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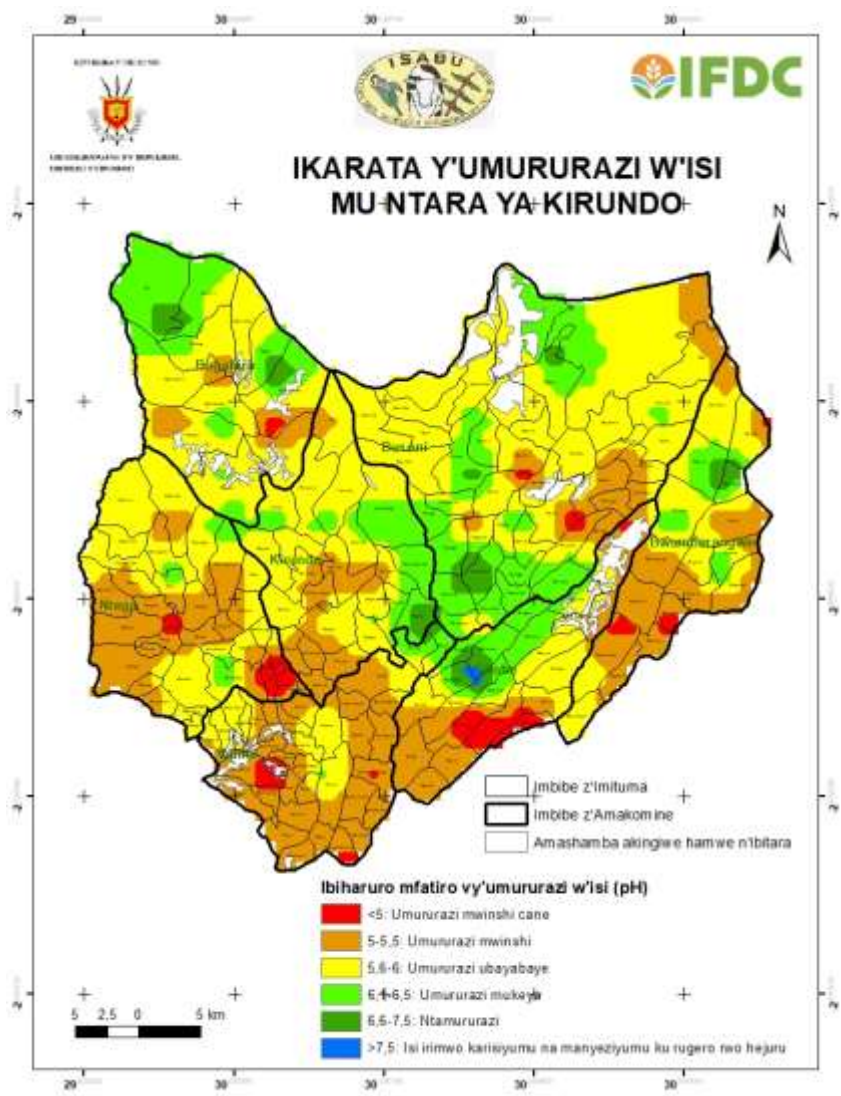


UBUSHIKIRANGANJI BW'IBIDUKIKIJE,
UBURIMYI N'UBWOROZI



**AGATABU KEREKANA AMAKARATA
Y'AKANOVERA K'ISI NDIMWA YO MU
NTARA YA KIRUNDO**

Umwaka wa 2022



Bujumbura, Ruheshi 2022

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1. INTANGAMARARA

1.1. Ingene akanovera k'isi ndimwa kifashe

Itituka ry'isi ndimwa mu Burundi ntirikiri agaseseshwa rumuri, bituma umwimbu ugabanuka kandi abantu nabo batera biyongera. Ibituma akanovera k'isi kagabanuka navyo ahanini nibi bikurikira : kudakoresha neza ibisigarira vy'ivyimburwa, kutarwanya inkukura ku rugero rushimishije, ubuhinga n'ubumenyi budakwiye mu guhingura no kurwiza ifumbire y'ikirundi,....

Kugira ngo isi isubire yimbuke, birakenewe ko hamenyekana ingene isi yifashe muri rusangi mu gihugu kugira ngo abafasha n'abakorera mu gisata c'uburimiye bisunge ibiharuro vya none.

Amararata yo mu ntara yafatiye ku rugero rw'umururazi w'isi (pH), ku vyunyuny : rukomezangingo (P), nyarubabi (N) na nyaruteke (K). Ubuhinga bwinshi burakoreshwa rero mu kugarukana akanovera k'isi ndimwa : gukoresha ifumbire y'ikirundi ; gukoresha ishwaraga, guhingura imicafu yo mu ngo n'ibisagara (ibisigarira vy'imfungurwa, umwanda muto na mukuru,

ibisigarira vyo mu mahinguriro,...), kurwanya inkukura, gukoresha neza ifumbire y'ikizungu, n'ibindi n'ibindi.

1.2. Intumbero nyamukuru yayo makarata

Gufasha kugarukana akanovera k'isi mu kwerekana urugero rw'ivyunyunyuyu nyamukuru n'umururazi turiko kugira ngo abajewe gufata ingingo no kuzishira mu ngiro bavyisunge.

Kugira dushikire iryo hangiro hakoze ibi bikurikira :

- Gukora amakarata y'umururazi (pH), y'ivyunyunyuyu bikuru bikuru : nyarubabi (N), rukomezangingo (P) na nyaruteke (K) ;
- Gutanga insiguro y'ivyibonekeza ku makarata ;
- Gutanga intumbero yo gufumbira isi ndimwa.

2. INGENE IBIKORWA VYAKURIKIRANYE

Abakozi bo muri ISABU bafashanijwe n'abo mu gisata kijejwe gufumbira isi ndimwa mu bushikirangaji bw'uburimyi, ubworozi n'ibidukikije bafashwe mu mugongo na IFDC, baragiye mu gihugu cose batora ivu ry'isi ndimwa mu bibanza 1377. Iryo vu ryapimiwe muri ISABU. Inyuma yaho amakarata y'akanovera

n'umururazi w'isi ndimwa yarakozwe hisunzwe ibiharuro vyavuye mu nzu nsuzumiro (Laboratoire). Mu nama yo kuyemeza, hasabawe ko hokorwa amakarata intara ku ntara n'insiguro yayo no gushika muri komine.

3. IKARATA Y'UMURURAZI/UBUKARIHE (pH)

3.1. Ibiharuro mfatiro vy'umururazi w'isi (pH)

Urugero	Ibiharuro mfatiro vy'umururazi w'isi
umururazi mwinshi cane	< 5
umururazi mwinshi	5 - 5,5
umururazi ubayabaye	5,6 - 6,0
umururazi mukeya	6,1 - 6,5
nta mururazi	6,6 - 7,5 :
isi irimwo kariciyumu na manyesiyumu kurugero rwo hejuru.	> 7,5

3.2. Ivyashitsweko

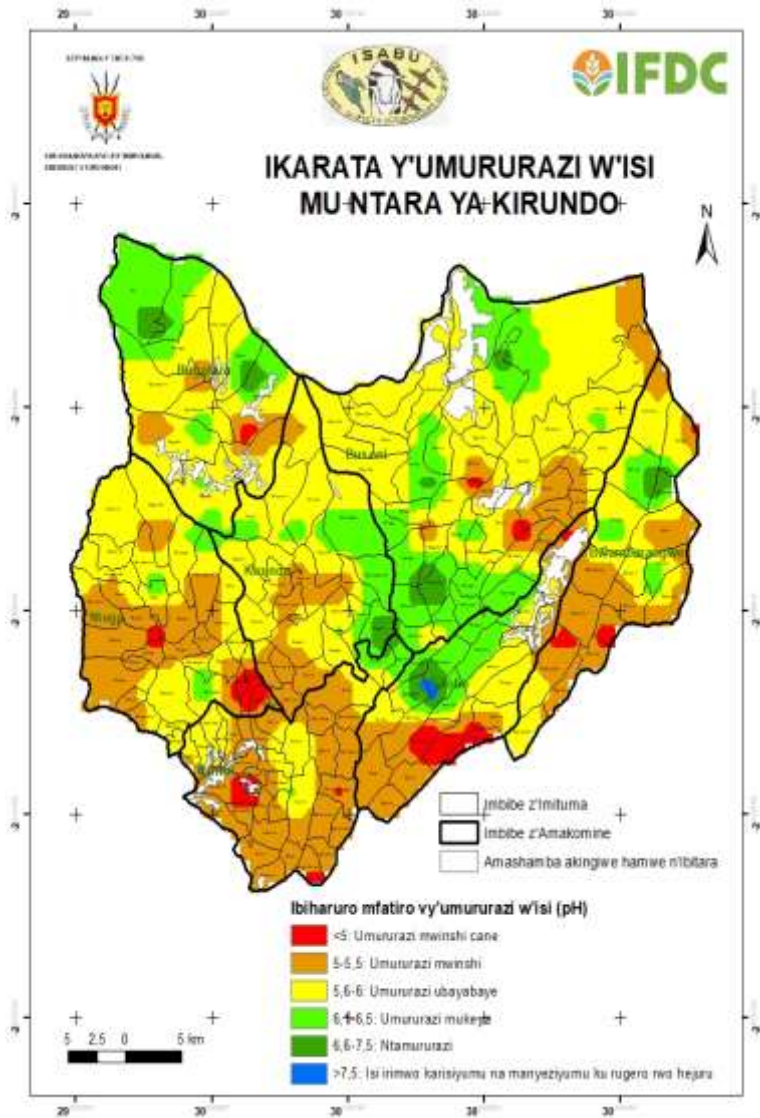
- Ibice 32 kw' ijana (32 %) vy'isi ndimwa vyo mu ntara ya Kirundo bifise umururazi mwinshi gushika kuri mwinshi cane ;

- Ibice 47 kw`ijana (47%) vy`isi ndimwa bifise mururazi ubayebaye, ahasigaye hari nta mururazi uhari;
- Intara ya Kirundo ifise isi ndimwa irimwo kalisiyumu na manyeziyumu ku rugero rwo hejuru ugereraniye n`izindi ntara;
- Amakomine ya Bugabira na Busoni zifise umururazi mukeyi cane.

Uburinganire bw`isi ndimwa dufatiye ku rugero rw`umururazi

Urugero rw`umururazi	Uburinganire (ha)	Ibice kw`ijana (%)
Umururazi mwinshi cane	4202,9	2,7
Umururazi mwinshi	46636,9	29,9
Umururazi ubayabaye	73511,3	47,1
Umururazi mukeyi	27534,1	17,6
Nta mururazi	4085,8	2,6
isi irimwo kalisiyumu na manyeziyumu ku rugero rwo hejuru	175	0,1
Vyose hamwe	156146	100,0

3.3. Ikarata y'umurazi (pH)



4. IKARATA Y'ICUNYUNYU NYARUBABI (N)

4.1. Ibiharuro mfatiro ku cunyunyu nyarubabi

Urugero	Urugero rwa nyarubabi kw`ijana (%)
Rukeyi cane	< 0,1
Rukeyi	0,1-0,2
Rubayabaye	0,2-0,5
Rukwiye	0,5-1,0
Rukwiye cane	>1,0

4.2. Ivyashitsweko

- Ibice 66 kw`ijana (66 %) vy'isi ndimwa bifise urugero rubayabaye ku cunyunyu nyarubabi (N) ;
- Ibice 34 kw`ijana (34 %) vy'isi ndimwa bifise urugero rukeyi ;
- Ikomine ya Kirundo ifise urugero rukeyi cane ku cunyunyu nyarubabi.

Uburinganire bw`isi ndimwa dufatiye ku rugero rw`icunyunyu nyarubabi

Urugero rw'icunyunyu nyarubabi	Uburinganire (ha)	Ibice kw'ijana (%)
Rukeyi cane	502	0,3
Rukeyi	53058,4	34,0
Rubayabaye	102622,7	65,7
Vyose hamwe	156183	100,0

4.3. Ikarata y'icunyunyu nyarubabi (N)



**5. IKARATA Y'ICUNYUNYU
RUKOMEZANGINGO (P) IGITERWA
GISHOBORA GUKORESHA**

**5.1. Ibiharuro mfatiro ku cunyunyu rukomezangingo
(mg/kg)**

Urugero	Ibiharuro vya rukomezangingo (mg/kg)
Kiri ku rugero ruri hasi cane	0 - 5
Kiri ku rugero ruri hasi	5 - 20
Kiri ku rugero rubayabaye	20 - 50
Kiri ku rugero rukwiye	50 - 100
Kiri ku rugero rukwiye cane	>100

5.2. Ivyashitsweko

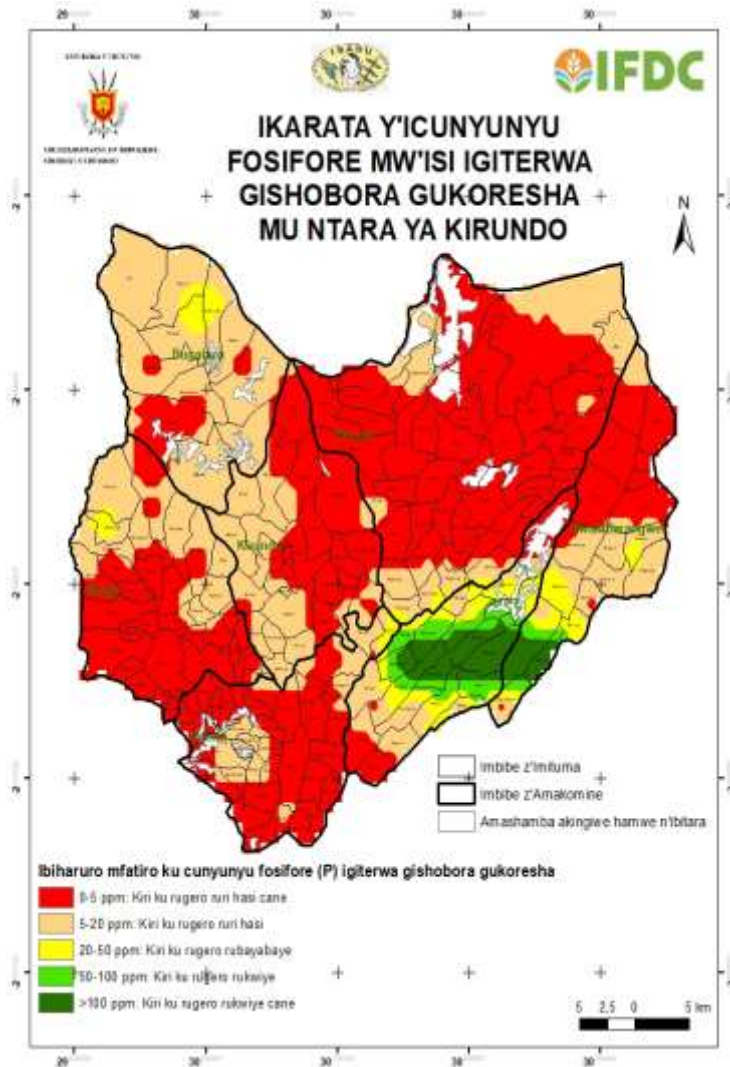
- Ibice 53 kw`ijana (53 %) vy`isi ndimwa vy`intara ya Kirundo bifise icunyunyu ca rukomezangingo (P) kiri ku rugero ruri hasi cane ;
- Ibice 89 kw`ijana (98 %) vy`isi ndimwa vy`intara ya Kirundo bifise icunyunyu ca rukomezangingo kiri ku rugero ruri hasi canke ruri hasi cane ;

- Ikomine ya Gitobe ifise isi ndimwa irmwo icunyunyu ca rukomezangingo ku rugero rukwiye.

Uburinganire bw`isi ndimwa dufatiye ku rugero rw`icunyunyu rukomezangingo igiterwa gishobora gukoresha

Urugero	Uburinganire (ha)	Ibice kw`ijana (%)
Ruri hasi cane	82393,3	52,8
Ruri hasi	57581,8	36,9
Rubayebaye	7406,3	4,7
Rukwiye	3931,6	2,5
Rukwwiye cane	4830,2	3,1
Vyose hamwe	156143,2	100,0

5.3. Ikarata y'icunyunyu rukomezangingo (P) igiterwa gishobora gukoresha



6. IKARATA Y'ICUNYUNYU NYARUTEKE (K) IGITERWA GISHOBORA GUKOresha

6.1. Ibiharuro mfatiro ku cunyunyu nyaruteke (még ku magarama ijana y`ivu ryumye)

Urugero	Ibiharuro vya nyaruteke (még ku magarama ijana y`ivu ryumye)
urugero ruri hasi;	< 0,25
urugero rubayabaye ;	0,25-0,5
urugero rukwiye ;	0,5-1,0
urugero rukwiye cane.	>1,0

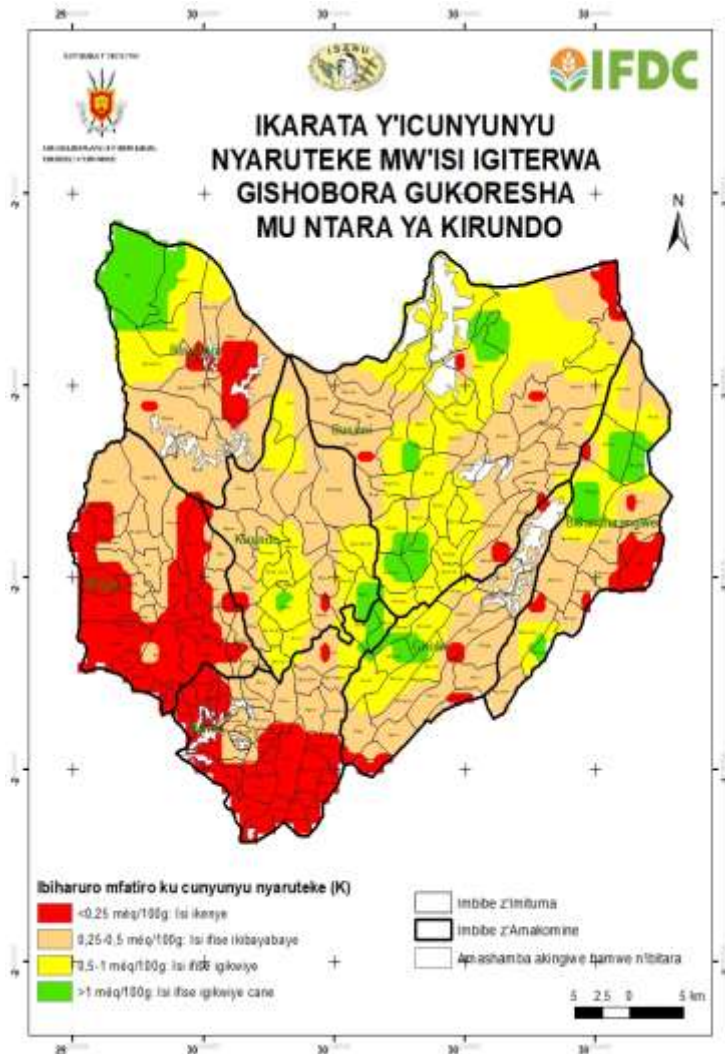
6.2. Ivyashitsweko

- Ibice 47 kw`ijana (47 %) vy'isi ndimwa vyo mu ntara ya Kirundo bifise icunyunyu nyaruteke (K)ku rugero rubayabaye.
- Ibice kw`ijana (33 %) vy'isi ndimwa vyo mu ntara ya Kirundo bifise icunyunyu nyaruteke (K) ku rugero rukwiye ;
- Amakomine ya Ntega na Vumbi afise isi ndimwa ifise icunyunyu nyaruteke ku rugero ruri hasi ugereranije n'ahandi.

Uburinganire bw'isi ndimwa dufatiye ku rugero rw'icunyunyu nyaruteke igiterwa gishobora gukoresha

Urugero	Uburinganire (ha)	Ibice kw'ijana (%)
Urugero ruri hasi	30068,3	19,3
Urugero rubayabaye	73944,6	47,3
Urugero rukwiye	40561,9	26,0
Urugero rukwiye	11611,5	7,4
Vyose hamwe	156186,2	100,0

6.3. Ikarata y'icunyunyu nyaruteke (K) igiterwa gishobora gukoresha



7. INSIGURO

Isi ndimwa y'intara ya Kirundo ifise isi ndimwa irimwo kalisiyumu na manyeziyumu ku rugero rwo hejuru ugereraniye n'ayandi makomine ari mu ntara kama ya Bugesera. Icunyunyu nyarubabi (N) kiri ku rugero ruke ku bice mirongo itatu na bine kw`ijana (34%), nyaruteke (K) iri ku rugero rubayabaye ku bice mirongo ine n'indwi kw`ijana (47 %) ariko icunyunyu rukomezangingo (P) kiri ku rugero rudashemeye ku bice mirongo umunani n'icenda kw`ijana (89%).

8. GUSOZERA

Icunyunyu rukomezangingo gitegerezwa kwongerezwa mw'isi ndimwa y'intara yose ya Kirundo. Ivyunyunyu nyarubabi na nyaruteke birakenewe kwongerezwa kugira ibiterwa bikure neza. Gukoresha ishwaraga mu kugabanura umururazi w'isi birafasha mu kubohora icunyunyu ca rukomezangingo kiba caboshwe n'ivyunyunyu vy'ubumara. Gukoresha ifumbure y'ikirundi birafasha mu gusahiriza ifumbire y'ikizungu yarisanzwe ikoreshwa.

IVYONGEWEKO: Urugero rw'ishwagara ikoreshwa mu ndimo

Ubwoko bw'isi	Ibipimo vy'umururazi w'isi	Urugero rwo kuvura isi	Urugero rwo kubungabunga isi
		Kg/are	Kg/are
Isi y'ibumba/inombe	< 4,7	17	6
	4,7-5,2	14	6
	5,2-5,7	7	5
	>5,7	0	0
Isi y'ikivuvu	< 4,7	14	5
	4,7-5,2	10	5
	5,2-5,7	7	4
	>5,7	0	0
Isi y'umusenyi	< 4,7	8	4
	4,7-5,2	5	4
	5,2-5,7	3	3
	>5,7	0	0
Ibi biharuro bifatiye kw'ishwagara ikorerwa mu burundi. Ibipimo vyayo ni: CaO:27% gushika kuri 30%; MgO:20% gushika kuri 21%			