

Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

English Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

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Kigucwa Cluster Working Together In TIST has benefitted us and Improved our Livelihood.

By Aaron Kaindio, Kigucwa Cluster Servant.

After having received a cash bonus from TIST for an outstanding performance in tree planting, we, the members of Kigucwa Cluster, have developed more opportunities to multiply and expand with this help.

In June 2013, we received a Cluster bonus of more than Ksh 54,000.00. By that time, we had just reached the 90,000 mark for total number of live trees in our Cluster. Today, we have 101,298 quantified trees. We used this bonus to raise a macadamia trees nursery. We got a lot of technical

support from the local agriculture officer on Best Practices in raising a nursery.

Today, each member in our Cluster has benefited from that effort. We distributed macadamia seedlings to every member who participated. The prices of macadamia nuts are on the rise, and hopefully, we will find a good market for our nuts when they start bearing. In addition, the trees count for TIST and we will be receiving carbon credits incentives as our trees grow.

Nyahururu TIST Region

Good Progress and New Clusters Joining TIST.

By Peter Mithiru, TIST Servant Nyahururu.

TIST was introduced in our Nyahururu region in 2008. The first 100 Small Groups were registered

within the first year of serving farming. Since then, many more groups have continued to join TIST.

The table below shows the status of Clusters in Nyahururu TIST region.

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
Mairo Nne	22	48,125	162	141	86.9
Boiman	22	28,799	172	70	35.5
Nganoini	20	13076	126	170	85.8

Boiman and Nganoini are newly formed Clusters. Most of these Clusters are within Nyandarua County with exception of Nganoine, which is within the neighboring Laikipia County. Our area has cool weather and receives more rain and the rate at which trees grow is amazing. Blessed with large tracts of land and need for better environment, many farmers plant trees without fear of lose due to drought.

We have continued to receive new requests

from farmers who want to join TIST. We train them first before registering them so that they may understand TIST better, and importantly understand carbon business plus other co-benefits they will receive out of their effort in TIST.

For new members who want to join, they can attend monthly Cluster meetings in their nearby area or contact our Cluster Servants, Sophia Wairimu 0706162335 or Peter Mithiru 0722 896086.



Muriru Cluster: 30 minutes in each Cluster Meeting to tend our Cluster Tree Nursery!

By Eunice Wambui, Auditor and Cluster Servant.

We, Muriru Cluster have grown to 42 Small Groups today. So far, 39,500 trees have been planted and counted. Members have felt this number is still low. During our meetings, with help of the Cluster Servant, we agreed to contribute each group Ksh 100 and add up to the monthly budget to be able to establish a Cluster tree nursery. The tree nursery was established in September 2014. With technical help from a veteran trainer in TIST, Joseph Ndirangu, we sowed the seeds and in the following months during Cluster meetings we set aside 30 minutes to tend

the nursery as part of Cluster meeting agenda.

During this April- July rainy season, we have shared the tree seedlings among our members. Members extended our hand even to those who were not attending the Cluster meetings regularly. This has encouraged everyone to see the benefits of attending the monthly cluster meeting and working together.

Today, we are determined to expand the tree nursery so that we can also get income from the sale of surplus tree seedlings.

Kamangura Cluster: We Are Now Leaping the Benefits.

By Joseph Thitai, Cluster Servant.

We Kamangura TIST Cluster are happy to share with you the immense benefits we are now leaping having participated in TIST. Currently we have 41 Small Groups in our Clusters with 298 members.

Kamangura is within the semi-arid area in Kieni Constituency. Our tree planting efforts with TIST has caused enormous changes in our climate. Unlike in many years before where we experienced drought, we now enjoy plenty of rainfall. We attribute this to increase in tree cover in our area.

We have also benefitted from TIST trainings. We have developed strong leadership skills amongst members. TIST encourages servant and rotational

leadership. We have discovered, through, rotational leadership, different gifts of leadership from different people. This has increased our leadership capacity. Cluster meetings offer us with an opportunity to share best practices in agriculture, forestry, health and environment protection. As a result, we have experienced tremendous improvements in our livelihoods.

The real and tangible benefits that are contributing to our well-being include increased firewood, fodder for our animals, better crop yields through conservation farming and not to forget tree payments for carbon. We are happy in TIST.

Are you getting all the benefits of TIST Best Practices?

Most TIST farmers have reported and shared with other participants on the benefits they are getting from TIST Best Practices. We would like to hear from you if you have benefited from all, some or any of the following TIST Best Practices.

✓ **Efficient stoves.**

This could be either TIST mud stoves or manufactured stove. Please share with us how your TIST stove is beneficial to you. Has it helped you save on firewood? Has it helped reduce smoke around the cooking area? What else have you gained?

✓ **Conservation Farming.**

This is about practicing zero tillage using TIST Best Practice of Conservation Farming (CF).

Have you practiced it? How were the results compared with conventional farming? Would practice it in future?

✓ **Fruits and nuts.**

Have you planted fruits and/ or nuts trees since joining TIST? How much are you harvesting today? What are benefits – domestic use/ selling?

✓ **Fodder and Compost.**

Have you planted fodder crops in your farm since joining TIST? Are you getting more fodder for your cattle? What difference has it made? Have you done a compost manure? Did you get more harvest? How many more bags compared when you didn't use manure?

**✓ Animal products.**

Do you get extra animal products out of other TIST activities in your farm? For instance, milk, eggs, beef etc.

✓ Seedlings sales.

Do you have a tree nursery? Do you sell surplus seedlings? How have you benefited from the sale of seedlings?

✓ Honey.

Do you keep bees? Tell us how you have benefited from the honey you harvest.

✓ Firewood.

Share with us how you have benefited from growing TIST trees in terms of firewood.

TIST: Thinning and pruning your trees for successful growth.

In general, the purpose of thinning and pruning trees is to improve individual tree health, as well as overall forest health. This is done by selecting the “best” trees in the forest to keep. For many species, including hardwoods, grevillea, eucalyptus and cypress, these are often the largest trees, each with a single, straight stem. Trees may have different needs for space depending on species, site, planting style (woodlot, incorporated into crop fields, or windbreak), and climate, but some general principles apply.

To grow strong, healthy trees, a spacing of two meters is recommended. This spacing works for many TIST trees (i.e. grevillea, and cypress), but remember some trees require more space (mango and macadamia, for example). Giving trees proper spacing helps them get enough water and nutrients to grow to their full potential. Closer spacing is acceptable when trees are young. As the trees begin to mature, some trees will be larger and more robust than their neighbors, and these best trees should be kept. Thin around the best trees to achieve good spacing.

Once you have determined which trees to remove, cut these at the base of the tree. In the weeks and months following cutting, many trees will begin to sprout from the stump. To keep the tree from coming back, cut or break these sprouts off at the base of the tree.

In general, if all trees of the same species in an area are close to the same age, the larger trees should be chosen to allow growing. Another good indicator of tree health is the position of the crown of the tree in the canopy. Trees with crowns above the general canopy level can absorb more light than those lower down, and so can grow better. Finally, trees should have a single stem, with no major disease or rot. However, this does not mean that

all small trees should be removed! Aim for a minimum of a two-meter by two meter spacing so that the trees are as large and as healthy as possible to maximize carbon capture.

When making thinning choices, remember that growth rate varies greatly by species. If a mango tree is growing near lots of eucalyptus, the mango may be far smaller and slower growing than the fast-growing eucalyptus, but it certainly should not be cut simply because it is smaller! In fact, a tree like mango is of great importance due to its usefulness in producing fruit for food and sale. Mango also is better for other crops growing in the field. Eucalyptus can make other trees and crops nearby grow poorly. It is important to remember this as you select which trees to thin. There are many uses for trees, depending upon species besides carbon capture. For example, you may want trees for shade. In this case, you should give the tree more room than usual to expose the tree to more sunlight. This will stimulate the tree to produce new branches on the main stem and on larger limbs. If you want to use a row of trees as a windbreak, keep trees in that row spaced closely together, but remove trees to either side in order to increase the “bushiness” of the trees.

Pruning

In a natural forest, trees naturally self-prune. Branches in the upper canopy shade out lower branches. As leaves on the lower branches begin to die off, so does the branch to which they are attached. Dead and rotted branches naturally fall off or are knocked off. While natural pruning may happen on TIST sites, it may be necessary, or beneficial to prune trees by hand. While each tree species requires a different pruning technique, some general principles apply to all trees as you decide



which limbs to remove.

Most tree species should have a single main stem at the ground level. Trees with a single stem generally grow faster and are less prone to split during storms. If a tree with multiple stems is chosen as a crop tree, when choosing which stem to keep, generally choose the largest, but make sure it is healthy, with lots of leaves, free of rot, and relatively straight.

Many people think you should cut limbs parallel to the trunk. This is false. Cuts should be made perpendicular to the limb, slightly out from the trunk. This minimizes the amount of exposed wood, and allows the actively dividing cells in the branch collar to grow over the cut over time (see figure 3). This helps the tree to remain healthy and free of rot.

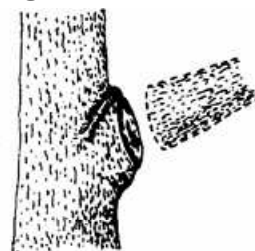
When pruning, don't be overzealous. Tree trimmings are often used for fuel wood or fodder. While this is good, remember that while pruning can improve tree health and increase growth over time, removing leaves will initially reduce the tree's ability to capture sunlight and cause stress to the tree by creating a scar, which it must heal. If you remove too many, the tree will grow slowly or may die. After removing a limb, leave the area cut alone. Do not cover it with tar or any other material, so the tree can expel any toxic material on the wound. Don't forget that trees tend to produce new shoots near cuts from thinning or pruning. Some species do this more than others. Generally, these are very easy to remove during the first year after cutting

by simply snapping off the supple shoots. Shoots will often not grow back.

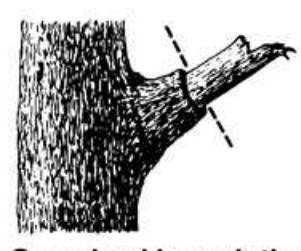
Some trees, especially fruit trees, produce better yields with multiple stems. These are cut near the base of the stem when they are young in order to stimulate new growth. Once the tree has established these new shoots, they too may be cut in order to produce more growth. This process may be repeated in order to increase the bushiness of the tree, but be sure to allow at least a few months or more between trimmings so the tree can recover from the stress caused by cutting.

Remember that to take part in the carbon market, we have to commit to keep trees for the long term. We should allow trees to grow for at least 30 years, thinning and pruning to produce useful, sustainable forests that provide us benefits for years to come. Coppiced trees may not qualify for the carbon market and so may not be counted as TIST trees.

Figure 3



Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Strong Cluster: Towards Success.

This article discusses what a strong Cluster should look like and the many benefits of a well-organized and strong Cluster:

A strong Cluster:

- Has 30 to 50 active Small Groups (300-400 farmers)
- Practices rotating leadership and servant leadership
- Meets regularly every month, and meeting is well attended by Small Groups' representatives.
- Has land to plant at least 200,000 trees, and has Small Groups actively planting and caring for their trees.
- Should have one or more members who assist

Quantifiers actively to monitor each Small Group's results.

- Should have active trainers who share good, accurate, useful information at Cluster meetings and on shambas.

Additionally, a strong Cluster should ensure:

- Small Groups are well quantified in a transparent, accurate manner annually.
- Small Groups receive their trees payments transparently quarterly.
- Each of the Small Groups meets weekly and practices rotational and servant leadership
- Each of the Small Groups receives Mazingira Bora newsletter every month.
- Small Groups receive training and they are



voluntarily practicing, sharing best practices such as Conservation Farming, energy efficient jikos, and soil erosion control measures, among others.

Advantages of being in a Cluster:

When a Small Group is in a Cluster, they have many benefits:

- It is easy to come for regular Cluster Meetings
- It is safe and convenient to get paid
- You can schedule quantification
- It is easy to learn Best Practices like Conservation Farming
- It is convenient to get the Mazingira Bora each month
- It is easy to participate in new TIST opportunities like improved stove jikos.

Starting soon, there will be even more opportunities, including taking part in saving and lending communities.

Based on the discussions at TIST Seminars over the last three years, it has been determined that each Cluster should have the ability to become self-governing. The Cluster will elect Cluster Representatives who will serve for a few months as the administrative team for that Cluster. This will mean that many more Small Group participants have the opportunity to attend TIST Seminars for leadership training, for developing new Best Practices, and for continuing to help organize for TIST success.

There will also be Cluster servants stove jiko experts, indigenous tree experts and many more opportunities for TIST Participants to develop and use their gifts. Some Clusters near forest areas will become Community Forest Associations. Many Clusters will start to develop their own businesses and create opportunities for further sustainable economic development.

Many Clusters will start doing intensive work along rivers and streams to stop erosion, and plant indigenous grasses, trees, and shrubs.

Cluster Leadership: How it Works

Clusters throughout Kenya have been holding elections for Cluster representatives. Each Cluster has a team of three volunteer servant leaders selected from Small Group members: a leader, co-leader and an accountability person. These representatives help the Cluster to grow, improve, and succeed.

Cluster leadership is rotational. The first three will serve their term and then the leader will step out and the co-leader will become the leader. The accountability person will become the co-leader. A new accountability person will be elected by the Cluster from Small Group members and trained by the new co-leader to take this opportunity.

The Cluster leader may stand for election as the accountability person after 'sitting out' for one 4-month period. The new accountability person should be a Small Group member elected from Small Group members in the Cluster and able to learn to use the Palm for reporting and accountability, and be willing to rotate into co-leader and leader roles.

Roles of a leader

1. Should be a servant to the whole Cluster and exemplify TIST Values.
2. Leads/facilitates Cluster activities, coordinates Cluster meetings, quantification and training schedules with other servant leaders.
3. Helps bring and send important information to TIST Leadership Council.
4. Motivates Groups to achieve big results, including planting trees and practicing CF.

Roles of a co-leader

1. Takes over when the leader is not there and is to serve both the Cluster members and the Cluster leader.
2. Helps the leader to consolidate the ideas in the Cluster members.

Roles of the accountability person

1. Keeps an account of the meetings and the expenses
2. Keeps the Cluster records and reports on Cluster meetings using the Palm
3. Needs to know how to use the Palm so that he can be able to enter the Cluster expenses and budget and access information about the Cluster.

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Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

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Cluster iri na inya: Kuerekera kuumbana. *Page 5*



Kuritanira ngugi amwe ndene ya cluster ya Kigucwa nigutuete baita na kuthongomia miturire yetu.

Ni Aaron Kaindio, nthumba ndene ya cluster ya Kigucwaukuuga.

Tukurikia kuwa mbeba cia mbonasi ni TIST niuntu bwa ngugi yetu inene ya kuanda miti, batwi amemba ba cluster ya Kigucwa nitwambiritie twanya tutwingi mono twa guciarana na gutamba tugitumagira utethio bubu.

Ndene ya mweri jwa itantatu mwaka jwa 2013, nitwaerwe mbonasi ya nkuruki ya ngiri mirongo itano na inya. Igitene riu, nitwari tugukinyia miti ngiri mirongo kenda ndene ya cluster yetu. Narua, turina miti ngiri igana rimwe na ngiri na magana jairi na mirongo kenda na inana itari. Nitwatumiire mbonasi iji kuanbiria munanda jwa

mikandamia. Nitwaerwe utethio bubwingi ni afissa wa urimi wa rutere rwetu kwegie mitire iria miega ya gukuria munanda.

Narua, o mumemba ndene ya cluster yetu nonete baita kuumania na ngugi yetu. Nitwagaire miti iji ya kuanda kiri o mumemba uria wari ngugine iji. Uguri bwa nkandi nibwititie na wirigiro bwetu ni tukona thoko injega ya nkandi cietu miti yetu yaambiria guciara. Kwongera, miti yetu nitaragwa ndene ya TIST na tukaewa mbeba cia kaboni o uria miti yetu igukura.

TIST ndene ya Nyarururu: Witi na mbele bubwega na cluster injeru nicigutonya.

Ni Peter Mithiru, Nthumba ndene ya cluster ya Nyahururu ugutwira.

TIST yareterwe Nyahururu ndene ya mwaka jwa 2008. Ikundi bia mbele igana biaandikithirue mwakene jwa mbele jwa TIST gutumikire arimi. Kuuma riu, ikundi bingi bibingi

nibiitite na mbele gutonya ndene ya muradi jwa TIST. Boiman na Nganoini ni cluster injeru. Cluster iria nyingi cia iji ciri ndene ya county ya Nyandarua tiga aki Nganoine iria iri ndene ya county

Aja nukwonua uria cluster cionthe ndene ya Nyahururu ciitite na mbele.

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
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Boiman	22	28,799	172	70	35.5
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iria yankene nayo ya Laikipia. Ntuura yetu irina rera ya mpio na nionaga ngai inyingi na miti nikurangaga na mukurire jwa kurigaria. Tutharimi na miunda iminene na wiru bwa kuthongomia naria gututhiurukite, arimi babaingi nibaandaga miti batigukira ikua riria mpara yaingia.

Nitwitite na mbele kuurua tutonyithia arimi baria bakwenda gutonya kiri TIST. Nitubaritanaga mbele ya kubaandikithia nikenda beelewa TIST

bwega nkuruki na bata mono belewa biashara ya ruugo na baita ingi iria bakoona kuumania ya ngugi yao ndene ya TIST.

Kiri amemba baberu baria bakwenda gutonya, no beeje micemanione yetu ya o mweri ya cluster ndene ya ntuura iria ikuiritie kana baarie na nthumba cietu ndene ya cluster Sophia Wairimu 0706162335 kana Peter Mithiru 0722 896086.



Cluster ya Muriru: Ndarika mirongo ithatu ndene ya o mucemano jwa cluster kumenyeera munanda jwetu jwa miti jwa cluster!

Ureteri ni Eunice Wambui, Mutegi ngugi na nthumba ndene ya cluster.

Batwi, cluster ya Muriri nituneneete mwanka twakinya ikundi mirongo inna na biiri narua. Gukinyira au, miti ngiri mirongo ithatu na kenda na magana jatano niandi na yatarwa. Amemba nibaigitue namba iji ya miti niinini. Ndene ya micemano yetu, na utethio bwa nthumba ya cluster yetu, nitwitikaniritie o gikundi gwika igana na kwonganiria na mbeca cietu iria cluster iejagwa o

mweri cia gwita ngugi nikenda twambiria munanda jwa miti ndene ya cluster yetu. Munanda jou nijwambirirue mweri jwa kenda 2014. Na utethio kuuma kiri muritani wetu uria utwire kuritana, Joseph Ndirangu, niwaumithirie mbeu nan dene ya mieri iu yathingatite, igitene ria micemano ya cluster nitwajukagia ndarika mirongo ithatu kuritira munanda jou ngugi untu bubu buri imwe ya ajenda cia mucemano.

Cluster ya Kamangura: Nandi nituguketha baita.

Ureteri ni Joseph Thitai, Nthumba ya Cluster.

Batwi, cluster ya TIST ya Kamangura turina kugwirua tukigaana nabwi baita cietu inyingi iria tukwona nandi niuntu bwa kwithirwa turi mantune ja TIST. Nandi turina ikundi mirongo inna na kimwe ndene ya cluster yetu na amemba magana jairi mirongo kenda na banana.

Kamangura iri ndene ya ntuura ya ngai inkai ndene ya Kieni Constituency. Ngugi yetu ya kuanda miti ndene ya TIST nitumite gukagia kugaruka gukwingi kwa rera yetu. Kiunani na miaka iu ingi iria twonaga mpara inene, nandi nitwonaga ngai inyingi. Nitugwitikia untu bubu buumenie na miti imingi iria ikunikirite muthetu.

Nitwonete baita kinya kuumania na moritani ja TIST. Nandi nitugiite umenyo bwegie utonger

gatigati ka amemba. TIST niikagira utonger

Baita ciao mma na iria ciuumba kuthimika iria cikuthongomia mikarire yetu ni ja nkuu, irio bia ndithia, maketha jamega gukurukira urimi bubwega na tukorirua mbeca iria ciumanagia na thoko ya ruugo. Nitukeni ndene ya TIST.

Nugukinyirwa ni baita cionthecia mitire imiega ya kuthithia mantu ndene ya TIST.

Arimi baria baingi ba TIST nibacoketie ripoti na bagaana na bangi kwegie baita iria bakwona kuumania na mitire iria miega buru ya kuthithia mantu ya TIST. Twenda mono kwigua kuuma kiri ugwe kethira nwonete baita kuumania na mwitire jumwe kana imikai ya iji itumagirwa ni TIST.

- ✓ **Mariko ja nkuu inkai**
Jaja jomba kwithirwa jari mariko ja ntaka ja TIST kana ja kugura. Ito gaana natwi kwegie uria riiko riako rikuete baita. Nirigutethetie kunyiyia utumiri bwa nkuu? Niritethetie kunyiyia aria ukurugira? Ni baita iriku ingi wonete?
- ✓ **Urimi bubwega**
Bubu ni bwegie kurega gutiira munda na gutumira mwitire jumwega jwa TIST jwa urimi

bubwega (CF). Niugeretie? Maketha jakari atia wateganiria na urimi bwa kawaida? no

- ✓ **Matunda na nkandi**
Nuamdite mutunda kana miti ya nkandi kuuma ugutonya kiri TIST? Ni iketha ring'ana ukuona narua? Ni baita iriku ukwona – utumiri bwa nja kana kwendia?
- ✓ **Iria na mboleo**
Nuandite imera bia iria ndene ya munda jwaku kuuma ugutonya kiri TIST? Nukwona iria riringi nkuruki ria ndithia ciaku? Ni mwanya jwiku wonete?
Nuthithitie mboleo kuuma nia na matigari ja muunda jwaku? Nwonere iketha ririnene nkuruki? Nkunia ing'ana nkuruki ya riria utitumagirwa mboleo?

✓ **Into kuumania na ndithia**

Nwonete into bibingi nkuruki biria biumanagia na ndithia kuumania na mantu janngi ja TIST jaria uthithagia ndene ya muunda jwaku? Mung'uanano iria, nkara, nyama na nkuruki

✓ **Wendia bwa miti ya kuanda**

Urina munanda jwa miti? Nuendagia miti iria itigaraga warikia kuanda mundane jwaku? Ni baita iriku wonete kuumania na uandi bwa miti iu?

✓ **Naicu**

Nwikaga njuki? Twire baita iria wonete kuumania na naicu iria ukethete.

✓ **Nkuu**

Gaana natwi kwegie baita iria wonete kuumania na uandi bwa miti ya TIST mantune ja nkuu.

Kunyiya na kugiita miti yaku biang'i nikenda inenea na ikura bwega.

Antune anene, kunyiyia miti na kugiita biang'i, nigutethagia kuthongomia thiria ya muti amwe na thiria ya mwitu junthe. Bububuthithagua gukurukira gutaara miti iria mithongi buru ndene ya mwitu. Kiri mithemba ya miti imingi, amwe na mibao, mikima na mithithinda, iji niyo miti iria minene buru, o muti juri jumwe jutiumirite ingi rutere na jumutamburuku. O muthemba jwa muti nijwendaga mantu mwanya kulingana na muthemba, antu aria juri, uria juandi (iandi yonka, iandi gati gati ka imera, kana iandi kunyiyia ruugo) kana rera, indi kuri mantu jethagira jario kunthe.

Gukuria miti irina inya na thiiria injega nikwendekaga utarania miti bwega (Meter ijiri). Gutarania na meter ijiiri nikukwega buru kiri miti imingi ya TIST (ta mibao, mikima na mithithinda), indi ririkana ati miti imwe niendaga gutarania gukunene nkuruki (ta miembe na mikandamia). Gutaarania miti bwega nikumiejaga kanya ga gukinyirwa ni ruuji na irio bing'ani, biria bitethagia miti kunenea mwanka aria ibati. Kuanda miti akui nigwitikiritue riria miti ianaki. Riria miti ikwambiria gukura, kuri na miti iria ikaneneanga na kugia inya kiri ingi. Iji niyo miti iria ibati gutigwa muundene, (Imera miti). Kiri gutaara ni miti iriku ikagitwa, tega miti iji mithongi na umenye kethira nitarenie bwega. Kethira ititarenie bwega, miti iria iri akui ikendeka kugitwa.

Warikia kumenya ni miti iriku ikugitwa, migitire nthiguru buru. Ndene ya biumia na mieri iria ikathingata, miti imingi ikambiria kuumira au gitinene. Nikenda muti jutiraume kairi, iji ikuumira niigitwe kana iunirwe nthiguru buru.

Njira imwe iria mbuthu buru kumenya kethira muti nijubati kugitwa ni gutega uria jung'ana ugiteganagiria na miti iria iri akui ya ukuru o ja bwaju. Ririkana ati gukura kwa muti gukaringana na muthetu, ruuji na jangi jamaingi. Antune aria anene, kethira miti yonthe iria iri amwe iri na ukuru akui bumwe, miti iria minene niyo ibati gutaarwa gutigwa muundene. Gintu kingi kiria umba gutega thiria ya

muti nakio ni aria mathangu jaria maingi ja muti jou jari wateganiria na ingi. Miti iria iri mathangu jamaingi iguru ria miti ingi niumbaga kujukia weru bubwingi nkuruki ya iria iri nthiguru na kwou igakura bwega nkuruki. Kuthiria, miti iria igutigwa no mwanka iithirwe iri imitamburuku itiumiriite ingi rutere na itina mirimo kana kurota. Indi bubu ti kuuga ati miti yonthe iria itinenenei igitwe. Muntu nabati gutegeera gutarania kwa meter ijiiri nikenda amenya miti ikunenea na yagia thiria injega buru nikenda ruugo rurwingi ruruthuku rumba kujukua.

Riria ukuthithia mantu jau jariau iguru, rikana ati gukuranga kwa muti ni mwanya mono kiri mithemba mwanya ya miti. Kethira muembe jurikura akui na mibao imingi, muembe nojwithirwe junii mono na jugikuraga gapori nkuruki ya mubao juria jukurangaga, indi jutibati kugitwa nontu niyu munini! Kwaria mma, muti ta muembe ni muti kimera juria juri bata niuntu bwa utumiki bwaju ja kuejana irio. Kurina utumiri bungi bubwingi bwa miti, kulingana na muthemba, tutigutara kugwatia ruugo ruruthuku. Mung'uanano, muti nojwendeke niuntu bwa kirundu kiaju. Antune aja, nubati kua muti kanya nkuruki ya ingi nikenda jukinyirwa ni riuu, riria rigatuma muti jugia biang'i bibieru kiri gitina na kiri biang'i biria biri iguru. Ukenda gutumira miti kunyiyia ruugo, nubati kumenyeera ati miti iu iri lainine nikwianiritie, indi rita miti nteere cionthe nikenda juumba kwingiyia mathangu na biang'i amwe.

Kunyiya mathangu

Ndene ya mwitu jwa kuuma jungwa, miti nicinyiagia mathangu yongwa. Biang'i biria biri iguru buru nibigwithagia biang'i biria biri rungu. Ouria mathangu jakuuma kiri biang'i bia nthiguru nou kinya kiang'i kiria mathangu jau jari kiendeleagaa kuuma. Gukurukira kugaruka kwa rera ya ntuku, biangi biria bikuite na biria biori bikagua kana bigwithue. Kinya kethira miti nicinyiagia mathangu yongwa miundene ya TIST, kwethira kubui kana kurina gitumi kunyiyia mathangu na njara. Riria ukuthuura ni biangi biriko



ukugiita, nubati kuthingatira mantu jamakai. Kinya kethira o muthemba jwa muti nijwendaga njira mwanya ya kunyiyia mathangu, mantu jamwe nijathithagua kiri miti yonthe.

Mithemba imingi ya miti nibati kwithirwa irina gitina kimwe nthiguru. Miti iria irina gitina kimwe niyo ikurangaga na itiunikangaga igita ria ruugo kana ngai inyingi. Muti jurina itina bibingi jwatarwa gutigwa muundene, kurina mantu jamaingi jaria uumba gutegea riria ugutara ni gitina giku ugutiga. Ja uria uumba kuthugania, gitina kiria kinene nikio kibati gutarwa gutigwa. Kwongera, gitina kiu kithirwe gitikurota, kionanie kiri na thiria (ta kithirwe kirina mathangu jamaingi), na kithirwe gitamburuki.

Gintu kimwe kithuganagirua uria gitibati niati nuubati kugita kiang'i, winami bwa gitina. Bubu ni urongo. Ubati kugita uumarite bwa ome ya gitina. Njira iji ninyiagia antu aria ugukunura na igetikiria muti juumba guciarangia kironda nyuma ya igita. (Tega Mbicha 1), untu buria butethagia muti gukara juri na thiria na jutikwoora

Riria ukunyiyia mathangu ukenda kuthithia uju mono. Biang'i na mathangu jaria jagitagwa nijatumagirwa mono ja nkuu kana iria. Kinya kethira bubu nibwitikiritue buru, rikana kunyiyia mathangu nogutethie kuthongomia thiria ya muti na kujuneneangia igitene, indi kurita mathangu gukamba kunyiyia kuumba kwa muti kugwatia riuu na nogutume muti jukaga inya nontu bwa kujwikira kironda, kiria no mwanka kiore. Warkia kugita kiang'i, au kugita gutibati gutongwa. Ugagukunikira na gintu kinya gikari, nikenda muti jumba kurita maira kirondene. Iji noyo njira iria mwiri jwa muntu jutumagira riria jukworia kironda.

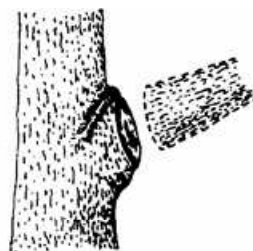
Ukorirua riria kunyiyia mathangu na ukunyiyia

miti ati miti niomagira itina bingi akui na aria kwagitwa. Mithemba imwe nithithagia uju nkuruki ya ingi. Antune anene, itina bibi nobiritwe na uuthu mwakene jwa mbele nyuma ya kugita na njira ya kuuna aki. Jaria maingi itina bibi bitiuma kairi.

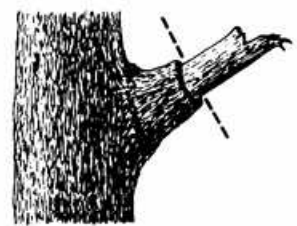
Miti imwe, mono mitunda, ikaciara bwega nkuruki irina itina bibingi. Iji nigitagwa akui na muthia jwa gitina iri iminini nikenda itina bingi biumira. Muti jwarikia kuuma tutina tunini, kinyatu notugitwe nikenda tungi tuuma. Bubu nobucokerwe nikenda muti jumata, indi menyeera ati nukua muti mieri imikai kana imingi nikenda yumba kwora kuumania na kugitwa kou.

Rikana ati gutonya thokone ya ruugo, nitubati gwika wirane gwika miti yetu igita ririnene. Nitubati gwitikiria miti ikuura mwanka miaka mirongo ithatu, tukiminyiagia na kunyiyia mathangu nikenda yumba kua miitu ya bata na iria tukomba gwika itue baita miaka iria iijite. Miti iria igita yaumira itibua ya gwikua thokona ya ruugo na kwou ititarwa iri miti ya TIST.

Mbicha 3



Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Cluster iri na inya: Kuerekera kuumbana.

A ja nthi nikwariritie uria cluster irina inya ibati igukara na baita inyingi cia cluster ibangenie bwega na iri nainya:

Cluster iri na inya:

- Irina ikundi mirongo ithatu gwita mirongo itano bigwita ngugi (arimi magana jathatu gukinya janna)
- Irina utongerira bwa kithiuruko na bwa uthumba
- Batirimanaga rionthe o mweri na mucemano nijwijagwa bwega ni arungamiri ba ikundi bibinini.
- Irina munda jwa kuanda miti itikunyia kiri ngiri magana jairi na irina ikundi bibinini bikuanda na kumenyera miti.

- Nibati kwithirwa irina mumemba umwe kana nkuruki wa gutetheria atari miti rionthe kumenya mantu jaria ikundi bibinini bikuthithia rionthe.
- Niibati kwithirwa irina arimu bagwita ngugi ya kugaana mantu ja TIST jamega, jamma, jagutethia micemanione ya cluster na miundene.

Kwongera, cluster irina inya nibati kumenyeera ati:

- Ikundi bibinini nibikuujuuria jaria bibati na njira ya weru, irio.
- Ikundi bibinini nibigukinyirua ni mbecha cia miti na njira ya weru o mieri ithatu
- O gikundi gikinini nigigitirimana o kiumia na



nigikuthithia utongereria bwa kithiuruko na bwa uthumba

- O gikundi nigigukinyirwa ni Mazingira Bora o mweri.
- Ikundi bibinini nibigukinyirwa ni moritani na nibagutumira na kugaana mitire iria buru ya kuthithia mantu bakiendaga bongwa ta Urimi bubwega, mariko ja nkuu inkai na mitire ya kunyiyia gukamatwa kwa muthetu, amwe na jangi.

Mantu jamega jakuumania na kwithirwa uri ndene ya cluster:

Riria gikundi gikinini kiri ndene ya cluster, nikionaga baita inyingi:

- Kuri na uthu gwita micemanione ya cluster ya rionthe
- Kuriwa nigukaritu na kurina uthu
- No bubangire utari miti
- Kurina uthu kuthoma mitire iria miega buru ta Urimi bubwega
- Burina uthu gukinyirwa ni Mazingira Bora o mweri
- Burina uthu gutonya mantune jameru ja TIST ta mariko jamega nkuruki.

Kwambiria ukui, gukethirwa kurina twanya kinya nkuruki, amwe na gutonya kiri ikundi bia gwika na gukobithania mbece.

Kuringana na kwaraniria ndene ya semina cia TIST miakene iu ithatu ithiri, nikwonekete ati o cluster nibati kuumba guciatha. cluster ikathuura arungamiri ba cluster baria bakaathana mieri imikai ja atongereria kiri cluster iu. Bubu nita kuuga ati antu kuumania na ikundi bingi bibingi barinza kanya ga gwita semina cia TIST niuntu bwa mathomo ja utongereria, kwambia mitire imiega ya kuthithia mantu na gwita na mbele gutetheria kubaangira uumbani bwa TIST.

Gukethirwa kurina nthumba ingi cia cluster bingwa cia mariko, bingwa cia miti ya gintwire na twanya tungi tutwingi twa amemba ba TIST gukuria na gutumira iewa biao. cluster imwe iria ciri akui na miitu cika ikundi bia CFA (Community Forest Associations). Cluster inyingi ikaambiria kwanjia biashara ciao na kuthithia twanya twa witi bwa mbele buria bukoombika kimbece.

Cluster inyingi ikaambiria kuthithia ngugi inene nterene cia nduui inene na inini gutigithia ukamati bwa muthetu na kuanda nyaki, miti na ithaka bia gintwire.

Utongereria bwa cluster: Uria bwitaga ngugi
Cluster Kenya yonthe niciithiritwe cirina ithurano

bia arungamiri ba cluster. O cluster irina gikundi kia nthumba ciritirite ithatu ithuri kuumania na amemba ba ikundi bibinini: mutongereria, mutetheria wa mutongereria na mwiki mbece na mauku ja cluster. Arungamiri baba nibatethagiria cluster gukura, gwita na mbele na kuumbana.

Utongereria bwa cluster ni bwa kithiuruko. Bambele bathatu bakaathana igita riao riu mutongereria akauma na mutetheria wa mutongereria akaa mutongereria. Mwiki mauku na mbece cia cluster akaa mutetheria wa mutongereria. Mwiki wa bibi umweru akathurwa ni cluster kuumania na amemba ba ikundi bibinini na aritanwe ni mutetheria wa mutongereria umweru nikenda ajukia kanya gaka.

Mutongereria wa cluster no arungame ithuranone ja mwiki mauku na mbece cia cluster arikia gukura oome ya utongereria mieri inna. Mwiki bibi umweru nabati kwithirwa ari mumemba wa gikundi gikinini athuri kuumania na amemba ba ikundi bibinini ndene ya cluster iu na ukuumba kuthoma na kumenya gutumira Palm gutuma ripoti na gwika mauku na ukeenda gwita mbele kua mutetheria wa mutongereria riu mutongereria.

Ngugi cia mutongereria.

- Niabati kua nthumba kiri cluster yonthe na oonanaie jaria TIST ikirite mitirene yawe.
- Natongagiria mantu ja cluster, agatongereria micemanio ya cluster, kumenya uria mantu ja utari miti na uritani jageta na mbele amwe na atongereria bangi.
- Natethagiria kureta na gutuma mantu jaria jarina bata kiri kiama kia utongereria bwa TIST.
- Niekagira ikundi inya gukinyira mantu jamanene, amwe na kuanda miti na urimi bubwega.

Ngugi cia mutetheria wa mutongereria.

- Niatongagiria riria mutongerioa atio na niwa kuritira amemba bonthe ba cluster na mutongereria wa cluster.
- Natethagiria mutongereria kureta amwe mathuganio jameru kuumania na amemba ba cluster.

Ngugi cia Mwiki mauku na mbece cia cluster.

- Neekaga mantu jegie micemanio na utumiri mbece.
- Neekaga rekondi na ripoti cia cluster cia micemanio ya cluster agitumagira Palm
- Nabati kumenya gutumira Palm nikenda omba gwikira utumiri bwa mbece ni cluster na jaria babangirite na akinyirue ni mantu jegie cluster.

Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

Kikuyu Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

Thiini:

Kigucwa Cluster Working Together In TIST has benefitted us and Improved our Livelihood.

Page 2

Nyahururu TIST Region Good Progress and New Clusters Joining TIST. *Page 2*

Muriru Cluster: 30 minutes in each Cluster Meeting to tend our Cluster Tree Nursery! *Page 3*

Kamangura Cluster: We Are Now Leaping the Benefits. *Page 3*

Are you getting all the benefits of TIST Best Practices? *Page 3*

TIST: Thinning and pruning your trees for successful growth. *Page 4*

Strong Cluster: Towards Success. *Page 5*



Cluster ya Kigucwa ikirutithania wira hamwe thiini wa TIST niituhotithitie gwika maundu maingi ma kwagirithia miturire na miikarire iitu.

Mwandiki: Aaron Kaindio, Kigucwa cluster.

Thutha wa kwamukirira bonus ya mbeca kuma? TIST niundu wa uria tukoretwo tukihanda miti na njira njeg, ithui turi amemba a cluster ya Kigucwa nnituthundurite mieke ingi miingi niguu tuthereme makiria.

Kuri June 2013, nitwamukirire bonus ya cluster ya makiria ma 54,000. Gwa kahinda kau, twakoretwo twakinyia muigana wa miti 90,000 ya miti iria iri muoyo thiini wa cluster iitu. Umuthi turi na miti 101, 298 iria itaritwo. Nitwahuthirire bonus ino guthondeka bonus ya macadamia.

Nitukoretwo tukiheo uteithio munene ni ofisa a urimi a guku uria tungihota kwoya nathari ino.

Umuthi, o mumemba thiini wa cluster niateithikite kumana na maundu maya. Nitwagayanire mimera ya macadamia kuri o mumemba wakoretwo kuo. Bei ya macadamia iri iguru na turehoka nitukugia na thoko njega mambiriria guciara na twagetha. Na makiria, miti ino niiratarwo ni TIST na niiriamukagira mbeca cia carbon credits. Yakura.

TIST: Gicigo kia Nyahururu

Uthii na mbere mwega na cluster njeru kuingira TIST.

Mwandiki: Peter Muithiru, ndungata ya TIST Nyahururu.

TIST yambiriirie Nyahururu mwakaini wa 2008. Ikundi cia mbere 100 ciandikithirio mwakaini ucio. Kuma hingo iyo, ikundi iingi

niciandikithitio na igatuura TIST. Boiman na Nganoini nicio ciirigite kwandikithio thutha. Nyingi cia cluster ici cirithiini wa Nyandarua

Uhoro yu uri haha kianda uronania cluster cia TIST ruhonge rwa Nyahururu.

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
Mairo Nne	22	48,125	162	141	86.9
Boiman	22	28,799	172	70	35.5
Nganoini	20	13076	126	170	85.8

County o tiga Nganoini, iria iri county iria cihakanite ya Laikipia. Gicigo giitu gikoragwo na riera riigananiirie na nikiamukagira mbura makiria na miti igakura wega. Niturathimitwo na migunda minene na tukarigicirioni maundu maingi mega tondu andu aingi tuhandaga miti tutagwitigira riuu.

Nituthiite nambere na kwamukira mahoya ma arimi kuingira TIST. Nitumathomithagia mbere ya kumandikithia niguu mahote gutaukwo wega ni

TIST, na muno makiria mataukwo ni uhoro wa wendia wa carbon na maundu mangi maingi maria makwamukira kumana na TIST.

Kuri amemba eeru, aria marena kuingira nomathii micemanioini ya cluster kuria kumakuhiriirie kana maranirie na ndungata ya cluster, Sophia Wairimu 0706162335 kana Peter Mithiru 0722 896086



Miriru Cluster: Ndagika 30 o mucemano cia guthondeka nathari cia miti!

Mwamdiki Eunice Wambui, Auditor na ndungata ya cluster.

Ithui, cluster ya muriru nitukurite na tugakinyia ikundi 42 umuthi. Nginya riu, miti 39,500 nihanditwo na igatarwo. Amemba nimarona miti ino timiiganu. Hingo ya micemano iitu, tugiteithirio ni ndungata cia cluster nitwetikaniirie kuruta Ksh 100 tuongerere hari budget iitu niguu tugie na nathari cia miti. Nathari ino yambiriirio September 2014. Tukiheo uteithio wa kimathom ni arutani aria a tene a TIST, Joseph Ndirandu, nitwahandire mbegu o mweri ucio kuri muthenya wa mucemano na

tukihuthira ndagika 30 kumithondeka ta ihinda ria mucemano.

Thiini wa April-July hingo ya mbura, nitugayanite mimeri iyo turi amemba. Amemba nimaheanite mimeri nginya kuri aria matari ho mucemanoioini. Njira ino niikirite andu hinya wa gukorwo mucemanoioini wa o mweri na tugakorwo turi hamwe nao.

Umuthi nitwirutiire kunenehia nathari ino niguu tukorwo na maciaro maingi kumana na wendia wa mimeri.

Cluster ya Kamangura: riu nituraria maciaro.

Mwandiki: Joseph Thitai, ndungata ya TIST.

Ithui, cluster ya Kamangura nitukenetio ni maciaro maria twonete na tukeegira turi thiini wa TIST. Riu turi na ikundi 41 na amemba 298.

Kamangura iri thiini wa mwana uria waraga wa Kieni Constituency. Mageria maitu ma kuhanda miti turi thiini wa TIST nimonanitie umithio munene na tugacenjia riera. Ngurani na miaka iria ingi hau kabere, tutikoretwo tugithinio ni riu migundaini iitu na nitukoretwo tukiamukira mbura nene. Niturona uhandiwa miti niguu urehete ugaruruku uyu.

Ningi nitukoretwo na ithomo.

Nituthondekete utongoria murumu kuri amemba aitu. TIST niirahinyiriria utongoria wa kwirutira na waguthiururukana. Nituonete ati, kuhitukira utongoria uyu ieo nyingi na ngurani nicionekete na tukongerera uhoti wa utongoria. Micemano ya cluster niituheaga mieke ya kwaraniria maunduini megii urimi, mititu, ugima wa mwiri na mangi. Niundu wa uguo, nituonete miturire iitu ikiagira.

Mawega ma ma maria twonete nita kwongerereka kwa ngu na mahuti ma mahiu na magetha makongerereka niundu wa Kilimo Hai. Tutakuriganirwo ni mbecha cia carbon ya miti.

Hihi wee niukoretwo ukigia na maciaro kumanagia na wira waku wa TIST?

Arimi aingi a TIST nimakoretwo magitwira maciaro maria monete kuuma maingira TIST. Riu ni kahinda gaaku gutwira ni umuthio uriku wonete thinii wa TIST kuumanagia na:

Mariko ma TIST.

Tutaririe uria uteithikite na riiko ria TIST. Riiko riu no rikorwo riri ria ria guthondeka na ndaka kana ria ria nduka.

Urimi mwega wa CF (Conserbation Farming)

Tutaririe kaana niwonete maciaro meega kumanagia na CF ukiringithania na urimi wa kiunduire.

Matunda na ngumbu.

Tutaririe kana niuhandite miti ya matunda kana ngumbu. Uteithikite atia? Niwendetie?

**Irio cia Mahiu na guthondeka thumu.**

Tutaririe kana niuhandite miti kana mahuti ma mahiu kuuma waingira TIST. Uteithikite atia?

Irio kuuma mahiu-ini.

Tutaririe kana niwonete wongerereku wa irio ta nyama, iria, matumbi kuuma waingira TIST.

Wendia wa miti ya nathari.

Tutaririe kana niukoretwo ukiendia miiti ya nathari? Mbeca icio niiguteithitie?

Uuki.

Niugiite miatu ya njuki? Tutaririe uria uteithikite

Ngú

Tutataririe uria uhandi wa miiti uri thiinie wa TIST uguteithitie mwena wa ngú.

TIST: Guceha na gutheria miti niguo ikure wega.

Gitumi kinene gia geceha miti nikumihotithia ikure iri na hinya ohamwe na kwagirithia mititu. Njira ino noirumirirwo riria ugucagura miti iria iri na hinya na miega. Makiria mithemba ya hardwood na grevillea, eucalyptus na cypress niyo ikoragwo iri minene na igakorwo iri mirungaru wega. Mithemba ngurani ya miti niyendaga utaganu ngurani kuringana na kuria ihanditwo kana niyakugayania mugunda kana niyakunyahioa ruruhu. Ririkana miti ingi niibatara utaganu makiria ta miembe, mavadamia kwa muhiano. Riria wahee miti utaganu wa kuigana niumiteithagia gukinyirwo ni maai na unoru wa tiiri nigu ikure. Utaganu munini nimwega riria miti iri minini tondu miti yambagiriria kugimara niinenehaga na miti ino yagiriirwo nikuigwo. Ceha miti niguo igiae na utaganu mwega.

Hingo iria wamenya ,iti iria ukwehutia, miteme haria gitianaini. Thutha wa wiki na mieri o ugitemaga miti miingi niirithundukaga na micehe ringinigu ndigakure yathunduka.

Miti yothe ya muthemba umwe kuma kundu kumwe ikoragwo iiganaine, miti iriaminene niyo yagiriirwo nigutigio. Kionereria kingi ati miti ati nimiega ni uraihu wayo. Miti iria miraihu makiria niyo miega na niyo ihotete kwamukira utheri

muiganu gukira iria ingina noikure wega. Wa muico, miti yagiriirwo gukorwo itahukite, na itari na murimu o wothe. No ningi, uu tikuga ati miti yothe iria minini yeherio! Tigrira utaganu niwa 2mX2m na miega makiria.

Riria uratua matua ma guceha, ririkana ati mithemba ya mui ni ngurani. Angikorwo muti wa muembe urakura hakuhi na muti wa eucalyptus muti wa muembe nonginya ukorwo uri munini na nimwega niundu mawegamagu ma matunda ma kuria na ma kwendia na ningui niukuranagira wega na irio mugundaini. Eucalyptus niutumaga miti iria iri hakuhi naguo yage gukura na njira iria yagiriire na niwega kuririkana uu riria uraceha miti. Kuri na mwega mangi maingi ma miti kuringana na mithemba thengia ya carbon. Kwa muhiano nowende miti niundu wa kiiruru. Niundu wa uu, nouhe miti kahinda makiria ga gwota riu njira ino niikuhotithia miti ikorwo na honge nyingi makiria. Angikorwo niurendamiti ya kunyahio ruruhu rekeikure ikuhaniriire no ucehe mahuti nathi.

Guceha.

Mituini ya kinfuire, miti niyo icehaga. Honge mitiini iria minene niutumaga iria minini iguithie mahuti na ririamahuti macio makua nacio honge cigakua na



cikoora.honge icio niciguaga. Na ona igiicehaga yo nyene thiini wa TIST niwega guceha na moko. Mitingurani niibataraga mucehere ngurani no maundu ma kawaida nimahuthikaga.

Mithemba miingi ya miti yagiriirwo gukorwo itahukite kuma thi.miti tai no ikuraga naihenya na niuhuthu kumiceha. Riria wathuura miti yahukite, , cagura iria minene no utigirire iri na hinya na mahuti maingi.

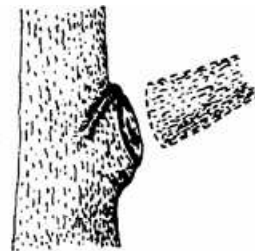
Andu angi meciragia wagiriirwo ni gutini a miti iri miigananiru. Riria urahurura miti wagiriirwo ni kuinamiabanga. Njira inoniinyihagia miti kwora Riria urahurura, ndukahuthire hinya muingi. Mitiiria yahururwo niuhuthikaga na ngu ba irio cia mahiu. Ona njira ino iri njega, niitumaga miti inyihirwo ni uhot wa gukinyirwo ni utheri wa riuua niundu wa ironda cia gutemwo iria cikaraga cingikahona.. riria wahurura ndugathumbure haria watema. Ndukahahumbire na kindu o giothe nigu muti urute giko giothe.

Ndukariganirwo ati miti niuthundukaga ringi kumana na kuhururwo. Mithemba ingi niikaga uu makiria gukira iriaingi. Niukoragwo uri uhuthu

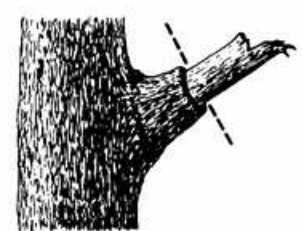
gwika uu riria miti ino iri na mwaka umwe.

Miti ingi na makiria miti ya matunda niikoragwo maciaro maingi riria iri na mياهو miingi. Mياهو ino yumanaga na muti gutinio uri munini. Riria muti wagia na mياهو ino niwega onayo itinio nigu irute ingi. Njira ino noicokerwo maita mingi niguokwongerera biashara ya miti no eterera mieri na makiria mbere ya kuhurura ringi Ririkana ati nigu gukuhotithia kuingira thoko ya carbon wagiriirwo kureke miti ikure gwa kahinda kanene. Nitwagiriirwo ni kureka miti ikure gwa kahinda gatanyihire miaka 30, guceha na kuhurura nigu ikure iri na hinya muingi na mititu ikorwo iri miega.

Figure 3



Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Cluster iri na hinya: Niundu wa uhotani.

Rugano ruru rararia uria cluster iri na hinya yagiriirwo nigukorwo ihana na mawega mangi ma gukorwo na cluster bange wega:

Custer iri na hinya:

- ikoragwo na ikundi nini ciraruta wira 30-50(arimi 300-400)
- ikoragwo ikihuthira utongoria wa guthiururukana na wakwirutira.
- Niicemanagia o mweri na micemanio igakorwo na arimi na arugamiriria aao.
- Iri na mugunda wa kuhanda miti itanyihire 200,000, na iri na ikundi nini iria cirahanda na gutungata miti.

- Yagiriirwo gukorwo na memba umwe uria uraethiriria atari a miti na kurora uria ikundi cireka.
- Yagiriirwo gukorwo na athomithania marathomithia na njira nginyaniru, ya guteithia na yakuguna migunda ya arimi.

Na makiria, cluster iri na hinya yagiriirwo nigutigirira:

- Ikundi nini ciciatarirwo miti na njira ya utheri na nginyaniru o waka.
- Ikundi nini niciamukagira marihi mao mwaka maita 4 na njira ya utheri.
- O gikundi nigicemanagia o wiki na gigakorwo



nautongoria wa guthiururukana.

- O gikundi nikiamikagira ngathiti ya Mazingira Bora o mweri.
- O gikundi nikiamukagira githomo na gikerutira gwika maundu maria mathomithio na kurima urimi wa Kilimo Hai ohamwe nakuhuthira riiko ria TIST na kugiira tiiri na mangi maingi.

Mawega ma gukorwo thiini wa cluster:

Ririagikundi kiri thiini wa cluster, nimakoragwo namawega maingi:

- niuhuthugutii micemano.
- Niuhuthu kurihwo marihi na njira ya na-ihanya.
- Niuhuthu kubanga uria miti igutarwo.
- Niuhuthu guthoma maundu ta urimi wa Kilimo Hai.
- Niuhuthu kwamukira ngathiti ya Mazingira Bora o mweri.

Kwanbiriria ica ikuhi, nigugukorwo na mieke ingi miingi ta kuiga na gukombithania mbeca.

Kuringana na maundu maria maririirio thiini wa semin cia TIST gwa kahinda ka miaka itatu, nikuonekete ati o cluster niyagiriirwo ni kwirugamirira. O cluster niiguthuura murugamiriri uria ugutungata gwa kahinda gwa kahinda ka mieri minini ari ta mutongoria wa cluster iyo. Uu nikuga ati ikundi ingi nyingi nicirikoragwo na mieke miingi ya guthii semina ya utongoria, guthondeka mitarata miera na kugacirithia uhotani.

Ningi nigugukorwo na atungata athomithie a marriko ma TIST, miti ya ki-nduire na mangi maingi niguo tukurie iheo cia arimi. Cluster imwe iria iri hakuhi na mutitu nicigutuika Community Forest Associations. Cluster nyingi nicikwambiriria gukuria biashara an guthondeka mieke niguo gukuria wirugamiriri.

Cluster ingi nicigutungata njuui niguo gwikira tiiri hinya na kuhanda miti ya ki-nduire na nyeki ya ki-nduire.

Utongoria wa Cluster:uria urutaga wira.

Cluster guothe bururi-ini wa Kenya nicikoretwo cigiika ithurano cia arugamiriri. O cluster niikoragwo na timu ya atongoria a kwirutira

3 kuuma amemba a ikundi nini: mutongoria, munini wa mutongoria na muigi mathabu. Arugamiriri aya nimateithagia gukuria, kygaciria na kwagirithia.

Utongori awa cluser ukoragwo uri wa guthiururukana. Ambere 3 nimagutongoria kahinda kao mutongoria acoke athurukwo na munini wake athii na-mbere na gutongoria. Muigi mathabu atuike munini wa mutongoria na gucoke guthurwo muigi mathabu mweru uria uguthomithio utongoria ni munini wa muongoria.

Mutongoria wa cluster noathurwo ari ta muigi mahabu angikorwo niaikarite nja gwa kahinda ka mieri 4. muigi matahbu mweru agiriirwo nigukorwo ari memba wa cluster kuma gikundi-ini kiri thiini wa cluster iyo na akoro noahote guthoma kuhuthira palm niundu wa reporing na na acountability na akorwo nietikirite gutiururukia utongoria kuri munini wa mutongoria na mutongoria.

Mawira ma mutongoria.

1. Agiriirwo gukorwo ari ndungata kuri cluster na akorwo na values cia TIST.
2. Atongorie maundu ma cluser, aharirie micemano, utari wa miti na ithomo hamwe na atongoria angi.
3. Atume na akinyie ndumiriri cia Tist Leadership Coucil.
4. Gwikira ikundi hinya niguo kigie na maciaro maingi ma kuhanda miti na urimi wa Kilimo Hai.

Mawira ma munini wa mutongoria.

1. kuoya utongoria thuth wa ihind ria mutongoria guthira.
2. Guteithiria mutongoria thiini wa cluster.

Mawira ma Muigi mathabu.

1. Kuiga mathabu ma cluster.
2. Kuiga rekodi cia micemano ya TIST akihuthira Palm.
3. niagiriirwo nikumenya kuhuthira palm niguo ahote gwikira mahuthiro na budget ya cluster.

Mazingira Bora



TIST

The International Small Group & Tree Planting Program

www.tist.org

Kiswahili Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

Ndani:

Cluster ya Kigucwa: Kufanya kazi pamoja katika TIST kumetufaidi na kuboresha maisha yetu. Uk. 2

TIST katika eneo la Nyarururu: Maendeleo mazuri na cluster mpya zajiunga na TIST. Uk. 2

Cluster ya Muriru: Dakika thelathini katika kila mkutano wa cluster ili kushughulikia kitalu cha miti yetu ya cluster! Uk. 3

Cluster ya Kamangura: Tunapata faida sasa. Uk. 3

Je, unapata faida zote zinazotokana na kutumia njia bora zaidi za kufanya mambo katika TIST? Uk. 3

Kupunguza na kupogoa miti kwa ukuzi mwema. Uk. 4

Cluster yenye nguvu: Kuelekea mafanikio. Uk. 5



Cluster ya Kigucwa: Kufanya kazi pamoja katika TIST kumetufaidi na kuboresha maisha yetu.

Umeletewa na Aaron Kaindio, Mtumishi katika cluster ya Kigucwa.

Baada ya kupata nyongeza ya kipesa kutoka TIST kwa sababu ya kazi nzuri katika upanzi wa miti, sisi, memba wa cluster ya Kigucwa, tumeanzisha nafasi zaidi za kuzaana na kupanuka kwa kutumia usaidizi huu

Mwezi wa sita mwaka 2013, tulipata nyongeza ya cluster ya zaidi ya elfu hamsini nan ne. Kwa wakati huo tulikuwa tumefikia miti iliyo hai elfu tisini katika cluster yetu. Leo, tuna miti laki moja, elfu moja mia mbili na nane iliyohesabiwa. Tulitumia nyongeza hiyo kuanzisha kitalu chenye miti ya

Macadamia. Tulipata usaidizi mwingi wa kiufundi kutoka kwa afisa wa kilimo katika eneo letu kuhusu njia bora zaidi za kuanzisha kitalu.

Leo, kila memba katika cluster yetu amefaidika kutokana na juhudi hizo. Tulisambaza miche ya macadamia kwa memba waliojikusisha. Bei ya macamia imepanda na tunatunatarajia kupata soko zuri la macadamia yetu miti ikishaanza kuzaa. Kuongeza, miti hiyo inahesabika katika TIST na tutapata motisha kutokana na mauzo ya kaboni jinsi miti inavyokua.

TIST katika eneo la Nyarururu Maendeleo mazuri na cluster mpya zajiunga na TIST.

Umeletewa na Peter Mithiru, Mtumishi wa TIST Nyahururu.

TIST ilianzishwa katika eneo la Nyahururu mwaka wa 2008. Vikundi mia moja vya kwanza vilisajiliwa mwaka wa kwanza wa

kuwatumikia wakulima. Baada ya hapo, vikundi vingi zaidi vimezidi kujiunga na TIST Boiman na Nganoini ni cluster mpya. Cluster

Hapa unaonyeshwa hali ya cluster zilizo katika eneo la TIST la Nyahururu

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
Mairo Nne	22	48,125	162	141	86.9
Boiman	22	28,799	172	70	35.5
Nganoini	20	13076	126	170	85.8

nyingi kati ya hizi zipo katika jimbo la Nyandarua isipokuwa Nganoine ambayo ipo katika jimbo la Laikipia. Eneo letu lina hali ya hewa baridi na hupata mvua zaidi na ukuzi wa miti ni wa kuajabisha. Tukiwa tumebarikiwa na ardhi kubwa na haja ya mazingira bora, wakulima wengi hupanda miti bila kuogopa kuipoteza kupitia ukame.

Tumezidi kupata wakulima wanaouliza kujiunga na TIST. Sisi huwapa mafunzo kwanza kabla

ya kuwasajilisha ili waweze kuelewa TIST zaidi na muhimu zaidi waelewe soko la kaboni pamoja na faida watakazopata kupitia juhudi zao katika TIST Kwa memba wapya wanaotaka kujiunga nasi, wanaweza kuhudhuria mikutano ya cluster eneo lililo karibu au waongee na watumishi katika cluster yetu, Sophia Wairimu 0706162335 ama Peter Mithiru 0722 896086.



Cluster ya Muriru: Dakika thelathini katika kila mkutano wa cluster ili kushughulikia kitalu cha miti yetu ya cluster!

Umeletewa na Eunice Wambui, Mkaguzi na mtumishi katika cluster.

Sisi, cluster ya Muriru tumekua hadi vikundi arobaini na viwili leo. Kufikia hapo, miti elfu thelathini na tisa mia tano imeshapandwa na kuhesabiwa. Hata hivyo, memba bado wanaona nambari hii kuwa chache. Katika mikutano yetu, kwa usaidizi wa mtumishi katika cluster, tulikubaliana kuchanga kila kikundi shilingi mia moja na kuongeza pesa za bajeti ya cluster ili kuweza kuanzisha kitalu cha miti katika cluster. Kitalu hiki cha miti kilianzishwa mwezi wa tisa mwaka wa 2014. Kwa msaada wa kiufundi kutoka kwa mkufunzi mkongwe katika TIST, Joseph Ndirangu, tuliotesha mbegu na katika miezi iliyofuata katika mikutano yetu ya

cluster tukaweka kando dakika thelathini za kufanya kazi katika kitalu kama moja ya ajenda ya mkutano wa cluster.

Katika msimu huu wa mvua unaoanza mwezi wanne na kuisha mwezi wasaba, tumegawana miche ya miti kati ya memba. Memba walifungua mkono wetu kuwafikia hadi wale wasiohudhuria mikutano ya cluster kila wakati. Jambo hili limempa kila mtu moyo wa kuona faida za kuhudhuria mikutano ya cluster na kufanya kazi pamoja.

Leo, tunania ya kupanua kitalu chetu cha miti ili tuweze pia kupata pesa kutokana na mauzo ya miti itakayobaki.

Cluster ya Kamangura: Tunapata faida sasa.

Umeletewa na Joseph Thitai, Mtumishi katika cluster.

Sisi, cluster ya TIST ya Kamangura tuna furaha kugawana nanyi faida nyingi tunazovuna sasa kwa sababu ya kujihusisha na shughuli za TIST. Kwa sasa tuna vikundi vidogo arobaini na moja katika cluster yetu na memba mia mbili tisini na nane.

Kamangura imo katika eneo kame lililo katika jimbo la kieni. Juhudi zetu za kupanda miti katika TIST zimesababisha mabadiliko makubwa katika tabianchi. Tofauti na miaka mingi hapo kabla ambapo tulipata ukame, sasa tunapata mvua nyingi. Tunasifia jambo hili kuongezeka kwa miti inayofunika udongo katika eneo letu.

Pia tumefaidika kutokana na mafunzo katika

TIST. Tumepata uwezo wa kuongoza kati ya memba wetu. TIST huhimiza uongozi wa kuwatumikia wengine na wa mzunguko. Tumeona kwamba kupitia uongozi wa mzunguko, talanta tofauti katika uongozi zimeonekana katika watu tofauti. Mikutano ya cluster hutupa nafasi ya kugawana njia bora zaidi za kufanya mambo kwa mfano za kilimo, misitu, afya na ulinzi wa mazingira. Matokeo ni kuwa maisha yetu yameboreka kwa njia kubwa sana.

Faida za kuonekana na kushikika ambazo huongeza ubora wa maisha tunayoishi ni pamoja na kuongezeka kwa kuni, chakula cha mifugo, mavuno bora kupitia kilimo hai na tuisahau malipo kutokana na mauzo ya kaboni. Tuna furaha katika TIST.

Je, unapata faida zote zinazotokana na kutumia njia bora zaidi za kufanya mambo katika TIST?

Wakulima wengi katika TIST wameripoti na kugawana na wengine kuhusu faida wanazopata kutokana na kutumia njia bora zaidi za kufanya mambo katika TIST. Tungetaka kusikia kutoka kwako ikiwa umefaidika kutokana na kutumia njia bora zaidi za kufanya mambo katika TIST zote, baadhi ya zenyewe au njia moja yoyote.

✓ **Meko yanayookoa nishati**

Yaweza kuwa meko ya TIST ya udongo au ya kununua. Tafadhali gawana nasi kuhusu jinsi jiko la TIST limekufaidi. Limekufaidi kuokoa kuni? Limekusaidia kupunguza moshi katika eneo la mapishi? Ni nini kingine umepata?

✓ **Kilimo hai**

Zoezi hili linahusu kutolima shamba na kutumia njia bora ya TIST ya Kilimo hai (CF). Je, umejaribu kilimo hai? Mavuno yalikuwaje ukilinganisha na ukulima wa kawaida? Je, Unaweza tumia njia hii tena wakati hujao?

✓ **Matunda**

Umepanda miti ya matunda au njugu tangu ulipojiunga na TIST? Je, Una mavuno gani leo? Ni faida zipi – matumizi ya nyumbani au kuuza?

✓ **Lishe ya mifugo**

Umepanda lishe yoyote ya mifugo tangu



kujiunga na TIST? Je, Unapata lishe zaidi ya mifugo yako? Umeona tofauti gani?

Je, Umetengeneza mbolea kutokana na mabaki ya mimea? Je, Ulipata mavuno zaidi? Ni magunia mangapi zaidi ulipata ukilinganisha na usipotumia mbolea hii?

✓ **Bidhaa kutokana na mifugo**

Je, ulipata bidhaa zaidi kutokana na mifugo kutokana na shughuli zingine za TIST katika shamba lako? Kwa mfano, maziwa, mayai, nyama ya ng'ombe?

✓ **Mauzo ya miche**

Je, una kitalu cha miti? Je, huwa unauza miche inayobaki baada ya kupanda? Umefaidikaje kutokana na kuuza miche?

✓ **Asali**

Je, unaweka nyuki? Tujulishe ulivyofaidika kutokana na asali uliyovuna.

✓ **Kuni**

Tujulishe jinsi ulivyofaidika katika kupata kuni kutokana na kukuza miti ya TIST

Kupunguza na kupogoa miti kwa ukuzi mwema.

Katika TIST, tumejitolea kutunza miti tunayopanda kwa ajiri ya TIST kuikua kwa miaka thelathini kabla ya kuikata. Hii ni sababu mojawapo ya ni kwa nini ni muhimu kufikiria vizuri kuhusu ni miti ya aina gani twataka kukuza katika mashamba yetu. Hata hivyo, kupunguza na kupogoa miti kwaweza kusaidia kuiweka miti yako ikiwa yenye afya na inayotupa vitu muhimu mti unapokua.

Kwa ujumla, maana ya kupunguza na kuipogoa miti ni kuboresha afya ya kila mti, pamoja na ya msitu wote. Hili litafanyika kupitia kuichagua miti iliyo bora zaidi katika msitu. Kwa aina nyingi za miti, pamoja na miti ya mbao, grevillea, mikaratusi na cypress, miti hii san asana huwa miti mikubwa zaidi, kila mti ukiwa na shina moja lililonyooka. Miti yaweza kuwa na mahitaji mbalimbali ya nafasi kulingana na aina, mahali, ilivyopandwa (miti iliyo mashambani ya mimea ya vyakula ama miti iliyopandwa ili kupunguza upepo) na tabia nchi, lakini kuna kanuni zingine za kijumla hutumika.

Kukuza miti iliyo na nguvu na afya, nafasi ya mita mbili hupendekezwa. Nafasi hii ni sawa kwa miti mingi ya TIST (grevillea na cypress), lakini kumbuka kuwa miti mingine huitaji nafasi zaidi (miembe na mikandamia, kwa mfano). Kuipa miti nafasi inayofaa husaidia kupata maji na virutubisho tosha vya kuikua hadi panapowezekana. Nafasi ndogo zaidi inaruhusiwa miti ilipo michanga. Miti inapokua, miti mingine itakuwa mikubwa kuliko majirani. Hii ndiyo miti wapaswa kuacha. Kuchagua ni miti gani ya kukata, angalia miti iliyo bora zaidi na ujue kama ina nafasi ifaayo. Kama haina, wafaa kutoa miti mingine iliyo karibu.

Ukishachagua miti ya kutoa, ikatie chini kabisa. Katika wiki na miezi inayofuata kukata, miti mingi itaanza kuchipua kutokana na kisiki cha mti. Ili kuzuia mti kuchipuka tena, kata au uvunje miche iyo chipukizi iliyo katika kisiki.

Njia mojawapo iliyo rahisi zaidi ya kujua kama

mti wapaswa kukatwa ni kuangalia ukubwa wake ukilinganisha na miti iliyo karibu ya umri na aina moja. Ukuaji wa mti utatofautiana kulingana na udongo, maji yaliyopo na kadhalika. Kwa ujumla, ikiwa miti yote ya aina moja katika eneo Fulani ina karibu umri mmoja, miti iliyo mikubwa zaidi inaweza kuchaguliwa kuachwa kukua. Kiashiria kingine cha afya ya mti ni mahali taji la mti katika dari lilipo. Miti liyo na taji juu ya dari la kijumla la miti yaweza kunyonya mwanga zaidi ya miti iliyo na taji chini zaidi na kwa hivyo huweza kukua bora. Kumaliza, miti yafaa kuwa na shina moja, lisilo na ugonjwa mkuu au kuoza. Hata hivyo, ili halimaanishi kuwa miti yote midogo yafaa kukatwa! Langa kunafasisha kwa mita mbili ili miti iwe mikubwa ba yenye afya iwezekanavyo ili kuzidisha kunyonywa kwa kaboni.

Unapofanya uhamuzi wa kupunguza miti, kumbuka kuwa kiwango cha ukuaji hutofautiana kulingana na aina ya mti. Kama mwembe unakua karibu na mikaratusi mingi, mwembe unaweza kuwa mdogo na unaokua pole pole zaidi ya mikaratusi inayokua haraka, lakini kwa uhakika haupaswi kukatwa kwa sababu ni mdogo zaidi! Kwa kweli, mti kama mwembe ni wenye umuhimu mkubwa kwa sababu ya matumizi yake katika kupeana matunda ya kula na ya kuuza. Mwembe ni bora zaidi pia kwa mimea mingine iliyo shambani. Mkaratusi waweza kufanya miti na mimea mingine iliyo karibu kukua vibaya. Ni muhimu kukumbuka hili unapochagua ni miti gani utapunguza. Kuna matumizi mengi ya miti, kulingana na aina zaidi ya kunyonya kaboni. Kwa mfano, waweza hitaji miti ya kivuli. Hapa, wafaa kuupa mti nafasi kubwa zaidi ili kuufungulia jua zaidi. Hili litasisimua mti kutengeneza matawi mapya katika shina kuu na matawi makubwa. Ukitaka kutumia miti ili kupunguza upepo, iache miti iyo katika mistari kuwa karibu zaidi, lakini kata miti iliyo pande hizo zingine ili kuongeza kichaka.

**Kupogoa**

Katika msitu asili, miti hujipogoa yenyewe. Matawi katika dari la juu hufunikia matawi yaliyo chini zaidi. Jinsi majani yaliyo katika matawi ya chini ya yanakufa, ndivyo tawi lililoyashikilia pia linafa. Matawi yaliyokufa na kuoza huanguka yenyewe au kuangukwa. Hata kama kupogoa huku kwaweza kuonekana katika mashamba ya TIST, inaweza kuwa muhimu, ama kwenye faida kupogoa kwa kutumia mikono. Ingawapo kila aina huitaji njia tofauti ya kupogoa, kanuni chache za kijumla hutumika katika miti yote unapokuwa ukichagua ni matawi gani yatakatwa.

Aina nyingi za miti huwa na shina moja kuu lililo mchangani. Miti iliyo na shina moja hukua haraka zaidi na haiwezi kupasuka kwa urahisi wakati wa dhoruba. Ikiwa mti wenye mashina mengi umechaguliwa kama mti mmea, wakati wa kuchagua ni tawi gani kuacha, kwa ujumla chagua tawi lililo kubwa ziadi, lakini hakikisha lina afya, matawi mengi, halijaoza na limenyooka.

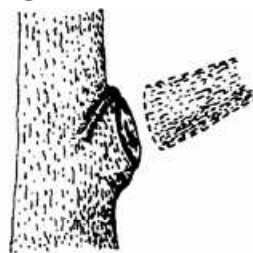
Watu wengi hufikiri wapaswa kukata matawi sambamba na shina. Huu ni uongo. Mikato yafaa kufanywa kwa upande tofauti na shina la mti, kidogo nje kutoka kwa shina. Hili hupunguza mti hulio wazi na huruhusu seli zinazojitenganisha katika tawi kukua juu ya mkato huo jinsi wakati unavyokwenda (angalia picha ya kwanza). Hili husaidia mti kukaa na afya na huzuia kuoza.

Unapopogoa usifanye zaidi ya inavyotakikana. Matawi yaliyokatwa yaweza kutumiwa kama kuni au chakula cha mifugo. Ata kama hili ni jambo nzuri, kumbuka kuwa ata kama kupogoa huboresha afya ya mti na huongeza ukuaji jinsi wakati unavyoenda, Usisahau kuwa miti hutengeza mashina mapya karibu na kulipokatwa. Kwa ujumla, mashina haya ni rahisi

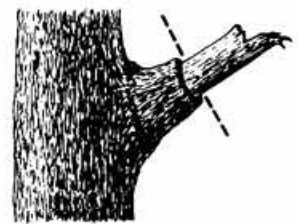
kutoa katika mwaka wa kwanza wa kukata kwa kuvunja mashina. Mashina mara nyingi hayakui tena.

Miti mingine, sanasana miti ya matunda, hutupa mazao bora yakiwa na mashina mengi. Miti hii hukatawa chini karibu na mwisho wa shina ikiwa michanga ili kuisimua ukuaji mpya. Mti unapoimarisha mashina haya, kwanza uwezo wa mti wa kunyonya jua utapungua na mti utakazwa kwa sababu ya kidonda ambacho lazima kipone. Ukitoa mengi sana, mti hutakua pole pole au ufe. Ukishatoa tawi, liache eneo ilo. Usilifunike kwa chochote, ili mti hutoe sumu yoyote iliyopo katika kidonda. Hii pia ni njia ya kimsingi inayotumika katika binadamu kuponya anapokatwa.

Kumbuka kuwa ili kuingia katika soko la kaboni, twahitajika kujitolea kuikua miti kwa muda mrefu. Twafaa kuruhusu miti kukua kwa miaka isiyopungua thelathini, kuipunguza na kuipogoa ili kutengeza misitu yenye matumizi na endelevu itakayotupa faida kwa miaka mingi ijayo.

Figure 3

Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Cluster yenye nguvu: Kuelekea mafanikio.

Makala haya yanajadiri jinsi cluster yenye nguvu yafaa kuwa na faida nyingi za cluster iliyojipanga vizuri na yenye nguvu:

Cluster yenye nguvu:

- Ina vikundi vinavyojiunga na vitendo vya TIST thelathini kufikia hamsini (wakulima mia tatu hadi mia nne)
- Kinatumia uongozi wa mzunguko na wa utumishi
- Hukutana kila mwezi na mkutano una wawakilishi wa vikundi vidogo wengi.
- Ina shamba la kupanda zaidi ya miti elfu mia mbili na lina vikundi vidogo vinavyopanda na kuchunga miti yao.
- Iwe na mwanacuster mmoja au zaidi

wanaosaidia wahesabu miti kujua yanayofanyika katika kila kikundi kidogo.

- Iwe na walimu wanaofanya kazi wanaogawana taarifa nzuri, zilizopo na zinazosaidia katika mikutano ya cluster na katika mashamba.

Kuongeza, cluster yenye nguvu yafaa:

- Vikundi vidogo viwe vimehitimu kwa njia isiyoficha chochote na yenye ukweli kila mwaka.
- Vikundi vidogo vimepata malipo ya miti kwa njia isiyofichika kila baada ya miezi mitatu.
- Kila kikundi kidogo kiwe na mkutano kila wiki na kiwe na uongozi wa mzunguko na wa utumishi.



- Kila kikundi kidogo kifikiwe na Mazingira Bora kila mwezi.
- Vikundi vidogo vipate mafunzo na viyafuatilie, vigawane njia bora za kufanya mambo mbalimbali kama Kilimo hai, meko bora, na njia za kuzuia mmomonyoko wa udongo, pamoja na mengineo.

Faida za kuwa katika cluster:

Kikundi kidogo kinapokuwa katika cluster, kina faida nyingi:

- Ni rahisi kufika katika mikutano ya cluster ya kila mwezi
- Ni rahisi kulipwa
- Waweza kupangia uhesabu miti
- Ni rahisi kusoma na kujua njia bora zaidi za kufanya mambo kama kilimo hai.
- Ni rahisi kupata Mazingira Bora kila mwezi
- Ni rahisi kujiunga katika nafasi mpya za TIST kwa mfano Jiko Bora

Kuanzia hivi karibuni, kutakuwa na nafasi hata zaidi, kama kujiunga na vikundi vya kuweka na kukopa.

Kupitia majadiliano katika semina za TIST katika miaka mitatu iliyopita, kumjulikana kuwa kila cluster ina uwezo wa kujiongoza. cluster itachagua wawakilishi wa cluster ambao watatumika kwa muda wa miezi michache kama viongozi wa cluster hiyo. Hii ni kumaanisha kuwa wanavikundi wengi watapata nafasi ya kujiunga na semina za TIST ili kupata mafunzo kuhusu uongozi, kuanzisha njia bora zaidi za kufanya mambo mbali mbali na kuendelea kusaidia kupangia mafanikio ya TIST.

Pia kutakuwa na watumishi wa TIST mabingwa wa Jiko Bora, mabingwa wa miti ya kiasili na nafasi zingine nyingi za walio katika TIST kukuza na kutumia vipawa vyao. Cluster zingine zilizopo karibu na misitu zitaingia katika vikundi vya CFA (Community Forest Associations). Cluster nyingi zitaanza kukuza biashara zao wenyewe na kuanzisha nafasi za kuendelea kibiashara kwa njia endelevu. Cluster nyingi zitaanza kufanya kazi nyingi mipaka ya maji ili kuachisha mmomonyoko wa udongo, na kupanda nyasi, miti na vichaka vya kiasili.

Uongozi katika cluster: Jinsi unavyofanya kazi

Cluster katika Kenya zimekuwa zikifanya uchaguzi wa wawakilishi wa cluster. kila cluster ina kundi la viongozi watumishi wa kujitolea watatu

waliochaguliwa kutokana na memba wa vikundi vidogo: kiongozi, msaidizi wake na Mweka vitabu na hazina. Wawakilishi hawa husaidia cluster kukua, kboreka na kufanikiwa.

Uongozi wa cluster ni wa mzunguko. wakwanza watatu wataongoza wakati wao halafu kiongozi atatoka uongozini na msaidizi wake atakuwa kiongozi. Mweka vitabu na hazina naye atakuwa msaidizi wa kiongozi. Mweka vitabu na hazina mpya atachaguliwa na cluster kutoka kwa wanavikundi vidogo na afunzwe na msaidizi wa kiongozi mpya kuchukua nafasi hii.

Kiongozi wa cluster anaweza kusimama kuchaguliwa kama mweka vitabu na hazina baada ya kukaa nje ya uongozi miezi minne. Mweka hazina na vitabu mpya anafaa kuwa mwana kikundi kidogo aliyechaguliwa kutokana na memba wa vikundi vidogo katika cluster na aweze kujua kutumia Palm kuripoti na kuweka vitabu na awe amejitolea kuwa msaidizi wa kiongozi halafu kiongozi.

Kazi ya kiongozi.

- Awe mtumishi kwa cluster yote na afuatilie maadili ya TIST.
- Huongoza kazi za cluster, huongoza mikutano ya cluster, hupangia uhesabu miti na masomo ya cluster pamoja na viongozi wengine wa cluster.
- Husaidia kuleta na kutuma taarifa muhimu kwa chama cha uongozi katika TIST.
- Huhamasisha vikundi kufikia mambo makubwa, pamoja na kupanda miti na kutumia kilimo hai.

Kazi za msaidizi wa kiongozi.

- Huchukua usukani asipokuwa kiongozi na utumika kwa wanacluster na kiongozi wa cluster.
- Husaidi kiongozi kuleta pamoja mafikira ya wanacluster.

Kazi za mweka vitabu na hazina katika cluster.

- Huweka rekodi za mikutano na matumizi ya pesa.
- Huweka rekodi za cluster na ripoti kuhusu mikutano ya cluster kwa kutumia Palm
- Uhitaji kujua kutumia Palm ili aweze kuingiza matumizi na mpango wa matumizi na kupata taarifa kuhusu cluster.

Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

Kikamba Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

Inside:

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Ngwatanio ya Kigucwa nikwasya kuthukuma vamwe nthini wa TIST nimanengete vaita na ikailya mwikalo wa mathayu moo.

(na Aaron Kaindio, muthukumi ngwatanio ya Kugucwa)

Itina wa ukwata mbesa sya mbonasi kuma kwa uthukumi mwailu wa TIST nthini wa uvandi wa miti, ithyi ene ma ngwatanio ya Kigucwa nituendee na kuete maendeeo na mavuso maingi undu wakwingivya na kuthathasya utethyo uyu.

Kwi June 2013 nitwakwatie mbonasi yai mbee wa ilingi 54,000/= Ivindani yiu nundu nitwavikitye namba ya miti ila yivo kwithiwa yi 90,000. Umuthi twina miti ila mivitukithye ta 101,298. Nitwatumiiie mbesa ithi sya mbonasi useuvya kivuio kya makandania. Nitwakwatie utethyo kuma kwa ovisa wa ndilikasa undu wa

mawiko maseo kuseuvyani ivuio.

Umunthi kila memba wi ngwatanioni yitu nukwatite vaita kumana na iseso yii nundu kila umwe weeyumisye niwavikie na ukwata mbeu ya makandania kuma kivuioni kitu. Yu mathooa ma makandania nimaendee na kambata na kwauu twina wikwatyo kukwata soko kwa mathooa maseo yilamiti yitu ikwambiia usyaa. Ingi miti indi nitalikaa nthin wa tist kwoo nituithiwa tuikwata vaita kuma kwa nzeve itavisaa (carbon credits) oundu miti yitu iendee na kwiana.

Kisio kya TIST Nyahururu kuendee nesa na ngwatanio ingi kulika nthini wa TIST.

(na Peter Mithiru, Muthukumi wa TIST Nyahururu)

TIST yambiie nthini wa Nyahururu mwakani wa 2008. Mbee vyu tukundi 100 nimo meeyandikithisye nthini wa mwaka wa mbee wa nima ya kuthukumana. Itina wa vau

tukundi tungi nitwithiitwe tuila nthini wa TIST.

Boiman na Nganoini nisyo ngwatanio ila inaseuviw'e mituki. Ngwatanio ithi mbingi syi nthini wa kisio kya Nyandarua County ateo Nganoine ila

Vaa vena musolo ukwonania undu ngwatanio ila nthini wa Nyahururu iilye.

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
Mairo Nne	22	48,125	162	141	86.9
Boiman	22	28,799	172	70	35.5
Nganoini	20	13076	126	170	85.8

yi nthini wa county ya Laikipia. Isio situ syithiawa nthithu na nisyithiawa na mbua nesa kwoou undu miti yianaa nikwa mituki na useng'o. Twiaanthime na iwanza nene suya itheka na kwoou aimi aingi mavandaa miti mateukia wasyo nundu wa thano.

Tuendee na ukwata mokulyo maingi ma imi ala mekwenda kulika nthini wa TIST. Nitwambaa umamanyisya mbee wa kumaandikithya nthini wa Tist nikana mambe kuelewa nesa iulu wa TIST na

undu wa viasala wa nzeve itavisaa na moseo ala angi mokaneasya na kuthukumana na TIST.

Kwa memba eu ala mekwenda ulka nthini wa tist nimambiia kwa kuka mbumbanoni sya kila mwai ngwatanioni ila syivakuvi namo na ingi nomaneenanie na athukumio ma ngwatanio ithi ala namba sya amwe nita, Sophia Wairimu 0706162335 kana Peter Mithiru 0722896086.



Ngwatanio ya Muriru: ndatika 30 kila umbano wa ngwatanio tuvike uthukuma kivuioni kitu kya miti!

(Na Eunice Wambui, Mwii wa kinandu na muthukumi wa ngwatanio)

Ithyi nthini wa ngwatanio ya Muriru twina tukundi tunini 42 umunthi, miti nayo twona 39,500 ila mivande na italikite. amemba nimonete miti ino yi minini yila twina umbano wa kila mwai athukumi maitu nimatutetheesye kila kakundi kuiva silingi 100/= kwongeleela budget yitu ya kila mwai nikana tutonye kuseuvya kivuio. Kivuio kii nikyambiie mwai wa keenda mwaka muthelu (2014) kwa utethyo kuma kwa mumanyisya wa tene nthini wa TIST, Joseph Ndirangu, Nitwavandie mbeu na myai ila yaatii twavanga utumiaa ndatika 30 kuneenanisya

maundu ma muthenya usu na ila ingi kivuioni.

Ivindani ya mbua ino ya mwai wa kana kuvika wa muonza nitwaanie miti ila yai kivuioni kila umwe weeyumisye undu wa kivuio kii ona ala mataaithiwa na ivuso ya kuvika wumbanoni kila mwai. uu tweekie nikana kila umwe one useo wa undu uu na uthukumi wa vamwe.

Umuthi nitwiyumitye kuthathasya kivuio nikana tukwate vaita kumanana na kuta miti ila itialaa itina wa kila memba kukwata yake ya uvanda.

Ngwatanio ya Kamangura: Kwayu nituukeya vaita na useo.

(na Joseph Thitai, muthukumi wa ngwatanio)

Ithyi ma ngwatanio ya Kamangura twina utanu kumumanyithya iulu wa vaita ula twithiitwe tuikwata kuma twalika nthini wa TIST. Kwayu twina tukundi 41 na twina memba 298.

Kamangura yi kisioni kitauaa nesa nthini wa county ya Kieni. Uvandi witu wa miti nuetete uvinduku munene wa nzeve nthini wa kisio kitu. Tita tene vala tuneethiawa na munyao munene, yu nitutaniaa mbua mbingi, Kii kietetwe ni wongeleku wa miti kisioni kitu.

Twina mauseo angi kuma kwa TIST ta kumanyiw'a. Ingi nitwianite kiutongoi nundu wa

utongoi wa kuvinduana.

Nitumbuite kana utongoi wa kuvinduania nutumaa inengo kivathukanio imanyika na utongoi kwaila, Mbumbano sya kila mwai nitunengae ivuso ya kumanyiania iulu wa mawiko maseo ma nima, uvandi wa mititu, uima wa mwii, na kusuvia mawithyululuko. Kwa nzia ii nitukwatite ualyuku munene maunduni maitu.

Moseo ala makwatika nitutonya kwasya nita Ngu, Liu wa indo, Usyao museo wa liu kwa nzia ya nima ya kusuvia na tuyulwa ni ndivi ya nzeve itavisaa. Twi atanu nthini wa TIST.

Nuukwata moseo oonthe ma Mawiko maseo ma TIST ?

Aimi aingi ma TIST nimatungite livoti na kuweta vaita ula makwatite kwa kutumia nzia nzeo sya TIST. Nitukwenda kwiw'a kuma kwaku ethiwa nukwatite vaita kwa kutumia nzia sya TIST iulu wa maundu aya.

Maiko ma usuvia mwaki.

Maiko aya nita maiko ma ndaka masevitw'e ni TIST na methiitwe ma useo kwaku ata/ nimautehetye kusuvia ngu? nikaotele syuki? ni vaita ungi mwau maunengete?

Nima ya Kusuvia

Ino nizia ya kuima vandu vamwe uteutangatanga. Nutatite nima ino? Woonie ata iulu wa ngetha ila wakwatie wasianisya na ya nima ila ingi? nutonya umitumia ivindani yingi?

Matunda na mbindi.

Nuvandite miti na iti sya mbindi itina wa ulika nthini wa TIST? Wina ngetha yianan ata umuthi? nivaita ungi mwau ukwatite kutumia vu musyi kana kuta?

Liu wa ndithya na Vuu.

Nuvandite miti yina liu wa indo kuma walika nthini wa TIST? Nukwatite liu mwingi wa indo umunthi?

Ni kivathukanio.

kyai wonete? Nuseuvitye vuu wa yiima? niwakwatie ngetha mbingi? Nimakunia meana wakwatie maingi kwi ala ukwataa itina wa utumia vuu uyu?

Usyao kuma indoni.

Nukwataa ueti mwingi kuma indoni kuma wambiia



utumia walanio wa tist? Kwa ngelekanio iia, matumbi, nyama naingi mbingi.

Kuta miti mimeu.

Wina kivuio? Nutesaa miti ila yatiala? Uvaitikite ata ni miti ya tiala kivuioni na wata?

Uki wa Nzuki.

Nuithasya Nzuki? Tutavye undu ukwatite vaita itina wa kuketha uki wa nzuki.

Ngu.

Tutavye vaita ula ukwatite kwa kuvanda miti ya TIST ngalikoni ya ngu.

TIST: Kutaanisa na kusea miti yaku kwoondu wa kwiana kwailu.

Kwa indi, kitumi kya kutaanisa na kusea miti ni useo wa uima wa kila muti, na kwa useo wa uima wa mutitu w'otho.

Undu uyu wikawa kwa kusakua miti ila miseo thini wa mutitu. Kwi mithemba mingi ila ni ta Misanduku, Mikuvulya na Minyoonyoo ino ni miti mala maingi yithiawa yi minene, na yina muthamba umwe (itena ngava). Kila muthemba wa muti niwithiawa na mawendi kivathukany'o nikana wiane kwa mituki na wina uima museo. Kwongelela ni kana miti imwe niyithiawa iyenda usuvio kivathukany'o na ila ingi kwianana na vata wayo kana vala ivanditwe. Yila miti ivanditwe ta ya uimi wa muvango wa TIST ni ivandawa na nzia syi kivathukangany'o (ngelekany'o ni miti ya kusii kiseve muundani) thini wa isio syi kivathukany'o (ngelekany'o ta w'umiloni wa sua kiimani kya Mt. Kenya na uthuilono wa sua kiima kiu kya Mt. Kenya) na kivathukany'o kya seve na mawendi amwe ma miti uyithia ni mavwanene.

Kwa miti kwiana na ulumu yi na wailu matambya eli (2metres) ni maile kwa utaaniu wa miti. Kutaaniw'a kuu kwa miti kaingi ni kwailaa kwa miti ila ivanditwe ni TIST imwe yayo yi ta mithemba ya miti ta, misanduku, mivengele na mikuvulya kana minyoonyoo. Tulilikane kana miti imwe niyendaa utaaniu munene kwi ingi ta iembe na ikandania.

Kutaanisa miti nikutumaa miti itonya kumya liu na kiw'u kuma muthangani nesa vatekuaania, undu uu nutumaa miti yiana muvaka kiwango kila yaile. Miti ithengeanie niyaile miti yi minini indi miti yaendee na kwiana niw'o miti imwe niyithiawa yi minene na uthui mwingi kwi ingi. Miti ino niyo yaile kuekwa ikeana ("crop tree"). Thini wa kuamua ni muti wiva ukuvetwa na niwiva ukutiwa niwaile ni kusisya kana mwanya ula wi katikati wa miti isu kana niwaile, ethiwa ndwianiie niwailwe ni kumya miti imwe.

Itina wa kusakua miti ila ukumya, mitilile

vaaya nathi, mithenya yukite kitina kiiu nutonya kwona kithongooete, nikana thongoo isu iikaendee kwiana niwaile kuitila ingi kuma kitinani.

Nzia imwe ya kumanya kana kusakua muti ula ukuveta ni kwa kusianisa undu muti wiana kwianana na miti ila ingi yavanditwe imwe. Elewa kana miti yianaa kivathukany'o kwianana muthemba wa muthanga, undu kiw'u kiana na vuu. Kwa vamwe, ethiwa miti ila yi vamwe ni ya ivinda yimwe miti ila minene niyo yailwe kuekwa ikena muvaka kuima "crop trees". Kingi kitonya kutuma muti withiwa wi mwailu ni undu wina matu maingi kana tukava vala tui. Muti wina matu kana tuukava kuu yiulu withiawa utonya kwosa kyeni nesa na kwi miti ila matu me itheo na nitonya kwiana nesa. Mwisoni kana muti wa kuima "Crop tree" waile kwithiwa na muthamba /kitina kimwe, kitena uwau kana muinyu. Onavala kuu tikwasya miti yothe minene niyaile kumw'a lakini kieleelo ni vethiwe na mwanya wa matambya eli (2metres) katikati wa miti in kana miti ila imeaa na ngava mbingi yithiwe yimianie na yiane nesa na kwosa kwa seve ila itumiawa ni miti (carbon capture) kwithiwe kwa iulu.

Yila uutumia nzia ithi syi vaa iulu lilikana kana kwiana kwa muti kuendanasya na muthemba wa muti. Kethiwa muti wa kiembe ni wianite vamwe na musanduku, kiembe kithiawa ki kinini na kianite mbola kwi musanduku ula wianaa na mituki, niw'o ndutonya kutema kiembe kiu nikwithiwa ni kinini kwa kusisya. Niw'o muembe ni wavata nundu nutumiawa ta liu na ona kutwika wianaa kavola, na kwi miti mithemba mingi itumikaa maunduni kivathukany'o na ti kwa kwosa seve thuku tu (carbon capture). Ngelekany'o ni ta muti wa muunyi, muti uyu niwaile kuunenga mwanya munene nika wose kyeni na sua nesa nikana umesye mbonge na ngava mbingi kwa mituki. Ethiwa wienda miti ya kusii seve nayo niwailwe kumivanda kwa musitali ithengeanie nikana ithunge.



Kusea.

Nthini wa mititu ya kwimesya, miti niyi sea yo mbene. Ngava ila syi yiulu nivithaa tuukava kana tuvonge tula twi nthi wasyo na matu ma mbonge syithi mayambiia kuma na kwoa kila kitumaa nasyo mbonge/ngava isu syuma na kwoa na iyitila kuma mutini. Oyila kwisea kwa miti kutonya kwithiwa thini wa mititu ya TIST, nivaile vala ve vata na ni useo kusea na moko. Yila uutw'a /kuamua ni ngava/mbonge syiva ukumya niwaile ni kuatiia nzia imwe, nikwithiwa miti yothe ndiseawa undu umwe.

Miti mithemba mingi yailwe ni kwithiwa na muthamba umwe kuma nthi. Miti ya muthamba umwe niyianaa mituki na ndithiawa na thina wa kwatuka yila kwina kiuutani. Ethiwa muti wina mithamba mingi na niwasakuwa ta muti wa kuima "crop tree" ve syindu waile niumannya ta muthamba ula munou/munene niwaile, na ndwaile kwithiwa wi mwou kana kwoneka wina matu maingi ni waile ithiwa wi mulungalu.

Kindu kimwe kyosawa nai nthini wa kusea ni kana mbonge ila syianite vamwe na muthamba nisyaiile kutemwa.

Uu ti w'o kutilwa kwaile kwa ngava ila yivaasa na muthamba. Kiikitumaa muthamba uyu waile wiana na kuvwika kitau kiu nundu wianu wa ukava usu niwianaa uvoetye kitau kii vate kwoa. Sisy visa namba 3 ula uatiie.

Yila ukusea miti ndukasee na itomo ati nikwithiwa kaingi nitumikaa ta ngu kana uithyo wa indo. Lilikana kana kusea nikutumaa miti yiana yina uima mwailu na ingi kwa ivinda ikuvi ikiana na mituki, kumya matu kutiaa muti utena vinya mwianu wa kwosa sua na kwoou uituma muti withiwa na thina wa kwosa sua na uyithiwa na kitau kila kyaile uvoa. Itina wa kusea vala wasea nivaile kuekwa vakavoa, ndwaile kuvwika kitau kiu kiikatume muti usu wambiia kwoa kana kulikwa ni sumu, nundu muti uyu uvoaa uta mundu atemwa.

Undu ungi ni kana muti wasewa vala vaumw'a ukava vambiia uthongooa ovau utee kwoou nuseo kutila thongoo isu itaneana kaingi iisyokaa uthongooa ingi na ninzeeeka na mituki.

Miti imwe ta ya matunda niyiekaa na kusyaa nesa yina ngava mbingi. Kwoou miti ino niseawa yi minini ngava ila syi vakuvi na muthanga nikana itonye kuthongoo ingi kuu yiulu na iyiana na mituki. Muti uyu wa mina kwiana wambiia kuthongooa ingi thongoo ithi noitilwe ni kana muti uyu withiwa na usyao museo na muti uthunge nikana usyae nesa. Ithiwa wisi niwaile unenge muti ivinda itina wa kusea mbee wa utana usea ingi nikana muti withiwe unavoa itau na ukakwata vinya.

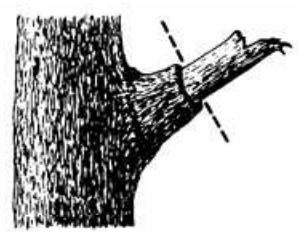
Lilikana kana thini wa soko wa seve thuku (Carbon market) nitwaisye nitwaile kwikalya miti vandu va ivinda iasa.

Miti niyailwe ni kwiana na kwikala ta vandu va myaka ta miongo itatu.(30years).Tusea na kuimia na kumitaanisa miti kwa useo wa myaka yukite. Miti imeete ta ikuthu nditonya utalika nthini wa soko ya nzeve itavisaa kwoou nditonya uvitukithwa nthini wa TIST ta miti italika.

Vasa 3



Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Ngwatanio numu:

thangu yii niyiunenea ngwatanio numu undu yaile kwitha yiilye na vaita wa kwia walany'o na ngwatanio numu:

Ngwatanio numu:

- Yithiawa na tukundi tunini ta 30 kuvika 50 (utalo wa aimi kati wa 300 na 400)
- Kutumia nzia ya utongoi wa kithyululu
- Kukomana kaingi ta umbano wa kila mwai aimi ma tukundi tunini mevo
- Niyithiawa na kitheka kya uvanda iyiva miti ta 200000 na yina tukundi tunini tuuvanda na kusuvia miti
- Niyaiile kwithiwa na amemba kana member umwe ukutetheesya thini wa avitukithya kutetheesya na kusyaiisya tukundi tunini.

Kwelekela kuvaulu.

Nikyaile ithiwa na amanyisya mena mawendi maseo na kunengane uw'o na kunengane uvoo wavata iulu wa mbumbano na miunda.

Kwongeleela, ngwatanio numu niyailekuikiithya kana:-

- Tukundi tunini nitwaile kuvitukithwa nesa na kwikwa kyenini na kwa nzia ya w'o kila mwaka.
- Tukundi tunini kukwata ndivi yoo mavinda ana kwa mwaka kwa nzia yaw'o naya kyeti
- Kila kamwe katiwa tukundi kukomana kila kyumwa na kuendeesya utongoi wa kumanisya na kithyululu
- Kila kamwe ka tukundi kukwata ithangu ya "mazingira bora" ya kila mwai.



- Tukundi tunini kukwata umanyisyo na kwiyumya kuatiia mawalany'o maseo ma tista uimi wa kusuvia (cf), maiko ma usuvia mwaki, nzia sya kusuvia muthanga kukuwa na angi maingi.

Moseo ma kwithiwa nthini wa ngwatanio (cluster)

Yila kakundi ke thini wa ngwatanio kethiawa kena vaita wa:-

- Nikatonya kuka umbanoni wa kila mwai vate kuselewa
- Nikatonya kuivika kwa mituki na vatena thina
- Nokavangiwe muthenya wa kuvitukithwa
- Ni laisi na mituki kuvindiwa' a nzia nzeo sya tista tanima ya kusuvia (cf)
- Nikatonya ukwata ithangu ya mazingira bora kila mwai
- Ni laisi kutumia nzia nzeo sya tista ta kutumia maiko ma kusuvia mwaki.

Kwambiia o mituki nivekwithiwa na mavuso maingi ta kwithiwa andu matonya kwia mbesa na kukova.

Kwianana na undu yila kwai semina ya tista kweeiwe thini wa myaka itatu mivituku kila ngwatanio yaile ithiwa itonya kwiyoungamia. Kila ngwatanio (cluster) ikeethiwa isakuite mundu ula ukumithukuma myai mivuthu nthini wa utongoi na mawalanyo ma I ngwatanio. Kii nikwasya kana tukundi twinge tunini tukeethiwa tutonya uvika seminani sya tista kwoondu wa momanyisyo ma utongoi, kusoma nzia nzeo nzau sya uimi na kuendee utethania kwoondu wa maendeeo na usindi wa tista.

Vakeethiwa na athukumi ma ngwatanio ta ma maiko ma kusuvia mwaki, nduika sya miti ya kiene na mavuso angi maingi kwa aimi ma tista kutumia na kwona inengo syoo ni sya endee. ngwatanio imwe ila syi vakuvi na mititu kutwikithwa' a community forest associations. Ngwatanio mbingi kwambiia usevya viasala syasyo na maundu ma kwitethya na kwiyoungesya. Ngwatanio imwe kwambiia uthukuma na kwiyounga muno wiani wa kuumama kukuwa kwa muthanga ndeeni sya mbusi na mikaoni kwa kuvanda miti ya kiene, nyeki na ikuthu.

Utongoi wa ngwatanio na undu uthukumaa.

Ngwata nio (cluster) syithiitwe iisakuana kila vandu nthini wa Kenya. kila ngwatanio yithiawa na athukumi ma kwiyumya atatu masakuitwe kuma tukundini tunini ala ni : mutongoi, munini wake na mwii wa kinandu. Andu aya matetheesya ngwatanio kwina, kwiyounga na kuvikia walany'o wayo.

Utongoi wa ngwatanio ni wa kithyululu, atongoi mambee atatu nimeuthukuma ivinda yoo ya indi ula utongoetye ayumia na muni wake ayoseleela utongoi nake mwii wa kinandu aitwika munini wake na vaisakuwa mundu ungi mweu kuma kakundini kanini aitwik mwii wa kinandu vala uvundiwa' a ni ula unaivo. Ula unai mutongoi no aungame ingi kwitya utongoi ta mwii wa kinandu itina wa kwithiwa ate mutongoi vandu va ivinda ya myai ina (4months). Mundu ula waile usakuwa ta mwii wa kinandu aile ithiwa aumite kakundini kanini ka ngwatanio isu na utonya kumanyiw' a undu wa kutumia mathangu ma palm kutunga livoti na eyumitye kwambata nginya kutwika mutongoi.

Mawia ma mutongoi

1. Naile ithiwa e muthukumi kwa ngwatanio yothe na ayianya mwolooto museo wa Tista.
2. Kwailya maundu mwa ngwatanio na kutongosya maundu ma yo ta kwia mawalany'o ma kuvitukithwa' a na kuvundisya atongoi ala angi.
3. Aile ithiwa atonya kuete na kutuma uvo kuma utiongoini wa kanzu ya tista.
4. Atonya kuthuthya ikundi kuvikia ngolu nene vamwe na kutumia nzia ya uimi wa kusuvia (cf)

Mawia ma munini wa mutongoi

- Kwithiwa atonya kwika mawia ma mutongoi yila utevo.
- Kutetheesya mutongoi na mawoni na mawalany'o ma ingwatanio.

Mawia ma mwii wa kinandu

1. Kwia masavu ma mbumbano na utumiku wa kila kindu
2. Kwia livoti sya ngwatanio aitumia mathangu ma palm
3. Niwaile ithiwa esi utumia palm na atonya kwia masavu ma ngwatanio na budget yayo aitumia palm.

Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

Kipsigis Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Some of the Members of Muriru Clusters preparing seeds for their Cluster Tree Nursery.

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Kigucwa kilasta kikiboisie en kibagenge ko koit kenyonu borotet en TIST.

mwoe Aron Kaindio.

Ye kin konyor kilasta melekto nebo Bonus en minetab ketik ,keiiti borotet ak ketesange ak kegimegitu en toretoton. Em 2013 ko kiginyoru sh 54,000 en kasaraton ko kigitinye ketik 90,000 ago en raini ketinye ketik 101,298 chesobtos ago iitotin.Koit anyun ketes ketikab

macadamia en kabeti.kiit kenyonu toretet koyob kap agriculture en katigetab kabeti.Kit konyor chitugul ketik en kurubit kochangait anyun macadamia ketik ak logoek kobit mungaret tab logoek ak kesich chebkondok en TIST agine.

Nyahururu TIST Regeio Good progres and New cluster joining TIST.

mwoe Peter mithiru.

Kiginome kilasta iliton en 2008.En kurubisiek 100 chemengechen ko kinyor chomchinet konam TIST en kenytit nebo tai. Kitoo anyun

chechang kochut kotech kilasta kouni,cluster/group/Tree/member/grove/Area. Boiman ak Nganoini ko kilasta chelelachen

The table below shows the status of Clusters in Nyahururu TIST region.

Cluster	Group	Trees	Members	Groves	Area
Pondo	64	95,229	579	620	234.8
Raichiri Podo	51	58,401	358	576	301.0
Salama	48	29,174	309	470	220.1
Mairo Nne	22	48,125	162	141	86.9
Boiman	22	28,799	172	70	35.5
Nganoini	20	13076	126	170	85.8

chekogitou.Chuton chechang komiten komiten cuonty nebo Nyandarua, Nganioni komiten kiwotetab Laikipia county. En komosuwe chuton kotinye koristo ne kararan ago nyoru Ropta en koi tugul,Ketik kobwone en choginet.Miten

anyun bororindo nebo imbarenik ole kiminchin ketik.Miten bororindo en Temik chemoche kotes tai en TIST. En biik chemoche konam TIST konyor Sophia warimu en 0706162335 ak Peter Mithiru en 072289608.



Muriru Kilasta: En tuiyetab kilasta ketinye tagigosiek 30 kemiten kabet.

mwoe Eunice wambui.

En kilasta iliton komite kurubisiek 425 chemiten en iguni. Tinye ketik 39,500 cheminotin ago che sobtos ak iitotin. En niton komwo temik kole moyome niton. En toretetab ngalaletab kondoik ak toretetab koyob biik alak koiti chitugul konem sh 100 asi komuch kinam kabeti nebo kilasta asi kenyorunen ketik

chechang. Tesetai en kuni kabeti ne kiginam en toretetab Joseph Ndirangu.

En kwelutab April-July komiten Robta keitin konyor chi tugul ketik asi komin en kilasta. Kitiye maget ketes kabeti asi kimuch kiyalten kesuwek che konget.

Kamangura kilasta: Engunin ko kikenyoru borotet.

mwoe Joseph Thitai.

Echek en kilasta nenyon ketinye boiboiyet neo mising kongeten iginam TIST. Kitinye kurubisiek 41 chemengechen komiten temik 298. Kamangura komiten en kieni constituency. Kimnotenyon kemi en TIST ko kigimuch kewal itondab emet. Me kou atgai

kimiten kemut en betusiek tugul. Betusie chu kenyoru Robta en kasarta age tugul, kigeiti konetisosiek che chang kemi en TIST.

En niton kochang tuguk che kingenyoro kou ketik, kwenik, minutikab tuka ak kenyoru omitwogik cheyomotin en kaa.

Tos kiinyoru kelunoik tungul chebo boisietab TIST ne kararan?

En temik chechang chemiten en tist kigoyok wolutikwak ak ko bchei ak biik alak agobo kelunoik chekinyor en TIST. Kimoche anyun kegas koyobun inye ko kinyoru kelunoichuton, en agenge en chu.

- **Koikab Maa(stove)**

Niton komuche kobo Ngugunyek anan kobo kotogik. Konech anyun wolut ne kinyorunen kelchin en koigab Maa chebo TIST, ole kitoretoge en kwenik? Tos miten

iyet en koo? Nee kitage ne kiinyorunen?

- **Koletab Mbar(CF)**

Niton ko koletab imbaret ko makibat. Tos kiriyomte agobo niton en kaa anan ko en kurubit? Kiinyorunen keluut kosir nebo kila? Itinye komongunet iyomte en betusiek chebuwone?

- **Tenterek ak Logoek.**

Tos kirimin ketigab lokoek anan ketik



chetinye Tenderek kongeten inam TIST?
Nee anyun ne igese en betusiechu? Nee
kelunoik cheginorunen omitwogikab tuga?

- **Keturek ak omitwogikab Tuga.**

Tos kirimin ketik che omitwogikab tuga
kongeten ininam TIST?Tos inyorunen
omitwogik che yomotin?

Tos kiriyomte ichob keturek en kaa? Tos
kiinyorunen kesutik chechang?Tos miten
besiet ak yon kemin komente keturek?

- **Ngetunanikab Tuga.**

Tos inyoru ngetunanik chebo Tiyongik
chebo kaa kosir boisionik alak chebo
Tist?Kou chego,mayainik,Banyek ak alak.

- **Mungaretab kesuwekak ketik.**

Tos itinye kabeti en kaa?ak imuch iyalte
alak?Tos inyorunen kelunet en chuton?

- **Kwenik.**

Ogebchei tugul ole kiimuch inyorunen
kuwenik kongeten imiten en TIST ak imin
ketik.

Serishet ak chororet ketiguk sikobwa komie.

Kasirei B en Misleh.

Tugul en tugul,boisietab serishet ak istoetab
sakek chechang kotetat kotoret
chametabgei nebo ketit ak timdo tugul
komugul.. Niton keyaei kokakewei ketik
chekararon en timdo tugul. En ketik chechang kou
chebo gaa,krivelia,blukam ak saipres ,chuton ko
ketik che echen en tugul ak kotinyei temet agenge
ne chulat. Makchingei ketik poroindo ko tiengei
ole pitei, ole kakikolda ak etaptab barak lakini
imucho kobais tuguk alak.

Sikopityo komie ketik, komakatin mitainik aeng
en kwenetab ketik. Niton ko eng ketik che chang
chebo TIST kou krivelia ak saipres nganda mache
ketik alak paraindo neo cheu maembe ak
makademia. Igochin paraindo ne mie ketik kosich
bek ak tuguk che igochin kurut komie. Iyanat
paraindo ne kiten yontakomengech ketik.Yan ekitu
ketik, koegitu alak kosir alak. Kisere ketik si korut
en boraindo ne yamei.

Yekailewen ketik che kiistoi, ketilei chuton en
ng'wony. Yeipata wikisyek ak arawek, kotoi kobityo
ketik alak eng ketatan amu ing'ata. Kiiriye ketichuton

mengech en ng'onny yon imache mapityo.

Ngot ko chang ketik chekergei en oldo agenge
keistoi ketik chemengech ak kebakakta cheechen
kobityo. Atebetab metitab ketit ko kit age nebo
komon. Ketik che tinyei metoek che baraen
komuche konam kimnatetab asista kosir chemiten
ng'wony ak komuch kobwa komie. Ne letunen,
temik chetinyei kwenut agenge chematinyei
mianwogik anan ko kiging'em. Nesire komoibaru
kole ketik tugul che nuagen konyoru keisto!
Barchingen baraindop mitaishek aeng sic kjomuch
kokimegitun ak koechegitun akomuch koam koristo
neo.

Yan imache iseraser ketik, konyolu inai ile ketik
che terterchin koechegitu kotiengei kineu. Ngot
konyonen maembe ak yemi blakam che chang,
komuch kominginit kosir olemiblukam che
kachan'ga. Maembe komuch korut kosir blukam
chechagu, noto anyun konyalu ketil amun mingin.en
imanit, ketit neu maembe kobokamanut missing
amun en tuguk che konu che lokoek che kiamei
ak kialdoi. Maembe kora ko kararan en minutik alak



che rutu en im bar. Blukam komuch kowech ketik alak ak minuti komarut komie. Bo kamanut kibwat niton yan ileweni ketik che iseraseri.miten boisionik che chang chebo ketik kotiengi kit neu ketit kotabala ametab koristo. Kou en kabarunet, imuch imache ketik che konin uruet. En niton, konyolu igochi paraindo ketik kosir ole chamikochindoi sikonyorf asista neo. Niton kogochin ketit koet ak kogochin temenik che chang en ketit. Kot ketik che tertai koristo en lainit imuch inde ketik korupkei nganda nyolu keisto ketik chemi komoswek si kotes timwek.

Chororet

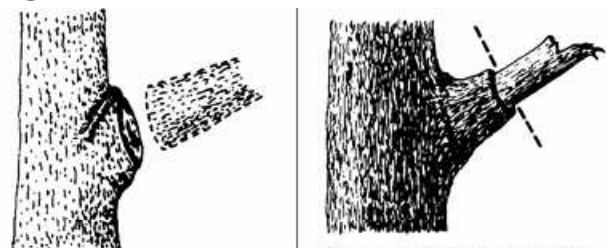
En timdo nebo ketikab kipгаа kochororigei ehegen. Temenik chemiten barak kotuchei chemite ng'wony. Yon inamei komeyo sokek chemitei ng'wony komeei kora temenik chenamei sakechuton. Temenik chekikosaiyo ak che kikochorotyo kobutos ichegen. Imuche kochororak sagek ichegen en imbarenikab TIST nganda toreti ngeisto sokek keboisie eunek. Nganda mache ketik cheterter olekichortai

koterterchis komiten oratinwek che ratinwek che boisie en ketik tugul.

Ketik che chang ko magat kotinye temet agenge en ngwony. Ketik che tinyei ketit agenge koetu en chokchinet ak ketile yon miten robta. Ketit ne tinyei bitunwek che chang keibe koek minutik, yon kichenge ketit ne kiribe, cheng ne o en tugul ak inai ile matnyei miando age tugul ,ak kotinyei sogek ak ko tomo konun ak ko chulat.

Bik che chang kobwate kole kitile temenik en che matuitos al temenik. Inoni ko lembech. Tilet ko nyolu kotuiyo ak temenwet konegitchi ketit. Inoni koboose ole yataat ak kobagachi en orititab ketit si kogochi ketit koet komie en kasarta ne mie.

Figure 3



Pruning cuts should be made just outside the branch collar.

On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

Cluster ne kim: Askenyorun borotet.

Arrticle ini kongololen agobo Cluster ne kim ak tuguk che yoche kotinye ak manufaa che chang' che kinyoru yon kitinye cluster ne banganat:

Cluster nae kim ko;

- Kotinye 30 agoi 50 nebo membaek che active Groupishek (300-400 temik)
- Koyoe rotating nebo kandoinatet ak kandoinatet nebo services.
- Kotuitos en kila arawet ,ago tuyoshechoton kobwonen groupishek che meng'echen anan ko representatives chechwag'et.
- Kotinye imbarenik che imuche komin ketik 200,000, ago tinye groupishek chemeng'echen

che mine ago ribe ketichoton.

- Konyolu kotinye membayat ageng'e anan kooeng' che tooreti Quantifiers koribe ak kotoreti results chebo groupishek chemeng'echen.
- Nyolu kotine trainers/konetik che toreti, en accuracy, ak komwochin agobo ngalek en tuyoshek chebo cluster.

En teset ,cluster ne kim konyolu ko:

- Groupishek chemeng'echen kotransparent, accurate manner en kila kenyt.
- Nyoru lipanet groupishek chemeng'echen en oret ne imanit ago yatat.
- Tinye tuyet groupishek chemeng'echen en kila



weekit ago yoe zungukanet nebo kandoinatet.

- Nyoru gazzettit 'ab Mazingira Bora newsletter en kila arawet.
- Nyoru training grouitit agetugul ago yoe kasishek 'ab volunteering ,inetetge agobo Conservation Farming, energy efficient jikos, ak ole kimuche keterto soil erosion ak tguak alak.

Manufa chebo kechut cluster:

Yon miten groupit ne ming'in Cluster, konyoru manufaa chechang':

- Igu rasi kewa tuyoshek chebo cluster.
- Igu rasi le kelibondech ak koig safe.
- Kimuche keyai quantification.
- Igu rasi kinetge agobo Conservation Farming.
- Nyumnyumitun ole kenyorundo Mazingira Bora en kila arawet .
- Nyumnyumitun ole kiitchindo opportunities TIST kou improved stove jikos.

Konome komolo ,koitchech opportunities chechang', Kou keyai kasishek che toreti emet.

Konamang'e ak ngololutik chekikitinye en TIST Seminars en kenyishek somok chegogobata, kogogeger kele Cluster konyolu kotinye uwezo kotononchige. Leweni Cluster kondoig cheigu cluster Representatives che yoe kasit en orowek tuten kou administrative team chebo Cluster.Inoniton komoonishoni kole itchin groupishek chemeng'echen konyor opportunity ak kobwaSeminars chebo TIST konyor training chebo kandoinatet, ak ole kiyoyito Best Practices, ako kotesta kotoret TIST konyor borotet saidi.

Kora ko mitenexperts chebo Cluster servants stove jiko,experts cheboketik 'ab timin ak opportunities chechang chebo Participants TISTkonyor talentaishek ak kotes ng'omnotet. Cluster chemiten en osnoshek konyoru kasarta koig Community Forest Associations. Clusters che chang konome biasharaishek chechwaget ak konam opportunities konyor economic development ne yamaat.

Clusters che chang' konome koyoe kasiishek che chang en oinoshek koyom kobos erosion en oinoshek ,ak komin suswek,ketik , ak shrubs che indogenous.

Kandoinate 'ab Cluster: ole boishoito

Clusters che chang' en Kenya kogoyoe lewenishet ab Cluster representatives. Clusteragetugul kotinye teamitnebo volunteer servant leaderssomok che kikilewen en groupishek chemeng'echen: Kondoindet, rubeiwot ak chitab accountability. Representatives ichuton kotoreti Cluster k'oet ,ak konyor borotet.

Kandoinatet 'ab Cluster kozungukoni. Somok cheta koyoe kandoinatet agoiye tar termitnywai asigityo koistechige kondindet 'ab cluster rubeiwot. Chitab accountability koigu rubeiwot.Chito neter keleweni kotononchi accountability enCluster kobunu groupishek chemeng'echen ,noton konete rubeiwot kasishek cheyoche koyai.

Kondoindet ab cluster komuche kotonon kelewen koig chetab accountability yon kagobata oroweg angwanu kongeten kingelewen.Chitab accountability negileweni koyoche ko memberyatab grupit ne mingin ne kogilewen en Clusterago imuche konetge koboishen Palm koyai ngalek 'ab reporting ak accountability, ago yoche koyoni koig rubeiwot ak kondoinet ab groupit.

Kasishek 'ab kondoindet.

1. Nyolu ko servant nebo cluster komugul ago yoe Valueschebo TIST.
2. Indochin kasishek en Cluster, coordinateni tuyoshek 'abCluster, quantificationak training kotoretige ak kondoig alak.
3. Toret konyor information chenomege ak cluster ak koibe information koitchi Leadership Council chebo TIST.
4. Igile groupishek konyor borotet konamge ak minet 'ab ketik ak CF.

Kasit 'ab rubeiwot.

1. Nomchin kasit kondoindet yon momiten ago indochin cluster tugu.
2. Toret kondoindet 'ab cluster kogimit kibageng'e en cluster.

Kasit 'ab chitab accountability

1. Inendet neribe records tugul chebo tuyoshek ak expenses chebo cluster.
2. Ribe Cluster records ak reports chebo tuyoshek Cluster koboishen Palm.
3. Nyolu kongen koboishen Palm asikomuch kogonorexponses chebo Cluster akbudget ak koitchi information chenomege ak Cluster.