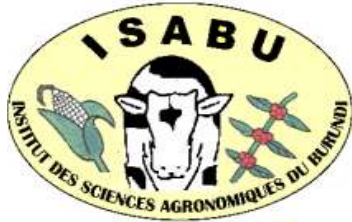


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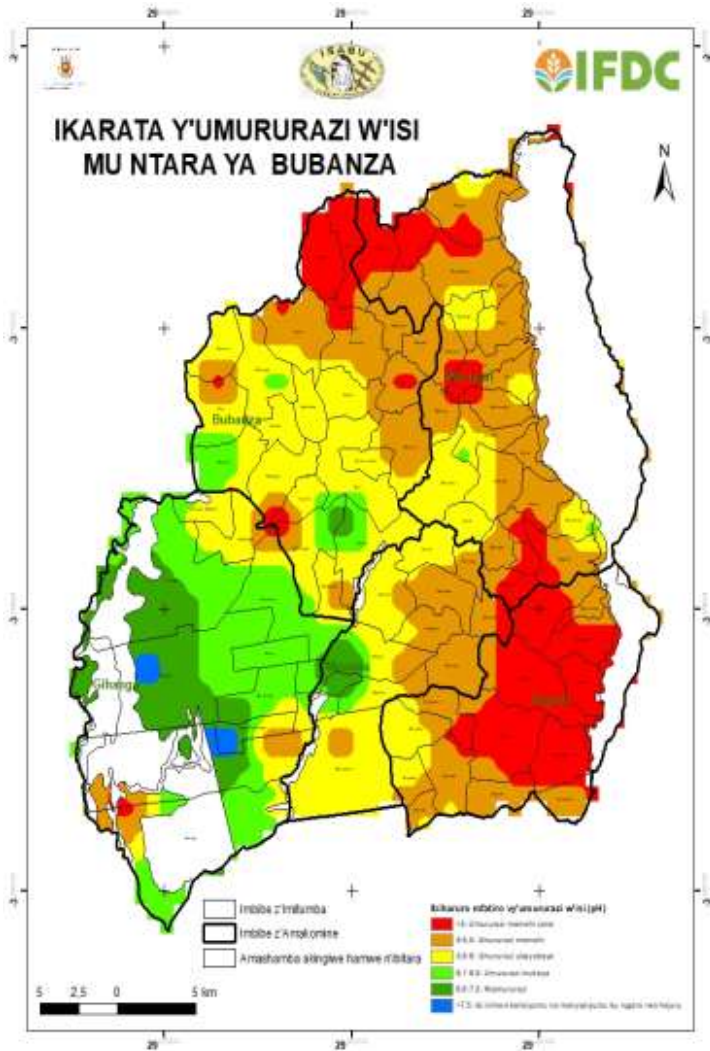


UBUSHIKIRANGANJI BW'IBIDUKIKIJE,
UBURIMYI N'UBWOROZI



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

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'uburimiyi bisunge ibiharuro vya none.

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

ibisigarira vyo mu mahinguriro y'ibiribwa, bibanje gupimwa), 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'ivyunyunyuru 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'ivyunyunyuru bikuru bikuru : nyarubabi (N), rukomezangingo (P) na nyaruteke ;
- Gutanga insiguro y'ivyibonekeza ku makarata ;
- Gutanga intumbero yo gufumbira isi ndimwa.

2. INGENE IBIKORWA VYAKURIKIRANYE

Abakozi bo muri ISABU bafashanije nabo mu gisata kijejwe gufumbira isi ndimwa mu bushikirangaji bw'uburimy, 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, harasabwe 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 birenga gato 47 kw’ ijana (47 %) vy’isi ndimwa vyo mu ntara ya Bubanza bifise umururazi mwinshi gushika kuri mwinshi cane ;

- Ibice vyababa 8 kw`ijana (8%) vy`isi ndimwa nta mururazi bifise ;
- Muri rusangi, amakomine yo mu kiyaya c`Imbo afise isi itagira umururazi ariko amakomine yo mu Mirwa afise isi irimwo umururazi mwinshi;
- Amakomine ya Rugazi na Musigati niyo abangamiwe n`umururazi gusumba ayandi.

Uburinganire bw`isi ndimwa dufatiye ku rugero rw`umururazi

Urugero rw`umururazi	Uburinganire (ha)	Ibice kw`ijana (%)
Umururazi mwinshi cane	13962,0	16,7
Umururazi mwinshi	26189,0	31,4
Umururazi ubayabaye	11512,5	13,8
Umururazi mukeyi	25325,0	30,4
Nta mururazi	5940,1	7,1
Isi irimwo kalisiyumu na manyeziyumu ku rugero rwo hejuru	489,4	0,6
Vyose hamwe	83418,1	100,0

4. IKARATA Y'ICUNYUNYU NYARUBABI (N)

4.1. Ibiharuro mfatiro ku cunyunyu nyarubabi (N)

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

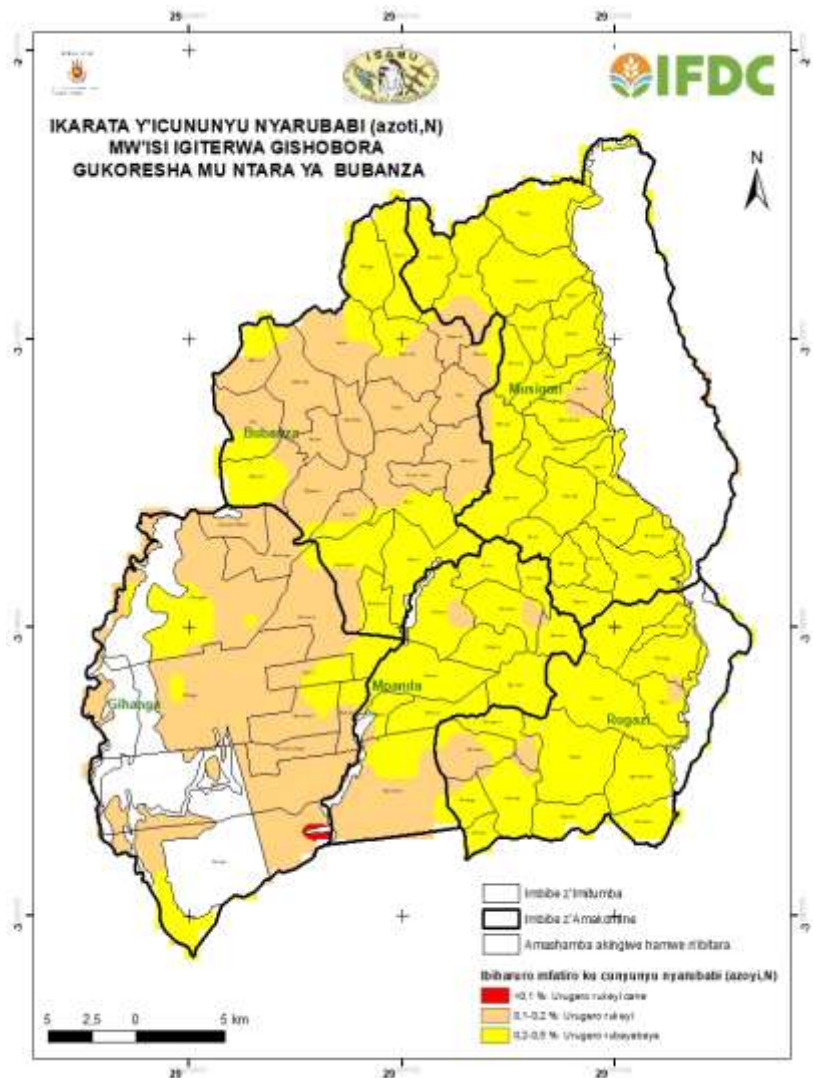
- Ibice vyababa 60 kw`ijana (60%) vy'isi ndimwa bifise urugero rubayabaye ku cunyunyu nyarubabi ;
- Ibice birenga gato 40 kw`ijana (40%) vy'isi ndimwa bifise urugero rukeyi ;

Muri rusangi, komeye ya Gihanga na Bubanza zifise urugero rutoyi ugereraniye n`ayandi ma komeye yo mu ntara ya Bubanza.

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

Urugero rw`icunyunyu nyarubabi	Uburinganire (ha)	Ibice kw`ijana (%)
Rukeyi cane	111,1	0,1
Rukeyi	33487,4	40,1
Rubayabaye	49824,6	59,7
Vyose hamwe	83423,1	100

4.3. Ikarata y'icunyunyu nyarubabi (N)



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

**5.1. Ibiharuro mfatiro ku cunyunyu rukomezangingo
(P) (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

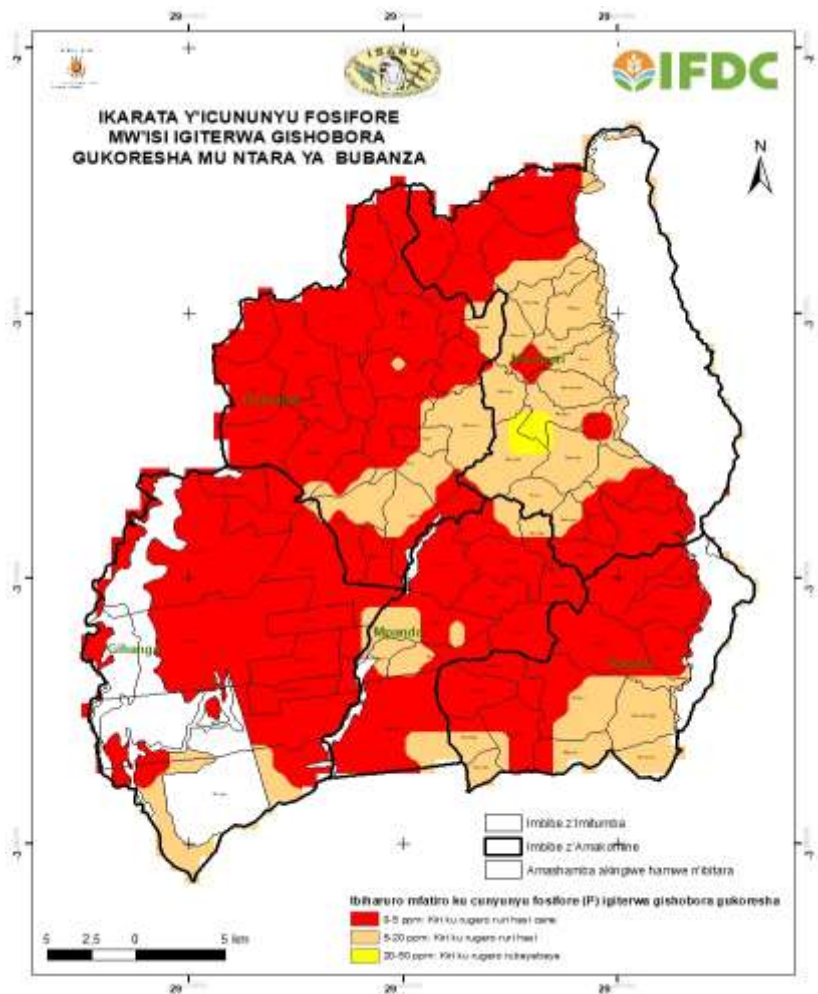
5.2. Ivyashitsweko

- Ibice birenga gato 73 kw`ijana (73%) vy`isi ndimwa vy`intara ya Bubanza bifise icunyunyu rukomezangingo (P) kiri ku rugero ruri hasi cane ;
- Ibice vyababa 26 kw`ijana (26 %) vy`isi ndimwa vy`intara ya Bubanza bifise icunyunyu ca rukomezangingo kiri ku rugero ruri hasi.

Uburinganire bw'isi ndimwa dufatiye ku rugero rw'icunyunyu rukomezangingo (P) igiterwa gishobora gukoresha

Urugero	Uburinganire (ha)	Ibice kw'ijana (%)
Ruri hasi cane	61243,3	73,4
Ruri hasi	21569,4	25,9
Rubayabaye	640,3	0,8
Vyose hamwe	83423,1	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 (méq ku magarama ijana y`ivu ryumye)

Urugero	Ibiharuro vya nyaruteke (méq 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

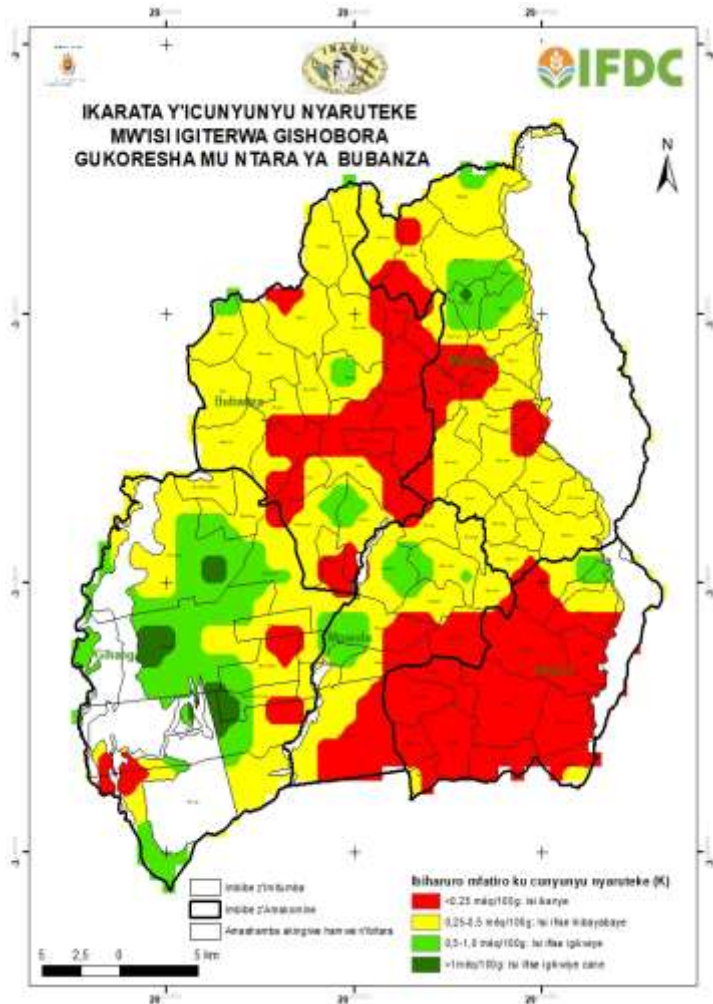
- Ibice birenga gato 51 kw`ijana (51%) vy'isi ndimwa vyo mu ntara ya Bubanza bifise icunyunyu nyaruteke kibayabaye ;
- Ibice vyababa 33 kw`ijana (33%) vy'isi ndimwa vyo mu ntara ya Bubanza bifise icunyunyu nyaruteke gikeyi.

Komine ya Rugazi ifise isi ndimwa irimwo icunyunyu nyaruteke gikeyi cane ugereranije n`ayandi makomine y`intara ya Bubanza.

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

Urugero	Uburunganire (ha)	Ibice kw'ijana (%)
Urugero ruri hasi	27269,7	32,7
Urugero rubayabaye	42678,8	51,2
Urugero rukwiye	12239,3	14,7
Urugero rukwiye cane	1241,3	1,5
Vyose hamwe	83429,2	100

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



7. INSIGURO

Isi ndimwa y'intara ya Bubanza igizwe n'ibice mirongo itanu kw'ijana (50%) bifise ingorane y'umururazi (pH). Amakomine yo mu kiyaya c'Imbo nta mururazi afise. Icunyunyu nyarubabi (N) kiri ku rugero rubayabaye ku bice mirongo itandatu kw'ijana (60%), nyaruteke (K) iri ku rugero rubayabaye ku bice mirongo itanu kw'ijana (50%) ariko icunyunyu rukomezangingo (P) kiri ku rugero rudashemeye ku bice birenga mirongo icenda n'icenda kw'ijana (+99%).

8. GUSOZERA

Icunyunyu rukomezangingo (P) gitegerezwa kwongerezwa mw'isi ndimwa y'intara yose ya Bubanza. Ivyunyunyu nyarubabi (N) na nyaruteke (K) birakenewe kwongerezwa kugira ibiterwa bikure neza. Gukoresha ishwaraga mu kugabanura umururazi w'isi birafasha mu kubohora icunyunyu rukomezangingo (P) 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%			