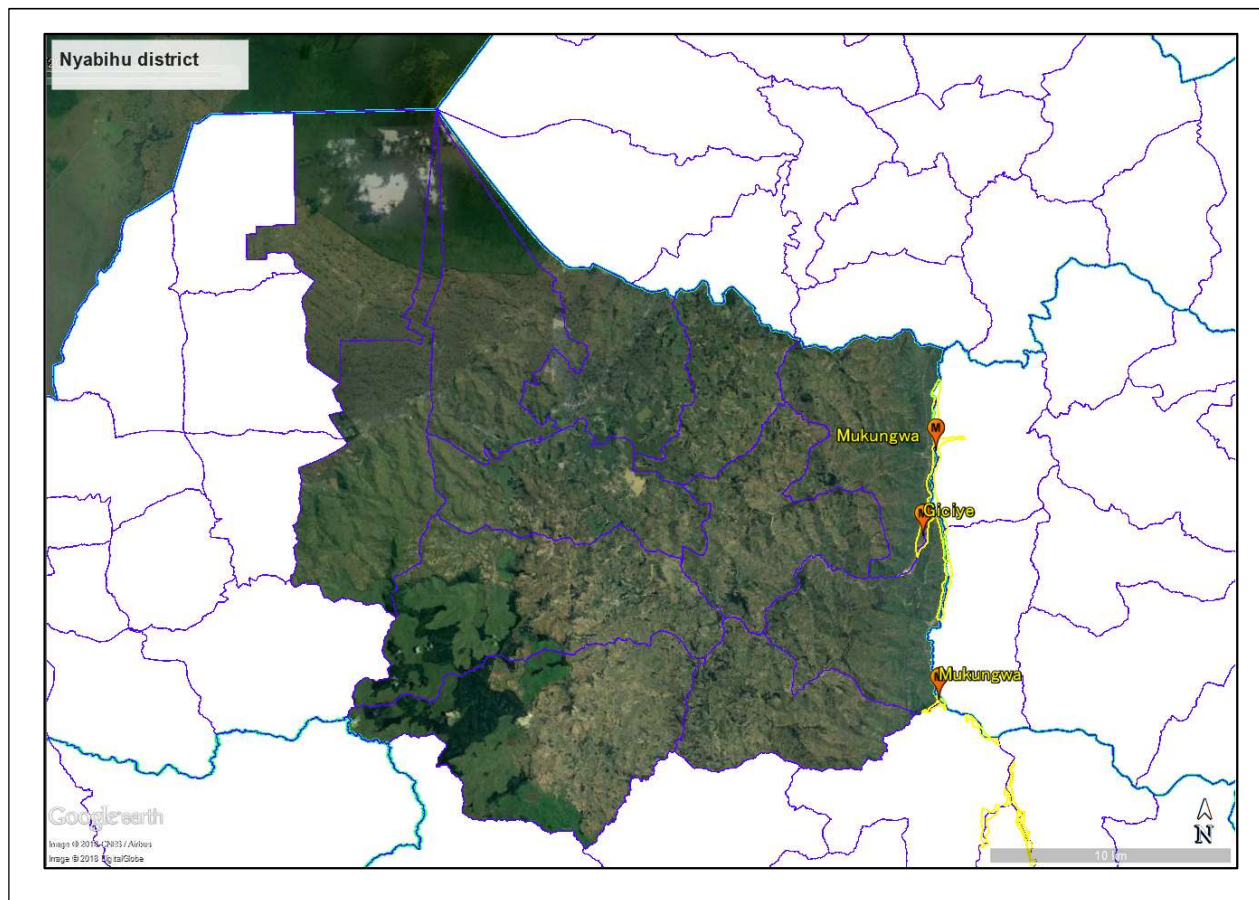
(12) Rutsiro District



No	Name	Developed	Google earth size(ha)
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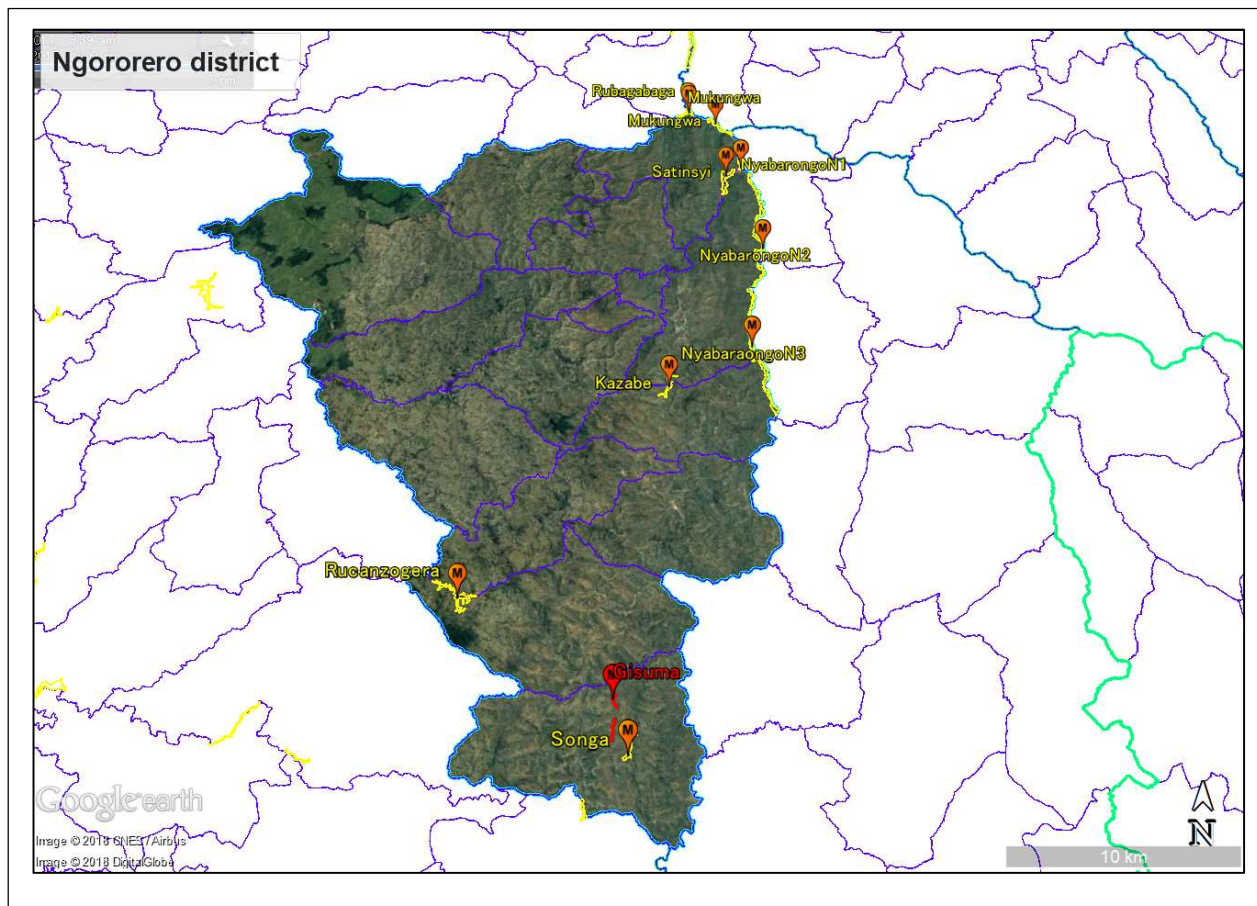
1	Gitenga	No	55.0
2	Nkora-Biruyi	No	26.3
3	Koko	No	98.0
4	Kivuruga	No	7.7

(13) Nyabihu District



No	Name	Developed	Google earth size(ha)
1	Giciye	No	57.0
2	Mukungwa	No	103

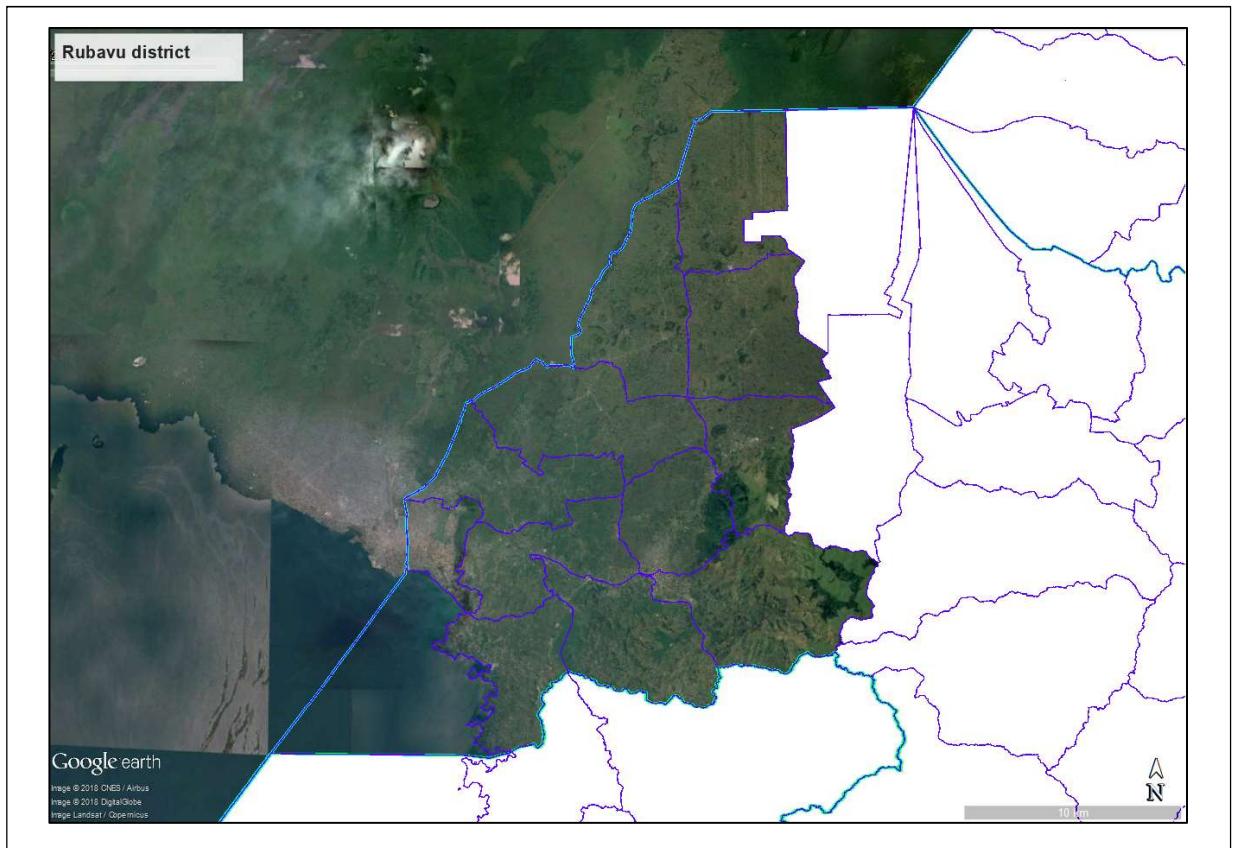
(14) Ngororero District



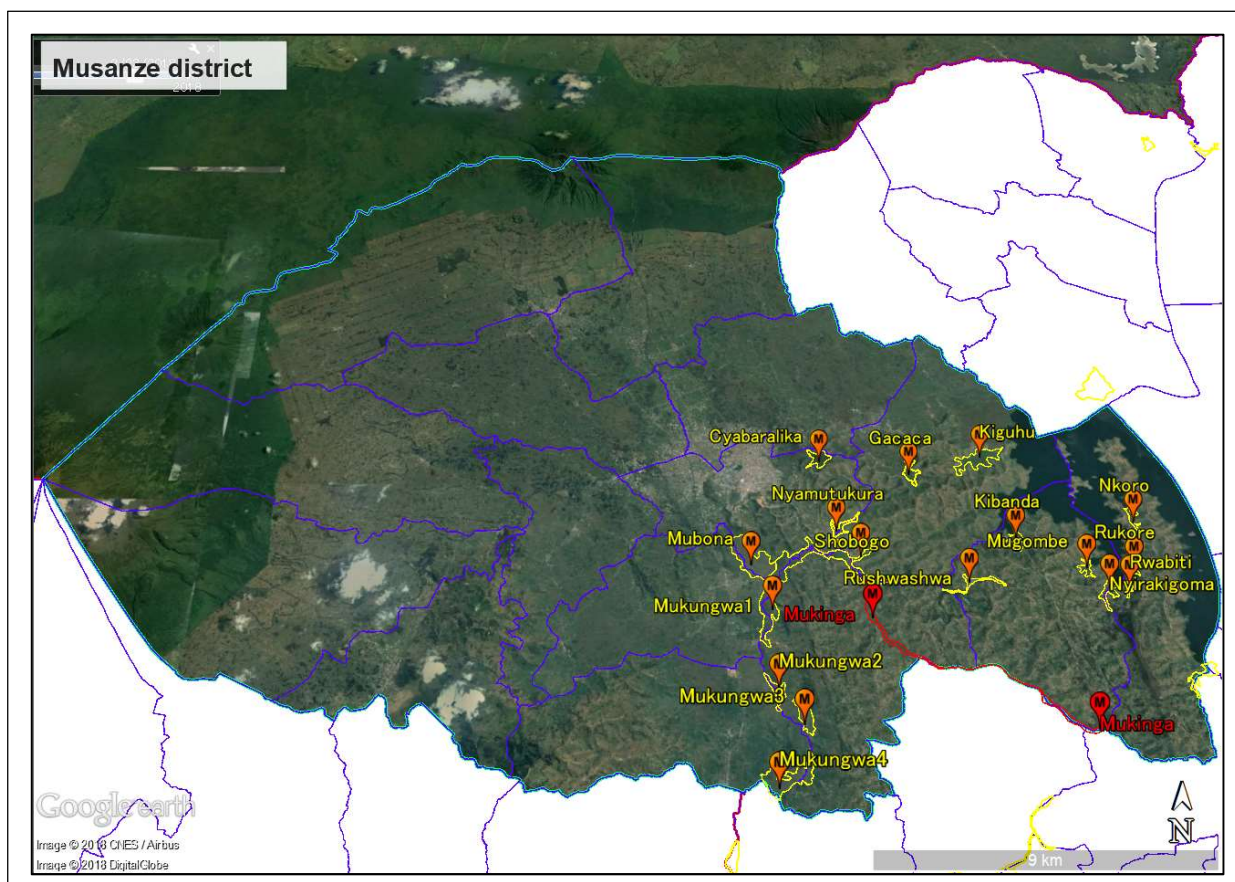
No	Name	Developed	Google earth size(ha)
1	Gisuma	PAPSTA	12.3

No	Name	Developed	Google earth size(ha)
1	Kazabe	No	16.0
2	Rucanzogera	No	39.7
3	Songa	No	24.6
4	Mukungwa	No	25.5
5	Rubagabaga	No	9.6
6	Satinsyi	No	45.2
7	Nyabarongo(N1~3)	No	176

(15) Rubavu District

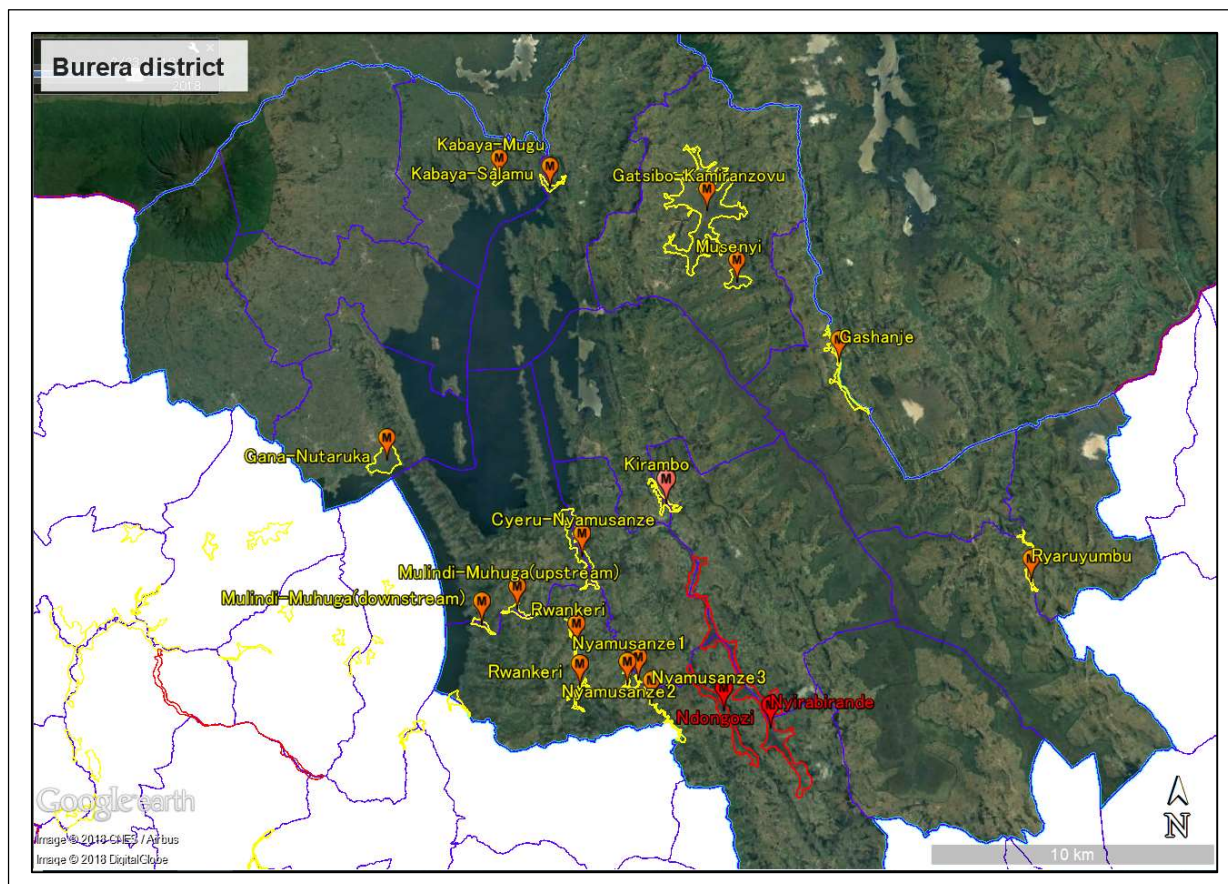


(16) Musanze District



No	Name	Developed	Google earth size(ha)	No	Name	Developed	Google earth size(ha)
1	Mukinga	QWMDP	64.7	1	Nkoro	No	11.3
				2	Rukore	No	5.7
				3	Rwabiti	No	6.5
				4	Nyirakigoma	No	19.9
				5	Mugombe	No	11.4
				6	Kibanda	No	14.8
				7	Kiguhu	No	57.0
				8	Gacaca	No	21.8
				9	Rushwashwa	No	15.3
				10	Shobogo	No	6.8
				11	Cyabaralika	No	24.1
				12	Mubona	No	90.7
				13	Mukungwa	No	275.9
				14	Nyamutukura	No	20.5

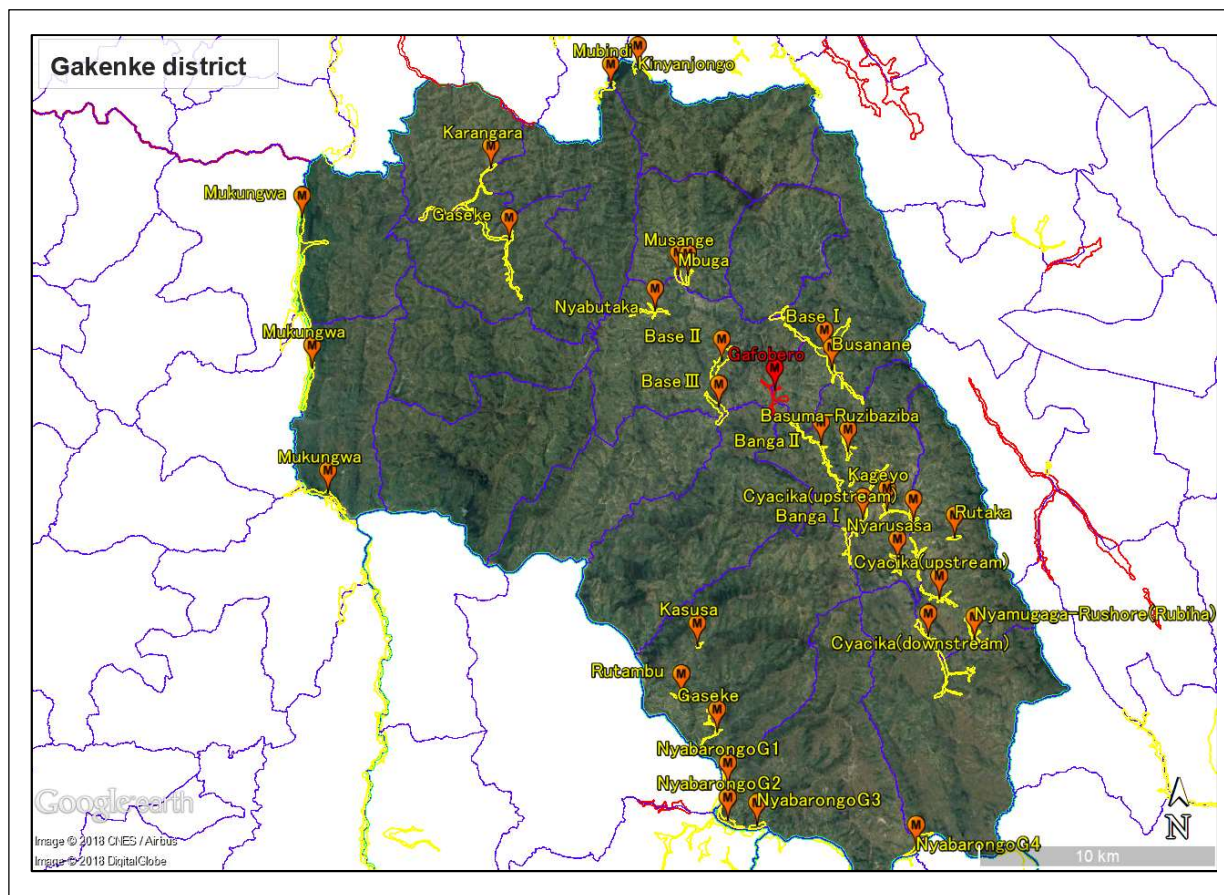
(17) Burera District



No	Name	Developed	Google earth size(ha)
1	Ndongozi	RSSP	97.6
2	Nyirabirande	RSSP	311

No	Name	Developed	Google earth size(ha)
1	Kirambo	No	26.4
2	Cyeru-Nyamusanze	No	94.9
3	Rwankeri	No	29.8
4	Nyamusanze	No	27.7
5	Mulindi-Muhuga	No	31.5
6	Gana-Ntaruka	No	109.0
7	Gatsibo-Kamiranzovu	No	465
8	Musenyi	No	37.3
9	Ryaruyumbu	No	18.7
10	Gashanje	No	42.5
11	Kabaya-Salamu	No	16.4
12	Kabaya-Mugu	No	15.0

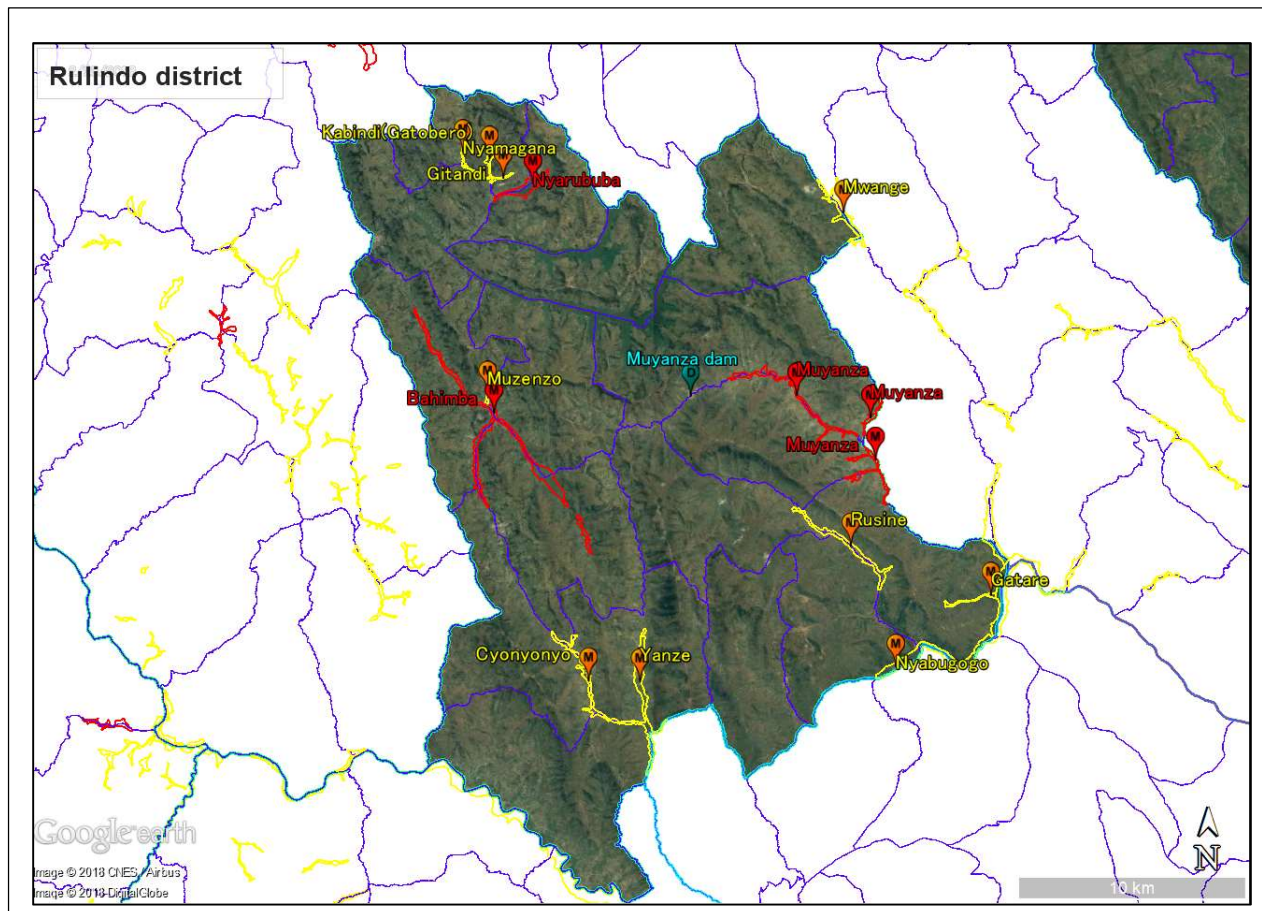
(18) Gakenke District



No	Name	Developed	Google earth size(ha)
1	Gafobero	PAPSTA	33.7

No	Name	Developed	Google earth size(ha)
1	Cyacika(downstream)	No	61.2
2	Nyarusasa	No	12.4
3	Kageyo	No	10.7
4	Cyacika(upstream)	No	42.0
5	Rutaka	No	6.2
6	Nyamugaga-Rushore(Rubina)	No	20.4
7	Banga I	No	62.7
8	Basuma-Ruzibaziba	No	19.7
9	Banga II	No	40.5
10	Base III	No	32.2
11	Base II	No	39.3
12	Mukungwa	No	170
13	Gaseke-Karangara	No	118.6
14	Mubindi	No	23.0
15	Kinyanjongo	No	19.8
16	Nyabutaka	No	19.0
17	Mbuga	No	15.6
18	Musange	No	8.2
19	Base I	No	82.3
20	Busanane	No	38.3
21	Rutambu	No	13.6
22	Kasusa	No	3.9
23	Gaseke	No	11.3
24	Nyabarongo	No	66.6

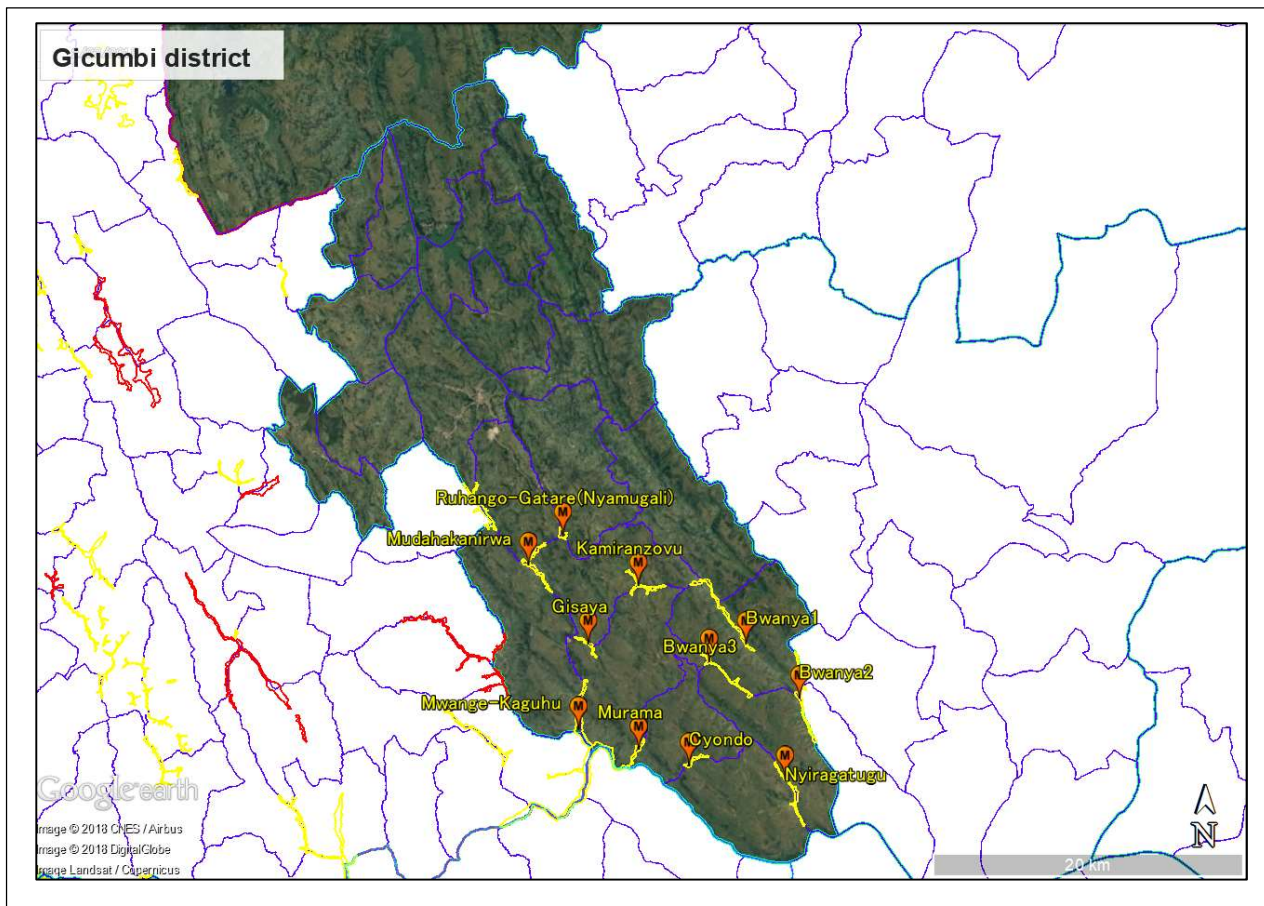
(19) Rulindo District



No	Name	Developed	Google earth size(ha)
1	Nyarububa	RSSP	79.7
2	Bahimba	QWMDP	288
3	Muzanza	LWH	164

No	Name	Developed	Google earth size(ha)
1	Gitandi	No	7.4
2	Kabindi(Gatobero)	No	20.3
3	Nyamagana	No	13.7
4	Mwange	No	78.4
5	Muzenzo	No	5.9
6	Rusine	No	92.9
7	Nyabugogo	No	373
8	Gatane	No	19.3
9	Cyonyonyo	No	84.2
10	Yanze	No	152

(20) Gicumbi District



No	Name	Developed	Google earth size(ha)
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No	Name	Developed	Google earth size(ha)
1	Ruhango-Gatare(Nyamugali)	No	21.0
2	Mudahakanirwa	No	62
3	Gisaya	No	20.9
4	Mwange-Kaguhu	No	124
5	Murama	No	29.7
6	Cyondo	No	20.8
7	Nyiragatugu	No	47.5
8	Bwanya2	No	78.2
9	Bwanya1	No	81.5
10	Bwanya3	No	48.2
11	Kamiranzovu	No	44.7

6. The list of the interviewees

(1) Gisagara

#	Names	Contact	Function	Marshland
1	Twagirumukiza Augustin	0788 352 353	Director of Agriculture	Gisagara
2	Felix Nshimiyimana	078 821 2619	Sector Agronomist	Gikonko
3	Edourd Bizimana	078 875 1796	Sector Agronomist	Gishubi
4	Valens Ndatimana	078 863 5534	Sector Agronomist	Kansi
5	Jea Claude Niyotwizeye	078 179 5135	Sector Agronomist	Kibilizi
6	Aimé Serge Uwimpaye	078 868 0928	Sector Agronomist	Kigembe
7	Eugene Hacineza	078 976 6046	Sector Agronomist	Mamba
8	Samuel Kanyamasovu	078 885 7945	Sector Agronomist	Muganza
9	Naphtal Nshimyumukiza	078 317 7480	Sector Agronomist	Mugombwa
10	Noella Niyitegeka	078 857 6083	Sector Agronomist	Mukindo
11	Renese Banganirora	078 866 9706	Sector Agronomist	Musha
12	Etienne Ndiriyimana	078 856 6359	Sector Agronomist	Ndora
13	J Bosco Nsabimana	078 865 7777	Sector Agronomist	Nyanza
14	Peruth Niyonsaba	078 855 7401	Sector Agronomist	save
15	Uwayezu JMV	0783 182 709	COAMAKI	Nyakanyeri
16	Ndayitegeye Berthin	0785 172 385	TUZAMURANE-RUMIRA	Rumira/ Urukingo
17	Ndanga Theoneste	0783 261 591	COPRORIZ- KABOGOBOGO	Kigaga-Kabogobogo
18				
19	KIRUMUGABO Vincent	0787 074 385	WUO	Akaboto
20	Placidie Coop	0788 550 511	GARUKUREBE- AKABOTI	
21	Nzabonankira J Bosco	0784 204 985	DUFATANYE-KIBUGAZI	Kibugazi
22	Gakwaya Coop	0783 016 873	COOPRORIZ-MIRAYI	Mirayi
23	Nshimiyimana Evaliste	0788 436 762	COOPRORIZ-NGIRYI	Ngiryi
24	Niyongana Vincent	0782 804 607	TUJYEHEZA Nyiramageni	Rwamporera- Nyiramageni
25	Uwamahoro Clarisse	0785 247 530	TWUZUZANYE GATARE	Mwura-Gatere
26	Uwihanganye	0783 012 881	COPRORIZ-GATARE	
28	Minani Vicent	078 886 5651	KOABISA	Nyabuyogera
				Akanyaru
29	Ntirushwamaboko Moise	0783 817 250	DUTERANINKUNGA, HINGA WORORE	Agatare
30	Gilbert Mbonasanase	0788 852 827	WUO Manager	Cyili
31	Edson Kayijamahe	078 863 4802	WUO	Rwasave
32	Gasangwa	078 552 0205	TUZAMURANE RUVUNGIRANA	Ruvungirana
33	Nyiraminani Josephine	0785 506 328	Cooperative Aud Committee member	Rwamporera (Non developed)
34	Boniface Nayigiziki	0788 618 258	KOJYAMUGI- Akanyaru/ Mamba (Cooperative President)	Akanyaru (Mamba)
35	Gakwaya	078 301 6873	COOPRORIZ-Mirayi	Akanyaru (Akarugi)
36	Twahirwa JD	0785 056 767	COAMAGI president	Akanyaru (Muyinza)
37	Sibomana Emmanuel	0782 378 651	Twitezimbere Cooperative	Akajyenama
38	Higiro Eulicade	0727 773 206	Farmer	Urutanga
39	Josephine	0788 284 611	Village leader	Uruseke
40	Nshimiyimana Alphonse	0783 718 664	CCM President	Akanyaru (G3, G4, Nyabisindu, Mutobo)
41	Renzaho Jean Pierre	0784 595 144	Farmer	Umusizi
42	Biraje	0782 903 481	Farmer	Rutobo
43	Celestin Sibomana	0788 636255	Farmer	Muhanga Kidimbizi
44	Innocent	0789 149 798	CORIMU President	Gihosha
45	Kabera	0784 217 439	Famer	Giseke

(2) Huye

#	Names	Contact	Function	Marshland
1		0786 828 512	Sector Agronomist	Gishamvu
2		0786 829 421	Sector Agronomist	Huye
3		0786 828 662	Sector Agronomist	Karama
4		0786 828 376	Sector Agronomist	Kigoma
5		0786 828 542	Sector Agronomist	Kinazi
6		0786 829 384	Sector Agronomist	Maraba
7		0786 828 647	Sector Agronomist	Mbazi
8		0786 829 297	Sector Agronomist	Mukura
9		0786 829 304	Sector Agronomist	Ngoma
10		0786 828 576	Sector Agronomist	Ruhashya
11		0786 828 335	Sector Agronomist	Rusatira
12		0786 828 599	Sector Agronomist	Rwaniro
13		0786 828 731	Sector Agronomist	Simbi
14		0786 829 275	Sector Agronomist	Tumba
15	Hagenimana	0722 480 599	Farmer	Mwogo
16	Charles	0786 831 323	Village leader	Nyamugali

(3) Kamonyi

#	Names	Contact	Function	Marshland
1		0 788 455 696	Sector Agronomist	Gacurabwenge
2	Muhashyi	0785 823 269	COALEKA President	Gikoro
3	Frederick Murenzi	0782 379 130	KABIYATI President	Gatimbazi Kibuza
4	Bernard Uwihoreye	0788 647 089	IMPUYABO, CODARIKA	Kayumbu, Mpombori
5	Samuel Ntaribi	078 973 2121	IMPABARURA, ABADATEZUKA	Rwabashyashya
6		078 566 7911	COCUMALEBA	Bahimba
7	Vercounda Twagiramungu	078 842 8613	Farmer	Rugoma
8	Emmanuel Dusabe	078 115 9592, 0725 588 160	Ubumwe Bishenyi	Bishenyi
9	Jean Baptiste Bakinahe	078 319 8310	Groups	Kamiranzovu
10	Fransine Mukamusoni	078 354 7780	COPRORIZ Abahuzabikorwa	Mukunguli
11	Didace Hitayezu	078 884 2496	Kabuye suger works	Akanyaru
12	Sylvestre Mugema	078 862 1983	COALFIKA	Kavunja
13	Celestin Niyomwungeri	078 366 1559/ 0788 747 378	KABINYA, COAMAMU President	Ruboroga

(4) Muhanga

#	Names	Contact	Function	Marshland
	Ngumyembarebe Thacien	0788 584 071	Director of agriculture	Muhanga District
1	UWAMBAJIMANA Philippe	0788 611 279	Sector Agronomist	Kabacuzi
2	KWITONDA Lambert	0788 573 041	Sector Agronomist	Rongi
3	MUHIRWA Innocent	0788 647 075	Sector Agronomist	Nyabinoni
4	JYAMBERE Claude	0788 828 385	Sector Agronomist	Cyeza
5	RAFIKI Bonaventure Ndayayisenga	0788 739 867	Sector Agronomist	Nyarusange
6	NSHIMYUKIZA Wellars	0788 507 030	Sector Agronomist	Kibangu
7	HAKIZIMANA Helmenegilde	0788 655 757	Sector Agronomist	Kiyumba
8	CYIZA J Claude	0783 105 816	Sector Agronomist	Mushishiro
9	NDAMYE Felix	0788 803 235	Sector Agronomist	Nyamabuye
10	SUNZU Jonathan	0788 448 182	Sector Agronomist	Muhanga
11	Eric Janvier Karangwa	0783 144 245	Sector Veterinary	Rugendabari
12	UWAMAHORO Chantal	0788 630 517	Sector Agronomist	Shyogwe
13	Valens Nizeyumukiza	0785 785 476	KIABR President	Rugeramigozi I
14	Venancie	0783 013 893	KOKAR V/President	Rugeramigozi II
15	Beatrice Nyiransengiyumva	0783 575 360	KOPARWAMU member	Rwansamira
16	KOPERATIVE IABAM	0788 485 983	IABM President	Makera
17	Antoine	0782 357 282	Farmer	Gikeri
19	Alexis	0722 827 103	Duterimbere Kibangu	Nyabarongo-Nyakabanda
20	Dancille	0722 754 439	Dusabane member	Nyabarongo-Nyabinoni

(5) Nyamagabe

#	Names	Contact	Function	Marshland
1	Uwimana Donatha	0784 836 466	Director of Agriculture	Nyamagabe District
2	Eugene Mutabazi	0788 578 939	Sector Agronomist	Cyanika
3	Come Bayingana	0788 434 024	Sector Agronomist	Gasaka
4	Venuste Nsengiyaremye	0788 211 193	Sector Agronomist	Gatare
5	Jean de Dieu Munyemana	0783 463 387	Sector Agronomist	Kaduha
6	Didier Eric Nduwimana	0788 559 233	Sector Agronomist	Kibilizi
7	Emmanuel Mutuyimana	0788 829 188	Sector Agronomist	Nkomane
8	Frodouard Nkundabaramye	0788 812 215	Sector Agronomist	Mugano
9	Etienne Nshimiyimana	0788 597 427	Sector Agronomist	Musange
10		0781 262 108	Sector Agronomist	Mbazi
11	Chantal Nyirahabimana	0788 405 370	Sector Agronomist	Kamegeri
12		0781 108 656	Sector Agronomist	Uwinkingi
13	Valentin Dusingizeyezu	0786 360 240	Sector Agronomist	Musebeya
14	Marie Chantal Kagoyire	0783 801 666	Sector Agronomist	Tare
15	Francois Xavier Bakundukize	0788 516 674	Sector Agronomist	Buruhukiro
16	Claudine Irankunda	0783 010 264	SEDO	Mushishito
17	Gerard Nkurunziza	0783 323 921	Cooperative President	Rwondo
18	Alphred Nyirimana	0782 113 695	village leader	Gishongo
19	Anastase Mulindahabi	0783 299 063	Farmer	Mwogo
20	Delphine Mujawamariya	0783 402 842	Farmer	Cyogo
21	Annonciate	0722 598 350	Groupe President	Kaviri
22	President	0782 118 575	Duterimber Cooperative	Muzirantwago

(6) Nyanza

#	Names	Contact	Function	Marshland
1	Mutesi Jean Pierre	0788 820 026	Irrigation Officer	Nyanza District
2	KANANI Enan	0788 358 934	Sector Agronomist	Busasamana
3	BAYINGANA Fidele	0788 524 628	Sector Agronomist	Busoro
4	Mannasseh	0788 471 077	Sector Agronomist	Kigoma
5	DUSENGIMANA Jacques	0788 642 465	Sector Agronomist	Muyira
6	GAHUNGU N. Jules	0788 541 628	Sector Agronomist	Kibirizi
7	UWAMBAJIMANA Antoinette	0788 215 509	Sector Agronomist	Mukingo
8	NYIRANGENDAHIMANA Solange	0788 427 124	Sector Agronomist	Ntyazo
9	MUKASHYAKA Sandrine	0787 685 785	Sector Agronomist	Nyagisozi
10	RURAMIRA Richard	0788 760 118	Sector Agronomist	Rwabicuma
11	BIKORIMANA Chrisostome	0784 461 396	Sector Agronomist	Cyabakamyi
12	J Bosco Ntagengwa	0788 525 946	Cooprорiz Agasasa	Agasasa
13	Egide Sendanyoye	0783 193 641	Cooprорiz Nyarubogo Pre	Nyarubogo
14	Buzizi	0722 214 729	COARIBU President	Budubi
15	Murwanashyaka	0786 093 944	Abishyizehamwe	Rubuyenge
16	Charles Manager	0785 548 559	Cooprорiz Busoro	Burakari
17	Rubagumya Charles	0788 977 883	COAMANYA	Akanyaru
18	Habamenshi Callixte	0785 742 975	Cooperative President	Rufuka
19	Mukasine Vestine	0782 910 405	WUO President	
20	Abdan	0782 429 242	Farmer	Cyahafi
21	Ndagijimana Gad	0783 411 240	Farmer	Kami
22	Marcelline Nyiransabimana	0782 911 205	Farmer	Ruzerera
23	Adorata	0783 065 904	Farmer	Nyabisindu
24	Agrippine	0788 842 873	Farmer	Akaziga
25	Dieudonné	0783 789 012	Farmer	Rutigita
26	Samuel	0785 431 485	Farmer	Gisharara
27	Eric Muhire	0784 410 170	Farmer	Nyamukana

(7) Nyaruguru

#	Names	Contact		Marshland
1	Mbonyisenge Thomas	0788 409 898	Acting Director of Agriculture	Nyaruguru District
2	Nyandwi Joseph	0788 774 774	Sector Agronomist	Kivu
3	Kwitonda Deogratias	0788 826 703	Sector Agronomist	Nyagisozi
4	Mukafurere Eliane	0788 479 282	Sector Agronomist	Ruramba
5	Nkurunziza Aphrodis	0788 830 036	Sector Agronomist	Kibeho
6	Ntakirutimana JMV	0788 579 144	Sector Agronomist	NGERA
7	Mukamana Emerance	0785 086 707	Sector Agronomist	MUNINI
8	Nyandwi Vital	0788 425 029	Sector Agronomist	Cyahinda
9	Munyaneza Cyriaque	0783 888 730	Sector Agronomist	Nyabimata
10	Mbonyumuvunyi Gratien	0788 620 603	Sector Agronomist	Ruheru
11	Mukeshima Sylivere	0788 725 903	Sector Agronomist	Rusenge
12	Rukundo J Claire	0788 559 785	Sector Agronomist	Mata
13	Bikorimana Gilbert	0785 295 299	Sector Agronomist	Busanze
14	Twahirwa Rodrigue	0783 732 918	Sector Agronomist	Ngoma
15	Ntakirutimana Theogene	0788 755 649	Sector Agronomist	Muganza
16	Niyitegeka Gloriose	0722 036 895	KOBARWA President	Rwoganyoni
17	Senungu Faustin	0725 102 166	DUTERIMBERE, ICYEREKEZO President	Agatorove
18	Betty	0783 330 981	TWITEZIMBERE KIYONZA President	Gipfuna
19	Aimable Karekezi	0788 561 972	Farmer	Agatobwe
20	Narcisse	0727 169 894	Farmer	Urwonjya
21	Sebahire Faustin	0783 298 042	ABAKORANABUSHAKE President	Akavuguto
22	Kabarira Tharcisse	0787 568 750	INYEMERAMIHIGOPresident	Agatenga
23	Bizumuremyi Marc	0722 171 983	Farmer	Amazatukura
24	Mukabatsinda Christine	0789 760 343	Tujyeheza Kibeho President	Rwabuganda
25	Rwakabayiza Pierre	0727 341 893	Farmer	Kibaza
26	Munyandekwe Philipe	0788 454 231	Farmer	Umusizi
27	Innocent Nkuriza	0783 004 097	Farmer	Rutabo
28	Kanyabutare G	0788 535 589	KUNDUMURIMO President	Migendo
29	Muganza	0788 682 023	Farmer	Giswi 3
30	Juvenal Sibomana	0789 607 670	ABAHUJUMUGAMBI President	Agatigita
31	J. Paul Mwenedata	0726 930 016	DUTERIMBERE Ramba President	Agatorove
32	Sebudandi	0727 161 132	ABAKUNDUMURIMO President	Kizikoga
33	Philbert Habyarimana	0727 264 276	KOMEZIMIHIGO Mata President	Urubaya
34	Valens	0727 165 338	Farmer	Nyiraruhinza
35	Nsabimana Alphonse	0783 668 471	KOABWA President	Uwarurimbi
36	Kamanzi Beatrice	0788 698 542	Farmer	Akanyaru
37	John	0785 753 699	Farmer	Murubuye
38	Deo	0784 081 753	Farmer	Giswi 4
39	Innocent	0783 515 583	TURWANYINZARA President	Gasezo
40	Serafine	0785 092 618	Farmer	

(8) Ruhango

#	Names	Contact	Function	Marshland
1	Munyampirwa Francois	0788 619 831	District Agronomist	District
2	Uwiringiye Marie Rosine	0788 822 788	Sector Agronomist	Kinazi
3	Ntawuruhunga Aphrodis	0781 560 480	Sector Agronomist	Kabagari
4	Uwineza delphine	0788 563 208	Sector Agronomist	Ruhango
5	Mugorewera Marie Chantal	0788 899 657	Sector Agronomist	Mbuye
6	Giraneza Michel	0788 753 101	Sector Agronomist	Ntongwe
7	Ntagungira Dominique	0783 097 348	Sector Agronomist	Kinhira
8	Niyibizi Valens	0788 407 009	Sector Agronomist	Mwendo
9	Mukamurara Virginie	0788 547 555	Sector Agronomist	Bweramana
10	Nsanzabaganwa Felix	0788 682 349	Sector Agronomist	Byimana
11	Jeredi	0783 354 261	COTEMUNYARU	Nyirakiyange
12	Murenzi	0788 835 073	Farmer	Kibingo
13	Charlotte Niyomizero	0785 806 365	CORIBARU Manager	Base
14	Michel Habineza	0783 375 791	CODERICA President	Kanyegenyege
15	Jean Damascene Sekamana	0783 126 474	Maize cooperative	Akanyaru
17	Sindikubwabo	0788 288 076	CODERICA Member	Nyamukumba
18	Zephane	0780 395 819	Maize cooperative President	Kana
19	Marie Grace Nyinawumuntu	0788 229 514	Farmer	Rufuha

(9) Rusizi

#	Names	Contact	Function	Marshland
1	Ntampaka Antoine Gonzague	0788 695 126	Director of Agriculture	Rusizi District
2	Emmanuel Coop presid	0722 095 339	President of KOIMUNYA	Nyeshati
3	Byiringiro Zephane	0783 874 455	Land officer at Sector office	Nyakabuye Sector
4	Samvura Florian	0726 860 722	Farmer	Ruhwa
5	Niyonzima Vianney	0726 281 653	Farmer	Gihitasi
6	Butoyi Naima	0788 814 898	Sector Agronomist	Cyunyu
7	Elias Secumi	0783 040 737	Cooperative President	Gitinda
8	Kalimunda Theonest	0783 229 735	Cooperative President	Rugeme
9		0727 364 584	CODRICYU President	Cyunyu
10		0727 729 389	CODRICYU V/President	

(10) Nyamasheke

#	Names	Contact	Function	Marshland
1	Sengambi Albert	0783 423 057	Director of Agriculture and animal resources	Nyamasheke
2	Aphrodis	0785 813 813	District Agronomist	Nyamasheke
3	Nyabyenda Pierre	0788 630 957	President of cooperative	Kamiranzovu
4	Edward Hategekimana	0785 442 976	President of Cooperative	Mugonero
5	Mathieu Karimunda	0787 788 855	Prsident of WUO	Kibati
6	Pierre Nyabyenda	0788 630 957	President of the cooperative	Kirimbi
7	Zabron	0729 580 453	President of cooperative	Karundura upstream
8	Charles	0783 536 567	President of cooperative	Mbuga

(11) Karongi

#	Names	Contact	Function	Marshland
1	Gahutu Anastase	0788 679 248	Director of Agriculture and animal resources	Karongi
2	Uwimana Bellancile	0783 420 954	Sector Agronomist	Murambi
3	Nshimiyimana Jean Bernard	0783 420 922	Sector Agronomist	Murundi
4	Karangwa Samuel	0783 421 413	Sector Agronomist	Gishyita
5	Havugimana Martin	0783 420 769	Sector Agronomist	Rubengera
6	Muhoza Jean Calude	0783 420 949	Sector Agronomist	Rwankuba
7	Thomas	0722 377 510	Farmer	Musaho
8	Nelson	0782 126006	Farmer	Ruhanga-Uwaruhinamavi
9	Niyitegeka JB	0728 870 019	Farmer	Mwumvero-Magarama
10	Damascene	0726 801 138	Farmer	Musogoro
11	Joseph	0789 348 437	Farmer	Nyabarongo
12	Mbabazi Jimy	0788 835 888	Farmer	Ntaruko

(12) Rutsiro

#	Names	Contact	Function	Marshland
1	Munyamahoro Muhizi Patrick	0788 817 103	Director of Agriculture and animal resources	Rutsiro
2	Turamye Servelien	0 788 752 673	District Agronomist	Rutsiro
3	Helene Nyirangayabarezi	0788 686 468, 0786 942 046	President of the cooperative	Nkora-Biruya

(13) Nyabihu

#	Names	Contact	Function	Marshland
1	Nyirimanzi Peter	0788 806 266	District Agronomist	Nyabihu
2	Harelimana Didas	0788 894 960	Director of Agriculture	Nyabihu

(14) Ngororero

#	Names	Contact	Function	Marshland
1	Leonidas Dusabimana	0788 838 617	District Agronomist	Ngororero
2	Fulgence Bizimungu	0788 767 794	Sector Agronomist	Matyazo
3	Jean Pierre Hategekimana	0788 781 820	Sector Agronomist	Gatumba
4	Theogene Nzabarinda	0785 970 891	Sector Agronomist	Nyange
5	Emmanuel Rukwaya	0788 776 747	Sector Agronomist	Bwira
6	Rauben Maniragaba	0786 243 802	President of the cooperative	Mukungwa
7	Sylvestre Rwamahina	0785 164 424	President of the cooperative	Songa

(15) Musanze

#	Names	Contact	Function	Marshland
1	Ngendahayo Jean	0787 209 263	Director of Agriculture	Musanze District
2	Hodari Camille	0788 866 460	Agriculture Officer	Musanze District
3	Jean Claude	0785 550 875	Cash Crop Officer	Musanze District
4	Munyengaragu Claudien	0783 116 944	Sector Agronomist	Remera
5	Hakizimana Juvenal	0783 264 251	Cooperative President	Nkoro
6	Donath	0783 160 547	SEDO	Murwa Cell
7	Ngolimana Francois Xavier	0788 594 178	Sector Agronomist	Mubona
8	Consolee Uwimana	0782 825 181	WUO President	Mukinga
9	Fulgence Nizeyimana	0788 527 953	Cooperative President	

(16) Burera

#	Names	Contact	Function	Marshland
1	Karangwa Pierre	0781 203 759	WUO President	Ndongozi/ Nyirabirande
2	Patricie	0788 217 791	Manager from RSSP	
3	Iyamumpaye Valentine	0789 590 199	Farmer	Cyeru-Nyamusanze
4	Christophe Mporwineza	0781 825 995	Farmer	Gatsibo-Kamiranzovu
5	Karerangabo	0783 849 034	Farmer	Musenyi

(17) Gakenke

#	Names	Contact	Function	Marshland
1	Nuwagaba Gervais	0788 481 601	Agriculture Director	Cyacika
2	Hakuzimana Felicien	0782 919 631	Farmer	Rutaka
3	Mugaragu Emmanuel	0784 018 660	Farmer	Gafobero
4	Faustin Ndacyayisenga	0782 462 650	Farmer	Busanane

(18) Rulindo

#	Names	Contact	Function	Marshland
1	Augustin	0788 506 453	Irrigation Officer	Rulindo
2	Felix	0788 785 129	Land officer	Cyungo Sector
3	Banamwana Silas	0782 921 401	Farmer	Nyarububa
4	Télésphore Gashayija	0783 306 762	WUO President	Bahimba
5	Twahirwa Mathieu	0785 077 212	Cooperative President	Yanze

(19) Gicumbi

#	Names	Contact	Function	Marshland
1	Chrisostome Nzeyimana	0788 772 283	District Agronomist	Gicumbi District
2	Barungi Esperence	0783 039 919/ 0728 678 266	Sector Agronomist	Nyamiyaga Sector
3	Alphonse	0783 639 169	SEDO	Murama
4	Habyarimana Dieudonné	0782 148 891	SEDO	Kamiranzovu

7. References

- (1) Rwanda Irrigation Master Plan(2010)
- (2) Land center Polygon from “Rwandan Swamp Land(2017, RNRA)”
- (3) The marshland DATA BASE from RAB(2017) and SPIU
- (4) The plans and drawings of Irrigation Projects like RSSP, LWH, QWMDP and others
- (5) Technical Assistance in the establishment of a baseline of agricultural households using irrigation systems(2016) Surveyed by EU
- (6) Data base from the District

Annex 1

The inventory of the Marshlands

Marshlands survey in Gisagara

No	Visited Marshlands Name	Size Ha	Sector	Cooperative			Comment from Coop	IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	Construct Rehabilitation	Water resources	Crops	Proposed crops	Problems		Comments	
				Yes/No	Cooperative	Contact												Shortage of water	Flood		Damage of facilities
1	28-Mar-17 Niyamyeri	75 (58.5)	Kijembe	Yes	COAMAKI	0783 182 709 Ndayiragyebo 0783 833 846 Coop.	Shortage of water and the construction of one diversion weir is not completed. Erosion damages irrigation canal.	URUBO GOBGO URAYE NYAKA NYERI	Not enough	No	New	Catchment is not protected. Erosion is damaging irrigation canals.	837	By QWMDP in 2016	Two streams	Rice, maize	Rice	In dry season	No	No	Irrigation facilities are in good condition but a buffer zone is needed between farmland and irrigation canals.
2	Rumira / Unakingo	83 (70.4)	Nyanza, Kijembe	Yes	NYAMACOO (Nyanza Maize Cooperative)	0785 172 385 Ndayiragyebo Bashir(UWO)/ 07879387710 Coop.	In Unakingo zone, farmers are cropping rice and water is not enough. In Rumira side, they crop maize and water is not enough.	TUZAM URAYE RUMIRA	Not enough	No	Good	Not protected	619	By QWMDP in 2016	Stream	Rice, Maize and Vegetables	-	In dry season	No	No	Irrigation facilities are in good condition but in some area the construction is not completed due to shortage of the budget. Erosion is severe in downstream part.
3	Kigira- Kabogobogo	80 (63.2)	Kijembe, Mugombwa, Nkansi	Yes	COPRORIZ- KABOGOBOGO	0783261591 Nduanga Thomasec/ 0787 004088 Coop.	Canals in Kigira side are not well designed. They are at lower level compared to farmland. On one side, work was not completed.	TWONG ERE UMUSA RURU	Not enough	No	Not good	Catchment is not protected. Erosion sometimes occur	535	By QWMDP in 2014	Stream	Rice	Rice	In dry season	No	No	After rehabilitation, some structure are not used.
4	Nabukulye	(10.0)	Kansi	No	Individual farmers	-	Water is not enough.	No	No	Not developed	Catchment is not protected	-	-	-	Springs	Rice, Vegetables	-	In dry season	No	NA	Nabukulye is a small marshland located upstream Kabogobogo marshland. Farmers are cropping rice one season and other crops in dry season. Water source is scarce and not enough.
5	Akaboti	76 (77.1)	Kijembe, Kansi	Yes	GARUKUREBE- AKABOTI	0787 074 385 KIRUMUGABO Vineur/ 0788 590 511 Placidie Coop	The main issue is the shortage of water. In some places, canals are at lower level compared to paddy field. This makes irrigation impossible even during rainy season. Some plots don't get water, reason why one part is used for maize production. Rice is cultivated on 45 ha.	Yes	Not enough	No	Good	Yes	814	By QWMDP in 2014	Stream	Rice, maize	Rice, maize	In dry season	No	No	Erosion is happening and sediment are accumulated in irrigation canal.
6	28-Mar-17 Kibugazi	108 (80.3)	Ndora, Kibirizi, Mugombwa	Yes	CYMK-KIBUGAZI	0784 204 985 Nzabonankira J Bosco/ 073056 097 Coop pres	Water is not enough. The cooperative has legal personality for rice but now they grow also maize and beans.	DUFAT ANYE- KIBUGA ZI	Not enough	No	Good condition	Catchment protected	425	2011	Stream	Rice, maize and beans	Maize	In dry season	No	No	The development of the marshland has drained water. They increased the drain while growing water was much used. The harvest is not collected to cooperative reason why the payment of water fee is not easy.
7	Mirayi	500 (451)	Muganza, Gishubi, Ndora	Yes	COOPRORIZ- MIRAYI	0788 405 782 Coop	Water is not enough in some areas. RSPSP has rehabilitated irrigation facilities, but they need a dam to solve the issue of shortage of water.	IMBERE HEZA MIRAYI	Not enough	No	Good condition	Catchment protected	1,238	1985 by Belgium	Stream	Rice	-	In dry season	No	No	They need a dam, to solve the issue of shortage of water. In some zones, (Mukoboo, Nkuramo, Akangi, Agatare, Ruriramo) there are no drying ground.
8	Ngiryi	180 (179)	Musha, Ndora, Mamba, Gishubi	Yes	COOPRORIZ- NGIRYI	0788 405 782 Coop	Structures are old and need rehabilitation. Most of drops are destroyed. During rainy season, much water comes from upstream and damage their crops and in dry season water is not enough reason why they reduce the cultivated area. They would like to have a reservoir.	DUTERI IMBERE	Not enough	No	Some structures need rehabilitation. Water is enough but full of sand. People are taking sand in the canal which changes the shape of the canal.	Not protected and water comes with sand	816	1975 by Belgium cooperative	Stream	Rice	-	In dry season	Yes	Yes	Some structures have been destroyed and the shape of the canal has changed due to erosion of people taking sand into the canal.
9	Rwampora- Nyiramageni	180 (242)	Gikonko, Mamba, Musha	Yes	COPRORIZ- Nyiramageni	0782 804 607 WUO	The marshland has been developed many years ago and some structures need to be rehabilitated. Downstream side is flooded during rainy season and water is short in dry season because it is from Nigryi cooperative. WUO is not able to clean the main drain. To solve the issue of shortage of water, they need a dam.	TUYEHE EZA Nyirama geni	Not enough	No	Old	Erosion from the village on right side of the marshland	801	1985 by PRB make is destroyed	Stream	Rice	-	In dry season	Yes	Downstream is flooded in rainy season	The marshland has enough water, but downstream is flooded during rainy season.
10	Mwura- Gatara	110 (114)	Musha, Gikonko	Yes	COPRORIZ- GATARA	0785 247 530 WUO / 0783 012 881 Coop	Erosion is happening on the side which is not terraced. They do community work but in rainy season much sediment are accumulated in the canal. Water is not enough and the Mushadukada dam is not yet used.	TWUZU ZANYE GATARA	Not enough	Yes	Erosion is causing the sediment in canal	Catchment is terraced but there is a part causing erosion	779	By QWMDP in 2011	Stream and dam	Rice	-	In dry season	No	No	The marshland has been developed under QWMDP and RSPSP constructed the dam upstream. RSPSP also is conducting capacity building and has provided the manager
11	Mushadukada dam/ Ruvungangoma	23 (36.7)	Musha	Yes	COABISA	0781 263 661 Coop	The reservoir of Mushadukada flooded 22ha of Ruvungangoma marshland. Now farmers are growing on 23ha. Farmers are cropping individually because the reservoir has divided they command area into 2 parts.	No	Not enough	-	Good	Some parts on hillside are terraced	By QWMDP in 2011	Stream (upstream) Reservoir (downstream)	Maize, vegetable	-	Upstream in dry season	No	No	Mushadukada dam was constructed in Ruvungangoma marshland developed under QWMDP. Now the marshland is divided into two parts: upstream side uses water from stream and downstream part uses water from the reservoir.	
12	Nyebuyogera	109 (99.9)	Save, Musha, Kibirizi	Yes	COABISA	078 886 5651 Mimani Vicent	The main issue is the shortage of water in dry season. Erosion occurs because hillside is not protected. In some areas, the construction of canals was not completed. Some parts of canals didn't get water from the construction period	Yes	Not enough	No	One diversion weir downstream has been destroyed	Hillside not protected	2000	QWMDP 2011	Stream	Maize and vegetables	Maize	In dry season	Some water from houses but it is a special case	Some	Irrigation canals need maintenance and some rehabilitation to allow water to flow on farm land.
13	Akanyaru	(952)	Mukindo	Yes	(for rice)	-	Water is not enough in the river	No	Not enough	No	Not developed	Hillside not protected	-	-	Underground water	Rice, beans and maize	-	In dry season	In rainy season	-	The marshland is along Akanyaru river. Water from the river is not used for irrigation but water comes from underground. Near the river, farmers grow rice in rainy season.

Marshlands survey in Giagara.

No	Name	Size Ha	Sector	Cooperative		IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History of construction	Water resources	Crops	Proposed crops	Shortage of water	Problems	Damage of facilities	Comments
				Yes/No	Contact														
14	Agitare	59 (59.6)	Mukindo, Mugaiza, Mugombwa	Yes	DUTERANINKUN GA, HINGA WORORE	0764 888 385 Shomana Samuel/ 0783 817 250 Coop pres	Yes	No	Good condition	No erosion	223	QWMD in 2014	Stream	Rice and vegetables	Rice	In dry season	No	No	The marshland has two cooperatives: Duteraninkunga and Hinga worore. They crop rice but water resource is short.
15	Migna	485 (288)	Kansi, Kigembe, Kibirizi, Ngira in Giagara and Tumba, Ngoma, Mikura in Huye and Ngira in Nyanzagu	Yes			Yes	No	Not good. Under rehabilitation	Hillside not protected	By QWMDP in 2011	Stream	Rice		No	In rainy season	Yes	Yes	Migna is a long and wide marshland. Upstream it is located between Huye and Gisagara Districts. It has been developed under QWMDP but under rehabilitation and extension by RSSP because some structures have been destroyed or not function well.
16	Cyili	460 (469)	Ghongo, Mamba in Giagara, Rusitira in Huye and Nyazo in Nyanza	Yes	0788 632 827 Gilbert Muger. 0788641 370 Phineas. 0788600064 Karumage WUO	TUVOMERE CIVILI	Not enough	Yes	Good condition, except some intakes	There is one side without terraces	1400	RSSP 2013	Dam, stream and underground water in downstream	Rice	Rice	In dry season	Downstream in from Akanyaru in rainy season	Yes	They are extending the marshland downstream about 200ha. But in that area flood is the big issue in rainy season.
17	Cyili (non developed)	(350)	Mamba (Giagara), Nyazo (Nyanza)	Yes	Same as Cyili		Enough	No	Not developed	Hillside not protected			Underground	Rice		No	In rainy season		RSSP has made a drain to drain water to Akanyaru swamp but during rainy season, much water comes from the river and floods the area.
18	Rwasave	100 (122)	Save, Kibirizi in Giagara, Ngoma, Mbazzi in Huye	Yes	075 863 4602 Edson Kayijamahe		Not enough	Yes	Facilities are old and need rehabilitation	Erosion occur on dam side	1538	By RSSP in 2006	dam, stream and stream	rice, maize		In dry season	Upstream right side during heavy rain	Yes	irrigation facilities are old and need rehabilitation. Water comes from stream and small reservoir upstream.
19	Rwasave Branch	(26.2)	Mbazzi (huye)	Yes	(Same as Rwasave)		Not enough	No	Not developed	Hillside not protected			Stream and springs	rice		In dry season	During heavy rain		Farmers are in same rice cooperative as Rwasave. The stream flows to Rwasave and the intake weir divert water into the canal.
20	Rurungirana	75 (74.7)	Save, Masha in Giagara and Rusitira and Rusanya in Huye	Yes	TUZAMURANE RUVUNGRANA	075 552 0205 Giagara	Yes	No	Infrastructures are good in condition except some missing pipes on deviation weir.	No erosion	800	QWMDP 2016	Stream	Maize and vegetables		In dry season	No	No	Operation and maintenance is poor. WUO and cooperatives are supported by a sector leader (HoRCo) but not yet functioning well. A buffer zone is needed between irrigation canal and farmland.
21	Nyakaazi	110 (109)	Rusitira (Huye), Ghongo (Giagara)	Yes	Same as Cyili		Not enough	No	Good condition	Hillside not protected	By QWMDP in 2016	Stream	Rice		In dry season	No	No	The marshland has been developed under QWMDP but the farmers are organized in Cyili cooperative and WUO.	
22	Rwamporera (Non developed)	(124)	Ghongo, Mamba	Yes	0785 506 328 Nyiramagani Josephine Aud Committee		Enough	No	Downstream is not developed but facilities on site are not in good condition	Not protected	Not developed	Stream, springs and ground water	Rice, Vegetables		No	Yes	Some structures need rehabilitation	Water is not flowing into the canal but downstream a large part is flooded especially in rainy season. Floods are from Akanyaru marshland. Rwamporera is a part of Nyiramagani on downstream side.	
23	Akanyaru (Mamba)	(1680)	Mamba	Yes	KOJYAMUGI-Akanyaru/Mamba	0788 618 258 Coop. Presi	Enough	No	Not developed	Hillside not protected		Not developed	Akanyaru river, under ground water	Maize, vegetables		In some parts during dry area	Yes		The land has been given to part company. Farmers are not cultivating in the area. The company has installed a drainage system including pump station.
24	Busave	(28.8)	Gihubi	Yes	COOPRORIZ Mirayi		Not enough	No	Not developed	Hillside not protected			Stream and springs	Rice, maize and beans		In dry season	No		Busave is small branch of Migina. Water is not enough but some parts are cultivated with rice.
25	Akanyaru (Nkunamo)	(374)	Gihubi	Yes	GOAMANYA		Enough in the river	No	Not developed	Hillside not protected			Akanyaru river, ground water and springs	Maize and beans		In dry season	In rainy season		The area is located along Akanyaru river and is a part of Akanyaru marshland.
26	Akanyaru (Uruhoko)	(24.3)	Gihubi	Yes	GOAMANYA		Enough in the river	No	Not developed	Hillside not protected			Stream and springs	Maize, beans and vegetables		In dry season	No		Uruhoko is a branch upstream Nkunamo. Water is not enough. Farmers in cooperative grow maize for season A and other crops for other seasons.

Marshlands survey in Gisagara

Visited Marshlands			Cooperative			IWUO			Water			Dam			Status of infrastructures			Erosion control			Household			History/Construct/Rehabilitation			Water resources			Crops			Proposed crops			Shortage of water			Problems			Damage of facilities			Comments		
No	Name	Size Ha	Sector	Yes/No	Cooperative	Contact	Comment from Coop	IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History/Construct/Rehabilitation	Water resources	Crops	Proposed crops	Shortage of water	Problems	Damage of facilities	Comments																										
27	Akanyaru (Akanyu)	(103)	Gishubi	Yes	COOPRORIZ-Mirayi	078 301 6873 Gakwaya	No	Enough in the river	No	Not developed	Hillside not protected	-	-	-	Akanyaru river, ground water and springs	Rice and maize	-	In dry season	In rainy season	-	The area is a part of Akanyaru marshland. Farmers are in same cooperative as Mirayi for rice cropping.																										
28	Akanyaru (Rwirambo)	(212)	Gishubi	Yes	COOPRORIZ-Mirayi	0783 016 873 Gakwaya	No	Enough in the river	No	Not developed	Hillside not protected	-	-	-	Stream and springs	Rice and maize	-	In dry season	No	-	Rwirambo is a branch of Akanyaru marshland. Upstream, the main water source is springs and stream.																										
29	Akanyaru (Ndaru)	(145)	Gishubi, Muganza	Yes	COOPRORIZ-Mirayi	0783 016 873 Gakwaya	No	Not enough	No	Not developed	Hillside not protected	-	-	-	Springs and stream	Rice, maize and beans	-	In dry season	No	-	Ndaru is a branch of Akanyaru marshland. Farmers are cropping rice and the main issue is the shortage of water in dry season.																										
30	Akanyaru (Muyinza)	(116)	Gishubi	Yes	COOPRORIZ-Mirayi	0785 056 767 Twahira JD	Some farmers from the branch of Muyinza are in the same cooperative of COAMAGI but as the branch has enough water, they crop rice and pay their contribution in cooperative.	No	Enough in the river	No	Not developed	Hillside not protected	580	-	Akanyaru river, ground water and springs	Rice, maize, beans and sorghum	-	In dry season	In rainy season	-	Farmers are in maize cooperative but they prefer to grow rice because water is enough. Muyinza is a part of Akanyaru marshland. The marshland has a fertile soil and farmers have made ridges to avoid flood. One part is used for livestock feeding.																										
31	Alajyenama	30 (552)	Ndona, Muganza	Yes	Twitezimbere	0782 378 651 Sibomana Emmanuel	They don't have floods during rainy season. They have made a drain to akanyaru river and they cultivate in ridges.	No	Not enough	No	Not developed	Catchment not protected	250	-	Springs	Maize, beans and rice	-	In dry season	No	-	Some farmers want to crop rice but Sector Agronomist advises them beans and maize due to the shortage of water.																										
32	Urutanga	(103)	Muganza	No	Maize (Farmers groups)	0727 773 206 Higo Eulicade 0780 258 151 Village leader	Farmers in groups are growing Maize, Soybean and vegetables in dry season. Water is not enough in dry season.	No	Not enough	No	Not developed	Catchment not protected	317	-	Stream and springs	Maize, beans, soybeans and Vegetables in dry season	-	In dry season	No	-	A small marshland which is a branch of Mirayi.																										
33	Uruseke	6 (103)	Muganza	No		0788 284 611 Josephine (Village leader)	Farmers are organized in groups and crop Maize, Soybean. In dry season, they cannot crop vegetables because there is no water.	No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and Springs	Rice, maize and soybean	-	In dry season	No	-	Uruseke is a small marshland located upstream Mirayi marshland. The marshland is not directly connected to Mirayi but between them the area is too narrow.																										
34	Akanyaru (G3, G4, Nyabindu, Mutobo)	75 (1090)	Gishubi (Nyabindu and Mutobo)	Yes	CCM and other 2 cooperatives	0783 718 664 Nahimiyama Alphonse	Shortage of water in paddy field. They had flood in 2011-2012, and after floods didn't happen. They crop maize on 25 ha and rice on 50ha.	No	Enough in the river	No	Not developed	Catchment protected with terraces	427	No	Akanyaru river, ground water and springs	Maize, rice	Maize	Some areas in dry season	In rainy season	-	Some farmers have changed from maize farming to paddy. Some rice farmers are facing the shortage of water during dry season.																										
35	Umuzizi	(106)	Muganza, Mugombwa	Yes	Cooperative for each sector	0784 595 144 Renzaho Jean Pierre	In Umuzizi they are two cooperatives one belonging to Mugombwa and another one to Muganza Sector. Farmers are planting Maize rice and vegetables.	No	Not enough in dry season	No	Not developed	Catchment not protected	-	-	Stream and springs	Maize, beans, rice and vegetables	Maize and beans	In dry season	No	-	From each sector, farmers have cooperative but no legal personality. The proposal from two sectors is to make one cooperative for all farmers in the marshland. Some farmers are trying to crop rice but the no enough water.																										
36	Rutabo	(928)	Mugombwa	Yes	KOAIMU	0782 903 481 Braje (individual farmer)	They crop rice two season but water is not enough during dry season. They formed a cooperative but they didn't yet get legal personality.	No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and springs	Rice, maize	Maize by Sector	In dry season	No	-	Individual farmers are growing rice, but water is not enough. The Sector proposes to crop maize due to the shortage of water, but farmers prefer rice even if water is short. The soil is sandy and some companies are taking sand on the stream right side of the marshland. Downstream is Kabogobogo.																										
37	Nili	30 (109)	Kibirizi	No				No	Not enough	No	Not developed	Catchment is not protected	-	-	Stream and springs	Maize, vegetables and rice	-	In dry season	No	-	The area is narrow. Water comes mainly from springs and it is not enough. Some farmers are growing rice but water is not enough. Downstream the marshland is Kibugazi.																										
38	Nyamuko-Fabo	(240)	Kibirizi	Yes	Rice cooperative			No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and springs	Maize, vegetables and rice	-	In dry season	No	-	Upstream water is not enough. Farmers are growing maize and vegetables upstream and rice downstream near Migina marshland.																										
39	Muhanga	(159)	Kansi, Kibirizi	No	Farmers' group (waiting for legal personality)	0788 036255 Celestin	Even if water is not enough, farmers prefer to grow rice. For rice production, the main source of water is springs. Some farmers are cropping individually.	No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and springs	Rice, vegetables, beans and maize	-	In dry season	No	-	Farmers are cropping rice on one branch but other part is used for different crops. Water is not enough for rice cropping and downstream the marshland is Migina.																										
40	Kidimbizi	(269)	Kansi, Kibirizi					No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and springs	Rice, vegetables, beans and maize	-	In dry season	No	-	The marshland is located between Kansi and Kibirizi sectors.																										
41	Nkurubindi	(81)	Nyanza	No				No	Not enough	No	Not developed	Hillside not protected	-	-	Stream and springs	Maize in A and B	-	In dry season	No	-	The area is located near Akanyaru river. It is narrow and water is not enough.																										
42	Migna (Non-developed)	(129)	Kigembe, Nyanza, Nsoma (Gisagara), Nzeera (Nyaruguru)	No				No	Not enough	No	Not developed	Catchment not protected	-	-	Stream and springs	Maize and beans	-	In dry season	No	-																											
43	Gihosha	27 (104)	Ndona, Gishubi	Yes	CORIMU	0789 149 798 Innocent	The marshland is not developed and water is not enough.	No	Not enough	No	Not developed	Hillside not protected	80	-	Stream and springs	Rice (one season), maize and beans	-	In dry season	No	-	Gihosha is a branch of Nigiyi. There is no irrigation canal but also water is not enough. Upstream the stream is not clear; water comes mainly from springs.																										
44	Giseke	(952)	Ndona, Save	Yes		0784 217 439 Kabera	Farmers are growing maize, beans and vegetables. MINAGRI has a plan to develop the area.	No	Not enough	No	Not developed	Hillside not protected	-	-	Stream and springs	Maize, beans and vegetables	-	In dry season	In rainy season	-	The soil is sandy and area was used for housing but people have been relocated from the marshland. Some houses are still on place.																										
45	Duwane	(134)	Ndona, Kibirizi	Yes				No	Not enough	No	Not developed	Hillside not protected	-	-	Stream and springs	Rice, maize and beans	-	In dry season	No	-	In some areas, farmers are growing rice. Some plots get water from under ground. Some plots located at clay pits water is logging and drainage is difficult.																										
46	Akarugendo	(289)	Kansi, Kibirizi	No				No	Not enough	No	Not developed	Hillside not protected	-	-	Stream and springs	Rice, maize and beans	-	In dry season	No	-	The marshland is narrow and small. During dry season, water is not enough but some farmers are growing rice.																										

Marshlands survey in Gisagara.

No	Name	Size Ha	Sector	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments	
				Yes/No	Cooperative	Contact							Comment from Coop	Construct				Rehabilitation	Shortage of water		Flood
47	8-Sep-17 Gaseke	(18.0)	Muaha	Yes			No	Not enough	No	Not developed	Hillside not protected				Stream and springs	Rice, maize, beans and vegetables	-	In dry season	No	The marshland has been roughly developed by farmers.	
48	Kigaga (non developed)	(11.3)	Muaha	No			No	Not enough	No	Not developed	Hillside protected				Stream and springs	Rice, maize, beans and vegetables	-	In dry season	No	Undeveloped Kigaga is a branch of developed Kigaga. Sometimes in rainy season, erosion occurs.	
49	Mutori	(12.2)	Gishubi, Mamba	No			No	Not enough	No	Not developed	Hillside not protected				Stream and springs	Rice, maize, beans and vegetables	-	In dry season	No	Mutori is a branch of Njiry. The marshland is small and water is not enough during rainy season.	
50	7-Sep-17 Mugombwa	(12.0)	Kaniai	No			No	Not enough	No	Not developed	Hillside not protected				Stream and springs	Maize and soybeans	-	In dry season	No	Mugombwa is a small marshland downstream Kidimbizi. Water is not enough and farmers are growing maize and soybeans.	
51	8-Sep-17 Akanyani G2 (Non developed)	(123)	Mukindo, Mugombwa, Kigembe, Nyanza	No			No	Not enough	No	Not developed	Hillside not protected				Stream, springs and under ground water	Rice, maize, beans, sunflower and vegetables	-	In dry season	In rainy season	The marshland is along Akanyani river. Water from the river is not used for irrigation. Rice farmers belong to Kigaga cooperative.	
Total		8,845																			

Marshlands survey in Huyu

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			MWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History Constructed on	Water resources	Crops	Proposed crops	Problems		Comments	
				Year/No	Name of Coop	Contact											Comment from Coop	Shortage of water		Flood
30-May-17																				
1	Mwaga	(73.0)	Kamegeri(Nyama sabu),Kigoma, Maraba(Huye)	Yes	0722 480 599 Hagenimana		No	Enough	No	Not developed	catchment protected		Developed many years ago	Mwago river and springs	Maize, beans, soybeans		No water because no irrigation structures	No more floods	All damaged	The marshland is along Mwago river upstream. It has been developed by PDAQ but now all irrigation facilities (weir and intake) are not operational. The river has much water but not used for irrigation. The area need to be rehabilitated.
2	Nyamugari	(39.7)	Kigoma (Huye), Cyenika, Gasake(Nyamaga be)	Yes	0786 831 323 Charles Village leader		No	Not enough	Some structures are destroyed	Catchment not protected		Developed by WFP	Streams and springs	Maize, beans, vegetables		In dry season	No	Damaged	The marshland has been developed by WFP but the main issue is the shortage of water and poor management of facilities. There is no buffer zone between farmland and irrigation canals. The upstream intake is destroyed so water doesn't flow in irrigation canal.	
3	Bishyimbob	(125)	Kigoma, Rwaniro	Yes			No	Not enough	Not developed	Catchment not protected			Streams and springs	Maize, irish potatoes, vegetables and beans		In dry season	No		The marshland is cultivated by a cooperative and individual farmers. Downstream is Mwago developed marshland. During rainy season, much water flows into the main stream.	
4	Mwaga	(314)	Kigoma, Rwaniro, Simbi	Yes			Yes	Enough	Some structures need rehabilitation	Catchment protected		GAA	Reservoir and Mwago river	Rice		No	Some part collapse due to erosion in the river		Mwago was developed under GAA. Water is from Mwago river and some tributaries. The main issue is sediment into the water but also shortage of drainage facilities which causes collapse of drain embankment in some areas of the marshland especially during rainy season. The barrage upstream side of the command area is full of sand.	
5	Nyamuhimbo (Mwaga)	(21.0)	Kigoma, Rwaniro	Yes			No	Enough	Not developed	Catchment not protected			Stream and springs	Rice, maize, sorghum, sweet potatoes		No	In rainy season		The marshland is a branch of developed Mwago. Water from the river is not used for irrigation because the riverbed is at low level compare to farm land. Water for irrigation comes mainly from springs.	
6	Biramba	(128)	Kigoma, Simbi	No			No	Enough in the river	Not developed	Catchment protected			Stream and springs	Rice, maize, beans, vegetables and and		In dry season	No			
7	Nyagazizi	(17.0)	Simbi	Yes			No	Not enough	Not developed	Catchment not protected			Stream and springs	Maize, irish potatoes and and		In dry season	No			
8	Butamubu	(64.9)	Simbi, Kigoma and Maraba	No			No	Not enough	Not developed	Catchment not protected			Stream and springs	Maize, irish potatoes and and		In dry season	No			
31-May-17																				
9	Kinyogoro	(34.4)	Maraba	Yes			No	Enough	Not developed	Catchment protected			Stream	Maize, beans and vegetables			No but much water in the stream			Upstream water is not enough but the flow increases a lot due to tributaries. During rainy season, much water flows in the river which is design by erosion.
10	Rurima	(36.0)	Maraba	No			No	Not enough	Not developed	Catchment not protected			Stream and springs	Rice		In dry season	No			Rurima is a branch of Butambub. Farmers are growing mainly rice.
11	Ruranga	(10.7)	Mbaazi, Huye	No			No	Not enough	Not developed	Catchment not protected			Stream and springs	Rice, maize and and		In dry season	No			The area is upstream Mbaazi. Farmers grow rice on a small area and fish farming is practiced. The marshland is small.
12	Munyazi	(140)	Mbaazi, Huye, Nigoma	Yes			No	Not enough	Roughly developed by RCS	Catchment not protected			Stream and springs	Rice, maize and and		In dry season	No			Upstream is not developed and farmers crop mainly rice and maize. A big part of land has been roughly developed by RCS. Another right branch is used by a cooperative growing maize, rice and vegetables.
13	Umuizi	(52.5)	Huye	Yes			Yes	Not enough	Good	Catchment not protected		By QWMDP in 2014	Stream	Rice		In dry season	No			Irrigation facilities are in good condition, but canals are not well maintained.
14	Nyabitare	(20.0)	Huye	No			No	Not enough	Not developed	Catchment protected			Stream and springs	Maize, rice		In dry season	No			Nyabitare is a branch of Umuizi. It is feeding right canal of Umuizi.
15	Unshoka	(9.2)	Huye	No			No	Not enough	Not developed	Catchment not protected			Springs	Maize, beans and and		In dry season	No			The marshland doesn't have a perennial stream and it is located upstream Agatobwe.
16	Agatobwe (Huye), Nigoma (Nyanguru)	(356)	Karama, Huye (Huye), Nigoma (Nyanguru)	No			No	Enough	Not developed	Catchment not protected			Agatobwe river and springs	Maize, irish potatoes and and			In some areas during rainy period			Agatobwe is a long and narrow marshland along Agatobwe river. It crosses two districts and flows into Akanyoro. The main issue is sand especially during heavy rain and the riverbed is deepen which makes the use of river water for irrigation difficult.
17	Kinyamaganga	(15.6)	Karama	No			No	Not enough	Not developed	Catchment not protected			Springs	Maize, irish potatoes and and		In dry season	No			Kinyamaganga is a small branch of Agatobwe. Farmers are growing maize, irish potatoes, sorghum and vegetables.

Marshlands survey in Huye.

No	Name	Size Ha	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Yes/No	Name of Coop	Contact						Comment from Coop	Construction				Rehabilitation	Shortage of water	
18	Agatorove	(99.0)	Karera in Huye and Kibeho, Meta in Nyaruguru	No				No	Catchment not protected				Stream and springs	Maize, Irish potatoes and vegetables		In dry season	Downstream undeveloped area		Upstream Agatorove is not developed. One part is permanently flooded in rainy season and is not cultivated.
19	Kibingo	(15.2)	Karera	Yes			The area has been roughly developed many years ago. After development, much water was flowing into the canal but these days no water. Farmers apply lime to improve the soil fertility.	No	Hillside covered by trees and grasses	200	1980		Stream and springs	Maize, beans, soybeans, Irish potatoes and vegetables		In dry period	Some parts in rainy season		The marshland has been roughly developed. There are no structures but we can see canals. Farmers organized in cooperative are growing maize with other crops.
20	Ayatenga	(25.0)	Karera	No			The marshland has been developed by Red cross.	No	Hillside covered by trees and grasses				Stream	Irish potatoes, maize, beans and vegetables		In dry season	Not flooded		Ayatenga has been developed by Red Cross. During rainy season, some areas are flooded. From one intake weir, water is not flowing into the canal because of leveling.
21	Nyamukoro-Kibobogo	(14.7)	Huye, Ngoma	Yes	RCS downstream, Cooperative upstream			No	Hillside not protected				Stream	Rice, maize, beans and vegetable		In dry season	No		Downstream has been roughly developed by Rwanda correction services (Huye prison) and they grow rice. Upstream belonging to university of Rwanda, is also roughly developed and the area was given to one cooperative growing maize, beans and vegetables.
22	Nyagisanyi	(76.6)	Huye, Ngoma, Tumba	Yes				No	Hillside not protected				Stream and springs	Maize, beans, Irish potatoes and vegetables		In dry season	No		Downstream is Murori marshland. Farmers are cropping different crops. Some are making bricks inside the marshlands.
23	Rwamamba	60 (70.8)	Ngoma, Tumba	Yes				Not well maintained	Not protected	2015 by QWMDP			Stream	Maize, beans, vegetables and rice		In dry season	No		Upstream farmers are growing maize, beans and vegetables and downstream they are farming rice. Irrigation facilities are not well maintained. Some farmers are taking water directly from the main canal.
24	Murori	65 (57.2)	Mukura, Tumba, Gishamvu	Yes				Not well maintained	Not protected	By QWMDP in 2016			Stream and springs	Maize and vegetables		In dry season	No		Structures are in good condition but the slope in the canal is not uniform. Water is not flowing well.
25	Akagera	160 (158)	Gishamvu, Mukura (Huye) and Ngera in Nyaruguru	Yes				Good	Not protected	By QWMDP in 2017			Stream	Rice, maize and beans		In dry season	No		Facilities are in good condition, but maintenance is not well done.
26	Mukura	125 (92.1)	Mukura	Yes				Old, now under rehabilitation by RSSP	Not protected	By QWMDP in 2011			Stream	Rice, maize, Beans and vegetables		In dry season	No		Mukura has been developed under QWMDP. The deviation weir has been destroyed by floods and infrastructures's management was poor. In 2017, the scheme has been rehabilitated by RSSP.
27	Ndobogo	(106)	Mbazi	Yes	Same as Rwasave			No	Not protected	Farmers			Stream and springs	Rice		In dry season	No		Ndobogo has been roughly developed. Canals are there but not operational. There are no structures in the scheme. Downstream side has been developed and cultivated by the prison.
28	Nyragasare	(85.0)	Mbazi, Rubashya	Yes				Yes (Small)	Not protected	WFP			Small reservoir and springs	Rice		In dry season	No		The marshland is located upstream side of Runakanga. The marshland has an old reservoir constructed by WFP. Irrigation facilities are not in good condition. Some paddy plots are getting water from springs. The operation of reservoir get is not well done, water is always flowing.
29	Rwamukinga	(245)	Rwaniro, Rubashya, Ruatira, Rwaniro	Yes				Needs rehabilitation	Not protected	By RSSP			Reservoir	Rice		In dry season	No		Ruuli Rwamukinga has been developed under RSSP. Some intakes, or water fall needs rehabilitation.
30	Mwago dam		Rwaniro, Simbi, Kigoma																Mwago dam was constructed in collaboration with Canada, German and embassy of Netherlands through ESIRU project. The dam collect water from Runakanga and irrigate a part of Mwago.
31	Runakanga	100 (95.9)	Rubashya, Simbi, Rwaniro	Yes				No	weir needs rehabilitation	By RSSP			Stream	Rice		In dry period	Yes	Weir is destroyed	During rainy season, much water flow and the intake weir is under water. Another issue is much sand from hillside. The poststream deviation weir was destroyed by water.
32	Cyanbare Oyafisha dam																		Cyanbare dam has been constructed by RSSP. It is applying water to downstream branch of Ruuli.
33	Umwaro	40 (45.0)	Kinazi, Ruatira, Rwaniro	Yes				Need rehabilitation	Not protected	By QWMDP in 2011			Stream and springs	Rice		In dry season	No	Yes	Umwaro has been developed by QWMDP. Water is eroding and some structure needs to be rehabilitated. Upstream side has been roughly developed by farmers but water is not flowing in the canal. Rice, maize, potatoes in the scheme.
34	Karera	(42.0)	Ruatira, Rwaniro	Yes				Not developed	Not protected				Stream and springs	Rice		In dry period	In rainy season		Karera is undeveloped marshland. Farmer's need to make irrigation canals.

Marshlands survey in Huye

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Yes/No	Name of Coop	Contact		Comment from Coop	IWUD				Water	Dam	
12-Jun-17															
35	Nyota	(25.9)	Kinazi	Yes						Stream and springs	Rice, vegetables	-	In dry period	No	The marshland is narrow. During rainy season, water flows with much sand. In dry season, the flow is very small.
36	Nyabihanga	(17.9)	Kinazi (Huye), Ntyaze (Nyanza)	Yes	Rice cooperative					Stream and springs	Rice, maize, vegetables	-	In dry period	No	The scheme is located upstream side of Cylli. Water is not enough in dry period and rice farmers are organized in cooperative. In dry period, farmers cultivate individually.
37	Bishyamarwa	(87.9)	Kinazi, Rusatira	Yes	Rice cooperative					Stream and springs	Rice, vegetables	-	In dry period	No	The marshland is located upstream Cylli dam. Water is not enough but downstream farmers are cropping rice in cooperative. Upstream side, farmers crop vegetables.
13-Jun-17															
38	Ntanika/Rwabiteme/Cyaruligo/Mbagara	(38.5)	Kinazi	No						Stream and springs	Rice, maize and vegetables	-	In dry season	No	The marshland has different parts with different names. Rwabiteme is upstream Cyaruligo on right side and farmers are cropping rice and vegetables upstream part. On Left side, is Mbagara and farmers crop rice in two seasons. Those two branches have perennial streams going in Cyaruligo marshland where farmers grow vegetables, maize and beans.
39	Akagege	(14.3)	Kinazi	No						Stream and springs	Rice	-	In dry period	No	Akagege marshland is narrow and farmers cultivate rice. In dry season water is not enough.
40	Rwanyiramparaye	(12.8)	Kinazi	Yes						Stream and springs	Rice	-	In dry period	No	Rwanyiramparaye is located upstream Unwaro. Water is not enough in dry period but farmers are growing rice. Upstream, fish farming is done by a cooperative.
Total		(226.9)													

Marshlands survey in Kamonyi

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			IWUO	Dam	Status of infrastructures	Erosion control	Household	History Constructed on	Water resources	Crops	Proposed crops	Shortage of water	Problems Flood	Damage of facilities	Comments
				Yes/No	Name of Coop	Contact													
1	6-Jun-17 Gkoro	(68.4)	Yes	COALEKA	078 582 3269	Yes	Not enough	Good condition but canal need maintenance	No		By OWMNDP in 2013	Stream	Maize, fresh beans and vegetables	-	In dry season	No	No	The main issue in the marshland is the shortage of water. Some farmers are irrigating using small pumps. Irrigation canals are not well maintained. A buffer zone between farmland and irrigation canal is needed. Some farmers are taking water directly from the main canal.	
2	Gatimbazi	60 (66.8)	Gecurabwenge, Karama & Musambira	KABYATI, CODARIKA, COCOF and CORIMU	078 237 9130, 0723 363 340	Yes	Not enough in some areas	Not good	Catchment not protected		Roughly by KOICA (SAEMAUL) in 2016	Streams and springs	Rice	-	In dry season	Downstream	-	The marshland has enough water with two main branches (Mushimba and Kibuzi). In dry season water is short. The canals are not well levelled, in some areas water cannot flow to downstream. The branch of Kibuzi has a pond which stops erosion from upper side of the command area.	
3	Kibuzza	31 (45.1)	Gecurabwenge	KABYATI	0782 378 130	Yes	Not enough	Not good	Catchment not protected		Roughly by KOICA (SAEMAUL) in 2016	Stream	Rice	-	In dry season	Downstream	-	Same condition as Gatimbazi.	
4	Mushimba	51 (41.6)	Musambira, Gecurabwenge	CORIMU		Yes	Not enough	Not developed	Catchment not protected			Stream and springs	Rice	-	In dry season		-	Mushimba is a branch of Gatimbazi. Water is not enough in dry season but farmers are growing rice.	
5	Kayumbu	103 (57.8)	Musambira, Nyarubaka	IMPUYABO, CODARIKA	0788 647 089	Yes	Not enough	In a very bad condition	Catchment not protected		By PAG (Priget Agricole de Gitarama) in 1980s	Stream and springs	maize, soybeans and vegetable	-	In dry season	In rainy season	-	The marshland has a stream and some parts are flooded during rainy season. We observed the canals but they cannot convey water due to lack of maintenance.	
6	Rwabashyashya	60 (60.4)	Gecurabwenge, Rugalika, Runda, Rukoma	IMPABARURA, ABADATEZUKA	078 973 2121	Yes	Not enough	Good condition	Catchment not protected		By OWMNDP in 2016 (Before in 1970s by Belgium)	Stream	Maize and vegetables	-	In dry season	No	No	Irrigation facilities are in good condition and canals are well maintained but the main issue is the shortage of water in dry period.	
7	7-Jun-17 Kayumbu	(37.2)	Musambira	CODARIKA		Yes	Not enough	Not good	Catchment not protected		Roughly by SAEMAUL (KOICA)	Stream and spring	Rice	-	In dry period	In rainy season	No	The main issue is the shortage of water in dry season. Farmers are in same cooperative as in Gatimbazi. The irrigation structures are not sufficient well designed. The cooperative is maintaining irrigation facilities by community works. Downstream on the left side, water is leaking from the intake weir.	
8	Kinari	(6.1)	Kayumbu			No	Not enough	Not developed	Catchment not protected			Stream and spring	Maize and beans	-	In dry period	No	-	The marshland is like hillside. The stream is at a lower level compare to farmland. So, farmers use water from hillside and springs.	
9	Rutobwe	(19.0)	Kayumbu	Yes		Yes	Not enough	Not developed	Catchment not protected			Stream and spring	Maize and beans	-	In dry period	No	-	The marshland is narrow. Farmers in cooperative grow maize in season A and individually the grow bean and vegetables in B and C.	
10	Mpombori	96.9 (51.1)	Nyarubaka, Musambira	IMPUYABO, COCOF	078 864 7089	Yes	Not enough	Roughly developed in 1980s	Catchment not protected			Stream and spring	Maize, beans and soybeans	-	In dry period	No	-	Mpombori is a part of Kayumbu located upstream. Irrigation facilities (intake and canals) are destroyed and no longer used.	
11	8-Jun-17 Bahimba	53.5 (36.2)	Karama, Kayenzi	COOUMALEBA	078 586 7911	Yes	Not enough	Not developed	Catchment not protected			Stream and springs	Rice, maize and vegetables	-			-	The marshland is long and narrow with a small perennial stream. Farmers tries to divert water.	
12	Nyararongo	(43.6)	Kayenzi	No		No	Enough in the river	Not developed	Catchment not protected			Springs	Maize and vegetables	-	In dry period	In rainy season	-	The marshland is along Akanyaru river. During rainy period, floods damage their crops. The soil condition is sandy.	
13	Rugoma	30.4 (19.0)	Kayenzi	Groups	078 842 8613	No	Not enough	Not developed	Catchment not protected			Stream and springs	Maize, soybeans and vegetables	-	In dry period	No	-	Long and narrow. River bed is big but in dry period the flow is small. Farmers uses water from springs.	
14	Nyarubaya	(15.6)	Kayenzi	No		No	Not enough	Not developed	Catchment not protected			Stream and springs	maize, rice and vegetables	-	In dry period	No	-	Small and narrow. Water source is spring and stream. Individual farmers grow maize and vegetables but some farmers try to grow rice.	
15	Bishenyi	59 (61.0)	Rugalika, Runda	Ubumwe Bishenyi	078 115 9592, 0725 588 160	Yes	Not enough	In good condition	Catchment not protected	451	By OWMNDP in 2014	Stream and springs	Maize in season A, beans in season B and vegetables in season C	-	In dry period	In rainy season	-	The scheme has irrigation facilities in good condition but water is not enough. Upstream intake on right side, there is old dyke but now the area is under cultivation of sugar cane.	
16	Kamiranzovu	(65.1)	Runda, Rugalika	Groups	078 319 8310	No	Enough	Not developed	Catchment not protected			Stream and springs	Maize, beans and vegetables	-		In rainy season	-	Kamiranzovu is located upstream Bishenyi on the left side. Water is relatively enough but the riverbed is at lower level compare to farmland.	

Marshlands survey in Kamonyi

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			Erosion control	Household	History/Construction	Water resources	Crops	Proposed crops	Shortage of water	Problems/Flood	Damage of facilities	Comments					
				Yes/No	Name of Coop	Contact											Comment from Coop	IMUO	Dam	Status of infrastructures	
17	8-Jun-17 Makunguli	(693)	Mugina, Nyamivaga (in Kamonyi), Kinazi(Ruhango)	Yes	COPROPRIZ Alahuzabikwona	078 354 7760	The total area was 700ha but about 50ha was flooded by Akanyaru. During rainy season much flood destroy some irrigation facilities. In dry season water is not enough. Farmers would like to have a dam.	Tuyibaho Not enough Makunguli enough	No	Not developed	Some are destroyed	Catchment not protected	2750	By RSPF in 2008	Stream	Rice	Yes	In rainy season	Yes	Area to be increase from 316 to 650ha. Much flood occur in rainy season and the main source of water is rain. In dry period, the stream doesn't have enough water.	
18	Akanyaru	1550 (1380)	Mugina,	No	Kabuye sugar works	078 884 2486		No	Enough	Not developed	Catchment not protected					Underground water	Maize and beans	No	In rainy season	-	The marshland is along Akanyaru river. During rainy period, floods damage their crops.
19	Kavunja	56 (104)	Mugina	Yes	COALFIKA	078 682 1983		No	Enough	Not developed	Catchment not protected					Stream	Maize and vegetables	No	No	-	Kavunja is a long and narrow marshland. Water source is Kavunja stream flowing to Akanyaru river.
20	Ruboroga	130 (134)	Mugina, Rugarika, Nyamivaga	yes	KABINYA, COAMAMU	078 368 1559/ 0788 747 378	The issue for water distribution, in some areas water percolates into the ground. It is not easy to convey water down stream. Other issue is sand from upstream side during rainy season.	Yes	Not enough	In good condition	Catchment not protected					Stream	Maize and vegetables	In dry period	No	No	Water is not enough especially in dry period. Soil is sandy and some farmers uses fertilizer for vegetables production.
21	Mugera	(13.7)	Runda	No				No	Not enough	Not developed	Catchment not protected					Stream and springs	Maize and vegetables	In dry period	No	-	Farmers are growing maize and vegetables especially onions. Water in dry season is not enough. The riverbed is deep which make irrigation difficult.
22	Nyabarongo	1450 (1223)	Rugarika, Mugina, Kayerzi, Nyanza, Runda	No	Kabuye sugar works			No	Enough	Not developed	Catchment not protected					River	Sugar cane	No	In rainy season	-	The marshland is a part of Akanyaru valley.
Total		(4,271)																			

Marshlands survey in Mubanga

No	Name	Size Ha	Sector	Cooperative		IMUO	Water	Dam	Status of Infrastructures	Erosion control	Household	History Constru	Water resources	Crops	Propose d crops	Problems		Comments	
				Yes/No	Name of Coop											Contact	Shortage of water		Flood
1	Rubara	(23.1)	Cyeza	No			Not enough	No	Not developed	Catchment not protected			Stream and springs	Maize and beans	-	In dry season	No	The marshland is small and narrow. Water flows to Nyabarongo.	
2	Rugeramigizi I	(120.1)	Nyamabuye, Shyogwe (Muhanga), Bymana (Muhanga)	Yes	KIABR	0785 785 476 Coop	The main crop is rice and the average yield is 4.37/ha but some good farmers produce 717/ha. The main issue is the shortage of water in dry season. IMUO and cooperative get technical and financial support from RSSP	Yes	In good condition	Catchment protected	735	GAA construct concrete dam in 2004	Dam and stream	Rice and maize on the side where water is not enough	Rice	Yes	No	Rugeramigizi I has been developed under RSSP and GAA. Farmers in cooperative are growing rice and irrigation facilities are managed by WUO. GAA constructed canals and deviation weir but the storage of water in the scheme is not enough. RSP constructed canals and deviation weir but the storage of water in the scheme is not enough. WUO and cooperative, MASAC is taking water from the reservoir for domestic use.	
2	Rugeramigizi II	(84.6)	Nyamabuye, Shyogwe	Yes	KOKAR	0783 013 893 Yemarie V/President	WUO doesn't have any support from donor. Water is not enough but they tried to remove grasses into the reservoir.	Yes	Need rehabilitation	Catchment protected		GAA	Dam and stream	Rice, maize and vegetables	Rice	In dry season	No	Yes	Rugeramigizi II was constructed under GAA. The scheme has a reservoir but during dry season water is not enough. The cooperative is growing rice and WUO manage irrigation facilities.
3	Rwansamira	(68.654)	Nyamabuye	Yes	KOPARWAMU	0783 375 380 Coop		No	No structures	Catchment protected		WFP	Stream and springs	Vegetables, maize and beans		In dry season	No	Farmers growing maize, beans and vegetables. The marshland has canal constructed by World Food Program with food for work approach. Water is not enough in dry season and there are no irrigation structures.	
4	Makera	(78.7015)	Nyamabuye, Cyeza, Muhanga	Yes	IABM	0788 485 983 Coop		Yes	Not good	Catchment not protected		By OMMDP in 2011	Stream and springs	Maize, beans and vegetables		In dry season	No	The main issue in the scheme is the shortage of water. The cooperative grows maize in season A, beans and vegetables in season B and C. Makera is located upstream of Takwe.	
5	Gasayo	(10.0)	Cyeza	Yes	Same as Makera			No	Not developed	Catchment not protected			Stream and springs	Maize, beans and vegetables		In dry season	Much water during heavy rain	Gasayo is an undeveloped small marshland upstream Makera. The marshland has a stream but in rainy season some plots are eroded due to too much water and sediments. Farmers are in same cooperative in Makera (IABM) domes.	
6	Misizi	(13.0)	Shyogwe	No				No	Not developed	Catchment not protected			Stream and Springs	Maize, beans, vegetables, sweet potatoes		In dry season	From the reservoir	Misizi marshland is located upstream Rugeramigizi II reservoir. Water from springs is logging in the marshland. Individual farmers are cropping different crops.	
7	Nyirabahimba	(14.6)	Shyogwe	Yes			The main issue is the shortage of water. Farmers needs small scale equipments to irrigate their crops.	No	Not developed	Catchment not protected			Stream	Maize (A), beans, green peas and vegetables		In dry season	No	The marshland is located on right side branch upstream Rugeramigizi II reservoir. Farmers in cooperative are growing maize in season A and others crops individually in B and C.	
8	Takwe	(144)	Cyeza, Muhanga (Muhanga) and Musambira (Kamonyi)	Yes				No	Not developed	Catchment not protected			Stream	Maize, beans and vegetables		In dry season	No	Farmers in cooperative grow maize in season A, beans and vegetables in season B and C. The cooperative is making irrigation using SSIT equipment.	
9	Nyagisenyi	(3.5)	Cyeza	Yes				No	Not developed	Catchment not protected			Stream	Maize, beans, green peas and vegetables		In dry season	No	Farmers in Nyagisenyi are in the same cooperative in Takwe. The main issue is the shortage of water, especially in dry period.	
10	Nyagakole	(65.8)	Mushishiro, Nyarusange and Muhanga	No				No	Not developed	Catchment not protected			Stream	Maize, beans, sweet potatoes, elephant grasses, cassava and sweet potatoes		In dry season	Sometimes the river overflows in rainy season	Nyagakole is a narrow marshland flowing to Nyabarongo river. The riverbed is at lower level compare to farmland. The area doesn't have marshland characteristic. It looks like hillside. During heavy rain, much sand is accumulated in the riverbed.	
11	Gheri	(63.4)	Mushishiro and Muhanga	Yes		Maize 0729 558 370 Vegetables 0782 357 282 Antenne		No	Not developed	Catchment not protected			Stream and spring	Maize, beans, sweet potatoes, different crops (Cassava, sweet potatoes, taro)		No	Flooded for short period	Water is enough and clean, but the river bed is at lower level compare to farm land. This makes irrigation difficult because farmers growing vegetables uses watering can. Water cannot flow by gravity inside the scheme.	
12	Nyabarongo	(5.3)	Rugendabari	No				No	Not developed	Catchment not protected			River, stream and springs	Maize and soybeans		No	Yes	The marshland is along Nyabarongo river. During rainy period, the farmland is flooded. Water is coming with much sand. In dry season, water level in the river is low. The only source of water is stream and springs.	
13	Mwumba	(46.0)	Cyeza	No				No	Not developed	Catchment not protected			stream and springs	Maize in season A, beans and vegetables in B&C		Yes	No	The marshland is long and narrow. Farmers are same cooperative as Makera for maize production in season A. They make irrigation calendar for upstream to downstream. They cultivate in ridges to avoid floods.	
14	Gasayo	(7.8)	Kabacuzi	No				No	Not developed	Catchment not protected			stream and springs	Rice, sweet potatoes, sorghum and maize		Yes	No	Gasayo has a stream crossing the area but it doesn't have criteria of marshlands. The riverbed is at lower level compare to farmland and the area is dry. In a branch on left side, farmers are growing rice.	
15	Bizibizi	(15.6)	Kiyumba	No				No	Not developed	Catchment not protected			springs	Rice		In dry season	No	The main water source is springs. Farmers are cropping paddy two season but during dry period, some plots don't get enough water.	
16	Nyamuhindura	(46.4)	Kiyumba	No				No	Not developed	Catchment not protected			springs	Rice		In dry season	No	Farmers are growing rice two season. In dry season, water is not enough. Much water flows with sediments into the river. The main source of water is springs.	
17	Nyabarongo Bwayi	(25.1)	Kiyumba	No				No	Not developed	Catchment not protected			springs and river	Rice		In dry season	In rainy season	It a part of Nyabarongo marshland. Farmers are growing soybeans and rice. The main issue is flood during rainy period.	

Marshlands survey in Muhanga

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative		IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Yes/No	Name of Coop							Contact	Comment from Coop				Construction	Rehabilitation	
18	Nyabihu (Nyabarongo)	(10.0)	Kiyumba	No			No	Not enough	Not developed	Catchment not protected				Springs	Rice	-	In dry season	No	Nyabihu marshland is a branch of Bakokwe. Water is not enough, upstream it comes mainly from springs. Farmers are growing rice. The slope in the marshland is relatively steep.
19	Kabahara (Nyabarongo)	(7.5)	Kiyumba	No			No	Enough in the river	Not developed	Catchment not protected				Ground water and springs	Soy beans and sweet potatoes	-	In dry season	In rainy season	The small area located beside Nyabarongo river. Near the river is flooded in rainy season and near the marshland is affected by erosion from mining.
20	Bakokwe (Nyabarongo)	(30.7)	Kiyumba (Muhanga), Kayenzi (Kampny)	No			No	Enough in the river	not developed	Catchment not protected				Bakokwe river and springs	Maize, beans and vegetables	-	In dry season	Not flooded	The marshland is located along Bakokwe river. The area is long and narrow. In rainy season, Bakokwe flows with much water and sediments.
21	Nyamiseke (Nyabarongo)	(15.2)	Kiyumba (Muhanga), Kayenzi (Kampny)	Yes			No	Enough in the river	Not developed	Catchment not protected				Ground water, stream and springs	Soy beans and maize	-	In dry season	In rainy season	Nyamiseke is located along Bakokwe river near Nyabarongo river. The main source of water is Nyabarongo.
22	Ruterana	(34.8)	Kiyumba and Rongi	Yes			Yes	Not enough	Good but some gates need rehabilitation	Catchment not protected				Stream	Rice	-	In dry season	No floods	Ruterana was developed under RCSP. The project is like OMMBP (diversion weir and irrigation canals).
23	Kibyezi	(56.9)	Kabacuzi and Muhanga	Yes			No	Enough in the river	Not developed	Catchment not protected				River	Vegetables	-	No	Near the river in rainy season	The marshland is located along Bakokwe river upstream side. The river has much water but the river bed is at low level compare to farmland. Farmers use bucket or watering can. Farmers get training from an NGO (Women for Women International) but they would like to have some irrigation equipments and a good market for their product. They would like to have pumps.
24	Kinjigari	(34.7)	Kibangu	Yes	KODEKI	0782 612 266	No	Enough	Not developed	Catchment not protected				Stream and springs	Rice and vegetables	-	No	No	The marshland has enough water and farmers are growing rice and vegetables. The area is located in mountainous area reason why some farmers have adopted vegetables even if water is enough for rice.
25	Nyabarongo-Nyakabanda	(79.5)	Nyabinoni, Kibangu, Rugendabari	Yes	Duterimbere Kibangu	0722 827 103 Alexis	No	Enough in the river	Not developed	Catchment not protected				River and stream	Rice and soybeans	-	No	In rainy season	The marshland is along Nyabarongo river. One side, farmers are growing rice and water comes from Nyakabanda stream with much water.
26	Nyabarongo-Nyabinoni	(33.3)	Nyabinoni	Yes	Dusabane	0722 754 439 Dancille	No	Enough in the river	Not developed	Catchment not protected				River	Beans and soybeans	-	No	In rainy season	The marshland is located along Nyabarongo river. During rainy season, the area is flooded and in dry season there is no water. According to farmers, alluvial deposits are fertile.
Total		(1,202)																	

Marshlands survey in Nyamagabe

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History Rehabilitation Construction	Water resources	Crops	Proposed crops	Problems		Comments	
				Yes/No	Name of Coop	Contact										Comment from Coop	Shortage of water		Flood
1	24-Mar-17 Mushishito	130 (63.0)	Kibirizi-Uwinkindi	Yes	4 Cooperatives	0783010284 SEDO	In the marshland, there are four cooperatives. During development of the marshlands, cooperatives were existing with legal personality. Farmers are growing different crops. The marshland has enough water but the main issue is flood during rainy season.	No	Good but some gate not operational	Catchment protected		QWMD 2016	Mushishito river	Maize, Irish potatoes, Beans and vegetables	-	No	In rainy season	Some gates	The river in the marshland has enough water. The main issue is flood during rainy season and sand brought by the river.
2	Rwondo	64 (60.3)	Gatare, Musebeya Buruhukiro	Yes	ABA-HORANAMAFI	0783323921 President	The marshland has springs from hillside. The marshland has been roughly developed before genocide but in 2011 QWMDP constructed irrigation facilities. WULO is not yet well organized but they started water fee collection. Water distribution is difficult.	No	Intakes have been destroyed	Catchment protected		QWMD 2011	Rwondo river and springs	Maize, Irish potatoes, Beans and vegetables	-	No	In rainy season	Yes	The marshland has enough water but flooded in some parts during rainy season. Intake weirs have been washed away. The marshland has a main river and other tributaries. The maintenance is not well done but the service provider (COCA) was organizing WULO. According to farmers, the main intake upstream and canals were constructed some years ago.
3	Gishongo	(6.4)	Tare	Yes	0782113695 Alphred Nyirimana village leader	Gishongo marshland has been roughly developed by an NGO. There are canals but no structures. The water distribution is difficult but the marshland has enough water. The marshland has upstream part and downstream part. The cooperative has been destroyed because of poor management.	No	Not developed	Catchment protected		NA	Gishongo river and springs	Maize, beans and vegetables	-	No	In rainy season	NA	Located upstream Mwego/ we can see irrigation canal but the person doesn't know who made them (probably an NGO). No deviation weir or any structure. The soil is sandy.	
4	25-Mar-17 Mwogo	(247)	Musange of Nyamagabe, Kabagali of Ruhango and Cyabakanyi of Nyanza	No	0783 299 083			No	No structures	Hillside is covered by bananas and trees		NA	Rukarara and Mwego rivers	Maize, rice, sorghum, Irish potatoes, beans, soybeans and vegetables	-	No	Every rainy season but some parts are permanently flooded	Mwogo downstream is downstream the junction of Mwogo and Rukarara. The marshland has much water and some parts are permanently flooded.	
5	Rukarara	(194)	Musange, Kaduha, Mbazi and Nyagisozi(Nyanza)					No	Not developed	Catchment not protected		-	Rukarara river and springs	Maize, beans and sorghum and rice	-	No	In rainy season	The marshland is along Rukarara river. It long and relatively wide. During rainy season, the river overflows.	
6	Mwogo (downstream)	(17.0)	Musange	Yes			Irrigation canal on one part of Mwogo was done by farmers and "Ubugembe program". Farmers on that small part are in cooperative and crop rice. The main issue is flood in rainy season.	No	Roughly developed	Catchment protected		-	Mwogo river and springs	Rice	-	No	Every rainy season but some parts are permanently flooded	The accessed area is a small part of Mwogo marshland. The area is located between Nyamagabe (Musange), Nyanza(Cyabakanyi) and Ruhango(Kabagali). On the field we can see some canals but not structures. Farmers are growing rice but in rainy season the area is flooded.	
7	Nzavu	(18.4)	Mugano	No			In Nzavu, one part is used for paddy and other farmers are cropping beans, maize and vegetables. The catchment is covered by grasses and trees. Erosion is from the stream. In dry period water is not enough.	No	Not developed	Catchment is protected but the stream overflow in rainy season		-	Stream and springs	Rice, beans, maize and vegetables	-	In dry season	No	Small undeveloped marshland. Farmers are cropping rice with other crops. Water is not enough in dry season.	
8	Gisuma	(23.1)	Kaduha	Yes	Different	0783 463 387 Agronomist	Muguma is a long marshland. Farmers grow different crops like maize, beans, vegetables and Irish potatoes. The marshland has been developed many years ago. Irrigation facilities (canals and structures are now existing).	No	old	Hillside is covered by grasses and trees		Before Genocide	Stream and springs	Maize, beans, vegetables and Irish potatoes	-	In dry season	No	A narrow marshland and water is not enough in dry season. On the bridge crossing the marshland, some structures are observed.	
9	Cyogo	(53.4)	Cyanika	Yes		0783 402 842	The cooperative grow soybeans, maize and beans. Irrigation facilities are in good condition but water is not enough in dry season.	No	New	Hillside is covered by grasses and trees		2016	Stream	soybeans, beans and maize	-	In dry season	No	The marshland has been developed in collaboration with WFP (fund was from WFP and QWMDP implemented the project).	
10	26-Mar-17 Kaviri	(15.6)	Kiyoma(Huye), Cyanika(Nyamagabe)	No	0722 998 350 Annoncete (group president)		Kaviri has been developed before genocide. Farmers are growing different crops like maize, beans, soybeans, Irish potatoes, vegetables.	No	Old	Hillside covered by grasses and trees		1990-1991	Stream and springs	Maize, beans, sorghum, Irish potatoes and vegetables	-	In dry season	No	Kaviri has been developed by PDAG (Project de Développement Agricole de Gishongo/ Agriculture Development Project in Gishongo).	

Marshlands survey in Nyamagabe

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			Dam	Status of infrastructures	Erosion control	Household	History of construction	Water resources	Crops	Proposed crops	Problems		Comments	
				Yes/No	Name of Coop	Contact									Comment from Coop	Shortage of water		Flood
11	Kato	(12.4)	Gasaka				Farmers in groups grow maize, beans, sorghum, irish potatoes and vegetables. During rainy season, much water is flooding the area.	No	Not enough in dry season	No	Hillside covered by grasses and trees							Downstream is Muzirantwago.
12	Muzirantwago	(71.5)	Cyanika, Gasaka, Mbazi, Kibirizi	Yes	DUTERIMBERE	0782118575 President	Farmers in cooperative grow maize, beans, irish potatoes and vegetables. Water distribution is not easy due to canals condition.	No	Not enough in dry season		By QWMDP in 2011	Stream and springs	Maize, beans, irish potatoes and vegetables		In dry season	No	Yes	The marshland has been developed under QWMDP. The main issue is the shortage of water but also irrigation structures are not in good condition. Gates are at 1m from the bottom of the weir. Water is not flowing well into the canals, some intakes are under soil and not used. The maintenance is not well done.
13	Kabururwango	(9.3)	Gasaka (Nyamagabe), Kigoma/Huye	Yes			Farmers in cooperative are growing rice. They crop 2 seasons and get training from KOICA	No	Not enough in dry season		2017 by farmers with a support from KOICA	Stream and springs	Rice	Rice	In dry season	No	No	Kabururwango is roughly under development by farmers in collaboration with KOICA. They have intake on the main stream and construction of the canal being done by farmers.
14	Kavure	(12.6)	Kamegen, Gasaka	Yes			Farmers crop rice, the marshland has enough water for 2 seasons.	No	Enough		2017 by farmers with a support from KOICA	Stream and springs	Rice	Rice	No	No	No	Kavure is developed by farmers in collaboration with KOICA same as in Kabururwango. Water is enough for rice. Existing deviation weir was constructed before by another project.
Total		(80.5)																

Marshlands survey in Nyanza.

No	Name	Size Ha	Sector	Year/No	Cooperative			WUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
					Name of Coop	Contact	Comment from Coop							Construction	Rehabilitation				Shortage of water	Flood	
1	Rwanyirababuka	(252)	Nyazo (Nyanza), Kinazi (Ruhango)	No				No	No	Not enough	Not developed	Catchment not protected			Stream and springs	Maize, vegetables and rice (prohibited)	Maize, vegetables	In dry season	Sometimes in rainy season	Rwanyirababuka is located upstream Agasasa dam. During dry season, water is not enough. Water source is springs. Farmers grow rice, maize and vegetables. The rice farming is prohibited because it prevent Agasasa reservoir to receive enough water.	
2	Agasasa	180 (181)	Nyazo & Kibilizi	Yes	Cooprinz Agasasa	0785 525 946	The main issue is the shortage of water in dry season.	Yes	Not enough	Yes	Good	Catchment not protected	By RSPSP		Dam	Rice	-	In dry season	No	No	In Agasasa, the main crop is rice. The marshland has been developed by RSPSP. Water is not enough in dry season even if there is a reservoir.
3	Agasasa (Non developed)	(200)	Nyazo, Kibilizi	Yes				No	Enough	No	Not developed	Catchment not protected			Underground water	Rice, maize, beans and vegetables	-	No	Yes	The marshland is located downstream developed Agasasa. The main issue is drainage because it is located near Akanyaru marshland which has much water.	
4	Akanyaru	(120)	Kibilizi & Nyazo	No				No	Enough	No	Not developed	Catchment not protected			Akanyaru river, underground	Maize, beans and vegetables	-	No	Sometimes in rainy season	The marshland is along Akanyaru river. Farmers are growing maize, beans and vegetables. The soil is fertile and farmers cultivate in ridge to avoid floods.	
5	Nyarubogo	280 (241)	Kibilizi, Muyira, Busoro	Yes	Cooprinz Nyarubogo	0783 193 641/ President	Shortage of water, some structure need rehabilitation.	Urubogo bogor- Nyarubogo	Not enough	Yes	Good	Catchment not protected	1013 By RSPSP 2012		Dam	Rice	-	In dry season from 2016	No	No	Nyarubogo Marshland has been developed under RSPSP. Irrigation facilities are in good condition and WUO well organized. The cooperative is growing rice and irrigation water is not enough.
6	Budubi d'opad	145 (135)	Muyira, Kigoma, Busoro	Yes	COARIBU	0722 214 729 Buzizi President	Water is not flowing from the diversion weir due to much sedimentation. The slope in the right side canal is flat causing sediment deposition.	Yes	Not enough	No	Canals need to be reconstructed	Catchment not protected	By QWMDP in 2013		Stream	Rice, maize	Rice	In dry season	No	Yes	Budubi marshland has been developed by QWMDP. Farmers are organized in one cooperative and WUO. The main crop is paddy with small portion of other crops where they cannot get water. The main issue in the marshland is sand from the river. This is the obstacle on water flow. Sediments are deposited in the canal which causes an inverted slope.
7	Rwamporera	(69)	Kigoma	No				No	Not enough	No	Not developed	Catchment not protected			Springs	Rice and vegetables	-	In dry season	No	-	Rwamporera is small and doesn't have a stream. Water is coming from spring and farmers are trying to cultivate rice. It is located in Kigoma sector upstream Budubi marshland.
8	Rubuyenge	144 (134)	Kigoma (Nyanza), (Ruhango)	Yes	Abishyizehamwe Murwana shyaka	0766 093 844	The area has been developed by MINAGRI but the deviation weir has been destroyed by erosion. The cooperative would like to repair the weir so they can crop rice. If possible a dam is better because in rainy season floods come with much sand.	No	Enough but not used	No	Abandoned	Catchment not protected	By QWMDP in 2011		Stream and springs	Rice, maize and vegetables	Rice	Upstream canals are not used	In rainy season	Yes	Rubuyenge marshland is located between Kigoma sector of Nyanza and Ntongwe Sector of Ruhango. Gashyushya river and Kamirantama are the source of water in Rubuyenge. During rainy season the area is flooded with much sand from Gashyushya river. The marshland has been developed by MINAGRI but the diversion weir on Gashyushya river has been washed away by the river. Downstream another diversion structure is not getting water because water is following the natural river bed. The canal also is destroyed because no water inside. Farmers are organized in the cooperative on the side of Ruhango. The main crop is rice but due to the shortage of water, in dry season they crop maize or vegetables.
9	Burakari	(112)	Busoro (Nyanza), Ntongwe (Ruhango)	Yes	Cooprinz Busoro	0785 548 959 Charles Manager	Farmers in cooperative are growing rice and have one WUO. If water is enough, they grow two seasons of paddy. Floods occur sometimes but don't cause damages on rice. In the scheme, there are two diversion.	Yes	Not enough	No	Need rehabilitation	Catchment not protected	By QWMDP in 2011		Stream	Rice	-	No	In rainy season	Yes	Burakari marshland is located downstream Rubuyenge marshland also between Nyanza and Ruhango. Upstream has been developed under QWMDP but downstream is from some years ago. The main issue in the marshland is much sand coming with the river, especially in rainy season.
10	Akanyaru (Rwabusoro)	800 (1757)	Kibilizi, Busoro	Yes	COAMANYA	0788 977 883 Rubagumya Charles	After bridge construction, the cooperative is planning to restart the cultivation of maize.	No	Enough in the river	No	Not developed	Catchment not protected			River, springs and ground water	maize and beans	-	No	In rainy season	-	Rwabusoro marshland is located in Akanyaru valley. From 2011, the marshland was not cultivated by the cooperative due to permanent floods. Recently, floods were coming from the bridge under construction because water was diverted to the small bridge. Now the cooperative has a plan to cultivate beans upstream the dike road and maize
11	Munyamazi	(106)	Mukingo	No				No	Not enough	No	Not good	Catchment not protected			Springs	Maize, beans and vegetables	-	In dry season	No	-	The marshland is small and there is no stream. During dry season, there is no water. An NGO "Action Aid" constructed irrigation canal but in dry season there is no water. WASAG also is taking domestic water from the spring inside the marshland.
12	Rufuka	34 (310)	Cyabakamyi	Yes	Twungamirane Rufuka	0785 742 975 Habamenshi Callixte 0782 910 405 Mukasine Vestine	The main issue is the shortage of water in dry season. They cannot cover a big area with vegetable. Another is flood in rainy season on land close to Rufuka river. They have regular community work for canal cleaning.	Twabun gabuge Rufuka	Not enough	No	Good condition	Hillside not protected	570 By QWMDP in 2016		Stream	Maize, beans, vegetables	-	In dry season	Some part in rainy season	No	Rufuka marshland has been developed under QWMDP. It is located in Cyabakamyi Sector. The main issues in the marshland are the shortage of water in dry period and floods during rainy season. The cooperative is growing maize, beans and vegetables. HoRECO is technically supporting farmers.
13	Mwogo (Not developed)	(407)	Nyagisizi, Rwabucuma, Cyabakamyi	No				No	Enough	Yes	Good condition	Catchment not protected			Mwogo river, underground water	Maize, beans and vegetables	-	No	In rainy season	No	The boundary of the marshland is not clear. Some part have been developed by LHM and others are permanently flooded.

Marshlands survey in Nyanza

Visited Marshlands

No	Name	Size Ha	Sector	Yes/No	Cooperative		MUO	Water	Dam	Status of Infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
					Name of Coop	Contact							Comment from Coop	Constructio n				Rehabilitatio n	Shortage of water	
14	Kaviri	35 (48.0)	(Nyangazi (Nyanza), Rwanro(Huye), Cyenika (Nyangazibao)	No		The area is flooded during rainy season. The river bed is at lower level compare to farmland.	No	Not enough	No	Catchment not protected					Stream and springs	Maize and beans		In rainy season	No	Kaviri river is a tributary of Mwoyo river. In the marshland farmers are growing maize and beans. In rainy season, the area is flooded.
15	Cyihafi (Mwoyo dev)	64 (148)	(Nyangazi, Cyabakanyi, Rwabucuma (Nyaza), Rwanro (Huye)	Yes	0782 429 242 Abdan	They irrigate on hillside with hose pipe connected to pipe line from Nyanza dam. Marshland also is irrigated.	Yes	Enough	Yes	Good condition	Catchment protected			By LWH 2014	Dam	Vegetables and Irish potatoes		No	No	Cyihafi is a part of Mwoyo marshland. The area has been developed by LWH project. Farmers are irrigating with water from Nyanza23 dam through pipeline.
16	Kami	56 (15.7)	(Nyangazi)	Yes	0783 411 240 Ndagimana Gad	They irrigate on hillside with hose pipe connected to pipe line from Nyanza dam. Marshland also is irrigated.	Yes	Enough	Yes	Good condition	Catchment protected			By LWH 2014	Dam	Maize and vegetables		No	No	Kami marshland has been developed by LWH project. Farmers are irrigating with water from Nyanza23 reservoir.
17	Rukarara-Mugesera	45 (51.0)	(Nyangazi)	Yes		The deviation weir on the tributary of Mwoyo river was roughly constructed by DUHAMIC-ADRI but washed away by floods.	No	Not enough	No	Not good	Catchment not protected			By DUHAMIC-ADRI	Stream and springs	Sorghum and maize		In rainy season	Yes	Mugesera marshland is a part of Rukarara marshland. The area was developed by DUHAMIC but flood from a branch of Mwoyo washed away the diversion weir.
18	Ruzerera	(8.9)	(Rwabucuma)	Yes	0782 911 205 Marceline Nyiransabimana		No	Not enough	No	Not developed	Catchment protected				Stream and springs	Maize, beans and vegetables		In dry season	No	Ruzerera is a small marshland upstream the side developed under LWH. Farmers are in one cooperative but on undeveloped area water is not enough. The water source is springs and in dry period the stream dries.
19	Nyabibindu	(14.0)	(Busasama)	Yes	0783 065 904 Adorata	Farmers in Nyabibindu and a part of Ruhaya are in same maize cooperative. The issue is the shortage of water and there are no irrigation canals.	No	Not enough	No	Not developed	Catchment not protected				Springs	Maize and beans		In dry season	No	Nyabibindu is located in Busasama Sector in Nyanza. Farmers are growing maize and beans. Some farmers are growing vegetables. Downstream Nyabibindu is Ruhaya. The main source of water is springs.
20	Ruhaya	40 (27.4)	(Busasama, Rwabucuma)	Yes			No	Not enough	No	Not developed	Catchment not protected				Stream and springs	Maize and elephant grass		In dry season	No	Ruhaya is downstream Nyabibindu and is mainly used for production of fodder for the King's cows.
21	Bishya/Upstream	(17.0)	(Busasama, Rwabucuma and Mukingo)	Yes	MINADEF/ Maize cooperative upstream right side	The marshland belongs to Ministry of defense.	No	Not enough	No	Not developed	Catchment not protected				Stream and springs	Mulberry, Maize, beans, vegetables and fish and potatoes		In dry season	No	The marshland belongs to the Ministry of Defence and is used for mulberry tree to feed caterpillars for silk production. Upstream, individual farmers are growing maize, beans, Irish potatoes and vegetables.
22	Akaziga	10 (15.6)	(Busasama)	Yes	0788 842 873 Agrippine	The area is small scale. Farmers in cooperatives are growing maize during season A and individually other crops in season B and C.	No	Not enough	No	Not developed	Catchment not protected				Stream and springs	Maize, beans, vegetables		In dry season	During heavy rain	Akaziga marshland is located upstream Bishya. Water is not enough during dry season but floods occur in rainy season. Farmers are growing maize and vegetables.
23	Busogwe	110 (95.6)	(Busasama, Kijoma & Mukingo)		Mpanga Maize Cooperative	Facilities are in good condition but water is not enough especially during dry season. WUD would like to have	Yes	Not enough	No	Good condition	Hillside covered by trees and			By OWMDF in 2017	Stream and springs	Maize, beans, vegetables		In dry season	No	The marshland has been developed under OWMDF. Water in dry season is not enough and farmers grow mainly maize, vegetables and peas.
24	Rufigia	(16.1)	(Busasama (Nyanza), Kinazi (Huye)	Yes	0783 789 012 Dieudonné	The area doesn't have enough water. Canals made by an NGO are not used because water cannot flow inside.	No	Not enough	No	Not developed	Catchment not protected				Stream and springs	Maize, vegetables and peas		In dry season	No	Rufigia is a marshland upstream Nyamukana. It has been roughly developed by an NGO but canal are not operational and water is not enough especially in dry season.
25	Gisharara	30 (53.5)	(Busasama (Nyanza), Muiyira, Kinazi (Huye)	Yes	0785 431 485/ 0788 431 485 Samuel	The main issue is the shortage of water especially in dry period. Farmers are making irrigation by watering can or making furrows.	No	Not enough	No	Not developed	Catchment not protected				Springs	Maize, vegetables and peas		In dry season	No	Gisharara is located in Busasama and Muiyira of Nyanza and Kinazi of Huye District. Water is not enough in dry season. Farmers are growing maize, vegetables and peas.
26	Nyamukana	(113)	(Busasama (Nyanza), Kinazi (Huye)	Yes	0784 410 170 Eric	The marshland has been roughly developed by an NGO. The made only canals but no structures.	No	Not enough	No	No structures	Catchment not protected				Stream and springs	Maize, soybeans, vegetables and peas		In dry season	No	Nyamukana has been roughly developed by an NGO but canals don't convey water well and are not in good condition. It is located between Busasama in Nyanza and Kinazi in Huye District.
27	Nyaganzozo-Nyamigogo	180 (152)	(Ruhango, Bwerama (Ruhango) and Kigoma, Mukingo (Nyanza)	Yes		Water comes from different streams.	Yes	Not enough	No	Good	Catchment not protected			by OWMDF in 2017	Streams	Maize, beans, soybeans, vegetables and rice		In dry season	No	Upstream the marshland, one of the water sources is the branch of the marshland on right side. Upstream water is not enough in dry season but downstream farmers are growing rice because they get additional water from spring. Structures are in good condition but in some places, the main canal is lower than farmland due to many drops. Main crops in the marshland are maize, soya beans, beans and vegetables.
Total		(4291)																		

Marshlands survey in Nyaruguru.

Visited Marshlands

No	Name	Size Ha	Sector	Yes/No	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	Construction	Rehabilitation	Water resources	Crops	Proposed crops	Shortage of water	Problems		Comments
					Name of Coop	Contact	Comment from Coop													Flood	Damage of facilities	
1	16-May-17 Rwaganyoni	45 (22.0)	Kibeho	Yes	KOBARWA	0722 036 895 Niyitsekwa Glorises	Canals are eroded in some places due to steep slope. Water is not enough.	No	Not enough	No	New but not yet operational	Protected	By District 2016	No	Stream	Irish potatoes, maize, beans	-	In dry season	No	No	Irrigation facilities have been constructed by the District but in some areas there is a steep slope which cause erosion in the canal. The construction of irrigation facilities is not completed in some areas.	
2	Agatorove	65 (37.3)	Kibeho	Yes	DUTERIMBERE ICVEREKEZO	0725 102 166 Senungu Faustn	Water is enough and the cooperative is getting a support from KOICA.	No	Enough	No	New. The construction is not yet completed. Some gate are missing.	No erosion	By District 2017	No	Stream	Irish potatoes, maize, beans and vegetables	-	No	No	No	The cooperative is getting training from KOICA on vegetables production.	
3	17-May-17 Alagena	100 (158)	Ngera (Nyaruguru), Gihambvu, Mukura(Huye)	Yes		0727 026 540	Water in dry season is not enough. In some parts water distribution is not easy because structures are not well designed.	Yes	Enough	No	Operational and need rehabilitation	Protected	By OMMDP in 2017	No	Stream	Rice upstream and beans, maize, Irish potato downstream	-	No	In some areas	Some gates are damaged	It is located upstream Migina marshland and it cross the road to Burundi. Water is enough but irrigation facilities need maintenance.	
4	Gipfina	10 (95.0)	Ngoma	Yes	TWITEZIMBERE KIYONZA	0783 330 981 Betty	Farmers grow maize in season A, vegetables in B and C, Irish potatoes in B and sometimes beans and sweet potatoes. The marshland doesn't have enough water. The main source is springs. Apart the cooperative, there are also individual farmers.	No	Not enough	No	Not developed	Protected	75	-	Springs	A, Maize, B, Irish potato, beans and vegetables	-	Yes	No	No	The marshland is narrow and small Downstream there is Migina marshland. Water is not enough.	
5	Agatorove	25 (356)	Ngoma, Ngera, Rusenge (Nyaruguru), Huye, Karama (Huye)	No	Groups of farmers	0788 561 972 Amable Karekezi (Ngera)/ 0783 330 981 Betty (Ngoma)	Main crop are Irish potatoes, and maize. Most of the time season C is not used. The marshland is along Agatorove river. In rainy season the river overflows and sometimes crop are damaged.	No	Enough	No	Not developed	Protected	-	-	stream and springs	Maize, beans, vegetables and soybeans	-	No	During rainy season	-	Downstream, people are taking sand from the river. The marshland is long and comes from Huye District. Downstream the marshland, there is an hydropower station.	
6	Urwonjya	60 (535) 49.5 by the District	Nyagsozi, Cyahinda	Yes		0727 169 894 Narcisse	The cooperative is growing different crops but the main issue is the shortage of water in dry season.	Yes	Not enough	No	Some structure not operational	Hillside protected	By OMMDP in 2011	No	Stream	Irish potato, beans and vegetables	-	In dry season	During rainy season	Gate	There is a coffee washing station which pollute the stream.	
7	Akavuguto	100 (217)	Cyahinda, Rusenge, Munini	Yes	ABAKORANABU SHAKE	0783 298 042 Sbahire Faustn	The cooperative is cropping maize in season A and Irish potatoes in C. They crop on 5.5ha and remaining part is cultivated by individual farmers. A part of the marshland (40ha) will be developed under-Korean support (KOICA).	No	Enough in the river	No	Not developed	Catchment is covered by trees	-	-	River and springs	Irish potato and maize	Maize A, beans B and Irish potatoes C	In dry season	During rainy season	-	The marshland is along Akavuguto river. A large part is covered by tea plantation. The river has enough water but it cannot directly be used by farmers because there is no irrigation facilities. The river bed is at lower level compare to farmland.	
8	Agatenga	10 (100)	Cyahinda	Yes	INYEMERAMHIG O	0787 568 750 Kabarira Thardisse	The cooperative is growing maize in season A and Irish potatoes. In dry season, water is not enough but also the irrigation water demand is low in dry season.	No	Not enough	No	Not developed	Catchment is covered by trees	67	-	stream and springs	maize, beans and Irish potatoes	-	In dry season	No	No	Agatenga is a branch of Akavuguto. Farmers grow maize, beans and Irish potatoes.	
9	Akanyaru	(71.9)	Munini, Kibeho	No				No	Enough in the river	No	Not developed	Catchment is covered by trees	-	River and springs	Maize, vegetables	-	No	Some times in rainy season	-	-	The marshland is along Akanyaru river. Water is enough in the river even during dry season but it is not used for irrigation because there is no irrigation facilities.	
10	Amazatukura	12 (4.3)	Kibeho	Yes		0722 171 983 Bizumuremyi Marc, 0785 446 690 Muhire	The cooperative is cropping maize in A and Irish potato in season B. According to the president of cooperative, water is enough for selected crops. Some times much water flood their crops.	No	Enough	No	Roughly developed	Catchment covered by trees	KOICA 2016	-	Stream and springs	Maize, Irish potatoes and vegetables	-	No	Some times in rainy season	-	Amazatukura is a branch of Akanyaru river. Farmers are having test plots for vegetables. Water is enough and the cultivate in ridges.	
11	Rwabuganda	40 (31.4)	Kibeho	Yes	Tuyehaza Kibeho	0789 760 343 Mukabatsinda Christine	Farmers in cooperative are cropping on 5ha and other area is cultivated by individual farmers. The cooperative is cropping vegetables. For irrigation they use small scale irrigation equipment. Water is not enough in dry season. Some cooperative members have got training from IPRC on operation and maintenance of irrigation equipment. All seasons they are having test plots for vegetables.	No	Not enough	No	Not developed	Catchment is covered by trees	123	-	Stream and springs	Vegetables	-	In dry season	No	No	-	Downstream side of Rwabuganda, there is a big plantation of tea in Akavuguto marshland.
12	Kibaza	20 (20.4)	Kibeho, Rusenge	Yes	ABAHZI	0727 341 883 Rwakabayiza Pierre		No	Not enough	No	Not developed	Catchment is covered by trees	-	-	stream and springs	Maize, Irish potatoes and vegetables	-	In dry season	No	-	-	Kibaza is a branch of Akavuguto. Farmers are cropping maize, Irish potatoes and vegetables.

Marshlands survey in Nyaruguru

Visited Marshlands

No	Name	Size Ha	Sector	Yes/No	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History of construction	Water resources	Crops	Proposed crops	Shortage of water	Problems Flood	Damage of facilities	Comments
					Name of Coop	Contact	Comment from Coop														
13	Umuzizi	42 (76.0)	Kibaho, Rusenge	No		0788 454 231 Munyandwe Philippe	Farmers are cropping individually different crops. Mainly, they crop maize, Irish potatoes, beans, sweet potatoes and vegetables. Together with the Sector, they are planning to form one cooperative and target maize and Irish potatoes. According to contacted farmer, the marshland has been developed many years ago but canal are no longer used and water has decreased.	No	No	Not enough	No	Catchment is covered by trees	Before genocide but no structures	Stream and springs	maize, Irish potatoes, sweet potatoes and vegetables	Maize and Irish potatoes	In dry season	No		Umuzizi is a long marshland with many branches. It has a good soil but the issue is the storage of water during dry season.	
14	Ruabho	26 (61.0)	Rusenge, Cyirinda	No		0763 004 097 Innocent Nkuriza		No	No	Not enough	Not developed	Catchment is covered by trees		Springs	Maize and beans		In dry season	No			
15	Giswi	18 (42.6)	Buanze, Mianini	No				No	No	Enough in the river	Not developed	Catchment is covered by trees and grasses		River and springs	Maize, Irish potato and beans		In dry season	In rainy season		Individual farmers are cropping different crops like beans, maize, Irish potatoes and cassava. The soil is acidic; farmers use lime to increase the fertility. During rainy season the marshland is flooded.	
16	Kiriba	12 (13.8)	Buanze	Yes	ABAHIZI		Water is enough but the main issue is that there is no canal. Canal has been made by an European many years ago but now they are destroyed.	No	No	Enough	Not developed	Catchment is covered by trees and grasses		Stream and springs	Irish potatoes, maize and beans		No	No			Kiriba is a narrow marshland between Rwanda and Burundi. It has enough water from hillside springs. The marshland has been developed many years ago but now there are no irrigation facilities.
17	Mudasomwa	(7.2)	Ruhenu	No			There is a plan to give the land to 'ba' company.	No	No	Not enough	Not developed	Catchment is covered by trees		Stream and springs	Irish potato, maize and vegetables		No	No			Much water flows in the marshland. The soil has a good texture but not fertile they need to apply fertilizers, compost to improve the soil fertility.
18	Ubuyumbu	30 (25.2)	Ruhenu	No			The area is between Rwanda and Burundi. Water is enough and the soil is fertile.	No	No	Enough	Not developed	Catchment covered by trees		Stream, spring and ground water	Irish potato		No	Some times in rainy season			Farmers are cropping mainly Irish potatoes, and the soil is fertile. The water table is not deep. The marshland is located between two Rwanda and Burundi.
19	Gitita	15 (6.9)	Ruhenu	No				No	No	Enough	Not developed	Catchment covered by trees		Stream and springs	Maize, beans and Irish potato		In dry season	No			The marshland is narrow and small. Farmers make furrow to drain water.
20	Giswi 2	(7.3)	Muganza, Ruhenu, Nyabimata	No				No	No	Enough in the river	Not developed	Catchment covered by trees		Stream and springs	Beans and Irish potato		In dry season	In rainy season			The area is along Giswi river. Some people are collecting sand from the river.
21	Migendo	10 (4.1)	Muganza	Yes	KUNDUMURIMO	0788 535 589 Kanyabutare G	Farmers cultivate Irish potatoes, maize and beans. Water in the stream is enough but there is no irrigation facilities to use that water.	No	No	Enough in the river	Not developed	Hillside is covered by trees	100	Stream and springs	Irish potatoes, maize and beans		No	Sometimes in rainy season on downstream			Downstream of the marshland is Giswi river. Water is enough even in dry period.
22	Giswi 3	15 (9.0)	Muganza	Yes	Duterimbere	0788 682 023 Muganza	Farmers are cropping Irish potatoes, beans, maize and vegetables. In the marshland are about four cooperatives and individual farmers. The marshland is along Giswi river with much water but farmers cannot make irrigation because water only in river bed. In season C they use watering can which is not easy for a big farmland.	No	No	Enough in the river	Not developed	Hillside is covered by trees		Giswi River	Irish potatoes, beans, maize and vegetables		In dry season	In rainy season			The marshland is flooded in rainy season. Water in the river is enough but the river bed has been eroded. In rainy season sometimes the river overflows and in dry season water is at lower level. The river is also bringing sand and the soil is not fertile.
23	Agatigita	25 (19.9)	Muganza	Yes	ABAHUJUMUGA MBI	0769 807 670 Juvenal Sibomana	The area has much water even in dry season. Before its drainage by World Food Program, it was like a swamp.	No	No	Enough	Not developed. Drained by WFP in 2001	Hillside covered by trees		Stream and springs	Maize, beans and Irish potato		No	In rainy season			The flow in the stream is not big but even in rainy season, water is there. The soil is similar to peat.
24	Agatorwe	65 (99.0)	Mata, Kibaho (Nyaruguru), Karama (Huye)	Yes	DUTERIMBERE Ramba	0726 930 016 J Paul Mwenadata	Downstream part is flooded especially during rainy season.	No	No	Enough in the stream	Not developed	Hillside covered by trees		stream and springs	Maize, beans, soybeans and Irish potatoes		No	In rainy season			Upstream Agatorwe is located upstream developed Agatorwe. The marsh is located between Nyaruguru and Huye. Water is enough but not used for farming. Downstream near the developed area is not cultivated because of floods.
25	Kizikoga	48 (29.3)	Mata	Yes	ABAKUNDUMURI MO	0727 161 132 Sebandiri	The marshland is cultivated by the cooperative but it belongs to the ministry of defence.	No	No	Enough	Not developed	Hillside covered by trees		Stream and springs	Irish potato and maize		No	No flood			Upstream and downstream the marshland is tea plantation. The flow in the stream is enough for irrigation.
26	Urabaya	40 (71.4)	Mata	Yes	KOMEZIMHIGO Mata	0727 264 276 Philbert Habyarimana	The soil has much water especially in rainy season.	No	No	Enough but no stream	Not developed	Hillside covered by trees		Springs and underground water	Irish potato, maize, beans and vegetables		No	In rainy season			Much water is in logging into the soil but no flow. Some areas downstream are flooded because of underground water.
27	Nyarumungiri	25 (31.9)	Mata, Ruramba	No				No	No	Enough	Not developed	Hillside covered by trees		Stream, springs and underground water	Maize, beans and Irish potato		No	In rainy season			The area was used for clay peat. Some parts of the marshland are flooded and not cultivated.
28	Nyaruruhinza	7 (10.2)	Ruramba (Nyaruguru), Kicabi (Nyarumugabe)	No		0727 165 338 Valens		No	No	Enough in the stream	Not developed	Hillside covered by trees		Stream and springs	Maize and beans		No	No			The marshland is narrow and the stream flows to Mwojo river.

Marshlands survey in Nyaruguru

Visited Marshlands

No	Name	Size Ha	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments	
				Yes/No	Name of Coop	Contact						Comment from Coop	Construc tion				Rehabilit ation	Shortage of water		Flood
29	Uwarumbi	11 (17.1)	Ruramba, Mata	Yes	KOABWA/ ABSHTIZEHAMW E Mata	0727 006 224 Alexis/ 0785 688 471 Nalobama Alphonse	The marshland has tree stream from each branch. For each stream, World Vision is constructing a diversion weir.	No	No	Under development	Hillside is covered by trees	-	-	Stream and springs	Irish potato, maize and vegetables	-	In dry season	No	The marshland is under development by world vision in collaboration with the District. The development of the area is the deviation of stream same as GYMOP. In some places, water from springs goes directly to the main estate.	
30	Manyaru	12 (36.0)	Kivu, Mata	No		0788 698 542 Kamanzi Beatrice		No	Enough in the river	Not developed	Hillside covered by trees	-	-	River and springs	Maize, irish potato and vegetables	-	In rainy season	-	The marshland is along Akanyaru river. Water is enough in the river and overflows in rainy season. The river flows with much sand and gravel.	
31	Munubuye	17 (17.8)	Kivu	Yes	Cooperative and individual farmers	0785 753 689 John/ 0762 684 867 Vestine	The cooperative is farming on 8ha. The area was used for tea nursery and now it the the first season and they started with potatoes because the soil was hard for the first cultivation.	No	Not enough in dry season	Not developed	The catchment is covered by trees	80	-	Stream and springs	Sweet potatoes	Maize, beans and irish potatoes	-	In dry season	-	Individual farmers has planted mainly sweet potatoes.
32	Gawi 4	27 (21.8)	Kivu	Yes	ABATICUMUGAMI BIL	0784 081 753 Dee Farmer/ 0723 581 204 BIL TWUBAKANE President	The area has four cooperative with one fro fish farming.	No	Enough in the stream	Not developed	The catchment is covered by trees	-	-	River and springs	Maize, irish potato	-	In rainy season	-	Much water flows in the river. Farmers are making furrows to avoid erosion.	
33	Gasezo	8 (19.7)	Kivu	Yes	TURWANVINZAR A	0785 082 618 Serafine Farmer/ 0783 515 583 Innocent/ 0785 603 009 Kamaria	Farmers are cropping maize and beans in season A, irish potato and wheat in season B. Water in is the marshland is not enough. The cooperative is cropping too 8ha.	No	Not enough in dry season	Not developed	No terraces but it is covered by plantation	24	-	Stream and springs	Maize, beans, wheat and irish potatoes	-	In dry season	-	Much water comes from Nyangwe forest and some times causing floods for short time. The river bed is eroded due to big flows.	
Total		(1,725)																		

Marshlands survey in Ruhango

No	Name	Size Ha	Sector	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Yes/No	Name of Coop	Contact							Comment from Coop	Construction				Rehabilitation	Shortage of water	
1	Nyirakyange	110 (89.5)	Ruhango, Bweramana	Yes	COTEMINYARU	078 335 4261 Jerodi	Water is not enough. Season A 2017, the cooperative cultivated rice only on 30ha. In dry season they crop also beans or soybeans.	No	Not enough	Not developed	Yes	420 by OWMDP in 2011	-	Stream	Rice, beans, soya, vegetables and maize	Rice	In dry season	No	No	The marshland is located in Ruhango and Bweramana Sectors. It has been developed under OWMDP. Farmers are cropping rice two seasons but they face a shortage of water. Farmers are in cooperative and have a MUO
2	Kibingo	65 (190)	Ruhango, Bweramana	No		078 883 5073 Murenzi	The main issue is the shortage of water. Farmers would like to cultivate rice in the whole command area, but in dry season water is not enough for paddy.	No	Not enough	Not developed	Yes		-	Stream and springs	Rice, beans, soya, vegetables and maize	Rice	In dry season	Sometimes in rainy season	No	Some times in rainy season water is short and floods occur in rainy season. The marshland is not developed. Inside marshland people make bricks. The cooperative is well organized and make irrigation calendar even if there is no facilities. During rainy season much water come but farmers made ridges to drain water in rainy season and irrigate in dry season
3	Nyagafunzo	63 (81.6)	Byimana, Ruhango, Bweramana	No				No	Not enough	Not developed	Hillside covered by forest and grasses		-	Stream and springs	maize, beans and soybeans		In dry season	No	No	Water flows in Base marshland located downstream. The river bed is lower than farmland. In rainy season, much water flows. Farmers in cooperative are growing maize.
4	Cyihene	(81.5)	Ruhango, Bweramana	No				No	Not enough	Not developed	Catchment not protected		-	Stream and springs	Maize and beans		In dry season	No	No	Baselid has been developed by German Agro Action. The scheme has a reservoir and water comes from Bishya river in Nyanza. Water is enough but much sand are deposited in the river. Downstream the command area 8ha are flooded. Some structures need to be rehabilitated.
5	Base	133 (134)	Bweramana, Mwendu (Ruhango), Mukirigo (Nyanza)	Yes	CORIBARU		On right branch, water is not enough during dry season. In that area, water comes from the Nkubi stream. In Nkubi branch, farmers are cropping rice one seasons.	Yes	Enough in the main marshland but not enough on right branch	Some structures need rehabilitation	Catchment protected	GAA and (RSP 5 drying ground)	No	Dam and Nkubi stream	Rice		Enough	Downstream in rainy season	Some	
6	Kanyegenge	137 (126)	Nongwe, Kinazi (Ruhango) and Busoro (Nyanza)	Yes	5 cooperatives	0783 375 791 CODERICA Pres 0783 167 926		Yes	Not enough	Not good (regular maintenance is needed)	No	By OWMDP in 2013	No	Stream	Rice and maize		In dry season	No	Yes	Downstream the marshland is Akanyaru. It has been developed under OWMDP. The main issue is much sand is deposited in irrigation canal. On left side, water cannot flow because of sediment.
7	Rwamakungu	70 (63.3)	Nongwe (Ruhango), Busoro (Nyanza)	No				No	Not enough	Not developed	Catchment is not protected		-	Stream and springs	Rice and maize		In dry season	No	No	The area is located upstream Kanyegenge. Individual farmers are cropping rice and maize.
8	Akanyaru	450 (358)	Kinazi	Yes	Maize cooperative	078 312 6474	The cooperative was cropping maize but most of the time from 2011, the marshland is flooded. Now the cooperative is changing to paddy.	No	Enough	Not developed	Catchment is not protected		-	Ground water and Akanyaru river	Rice, beans, vegetables and maize	Rice	No	In rainy season but some areas are permanent flooded	No	Every rainy season, the marshland is flooded. Some areas are permanently flooded from 2011. The maize cooperative is now cropping rice
9	Nyagashubi	(21.7)	Kinazi	No		078 224 2666		No	Not enough	Not developed	Catchment is not protected		-	Stream and springs	Rice and vegetables	Maize and vegetables	In dry season	No	No	In dry season, the marshland is dry. Fish farming cooperative constructed diversion weir to flow water into the fish ponds. Farmers organized in different group are growing different crops. The Sector agronomist recommended them to do not crop rice because of shortage of water
10	Nyamukumba	(54.7)	Kinazi, Nongwe	Yes	Same cooperative as one of Kanyegenge	078 828 8076		No	Not enough	Not developed	Catchment is not protected		-	Stream and springs	Maize, beans, rice and vegetables		In dry season	No	No	Nyamukumba is located in Kinazi Sector upstream Kanyegenge marshland. Five cooperatives are in the same marshland and are cropping maize in season A.
11	Kana	60 (134)	Byimana	Yes	Maize cooperative	0783 567 676	Issue is the shortage of water during dry season.	No	Not enough	Not developed	No		-	Stream and springs	maize and beans		In dry season	No	No	Main crops are maize and beans. Farmers are organized in one cooperative. From the District, the marshland has about 40ha but Google earth measures 132ha. There is a stream but the flow reduces significantly in dry period and no flood during rainy season
12	Rufuha	40 (14.4)	Byimana	No		0785 229 514		No	Stream	Not developed	No		-	Stream and springs	Maize and beans		In dry season	No	No	Individual farmers are growing different crops: mainly maize and beans. The riverbed is lower compare to farmland which makes difficult the use of stream for irrigation. The marshland is narrow. The District report 40ha but from Google earth is 14.4ha.
13	Bwiza	(17.3)	Byimana	No		0726 527 766		No	Not enough	Not developed	No		-	Stream and springs	maize and vegetable		In dry season	No	No	Bwiza is a small marshland located upstream Kana in Byimana Sector. The source of water is a small stream.
14	Nyamugari	(11.8)	Byimana, Ruhango	No		0730 383 780		No	Not enough	Not developed	No		-	Stream and springs	Maize and vegetable		In dry season	No	No	Farmers are growing mainly maize and vegetables. The source of water is springs.

Marshlands survey in Ruhango

No	Name	Size Ha	Sector	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History Construction	Rehabilitation	Water resources	Crops	Proposed crops	Shortage of water	Problems Flood	Damage of facilities	Comments
				Yes/No	Name of Coop	Contact															
15	Kiryango	108 (108)	Kinshira, Mwendo	Yes	CORIKI		The cooperative is cropping rice upstream side. One part downstream, some areas doesn't get water.	Yes	Enough	No	Need rehabilitation	No	GAA	-	Kiryango river	Rice, maize and beans	Rice	No	In rainy season	Yes	The marshland is located downstream side of the Basell. The left main canal are cropping maize and beans due to the shortage of water. The diversion weir and dike are constructed at the Kiryango river and water level of the river is at higher level compare to farmland which makes drainage complicated. This is the main cause of left canal destruction.
16	Nyamako	(101)	Kinshira and Kabagali	No				No	Not enough	No	Not developed	-	-	Stream and springs	maize and beans	-	-	In dry season	No	-	The marshland is located upstream Rutenderi. It is long and narrow. There is no main stream in the marshland, water is coming from springs.
17	Rutenderi	44 (38.6)	Kabagali	Yes	KOARU		The cooperative is cropping rice upstream side. One part downstream, some areas doesn't get water.	Yes	Not enough	No	Need rehabilitation	No	By GAA in 2005	No	Stream	Maize and beans	-	-	In dry season	Yes	Water is enough during dry season and water has much sediment soil in rainy season. Farmers in cooperative are growing maize and beans. Irrigation facilities are managed by WUO.
18	Nyabarongo	60 (12.2)	Kabagali	No				No	Enough	No	Not developed	-	-	River and springs	Maize, rice and sorghum	-	-	In rainy season	-	-	The area doesn't present marshland characteristic. The area is flooded in rainy season but during dry season water level in the river is low and the cultivated area is similar to hillside. Individual farmers grow rice, maize and sorghum.
19	Ruzigabirenge	(57.0)	Kabagali	No				No	Not enough	No	Not developed	-	-	Stream and springs	Maize and beans	-	-	In dry season	-	-	The marshland is small and water is short especially in dry season. Individual farmers are growing different crops mainly maize and beans.
20	Karambo-Rwarukara	(8.4)	Eweramana	No				No	Not enough	No	Not developed	-	-	Stream and springs	Maize, beans and vegetables	-	-	In dry season	-	-	The perennial stream is flowing in the marshland. During rainy season, much water flows from houses around and sand is accumulated. The marshland is small.
21	Rugondo	50 (1.83)	Mbuve, Ruhango and Nyongwe	No				No	Not enough	No	Not developed	-	-	Stream and springs	maize, vegetables and beans	-	-	In dry season	-	-	In the marshland, farmers are growing maize in season A and other crops in B and C. Farmers are growing mainly vegetables. In rainy season, much sand is deposited in the river and a company is taking sand from the marshland. To irrigate vegetables, farmers are making pits because no surface water.
22	Akababya	85 (124)	Mbuve, Kinazi (Ruhango), Nyamiraga (Kamonyi)	No				No	Not enough	No	Not developed	-	-	Stream and springs	Maize sunflower and beans	-	-	In dry season	-	-	The area doesn't present marshland characteristic. Water level in the river is low and the cultivated area is similar to hillside. Individual farmers grow rice on a small branch, maize and beans.
23	Gasange	(29.0)	Mbuve (Ruhango) and Nyenabaka (Kamonyi)	No				No	Not enough	No	Not developed	-	-	Stream and springs	Maize beans and vegetables	-	-	In dry season	-	-	Gasange is a small marshland and doesn't have enough water. In dry season the area is dry and water source is springs.
Total		(1,999)																			

Marshlands survey in Ruizi.

Name	Distr	Size Ha	Cooperative		Sector	Erosion control	Household	History	Water resources	Crops	Proposed crops	Problems		Comments		
			Yes/No	Cooperative								Water	Dam		Status of infrastruct area	Shorpage of water
19-Dec-17																
Nyeshati	20	30.3	Yes	KOMUNYA	Gashonga	Hillside not protected			Enough	No	Not developed	Hillside not protected		No	In rainy season	The right branch of Nyeshati in Nyakabye Sector has a potential to be developed. Upstream the river is at high level and water can be diverted to irrigate a large part even on hillside. The river bed of Nyeshati needs to be reshaped to drain water in rainy season
1				Emmanuel Coop presid 0722 095 339 Byiringiro Zephania Sector officer / 0783 874455												
Gtambi		15.8	Yes	GOROROKI	Gikundamvura	Hillside not protected			Not enough	No	Not developed	Hillside not protected		No	No flood	Gtambi a part of Bugarama Zone 4. The area has a slope and the main water source is springs. Farmers are cropping rice one season due to the shortage of water in dry period
2				0722 095 339 President KOMUNYA which prevent erosion caused by the stream before. Due to the shortage of water, some farmers are cropping sweet potatoes and maize.												
Ruhwa		45.7	Yes		Gikundamvura	Hillside not protected			Enough	No	Not developed	Hillside not protected		No	In some areas in dry period	The marshland is located between Rwanda and Burundi. On Rwandan side, farmers are cropping rice in one season because of floods. In some parts where water is not enough for rice, they crop maize and sweet potatoes. Farmers deviate water by themselves
3				Samvura Florian 0726 860 722												
Gihiasi	120	85.3	No	Groups of farmers	Nzakaha	Hillside not protected			Not enough	No	Not developed	Hillside not protected		No	In dry season	The marshland is flooded in rainy season because the marshland doesn't have a surface outlet. The stream flows into natural holes in rocks that make a kind of dyke downstream the marshland.
4				Nivonzima Yanny Farmers 0726 281 653												
Gishoma	223	336	No	Groups of farmers	Nzakaha, Ruvungo, Gashonga	Hillside not protected			Not enough	No	Not developed	Hillside not protected		No	In dry season	Gishoma is mainly used for peat exploitation used to generate energy in cement factory located in Burundi. During rainy season, farmers crop maize, vegetables and cassava. Upstream side is mainly used for peat exploitation. Drain are wide and deepened.
5																
20-Dec-17																
Gishoma (Kagera)		66	No		Gashonga	Hillside not protected			Not enough	No	Not developed	Hillside not protected		837	In dry period	Kagera is narrow branch of Gishoma. Farmers are growing maize and vegetables. They have a plan also to use SSIT equipment to irrigate their crops.
6																
Gisuma	9	14.9	No	Groups of farmers	Gashonga	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In dry period	The flow in the stream is small but during rainy season some parts are flooded. Water is flowing to Katabuvuvu river. The soil in the marshland is like peat.
7				Duniya Theogene 0785 412 347 Gashonga Sector Agronomist												
Mashya	22.8	95.4	No	Groups of farmers	Gashonga & Nyakarenzo	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	In Mashya marshland, water table is at a high level. During rainy period, water is abundant but in dry season the area is dry.
8																
Cyuryu	50	103	Yes	Different cooperatives	Gihunde & Kamembe & Gihoke	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	Upstream side in Kamembe Sector, the marshland is named Gacamalamba, the flow is small and farmers are growing maize and vegetables. Domestic water treatment plant is located in the marshland and sometime they have conflict with farmers.
9																
Gitinda	12	11.1	Yes	CCRQK Igandurungo	Gihunde & Kamembe	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	The main source of water is a spring upstream. Water is not enough but farmers use small dykes into the stream to make irrigation. Farmers around lake water from springs.
10				0783 040 737 President												
Kadisonwa	6.5	9.0	No		Kamembe	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	Water is not enough in dry season. The area is along Kadisonwa stream.
11																
Rutabagire	8	11.6	Yes		Gihunde	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	Marshland is located upstream Kivu lake. The flow is relatively small especially in dry season. Farmers are growing maize and vegetables.
12																
21-Dec-17																
Nzirwe	37	7.8	No	Groups of farmers	Nkanka, Gihunde	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In rainy season	A tributary on right side is flowing with much water. During rainy season, the Nzirwe stream overflows and downstream is Kivu lake. The marshland is small compare to date from the District.
13																
Rugeme	24	8.6	Yes	Benungo Twuzuzanyo Nkanka	Nkanka	Hillside not protected			Not enough	No	Not developed	Hillside not protected			In dry period	Rugeme is at Kivu lake. The flow in the stream is small and farmers would like to have SSIT equipment and use water from Kivu lake. During dry period, the area is like hillside.
14																

Marshlands survey in Rusizi.

Name	Size Ha		Sector	Cooperative			IMUO	Water	Dam	Status of infrastructure	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
	Distr Ha	Google Ha		Yes/No	Cooperative	Contact							Comment from Coop	Construction				Rehabilitation	Shortage of water	
15 Cyuruyu			60 Nkanka (Rusizi) Bushene (Nyamasheke)	Yes	OODRCYU (in Rusizi)	0727 364 584 President 0727 729 389 V/P	The main issue is flood during rainy season. Farmers made a weir but when it rains, water is blocked and flood paddy plots. Most of the time, weir is broken and farmers spend much to repair it.	No	Not enough	Not developed	Hillside not protected				Stream	Rice		In dry period	In rainy season	Farmers have roughly developed the marshland. They made canals and deviation weirs. They are in two cooperatives for each District.
22-Dec-17																				
16 Matyazo	41.9	47.9	Bweyeve	No			They start agriculture season even in August because they have much rain. The main issue is the provision of agricultural input because they start before others in the country.	No	Enough	Not developed	Hillside not protected				Stream (potential), springs	Maize, irish potatoes and vegetables		No	In rainy season	In Matyazo, the District in collaboration with RAB has made plots and drain inside the scheme. There are no irrigation facilities because rainfall is abundant in the area. Sometimes the river overflow during rainy season.
17 Mudasonwa	12.0	4.9	Bweyeve	No		Sylvain (Agronomist)	The area is narrow but long. Mudasonwa stream flows to Ruhwa river.	No	Not enough	Not developed	Hillside not protected				Stream and springs	Maize, beans, irish potatoes and vegetables		No	No	The area is small and narrow. Farmers are growing maize, beans, irish potatoes and vegetables. The flow in the stream is small.

Marshlands survey in Nyamashaka

Visited Marshlands

Name	Project	Size Ha		Sector	Yes/Not	Cooperative	Cooperative		IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History Construction	Water resource	Crops	Proposed crops	Problems		Comments	
		Google	Distr				Contact	Comment from Coop											Shortage of water	Flood		Damage of facilities
1	21-Dec-17		40	Bushenge, Shangi	Yes	Two rice cooperatives		Farmers are getting a good yield (5T/ha)land crop rice two seasons.	Yes	Not enough	No	Good	Hillside not protected	By GWMDP in 2011	Stream	Rice	-	In dry season	No	No	The marshland has two intakes and the stream has much water. The area is near Kivu lake. Irrigation facilities need much maintenance. Mwaga has been much used by road construction company. It was used as borrow pit and disposal area. Mwaga river has much water but it is not easy to irrigate. The area is surrounded by tea plantation. According to the District Agronomist, the area has been given to NABE for tea production.	
2			27.9	Bushakeri, Shangi	No			A part of the area was used by a construction company as borrow pit and disposal area. Arable land was given to a private growing maize, beans and cassava.	No	Enough in the river	No	Not developed	Hillside not protected			Stream and springs	Maize, beans, cassava, sugarcane	-	In dry season	Near the lake	-	
3			23.0	Ruharambuga	No				No	Enough	No	Not developed	Hillside covered by tea plantation			Stream and springs	Maize and vegetables	-	No	No	-	
4	8-Jan-18		58.5	Bushakeri	No				No	Enough in the river	No	Not developed	Terraces and forest			River and springs	Maize, beans, cassava and sweet potatoes	-	In dry season	During rainy season	-	
5	9-Jan-18																					The area is narrow and is like hillside. Only the stream flows in the middle but there is no characteristic of marshland. Developed Kamiranzovu is located downstream undeveloped. Irrigation facilities are new and function well. The diversion weir upstream control the flow even in rainy season. The main source of the river is Nyungwe forest; sometimes there is no rain in the area but the river flows with much water from Nyungwe. The irrigator is always vigilant to open the gate once the flow increases.
6			140	Kagano	Yes	Duhuzimbaraga	0788 630 957 Nyavyenda Pierre President	The marshland has much water and facilities are in good condition. Upstream near the diversion weir, water is not reaching paddy field due to topography condition. Once they close gate in the canal to irrigate their farmland, water doesn't flow to downstream which create conflicts.	Twuzuzany	Enough	No	Good	Hillside not protected	RSSP		Kamiranzovu river	Rice	-	No	some places near the main road	-	
7			11.4	Karengera	No			Rueberi has much water but during rainy season Ntontwe river flows with much water. Riverbed are eroded with paddy plots.	No	Enough	No	Not developed	No			Ntontwe river and Springs	Rice	-	No	In some areas	-	
8			48.2	Shangi	No				No	Not enough	No	Not developed	No			Stream and springs	Maize, beans and cassava	-	In dry season	No	-	
9	10-Jan-18		50	Ghombo, Mahembe	Yes	Abisizyehamwe Ghombo-Mahembe	0785 442 976 President of Cooperative		Yes	Enough	No	Good but one weir need rehabilitation	No	480	By GWMDP in 2011	River	Rice	-	No	No	One weir needs rehabilitation	The marshland has been developed under GWMD. The river flows with much water. A sand company is taking sand on the diversion weir downstream.
10			30	Ghombo	Yes		0787 788 855	On the first diversion weir, water doesn't flow to right side canal due to the slope in the canal. High side paddy plots get water from springs. For other weirs, they may collapse if they are not protected.	Yes	Enough	No	Need rehabilitation	No	320	By GWMD in 2011	Streams and springs	Rice	-	No	No	Diversion weir and canal	Kibati has been developed under GWMDP. Diversion weir are not in good condition and need rehabilitation. Water is enough but on the weir near the main road, left canal is not getting water well due to leveling issue.
11			140	Macuba, Kirimbi	Yes		0788 630 957 President of the cooperative	Some parts are flooded in case of heavy rain but it is a rare cases. The main issue is one diversion weir which will be rehabilitated by RSSP but also rice is affected by diseases	Yes	Enough	No	Need rehabilitation	No	2006	By RSSP	Kirimbi River	Rice	-	No	During heavy rain	One diversion weir needs rehabilitation	Kirimbi has been developed under RSSP. The river has much water and diversion weir are in good condition except one which need to be rehabilitated. The cooperative and WJO are getting support from RSSP.
12	20-Feb-18		68.0	Rengiro, Kariyango, Cyato	Yes		0729 580 453 Zabron (President), 0728 589 703 Onesshore (Accountant)	Farmers are cultivating all season because it rains all the time even in dry season. For farmers, they don't need to make irrigation	No	Enough in the river	No	Not developed	Hillside not protected			Karurunda river, springs	Maize and beans	-	No	Sometimes in rainy season	-	Karurunda has much water but recently no flood because the river is protected by napier grass. Farmers crop three seasons. The marshland is located near Nyungwe forest and it rains even in dry season.

Marshlands survey in Nyamasheke

Visited Marshlands		Size Ha		Sector	Yes/Not Cooperative	Cooperative Contact	Comment from Coop	WUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
Name	Project	Distr	Google											Construction	Rehabilitation				Shortage of water	Flood	
13	Karundura downstream		42.4	Kanjongo	Yes			No	Enough in the river	No	Not developed	Hillside not protected but covered by forest in some areas	-	-	Karundura river	Maize, beans, cassava	-	No	In rainy season	Downstream side of Karundura, the river floods the marshland. The river is not used for irrigation because the river bed is lower than the farmland. Some houses are constructed in the marshland but no new construction or rehabilitation are allowed because the area is public land.	
14	Kigoya		148	Kanjongo	Yes			No	Enough in the river	No	Not developed	Hillside not protected	-	-	Kigoya river	Maize, beans	-	In dry season	In rainy season	Kigoya marshland is located near the main road. The main source of water in the marshland is Kigoya river (potential). During rainy season, floods occur.	
15	Mbuga		14.7	Macuba	Yes	0783 536 567 Charles (President)	They are cropping rice for second season. But the yield is very low (2t/ha). Farmers joined Duhuzimbaraga cooperative in Kimbi.	No	Not enough	No	Not developed	Hillside not protected	-	-	Stream and springs	Rice	-	In dry season	In rainy season	In Mbuga marshland, farmers have roughly constructed irrigation canals on left and right side of the canal. In dry season, water is not enough. Downstream on left side of the marshland, there is coffee washing station which uses much water.	
16	Mwikorwe upstream		32.4	Kanjongo, Macuba	Yes			No	Enough in the river	No	Not developed	Hillside not protected	-	-	Kigoya river, springs	Maize, beans and vegetables	-	in dry season	In rainy season	The river has much water but the river bed is at a lower level compared to farmland. During rainy season, the river overflows.	
17	Ruzibira/Mugonero		14.9	Mahamba, Ghombo	Yes			No	Enough in the river	No	Not developed	Hillside not protected	-	-	Ruzibira river (Potential)	Maize, Sorghum	-	No	In rainy season	The marshland is located at the same area a developed Mugonero but water resources are different. Ruzibira river flows also to Mugonero marshland.	

Marshlands survey in Karongi

Visited Marshlands

Name	Size Ha	Sector	Yes/No	Cooperative		IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Contact	Comment from Coop							Construction	Rehabilitation				Shortage of water	Flood	
1 Musaho 19-Feb-18	6 (39.7)	Rubengera (Karongi), Mushubati (Rutsiro)	Yes	Ibanga ry'umuhinzi	The river has enough water but for farmers it is a valley. They are cropping maize, vegetables and cassava. In dry season they use SSIT equipment to irrigate vegetables. Water comes mainly from the river.	No	Enough in the river	No	Not developed	Hillside not protected				Muregeya river, springs	Maize, vegetables, cassava		In dry season	In rainy season	Musaho is located between Karongi and Rutsiro Districts. The Muregeya river crossing the marshland has much water with much sand.
2 Giasyo	(16.0)	Bwishyura	No			No	Not enough	No	Not developed	Hillside not protected				Stream	Mulberry		In dry season	No flood	Giasyo marshland is located in Karongi town. The area belongs to NAEB (National Agricultural Export Development Board) and is used for mulberry production by the Ministry of Defense.
3 Ruhanga-Uwaruhinamavi 21-Feb-18	(14.4)	Gishyita (Karongi), Mhembe (Nyamashake)	Yes	0782 126 006 Nelson	Farmers grow maize in season A, beans in B and vegetables in season C. For season C they irrigate vegetables with watering can.	No	Enough in the river	No	Not developed	Hillside not protected	130			Ruhanga river, springs	Maize, beans and vegetables		In dry season	In rainy season	Ruhanga river flows to Kivu lake. Sometimes in rainy season, floods occur. Sand campaigns are taking sand from the river.
4 Muvurero-Magarana	(13.4)	Gishyita	Yes	0728 870 019 Nyitegeka JB		No	Enough in the river	No	Not developed	Hillside not protected				Magarama river and springs	Maize, beans and vegetables		In dry season	In rainy season	The Magarama river crosses the marshland and flows to Kivu lake. Farmers in cooperative are cropping maize in season A and individually cultivate beans and vegetables individually.
5 Musogoro	(6.5)	Bwishyura	Yes	0726 801 138 Damascene (farmer)		No	Enough in the river	No	Not developed	Hillside not protected				River and springs	Mulberry, beans and soybeans		In dry season	No	The marshland is not flooded but in one area fish ponds have collapsed and now it is like a small lake.
6 Nyabarongo 22-Feb-18	(14.0)	Murambi	No	0789 348 437 Joseph	Downstream and upstream farmers are in the same cooperative. Downstream farmers started cropping rice this season. Before they were cultivating soybeans and maize	No	Enough	No	Not developed	Hillside not protected				Streams and springs	Rice		No	In rainy season	The area is along Nyabarongo river. The main source of water are streams from hillside. Much water flows and drainage near hillside is difficult.
7 Ntanko 23-Feb-18	(17.8)	Rubengera (Karongi), Mukura (Rutsiro)	No	0788 835 888, 0783 420 789	Farmers are cropping vegetables in dry period. LWH project planned to make a dam but they changed their plan.	No	Enough in the stream	No	Not developed	Hillside not protected				Stream and springs	Vegetables, fruits and sweet potatoes		No	In rainy season	located upstream Karongi 13. Farmers in groups are cropping different crops (vegetables, fruits and sweet potatoes). The stream floods the area during rainy season.
8 Nyabarongo-Kabakene 12-Mar-18	(30.0)	Murundi	No			No	Enough in the river	No	Not developed	Hillside covered by forest	300			Springs and ground water	Rice		In dry season	In rainy season	Farmers are cropping rice for the first season. Water is not enough in plots and in some areas water from springs is logging. During rainy season, the river flood the area due to the hydropower plant downstream.
9 Mugisemyi	20.0 (12.3)	Murundi	No			No	Not enough	No	Not developed	Hillside covered by forest	250			Springs and streams	Beans, maize and vegetables		In dry season	No flood	The yield for beans is around 2t/ha and 2.5t/ha for maize. Maize have been affected by army worm. Irrigation by gravity is not easy because the stream is located at a lower level compare to farmland.
10 Munzanga	5.0 (12.0)	Murundi	No			No	Not enough	No	Not developed	Hillside covered by forest	86			Springs and streams	maize, beans, vegetables and sweet potatoes		In dry season	In rainy season	The stream has enough water but the irrigation by gravity is not easy because the riverbed is at lower level compare to farmland. During rainy season, floods occur. Farmers need SSIT tools because they use watering can to irrigate vegetables during dry season.
11 Nyamitanga	5 (8.6)	Murundi (Karongi), Nyange (Ngororo)	No			No	Not enough	No	Not developed	Hillside covered by terraces and forest				Stream (potential) and springs	Maize, beans, soybeans and sweet potatoes		In rainy season	No	The marshland is narrow and small. Farmers depend on rainfall because the stream water cannot irrigate by gravity.

Marshlands survey in Rutsiro

Visited Marshlands		Cooperative			Erosion control			History		Problems		Comments									
Name	Size Ha	Sector	Yes/No	Cooperative	Contact	Comment from Coop	IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	Construction	Rehabilitation	Water resources	Crops	Proposed crops	Shortage of water	Flood	Damage of facilities	Comments
1	69 (55)	Ruhango	Yes	COPARUGI		The main issue is flood in rainy season. Farmers cultivate in farrows but the area has much water.	No	Enough	No	Not developed	Hillside covered by forest or grasses	210	-	-	Stream	Irish potatoes	-	No	In rainy season	-	The marshland is cultivated during dry season. Farmers are cropping Irish potato in furrows due to much water logging on farmland. The stream has much water and sometimes overflows in rainy season.
2	(33.6)	Mushonyi, Kigeyo	Yes	Abahujumirimo (union)	0788 686 488, 0786 942 046 Helene	The main issue is erosion during rainy season. Farmers are trying to rehabilitate eroded area by planting	No	Enough in the river	No	Not developed	Hillside covered by forest or grasses	70	-	-	Stream	Maize, beans, taro	-	No	In rainy season	-	The marshland has two parts, one upstream (Binuya) and another downstream (Nkora). Names are from rivers flowing into the marshland. The river is overflowing during rainy season.
3	(95.0)	Ghangu, Musasa	No				No	Enough	No	Not developed	Hillside covered by forest or grasses	-	-	-	River (Potential) and spring	Taro, sweet potato, beans	-	No	In rainy season	-	The area was used for mulberry production but after flood the cooperative is no longer cropping the plant. They have got a support from MINAGRI but now they have channned to other crops
4	(7.7)	Mukura (Rutsiro)	Yes			Main crop is Irish potato. Water is enough and soil condition is good. The stream feed Karongi12	-	Enough	No	Under development by World Vision	Hillside protected	-	-	-	Stream	Irish potato	-	No	No flood	-	Kivuruga is under development by world vision. So far, canals and intakes have been constructed and diversion weir is under construction. Farmers are growing mainly Irish potatoes

Marshlands survey in Nyabihu

Visited Marshlands		Cooperative			Dam	Water	IWUO	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
Name	Size Ha	Yes/No	Cooperative	Contact						Comment from Coop	Rehabilitation				Construction	Shortage of water	
1	Giciye	(57)	Rugera and Shyira	No		No	Enough	No	Not developed	Hillside not protected but covered by forest in some areas					No	In rainy season	Giciye is located along Giciye river near Mukungwa River. Downstream Giciye is Mukungwa. Due to too much water in the marshland, farmers are growing sugar cane. Some companies are taking sand for sale from the river.
2	Mukungwa	(105)	Rugera and Shyira	No		No	Enough	No	Not developed	Hillside not protected but covered by forest in some areas					No	In rainy season	Mukungwa river has much water but not used for irrigation because farmers need to use pumps. Farmers are growing maize, beans, sweet potato and in some areas banana plantation. According to farmers around, they have land title

Marshlands survey in Ngororero

Name	Size Ha	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
			Yes/No	Cooperative	Contact						Comment from Coop	Rehabilitation				Construction	Shortage of water	
1	20 (12.3)	Nyange	No			No	Not enough	No	Not good	Hillside is covered by forest but some parts are not protected	By PAPSTA in 2012	Stream	Maize and beans	-	In dry season	In rainy season	Diversion weir and canals	Gisuma has been developed under PASTA (Support Project to the Strategic Plan for the Agriculture Transformation) in 2011. Canals and intakes are not operational due to poor maintenance.
2	27 (16.0)	Muhororo and Ngororero	Yes			No	Not enough	No	Not developed	Hillside is protected by terraces and forest	-	Stream and springs	Maize and beans	-	In dry season	In rainy season	-	The marshland is long and narrow. Kazabe stream flows with little water especially in dry season. Farmers are not cropping during dry season.
3	39.7	Ndaro and Ewira	No			No	Not enough	No	Not developed	Hillside is covered by forest but some parts are not protected	-	Springs stream (potential) no ground water	Irish potatoes	-	In dry season	In rainy season	-	Farmers are cropping only during dry season. Soil is like peat and keep much water during rainy season.
4	24.6	Nyange	Yes	Isangano	0785 164 424 Cooperative president	No	Not enough	No	Not developed	Most of hillside is covered by terraces and forest	-	Springs	Maize and beans	-	In dry season	No flood	-	The marshland doesn't have a stream. Water comes from springs. Soil fertility is low; farmers apply compost and lime because the soil acidity is high.
5	91.6	Matvazo (Ngororero), Shyira (Nyabihu)	No			No	Enough in the stream	No	Not developed	Some parts are covered by forest other not protected	-	Springs and stream	Maize, sweet potato and taro	-	In dry season	In rainy season	-	During rainy season, the Rubagabaga stream floods the marshland and flows to Mukungwa river. Soil is sandy and a large part is not cultivated due erosion.
6	22.7	Matvazo	No		0786243802 Reuben Group president	No	Enough in the river	No	Not developed	Some parts are covered by forest, others are not protected	-	Springs under ground water and river (potential)	Rice	-	In dry season	In rainy season	-	The marshland is along Mukungwa river between Ngororero and Gakenke Districts. Farmers are growing rice one season due to floods from the river in rainy season
7	45.2	Matvazo and Ngororero	No			No	Enough in the river	No	Not developed	Some parts are covered by forest, others are not protected	-	River and springs	No crops	-	In dry season	In rainy season	-	The area has been eroded. The whole marshland is covered by silt from the river.
8	176	Muhororo and Ngororero	No			No	Enough	No	Not developed	Hillside not protected	-	River	No crops	-	No	Anytime	-	A large part of the marshland is permanently flooded and covered by papyrus

Marshlands survey in Musanze.

Name	Distr	Size Ha	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
				Yes/No	Cooperative	Contact						Comment from Coop	Construc				Rwabi	Shortage of water	
17-Apr-18																			
1	Nkoro	11.3	Gashaki	Yes		0783 264 251 Hakizimana Juvenal Cooperative President	Farmers are in organized in cooperative but they crop individually due to poor organization. To irrigate vegetables, farmers use treadle pumps from Sector office.	No	Not developed	Hillside not protected				Springs and stream	Maize, beans, sweet potato and cassava	Maize and beans	In dry season	In rainy season	The cooperative is established but farmers are not organized. They crop different crops individually
2	Rukore	5.7	Gashaki	No				No	Not developed	Hillside not protected				Stream and springs	Maize, beans, sweet potato and cassava	Maize and beans	In dry season	In rainy season	Farmers are organized in group for cropping maize and bean but some are cropping other crops. In dry period they crop vegetables and irrigate with watering can.
3	Rwabiti	6.5	Gashaki	No				No	Not developed	Hillside not protected				Stream and springs	Maize, beans, sweet potato and taro	Maize and beans	In dry season	In rainy season	Farmers are organized in group for cropping maize but other crops like sweet potato and cassava are cultivated. In dry period they crop vegetables and irrigate by watering can
4	Nyirakigoma	19.9	Gashaki, Remera	No				No	Not developed	Hillside not protected				Stream and springs	Maize and beans		In dry season	In rainy season	The marshland is between two sectors (Remera and Gashaki). The main issue is flood during rainy season. Farmers in groups crop maize and beans.
5	Mugembe	11.4	Remera	No				No	Not developed	Hillside not protected				Stream and springs	Maize, beans, sweet potato and vegetables	Maize and beans	In dry season	In rainy season	The marshland is located in Remera Sector on other side of Rwabiti in Gashaki Sector. Water flows enough in the stream but not used for irrigation. The stream overflows sometimes during rainy season
	Kibanda	14.8	Remera	No				No	Not developed	Hillside not protected				Springs and stream	Maize and beans		In dry season	No flood	Farmers in dry season are cropping maize and beans. In dry season, some are cropping vegetables. During rainy season, much water is in furrows but crops are not flooded.
20-Apr-18																			
6	Kiguhu	57.7	Gacaca	No				No	Not developed	Hillside protected				Stream and springs	Livestock		In dry season	In rainy season	The marshland was used by farmers until 2010 but the marshland is owned by a private farmer and this time is used for cows keeping.
7	Gacaca	22.9	Gacaca	No				No	Not developed	Hillside protected				Springs	Maize, beans, sweet potato, vegetables		In dry season	In rainy season	The marshland has no outlet. When it rains, water is stagnant. Individual farmers are cropping different crops.
8	Rushwashwa	20.5	Remera, Rweaza	No				No	Not developed	Hillside not protected				Stream and springs	Beans, maize and vegetables		In dry season	No floods	Farmers are cultivating maize, beans and vegetables. According to farmers, the marshland is owned by catholic parish and they pay some money to use it.
9	Shobogo	13.0	Gacaca	No				No	Not developed	Hillside not protected				Stream and springs	Maize, beans and vegetables		In dry season	No floods	Shobogo is narrow and it is a branch of Mukungwa. Some people are making brick in the marshland. Water flows in the perennial stream.
10	Cyabaralka	24.0	Muhoro	No				No	Not developed	Hillside not protected				Stream, springs and underground water	Irish potato, beans, vegetables and maize in downstream		No	In rainy season	The large area in upstream side is not cultivated due to much water stagnant in the marshland. According to farmers, the factory was taking peat the marshland
24-Apr-18																			
11	Mubona	95.0	Muko and Muhoro	No				No	Not developed	Hillside not protected				Stream and springs	maize, beans and vegetables		In rainy season	In rainy season	The stream flows to Mukungwa river. Much water flow in the stream even in dry season. During rainy season, water overflows. Fish farming is practiced in the scheme but some facilities to flow water into fish pond have been destroyed.
12	Mukungwa	536	Muhoro, Nkotsi, Gacaca and Rweaza	No				No	Not developed	Hillside not protected				River and springs	maize, beans, sweet potato and taro		In rainy season	In rainy season	The area is located upstream side of Mukungwa hydropower plant. The area near hydropower weir is flooded once gets are closed to rise up water level
13	Nyamukura	20.1	Muhoro and Gacaca	No				No	Not developed	Hillside not protected				Stream and springs	Maize, beans and vegetables		In dry season	No	Enough water for irrigation flows in the stream. In dry season, farmers use watering can to irrigate vegetables. The stream flows too Mukungwa river.
14	Mukiriga	108	Remera, Rweaza (Musanze), Kivuriga (Gakenke)	Yes		0788 527 953 Cooperative President 0782 825 181 WUO President	In some areas along the canal, there is a peat soil.	Yes	Not good	Hillside not protected	By OMMDP in 2014		Stream	Maize, beans		In dry season	In rainy season	Yes	During rainy season much water flows from hillside as well as from the stream floods the marshland. Water flows with sediment reason why a regular cleaning during rainy season is needed.

Marshlands survey in Burera

Name	Size Ha		Sector	Yes/No	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History Construction	Water resources	Crops	Proposed crops	Problems		Comments
	Project	Distr.			Contact	Cooperative	Comment from Coop										WUO	Flood	
18-Apr-18																			
1	120	89	Nemba, Cyeru	Yes	0781 203 759 (Karanga Pierre WUO President) 0788 217 791 Patrice Muger RSPSP	The canal around the marshland was made by RSPSP project to protect the marshland from hillside erosion. It is not used for irrigation. During dry season, the stream has little water.	Yes	No	No intakes	Not protected but some areas are covered by forest.	By RSPSP in 2015	Stream and spring	Maize, Irish potato	-	In dry season	In rainy season	No	The marshland has been developed under RSPSP. The project constructed canal but there is no secondary canals, diversion weirs or intakes	
2	300	284	Nemba, Rwerere, Cyeru	Yes			Yes	No	No intakes	Not protected	By RSPSP in 2015	Stream and springs	Maize, Irish potato	-	In dry season	In rainy season	No	RSPSP project constructed main canals and two diversion weirs but no intakes. Farmers use SSIT equipment to irrigate their farmland in dry season. Soil is peat and is keeping water during rainy season.	
3	10	26.4	Rusanabuye, Cyeru, Rwerere	No			No	No	Not developed	Hillside not protected		Stream and springs	Maize, Irish potato	-	In dry season	No flood	-	The marshland is located upstream Nyrabrande. The flow is little especially in dry season. A District stadium and soccer ground is constructed upstream in the marshland.	
4	146.4	94.9	Glovu, Cyeru	Yes	0789 590 199 Valentine (Farmer)	The cooperative is growing sweet potato but some farmers are growing Irish potato on a small scale	No	No	Not developed	Hillside not protected		Stream and spring	Sweet potato, maize, Irish potato	-	In dry season	In rainy season	-	The marshland has much water in the stream. Farmers are growing mainly sweet potato but the district want to improve the way of cultivation. Downstream the marshland is Burera lake.	
5	29.8	29.8	Rugengabari	No			No	No	Not developed	Hillside not protected		Stream and springs	Sweet potato, Irish potato, vegetables	-	In dry season	In rainy season	-	The marshland is narrow and long. During rainy season, much water flows in the stream.	
6	27.7	27.7	Rugengabari, Cyeru (Musanze), Kamubaga (Gakiriba)	No			No	No	Not developed	Hillside not protected		Stream and springs	Sweet potato, Irish potato, vegetables	-	In dry season	No flood	-	The marshland is upstream Cyeru marshland. Long and narrow.	
7	31.5	31.5	Glovu, Rugengabari	No			No	No	Not developed	Hillside not protected		Stream and springs	Irish potato and maize	-	In dry season	In rainy season	-	The marshland is located upstream Ruhende lake. Groups of farmers are growing Irish potato and maize in furrows to avoid floods.	
8	109	109	Kinoni	No			No	No	Not developed	Hillside not protected		Lake, springs and ground water	No crops	-	In dry season	In rainy season	-	The area is flooded in rainy season. The District in collaboration with REMA is planting elephant grass to avoid erosion from hillside. P	
19-Apr-18																			
9	305	465	Butaro	No	0781 825 995 Christophe		No	No	Not developed	Hillside not protected		Stream and springs	Irish potato, maize, beans and vegetables	-	In dry season	In rainy season	-	The marshland is a branch of Rugezi. During dry season, farmers use pumps to irrigate their crops but in rainy season, the area is flooded. Upstream in Gatsibo, the main water source is springs.	
10	35	37.3	Butaro	Yes	0783 849 034 Kanerangabo		Yes	No	Not developed	Hillside not protected		Stream and springs	Maize and Irish potato	-	In dry season	No flood	-	The marshland is protected by Ramsar convention. During rainy season, the peat soil keeps water but in dry season, the farmland is dry.	
11	18	18.7	Burawe, Gatsibo, Kivuye	No			No	No	Not developed	Hillside not protected		Stream and springs	Maize and Irish potato	-	In dry season	In rainy season	-	The marshland is long and narrow. During rainy season, much water from hillside flows in the marshland causing erosion.	
12	17	42.5	Kivuye	Yes			No	No	Not developed	Hillside not protected		Stream and springs	Maize and Irish potato	-	In dry season	In rainy season	-	The marshland is located between Rwanda and Uganda. Farmers on Rwanda side are organized in cooperative for maize and Irish potato.	
13	11	16.4	Kinyababa, Kagogo	Yes			No	No	Not developed	Hillside not protected		Springs and stream	Maize, Irish potato, flowers and vegetables	-	In dry season	No flood	-	The marshland is located at Burera lake. The stream flows with enough water but not used for irrigation because the river bed is at lower level compare to farmland. SSIT equipments are needed to make irrigation.	
14	7.0	15.0	Kagogo	No			No	No	Not developed	Hillside not protected		Springs and stream	Maize, Irish potato, flowers and vegetables	-	In dry season	No flood	-	The main part of the marshland is cultivated by a secondary school to produce vegetables.	

Marshlands survey in Gakenke

Visited Marshlands	Name	Size Ha	District	Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	House hold	History		Water resources	Crops	Proposed crops	Problems		Comments
					Yes/No	Cooperative	Contact						Comment from Coop	IMUO				Water	Construction	
1	Nyarusa 25-Apr-18	12.4	Rushashi	No			No	Not enough	Not developed	Hillside not protected				Stream and springs	Maize and beans		In dry season	In rainy season	The stream in Nyarusa marshland flows to Cyacika river. The marshland is small but much water flows during rainy season.	
2	Cyacika	61.2	Muhando, Muyongwe	No			No	Enough in the river	Not developed	Hillside not protected				River and springs	Maize and Irish potato		In dry season	In rainy season	The marshland is narrow and long. Much water flows in the river especially during rainy season. A big part near the river is eroded. The river flows with sand and gravel.	
3	Kageyo (branch Cyacika)	10.7	Rushashi	No			No	Not enough	Not developed	Hillside not protected				Stream and springs	Maize, beans and vegetables		In dry season	No flood	Kageyo is a branch of Cyacika upstream. The flow in the stream is small and during dry season water is not enough.	
4	Cyacika (upstream)	42.0	Rushashi, Muyongwe	Yes			No	Enough in the river	Not developed	Hillside not protected				Stream and springs	Maize, beans and vegetables		In dry season	No flood	Much water flows in the river but not used for irrigation because the riverbed is at a lower level compare to farmland. During rainy season much water causes erosion in the river.	
5	Rutaka	6.2	Muyongwe	Yes	COPAMO Rutaka	0782 919 631 Hakuzimana F elicien	No	Not enough	Not developed	Hillside not protected				Stream and springs	Maize, Irish potato and vegetables		In dry season	No flood	The marshland is small and flows to Cyacika. During dry season, farmers use watering can to irrigate mainly vegetables. The cooperative is doing cows farming.	
6	Nyamugaga-Rushore (Rubuha)	20.4	Muyongwe	No			No	Not enough	Not developed	Hillside not protected				Spring and stream	Maize, Irish potato, sweet potato and taro		In dry season	No flood	To avoid flood on the farmland, groups of farmers are made drains. Fish farming was done in the marshland.	
7	Bangai	62.7	Rushashi, Coko	Yes	Two cooperatives		No	Not enough	Not developed	Hillside not protected				Spring and stream	Maize, beans, Irish potato, vegetables and mulberry		In dry season	In rainy season	Water in the stream is enough but not used because the riverbed is at lower level compare to farmland. During rainy season, some areas are flooded especially downstream side.	
8	Basuma-Ruzibazaba	18.7	Rushashi	No			No	Not enough	Not developed	Hillside not protected				Spring and stream	Maize and beans		In dry season	No flood	Groups of farmers are cropping maize and beans. The flow in the stream is small.	
9	Bangai	40.5	Gashenyi, Rushashi	No			No	Not enough	Not developed	Hillside not protected				Spring and stream	Maize and beans		In dry season	In rainy season	Beans stream sometimes during rainy season overflows to farmland.	
10	Gashero	25.0	33.7 Gashenyi	Yes	COTOMU	0784 018 660 Muganga Emmanuel	No	Enough in the river	By PAPSTA	Hillside not protected				Spring and stream	Maize, beans, vegetables and elephant grass		No	In rainy season	The stream in the marshland has enough water. Irrigation facilities have never been used. The scheme belongs to a private farmer and farmers are paying land lease fees to cultivate the marshland. Farmers are not organized for operation and maintenance.	
11	Basel III	32.2	Gakenke, Mataba, Minazi	Yes			No	Enough in the river	Not developed	Hillside not protected				Springs and river	Maize, beans and vegetables		No	In rainy season	The river flows with much water especially in rainy season. The river is not used for irrigation. During rainy season, the river overflows.	
12	Basel II	39.3	Gakenke	Yes			No	Enough in the river	Not developed	Hillside not protected				River and springs	maize, beans and vegetables		In dry season	In rainy season	The marshland is along Base river. The main source of water is the Base river. Farmers in cooperative are growing maize, beans and vegetables.	
13	Mukungwa	170.0	Muganga, Ruasa	No			No	Enough in the river	Not developed	Hillside not protected				river, stream and springs	Maize, beans and rice		In dry season	In rainy season	Mukungwa river has much water but not used for irrigation because farmers need to use pumps. Farmers are growing maize, beans, sweet potato and in some areas banana plantation. According to farmers around, they have land title. In downstream part located between Ngororo and Gakenke Districts. Farmers are growing rice one season due to floods from the river in rainy season.	
14	Gashero-Karagara	118.6	Busungu, Cyabingo, Kivuruga	No			No	Enough in the stream	Not developed	Hillside protected (terraces)				Stream and springs	Maize, beans and vegetables		In dry season	In rainy season	Gashero is flooded in rainy season and sometimes river bank collapse. Farmers are growing maize, beans and vegetables. The stream has much water, but located at lower level compare to farmland.	
15	Mubindi	23.0	Kivuruga, Gakenke, Gashaki (Musanze)	No			No	Not enough	Not developed	Hillside not protected				Stream and springs	Maize, beans		In dry season	In rainy season	Mubindi is at Ruhondo lake between Musanze and Gakenke District. Farmers are growing maize and beans. During dry season, the flow in the stream is very little.	
16	Kinyanjoro	19.8	Karuga, Gakenke, Rungabari (Burera)	No			No	Enough in the stream	Not developed	Hillside not protected				Stream and springs	Maize, beans, vegetables and cassava		In dry season	In rainy season	The marshland is at Ruhondo lake between two Gakenke and Burera Districts. Farmers are growing maize, beans, vegetables and cassava. During rainy season, the area is flooded. The marshland is long and narrow.	
17	Nyabutaka	19.0	Gakenke	No			No	Enough in the stream	Not developed	Hillside not protected				Stream and springs	Maize, beans and vegetables		In dry season	In rainy season	Nyabutaka is located near Gakenke district office. Groups of women are cropping maize and vegetables. It is flooded in rainy season.	

Marshlands survey in Gakenke

Visited Marshlands

Name	Size Ha		Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
	District	Google		Yes/No	Cooperative	Contact						Comment from Coop	Construction				Rehabilitation	Shortage of water	
18 Mbuga		15.6	Gakenke, Namba	No			No	Not developed	Hillside not protected			-	-	Stream and springs	Maize, beans and vegetables	-	In dry season	In rainy season	In Mbuga there is no spring, potential water resource is in the river. Farmers are growing maize and beans.
19 Musange		8.2	Namba	No			No	Not developed	Hillside not protected			-	-	Stream and springs	Maize, beans and vegetables	-	In dry season	In rainy season	Musange is a branch of Mbuga. Groups of farmers are growing maize, beans and vegetables. The area is flooded during rainy season.
20 Basel	27-Apr-18	82.3	Gashenyi, Gakenke	No			No	Not developed	Hillside not protected			-	-	River and springs	Maize, beans and vegetables	-	In dry season	In rainy season	In dry season, farmers use water from Base river using watering can to irrigate vegetables. Season A and B they grow maize and beans.
21 Busanane		38.3	Gashenyi, Rushashi	Yes	Twungiririane (waiting for legal personality)	0782-462-650 Faustin Nduoyisenga	No	Not developed	Hillside not protected			-	-	Stream and springs	Maize and Irish potato	-	In dry season	In rainy season	Busanane is a branch of Base. In dry season, farmers use water from Busanane stream using watering can to irrigate vegetables. Season A and B they grow maize and beans.
22 Rutambu		13.6	Coko	No			No	Not developed	Hillside not protected			-	-	Stream and springs	Maize, beans and rice	-	In dry season	In rainy season	Farmers grow rice on a steep slope and the source of water for paddy field is springs and rice is cultivated for one season. In some parts, farmers are growing maize and beans.
23 Kasusa		3.9	Coko	No			No	Not developed	Hillside not protected			-	-	Stream and springs	Rice	-	In dry season	In rainy season	Farmers are growing rice for two seasons. Water source is springs and stream. The marshland is not developed but farmers divert stream water to paddy field.
24 Gaseke		11.3	Coko	No			No	Not developed	Hillside not protected			-	-	Stream and springs	Maize, beans and rice	-	In dry season	In rainy season	The stream is perennial and farmers are growing rice, maize and beans.

Marshlands survey in Rulindo

Visited Marshlands

Name	Project	Size Ha		Sector	Cooperative			Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments		
		District	Goode		Year/No	Cooperative	Contact						Comment from Coop	Construction				Rehabilitation	Shortage of water		Flood	Damage of facilities
1 Nyarububu	18-May-18	77	86.6	Cyungo Ruzozo	No	0782 921 401 Banamwana Silas (farmer)	Irrigation facilities have not been used. In the scheme there is no cooperative or WUO. The maize cooperative has been dissolved. Farmer irrigate Irish potato and vegetables during dry season using bucket or watering can.	No	Not enough	Old (noor maintenance)	Hillside not protected	-	By FSSP in 2006	-	Stream and springs	Maize, beans, Irish potato and vegetables	-	In dry season	Upstream in rainy season	According to farmers, the marshland has been developed in 2006 by FSSP. Water is enough in rainy season but short in dry season. Due to poor maintenance, facilities are not used. Upstream diversion weir is under sediments. Farmers are not organized (no water users or cooperative). The marshland is narrow and small scale. Farmers make irrigation in dry season by using watering can to irrigate vegetables. The main issue is erosion from the main road under construction. The river bed is at lower level compare to farm land. During rainy season, much water flow in the stream.		
					2 Gitandi	7.4	No	No	Not enough	Not developed	Hillside not protected	-	-	Stream	Maize, beans and vegetables	-	In dry season	In rainy season	-	-	-	-
					3 Kabindi/Gatobero	69.5	203	Cyungo	No	-	-	Not developed	Hillside not protected	-	Stream	Maize and beans	-	In dry season	No flood	-	-	-
4 Nyamagana		82.3	13.7	Cyungo, Base	No	-	-	Not developed	Hillside not protected	-	-	-	-	Stream	Maize, beans, sweet potato	-	No	In rainy season	Nyamagana has enough water, and farmers are cropping different crops because of erosion in rainy season. The marshland is long and narrow.			
5 Bahimba	17-May-18	327	821	Mbugo, Tumba, Buhohi, Ruziga	Yes	OOVAMAGA	Yes/Duhuziritego Bahimba	No	Enough	Good but need rehabilitation in some areas	Hillside not protected	-	By OWMDDP in 2011	-	Stream	Maize, beans, vegetables, Irish potato, sweet potato and pepper	-	No	Downstream in rainy season	Due to peat soil, water flows from the canal to diversion weir. One needs rehabilitation and in some places water percolate into soil because of peat.		
					6 Muyanza	280	164	Buyoga, Burega, Ntarabana	Yes	-	Yes	Enough	Good	Hillside protected	-	By LWH in 2018	-	Reservoir	Maize, beans, vegetables and pepper	-	No	No flood
7 Mwangi		121.4	78.4	Kisaro (Rulindo), Kageyo, Byumba, Mutete (Gisumbi)	No	-	-	No	Enough	Not developed	Hillside not protected	-	-	Stream and springs	Irish potato, Livestock keeping	-	No	In rainy season	The marshland is used by individual farmer for livestock keeping.			
8 Muzenzo		64.1	5.90	Buhohi, Tumba	No	-	-	No	Not enough	Not developed	Hillside not protected	-	-	Stream and springs	Maize, beans, Irish potato and vegetables	-	In dry season	No flood	-	The marshland is a branch of Bahimba. It has enough water in rainy season but short in dry season. Individual farmers are cropping in the marshland.		
					9 Ruzane	92.9	Ntarabana, Masoro, Kiruzizi	No	-	-	No	Enough in the stream	Not developed	Hillside not protected	-	-	Stream and springs	Sugar cane	-	In dry season	In rainy season	The marshland is long and mainly used for sugar cane production. During rainy season, much water overflow the stream and causes floods in the marshland.
10 Nyabugero		373.0	Masoro (Rulindo), Ndubaba, Rutunga (Gasabo), Ruzare (Gisumbi)	No	-	-	No	Enough in the stream	Not developed	Hillside not protected	-	-	Stream and springs	Sugar Cane	-	In dry season	In rainy season	Nyabugero marshland is located along the main road from Kigali to Gisumbi. The area is used mainly for sugar cane production. In some areas of the marshland, livestock farming is being practiced. During rainy season, floods occurs				
11 Gatane		19.3	Ntarabana	No	-	-	No	Enough in the stream	Not developed	Hillside not protected	-	-	Stream and springs	Vegetables and fresh beans upstream	-	In dry season	In rainy season	Upstream side of the marshland is used to crop vegetables and fresh beans and downstream is occupied by one farmer for livestock				
12 Cyonyonyo	24-May-18	117.0	84.2	Ruziga, Nigama, Shyorongi	No	-	-	No	Enough in the stream	Not developed	Hillside not protected	-	-	Stream and springs	Stevia, maize, beans, maize	-	In dry season	In rainy season	The marshland has much water in the stream flowing to Yanze. A private company from Canada (Stevialife Sweeteners) is growing stevia downstream the marshland. Upstream is cultivated by individual farmers.			
					13 Yanze	152.0	Nigoma, Shyorongi (Rulindo), Jali (Gasabo)	Cooperative	Flowers cooperative and vegetables cooperative	No	Enough in the stream	Not developed	Hillside not protected	-	-	-	Stream and springs	Stevia, maize, beans, vegetables, flowers	-	In dry season	No flood	Yanze has enough water in the stream and downstream is flooded in rainy season. Stevia/sweeteners is growing stavia and other farmers in cooperatives are growing mainly vegetables and flowers.

Marshlands survey in Gicumbi

Visited Marshlands	Size Ha		Sector	Cooperative			IWUO	Water	Dam	Status of infrastructures	Erosion control	Household	History		Water resources	Crops	Proposed crops	Problems		Comments
	Name	District		Cooperative	Yes/No	Contact							Comment from Coop	Construction				Rehabilitation	Shortage of water	
	28-May-18																			
1	Ruhango-Gatara (Nyamugali)	21.0	Rukomo, Kagweyo, Nyamuyaga	No			No	Enough	No	Not developed	Hillside not protected		Stream and springs	Maize, vegetables and irish potato	In dry season	No flood			The marshland is located near the main road from Kijali to Gatuna. Farmers are cropping maize, vegetables and irish potato. A big part is owned by a farmer who makes cows breeding. Downstream the marshland, there is a diversion weir for domestic water.	
2	Mudhakaniwa	62.0	Nyamuyaga, Muteke, Kagweyo	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	No Crops (Elephant grass for cows)	In dry season	No flood			Mudhakaniwa is located near the main road from Kijali to Gatuna border. The area is mainly used for livestock by one farmer. The stream is perennial but the flow decreases in dry season. There is no flood during rainy season. According to farmers around, the area is not a marshland because people have land title.	
3	Giaya	20.9	Rutare, Nyamuyaga	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, vegetables and irish potato	In dry season	In rainy season			The stream in Giaya has much water and one side is flooded in rainy season. Farmers are growing maize, irish potato and vegetables. This main source of water is stream and springs.	
4	Mwange-Kagahu	124	Muteke, Rutare (Gicumbi), Ruwabana (Ruindo)	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Sugar cane	In dry season	In rainy season			The marshland is located along the main road from Kijali to Gicumbi. The sugar cane is mainly cultivated in the marshland.	
	30-May-18																			
5	Murama	29.7	Rwamiko, Rutare	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, beans, vegetables, irish potato and sugar cane	In dry season	In rainy season (during dry season)			The stream has much water and downstream is flooded in rainy season. Farmers are growing maize, beans, irish potato, vegetables and some are growing sugar cane. Erosion from hillside is serious.	
6	Cyondo	20.8	Rwamiko, Bukure	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, vegetables, irish potato and sweet potato	In dry season	No flood			The flow is enough for irrigation but in some areas the river bed is near hillside so it is not easy for farmers to use the stream water for irrigation. Farmers grow maize, irish potato and sweet potato.	
7	Nyiragutugi	47.5	Giti, Bukure	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, irish potato	No	In rainy season			The stream in the area has much water. Some farmers irrigate irish potato and vegetables with SSIT equipments. There is a part which is flooded because of topographic condition.	
8	Bwanya2	78.2	Giti, Muko (Gicumbi), Gasenge, Muhura (Gatsibo)	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize and irish potato	In dry season	In rainy season			Bwanya2 is located between two Districts, Gatsibo and Gicumbi. The stream has much water and sometimes in rainy season, the area is flooded. The area is under feasibility study by RCP/MNAGRI	
	31-May-18																			
9	Bwanya 1	81.5	Nyamuyaga, Ruwuna, Muko	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, irish potato and vegetables	No	In rainy season			The stream flows to Bwanya2. Farmers are growing maize, vegetables and irish potato. In dry season they irrigate vegetables and irish potato with SSIT equipments.	
10	Bwanya3	48.2	Rutare, Muko, Giti	No			No	Enough in the stream	No	Not developed	Hillside not protected		Stream and springs	Maize, irish potato and vegetables	In dry season	No flood			Bwanya 2 is located another side of Bwanya 1 and the stream flows to Bwanya2. The marshland is long and narrow. In dry season, farmers irrigate vegetables and irish potato with SSIT equipments.	
11	Kamiranzovu	44.7	Nyamuyaga, Rutare	Yes	Ryoherwanawe Dieudonné	0782 148 891	No	Enough	No	Not developed	Terraces are in some areas		Stream and springs	Maize and irish potato	No	No flood			In Kamiranzovu, farmers are growing mainly maize and irish potato. Farmers are organized in two cooperatives. One rich farmer owns a big part in the marshland. Farmers use organic manure to increase soil fertility.	

Annex 2

Recommendations

(1) Surveyed Marshland in Gisagara

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nyakanyeri	QWMDP	58.5	Small reservoir
2	Rumira-Urukingo	QWMDP	70.4	Small reservoir
3	Kigaga-Kabogobogo	QWMDP	63.2	Erosion control
4	Akaboti	QWMDP	77.1	Maintenance
5	Kibugazi	QWMDP	80.3	Small reservoir
6	Mirayi	Belgium/RS	506	-
7	Ngiryi	Belgium	179	Rehabilitation
8	Rwamporera-Nyiramageni	QWMDP	242	-
9	Mwura-Gatare	QWMDP	114	-
10	Nyabuyogera	QWMDP	99.9	Canal rehabilitation and maintenance
11	Agatare	QWMDP	59.6	-
12	Migina	QWMDP/reha	288	-
13	Cyili	RSSP	469	-
14	Nyakagezi	QWMDP	109	Small reservoir
15	Rwasave	RSSP	122	Rehabilitation and maintenance
16	Ruvungirana	QWMDP	74.7	Small reservoir
17	Ruvugangoma	QWMDP	36.7	-
18	Gaseke	Roughly dev	18.0	-
19	Mutori	Roughly dev	12.2	SSIT

No	Name	Developed	Google earth size(ha)	Recommendation
1	Ndabukiye	No	10.0	-
2	Akanyaru	No	952	Small reservoir in branch, Flood control
3	Umusizi	No	136	Development, SSIT
4	Cyili	No	350	-
5	Rwasave	No	26.2	-
6	Rwamporera	No	124	Drainage canal
7	Akanyaru(Mamba)	No	1,680	Flood control
8	Busave	No	28.8	-
9	Akanyaru(Nkunamo)	No	346	Flood control
10	Uruhoko	No	24.3	Development, SSIT
11	Akanyaru(Akarugi)	No	193	Flood control
12	Akanyaru(Rwirambo)	No	21.2	-
13	Akanyaru(Ndaro)	No	145	Development
14	Akanayru(Muyinza)	No	88.9	Flood control
15	Akajyenama	No	55.2	SSIT
16	Urutanga	No	10.3	-
17	Uruseke	No	10.3	-
18	Akanyaru	No	1050	Flood control
19	Rutobo	No	92.8	SSIT
20	Nili	No	109	SSIT
21	Nyamuko-Fubo	No	24.0	SSIT
22	Muhanga	No	15.9	SSIT
23	Kidimbizi	No	26.9	SSIT
24	Nkurubindi	No	8.1	SSIT
25	Migina(downstream)	No	129	SSIT
26	Gihosha	No	104	-
27	Giseke	No	95.2	SSIT
28	Duwane	No	134	Development
29	Akarugondo	No	28.9	SSIT
30	Kigaga	No	11.3	SSIT
31	Migombwa	No	12.0	-
32	Akanyaru	No	123	Flood control

(2) Surveyed Marshland in Huye

No	Name	Developed	Google earth size(ha)	Recommendation
1	Mwogo(upstream)	PDAG	73.0	Rehabilitation
2	Nyamugari	WFP	39.7	Rehabilitation
3	Mwogo(downstream)	GAA	314	Rehabilitation(colapsed part)
4	Umusizi	QWMDP	52.5	Maintenance
5	Agatenga	Red Cross	25.0	Maintenance
6	Nyamuko-Kidobogo	Roughly(Prison(RCS),UR)	14.7	-
7	Rwamamba	QWMDP	70.9	Rehabilitation
8	Murori	QWMDP	57.2	-
9	Mukura	QWMDP	92.1	-
10	Ndobogo	Roughly by f	106	-
11	Nyiragasare	WFP	85.0	Rehabilitation
12	Rusuli-Rwamukinga	RSSP	245	Rehabilitation
13	Runukangoma	RSSP	95.9	Rehabilitation
14	Umwaro	QWMDP	45.0	Rehabilitation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Bishyimbo	No	125	SSIT
2	Nyiramuhimbo	No	21.0	SSIT
3	Birambo	No	128	SSIT
4	Nyakigezi	No	17.0	SSIT
5	Butambu	No	64.9	SSIT
6	Kinnyogero	No	34.4	SSIT
7	Ruvima	No	36.0	SSIT
8	Ruranga	No	10.7	-
9	Munyazi	No	140	Development
10	Nyabitare	No	20.0	SSIT
11	Urushoka	No	9.2	-
12	Kinyamaganga	No	15.6	-
13	Kibingo	No	15.2	SSIT
14	Nyagisenyi	No	75.6	Development
15	Karera	No	42.0	Development
16	Nyota	No	25.9	-
17	Nyabihanga	No	17.9	-
18	Bishyamarwa	No	87.9	SSIT
19	Ntaruka	No	39.5	SSIT
20	Akagege	No	14.3	-
21	Rwanyiramparaye	No	12.8	-

(3) Surveyed Marshland in Kamonyi

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gikoro	QWMDP	89.4	-
2	Kibuza	Roughy by KOICA	45.1	Small reservoir
3	Gatimbazi	Roughy by KOICA	68.8	Small reservoir
4	Mushimba	Roughy by KOICA	41.6	Small reservoir
5	Rwabashyashya	QWMDP	60.4	Small reservoir
6	Kayumbu	Roughy by KOICA	37.2	Rehabilitation
7	Bishenyi	QWMDP	61	Small reservoir
8	Mukunguli	RSSP	699	Rehabilitation, Erosion control
9	Ruboroga	QWMDP	134	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Kayumbu	No	57.8	Development
2	Kinani	No	6.1	-
3	Rutobwe	No	19	SSIT
4	Mpombori	No	51.1	Development
5	Bahimba	No	36.2	Development
6	Nyabarongo	No	43.6	Flood control
7	Rugoma	No	19	SSIT
8	Nyarubaya	No	15.6	SSIT
9	Kamiranzovu	No	65.1	Development
10	Akanyaru	No	1380	Flood control
11	Kavunja	No	104.0	Development
12	Mugera	No	13.7	SSIT
13	Nyabarongo	No	1,223	Flood control

(4) Surveyed Marshland in Muhanga

No	Name	Developed	Google earth size(ha)	Recommendation
1	Rugeramigozi I	RSSP 2	70.4	-
2	Rugeramigozi II	GAA	63.2	Maintenance
3	Rwansamira	Rough WFP	77.1	Development
4	Makera	QWMDP	80.3	Rehabilitation
5	Ruterana	KOICA/RCSP	34.8	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Rubara	No	58.5	SSIT
2	Gasayo	No	506	SSIT
3	Misizi	No	179	SSIT
4	Nyirabahimba	No	242	SSIT
5	Takwe	No	114	Development
6	Nyagisenyi	No	99.9	-
7	Nyagako	No	59.6	SSIT
8	Gikeri	No	136	SSIT
9	Nyabarongo	No	288	Flood control
10	Mwumba	No	469	SSIT
11	Gasayo	No	109	SSIT
12	Bizibibi	No	122	Development
13	Nyamuhindura	No	74.7	Development
14	Nyabarongo(Bwayi)	No	36.7	Flood control
15	Nyabihu	No	18.0	-
16	Nyabarongo(Kabahara)	No	12.2	Flood control
17	Nyabarongo(Bakokwe)	No	30.7	SSIT
18	Nyabarongo(Nyamiseke)	No	15.2	Flood control
19	Kibyeyi	No	56.9	SSIT
20	Kinjagari	No	34.7	Development
21	Nyabarongo	No	79.5	Flood control
22	Nyabarongo	No	33.3	Flood control

(5) Surveyed Marshland in Nyamagabe

No	Name	Developed	Google earth size(ha)	Recommendation
1	Mushishito	QWMDP	63.0	Flood control
2	Rwondo	QWMDP	60.3	Rehabiritation
3	Mwogo	Rough(NGO with District)	17.0	Flood control
4	Cyogo	QWMDP	53.4	Small reservoir
5	Kaviri	PDAG	15.6	Rehabiritation
6	Muzirantwago	QWMDP	71.5	Rehabiritation
7	Kaburarwango	Rough(KOICA)	9.8	-
8	Kavure	Rough(KOICA)	12.6	-

No	Name	Developed	Google earth size(ha)	Rscommendation
1	Gishongo	No	6.4	SSIT
2	Mwogo	No	247	Flood control
3	Rukarara	No	194	Flood control
4	Nzavu	No	18.4	SSIT
5	Gisuma	No	23.1	SSIT
6	Kato	No	12.4	SSIT

(6) Surveyed Marshland in Nyanza

No	Name	Developed	Google earth size(ha)	Recommendation
1	Agasasa	RSSP	181	-
2	Nyarubogo	RSSP	241	-
3	Budubi	QWMDP	135	Rehabilitation
4	Rubuyenge	QWMDP	134	Rehabilitation
5	Burakari	QWMDP	112	-
6	Munyamazi	Roughly by N	10.6	-
7	Rufuka	QWMDP	31	Maintenance
8	Mwogo	LWH	149	-
9	Mwogo(Kami)	LWH	15.7	-
10	Busogwe	QWMDP	95.8	Small reservoir
11	Nyagafunzo-Nyamigogo	QWMDP	152	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Rwanyiratebuka	No	25.2	SSIT
2	Agasasa	No	200	Flood control
3	Akanyaru	No	120	Flood control
4	Rwamporera	No	6.9	-
5	Akanyaru(Rwabusoro)	No	1757	Flood control
6	Mwogo	No	407	Flood control
7	Kaviri	No	48	Flood control
8	Rukarara-Mugesera	No	51	Development
9	Ruzerera	No	8.9	SSIT
10	Nyabisindu	No	14.0	-
11	Rushaya	No	27.4	-
12	Bishya	No	170	Development
13	Akaziga	No	15.6	SSIT
14	Rutigita	No	16.1	SSIT
15	Nyamukana	No	113	SSIT
16	Gisharara	No	53.5	SSIT

(7) Surveyed Marshland in Nyaruguru

No	Name	Developed	Google earth size(ha)	Recommendation
1	Rwoganyoni	District	22	Small reservoir
2	Agatorove	District	37.3	-
3	Akagera	QWMDP	158	Small reservoir
4	Urwonjya	QWMDP	53.5	Small reservoir
5	Amazatukura	Roughly KOICA	4.3	-
6	Uwarurimbi	World Vision	17.1	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gipfuna	No	95.0	SSIT
2	Agatobwe(downstream)	No	356	SSIT
3	Akavuguto	No	217	Development
4	Agatenga	No	10.0	-
5	Akanyaru	No	71.9	SSIT
6	Rwabuganda	No	31.4	SSIT
7	Kibaza	No	20.4	SSIT
8	Umusizi	No	76.0	SSIT
9	Rutabo	No	81.0	SSIT
10	Giswi1	No	42.6	SSIT
11	Kiriba	No	13.8	-
12	Mudasomwa	No	7.2	SSIT
13	Ubuyumbu	No	25.2	SSIT
14	Gitita	No	6.9	SSIT
15	Giswi2	No	7.3	SSIT
16	Migendo	No	4.1	SSIT
17	Giswi3	No	9.6	SSIT
18	Agatigita	No	19.9	-
19	Agatorove(upstream)	No	99.0	Development
20	Kizikoga	No	29.3	Development
21	Urubaya	No	71.4	Development
22	Nyiramurongi	No	31.8	Development
23	Nyiraruhinza	No	10.2	SSIT
24	Akanyaru	No	36.0	SSIT
25	Murubuye	No	17.8	SSIT
26	Giswi4	No	21.8	SSIT
27	Gasezo	No	19.7	SSIT

(8) Surveyed Marshland in Ruhango

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nyirakiyange	QWMDP	98.5	Maintenance
2	Base	GAA	134	Rehabilitation
3	Kanyegenyege	QWMDP	129	Erosion control
4	Kiryango	GAA	108	Rehabilitation
5	Rutenderi	GAA	36.6	Rehabilitation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Kibingo	No	190	Development
2	Nyagafunzo	No	91.6	Development
3	Cyihene	No	81.5	Development
4	Rwamukungu	No	33.3	Development
5	Akanyaru	No	358	Flood control
6	Nyagashubi	No	21.7	SSIT
7	Nyamukumba	No	54.7	Development
8	Kana	No	134	Development
9	Rufuha	No	14.4	SSIT
10	Bwiza	No	17.3	-
11	Nyamugari	No	11.8	-
12	Nyamuko	No	101	SSIT
13	Nyabarongo(branch)	No	12.2	Flood control
14	Ruzigabirenge	No	57.0	Development
15	Karambo-Rwarukara	No	8.4	-
16	Rugondo	No	153	SSIT
17	Akabebya	No	124	SSIT
18	Gasange	No	29.0	SSIT

(9) Surveyed Marshland in Rusizi

No	Name	Developed	Google earth size(ha)	Recommendation
1	Bugarama	North Korea,RSSP	1,752	Rehabilitation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nyeshati	No	30.3	Development
2	Gitambi	No	15.8	-
3	Ruhwa	No	45.7	-
4	Gihitasi	No	95.3	Flood control
5	Gishoma	No	336	-
6	Gishoma(Kagera)	No	66.0	SSIT
7	Gisuma	No	14.8	-
8	Mashya	No	95.4	Drainage canal
9	Cyunyu(upstream)	No	103	-
10	Gitinda	No	11.1	-
11	Kadasomwa	No	9.0	-
12	Rutabagire	No	11.6	-
13	Nzirwe	No	7.8	-
14	Rugeme	No	8.6	SSIT
15	Cyunyu(downstream)	No	60.0	Development
16	Matyazo	No	47.9	-
17	Mudasomwa	No	4.9	-

(10) Surveyed Marshland in Nyamasheke

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nyagahembe	QWMDP	46.4	Maintenance
2	Kamiranzovu	RSSP	133	-
3	Mugonero	QWMDP	55.7	Rehabilitation
4	Kibati	QWMDP	31.4	Rehabilitation
5	Kirimbi	RSSP	155	Rehabilitation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Mwaga	No	27.9	SSIT
2	Matyazo	No	23.0	SSIT
3	Kamiranzovu	No	58.5	Development
4	Rujeberi	No	11.4	Development
5	Gishugi	No	43.2	-
6	Karundura(upstream)	No	68.0	-
7	Karundura(downstream)	No	42.4	-
8	Kigoya(downstream)	No	148	Flood control
9	Mbuga	No	14.7	Development
10	Kigoya(upstream)	No	32.4	SSIT
11	Ruzibira-Mugonero	No	19.2	-

(11) Surveyed Marshland in Karongi

No	Name	Developed	Google earth size(ha)	Recommendation
1	Muregeya	No	39.7	Development
2	Gisayo	No	16	-
3	Ruhanga	No	14.4	SSIT
4	Mwumvero	No	13.4	SSIT
5	Musogoro	No	6.5	-
6	Nyabarongo(K1~3)	No	14	Flood control
7	Ntaruko	No	17.8	-
8	Nyabarongo(Kabakene)	No	4.9	Flood control
9	Mugisenyi	No	12.3	SSIT
10	Munzanga	No	12	SSIT
11	Nyamitanga	No	8.6	-

(12) Surveyed Marshland in Rutsiro

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gitenga	No	55.0	Drainage canal
2	Nkora-Biruyi	No	26.3	Flood control
3	Koko	No	98.0	Flood control
4	Kivuruga	No	7.7	-

(13) Surveyed Marshland in Nyabihu

No	Name	Developed	Google earth size(ha)	Recommendation
1	Giciye	No	57.0	Flood control
2	Mukungwa	No	103	Flood control

(14) Surveyed Marshland in Ngororero

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gisuma	PAPSTA	12.3	Rehabiritation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Rwanyiratebuka	No	16.0	SSIT
2	Agasasa	No	39.7	Drainage canal
3	Akanyaru	No	24.6	-
4	Rwamporera	No	25.5	Flood control
5	Akanyaru(Rwabusoro)	No	9.6	Flood control
6	Mwogo	No	45.2	Flood control
7	Kaviri	No	176	Flood control

(15) Surveyed Marshlands in Musanze

No	Name	Developed	Google earth size(ha)	Recommendation
1	Mukinga	QWMDP	64.7	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nkoro	No	11.3	SSIT
2	Rukore	No	5.7	SSIT
3	Rwabiti	No	6.5	SSIT
4	Nyirakigoma	No	19.9	SSIT
5	Mugombe	No	11.4	SSIT
6	Kibanda	No	14.8	SSIT
7	Kiguhu	No	57.0	-
8	Gacaca	No	21.8	-
9	Rushwashwa	No	15.3	SSIT
10	Shobogo	No	6.8	SSIT
11	Cyabaralika	No	24.1	-
12	Mubona	No	90.7	-
13	Mukungwa	No	275.9	-
14	Nyamutukura	No	20.5	SSIT

(16) Surveyed Marshlands in Burera

No	Name	Developed	Google earth size(ha)	Recommendation
1	Ndongezi	RSSP	97.6	Erosion control, diversion weir,intake
2	Nyirabirande	RSSP	311	Diversion weir,intake

No	Name	Developed	Google earth size(ha)	Recommendation
1	Kirambo	No	26.4	SSIT
2	Cyeru-Nyamusanze	No	94.9	-
3	Rwankeri	No	29.8	SSIT
4	Nyamusanze	No	27.7	SSIT
5	Mulindi-Muhuga	No	31.5	SSIT
6	Gana-Ntaruka	No	109.0	-
7	Gatsibo-Kamiranzovu	No	465	SSIT
8	Musenyi	No	37.3	SSIT
9	Ryaruyumbu	No	18.7	Erosion control
10	Gashanje	No	42.5	SSIT
11	Kabaya-Salamu	No	16.4	SSIT
12	Kabaya-Mugu	No	15.0	SSIT

(17) Surveyed Marshlands in Gakenke

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gafobero	PAPSTA	33.7	Rehabilitation

No	Name	Developed	Google earth size(ha)	Recommendation
1	Cyacika(downstream)	No	61.2	SSIT
2	Nyarusasa	No	12.4	SSIT
3	Kageyo	No	10.7	SSIT
4	Cyacika(upstream)	No	42.0	SSIT
5	Rutaka	No	6.2	SSIT
6	Nyamugaga-Rushore(Rubih)	No	20.4	SSIT
7	Banga I	No	62.7	SSIT
8	Basuma-Ruzibaziba	No	19.7	SSIT
9	Banga II	No	40.5	SSIT
10	Base III	No	32.2	SSIT
11	Base II	No	39.3	SSIT
12	Mukungwa	No	170	Flood control
13	Gaseke-Karangara	No	118.6	Flood control
14	Mubindi	No	23.0	SSIT
15	Kinyanjongo	No	19.8	SSIT
16	Nyabutaka	No	19.0	SSIT
17	Mbuga	No	15.6	SSIT
18	Musange	No	8.2	SSIT
19	Base I	No	82.3	Flood control
20	Busanane	No	38.3	Flood control
21	Rutambu	No	13.6	SSIT
22	Kasusa	No	3.9	-
23	Gaseke	No	11.3	SSIT
24	Nyabarongo	No	66.6	Flood control

(18) Surveyed Marshlands in Rulindo

No	Name	Developed	Google earth size(ha)	Recommendation
1	Nyarububa	RSSP	79.7	Rehabilitation
2	Bahimba	QWMDP	288	Rehabilitation
3	Muyanza	LWH	164	-

No	Name	Developed	Google earth size(ha)	Recommendation
1	Gitandi	No	7.4	SSIT
2	Kabindi(Gatobero)	No	20.3	Erosion control, Diversion weir, intake
3	Nyamagana	No	13.7	Erosion control
4	Mwange	No	78.4	-
5	Muzenzo	No	5.9	SSIT
6	Rusine	No	92.9	-
7	Nyabugogo	No	373	-
8	Gatare	No	19.3	-
9	Cyonyonyo	No	84.2	-
10	Yanze	No	152	-

(19) Surveyed Marshlands in Gicumbi

No	Name	Developed	Google earth size(ha)	Recommendation
1	Ruhango-Gatare(Nyamugali)	No	21.0	-
2	Mudahakanirwa	No	62	-
3	Gisaya	No	20.9	SSIT
4	Mwange-Kaguhu	No	124	SSIT
5	Murama	No	29.7	SSIT
6	Cyondo	No	20.8	SSIT
7	Nyiragatugu	No	47.5	-
8	Bwanya2	No	78.2	-
9	Bwanya1	No	81.5	-
10	Bwanya3	No	48.2	-
11	Kamiranzovu	No	44.7	-

Annex 3

Developed Marshland Inventory

No.	Province	Name	District	Sector	Area (ha)		Project	Completion period	Dam
					(RAB, District)	(Google earth)			
1	Eastern	Ruvubu	Bugesera	Nyarugenge,Shyara	90				○(2)
2		Rwintare	Bugesera	Nyarugenge, Mareba, Shyara	80		RSSP	2005	○
3		Gatare	Bugesera	Mareba, Ruhuha	57		RSSP	2005	○
4		Rwabikwano	Bugesera	Mareba	85		RSSP	205	
5		Nyabuliba	Bugesera	Nyarugenge	52		RSSP/QWMDP	2001, 2014	
6		Kibaza	Bugesera	Ruhuha, Ngeruka	40		PAPSTA	2001	
7		Rurambi	Bugesera	Juru, Mwogo	850		PADAB/ADB	2015	
8		Gashora1	Bugesera	Gashora,Rilima,Juru	750		PADAB/ADB	2016	
9		Rwangingo-Karangazi	Gatsibo	Kabarore, Gitoki,Ngarama, Gatsibo, Katabagemu, Karangazi	1100		RSSP	2016	○
10		Kanyonyomba	Gatsibo	Kiramuruzi Murambi Kiziguro	393		RSSP	2007	○
11		Ntende	Gatsibo	Rugarama, Rwimbogo, Gitoki	900		RSSP	2009	○(2)
12		Rugendabari/ Kayonza	Kayonza	Mwiri, Mukarange	138		Chinese	1982	○
13		Rwinkwavu	Kayonza	Mwiri, Gahini, Rwinkwavu	1100		RSSP	2015	○
14		Kayonza4	Kayonza	Kabare	124		LWH	2015	○
15		Kirehe	Kayonza	Kabare	86		Farmer supported	2007	
16		Gacaca	Kayonza	Murundi, Rukara	400		RSSP	2014	
17		Ruramira	Kayonza	Ruramira, Kabarondo	32		NGO(Micro-realise	2004	
18		Sagatare	Kirehe	Kigina-Musaza-Kirehe-Kigarama-Gatore	95		KWAMP	2010	○
19		Cyunuzi	Kirehe		196		RSSP/KWAMP(da	2005, 2010	○
20		Rwabutazi	Kirehe	Mushikiri-Kirehe-Gatore-Murama	110		PAPSTA	2005	
21		Kijumbura	Kirehe	Gahara	18		KWAMP	2015	
22		Kambwire-Musaza	Kirehe	Musaza	89		KWAMP	2015	
23		Gacencero	Kirehe	Mushikiri-Kirehe-Kigina	64		RSSP	2005	
24		Binoni	Kirehe	Mushikiri	138		KWAMP	2010	
25		Gashongi	Kirehe	Nyarubuye, Mushikiri	55		KWAMP	2015	
26		Kinyogo	Kirehe	Nyarubuye, Kigina, Mushikiri	65		RSSP	2005	
27		Kamukungu	Ngoma	Zaza, Karemo	32		QWMDP	2015	
28		Nyaruvumu/Kibaya	Ngoma	Rukira, Murama	233		RSSP	2006	
29		Kinyamarebe	Ngoma	Rukira (Ngoma), Mushikiri (Kirehe)	50		KWAMP		
30		Rwakaganza	Ngoma	Murama, Kibungo, Mutenderi	150		QWMDP	2017	
31		Mwambu	Ngoma	Rurenge	100		Chinese	1985	
32		Gisaya	Ngoma	Rurenge, karemo, Gashanda	92		RSSP	2011	
33		Ngoma Project	Ngoma	Remera Rurenge	35		JICA	2016	
34		Muvumba P5	Nyagatare	Nyagatare	140		RSSP	2006	
35		Muvumba P4	Nyagatare	Nyagatare	160		Chinese	2003	
36		Muvumba P2&3	Nyagatare	Mimuli Rukomo	417		Canada/ACDAI/RS	1980	
37		Muvumba P8	Nyagatare	Tabagwe Rwempasha Musheru	1750		RSSP	2011	
38		Butimba (Nyirabidibiri)	Rwamagana	Nzige Rubona	200		LWH	2017	
39		Gitinga	Rwamagana	Kigabiro Munyaga	65		Chinese	(old)	
40		Cyimpima	Rwamagana	Kigabiro Munyaga	53		Chinese	1982	
41		Cyaruwego	Rwamagana	Munyaga Rubona	90		Chinese	1982	
42		Bugugu	Rwamagana	Kigabiro Mwirire	30		Chinese	1982	
43		Gashara	Rwamagana	Kigabiro Mwirire	36		Chinese	1982	
44		Nyakagezi	Rwamagana	Munyaga, Kigabiro	6		Chinese	1982	
45		Kadigadiga	Rwamagana	Munyaga	4		Chinese	1982	
46		Gashara2	Rwamagana	Kigabiro, Mwirire	8		Chinese	1982	

No.	Province	Name	District	Sector	Area(ha)		Project	Completion period	Dam
					(RAB, District)	(Google earth)			
47	Southern	Nyakanyeri	Gisagara	Kigembe	75	58.5	QWMDP	2016	
48		Rumira-Urukingo	Gisagara	Nyanza&Kigembe	83	70.4	QWMDP	2016	
49		Kigaga-Kabogobogo	Gisagara	Kansi&Kigembe&Mugombwa	80	63.2	QWMDP	2014, 2016	
50		Akaboti	Gisagara	Kansi&Kigembe	76	77.1	QWMDP	2014	
51		Kibugazi	Gisagara	Ndora&Mugombwa&Kibirizi	108	80.3	QWMDP	2011, 2015	
52		Mirayi	Gisagara	Gishubi&Muganza & Ndora	500	451	Belgium/RSSP	1985, 2016	
53		Ngiriyi	Gisagara	Musha&Ndora&Mamba & Gishubi	180	179	Belgium	1975	
54		Rwamporera-Nyiramageni	Gisagara	Mamba&Musha&Gikonko	180	242	QWMDP	1985, 2011	
55		Mwura-Gatare	Gisagara	Musha&Gikonko	110	114	QWMDP	2011	○
56		Nyabuyogera	Gisagara	Save&Kibirizi	109	99.9	QWMDP	2011	
57		Agatare	Gisagara	Muganza&Mukindo&Mugombwa	59	59.6	QWMDP	2014	
58		Migina	Gisagara&Nyaruguru&Huye	Kansi&Kigembe&Kibirizi (Gisagara), Ngera (Nyaruguru), Tumba & Ngoma & Mukura (Huye)	270	288	QWMDP/RSSP	2011, 2017	
59		Cyili	Gisagara&Huye&Nyanza	Gikonko & Mamba (Gisagara), Rusatira (Huye), Ntyazo (Nyanza)	460	469	RSSP	2013, 2015	○
60		Nyakagezi	Gisagara&Huye	Gikonko (Gisagara), Rusatira (Huye)	110	109	QWMDP	2016	
61		Rwasave	Gisagara&Huye	Kibirizi & Save (Gisagara), Ngoma & Mbazi (Huye)	100	122	RSSP	2006	○
62		Ruvungirana	Gisagara&Huye	Save&Musha (Gisagara), Rusatira&Ruhashya (Huye)	75	74.7	QWMDP	2016	
63		Ruvugangoma	Gisagara	Musha	43	36.7	QWMDP	2011	○
64		Rwoganyoni	Nyaruguru	Kibehe	45	22.0	District	2016	
65		Agatorove	Nyaruguru	Kibehe	65	37.3	District	2017	
66		Akagera	Nyaruguru&Huye	Ngera (Nyaruguru), Gishamvu & Mukura (Huye)	160	158	QWMDP	2017	
67		Urwonjya	Nyaruguru	Cyahinda & Nyagisozi	60	53.5	QWMDP	2011	
68		Uwarurimbi	Nyaruguru	Ruramba & Mata	11	17.1	World Vision	2017	
69		Mushishito	Nyamagabe	Uwinkingi&Kibirizi	130	63	QWMDP	2016	
70		Rwondo	Nyamagabe	Buruhukiro&Musebeya&Gatare	64	60.3	QWMDP	2011	
71		Cyogo	Nyamagabe	Cyanika	76	53.4	QWMDP	2016	
72		Kaviri	Nyamagabe&Huye	Cyanika (Nyamagabe), Kigoma (Huye)		15.6	PDAG	(1990)	
73		Muzirantwago	Nyamagabe	Cyanika&Gasaka&Mbazi&Kibirizi	85	71.5	QWMDP	2011	
74		Mwogo (upstream)	Huye&Nyamagabe	Kigoma&Maraba (Huye), Kamegeri (Nyamagabe)		73	PDAG		
75		Nyamugari	Huye&Nyamagabe	Kigoma (Huye), Gasaka&Cyanika (Nyamagabe)		39.7	WFP		
76		Mwogo (downstream)	Huye	Simbi&Kigoma & Rwaniro		314	GAA		○
77		Umusizi	Huye	Huye	51	52.5	QWMDP	2014	
78		Agatenga	Huye	Karama		25	Red Cross		
79		Rwamamba	Huye	Ngoma & Tumba	60	70.9	QWMDP	2015	
80		Murori	Huye	Tumba & Mukura & Gishamvu	65	57.2	QWMDP	2016	
81		Mukura	Huye	Mukura	125	92.1	QWMDP	2011, 2017	
82		Nyiragasare	Huye	Mbazi & Ruhashya		85	WFP		○
83		Rusuli-Rwamukinga	Huye	Rusatira & Ruhashya & Rwaniro	170	188	RSSP		○
84		Runukangoma	Huye	Ruhashya & Rwaniro&Simbi	100	95.9	RSSP		
85		Umwaro	Huye	Rusatira & Kinazi&Rwaniro	40	45	QWMDP	2011	
86		Gikoro	Kamonyi	Gacurabwenge&Rukoma&Karama	90	89.4	QWMDP	2013	
87		Rwabashyasha	Kamonyi	Gacurabwenge&Rukoma&Rugarika&Runda	60	60.4	QWMDP	2016	
88		Bishenyi	Kamonyi	Rugarika&Runda	59	61	QWMDP	2014	
89		Mukunguli	Kamonyi&Ruhango	Nyamiyaga&Mugina (Kamonyi), Kinazi (Ruhango)	650	699	RSSP	2008	
90		Ruboroga	Kamonyi	Mugina&Rugarika&Nyamiyaga	130	134	QWMDP	2016	
91		Agasasa	Nyanza	Ntyazo & Kibilizi	180	181	RSSP		○
92		Nyarubogo	Nyanza	Kibilizi & Muyira & Busoro	260	241	RSSP	2012	○
93		Budubi	Nyanza	Muyira&Busoro&Kigoma	145	135	QWMDP	2013	
94		Rubuyenge	Nyanza&Ruhango	Kigoma (Nyanza), Ntongwe (Ruhango)	144	134	QWMDP	2011	
95		Burakari	Nyanza&Ruhango	Kigoma (Nyanza), Ntongwe (Ruhango)		112	QWMDP		
96		Rufuka	Nyanza	Cyabakamyi	34	31	QWMDP	2016	
97		Mwogo	Nyanza&Huye	Cyabakamyi&Rwabicuma&Nyagisozi (Nyanza), Rwaniro (Huye)		149	LWH	2014	○
98		Mwogo (Kami)	Nyanza	Nyagisozi	56	19.6	LWH	2014	○
99		Busogwe	Nyanza	Busasamana & Mukingo & Kigoma	110	95.8	QWMDP	2017	
100		Nyagafunzo-Nyamigogo	Nyanza&Ruhango	Mukingo&Kigoma (Nyanza), Bweramana & Ruhango (Ruhango)	190	152	QWMDP	2017	
101		Nyirakiyange	Ruhango	Ruhango&Bweramana	110	98.5	QWMDP	2011	
102		Base	Ruhango&Nyanza	Bweramana&Mwendo (Ruhango), Mukingo (Nyanza)	133	134	GAA		○
103		Kanyegenyeye	Ruhango&Nyanza	Ntongwe&Kinazi (Ruhango), Busoro (Nyanza)	137	129	QWMDP	2013	
104		Kiryango	Ruhango	Kinzi&Mwendo	108	108	GAA		
105		Rutenderi	Ruhango	Kabagali	44	36.6	GAA	2005	
106		Rugeramigozi I	Muhanga&Ruhango	Shyogwe & Nyamabuye (Muhanga), Byimana (Ruhango)	120	109	GAA, RSSP	2004, 2008	○
107		Rugeramigozi II	Muhanga	Shyogwe & Nyamabuye		94.6	GAA		○
108		Makera	Muhanga	Nyamabuye & Cyeza & Muhanga	78	70.5	QWMDP	2011	
109		Ruterana	Muhanga	Kiyumba&Rongi		34.8	KOICA/RCSP		

No.	Province	Name	District	Sector	Area(ha)		Project	Completion period	Dam
					(RAB_District)	(Google earth)			
110	Western	Bugarama	Rusizi	Muganza&Bugarama&Nyakabuye&Gikundamvura	1556	1752	Korea/RSSP	1982, 2016	
111		Nyagahembe	Nyamasheke	Bushenge&Shangi	40	46.4	QWMDP	2011	
112		Kamiranzovu	Nyamasheke	Kagano	140	133	RSSP		
113		Mugonero	Nyamasheke	Gihombo & Mahembe	50	45.8	QWMDP	2011	
114		Kibati	Nyamasheke	Gihombo	30	31.4	QWMDP	2011	
115		Kirimbi	Nyamasheke	Macuba & Kirimbi	140	155	RSSP	2014	
116		Gisuma	Ngororero	Nyange	20	12.3	PAPSTA	2012	
117	Northern	Mukinga	Musanze	Remera&Rwaza(Musanze), Cyabingo&Kivuruga(Gakenke)	108	64.7	QWMDP	2014	
118		Ndongezi	Burera	Nemba&Cyeru	120	97.6	RSSP	2015	
119		Nyirabirande	Burera	Rwerere&Nemba&Cyeru	300	311	RSSP	2015	
120		Gafobero	Gakenke	Gashenyi	25	33.7	PAPSTA		
121		Nyarububa	Rulindo	Cyungo&Rukozo	77	79.7	RSSP		
122		Bahimba	Rulindo	Mbogo&Bushoki&Tumba&Rusiga	327	288	QWMDP	2011	
123		Muyanza	Rulindo	Burega&Buyoga&Ntarabana		164	LWH	2018	○