



GUHINDURA UMURIMA W'IKAWA UKARUSHA- HO GUTANGA UMUSARURO UHINGWAMO IBITI BIVANGWA N'IMYAKA

Imirongo ngenderwaho yo gufasha amatsinda y'abahinzi, abafashamyumvire mu by'ubuhinzi n'abayobozi ba ICS mu ishyirwa mu bikorwa rya gahunda yo gutera ibiti mu mirima irimo ibihingwa bimara igihe kirekire mu murima.



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Ubuhinzi bw'amashyamba ni uburyo bwiza bwo gutera ibiti bivangwa n'ibihingwa, guteza imbere imikoreshereze irambye y'ubutaka, urusobe rw'ibinyabuzima, kwinjiza amafaranga mu buryo butandukanye ndetse no gutanga umusaruro w'ibiribwa bihagije kandi bikwiye. Mbere y'uko utangira gushyira mu bikorwa gahunda yo guhinga ibiti bivangwa n'imyaka, ibi bikurikira bigomba kwitabwaho.





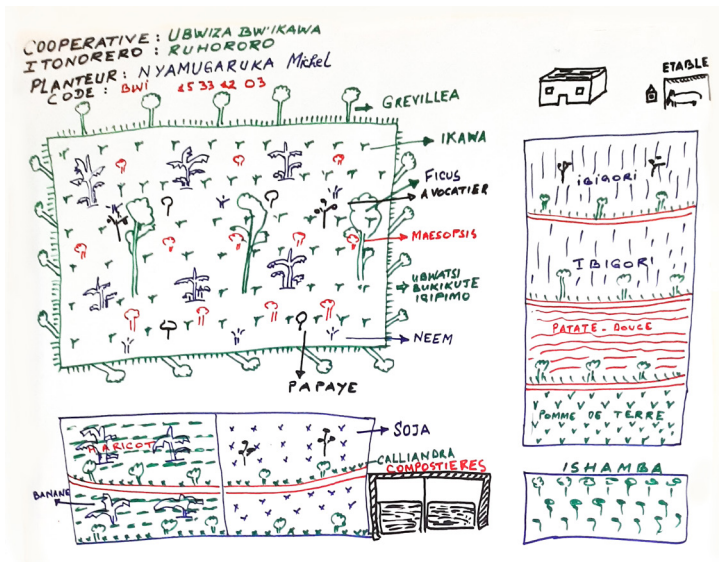
1. Gusuzuma umurima

- Gukora isuzuma ryimbitse ku murima w'ikawa, witaye kureba uko ubutaka bumeze, ikirere, n'imiterere y'aho umurima uherereye,
- Menya ahari isuri n'aho umuyaga uturuka kandi umenye n'umusaruro byazagira mu gihe uteganya gutera ibiti bivangwa n'imyaka (aho watera ibiti bigabanya umuvuduko w'umuyaga, aho washyira imirwanyasuri n'ibindi).



Ifoto 1 & 2:
Ingero z'ahabaye inkangu mu Burundi

- Menya ibimera n'inyamanswa biba aho ugiye gutera ndetse n'amoko y'ibiti bya gakondo, ibiti by'imiyenzi n'ibimera bitwikiriye ubutaka bijyanye naho ndetse n'imiterere y'umurima.
- Menya uburyo bwo gutera ibiti busanzwe bukoreshwa: Ese haba hari hasanzwe ibiti by' igicucu? Ese mu murima haba harimo ibihingwa by'ubwoko butandukanye? Niba igisubizo ari yego, ubwoko bw'ibihingwa birimo nibyo bihakwiye ndetse byahinganywa bite n'ibihingwa by'ingenzi?



Ifoto 3: Kwerekana amakarita y'umurima w'abahinzi b'icyitegererezo hamwe n'uburyo bwo gutera ibiti by'ikawa mu murima w'ibindi bihingwa ngandururugo

2. Uruhare rw'abafatanyabikorwa

Uruhare rw'abafatanyabikorwa rutuma impinduka zirushaho kuba nziza. Gushyira mu bikorwa gahunda yo gutera ibiti bivangwa n'ibindi bihingwa ntibishingira gusa kukuba ufite ubumenyi mu gutera ikawa cyangwa ibiti. Abaturage bifuzaga guhinga neza ikawa bita ku bufatanye n'ibitekerezo byubakira bya buri wese. Abaturage bose baba bakwiye kubigira ibyawo.

Iyo abafatanyabikorwa bose bagize uruhare hakiri kare mu gu-

hindura umurima w'ikawa umurima uvangwamo ibindi bihingwa bituma abantu babigira ibyabo, bikagura ubufatanye ndetse bigatuma habaho gukurikirana ubushobozi bunyuranye bwa buri tsinda, cyane cyane ubuganisha ku mpinduka zihamye mu buhinzi. Uruhare rw'abafatanyabikorwa rugomba guhoraho kandi rugafasha muri gahunda yose yo guhindura umurima. Ugomba kuzamura imyumvire y'abaturage ku buryo babigira ibyabo no kugira uruhare mu guhindura ubuhinzi bw'ibiti bivangwa n'ibindi bihingwa, uteza imbere inshingano zisangiwe mu rwego rwo kubona umusaruro. Teganya amahugurwa ngarukamwaka (urugero: guhugura abahinzi ntangarugero) kugira ngo muganire ku mbogamizi, ibyagezweho, ibishya (ubwoko bushya bw'ibiti).

Umufatanyabikorwa wa 1: Abahinzi

Icyi mbere, abahinzi n'inkingi ya mwamba mu bikorwa byose by'ubuhinzi. Ubumenyi bwabo bw'ibanze ku butaka, ikirere, n'uburyo basanzwe babikora ni ntagereranywa. Kubaha inshingano kwikubitiro, bituma gahunda yo kuvanga ibiti n'ibindi bihingwa ikorwa hakurikijwe ibyifuzo n'itegeko byabo. Ni ngombwa cyane gutega amatwi no kwita ku mpungenge no gushidikanya kwabo. Niba bagaragaje gushidikanya gukabije, wabaza impamvu hanyuma ukagerageza gushaka ibisubizo kugirango ukureho urujijo.

Umufatanyabikorwa wa 2: Abafashamyumvire mu buhinzi

Abafashamyumvire mu by'ubuhinzi bagira uruhare runini mu kuziba icyuho kiri hagati y'ibyavuye mu bushakashatsi n'ishyirwa mu bikorwa ryabyo. Ubunararibonye bwabo mukwigisha no kumenya gutanga amakuru bushobora gufasha gushyira mu bikorwa umushinga w'ubuhinzi bw'ibiti bivangwa n'ibihingwa wari ugoye. Kubashyira mu mushinga ugutangira bibafasha kwitegura neza gushyigikira no guhugura abahinzi mu gihe cyose umushinga uza-mara.

Umufatanyabikorwa wa 3: Inzobere mu bya tekhnike

Inzobere mu bya tekhnike zitanga ubumenyi bw'ingenzi mu bi-jyanye na siyanse n'ikoranabuhanga mu buhinzi bw'ibiti bivangwa

n'ibindi bihingwa. Uruhare rwabo kwikubitiro rufasha mu gutegura uburyo bujyanye n'ibidukikije byaho, ubwoko bw'ubutaka, ikirere, hamwe n'ubuhinzi busanzwe buhakorerwa, ariko kandi bubyara inyungu z'ubukungu. Kwitabaza ubunararibonye bwabo kwikubitiro, bidufasha kwirinda amakosa no kunoza uburyo bwo bw'imikorere kugira ngo hazaboneke umusaruro mwiza kandi urambye.

Umufatanyabikorwa wa 4: Abayobozi b'amakoperative

Abayobozi b'amakoperative buteganya ingamba z'icyerekezo. Ubunararibonye bwabo mu buryo bwo kugemura umusaruro, no kwishyira hamwe bishobora gufasha gutangiza imishinga ikomeye y'ubucuruzi ifasha abanyamuryango bose. Kuba abayobozi ba koperative bagira uruhare kwikubitiro biduha icyizere cy'uko uburyo bushya bwo gutera ibiti bivangwa n'ibindi bihingwa buza na ubukungu burambye ndetse ko bushobora no guhangana ku isoko ry'umusaruro.

2.1 Isuzuma ry'ibanze no gutegura gahunda y'ibikorwa

Ibikwiye guhingwa mu murima runaka biterwa n'icyo umuryango cyangwa abaturage bakeneye hamwe n'ingano y'inyungu zaboneka. Abahinzi n'abandi bakoresha ubutaka bagomba kugira uruhare mu kugaragaza ibikwiye guhingwa hakiri kare, ibikenewe ndetse n'ubushobozi buhari. Uruhare rwabo mu isuzuma rutanga icyizere ko umushinga uzakemura ibibazo nyabyo ndetse bihuye n'ibyo bawutegerejeho. Bifasha mu kubaka ikizere, gushiraho icyerekezo kimwe no kuzamura ubufatanye mu ishyirwa mu bikorwa ry'uwumushinga.

2.2 Garagaza ingero cyangwa ubare inyungu ziri mu gutera ibiti bivangwa n'ibindi bihingwa

Akenshi abahinzi baba bafite impungenge z'inyungu bazabona, kubera ko umusaruro w'ibihingwa ngengabukungu ushobora kuba muke ugereranije n'uw'igihingwa kimwe. Ariko hari uburyo bwo gucukumbura ibindi byagaragaye:

- Gusuzuma inyungu zo mu buryo bw'ubukungu zituruka mu buhinzi bw'ibiti bivangwa n'imyaka, hitawe ku hantu hatan-

dukanye hava amafaranga kandi ku buryo burambye (nabyo bikaba nk'uburyo bwo gushishikariza abahinzi kubikora).

- Gusaba abayobozi b'amakoperative n'abafashamyumvire kugira uruhare mu kugena amafaranga yagura imirama, ibikoresho n'andi mafaranga akoreshwa.
- Gushiraho uburyo bwo kubara amafaranga yinjira n'asohoka kuri buri muhinzi w'ibiti bivangwa n'imyaka mu rwego rwo kugira ishusho nyayo y'imikoreshereze y'imari.



Ifoto 4 & 5: Amahugurwa yo gutegura ibikorwa muri UNAMAFCOOP, Muyuka, Kameruni



3. Igishushanyo kigaragaza ubuhinzi bw'ibiti bivangwa n'imyaka

3.1 Guhitamo ibiti

Umufatanyabikorwa agomba gukora urutonde rw'ibiti by'ibicucu byaterwa mu murima uhinzemo indi myaka. Ibi bikurikira nabyo bigomba kwitabwaho: urutoki n'ibindi bita by'imbutu, ibiti bizana ifumbire n'ibiti byinjiza amafaranga (nk'ibiti by'imibaho). Shaka ibihingwa bihinganwa nk'imbutu, ubunyobwa, cyangwa ibirungo kugira ngo uzamure urusobe rw'ibinyabuzima n'ubundi buryo bwo kwinjiza amafaranga.



Ifoto 6: Amahugurwa ku ihingwa ry'ibiti by'ibicucu, COCOCA, Burundi, 2023

Byaba byiza gukora imbonerahamwe ikubiyemo amakuru yose mu kugereranye ibikunogeye mbere yo guhitamo ibyo ushaka gukora:

- inkomoko (bya gakondo cyangwa bikura vuba),
- uburyo bikurikiranya (uburebure cyangwa ubutambike bw'igicucu),
- umumaro (ibiti bitanga ifumbire, gutanga ifumbire nyinshi y'umwimerere, gutanga ibiryo by'amatungo, gutanga ibiribwa, n'ibindi),
- uburyo bwo kwamamaza cyangwa kwinjiza amafaranga (ibiti by'imbaho, imbuto, n'ibindi),
- amakuru ajyanye n'uburyo bwo kuvanga ibihingwa.
- Uburyo bwo kubna ingemwe,
- Ahantu heza hashobora guterwa ubwoko bw'ibiti bihakwiye

Izina rya siyansi	Izina ry'ikinyarwanda	Inyungu yo kubitera	Aho bituruka
<i>Acacia meamsii</i>	Barakatsi	Ibiryo by'amatungo, inkwi, imbaho, ubworozi bw'inzuki, kurwanya isuri, kubyara azote, kubungabunga ubutaka, ibiti by'imitako	Ingemwe z'ibiti biturutse ahandi
<i>Acacia Sieberana</i>	Umunyinya	Ibiribwa, ibiryo by'amatungo, ubworozi bw'inzuki, ubudodo, imbaho, imiti, ibiti bigabanya umuvuduko w'umuyaga, kubyara azote	Ingemwe z'ibiti bya gakondo
<i>Albizia adianthifolia</i>	Imisebeya	Ibiribwa, imbaho, imiti, kurwanya isuri, ibiti by'imitako	Ingemwe z'ibiti bya gakondo
<i>Albizia Coriaria</i>	Imikungusebeya	Ibiribwa, ubworozi bw'inzuki, inkwi, imbaho, imiti, kubyara azote	Ingemwe z'ibiti bya gakondo
<i>Albizia lebbeck</i>	Ibiti by'umukara	Ibiryo by'amatungo, ubworozi bw'inzuki, inkwi, imbaho, imiti, kubyara azote, kubungabunga ubutaka, ibiti by'imitako	Ingemwe z'ibiti biturutse ahandi
<i>Albazia versicolor</i>	Umububa	inkwi, imbaho, imiti, kubyara azote, kubungabunga ubutaka	Ingemwe z'ibiti bya gakondo
<i>Alnus acuminata</i>		Ibiryo by'amatungo, inkwi, imiti, ubworozi bw'inzuki, imbaho, kubyara azote, gufata neza ubutaka	Ingemwe ziturutse ahandi
<i>Annona muricata</i>	Mustaferi	ibiribwa, ibiryo by'amatungo, inkwi, imiti	Ingemwe ziturutse ahandi
<i>Artocarpus heterophyllus</i>	Igifenesi	ibiribwa, ibiryo by'amatungo, imiti, kubungabunga ubutaka, imbaho	Ingemwe ziturutse ahandi

Ifoto 7: Urugero rw'urutonde rw'ibiti by'igicucu

Niba ukeneye ibisobanuro birambuye ku biti by'igicucu bikwiriye, reba ku rutonde rw'ibiti byemewe n'ikigo gifite mu nshingano ubuhinzi bw'ibiti ku Isi:

Ikigo gifite mu nshingano ubuhinzi bw'ibiti ku Isi gifite urutonde n'ibyatwaho binyuranye mu gushaka ubwoko bw'ibiti bihingwa ku isi hose. Harimo amakuru ajyanye n'akamaro k'ibiti, ibikenewe, n'inkomoko yabyo kugira ngo bifashe mu guhitamo amoko akwiye y'ibiti bivangwa n'imyaka: worldagroforestry.org.

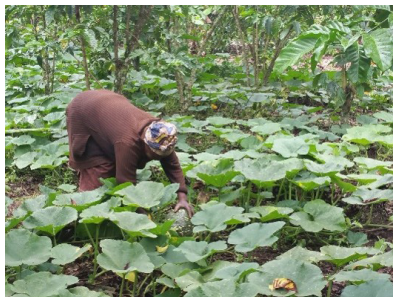
Iyo utekereza guhinga ibihingwa ngengabukungu, utegura urutonde rwihariye rw'ibiti bivangwa n'indi myaka birimo ibiti bya gakondo, ibiti by'ibihuru n'ibindi bihingwa mu rwego rwo guteze imbere urusobe rw'ibidukikije, no kwita ku bipimo fatizo bya Natural land ku buhinzi bw'ikawa.

Andi makuru macye

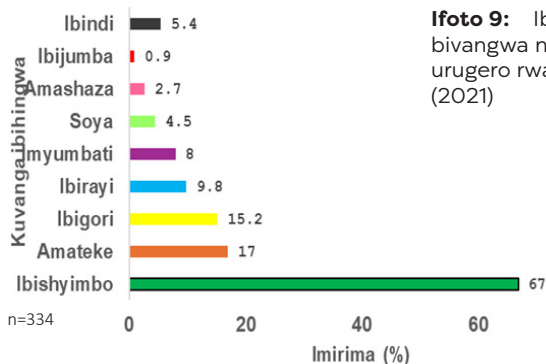
- Wahitamo ibiti by'imbuta n'ibivamo ibiribwa (urugero: Umwembe, Avoka) bigaterwa ku mbibi z'umurima. Ibindi biti by'imbuta nk'urutoki, amapapayi n'ibifenesi bishobora guhingwa mu murima w'ikawa
- Byongeye kandi, mu myaka ya mbere wahitamo ibiti bikura vuba n'ibiti by'ibihuru, birinda ikawa n'ibiti by'igicucu bigikura. Ibyo biti /ibihuru birashobora kurandurwa nyuma y'imyaka 3 cyangwa 4.
- Teganya guhinduranya uburyo bwo guhinga mu ntambike mu rwego rwo kubona urumuri rw'izuba ruhagije.
- Nubwo ikawa igomba kwicirwa neza, (Arabica yo ntiyicirwa / kuko itarenza metero 1,85), bityo, nk'insina ishobora kuyibera igicucu. Robusta ishobora gukura ikaba ndende ariko igomba kwigonda kugira ngo kuyisarura no gutanga igicucu bishoboke.
- Kuba umurima uhinzemo ubwoko butandukanye bw'ibiti bituma mu gihe ubwoko bumwe bwibasiwe n'ibiza, ibindi bibasira kubungabunga akamaro k'urusobye rw'ibidukikije. Iyo ubwoko bw'ibiti runaka bwibasiwe n'indwara, ishyamba rigizwe n'amoko menshi atandukanye y'ibiti rishobora guhangana n'ingaruka. Ishyamba ririmo ubwoko buke bw'ibiti bita amababi, rigira ibyago by'uko hari igihe ibihingwa byabura igicucu.
- Guhinga ibihingwa bishobora kwihanganira igicucu cyinshi n'ubwoko butandukanye bw'ikawa bivangwa n'imyaka.

3.2 Guhitamo ibihingwa bitwikira ubutaka

Muri iki gikorwa, ibihingwa byiza bitwikira ubutaka bikwiye kuganirwaho. Ibihingwa bitwikira ubutaka biratandukana mu murima wa kawa igiterwa n'imaze igihe kirerekire ihinzwe. Ibishyimbo by'imishingiro by'ubwoko butandukanye guhingwa ariko bikagomba gukurikiranwa neza, kuko bishobora kurira ku ikawa bikayica intege.



Ifoto 8: Ibihaza biterwa nk'ibihingwa bitwikira ubutaka mu mirima ya kawa, ACPUCU



Ifoto 9: Ibihingwa by'ibiribwa bivangwa n'ikawa COCOCA, Burundi; urugero rwa Ndiokubwayo n'abandi. (2021)

Ikingenzi mu kuvanga ibihingwa: mu gihe utera ibihingwa bishya: Ntucukure ubutaka, kuko imizi y'ibiti by'ikawa ishobora kwangirika, kandi bishobora no gutuma isuri irushaho kwiyoungera! Ingemwe zigomba guterwa mu buryo bwitondewe, urugero, ugacukura akobo ko guteramwo ukoresheje inkoni. Gusa gukonda ikawa bigomba gukorwa mu gihe cyo gusarura ibihingwa bitwikiriye ubutaka cyangwa cyo kubagara, imizi ikaguma mu butaka.

Ibikurikira ni ibitekerezo bikubiyemo ibibazo n'ingamba ku byavuzwe hejuru:

- Ingano y'ubutaka n'uburyo bwakoreshwa neza: Abahinzi bato baba bafite ubutaka buto, bagomba gukoresha ibiti birusha ibindi kwihanganira ibihe (urugero: Inturusu, Acacia mearnsii) ntabwo byakwitabwaho nubwo byaba bikura vuba kandi birimo amoko atandukanye.
- Kurwanya isuri uherye ku bwoko bw'imizi y'ibiti: Ibiti bifite imizi ishora kure (urugero: Acacia, Albizia, cyangwa gereveriya) ntabwo bikunda kuvangwa n'ibindi bihingwa kurusha ibiti bifite imizi myinshi migufi. Iyo ntego nyamukuru ari ugutunganya ubutaka, ibiti by'imizi migufi nibyo bikenerwa.

Rimwe na rimwe, intego ntizihura cyangwa zikavuguruzanya. Bi-tyo, ugomba gushyira imbere no kumenya neza ibyo ukeneye.

3.3 Kubahiriza politiki

Wakoze ubushakashatsi bwimbitse ku biti byawe by'igicucu n'ibihingwa. Mbere yo gusoma igenamigambi ryawe, nyamuneka suzuma amategeko y'igihugu y'ingenzi yose na politiki y'ubuhinzi y'igihugu ishyigikira ibikorwa birambye bitandukanye by'ubuhinzi. Kora inyigo ku buryo uhuza ibyo wifuza kuzashyira mubikorwa n'ibisabwa n'ibipimo fatizo bya Naturland mbere yuko usoma neza gutunganya ibyo wahisemo gukora naho uzabikorera.

3.4 Kubahiriza ibipimo fatizo bya Naturland

Gahunda yo guhindura ibihingwa mu murima igomba kubahiriza amabwiriza ya Naturland.



4. Uburyo bwo kubishyira mu bikorwa

Tegura gahunda y'ishyirwa mu bikorwa ifatika y'uburyo watera ubwoko 12 bwibiti by'igicucu mu murima wa hegitari 1 cyangwa amoko 6 mu murima ungana nigice cya hegitari 0.5. Ubwoko bw'ibiti butarenze 6 ntibwemewe, nubwo umurima waba uri muni y'igice cya hegitari. Niba ukora igenamigambi ry'igihe kirekire, teganya gahunda yo gusarura ibiti bivamo imbaho no kubisimbuza ku gihe (niba usaruye igiti kivamo imbaho, igiti gishya kigomba kuba kimaze nibura imyaka 2 - 3).

Gushiraho umubare w'imirima izahindurwa kandi ubare umubare w'ibiti by'igicucu bigomba gutangwa kugirango gahunda y'ubuhinzi bw'ibiti bivangwa n'imyaka igende neza.

Kubara ibiciro byose bya pepiniyeri no gutanga ibiti by'igicucu.

Fata urupapuro rwo kubariraho amafaranga yakoreshejwe n'ayinjira muri gahunda zose zo gutera ibiti bivangwa n'imyaka kuri buri muhinzi mu rwego rwo kubona ishusho y'imari ifatika.

Suzuma inyungu zijyanye n'ubukungu zituruka muri gahunda y'ubuhinzi bw'ibiti bivangwa n'imyaka, wita ku haturuka umusaruro mu gihe kirambye (nk'uburyo bwo guhwitirira abahinzi kubikora).



5. Pepiniyeri y'ibiti no kubitera

Pepiniyeri zigomba gutegurwa uko bikwiye. Ibi bivuze ko gutekereza kuri ibi bibazo bikurikira ari ngombwa:

- Ingemwe zizatwara igihe kingana iki kugirango zikure? Ni mu kuhe kwezi ingemwe zigomba kuba zigeze guterwa mu bindi bihingwa (teganya igihe cy'imvura kugira ngo ugabanye umubare w'ingemwe zishobora kuma)
- Ni ubuhe bwoko bw'ingemwe twatangira gutera (Ibiti by'ibihuru bikura vuba n'ibindi bita. Urugero nk'insina zikura vuba zigatanga igicucu, zitanga n'ibyo gusasiza umurima, zivamo ibiryo by'amatungo, ingemwe nshya n'imbuto mu gihe kigufi).
- Ese ni ubuhe bwoko bwaterwa mu ahantu runaka (ntabwo ubwoko bwose bw'ingemwe bwahingwa ahantu hose no ku burumuke ubwo aribwo bwose)
- Ese twakoreshe ibikoreshe bibora (urugero, udufuka two gushyiramo ingemwe dukoze mu birere aho kuba udufuka tw'umukara dukoze muri palasitike, inkono z'indabyo zikoreshwa kenshi, nibindi)?
- Genda wongeramo gacye gacye ibiti bya gakondo mu bihingwa kugirango habeho urusobe rw'ibidukikije no unateza imbere urusobe rw'ibinyabuzima.
- Tekereza gutera ibiti byongerazote mu butaka kugirango uzamure uburumbuke bw'ubutaka nta fumbire ishyizwemo.
- Ibiti bimwe na bimwe ntabwo bikenera gutegurirwa muri pepiniyeri kuko bishobora gushibuka hatewe amashami yabyo (Urugero rw'umuvumu (byongerazote)



Ifoto 10 & 11: Pepiniyeri ya COCOCA, Burundi



6. Koresha uburyo bwo gufumbira bw'umwimerere

Guhinga ukoresheje uburyo bw'umwimerere bivuze kurengera ibidukikije, ikirere n'urusobe rw'ibinyabuzima. Bisobanura kubung-abunga ubutaka n'amasoko y'amazi, kurengera umuguzi no kuzirika inshingano mbonezamubano.

Kugirango Naturland yemere ko umusaruro w'ikawa ari umwimerere, gukoresha uburyo bw'umwimerere mu gutegura ubutaka, gucunga amazi cyangwa kurwanya indwara n'ibiyonyi bigomba gushyirwa mubikorwa muri gahunda y'ubuhinzi bw'ibiti bivangwa n'ibihingwa bindi. Abahinzi bose bagomba kubahiriza amahame rusange n'ubuziranenge by'ubuhinzi bw'umwimerere!

6.1 Uburyo bwo gutunganya ubutaka

- Shyiraho ingamba zo kurwanya isuri, nko gutwikira ibihingwa no gutera ibiti ku mbago z'umurima ndetse no gusasira, kugirango urinde ubutaka mu gihe na nyuma y'inziyacyuho (gucukura imyobo ntabwo bikwiye gukorwa ku mirima yose kandi bishobora no kwangiza imizi y'ikawa. Tekereza kandi gutera urubingo (ruvamo ibiryo by'amatungo/ibisasizo) cyangwa ibyatsi by'umucayicayi (byakoreshwa mu rugo / byinjiza n'amafaranga yinyongera).
- Bibaye ngombwa, kwikubitiro ibyatsi byo gusasira bigomba kugurwa. Niba gutera ibiti byakozwe neza, amababi yaguye, amashami, n'ibindi by'umwimerere bikoreshwa mu gusasira. Niba nta bihingwa bitwikira ubutaka, ibyo gusasira bibora bitinze! Kubwibyo, vanga ibihingwa bitwikira ubutaka n'ibyo gusasira.



Ifoto 12 & 13: Urugero rw'umurima usasiye

6.2 Uburyo bwo gukoresha amazi

- Niba hakenewe kuhira, shiraho uburyo bwo gukoresha amazi, nko gusarura amazi y'imvura no kuhira imyaka hakoreshejwe ikoranabuhanga, kugirango ibihingwa bitandukanye bikomeze kumera neza n'ubutaka bugumane ubuhehere.
- Mu gihe kiri imbere, uburyo bwo guhinga ibiti buzita ku kugabanya ingano y'amazi akenewe. Imirima myinshi ihinzemo ikawa ivanze n'ibindi bihingwa ntabwo ikenera kuhira.
- Gusasira bigabanya cyane kuyoyoka kw'amazi biturutse ku bushyuhe bw'ikirere kandi bigafasha kumenya ingano y'amazi akenewe.

6.3 Kurwanya indwara n'ibyonyi

- Gutera ibiti no gushyira mu bikorwa uburyo bwiza bwo guhinga ikawa bifasha kugabanya indwara n'ibyonyi.
- Gutezimbere ubuhinzi bw'amoko y'ibiti yemewe bishobora guhinduka umuti (urugero: imungu y'ikawa, agasurira k'ikawa n'utundi dukoko twinshi)
- Gahunda y'ubuhinzi bw'ibiti bivangwa n'imyaka izatuma abahinzi bakurikirana umurima neza, kuko bamara igihe kinini mu mirima baje gusurira ibindi bihingwa. Bityo, indwara n'ibyonyi bikagaragara hakiri kare.



Ifoto 14: Agasurira k'ikawa



Ifoto 15: Imungu y'ikawa, aho byavuye: Walker, K. (2007)



Ifoto 16: Amababi y'ibiti by'ikawa byarwaye indwara y'umugese



7. Amahugurwa no kongerera ubushobozi

- Guha abahinzi amahugurwa ku buryo bwo guhinga amashyamba, gukurikirana ibihingwa bitandukanye, hamwe n'uburyo burambye bwo guhinga.
- Imishinga y'igerageza n'umurima wo gukoreramo igerageza: Gushyira mu bikorwa imishinga y'igerageza hamwe n'itsinda



Ifoto 17 & 18: Amahugurwa mu Rwanda, 2023.

ry'abahinzi batoranijwe kugirango bapime kandi banonosore uburyo bwo guhinga mbere yo gutangiza umushinga nyirizina.

- guteza imbere uburyo bwo kungurana ubumenyi mubahinzi kugirango bashishikarizwe kwigira hamwe.
- Gutangiza uburyo bwo guhugura abahinzi n'intangarugero ndetse n'urugendoshuri rw'abahinzi mu mirima noneho abahinzi bahuguwe bakajya bafasha abandi bahinzi mu gihe bahuye n'ibibazo.

8. Gukurikirana no gukora isuzuma

- Gushiraho uburyo bwo gukurikirana kugirango habeho iterambere ry'ubuhinzi bw'ibiti bivangwa n'imyaka.
- Gusuzuma ubuzima bw'ibihingwa, imiterere y'ubutaka, igihe ibiti bitanga igicucu bimara mu murima hamwe n'ubuzima bw'ibidukikije muri rusange.
- Impamvu zitera ibiti by'igicucu kuma (kugeza kuri 30% byaba ari ibisanzwe)
- Gutegura gahunda yo gukurikirana ibiti by'igicucu (gutema / gusarura / gutera ibishya)

- Tegura gahunda yo kubungabunga ibiti bitanga igicucu bisabwa na Naturland ariko bidatanga igicucu cyinshi (kugeza kuri 40% by'igicucu). Dore zimwe mu ngaruka zo kubura igicucu:
 - Hatariho igicucu gihagije, ubwoko butandukanye bw'ibimera mu mashyamba bushobora kugabanuka, bigatuma habaho ihinduka ry'ibigize ibinyabuzima ndetse hakaba no gutakaza ibinyabuzima bitandukanye.
 - Imihindagurikire y'ubushyuhe n'ububobere bishobora kugira ingaruka mbi ku bimera, ku nyamaswa, no kuri mikorobe zituruka mashyamba adukikije.
 - Hatabayeho igicucu, ubutumburuke bw'ubutaka bushobora kugabanuka, bigatuma isuri yiyongera kandi bikagabanya ingano y'amazi ibimera n'ibinyabuzima bikenera.

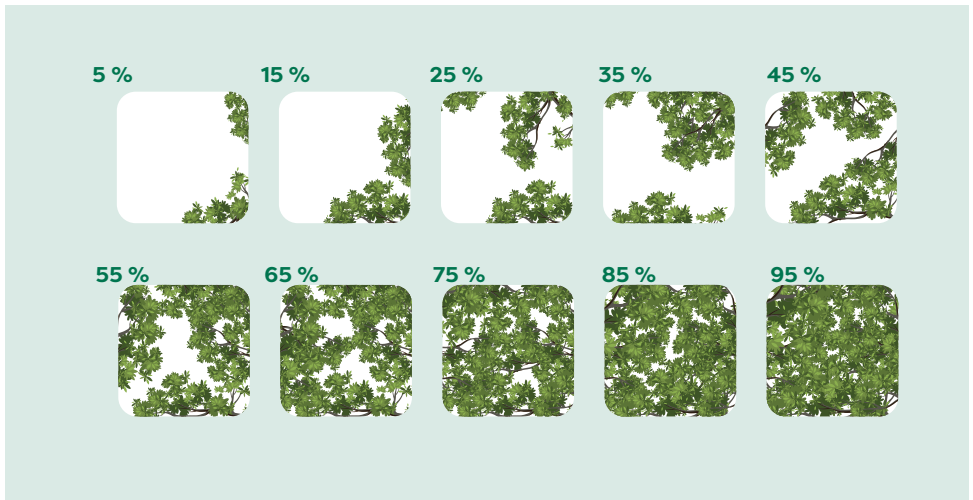


Figure 19: Ingano zitandukanye z'igicucu



Ifoto 20 & 21 (above): Umurima w'ikawa ugitangira kuvangwamo ibiti: gusasira, ariko ntabwo bahinze ibindi bihingwa kandi nta n'ibiti by'igicucu birimo mu 2014. COCOCA, Burundi.

Ifoto 22 (left): Umurima wavuzwe haruguru mu 2018. COCOCA, Burundi



Ifoto 23 & 24: Umurima wavuzwe haruguru mu 2022. COCOCA, Burundi.

Aho amafoto yaturutse:

- Ifoto ya 9: Ifoto yafashwe ndetse inahindurwa na Ndihekubwayo, Soter & Havyarimana, Tharcisse & Windbuehler, Sarah & Niragira, Sanctus & Habonimana, Bernadette & Kaboneka, Salvator & Megerle, Heidi. (2021). Inyandiko ku Myumvire y'Abahinzi b'ikawa ivangwa n'ibiti bihingwamo ibindi bihingwa yaremejwe ihabwa icyemezo cy'ubuhinzi bw'umwimerere mu Burundi. Ikinyamakuru cyo muri Afurika y'Iburasirazuba ku mashyamba n'ubuhinzi bw'ibiti bivangwa n'ibindi bihingwa . 3. 40-53.10.37284/eqfa.31.352.
- Ifoto ya 12 & 13: Shutterstock
- Ifoto ya 14: Kaldari, CCO, https://commons.wikimedia.org/wiki/File:Antestiopsis_thunbergii_2.jpg
- Ifoto ya 15: Ken Walker (2005) coffee beans det. A. Broadley. Yavugururwe kuwa 1/25/2023, Ishobora kuboneka kuri internet: PaDIL - <http://www.padil.gov.au> (yashyizweho kuwa 27 Gicurasi 2024).
- Andi yose: © Naturland - Verband für ökologischen Landbau e. V.



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