

Mazingira Bora



TIST

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

English Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Members of Kibuline Cluster during their monthly Cluster meeting last month. During this meeting, we established a Conservation Farming (CF) demonstration plot.

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Kagaene TIST Cluster: Embracing TIST Best Practices.

By Alice Kambura, Cluster Servant

We, members of Kagaene Cluster, are glad to have joined TIST. We have learned new agricultural practices that continue to increase crop yields from our farms. Conservation Farming has proven it works and brings more yields than conventional farming. Further, it has helped reduce the labor and time needed to prepare the shamba. Unlike with conventional farming, there is no land tilling with Conservation farming. We only clear the weeds, prepare holes, plant and then weed.

We continue to encourage other TIST and non-TIST members to adopt Conservation Farming.

We have set up a CF demonstration plot in our Cluster where farmers can learn through seeing. Many farmers have been impressed and as a result, five (5) new Small Groups have joined TIST recently.

Kagaene Cluster has a total of 106 Small Groups with 680 members who have planted over 94,000 trees, counted and kept alive. Our goal is to continue encouraging more farmers to join TIST, so that together, we may improve our local and regional climate. We want to tackle most of our current challenges together such as food security, drought, and water quality.

Kibuline TIST Cluster: Preparing for a major tree planting come rainy season.

By Alice Kambura, Cluster Servant

We, Kibuline Cluster, have major plans to increase our trees numbers. We have established a Cluster tree nursery with over 30,000 Grevillea seedlings. Our members resolved to use the monthly budget we receive from TIST to establish a Cluster tree nursery. We bought polytubes and members volunteered with labor.

We specifically choose Grevillea because we also wanted fodder for our animals especially during dry season. We have also observed Grevillia trees do not hurt other crops on the farm. Indeed, it provides shade and adds compost manure when

the leaves fall.

We are hoping this new planting will increase our Cluster trees total from 26,132 to over 60,000 trees. Individual Small Groups members also have their small tree nurseries and therefore the count could be even higher.

During our Cluster meeting last month, we established a Conservation Farming demonstration plot. This is intended to help many farmers learn so that they may practice in their farms.

Our activities are also encouraging other farmers join TIST. We have recently registered (4) Small Groups so we now have 36 TIST Small Groups in our Cluster.

Kamaroo Cluster: Macadamia Trees for Nuts and For Cleaning the Air.

By Alice Kambura, Cluster Servant.

We, Kamaroo Cluster, are happy to share our progress with other Clusters within TIST. We are working together to help each other and importantly improve our livelihood. TIST has offered us a platform to share our ideas, test them and embrace those that work for us. Cluster meetings offer us with an opportunity to bring diverse suggestions and ideas which are discussed and evaluated. Those that are within our capability are agreed upon for adoption.

For instance, in the past few months, members explored various ways that we could have multiple benefits from trees. We reasoned together that

we need to try different trees that will also help improve our economic livelihood. We decided to try macadamia trees. Macadamia nuts fetch good prices in the market today.

We decided to establish a macadamia Cluster nursery. We agreed to use our monthly budget to buy polytubes and other necessary materials we indentified to start this nursery. Last month, we spend our cluster meeting time setting up a seedbed.

We will be back here again, to share with you our progress. In the meantime, please let us know what your Cluster is doing. Together, we grow!



Magutuni Cluster: Rotational leadership helps bring New Ideas.

By Annet Kaari, Cluster Servant.

Practicing rotational and servant leadership has helped us experience new ideas. We now run a very successful merry go round whereby we buy 3 ken poly chairs for five members each, every month. This is an idea that came from one of the farmers when he was a leader.

Besides this welfare, we have continue to grow in strength. We multiplied from Kilindini

Cluster last year, and today, by efforts of our selves, we have 40 active small groups, and over 20,000 trees counted in our Cluster. We , members of Magutuni cluster are grateful since we multiplied from our mother cluster Kilindini since last year. We have established a Clsuter tree nursery with over 6,000 seedlings ready to be planted in coming rainy season.

TIST: Best Tree Species.

During your Cluster Meeting, let members discuss in groups and write a list of trees they think are good to grow in their area (trees that have lots of benefits but minimal disadvantages). Then ask the groups for feedback their answers. Each group gives one answer at a time, then rotate around the groups until all the answers have been given.

Make sure all the groups have written down the full list. Then ask them to go back into their groups to discuss which they think are the six most important trees. Take the feedback answers and write down the new list. Discuss the list in the large group and get people to agree on the final version of the list. Once you have the list of the six best trees to plant, ask the groups to think about the

following questions:

- What is the best type of land for this tree?
- What are the main uses of this tree?
- Describe the tree – color, flowers, bark, thorns etc.
- What is the best way to grow the seedlings? Is any treatment needed for the seeds before they are sown?
- How long do the seeds normally take to germinate?
- How long after germination do you transplant the seedlings?
- Are there any disadvantages of this tree?

It may be good to use the following table to help you organize the information. Example of table you can use (Mango and Grevillea are examples only):

Common Names	Tree description	Land type	Uses	Seedling information	Other notes
Mango Magnifera indica	Densely leafed evergreen tree, dark green leaves, edible fruit	Best in tropical zones with a pronounced dry season	Firewood, food, fodder, bee-forage, windbreaks, mulch, ornamental, shade, canoes	Can be sown directly into seedbeds or pots, or direct into the ground. No pre-treatment needed, but nipping seed enhances germination	Grafted material is used for better fruit production. Good varieties have fruits without fibre and do not smell like turpentine. Fruit is rich in Vitamins A & C.
Grevillea robusta Silky oak	Semi-deciduous, oval leafy crown, dark grey bark, green, silvery leaves, golden-orange flowers	Needs fairly well-drained soil	Firewood, charcoal, poles, timber, fodder, bee forage, soil conservation, shade	No pre-treatment of seeds needed	Planted with tea, coffee and rubber as boundaries. Grows well with food crops if managed to reduce shade. Important dry season fodder



Remind Cluster Members that the best trees for TIST need to be long-term trees. Trees will not be large enough to get carbon credits until they are mature, maybe after 20 years. When a TIST tree is cut down there are two impacts for the program:

- a. *The group will no longer be paid any money for the tree, as only live trees absorb carbon dioxide.*
- b. *Remember when Clean Air Action Corporation gets money from selling carbon credits, all the costs of the program have to be covered first. Then 70% of the profit goes to the groups. This is stated in the contract. If CAAC has spent a lot of money paying for groups that cut their trees down they have lost a lot of unnecessary money. These costs have to be paid for and so there will be less money for the groups who kept their trees alive. So cutting down TIST trees hurts the program and the small groups.*

Indigenous Trees.

a. Prunus Africana (Kikuyu: Muiri, Kimeru: Mweria)

This indigenous tree is mainly found in forest reserves. Seeds are available in forests, during the dry season. Collect only dark brown ripe fruits from the crown of the tree or the ground. Remove the pulp by soaking it for 24 hours, then wash over a wire mesh. Spread in a thin layer in an airy shaded place to dry – but for 4 hours only. The seed does not store well so use the fresh seed. Wrapping moist leaves around the seed minimizes moisture loss during temporary transport and storage. Sow the seeds directly into the seedbed or pots with germination taking 6-8 weeks.

Uses:

- Can repel some pests e.g. aphids, nematodes (those which attack crops) by its smell. Flowers have sufficient nectar and pollen for good bee forage. Produces high-quality firewood.
- *Medicine:* Liquid extracts from bark are used in the treatment of prostate cancer. Leaves are used as an inhalant for fever or are drunk as

an infusion to improve appetite. Water is added to pounded bark, and the red liquid is used as a remedy for stomach-ache; bark extract may be used as a purgative for cattle.

- *Erosion control:* Trees can be grown along contour ridges and terraces, provides useful shade and acts as a windbreak.
- *Soil improver:* Leaves can be used as mulch and green manure.
 - *Ornamental:* It makes an attractive garden shade tree.

b. Peacock Flower (Albizia gummifera, Kikuyu: Mukurwe)

This tree is commonly found in lowland and upland rainforests and in open habitats near forests.

Either untreated or soaked seeds are sown while fresh seeds need no pre-treatment. Stored seeds are soaked in warm water and left to cool at room temperature. The seed coat may be nicked at the cotyledon end to hasten germination. Seed germination is good 70- 80%, within 10 days. Seeds should be collected while still on the tree to minimize insect damage. Seed can be stored for at least a year if kept dry and insect free through addition of ash.

Uses:

- Bee-forage, fuel wood, timber, gum, tannin,
- *Medicine:* extracts from the crushed pods are taken for stomach pains and the bark decoction for malaria
- *Erosion control:* the root system holds soil and prevents gully erosion
- Shade, nitrogen fixing (improves the soil), known as a good mulch tree as leaf litter is abundant during the leaf shedding season,
- *Ornamental* (planted in town avenues for aesthetic purposes), boundary planting, the leaves quicken the ripening process in bananas.

c. Olea Africana (African wild olive, Kikuyu: Mutamaiyu, Kimeru: Muthata)

This tree is found in a variety of habitats, usually near water, on stream banks, and also in open



woodland. It is resistant to both frost and drought. Fresh seeds are used for sowing. Old seeds can be soaked in cold water for 48 hours.

Seeds are often pre-treated by cracking with a hand vice or by rolling a stone over seeds to remove the endocarp to enhance germination. The seeds can be stored at dry room temperature for a few years.

Uses:

- *Food:* the main olive products are olive oil and edible olives.
- *Fodder:* The plants are much browsed on by livestock. Also used for fuel, timber, charcoal, tooth brushes and ornaments.
- *Reclamation:* The high drought tolerance suggests that it is a good candidate for reforestation in semi-arid zones of Africa.
- *Ornamental:* Olive trees have the capacity to beautify the landscape.

d. Waterberry (Syzygium guineense, Kikyuyu: Mukoe, Kimeru: Muriru)

This tree usually occurs in lowland rain forest and mountain rain forests. It commonly grows in moist conditions, sometimes even in water, and is usually found along streams.

Seeds need no pre-sowing treatment, as germination rates are good and uniform. Rates of 80-90% are attained after 20 to 50 days. Direct sowing into pots is recommended. Fruits are perishable and should be picked from the ground soon after falling. They may also be collected by shaking the branches with hooks. After collection, the fruits should be sown out immediately, as seeds will lose viability if they are dried. If this is not possible, fruit can be stored for a few days in moist sawdust and open containers in well-ventilated rooms.

Uses:

Food from fruit, bee forage, timber, fuel wood, shade, and medicine (fruit is used as a remedy for dysentery, while a decoction of the bark is used to prevent diarrhea). Note the poisonous bark has

been reported to cause human deaths, so advice should be sought from people experienced in using the products from this tree.

Fruit Trees.**Avocado (Persea Americana)**

Ecology: grown in all moist areas

Pre-treatment: soak seeds in cold water for 24 hours, and then plant directly into pots. Use fresh seeds as they do not store. Seedlings can also be grafted while germination takes 3-4 weeks and spacing should be at least 6m. These trees are normally planted around the home.

Uses: Firewood, charcoal, food, shade, cosmetics, oil. The fruit is nutritious, rich in fat, protein and vitamins, but bark, leaves and seeds are toxic to browsing animals. Seedlings can be intercropped with beans when young. This tree can be a good income-earner.

Guava (Psidium guajava, Kikuyu: Mubera)

Ecology: Requires rainfall, drought resistant but can't tolerate water-logging

Seeds: no pre-treatment required, germination: 3 weeks. Spacing: 4m.

Uses: Firewood, charcoal, poles, food, edible fruit rich in vitamin C and vitamin A. This tree bears fruit in 3-4 years and the wood is termite resistant. The dried ripe fruits are recommended as a remedy for dysentery, while the leaves and fruits are used as a cure for diarrhea. Oil exhibits anti-inflammatory properties and the leaves or bark are made into a lotion for skin complaints, ringworm, wounds, and ulcers. The leaves are also used for digestive tract ailments, cold, and high blood pressure, trauma, pain, headache, and rheumatism. The juice is used to help hepatitis, gonorrhea, and diarrhea. Intercropping: Performs well when intercropped with fodder crops such as maize, sorghum and cowpeas.

Mango (Magnifera indica)



Ecology: Does not tolerate flooding and needs well-drained soil. It can do quite well in dry areas.

Seeds: No pre-treatment required, although nipping the seed helps germination. Seeds can be stored for a month at room temperature, fresh seeds are best. Can also use grafts.

Uses: Fuel wood, fruit, fodder, bee-forage, wind-breaks, mulch, shade, soil conservation, and gum.

Alternatives to Eucalyptus.

Many environmentalists are concerned about the impact eucalyptus has on the environment. The arguments against eucalyptus are complicated, firstly because there are many different species of eucalyptus, and secondly because scientists are still uncertain about some of the evidence. However, here are some of the arguments against planting eucalyptus that many environmentalists believe:

- The trees can dry up the land by taking a lot of water from the ground
- The trees can use a lot of soil nutrients making the land unsuitable for agriculture
- The leaves do not decompose easily, and some say even decrease beneficial soil microorganisms.
- Some types of local flora and fauna cannot survive in eucalyptus plantations.

Whilst many of these points are not agreed upon by everyone, there is enough concern over the issue that TIST has to listen carefully. Some small groups have commented that they have seen water levels drop since planting eucalyptus. TIST would advise all farmers not to plant eucalyptus in wetlands, alongside streams or on productive agricultural land. However, some land may be suitable for eucalyptus and your local forester can advise you. There is a second reason why TIST does not encourage eucalyptus. Many farmers will harvest their timber in less than 20 years. This means that TIST will not be able to sell the carbon credits, as only live trees qualify. If TIST wastes a lot of money paying incentives for trees that will be cut down in

under twenty years, there will be less money for the groups who have planted and faithfully maintained long-term trees.

Farmers may still want to have groves of eucalyptus grown specifically for firewood and timber. Grown in the right areas, these groves may well help reduce pressure on natural forests. However, groves grown for timber should not be counted for the TIST program.

Therefore, to increase biodiversity, to protect your land and to encourage long-term trees that will qualify for carbon payment, we encourage groups to think of alternatives to eucalyptus.

Encourage participants to discuss the above issues. Does anyone have any experience about the disadvantages of eucalyptus? What are good alternatives? The following trees are some suggestions from the Kenya trainers.

Grevillea Robusta (Silky Oak, Kikuyu: Mukima)

Ecology: Needs fairly well-drained soil

Seeds: No pre-treatment needed and seeds can be stored for up to three months, or longer if refrigerated with packing 4-5m.

Uses: Firewood, charcoal, poles, timber, fodder, bee forage, soil conservation, shade. Planted with tea and coffee plantations as boundaries. It grows well with crops if managed properly to reduce shade and can be an important source of dry season fodder.

Cyprus (*Cupressus lusitanica*, Kikuyu: mutarakwa, muthithinda)

This tree is found in seasonally moist to permanently moist climates and a dry season lasting not more than 2-3 months. It cannot withstand waterlogging but flourishes in deep, moist, well-drained, fertile loams of neutral to slightly acidic composition.

Pre-treatment of seeds is not necessary. Seed can be stored for up to 6 months.

Uses: Timber, fuel wood, poles, ornamental, windbreaks, shade, live fence.

As Cyprus gives only limited protection against soil erosion, pure stands on slopes or erosion-prone sites should be under-planted with other suitable species. It is also not good for intercropping.

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Cluster ya TIST ya Kagaene: Kuamukira mitire ya TIST iria miega buru riria ukuthithia mantu.

Ni Alice Kambura, Nthumba ya Cluster ikuuga

Batwi, amemba ba cluster ya Kagaene, turi nitugwiriritue kwithirwa turi ndene ya TIST. Nituthomete mitire imieru ya kulima iria itaga na mbele kwongera maketha jetu kuumania na miunda yetu. Urimi bubwega nibucionenie gwita ngugi na kureta maketha jamaingi kuruki ya ja urimi bwa kawaida. Kwongera, nigutethetie kunyiyia ngugi iria iritagwa na kanya karia gatumagirwa kuthuranira munda. Mwanja na urimi bwa kawaida, gutina gutira riria ukulima na njira ya urimi bubwega. Turitaga maria aki, tukenja marinya, tukaanda na riu tukarimira.

Nitugwita na mbele gwikira inya antu bangi ba TIST nabaria bati ba TIST kurima na njira ya urimi

bubwega. Nituambiritie kamunda ga kwonania urimi bubwega ndene ya cluster yetu aria arimi bomba kuthoma na njira ya kwona. Arimi babaingi nibakenetue na gukurukira kwona, ikundi bitano nibitonyete kiri TIST o rua mono.

Cluster ya Kagaene irina ikundi igana na bitantatu birina amemba Magana jatantatu ja mirongo inana baria baandite miti nkuruki ya ngiri mirongo kenda na ithano, itari na iri moyo. Kionki gietu ni gwita na mbele gwikira arimi bangi na bangi inya batonye kiri TIST, nikenda amwe, tumba kuthongomia rera yetu naya ntura cietu. Nitukwenda kuthiria thina inyingi cia iria turinacio igitene riri ja thina ya irio, uumo, na utheru bwa ruuji.

Cluster ya Kibuline ya TIST: Kuthuranira niuntu bwa uandi bwa miti imingimbura yeja.

Ni Alice Kambura, nthumba ya cluster ikuuga

Batwi, cluster ya Kibuline turina mibango iminene ya kwongera miti yetu. Nituambiritie munanda jwa cluster jwa miti juria jurina nkuruki ya mikima iminini ngiri ithatu. Amemba betu nibagitire igamba gutumira mbeca iria tuejagwa cia o mweri ni TIST kuambiria munanda jwa cluster jwa miti. Nitwagurire mbuko ya kuanda na amemba bairitira kurita ngugi baribo.

Twathurire mikima niuntu nitwendaga iria ria ndithia cietu mono igitene ria uumo. Nitwonete kinya ati mikima itithukagia imera bingi ndene ya miunda yetu. Kinya, nituejaga kirundu na kwongera mboleo mathangu jagwaa.

Turina wirigiro ati ianda riri ririeru rikoongera

miti ya cluster yetu kuuma ngiri mirongo iiri na igana na mirongo ithatu na iiri gwita nkuruki ya miti ngiri mirongo itantatu. Amemba ba ikundi kinyabo barina minanda yao bongwa na kwou miti yomba kwingia nkuruki ya kinya ou.

Mucemanione jwa cluster yetu jwa mweri muthiru, nitwaambirie muunda jwa kwonania njira ya urimi bubwega. Untu bubu nibuthithitue nikenda arimi babaingi batethua kumenya nikenda bakarima na njira iji miundene yao.

Mantu jaria tuthithagia kinyajo nijagwikira arimi bangi inya gutonya TIST. Nitutonyithitie ikundi bibinini binna kanyuma gati igita kwou turina ikundi mirongo ithatu ya bitantatu ndene ya cluster yetu ya TIST.

Cluster ya Kamaroo: Miti ya mikandamia niuntu bwa nkandi na kutherua kwa ruugo.

Ni Alice Kambura, nthumba ya cluster ikuuga

Batwi, cluster ya Kamaroo, turina gikeno tukigaana witi na mbele bwetu na cluster ingi ndene ya TIST. Nitukurita ngugi amwe gutethania na gitumi nkuruki kuthongomia miturire yetu. TIST nituete kanya ga kugaana mathuganio jetu, kujageria na kujukia jaria jakurita ngugi uria tukwenda. Micemanio ya cluster nituejaga kanya ga kuleta mathuganio jetu mwanya jaria jaarairua na kuthimwa. Jaria tuumba kuthithia nijetikagirua nikenda jaambirua gutumirwa.

Mung'uanano, ndene ya mieri imithiru imikai, amemba nibacwire njira mwanya iria turingi oona baita inyingi kuumania na miti. Nitwathuganirie

amwe ati nitugwitia kugeria miti mwanya iria igatutethia kuthongomia miturire yetu kimbece. Nitwatarire kugeria mikandi. Nkandi nandi niciendagua na mbece injega thokone.

Nitwabangire kuambia munanda jwa cluster jwa mikandi. Twetikaniria gutumira mbece iria twaerwe mweri jou kugura mibuko na into bingi biria biendekaga kuambia munanda juju. Mweri muthiru, nitwatumire igita rietu ria mucemanio jwa cluster kuthithia antu a kuumithia.

Tugacoka aja kairi, kugaana nagwe witi na mbele bwetu. Tugikinya gucoka, itubu twireni uria cluster yenu ikuthithia. Amwe, nitukuraga!



Cluster ya Magutuni: Utongeria bwa kithiuruko nibutethagia kureta mathuganio jameru.

Ni Annet Kaari, nthumba ya cluster ikuandika

Kuthithia utongeria na uthumba bwa kithiuruko nibututethetie gukinyirwa ni mathuano jameru. Nandi nitwitithagia gikundi gia kithiuruko aria tuguragira amemba batano iti bithatu o muntu bia plastic o mweri. Riri ni ithuganio riria riaumanirie na murimi umwe riria ari mutongeria.

Amwe na untu bubu, nitwitite na mbele gukura kiinya. Nitwaciaranire kuumania na cluster ya Kilindini mwaka muthiru na narua, gukurukira ngugi

cietu twingwa, turina ikundi bibinini mirongo inna biria biithagirwa bigitaga ngugi cionthe cia cluster, na nkuruki ya miti ngiri mirongo iiri itari ndene ya cluster yetu. Batwi, amemba ba Magutuni cluster turina nkatho inyingi kuuma tuguciarwa ni cluster ya Kilindini . nitwambiritie munanda jwa cluster jurina miti ngiri ithanthatu iria iri tayari kuandwa mbura iji ijite.

TIST: Mithemba iria miega buru ya miti.

Ndene ya mucemano jwa cluster yaku, reka amemba baaranirie ikundine na baandike miti iria bakuthugania ni imiega ya kuanda ntuurene yao (miti iria irina baita inyingi indi matu jamathuku jamakai). Riu urie ikundi biuge mathuganio jao. O gikundi kiejane icokio rimwe o igita, riu uthiuruke ikundine mwanka macokio jonthe jaejanwe.

Menyeera ati ikundi bionthe bikuandika miti yonthe. Riu uborie bacoke ikundine biao kuariria ni miti iriku itantatu bakuthuganio niyo irina bata nkuruki. Jukia macokio na uandike listi injeru. Aririeni miti iji kiri gikundi kiu kinene na urie antu betikanirie mariitwa ja muthia. Warikia kumenya miti iria miega buru itantatu ya kuanda, uria ikundi bithuganirie biuria bibi:

- *Ni munda mthemba juriku mwega buru jwa kuanda muti juju?*
- *Ni motuumiri jeku manene buru ja muti juju?*
- *Aririeni muti – rangi, maua, gikonde, migua na bingi*
- *Ni njira ingi njega buru ya kuumithia mbeu? Kuriu mbeu ibati kuthithirua mbele iumithiua?*
- *Ni igita ring'ana mbeu ijukagia ikija kuuma?*
- *Ni nyuma ya igita ring'ana mbeu yauma muti jubati kuthamua?*
- *Kurina mantu jamathuku jaumanagia na uandi bwa muti juju?*

Mantu jaja aja nthi jomba gukugwatia kubangania mantu jaja ugucua kumenya. Munguanano jwa gutumira (miembe na mikima ni ming'uanano yonka):

Riitwa riria jwitagwa mono	Uria muti jukari	Mthemba jwa munda	Mootumiri	Kwegie mbeu	Mantu jangi
Mango Magnifera indica	Jurina mathangu jamaingi, jutigwithagia mathangu, mathangu ja green indito, matunda nojariwe	Juumaga bwega nkuruki akui ntuurene cia tropical iria cirina igita ria uumo riraja	Nku, irio, iria, irio bia njuki, kunyiyia ruugo, gukunikira muthetu, kuthongomia, kirundu, kuthithia itaru	No juandwe munandene kana mibukone kana muundene. Gutiu mbeu yendaga kuthithirua indi gutura mbeu nikuumithangagia	Nojuthithirue grafting kwongera maciara. Mithemba ikiega iri matunda jatina mirigi na itinunkaga ja turpentine. Gitunda kiri na Vitamin A na C.
Grevillea robusta Silky oak	Nijugwithagia mathangu rimwe, oval leafy crown, gikonde ni kia grey indito, Mathangu ni ja green na silver, maua ni ja golden-orange	Nijwendaga muthetu jutikaga ruuji	Nku, makara, ikingi, mpao, iria, irio bia njuki, kumenyeera muthetu, kirundu	Mbeu iandagwa ikari u	Niiandanairua na majani, kauwa na rubber iri mwankene. Niikuranagiria bwega na irio riria yamenyeerwa bwega kenda iniyiia kirundu. Ni iria ria ndithia ria bata mono igitene ria uumo



Riikania amemba ba cluster ati miti iria miega buru kiri TIST niibati kwithirwa iri ya igita ririraja. Miti itiumba kunenea bung'ani kuriwa mwanka igakura, ja nyuma ya miaka mirongo iiri.

Riria muti jwa TIST jugitagwa nikwithagirwa kurina mantu jairi jakarikagira muradi:

- a. *Gikundi gitiumba kuriwa mbeba cia muti jou, nontu ni miti iria iri moyo yonka ijukagia ruugo rwa kaboni.*
- b. *Rikana riria CAAC igwataga mbeba kuumania na kwendia ruugo, mbeba iria itumikite ikamba kuriwa mbele. Riu gicunci kia mirongo mugwanja kiri igana kia baita gigete kiri ikundi. Untu bubu buri kiri kandarasi. Kethira CAAC nitumirite mbeba inyingi kuria ikundi biria bigitaga miti yao bakethira batete mbeba inyingi mono. Ngarama jji no mwanka iriwe na kwou gukethira kurina mbeba inkai cia ikundi biria biikite miti yao moyo. Kwou kugita miti ya TIST nikugitaragia muradi na ikundi bibinini.*

Miti ya gintwire

a. *Prunus africana* (Kikuyu: Muri, Kimeru: Mweria)

Muti juju jwa gintwire jwonekaga mono ndene ya miitu. Mpindi niciithagirwa cirri miitune igita riria kuumi. Oja ntunda iria aki cigarukite rangi ciairua na iria cigundi kuuma kiri muti kana nthiguru.

Rita kiu kithiurukite mpindi na njira ya kurinda tunda mathaa mirongo iri na jannari unyarie iguru ria wire. Ara utirikanirite antu ari na ruugo na kirundu nikenda ciuma- indi ugakurukia mathaa janna. Mpindi itiumbaga gwikwa kwou tumira woja orio. Gukunikira mbegu na mabura jarina ruuji nikunyiagia kuura kwa ruuji igitene ririkai ria gukamata na gwika. Anda munandene kana maratasine. Kuuma kwijaga nyuma ya biumia bitantatu gwita banana.

Utumiri:

Kwinda tunyomoo turia tugitaragia: No juinge tunyomoo tumwe turia tugitaragia imera niuntu bwa mununko jwaju. Maua jarina sukari ya kung'ana kuthithia naicu. Jurina nkuu injega mono.

Ndawa: Ruuji kuuma gicaune nirutumagirwa kworia kunenea kwa prostate. Mathangu nijatumagirwa gukucia niuntu bwa gwitia kwa mwanki jwa mwiri kana jakanyuwa jakimenuwe nikenda muntu omba kwenda kuria irio. Ruuji

nirwongagirwa kiri gicau gikimenuwe, na ruuji ruru rutune nirutumagirwa kworia kiu; gicau no gitumirwe kiri ndithia

Kunyiya ukamati bwa muthetu: Miti noiandwe nterene cia mitaro na naria kwiji, niejanaga kirundu kiri na baita na ninyiagia ruugo. Nijuthongomagia muthetu: Mathangu no jatumirwe gukunikira muthetu na ta mboleo imbithi
Kuthongomia: Nijuejaga muti jumuthongi jwa kuanda kienine jwa kuejana kirundu.

b. Peacock Flower (*Albizia gummifera*, Kikuyu: Mukurwe)

Muti juju mono nijwonekaga naria gutina ibari na miitune iria iri guntu kwa mbura na ndene ya mathaka jaria jatirimagwa akui na miitu

Mpindi cioji orio itiendaga uthuraniri. Mpindi (mbegu) iria ikarite cieki nicirindagwa ruujine rwa murutira na rugatigwa kwora mwanka mwanki jwa nyomba. Gikonde kia mpindi no gikunywe aria mpindi yumagira nikenda yumba kuumanga. Mpindi niurangaga, na ntuku ikumi. Mbeu niibati gutua cirri mutine nikenda tunyomoo tutikacigitarie. Mpindi no ciikwe nkuruki ya mwaka aki ciekwana antu gukuumo na aria gutina tunyomoo na njira ya kwongera muju jwa riiko.

Utumiri:

Nijutumagirwa ni njuki kuthithia naicu, nkuu, mpao, gum, tannin, ndawa -kuumania na mpindi cikimitwe nicinyunyagwa kworia thina cia kiu na ruuji kuumania na gikonde kia muti rugatumirwa kworia rwagi, Kunyiyia ukamati bwa muthetu (uria miri iri nigutethagia kugwata muthetu na kunyiyia ukamati bwa ruuji ni ngai),

Kirundu, gwikira ruugo rwa Nitrogen muthetune (kuthongomia muthetu), kuria kujukagua kuri njira inthongi ya gukunikira muthetu niuntu mathangu nijaguaga jamaingi igitene riajo riakugua,

Kuthongomia (Nijuandagwa njirene ya town niuntu bwa uthongi bwaju),

- ***Kuanda mianka,*** Mathangu nijatumaga marigu jakagundanga.

c. *Olea africana* (African wild olive, Kikuyu: Mutamaiyu, Kimeru: Muthata)



Muti juju nijwonekaga guntu gukwingi mono akui na nduui na nterene cia miuro iminini n kinya ndene ya miitu ya mpao iminene. Jutigitaragua ni mpio inyingi kana uumo.

Mpindi ciumite muundene orio nicitumagirwa kuanda. Mpindi inkuru no cirindwe ruujine rwa mpio ntuku ijiri. Mpindi niciambagwa kuthuranirwa na njira ya kuuna gikonde na gantu ga kugwata na njara kana kwingiritiria iiga iguru ria mpindi iu. Bubu nibuthithagua niuntu kurita gikonde giki nigutumaga muti jukaumanga. Mpindi iji no ciikwa atu gukuumo miaka imikai.

Utumiri:

Irio: Biria muti juju juejanaga na wingi ni maguta na ntunda cia kuria. Imera bibi nibirijagwa ni ndithia mono. Kinya nijutumagirwa ta nkuu, mpao, makara, mirashi ya maigo na kuthongomia.

Gucokia uria munda jwari: Uumbi bwaju bwa gutuura kinya igita ria uumo nibutumaga jukaa muti jumwega jwa kuanjia miitu kairi guntune gukuumo ndene ya Africa.

Kuthongomia: Muti juju nijuumbaga kuthongomia uria muunda jukari

d. Waterberry (*Syzygium guineense*, Kikyuyu: Mukoe, Kimeru: Muriru)

Muti juju nijwonekaga ndene ya miitu ya mbura iria iti irimene na kinya iria iri irimene. Mono niuмага guntu kurina ruuji rionthe, mono kinya ndene ya ruuji, na niithagirwa mono nterene cia nduui inini.

Mbegu itiendaga kuthuranirwa mbele ya kuandwa, niuntu kuuma nikwijangaga na kwambagiria o rimwe.

Nijukurangaga niuntu nijwithagirwa jukunenea mono ndene ya ntuku mirongo iiri gwita mirongo itano. Kuanda o rimwe turatasine nigwiikagirwa.

Matunda nijathukangaga na kwou nijabati kwojangwa nthi jarikia kugua orio.

Kinya nojojwe warikia kwainania muti na rwogoro. Joojwa, matunda jaja nijabati kuandwa orio niuntu nijathukangaga jooma. Kethira bubu butiumbika, itunda noriikwe ntuku inkai jaumbiki kiri sawdust na jari mikebene itikuniki nyomba iri na ruugo rurwega

Utumiri:

Kuthithia naicu, Mpao, Nkuu, Kirundu, Ndawa

Menyeera: gicau kiu kiri sumu na kairi no gitume

muntu akue, kwou nubati kwamba kuuria baria batumirite gikonde kia muti juju kiri kuthithia ndawa

Mitunda

Mubukando (*Persea americana*)

Naria jubujaga: Juandagwa guntu kunthe kuria kwina ruuji.

Kuthuranira kuumithia: Riinda mbeu iji ruujine rwa mpio mathaa mirongo iiri na janna, riu uande mibukone. Tuumira mpindi orio watura gitunda nontu mpindi itikarakaraga. Nijuumaga na biumia bithatu gwita bina na ibati kuandwa itarenie na nkuruki ya meter ithanthatu. Miti iji niandagwa mono akui na nja.

Utumiri: Nkuu, makara, irio, kithiiki, guaka mwiri, maguta ja kuruga. Gitunda nigikiega kiri mwiri, kina maguta, nigiakaga mwiri na nigitethagia mwiri kwinga mbajua. Gicau, mathangu na mpindi ni sumu kiri nyomoo iria irijaga imera. Muti juju nijuretaga mbeca inyingi.

Mubera (*Psidium guajava*, Kikyuyu: Mubera)

Naria jubujaga: Jutiigagua uumo indi jutikara antu kwina ruuji ruigarite.

Mbeu: Itiitagia kuthuranirwa. Lumaga na biumia bithatu. Ibatu kuandwa itarenie na meter inya.

Mootumiri: Nkuu, makara, ikingi, irio, gitunda kirijagwa kina vitamin A na B. juciaraga nyuma ya miaka ithatu gwita inna. Rubao rwaju rutirijagwa ni muthwa. Matunda jaju jamagundu nijatethagia murimo jwa kuugia, mathangu na matunda najo nijatethagia kworia kioro gikiuthu. Maguta jaju jatigwataga mwanki. Mathangu na gicau kiaju nibitumagirwa kuthithia maguta ja gwaka ja kuthiria thiina cia mwiri, mathainya, irona na ulcers. Mathangu nijatumagirwa kinya kuthiria thiina cia mwiri cia naria irio biitagira, mpio na gwitia kwa ndamu, kuthangika nkoro, murimo, mutwe na mbajua ya kugia murimo icunci bibingi bia mwiri. Ruuji rwaju nirutumagirwa gutethia aji ba hepatitis, gonorrhoea na kioro gikiuthu. Kuandaniria na imera: nijuthithagia bwega riria jwaandanirua na imera bia ndithia ta mpempe, muya na ncugu. Mibera noiume antu amwe imingi na iujure muundene kana kienine.

**Muembe (Magnifera indica)**

Naria jubujaga: Jutiumba kubua antu ruuji ruigaraga na nijuendaga muthetu jutigwika ruuji igita ririnene. Nojuthithie bwega guntu gukuumo.

Mbeu: No ithithirue kinya grafting. Mbeu ititagia kuthuranirwa mbele ya iandwa, kinyethira gukunyakunya mpindi nigutethagia kiri kuuma. Mpindi nocikare mweri antu gutina mwanki, indi mpindi ciaritwa orio nicio njega nkuruki.

Mootumiri: Nkuu, matunda, iria ria ndithia, irio bia njuki, kunyiyia ruugo, gukunikira muthetu, kithiiki, gwika muthetu bwega, gum.

Miti ya kuanda antu a mubau

Amenyeeri ba naria gututhiurukite baria bangi nibakunogua ni ugitari buria mibau inabu kiri naria gututhiurukite. Mateta jegie mubau ni jamomu, mbele niuntu kurina mithemba imingi ya mibau, na kairi niuntu athomi bating'aniri ni mantu jamwe jaria jonekete. Indiri, aja ni mateta jegie uandi bwa mibau jaria amenyeeri naria gututhiurukite babaingi betikagia:

- Miti no iumwie munda na njira ya kunyua ruuji rurwingi kuuma muthetune
- Miti no itumire irio bibingi kuumania na muthetu na gutuma munda jurega kubuira urimi
- Mathangu jatorangaga na uthtu, na bamwe nibaugaga ai kinya nijanyiagia tunyomoo twa muthetu turia turi baita.
- Mithemba imwe ya imera na nyomoo iria cimenyeretie antu au itiumbaga gutura kiri miunda ya mibau.

Kinyethira mantu jaria maingi ja jaja jatitikiritue ni antu bonthe, kurina mathuganio jang'ani kwegie untu bubu kwou TIST nibati kuthikira bwega. Ikundi bimwe nibaugite ati niboone ruuji rukinyia kuuma bakuanda mibau. TIST nikuuria arimi bonthe bakaanda mibau guntu kuria kurina ruuji, nterene cia nduui kana miundene iminoru ya kurima. Indiri, miunda imwe nikubaira mibau na kwou mukaria mwitu umwe no akuathe.

Kurina gitumi kingi TIST nitiikagira uandi bwa mibau. Arimi babaingi bakagita niuntu bwa mpau mbele ya miaka mirongo iiri ithira. Guku ni kuuga TIST itiumba kwendia ruugo niuntu ni miti iri moyo aki yumba kuriwa. TIST ikenyangia mbeba inyingi kuria motisha cia kuanda miti iria ikagitwa mbele ya miaka mirongo iiri ithira, gukethirwa

kurina mbeba inkai cia ikundi biria baandite miti na bamikite miaka imingi.

Arimi nobende kuanda mibau ya nku na mpau. landi naria kubati, miunda iji no itethia kunyiyia urito kiri mitu iria irio. Indiri, miunda iria iandagwa niuntu bwa mpau ititaragwa kiri utari bwa TIST.

Kwou, kwongera gukaraniria kwa imera na nyomoo cia mithemba mwanya, nikenda umenyeera munda jwaku na gwikira inya uandi bwa miti ya igita riraja iria ikomba kuriwa niuntu bwa kujukia ruugo ruruthuku, nitugwikira inya ikundi kuthuganiria miti iria bomba kuanda antu a mibau.

Ikira inya baria bariku kuariria mantu jau jari au iguru. Kuriwe wonete mantu jamathuku jaria mibau iretaga? Ni miti iriku imiega yumba kuandwa antu a mibau? Miti iji ithingatite ni imwe ya iria ithuganiritue ni aritani ba Kenya.

Grevillea Robusta (Silky Oak, Kikuyu: Mukima)

Naria jubujaga: Nijuendaga muthetu jutigwika ruuji igita riraja mono

Mbeu: Guti uthuraniri bwa mbeu bwendekaga na mbeu no iikwe mwanka mieri ithatu, kana nkuruki riria ikiri kiri refrigerator na ikaandwa itarenie na mita inya gwita ithano.

Mootumiri: Nku, makara, mbito, mpau, iria ria ndithia, irio bia njuki, kumenyeera muthetu, kirundu. Nijuandanagirua na majani na kauwa miankene. Nijukuranagia bwega na imera jwamenyeerwa bwega uria kirundu gikanyiuwa na nojue kiumo kirina bata mono kia iria igita ria uumo.

Cyprus (Cupressus lusitanica, Kikuyu: mutarakwa, muthithinda)

Muti juju nijwithagirwa juri guntu kuria kwithagirwa kurina ruuji rimwe na rimwe nan aria kuri ruuji rionthe na kurina igita ria uumu ritigukuraka mieri iiri gwita ithatu. Jutiumba kubua antu ruuji rukuigara indi nijuthongomaga muthetune jumuriku, jwina ruuji, jutigwika ruuji na jumunoru juria jutina acidi inyingi.

Uthuraniri bwa mbeu mbele ya kuanda butina bata. Mbeu no iikwe mwanka mieri itantatu. **Mootumiri:** Mpau, nku, mbito, kuthongomia, kunyiyia ruugo, kirundu, rwego ruri moyo.

Niuntu muthithinda jutethagia muthetu na njira inini kiri ukamati bwa muthetu, iandi yonka mabarine kana guntu muthetu jukamatangagwa no mwanka miti ya muthemba jungi iandanirue nayo. Kairi jutibui jwa kuandaniria na irio.

Mazingira Bora



TIST

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

Kikuyu Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Members of Kibuline Cluster during their monthly Cluster meeting last month. During this meeting, we established a Conservation Farming (CF) demonstration plot.

Inside:

Cluster ya TIST ya Kagaene: Kwamukiria mitaratara miega ya TIST. Page 2

Cluter ya TIST ya Kibuline: Page 2

Cluster ya TIST ya Kamaroo: miti ya Macadamia niundu wa mbegu na gutheria riera. Page 2

Cluster ya Magutu-ini: Utongoria wa guthiururukana guteithia kurehe mawoni meru. Page 3

TIST: Mithemba iria miega makiria ya miti. Page 3



Cluster ya TIST ya Kagaene: Kwamukiria mitaratara miega ya TIST.

Mwandiki, Alice Nyambura, Ndungata ya Cluster

Ithui, amemba a cluster ya Kagaene nitukenete ni kuingira TIST. Nituthomete mitaratara miega ya urimi iria ithiite na=mbere na kwongerera maciaro migunda-ini iitu. Kilimo Hai niyonanitie noyongerere magetha gukira urimi wa ki-nduire. Makiria, urimi uyu niuthiite na=mbere na kunyihia wira na mahinda iria cihuthikaga kuhariria mugunda. Ngurani na urimi wa ki-nduire, tutibataraga kurima mugunda. No gutheria tutheragia na kuhariria marima, kuhanda na kurimira.

Niturathii na=mbere na kuhinyiriria arimi angi aria mari a TIST ona aria mataingirite kuiyukia

urimi uyu wa Kilimo Hai. Turi na mugunda munini wa kwonania Kilimo Hai kuria arimi mangithoma na kwiyonera wega. Arimi aingi nimakenetio ni maumirira, ikundi 5 makiria nicingirite TIST.

Cluster ya Kagaene iri na ikundi nini 106 na amemba 680 aria mahandite miti makiria ma 94,000 iria itaritwo na iri muoyo. Kioneki giitu niguthii na=mbere na kuhinyiriria arimi maingire TIST, niguo turi hamwe, twagirithie riera ria kuria tuikaraga. Niturenda kung'ethanira na mathina maria mari kuo turi hamwe ta kwaga irio, riu na wagiriru wa maai.

Cluter ya TIST ya Kibuline.

Mwandiki, Alice Kambura, ndungata ya cluster

Ithui, cluster ya Kabuline, turi na mibango miega ya kwongerera miti iitu. Nituthundurite nathari ya miti thiini wa cluster iitu iria iri na miti makiria ma 30, 000 ya Grevillea. Amemba aitu nimahetukirie kuhuthira kigina ciitu cia budget ya mweri kiria kiumaga TIST kwambiriria nathari ino. Nitwagurire maratathi nao amemba makiirutira kuruta wira.

Gitumi gia ithui gucagura miti ya Grevillea ni tondu makiria nitwabataraga mahuti ma mahiu maitu makiria mahinda ma riu. Ningi nituonete ati miti ya Grivellia ndithukagia mimera ingi migunda=ini na niikoragwo na kiiruru kiega na

guthondeka thumu mwega riria mahuti magua.

Niturehoka ati uhandi uyu wa miti nukwongerera muigana wa miti thiini wa cluster iitu kuma 26, 132 ngiyagia 60,000. Ikundi nini onacio ciri na nathari na uguo miti iyo noikorwo iri miingi ona makiria.

Hingo ya mucemano wa cluster wa mweri muhituku, nitwambiririe mugunda wa kwonania Kilimo Hai. Njira ino yerekeirie guteithia arimi guthoma uria mangithondeka migunda yao.

Wira wiitu ningi niurekira hinya arimi angi kuingira TIST. Nitwandikithitie ikundu 4 na riu turi na ikundi 36 thiini wa cluster iitu.

Cluster ya TIST ya Kamaroo: miti ya Macadamia niundu wa mbegu na gutheria riera.

Mwandiki, Alice Kambura, ndungata ya cluster.

Ithui, cluster ya Kamaroo, turi na gikeno tukionania uria tuthiite na=mbere guteithania na cluster ingi thiini wa TIST. Niturarutithania wira hamwe na guteithania niguo twagirithie miturire iitu. TIST niituhete mweke wa guthomithania na gucenjania meciria, kumageria na kuiyukia maria maratwarana na mabataro maitu. Micemano ya cluster niituheaga mweke wa gukorwo na meciria ngurani maria maragiririo na magathuthurio. Maria tungihota nimaiyukagio.

Kwa muhiano, mieri mihituku, amemba nimathundurite njira iria tungiteithika na miti. Nitwonire ati nitwagiriirwo ni kugeria miti

mithemba ngurani iria ingiagirithia miikarire iitu. Nitwagire nitukugeria macadamia. Mbegu cia macadamia nicikoragwo na mbeca muno.

Nitwagire nitukwambiriria nathari ya miti ya macadamia ya cluster. Nitwagire nitukuhuthira kigina gitu kia mahuthiro ma mweri kugura maratathi na indo ingi iria cihuthikaga nathari-ini. Mweri muthiru twahuthirire mahinda ma mucemano kwambiriria nathari ino. Nitugucoka o ringi kuga uria tuthiite na=mbere. Gwa kahinda gaka, reke tumenye uria cluster yanyu ireka. Tukuranie hamwe!



Cluster ya Magutu-ini: Utongoria wa guthiururukana guteithia kurehe mawoni meru.

Mwandiki; Annet Kaari, Ndungata ya cluster.

Gukorwo na utingoria wa guthiururukana wa kwirutira niguteithitie gukorwo nameciria maingi na ngurani. Nitukoretwo na gitati kuria tuguraga iti cia kenpoly 3 kuri amemba 5 o mweri. Maya ni meciria marutirwo ni umwe wa arimi riria ari mutongoria.

Makiria ma uu, nituthiite nambere na gukura turi na hinya. Twaciarirwo kuma cluster ya Likindini

mwaka muhetuku na umuthi, kumana na kwirutira gwitu, turi na ikundi 40 na makiria ma miti 20,000 iria itaritwo thiini wa cluster. Ithui amemba a cluster ya Magutuini nitukenete kuma twatuka kuma cluster ya kilindini kuma mwaka muhetuku. Nitwambiriirie nathari ya cluster iria iri na miti makira ma 6,000 iria noihandwo kimera kia mbura.

TIST: Mithemba iria miega makiria ya miti.

Hingo ya micemanio yanyu ya cluster, reke amemba mariririe mari ikundi-ini na mandike mithemba ya miti iria mareciria niyo miega na ingikura wega kwao*miti iria iri na maciaro maingi(. Ucoke umorie uria mona. O gikundi kiheane anja imwe o hindi na mathii uguo mathiururukanite nginya hanja ciothe ciheanwo.

Tigirira ikundi ciothe niciandika miti iyo. Ucoke umorie macoke ikundi-ini na mariririe 6 thiini wayo iria mareciria niyo miega makiria. Oya macokio na umandike. Aririria maritwa macio muri inyuothe na muiguithanirie list imwe. Mwagia na list yanyu inyuothe ya miti 6 iria miega muno, uria arimi uria mareciria ciuria ici;

- Ni muthemba uriku wa mugunda mwega na miti ino
- Mahuthiro ma miti ino ni mariku

- Tariria miti – rangi, mahua, makoni miigua na makiria
- Ni njira iriku njega ya gukuria miti ino? Nicirabatara guthondekwo mbere ya kuhandwo?
- Mbegu cimeraga thutha wa kahinda kaigana atia?
- Ukuhanda mimera mugundaini thutha wa kahinda kaigana atia?
- Miti ino iri na maundu matari mega?

Niwega kuhuthira maundu maya niguo kugia na uhoro mukinyaniru. Kwa muhiano .

Common Names	Tree description	Land type	Uses	Seedling information	Other notes
Mango Magnifera indica	Densely leafed evergreen tree, dark green leaves, edible fruit	Best in tropical zones with a pronounced dry season	Firewood, food, fodder, bee-forage, windbreaks, mulch, ornamental, shade, canoes	Can be sown directly into seedbeds or pots, or direct into the ground. No pre-treatment needed, but nipping seed enhances germination	Grafted material is used for better fruit production. Good varieties have fruits without fibre and do not smell like turpentine. Fruit is rich in Vitamins A & C.
Grevillea robusta Silky oak	Semi-deciduous, oval leafy crown, dark grey bark, green, silvery leaves, golden-orange flowers	Needs fairly well-drained soil	Firewood, charcoal, poles, timber, fodder, bee forage, soil conservation, shade	No pre-treatment of seeds needed	Planted with tea, coffee and rubber as boundaries. Grows well with food crops if managed to reduce shade. Important dry season fodder



Ririkania amemba miti iria miega kuringana na TIST niyagiriirwo ni guikara kahinda karaihu. Miti ndingikorwo iri na unene muiganu wa kuheana carbon credits nginya ikinyie miaka 20.

Riria miti ya TIST yatemwo nigukoragwo na mathina thiini wa TIST:

- a) Gikundi gitikurihwo mbeba cia miti, tondu no miti ingigucia carbon.
- b) Ririkana riria Clean Air Action corporation yagia na mbeba thutha wa kwebdia carbon credits, mahuthiro mothe ma TIST mabaga kurihwo. Thutha gicunji kia 70% gia faida gigathii kuri ikundi. Maundu maya mari kandarathi-ini. Angikorwo CAAC niuhuthirite mbeba makiria cia kuriha ikundi miti miteme niikoragwo itete mbeba nyingi. Mahuthiro maya makoragwo marihitwo na nigugukorwo na unyihu wa mbeba kuri ikundi iria ciri na miti iri muoyo. Kwa uguo utemi wa miti ya TIST nikunotomagia TIST na ikundi.

Miti ya ki-nduire.

a. Prunus Africana (Kikuyu: Muiri Kimeru: Mweria)

Muti uyu wa kinduire muno ukoragwo kuria kuri na miti miingi na mititu. Mbegu ciaguo niconekaga kimera kia riuu. Ungania mbegu iria ciri cia brown na matunda-ini maria meru biu. Urura gikoni kuhitukira kurinda maai-ini gwa kahinda ka mathaa 24, ucike uthambirie waya-ini, aragania wega kiiruru-ini niguo ciume gwa kahinda ka mathaa 4. Mbegu ici citikaraga kahinda karaihu. Ciohe na mahuti na ihande nathari-ini niguo uige ugunyu. Mbegu ici nicikaraga gwa kahinda ka 6-8 weeks mbere ya kumera.

Mahuthiro:

- Niuingataga tutambi ta aphid, nematodes (turia tuthukagia mimera) na munungo wagu. Mahua maguo nimakoragwo namahungo ma uuki mega na niukoragwo na uuki mwega muno.

- Dawa: maai maguo kuma makoni-ini nimahuthagirwo guthindeka cancer. Mahuti nimahuthagirwo na kuhonia homa na kwongerera appetite. Maai nimongagirwo makoniini na maai macio nimahuthagirwo guthindeka nda na mahiu.
- Erosion: miti ino niuhandagwo niguo igiririe tiiri gukuu ni maai na igakorwo na kiiruru kiega na kunyihia huhu.
- Guthondeka tiiri: mahuti nomahuthirwo guthondeka thumu.
- Uthaka: niikoragwo iri mithaka muno iri mugunda.

b. Peacock Flower (Albiza gummiifera, Kikuyu: Mukurwe)

Muti uyu wonekaga makiria mitituini ya irimaini na iria ya ciandaini na kundu kungi hakuhi na mutitu.

Mbegu nocihandwo cithondeketwo kana cirinditwo maai-ini. Cirindagwo maai-ini mararu na cikarekwo chore wega. Nourage makoni na utigie nathiini niguo cimere naihenya. Mbegu ici cimeraga na gicunji kia 70-80% thiini wa thiku 10 na ciagiriirwo nikunganio citari ciraguaniguo citigathukio ni tutambi. Mbegu nociguo mweri mugima ciri nyumu na kundu gutari na tutambi ciri muhuini

Mahuthiro:

- Mahungo ma uuki, ngu, mbau, gum na tannin
- Dawa: niuhuthikaga na kunina ruuo na makoni makahonia malaria
- Kugitira tiiri: mairi yaguo niuhotaga gwikira tiiri hinya
- Kiiruru: niwikagira nitrogen, niukoragwo na mahuti maingi
- Uthaka (niuhandagwo town niundu wa uthaka wagu), mihakaini na mahuti maguo makeruithia marigu naihenya.

c. Olea Africana (African Wild Olive Kikuyu: Mutamaiyu, kimeru: Muthata)

Muti uyu wonekaga kundu kuingi, muno makiria



hakuhi na ruui na kundu kungi. Niwigitagia kibii na riuu. Mbegu ciaguo nicio cihandagwo. Mbegu nguru nocirindwo mbere ya kuhandwo gwa kahinda ka mathaa 48.

Mbegu ciambaga guthondekwo na ndura ya gwaturwo na ihiga kana kindu kingi niguu cimere naihenya. Mabegu nociguo kundu gutari na ugunyu kwa miaka.

Mahuthiro:

- indo iria ciumanaga na muti uyu muno ni maguta makuria na ma kwihaka
- irio cia mahiu: muti uyu mahuti maguo nimaheagwo mahiu na ningi nimatumikaga ta maguta mangari, mbau, makara, mukunyi na uthaka.
- Gucokereria mititu: muti uyu niuhuthikaga na gucokereria mititu niundu niwitiragia riuu.

d. Waterberry(Syzygium guineense, Kikuyu: mukoe, Kimeru: Muriru)

Muti uyu wonekaga ngurumoini na mitituini ya irimaini. Muno ukuraga kundu kugunyu na ringi kundukuri na aai na niwonekaha hakuhi na ruui. Mbegu ciaguo citibataraga guthondekwo mbere ya kuhandwo tondu nicimeraga wega muno.cimeraga na gicunji kia 80-90% thutha wa thiku 20-50. Niwega kuhanda mukebeini. Matunda maguo nimathukaga naihenya na magiriirwo nikunganio thi thutha wa kugua. Ningi nouinainie muti kana utue. Thutha wa kungania, matunda magiriirwo kuhandwo orio tondu nimaguthuka thutha wa kuma. Angikorwo uu gutikuhoteteka, matunda nomaigwo thiku nini mura-ini na mikebeini kundu kuri na riera riiganu

Mahuthiro:

Irio kuma matunda, mahungo ma uuki, mbau, ngu, kiiruru an dawa(matunda maguo nimahuthagirwo gucokia maai mwiri-ini na kunina ruharo). Ririkana makoni nimari thumu na nimoragaga, kwa uguo

maotaaro mega nimagiriirwo nikuheanwo mbere ya kuhuthirwo.

Miti ya matunda

Avocado(Persea Americana)

Ecology: ukuraga kundu kugunyu

Guthondekwo mbere ya kuhandwo: rinda mbegu maai-ini mahehu gwa kahinda ka mathaa 24, na ucoke uhande mikebeini. Huthira mbegu citaikarite muno tondu nicithukaga naihenya. Mimera ningi niiciarithanagio na kumera kuoyaga kahinda ka 3-4 weeks na utaganu wa 6m. miti ino makiria ihandagwo hakuhi na micii.

Guava(Psidium guajava, Kikuyu: Mubera)

Ecology: ubataraga mbura, niwigitagia riuu

Mbegu: citibataraga guthondekwo mbere ya kuhandwo na cimeraga thutha wa wiki 3. Utaganu niwa 4m
Mahuthiro: ngu, makara, ikingi, irio, matunda makoragwo na vitamin C na vitamin A. muti uyu uciaraga matunda thutha wa miaka 3-4 na muti uyu nduriagwo ni muthua. Matunda maria meruite na makomithio nimakoragwo mari mega na gucokia maai mwiri na ningi mahuti na matunda makahonia ruharo. Maguta maguo nimarutaga indo cia dawa na makoni magathondeka maguta ma kwihaka na guthindeka ngothi, tugunyu twa nda, na ironda cia nda. Mahuti nimateithagiriria guthia irio, homa na kuhaica gwa thakame, trauma, ruuo, kurio ni mutwe na rheumatism. Maai maguo nimahuthagirwo kuhonia hepatitis, gatego na kuharwo.

Kuhandanirio: muti uyu niuhandanagirio na irio cia mahiu ta mbembe, muhia na njugu.

Maembe(Magnifera indica)

Ecology: muti uyu ndukuraga kundu kuri na miiyuro ya maai na wendaga tiiri mumu. Niukuraga wega kundu kumu

Mbegu: citibataraga guthondekwo no niciaturagwo



mbere ya kuhandwo niguu cimere wega naihenya. Mbegu ici nocikare mieri miingi naciri njigu nirio cikoragwo cirinjega na ningi muti uyu niuciarithanagio. Mahuthiro: ngu, matunda, irio cia mahiu, mahungo ma uuki, kunyihia ruhuho, guthindeka tiiri nag u.

Handu ha Mubau,

Ataalamu aingi nimaramakio ni mathina ma mubau na makauga ati muti uyu uri na maugwati maingi muno, wa mbre kuri mithemba miingi ya mibau, wa keeri tondu ataaramu matiri na uma na maundu maya. No ningi, maya nimo maundu maria mangituma wage kuhanda muti wa mubau:

- Muti noumia mugunda niundu wa kunyua maai
- Muti uyu niuhuthagira unoru wa tiiri na ugathukia mugunda
- Mahuti ma muti uyu matibuthaga naihenya na angi makauga niunyahigia unoru.
- Mithemba ya flora and fauna ndingikuraniria na mibau.

Riria maundu maya mataraiguithanirio ni mundu o wothe, kuri na mogwati maingi maria TIST yonete. Ikundi nini ikundi imwe niciugite ati niconete muigana wa maai ugithii thi thutha wa kuhanda mibau. TIST niirahinyiriria arimi matikahande miti ya mibau hakuhi na ruin a kundu kugunyu kana mugunda wa kuhandwo irio. Ningi, mugunda ingi nimiega na mibau na ataaramu nomaheane mautaro mega.

Kuri na gitumi kingi gia keeri kiria kingituma TIST yage geikirira uuhandi wa mibau. Arimi angi maturaga mbau thutha wa miaka 20. Uu nikuuga ati TIST ndigukorwo na carbon credits tondu no miti iria iri muoyo ithondekaga carbon credits. Riria TIST yathukangia mbece nakuheana mbece niundu wa miti itari na umithio iria igutemwe itakinyitie miaka 20 nigugukorwo na mbece nini kuri ikundi iria ciikaragia miti yao.

Arimi nomende gukorwo n amiti ya mibau niundu wa ngu na mbau. Riria yakurio kundu kuria kwagiriire, miti ino noiteithie mitituini no ndingitarwo

iri miti ya TIST.

Niundu wa uguo, niguu kwongerera biodiversity niundu wa kugitira mugunda waku na kugia na miti ya guikara kahinda karaihu niukwigira ma marihi, niturahinyiriria ikundi yethe miti ingi handu ha mibau. Hinyiriria arimi kwaririria maundu macio. Kuri mundu ungiuga mauru ma mibau: kuri na miti ingi handu ha mibau: ino ni imwe ya miti iria ingihandwo handu ha mibau.

Grevillea Robusta(Silky Oak, Kikuyu: Mukima)

Ecology: ubataraga tiiri muniaru wega

Mbegu: citibataraga guthondekwo mbere ya kuhandwo na nocikare nginya gwa kahinda ka mieri 3 kana makiria na utaganu wa 4-5m.

Mahuthiro: ngu, makara, ikingi, mbau, irio cia mahiu, mahungo ma uuki, guthondeka tiiri, kiiruru, nihandanagirio na macani hamwe na kahuwa na mihakaini. Niikuranagiria na irio riria yahururwo na nimiega na mahiu mahuti moma.

Cyprus Cupressus Lusitanica*, Kikuyu: Mutarakwa, muthithinda)

Muti uyu wonekaga kundu kugunyu na kumu gutarika kuri kuumu makiria ma mieri 2-3. Ndwitragia maai maingi na wendaga kundu kuniaru.

Mbegu citibataraga guthindekwo mbere ya kuhandwo na nocigwo nginya mieri 6.

Mahuthiro: mbau, ngu, ikingi, uthaka kunyihia ruhuho, kiiruru na rugiri.

Ona ikiheanaga ugitiri kumana na tiiri gukuo ni mai, niukuraga kundu kuinamu .ndukoragwo uri mwega kuhandanirio na irio cia mugunda.

Mazingira Bora



TIST

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

Kiswahili Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Members of Kibuline Cluster during their monthly Cluster meeting last month. During this meeting, we established a Conservation Farming (CF) demonstration plot.

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Kagaene TIST Cluster: Kufuatilia mienendo bora ya kufanya mambo katika TIST.

Umeletewa na Alice Kambura, Mtumishi katika cluster.

Sisi, wanacluster ya Kagaene, tunafuraha kuwa katika TIST. Tumesoma njia mpya za ukulima ambazo zaendelea kuongeza uzalishaji kutokana na mashamba yetu. Njia ya Kilimo hai imeonyesha kufanya kazi na kuleta mavuno zaidi kuliko ukulima wa kawaida. Kuongez, imesaidia kupunguza kazi na wasaa unaohitajika katika harakati ya kutayarisha shamba. Tofauti na ukulima wa kawaida, kulima shamba hakuhitajiki katika kilimo hai. Tunatoa magugu tu, kutayarisha mashimo, kupanda halafu kutoa magugu tena.

Tunaendelea kuwahamasisha wengine katika TIST na pia wasio katika TIST kuanza kutumia njia ya ilimo hai. Tumeanzisha shamba la maonyesho ya

kilimo hai katika cluster yetu ambapo wakulima wanaweza kusoma kupitia kuona. Wakulima wengi wamefurahishwa nakama matokeo yake, vikundi vidogo vitano vimejiunga na TIST muda mfupi uliopita

Cluster ya Kagaene ina vikundi mia moja na sita vilivyo na memba mia sita themanini ambao wamepanda zaidi ya miti elfu tisini nan ne, iliyohesabiwa na iliyo hai. Lengo letu ni kuendelea kuwatia nguvu wakulima wengine kuingia katika TIST, ili pamoja, tuweze kuboresha hali ya anga ya tulipo na ile changamoto tulizo nazo pamoja kama usalama wa chakula, ukame na ubora wa maji.

Cluster ya TIST ya Kibuline: Kutayarisha upandaji mkubwa wa miti msimu wa mvua ukija.

Umeletewa na Alice Kambura, mtumishi katika Cluster.

Sisi, cluster ya Kibuline, tuna mipango mikubwa ya kuongeza miti yetu. Tumeanzisha kitalu cha miti cha cluster kilicho na miche ya Grevillea zaidi ya elfu thelathini. Memba wetu wameamua kutumia pesa za mwezi za cluster zinazotokana na TIST kuanzisha kitalu cha miti katika cluster. Tulinunua mifuko na memba wakajitolea kufanya kazi.

Tulichagua Grevillea hasa kwa sababu tunataka chakula cha mifugo sana sana katika msimu wa kiangazi. Pia tumeona kuwa miti ya Grevillea haidhuru mimea mingine katika shamba. Kwa kweli, unaipa kivuli na kuongeza mbolea majani yanapoanguka.

Tunatumaini kuwa upanzi huu mpya utaongeza

miti yetu ya cluster kutoka elfu ishirini na sita mia moja na thelathini na tatu hadi zaidi ya miti elfu sitini. Memba wa vikundi vidogo pia wana vitalu vyao vya kibinafsi na hivyobasi miti yaweza kuwa ata zaidi.

Katika mkutano wa cluster yetu mwezi uliopita, tulianzisha shamba la maonyesho ya kilimo hai. Jambo hili linalenga kusaidia wakulima wengi kusoma ili waweze kulima kwa njia hii katika mashamba yao.

Shughuli zetu pia zinawatia moyo wakulima wengine kuingia katika TIST. Hivi karibuni tumevisajili vikundi vinne na sasa tuna vikundi thelathini na sita vya TIST katika cluster yetu.

Cluster ya Kamaroo: Miti ya Macadamia kwa sababu ya macadamia na pia kusafisha hewa.

Umeletewa na Alice Kambura, Mtumishi katika Cluster.

Sisi, cluster ya Kamaroo, tuna furaha kugawana maendeleo yetu na cluster zingine katika TIST. Tunafanya kazi pamoja kusaidiana na muhimu zaidi kuboresha maisha yetu. TIST imetupa jukwaa la kugawana mawazo yetu, kuyapima na kuchukua yale yanayotusaidia. Mikutano ya cluster hutupa nafasi ya kuleta mapendekezo na mawazo mbali mbali ambayo yanajadiliwa na kupimwa. Tunayoweza kufikia yanaitikiwa ili kutumika.

Kwa mfano, baadhi ya miezi iliyopita, wanacluster walitafuta njia mbalimbali ambazo tungetumia kupata faida nyingi kutokana na miti

yetu. Tulifikiria pamoja kuwa tunahitaji kujaribu miti mbali mbali ambayo itasaidia kuboresha maisha yetu kiuchumi. Tuliamua kujaribu miti ya Macadamia. Macadamia huuzwa bei nzuri sokoni letu leo.

Tuliamua kuanzisha kitalu cha cluster cha Macadamia. Tuliitikiana kutumia pesa zetu za bajeti za mwezi kununua mifuko na vifaa vingine muhimu katika kuanzisha kitalu hiki. Mwezi uliopita tulitumia masaa ya mkutano wa cluster kutengeneza kitalu. Tutarudi hapa tena kugawana nanyi kuhusu maendeleo yetu. Kwa wakati huu, tafadhali tujulisheni cluster yenu inavyofanya. Pamoja, tukue!



Cluster ya Magutuni: Uongozi wa mzunguko huleta mawazo mapya.

Umeletewa na Annet Kaari, Mtumishi katika cluster.

Matumizi ya uongozi na utumishi wa mzunguko umetusaidia kufikiwa na mawazo mapya. Sasa tunaendeleza mzunguko uliofanikiwa sana ambapo tunanunulia kila mmoja wa memba watano viti vitatu vya plastiki kila mwezi. Wazo hili lilitokana na mkulima mmoja wao alipokuwa kiongozi.

Mbali na ustawi huo, tunaendelea kukua kinguvu. Tulizaana kutokana na cluster ya Kilindini

mwaka uliopita na leo, kupitia kazi yetu, tuna vikundi arobaini na zaidi ya miti elfu ishirini iliyohesabiwa katika cluster yetu. Sisi, wanacluster ya Magutuni tuna shukrani kutoka tulipozaliwa na cluster mama yetu Kilindini mwaka uliopita. Tumeanzisha kitalu cha cluster cha miti kilicho na zaidi ya miche elfu sita iliyo tayari kupandwa msimu ujao wa mvua.

TIST: Aina bora zaidi za miti.

Katika mkutano wenu wa cluster, waache wanacluster wajiadiliane katika vikundi na waandike orodha ya miti wanayofikiri hukua vizuri katika eneo lao (miti iliyo na faida nyingi na hasara chache). Halafu uwaulize vikundi kuleta majibu yao. Kila kundi lipeane jibu moja moja, halafu mzunguke vikundi vyote hadi majibu yote yatakapopeanwa.

Hakikisha vikundi vyote vimeandika orodha kamili. Halafu uwaulize warudi vikundini kujadiliana ni ipi wanayofikiri kuwa miti sita muhimu zaidi. Yachukue majibu na uandike orodha mpya. Jadilianeni katika kikundi kikubwa na waache watu waitikie orodha ya mwisho. Utakapopata orodha ya miti sita bora zaidi ya kupanda, waulize vikundi kufikiria kuhusu maswali haya:

- Ni aina gani ya ardhi iliyo bora zaidi kwa mti huu?
- Matumizi muhimu ya mti huu ni yapi?
- Eleza mti –rangi, maua, gome, miiba na kadhalika.
- Ni njia gani bora zaidi ya kukuza miche? Kuna matibabu yoyote huhitajika kable ya kukuza mbegu?
- Ni muda gani mbegu huchukua kabla ya kuota?
- Ni muda gani baada ya kuota huhitajika kabla ya kupandikiza miche?
- Kuna hasara zozote zinazotokana na mti huu?

Inaweza kuwa vizuri kutumia meza ifuatayo kukusaidia kuandaa taarifa hii. Mfano unaoweza kutumia (Muembe na Grevillea ni mifano pekee):

Majina	Maelezo ya mti	Aina ya ardhi	Matumizi	Taarifa kuhusu miche	Mengineyo
Mango Magnifera indica	Mti Wenye majani mengi na usioangusha majani, majani yaliyo ya rangi ya kijani kizito, matunda huliwa	Bora zaidi katika maeneo ya tropiki yaliyo na msimu wa kiangazi ulio mrefu	Kuni, chakula, lishe ya wanyama, lishe ya nyuki, kizuia upepo, kufunika udongo, kurembesha, kivuli, kutengeneza mitumbwi	Yaweza kuoteshwa moja kwa moja vitaluni au udongoni. Hakuna matibabu yanayotakikana lakini kuvunja mbegu kidogo husaidia kuotesha kwa urahisi	Kupandikizwa huleta uzalishaji bora wa matunda. Aina nzuri huwa na matunda yasiyo na nyuzi na yasiso na harufu kama ya turpentine. Matunda huwa yenye vitamin A na C.
Grevillea robusta Silky oak	Huangusha baadhi ya majani, taji la majani la mviringo, gome la rangi ya kijivu, majani ya kijani na fedha, maua yenye rangi ya dhahabu na machungwa	Huhitaji udongo usioweka maji kwa muda mrefu	Kuni, makaa, fito, mbao, lishe ya mifugo, lishe ya nyuki, kuhifadhi udongo, kivuli	Hakuna matibabu yanayohitajika kabla ya kupanda mbegu	Hupandwa pamoja na majani chai, kahawa na rubber kama mipaka. Hukua vizuri pamoja na mimea ya vyakula ikitengenezwa kupunguza kivuli. Ni lishe nzuri sana ya mifugo wakati wa kiangazi



Awakumbushe wanacluster kuwa miti bora zaidi kwa TIST yafaa kuwa ya muda mrefu. Miti haitakuwa mikubwa kutosha kupata malipo ya kaboni hadi ikikomaa, yaweza kuwa baada ya miaka ishirini. Mti wa TIST unapokatwa kuna athari mbili kwa mradi huu:

- a. *Kikundi hicho hakitalipwa pesa yoyote ya mti huo, kwani ni miti tu iliyo hai huchukua hewa chafu ya kaboni.*
- b. *Kumbuka kampuni CAAC itakapopata pesa kutokana na kuuza hewa iliyosafishwa, gharama ya mradi lazima ilipwe kwanza. Halafu asilimia ya faida iende kwa vikundi. Hili limeandikwa katika mkataba. Iwapo CAAC imetumia pesa nyingi katika vikundi vinavyokata miti itakuwa imepoteza pesa nyingi. Gharama hizi lazima zilipiwe na hivyo basi kutakuwa na pesa kidogo zaidi kwa vikundi vilivyoweka miti yao hai. Kwa hivyo kukata miti ya TIST huathiri mradi na pia vikundi vidogo.*

Miti ya kiasili

a. *Prunus africana* (Kikuyu: Muiri, Kimeru: Mweria)

Mti huu wa kiasili unapatikana sana katika hifadhi za misitu. Mbegu zipo misituni wakati wa kiangazi. Kusanya tu matunda yaliyoiva ya hudhurungi kutoka taji la mti ama ardhini.

Toa rojo kwa kulowesha masaa ishirini na nne, kisha uoshe juu ya waya wenye matundu. Eneza kwa safu nyembamba katika eneo lililo na hewa na lililo na kivuli ili kukauka- lakini kwa masaa nne pekee. Mbegu haikai kwa hivyo tumia mbegu mpya.

Kufungia majani yakizunguka mbegu hupunguza upotevu wa unyevu wakati wa kusafirisha na kuweka.

Panda kitaluni au mifukoni moja kwa moja.

Kuota huchukua wiki sita kufika nane.

Matumizi:

- ***Dawa ya kukimbiza wadudu waharibifu:*** yaweza kukimbiza wadudu waharibifu kama chawa, viwavi (ambao hushambulia mimea) kwa harufu yake. Maua yana nta na poleni tosha ya kulisha nyuki. Ina kuni bora.

- ***Dawa:*** Rojo kutoka kwa gome hutumiwa kutibu uvimbe wa kibofu. Majani hutumiwa kuvuta ili kutibu homa ama kunywa kama njia ya kuboresha

hamu ya kula. Maji huongezwa kwa gome lililopondwa na maji hayo mekundu kutumiwa kutibu maumivu ya tumbo; dondoo la gome kutumiwa kulisha ng'ombe.

- ***Kuzuia mmomonyoko wa udongo:*** Miti yaweza kupandwa matutani, huwa na kivuli chenye manufaa na huzuia upepo. Huboresha udongo. Majani yaweza kutumiwa kufunika udongo ama kama mbolea.

- ***Urembo:*** Huwa mti mzuri wa kivuli unaovutia katika bustani.

b. *Peacock Flower (Albizia gummifera, Kikuyu: Mukurwe)*

Mti huu hupatikana sanasana katika misitu ya mvua iliyo mahali tambarare au nyanda za juu na katika makazi wazi karibu na misitu. Mbegu safi hazihitaji kutibiwa kwanza. Mbegu zilizowekwa huloweshwa katima maji yenye joto na kuachwa kupata baridi kwenye joto la kawaida. Gome la mbegu laweza kuvunjwa ili kuharakisha kuota. Mbegu huota vizuri, asilimia sabini kufika themanini katika siku kumi. Mbegu zafaa kukusanywa zikiwa bado mtini ili kupunguza uharibifu wa wadudu. Mbegu yaweza kuwekwa kwa muda wa mwaka mmoja ikiwekwa ikiwa kavu na mbali na wadudu kwa njia ya kuongeza majivu.

Matumizi:

- ***Chakula cha nyuki, kuni, mbao, gundi, tanini, dawa*** (dondoo kutokana na kuponda maganda hutumiwa kumaliza uchungu wa tumbo na maji ya gome kutibu malaria), kuzuia mmomonyoko wa udongo (mizizi hushika udongo na kuzuia mmonyoko wa udongo kupitia mitaro),

- ***Kivuli,*** kuweka naitrojeni (huboresha udongo), hujulikana kama mti mzuri wa kufunika udongo kwa sababu majani yanayoanguka ni mengi wakati wa msimu wa kuangusha majani,

- ***Urembo*** (Hupandwa katika miji kwa sababu ya urembo wake),

- ***Kupanda mipaka,*** matawi huharakisha kuiva kwa ndizi.

c. *Olea africana* (African wild olive, Kikuyu: Mutamaiyu, Kimeru: Muthata)



Mti huu hupatikana maeneo mengi, sana sana karibu na maji, mito na ata maporini. Ni sugu kwa baridi na kwa ukavu.

Mbegu kutoka kwa matunda hutumika kuotesha. Mbegu nzee yaweza kuloweshwa kwa maji baridi kwa masaa arobaini na nane.

Mbegu sanasana hutibiwa kwa kuvunja na kifaa au kwa kuachilia jiwe juu ya mbegu. Hii ni kwa sababu kutoa ngozi ya ndani ya mbegu husaidia kuota haraka. Mbegu huwekwa mahali pakavu na penye joto la kawaida kwa miaka michache.

Matumizi:

Chakula: Bidhaa kuu ya mzeituni ni mafuta na matunda yanayoliwa.

Lishe: mimea hii huliwa na mifugo. Hutumika pia kama kuni, mbao, makaa, miswaki ya meno na kurembesha.

Kuimarisha: kuwa sugu kwa ukavu inapendekeza kuwa mti huu waweza kutumika kuimarisha maeneo Africa yenye ukame.

Kurembesha: mzeituni huweza kurembesha ardhi/mazingira.

d. Waterberry (Syzygium guineense, Kikyuyu: Mukoe, Kimeru: Muriru)

Mti huu sana sana hupatikana misitu iliyo kwa tambarare na iliyo milimani. Hukua sana mahali penye unyevu, mara nyingine ndani ya maji na hupatikana kando ya mito

Mbegu hazihitaji kutibiwa, kwani huota haraka na vizuri. Huota kwa asilimia themanini kufika tisini kwa siku za kwanza ishirini hadi hamsini. Kuotesha mifukoni hupendekezwa. Matunda huharibika kwa yanafaa kuokotwa mara moja yakishaanguka. Yanaweza pia kwa kutikisa matawi. Ukishakusanya, matunda yanafaa kuoteshwa mara moja kwani yanaweza kupoteza uwezo wake wa kuota yakikauka; kama ili haliwezekani, matunda yanaweza kuwekwa kwa siku chache kwa machujo ya mbao na ndani ya mikebe kwa chumba chenye kuingiza hewa tosha.

Matumizi: Chakula (Matunda), lishe ya nyuki, mbao, kuni/makaa, kivuli, dawa (tunda utumika kutibu ugonjwa wa kuhara damu, maji ya gome nayo hutumika kuzuia ugonjwa wa kuhara).

Kumbuka gome ili lenye sumu limeripotiwa kuua

watu, kwa hivyo tafuta ujumbe tosha kwa watu wenye uzoefu wa kutumia bidhaa za huu mti.

Mitunda

Avocado (*Persea americana*) hukua vizuri zaidi katika maeneo yenye unyevu. Hakikisha kulowa mbegu kwa maji baridi masaa ishirini na nne halafu upande kwa mifuko. Tumia mbegu zilizokusanywa mara moja kwani mbegu hazikai. Miche pia yaweza kukatwa na kukua baada ya wiki tatu kufika nne. Nafasi kati ya miti iwe zaidi ya mita sita na hupandwa san asana karibu na manyumba. Avocado kama chakula hutupa protini, mafuta yenye thamana na vitamini. Miti hii ina matumizi mengi kama kuni, makaa na kivuli. Miche yaweza kupandwa pamoja na maharagwe inapokuwa change. Mti huu waweza kuleta pesa nyingi.

Guava (*Psidium guajava*) Kikuyu; Kimeru-Mubera. Tunda hili linaloliwa ni chanzo zuri la vitamin C na vitamin A. Wakati yameiva, matunda yanapendekezwa kama tiba la kuhara na ugonjwa wa kuharisha. Mafuta ya tunda hili lina uwezo wa kupambana na kuchomwa, na pia majani na gome hutengeneza mafuta ya kupaka ya kutibu shida za ngozi kama minyoo, majeraha na vidonda vya tumbo. Majani yaweza kutumia kutibu magonjwa ya njia ya utumbo kama shinikizo la damu, mshtuko na maumivu. Maji ya mapera husaidia katika ugonjwa wa hepatitis, kisonono na kuhara. Mipera hufanya vizuri inapopandwa pamoja na chakula cha mifugo kama mahindi, mtama na kunde. Miti hii huvumilia ukosefu wa maji, lakini yaweza kuvumilia maji yaliyofurika. Mbegu hazihitaji kutibiwa huku zikiota baada ya wiki tatu. Pia ni muhimu kuipa nafasi ya mita nne. Mipera yaweza kuenea katika baadhi ya maeneo na kujaa shambani, lakini hakuna sehemu ya mti huu wa matunda wenye thamani hupoteza nafasi.

Mango (*Magnifera indica*) hutupa faida nyingi za kiafya kwa sababu ya misombo yao ya kusafisha damu, jambo ambalo husaidia kuzuia saratani na ni faida ka afya ya macho na ngozi. Wenye ugonjwa wa kisukari waweza kuchemsha majani katika maji, kuyalowa usiku mzima na kunywa chai asubuhi kusaidia kurejesha sukari katika damu. Kuvunja vunjwa kwa chakula katika matumbo huboreka mtu anapokula embe zima. Miembe haivumilii mafuriko na hihitaji udongo unaolowa maji vizuri na yaweza



kufanya vizuri katika maeneo makavu. Mbegu hazihitaji kutibiwa ingawa kutobolewa kwa mbegu husaidia kuota. Mbegu hizi zaweza kuwekwa mwezi mmoja kwa joto la kawaida na mbegu zilizotolewa mara hiyo ni bora za kufanyia “grafting”. Hakuna sehemu hupotezwa- kukiwa na matumizi mengi mazuri kama kuni, chakula cha mifugo, chakula cha nyuki, kuvunja upepo, kufunika udongo, kivuli, kuhifadhi udongo na fizi.

Miti inayoweza kupandwa badala ya Mikaratusi

Wanamazingira wengi wana wasi wasi kuhusu athari ya mikaratusi kwa mazingira. Hoja dhidi ya mikaratusi ni zina ugumu, kwanza kwa sababu kuna aina nyingi za mikaratusi, na pili kwa sababu wanasayansi bado hawana uhakika kuhusu baadhi ya ushahidi. Hata hivyo, zifuatazo ni hoja dhidi ya upanzi wa mikaratusi ambazo wanamazingira wengi huamini:

- Mit yaweza kukausha ardhi kwa kuchukua maji mengi kutoka chini
- Miti yaweza kuchukua virutubisho vingi na hivyo kufanya ardhi kutofaa kwa kilimo
- Majani yake hayatengani kwa urahisi, na baadhi husema hata hupunguza vijidudu vyenye faida katika udongo.
- Baadhi ya aina za mimea na wanyama wa eneo hilo hawawezi kuishi katika mashamba makubwa ya mikaratusi.

Ingawa nyingi za hoja hizi hazijakubaliwa na kila mtu, kuna wasi wasi tosha kuhusu suala hili hivyo basi TIST lazima isikize kwa makini. Baadhi ya vikundi vidogo wamesema kuwa wameona miwango cha maji kikipungua tangu walipopanda mikaratusi. TIST inawashauri wakulima wote wasipande mikaratusi katika maeneo oevu, kando ya mito ama katika mashamba yenye uzalishaji mzuri wa kilimo. Hata hivyo, baadhi ya ardhi yaweza kuwa nzuri kwa mikaratusi na mlinda msitu wa karibu aweza kukushauri.

Kuna sababu ya pili TIST hahihamasishi mikaratusi. Wakulima wengi watakata miti hii ili kupata mbao baada ya muda usiofika miaka ishirini. Hili litamaanisha TIST haitaweza kuuza kaboni kwa sababu ni miti iliyo hai tu hulipiwa. TIST ikipoteza pesa nyingi kulipia motisha ya miti itakayokatwa katika miaka isiyozidisha ishirini, kutakuwa na pesa kidogo kwa vikundi vilivyopanda miti na kuulinda inavyofaa kwa muda mrefu.

Wakulima wanaweza taka kuwa na mashamba ya mikaratusi hasa ya kuni na mbao. Ikipandwa mahali panapofaa, miti hii yaweza kusaidia kupunguza uzito uliowekelewa misitu ya kiasili. Hata hivyo, mashamba haya ya mbao hayafai kuhesabiwa katika mradi wa TIST.

Kwa hivyo, kuongeza bionuwai, kulinda ardhi yako na kuimiza miti ya muda mrefu itakayokusaidia kupata malipo ya kaboni, tunawatia nguvu vikundi kufikiria miti ya kupanda badala ya mikaratusi.

Waimize washiriki kujadiliana masuala yaliyo hapo juu. Kunaye ameona hasara za mikaratusi? Ni miti ipi mizuri ya kupanda badala yake? Miti ifuatayo ni mapendekezo ya walimu wa Kenya.

Grevillea Robusta (Silky Oak, Kikuyu: Mukima)
Mahali unapokua vizuri: Huhitaji udongo usioweka maji kwa muda mrefu sana

Mbegu: Hakuna matibabu ya kabla huhitajika na mbegu zaweza kuwekwa hadi muda wa miezi mitatu au zaidi ukiwekwa mahali penye baridi nyingi na hupandwa ukiacha nafasi ya mita nne kufika tano.

Matumizi: Kuni, makaa, fito, mbao, lishe ya mifugo, kuhifadhi udongo, kivuli. Hupandwa pamoja na majani chai na kahawa kama mipaka. Hukua vyema pamoja na mimea ikitunzwa vizuri ili kupunguza kivuli na waweza kuwa chanzo cha maana cha lishe ya mifugo wakati wa kiangazi

Cyprus (Cupressus lusitanica, Kikuyu: mutarakwa, muthithinda)

Mti hupatikana katika hali ya anga iliyo na unyevu wa kimsimu au yenye unyevu kila wakati pamoja na msimu wa kiangazi usiozidi miezi miwili au mitatu. Hauwezi kuvumilia mafuriko lakini hukua vyema katika udongo mzito, wenye maji, usioweka maji, ulio na rutuba na usio na acidi au wenye acidi kidogo sana.

Matibabu ya kabla hayahitajiki. Mbegu zaweza kuwekwa kwa muda wa hadi miezi sita.
Matumizi: Mbao, kuni, fito, urembo, kupunguza upepo, kivuli, uzio hai.

Kwa sababu mti huu wa Cyprus huupa udongo ulinzi haba kutokana na mmomonyoko wa udongo, miti hii katika miteremko au katika maeneo yaliyona uwezekano mkubwa wa mmomonyoko yafaa kupandwa pamoja na miti aina nyingine inavyofaa. Pia miti hii si mizuri ya kilimo mseto.

Mazingira Bora



TIST

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

Kikamba Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Ene ma ngwatanio ya Kibuline wumbanoni woo wa mwai muthelu (September) Twi umbanoni uu nitwaseuvisye kiso kya kwoniasya nima ya kusuvia (CF).

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Ngwatania ya TIST ya Kagaene: Kwitikilana kuatiania na walanyo wa TIST.

na Alice Kambura, muthukumi wa ngwatania

Ithyi ene ma ngwatania ya Kagaene, twina utanu kulika thini wa Tist. Ni tusomete maundu meu ma ndilikasa ala matumite tuendee na kwithiwa na wongeleku wa ngetha kuma miundani yitu.

Nima ya kusuvia niikiithitye wia wayo nundu nietae ngetha mbingi kwi nima ya kuvinduany'a. Kwoliku ni kana ni iolete wia na ivinda yila yitumikaa kuseuvya muunda nundu yila ukuima nima ya uvinduany'a mimea niwithiawa waile uima mbee wa kuvanda na kuimia wavanda vala nima ya kusuvia niseo nundu no yiia uvetaa na kuseuvya maima kwoou no kuvadna na kuveta yiia.

Ni tukuendee na uthuthya aimi ala angi maTIST ona ala matememba ma tist mamanye na kwosa

itambya ya kutumia nima ino ya kusuvia. Twina kizio twikiaa wonanw'o iulu wa nima ino ya kusuvia (CF) nthini wa ngwatania yitu vala tumanyianasya kwisila kwona. Aimi aingi nimatanitwo ni nima ino nayu tui tukundi tungi tutano (5) tweu nitulikanite nthini wa TIST.

Ngwatania ya Kagaene yina tukundi 106 tunini na amemba 680 ala mavandite miti mbee wa 94,000, mitale na iendee na ikala. Woni witu ni kuthuthia aimi malike nthini wa tist kwavamwe totonye kwailya mawithyululuko na nzeve. Twienda kukitana na motatwa maitu kwa vamwe ala nita nzaa, yua/munyao na thina wa kiw'u.

Ngwatania ya Kibuline: Kwiyumbanisya kuvanda miti mbua yukite.

na Alice Kambura, muthukumi wa ngwatania

Ithyi ngwatania ya Kibuline twina mivango ya kwongela utalo wa miti ila tuuvanda. Twina kivuio kila kina miti ya mikuvulya ta 30,000. Amemba maamuite kutumia mbesa ila tunengawe kila mwai kuma kwa tist kuseuvya kivuio. Nitwauie mathangu ma uvuia na amemba meeyumya uthukumini.

Nitwasakuie mukuvulya (grevillea) nundu twendaa miti yina uithyo wa indo situ ivindani ya sua/munyao. Ingi nitwonete mikuvulya ndiumiasya mimea ila ingi muundani. Kwaw'o ukitaa umine muuny na vuu yila matu maw'o metika.

Twikwatya mbanda ino nzau nikwongela utalo wa miti ya ngwatania yitu kuma 26,132 kuvika miti 60,000. Tukundi tunini na two twina ivuio sya tw'o kwoou utalo no wingivange.

Yila twai na wumbano witu wa kila mwai nitweeke wonany'o wa nima ya kukuany'a/kuvinduany'a.

Kii twekie kuthuthya aimi na kumamanyisya undu maile ika miundani yoo. Mawiko maitu angi ni kuthuthya aimi malike nthini wa Tist. Omituki nitunalikilye tukundi 4 kwoou yu twi ngwatania ya tukundi 36 ungu wa isyitwa ya Kibuline.

Ngwatania ya Kamaroo: Miti ya mikandania kwa makandania na nzeve ntheu.

na Alice Kambura, muthukumi wa ngwatania

Ithyi ma ngwatania ya Kamaroo twina utanu kumanyithya ngwatania ila ingi sya TIST undu tuendee.

Nituu thukuma vamwe na kutethania kwailya mathayu maitu ithyothe. Tist nitunengete mesa ya kunzeana na kunengane mawoni kila umwe na kumekia kithimini vamwe na kutana kuthukuma vamwe na ala matuthukumaa. Mbumbano sya ngwatania nitunengae ivuso ya kuete mawoni vamwe na kumaneenanisya na kumekia kithimini. Mawoni ala twoona tutonya nitwosaa na tuyitikilana kumaatia.

Kwa ngelekany'o amemba nimethiitwe mayika

ukunikili wa niata matonya kwongela vaita kuma mitini. Nitwatungianiie uneeni na twatata kusisya vaita wa kila muti undu utonya kutwongela ueti na kwailya mathayu maitu. Nitwaamuie tutate mikandania vala twisi mbindi (makatania) nimethiawa na ueti museo sokoni umunthi.

Nitwaamuie kwambiia kivuio kya mikandania vala twatumiiie mbesa situ sya kila mwai kua mathangu na kila kingi kyendekaa mwambiia kivuio. Mwai muthelu nitwatumiiie mbesa situ kuseuvya kivuio kiu. Ila ingi nituuka mututavwe undu tuendee indi kya oyu eka tumanye undu ngwatania yenyu iendee. Kwa vamwe nitu kwiana!



Ngwatanio ya Magutuni: Utungoi wa kuvinduania nitetheesya kuete mawoni meu.

na Annet Karri, muthukumi wa ngwatanio

Kutumia nzia ya utungoi wa kuvinduana na utungoi wa uthukumi nikutetheesye kuete mawoni meu. Kwoou yu nitwithiitwe na sangulo nzeo vala tuuaniite ivila sya plastic itatu (3) kwakila amemba atatu kila mwai. Uyu ni woni wa umwe wa aimi yila wai mutungoi witu.

Na mbeange wa sangulo ino nituendee na kwiana na vinya vamwe na kuthathaa kuma kwa

ngwatanion ya Kilindini mwaka muthelu. Umuthi kithito kitu twina tukundi mingo ina (40) twina miti mbee wa 20,000 ila yivo na mitaliku. Ithyi ma ngwatanio ya Magutuni twina muvea nundu wa kwina kuma kwi ngwatanio ila niyo itusyaite ya Kilindini mwaka muthelu. Yu twina kivuio kitu kina tumiti/mbeu ya miti ta 6,000 ila twetelee uvanda mbua yukite.

TIST: Mithemba miseo ya miti.

Yila mwina wumbano wa kila mwai, eka amemba maneenanie thini wa ikundi and mayiandika mithemba ya miti ila mo mekwisilya nimiseo kumea kisioni kyenyu. (Miti ila yina ueti mwingi na utumii munini). Na indi muisyokeania mukulanye kila amwe mithemba ila mo moona yimiseo kila kikundi kikyoka. Ikiithya kila kikundi nikyaandika miti ila kwakyo nimiseo.

Matume ingi masyoke ikundi isu syoo masakue mithemba thathatu ila mekwona ni miseo kute ila ingi osa usungio woo ingi na muineenany'a mwone ni yiva miseo na muyiw'ana kwa vamwe mithemba ila miseo na kumakulya makulyo aya

- *Ni mthemba wiva museo wa muthanga kwa mithemba uyu wa muti?*
- *Itumiawa kwa kwika ata?*
- *Elesya muti - langi, malaa, ikonde, miw'a*
- *Ni nzia yiva ya kumivanda, mbindi/ngii nisyendaa kuiitwa?*
- *Mbindi/ngii ikuaa ivinda yiana ata kumea?*
- *Ni itina wa ivinda yiana ata syamina kumea itonya umwa kivuioni na kutwawa muundani?*
- *Ve nthina muti uyu uetae?*

No kwithiwa yi useo kutumia musolo uyu wivaa nthi kuutetheesya kusa usungio. Ngelekany'o nutonya utumie kiembe kana mukuvulya)

Isyitwa	Kuelesya Muti	Kisio	Utumiku	Mbeu	Maundu angi
Kiembe (Magnifera indica)	Muti wimatu manene Maingi ma ngilini na tumatu tuniini twina muvilingo wa itumbi	Kundu kute kumu muno Kwithiawa na itunda yaw'o niliu sua kwa ivinda Muunyi, ilaa	Ngu, Liu wa indo na andu kusii kiuutani	mbindi ivandawa muthangani vate kuiitwa	kusingania nukutumia nundu ninenganee itunda iseango na ukethia ona niwakwata itunda iseo yitena ndii na yiunyunga nesa itunda yii niyinthiawa na vitamin A na C
Mukuvulya (Grevillea Robusta Silky Oak)	Ngilini nduku, ikole yite yiu vyu, namatu matendeu malaa ma orange	Mendaa muthanga utwaa kiw'u nesa	Ngu, makaa, mbwau miti ya mwako, liu wa indo liu wa nzuki, kusuvia muthanga na ni muunyi	Ngii/mbindi iyendaa kuutwa	Vanda na maiani, kaawa na lava ta wiio/muvaka numeaa nesa na liu/ mimea na kwa kuola muunyi nzea niliu museo kwa indo thano



Lilikany'a amemba ala angi kana miti miseo kwa Tist nila yaile kwikala ivinda iasa. Miti ndiithiwa yi minene kwosa carbon credit itaimite vala nita nthini wa myaka 20. Yila muti wa tist wamwa ve nthina kundu kwili ula ulika na ni:-

- a. Ngwatanio na kikundi kiiu maikaivawa mbesa sya muti usu nundu no miti ila yivo itonya unywa nzeve itavisaa.
- b. Lilikana kana Clean Air Action Corporation yumasya mbesa syayo kuta nzeve itavisaa (carbon credits). Vaita ula wakatikana kuma viasalani ino kilungu kya miongo muonza kwa yiana (70%) kiendaa kwa ngwatanio/ikundi. Uyu nuwetetwe nthini wa wiw'ano. Ethiuwa CAAC yatumia mbesa mbingi kuiva ngwatanio/ikundi ila iutemanga miti nimakwataa wasyo munene utaile. Thii uyu niwaile kuivwa kwoou uyithia mbesa nisyaoleka kwa ikundi ila miti yasyo yivo. Kwoou kutema miti nikuetae wasyo kwa ngwatanio na walany'o wa TIST kuvikia ona tukundi tula tunini. Mithemba miseo ya miti ta wiio/muvaka muthanga na ni muunyi kuola muunyi nzea niliu museo kwa indo thano.

Mithemba miseo ya miti ya kiene:

- a. **Prunus Africana (Kikuyu: Muiri, Kimeru: Mweria, Kikamba: Matimailu)** Muti uyu wa kiene munamuno umeaa mitituni vala utonya ukwata mbeu syaw'o ivindani ya sua. Kolany'a matunda maw'o meu kuma ungu wa miti ino kana mutini. Umya nyama sya yitunda utiwe na imbindi kwa kuinda vandu va kilungu kya masaa 24. nthambya wiliile kisungini kya waya. Anika muunyini uyaiikitye inyae vandu va masaa ana. Ngii/mbindi ithi iyiikaa nesa kwoou wamina vatonyeka linga na matu meu kwondu wa kukua na uivanda mikeveni kana tuvisuno vala ikuaa ivinda ya sumwa 6-8 iimeaa.

Miti ino ya kiene yimotumiku maingi ta:-

- Kulungya tusamu tula twanangaa liu ta mavivi na mithowe kwa muuke waw'o. Malaa maw'o methiawa na liu na uki mwianu kwa nzuki kuseuvya uki na ingi miti ino niyithiawa na ngu nzeo muno.
- Ndawa: Kikonde kyaw'o kyatheukw'a ni ndawa na muiito wa kenza ya mee (prostrate cancer).

Ingi matu nimatumiawa ta ndawa ya kuyungia ila mundu wina ikua na manyuwa maete wendi wa kuya. Ingi yikonde yathiwa na yeekiwa kiw'u niyitumiawa ta ndawa ya kuiita ivu na ingi kunewa indo kuiita kwimbanw'a.

- Ingi nisiiaa kukuwa kwa muthanga yavandwa iatiie laini, nitumiawa kwa muunyi na kwanakavya muunda.
- Vuu. Ingi matu maw'o niutumika ta vuu.
- Wanake: miti ino yavandwa nesa nietae muunyi na wanake muundani.

b. Peacock Flower (Albizia gummifera, Kikuyu Mukurwe, Kikamba Muoa)

Muti uyu kaingi uvandawa vakuvi na mititu na kula kute kumu muno. Mbeu yaw'o nitonya uvandwa itainditwe kana oyiinditwe. Mbeu ila mbie niyaile kuindwa kiw'uni kina muutia na iyiekwa nginya kiw'u kivoa. ikonde yila yivwikite ingii noyitilwe nikana itonye kumya munguthe na mituki. Muti uyu mbeu yaw'o nimeaa nesa muno ta kilungu kya 70-80% nthini wa mithenya ikumi (10). Mbeu niyaile ukolanwa yiomutini itanamba kwitika nikana yithwe itanamba kwanangwa ni ngulu na mavivi na mundu noamie vandu va mwaka ekiite muu ndikatonywe.

Utumiku

- Muoa ni muti museo kwa aithya ma nzuki na atei ma myatu nundu niyithiawa na liu wa nzuki, muti uyu niwithiawa na ngu nzeo, niwumasya kithana/ngamu.
- Ndawa: Ingi muti uyu mikea yaw'o yakimwa nitumiawa ta muiito wa ivu. Kikonde kyaw'o ni kikimawa na kutumiwa ta muiito wa ndetema.
- Kusiiia kukuwa kwa muthanga: mii yaw'o nisiiaa kukuwa kwa muthanga.
- Ingi muti iyi nunengae muthanga nzeve ila yitawa nitrogen na kwongela mutanga unou kuma matuni maw'o kwitika na kwoa. ingi niwithiawa museo kwa muunyi.
- Wanake: Ingi malaa maw'o nimanakavasya vandu na wavandwa mivakani matu maw'o nimakalaataa kwiw'a kwa maiu kwoou nomatumike kuinda maiu.

c. African Wild Olive (Olea Africana, Kikuyu Mutamaiyu, Kimeru: Muthata, Kikamba: Muthata/Muthika)



Muti uyu ula wikalaa wi ngilini na ndwitaa matu niwithiawa kaingi vakuvi na kiw'u muna muno nguumoni sya mbusi. Muti uyu ndwiw'aa uthithu kana sua kwoou noumee kundu kwingi. Onakau ngii yaw'o kaingi ivandwa syakethwa oou no siwe na syaiwa nonginya iivandwa iindwe vandu va masaa ta 48 kana mithenya ili miima kiw'uni kithithu. Kaingi mbeu yaw'o niyatuawa kana ivia yikavingilitwa iulu nikana imbindi syatuke nikana itonye umea na mituki. Mbeu yaw'o noyiwe vandu va ilungu ya myaka kauta. Liu kuma mutini uyu ukwatikanaa kwisila mautani maw'o.

Utumiku

- Liu:- Kaingi muti uyu utumikaa ta liu wa indo.
- Ingi muti uyu nutumiawa kwa miti ya kwaka, ngu, makaa, miswaki na wanake.
- Miti ino niyumiiasya sua muno ila ikwonany'a no itumike Africa kutungia mang'alata.
- Wanake: na kwanakavya mawithyululuko.

d. Waterberry (Syzygium guineense, Kikuyu: Mukoe, Kimeru: Muriru, Kikamba: Mukuyu)

Muti uyu kaingi numeaa kundu kwina mbua nini na iimani sya mititu kula kwi mbua mbingi. Kaingi muti uyu numbeaa ona kiw'uni na kwoou withiawa nguumoni sya mbusi.

Mbeu yaw'o ndyendaa kuiitwa nundu ndiawa na ingi nimeaa nesa nundu imeaa kilungu kya 80-90 kwa yiana (%) itina wa mithanya 20-50. Mbindi/ngii ivandawa mikeveni kana mbisuni vate kuvuia nthi. Matunda maw'o moaa mituki kwoou mavaluka niw'o makolanaw'a nakuvandwa kana mundu akatwa kuma mutini kwa kuthingithya ngava kana kukolya na kutw'a na mboloi/ngoloi. Nundu mbeu ino ndiawa ethiwa nilasima wie kana ndutonya uvanda wa mitw'a ikiithya vala waia niveu na ni mutuni wa musumeno kana makavo ma musumeno na syinduni ngunue nundu mbeu ino yooma withiaa ndimea.

Utumiku

Miti ino niyithiawa na utumiku mwingi ta matunda, liu wa nzuki, miti ya kwaka, ngu, muunyi na ndawa. Itunda yaw'o ni muuto wa kwituuu na ikonde yaw'o niyitumiawa kusii kwituuu. Niwaile ithiwa metho yila uutumia ikonde yaw'o nundu ni sumu na niyuua yatumiwa nai. Ethywa nomuvaka uyuitumie kulya ala mena utuika wa kuytumia mautetheesy.

Miti ya Matunda

Avacado (Persea Americana, Kikamba: Ikolovea, Ivakato)

Makolovea nimameaa kundu kw'othe kwi kiw'u.

Kuutwa kwa ngii/mbindi: Kwambiia inda ngii ya ikolovea vandu va masaa 24 kana muthenya umwe na uivanda mukeveni/kavisuni. Vanda ingii waminana nayi oou nundu ndiikaa. Kikolovea kyamina umea no kisikanwe kina ukuu wa sumwa itatu kana inya (3-4) na ethiwa nikiuvandaniw'a na liu utaaniu wa matambya mainyiva thanthatu (6m) niwaile.

Utumiku:

Miti ino ninenganae ngu, makaa, liu, muunyi, wanake na mauta. Itunda yaw'o niyithiawa na ueti mwingi mwiini nundu niyinengae mwii mauta, protein na vitamin. Ikonde, matu na ngii nisyithiawa muisyo syaiwa ni indo kwoou ikala ngunuu. Tata uvanda ikolovea na wone iikuetee ueti museo (no ute ukakwata mbesa).

Guava (Psidium guajava, Kikuyu : Mubera, Kikamba: Ivela)

Muthangalkisio: Ivela nisyendaa mbua na nisyumiiasya sua kana kiw'u kingi.

Kumea ngii yaw'o iyendaa kuiitwa nundu nimeaa nesa itina wa sumwa itatu (3) syina utaaaniu wa matambya ana (4m). Syi kundu kwina nzeve nzeo ni isyaaa itina wa myaka itatu kana ina. Miti ino niyikaa nesa ivandaniw'e na liu ungi ta mbemba, muvya kana nthooko.

Utumiku

Muti uyu nutumiawa kwa ngu, makaa, mitambanambia/syambo, liu, na itunda yaw'o niyithiawa na vitamin C na A. Ingi muti uyu nduisawa ni muthwa. vai kindu kya muti uyu kitethiawa na wia nundu ona matunda maw'o ona memomu nimatumiaawa ta muiito wa kwituuu, Matu na matunda nimatumiaawa ta muiito wa kwituuu. Mauta ma kivela nimatumiaawa kuiita miimu na kumivosya na matu na ikonde nitumiawa kuseuvya mauta ma kwivaka na kuiita mauwa ma kikonde ta inguu, itau na miimu. Ingi ethiwa mundu ena nthina wa ivu ta itau sya nda, ikua kwambatwa ni thakame, kulea kwimanya, kyalya, mutwe na kwalw'a ni maleenyu nutumiaa matu ma kivela. Ingi kiw'u ta ivela nikitumiawa kuiita uwau wa itema, kisonono na kwituuu.

**Mango (Mangifera Indica, Kikamba Muembe)**

Muthanga/Kisio:- Kiembe ni muti wendaa vandu kiw'u kiuthi nesa na niwikaa nesa kula kuilye uu.

Mbeu: Yila uuvanda miembe mbindi/ngii syaw'o iyendaa kuiitwa ateo no utile vala munguthe waile umiliila nikana ukalaate kumea kwa w'o. Mbindi/Ngii sya muembe nosiwe vandu va ivinda ya mwai onakau mbindi/ngii nzau nisyoo syikaa nesa nundu wa kusikanwa.

Ikolovea nivandawa ithyululukite musyi.

Utumiku: Miembe nitumiawa kwa ngu, matunda, liu wa indo, liu wa nzuki, kusii kiseve, kwikia muunyi, muunyi, kusii kukuwa kwa muthanga na kithana/ngamu. Ni miti ingi yiva miseo vandu va misanduku? Miti ino ni imwe tunenetwe ni amanyisya ma TIST ta miseo:-

Andu aingi ala masomee mawithyululuko nimokilitye wasya iulu wa uvandi wa misanduku na mathina ala uetae kwa mawithyululuko. Nundu wa kwithiwa musanduku ndueleekaa na ni mthemba mingi na ingi nundu ataalamu mena utuika nimekwasya vena uw'o iulu wa mathina maetawe ni musandu ta:-

- Miti ino noinywe kiw'u kya vandu na kukimina kuma muthangani
- Muti uyu nutumiaa unou mwingi wa muthanga ukethia muthanga usu ndutonya utumika kuvanda liu
- Matu maw'o mayoaa kwoou maimina tusamu tula twikalaa muthangani na kuola unou wa muthanga.
- Mithemba imwe ya mimea ndyumiisya kwikalaa vandu ve musandu.

Vala imwe kati wa mawoni aya amwe tikila mundu umetikilite. vena wia kwa iulu wa uvoo uu vala TIST niyaile ithukiisya nesa. Tukundi tumwe nitukiithitye kiw'u kuthela kana kuoleka isioli ila syikalaa syi mbiu kuma mavanda misanduku, kana miunda ikethiwa itena wumi. Onakau nokwithiwa mithanga imwe yi miseo kwa misanduku kwi ingi. Ve kitumi kingi kya TIST kwia andu maikavande misanduku ni misanduku yianaa na mituki na kwoou nitonya ukethwa itavikitye myaka 20. Kii nikwasya TIST ndiithwa itete Carbon credits nundu itesawa ya miti yivo na yithau. Ethywa TIST niyatumi mbesa kuiva

miti ikutemwa kwa ivinda ikuvi nikukwata wasyo munene na vayii thiwa mbesa sya kuiva ikundi ila ivandaa miti na kumikalya kwa kithito kwa ivinda iasa.

Aimi nomende kwithiwa na misanduku yookwoonda wa utumii woo kando na miti ila mavandite ya TIST.

Mundu amivanda no useo nundu nikuola uito ula wina mititu. Onakau miti ila ivanditwe kwa vata uyu nditonya utalwa ta ya TIST.

Kwoou kuendee na usuvia mawithyululuko nimuuthuthw'a muvande miti ila ikwila ivinda iasa na kukwata ndivi, ingi kuthuthya aimi mavande miti inbgi eka msanduku. Ni miti ingi yiva miseo eka misanduku? vaa ve imwe inenganitwe kuma kwa Kenya Trainers, ila ni:-

Mukuvulya: Grevillea Robusta (Silky Oak, Kikuyu - Mukima, Kamba - mukima)

Muthanga: Wendaa muthanga uteliva vala kiw'u kitonya uthi na mituki

Mbeu: Uvandawa utaniu wa matambya 4-5 na ngii/mbindi syaw'o iyendaa kuiitwa. Ngii ithi no syikale vandu va ivinda ya myai itatu kana ivinda iasa syi mbalavuni.

Utumiku: Nitu miawa ta ngu, makaa, miti ya kwaka, mbwau, ni unenganae uithyo wa indo ivindani ya sua, niyithiawa na liu wa nzuki, ni muunyi na nisuvia muthanga ikeka muuyi kwa maiani kana kaawa na niyikaa nesa ona ivandaniw'e na liu yasewa nesa kuola muunyi.

Cypress (Cupressus Lusitanica, kikuyu: Mutarakwa; Kimeru: Muthithinda)

Muti uyu witiawa kaingi kundu kwii na kula kute kumu muno kana kutayaa vandu va ivinda iasa kwi mya 2-3. Muti uyu ndumiiisya ilimba/ilivi niwendaa muthanga wa kituni kana nthangathi ila itena ngaati mbingi. Mbindi/ngii syaw'o iyendaa kuiitwa mbee wa kuvandwa indi nosiwe vandu va ivinda ya myai thathatu (6). Muti uyu nusiiiaa muthanga kukuwa nusiiiaa kiseve, ukanengane muunyi na ni museo kwa w'iio na novandwe na mivai ingi ya miti indi ti museo kwa kuvandaniw'a na liu.

Mazingira Bora



TIST

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

Kipsigis Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Members of Kibuline Cluster during their monthly Cluster meeting last month. During this meeting, we established a Conservation Farming (CF) demonstration plot.

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Kagaene TIST Cluster Kigoboboenchi Bosinikab TIST.

Alice Kambura, Kiboitiotab Kilasta.

Kiboiboi missing membaekab Kagaene kilasta amun kimiten en TIST. Kignetge agaobo koletab minutik cheterchin koteswech niton rurutik en mbarenik kyok. Mising ko en koletab imbar ne magitem kogonech rurutik chechang kosir imbar ne kagibat ak keburburen. En Kolaniton keboisien melekwek che ngerin ak kasarta ne mingin. Kiswoche timndo en imbar ak kebal keringonik ak kemin keswek ye ito kesember.

Kimwochin temikab TIST anan ko chemomiten en TIST koyamta agobo kolanito bo

imbar ne makitem. Kitinye koborunet en imbarenik kyok chekimuche kinetin membaek kyok en inguni. Kitinye kurubisiek 5 che kogotesech kochut kilasta, ago tagemoginigei kotesak kurubisiek chechang.

En kagaene ketinye kurubisiek chemengechen 106 ko tinye membeak 680 chetinye ketik 94,000 chesoptos chetinye koitet. Kimokinigei bik che chang komiten en TIST as kimuch kewa itondab emet, kemiten en kibagenge. Niton kotoretech simoitiech rorunetab omitwogik, kemeut ak rorunetab bek.

Kibuline TIST Kilasta Chobotin Komin Ketik Chebo Komonut En Robta Ne Nyone.

Alice Kambura, Kiboitiotab Kilasta.

Echek membaekab Kibuline kilasta ketinye ketik chebo komonut chegitesen che kigemin. Kitinye en kabeti nenyon keswek 30,000 chebo sebesebe. Boisien membaek kyok rabisiek chegisiche en Kila arwa chebo klasta budget, en kabeti, kiyolen muturaisiekkab ketik ak konemgei biik koyai boisiet.

Kigilewen kesuotab sebesebe amun kimokinigei sogek en omitwogikab tuga missing en kasartab kemeut, ketiton kora komaimuchi kourto rurutik en imbar. Imuchi sogekwak kotoltol imbar

ye ibutio kobwa nguony.

Kitinye komongunet kele tesose minetab ketik en kilasta ne nyon kongeten 26,132 kot goit 60,000. En temichu kotinye kora kabetisiek kwak en korik kwak, niton kotese koitetab ketik en kilasta. En tuiyet ne kogitinye arawanigonye ko ginalalen ketoun (CF) as kinetisien as komuch temik alak konyor boroindo kotoo en imbarenikwak. En boisionik kyok kogochin bik alak kobwa TIST. Miten anyun tesetab kurubisiek en Kibuline kilasta ko kenyoru kurubisiek 4 Kitinye en nguni kurubisiek 36 chemengechen.

Kamaroo Kilasta: Ketitab Macadamia Komuchi Koun Koristo:

Alice Kambura, Kiboitiotab Kilasta.

Echek en kilasta keboboenchin keboisien ak biikab kilasta alak chebo TIST. Niton ko cherset neo en kilasta amun bitu konetisiosiek alak chegomagetinye. Bitu wolutik chechang ak waletab gei en otebosiek ak en boisionik kobotoi kobuotutik.

En orowek che ngerin chegosirto ko kigitinye kabwatet kele kimoche ketes ketik asi komuch kogonech melegto. Kigibwan kot kenyoru kabwatet agenge kegol ketit nenin, neimuchi

kogonech rabisiek asi ketoreten sobenyon. Keiti kelewen ketit ne kiguren macadamia amun keti kotinye keswot netinye indonyo neo en betusiechu.

Kitinye Kabeti neo nebo Kilasta , kigiyonchine keboisien rabisiekan Cluster Bubdget, membaek tugul asi kimuch kenyorunen melekwek asi kimuch keganabten kilasta amun chang mogutik chekimokinigei. Kimoche anyun Kenai kele nee tokinet netinye kilasta ne ngung en echek tugul.



Magutuni Kilasta: Waletab Kandoinatet Koipu Walet Nelel.

Annel Kaari, Kiboitotab Kilasta.

Waletab kandoinatet ak boisietab kandoinatet kotinye anan kobitu kobwotutik che lelachen. Kitinye en inguni Marry-Go-Round en kila arawa Konyoru membaek mutu (5), ngecherok somok (3. Kitoo

niton agenge en temik ye gin kelewen koik kondoindet.

Kigenyuru kimnotet en kurubit ago kitinye komongunet en tuguk alak. Kigetesagei en Kilindini kilasata, kongeten kenyingonyek. Kitinye kabeti nemiten keswek 6,000 kigonyr robta asi kemin.

TIST: Korikab Ketik Chegororon.

Kongalalen membaek tugul en tuiyetab kilasta agobo ketik chetinye komonut neo ago che motinye asenet. Kigoteb ngwony kurubit agetugul ak kogon koitetab ketik che chome ak amunee. Ye ityo kobur kurubisiek tugul ak koyonchin kole bo komonut ketik achon kosir alak.

Ye kagomuch konyor koyonchinet komuch anyun kotebengei tebutichu.

· *Ole unee olemokingei keti?*

· *Tinye boisionee keti?*

· *Ororun otebetab keti-Itondo, Mauwek...*

· *Ornee nekimuch keminta?*

· *Tore kasarta ne tian asi korut?*

· *Tore kasarta ne tian asi kemin?*

· *Tinye keti yoityo?*

Kigisiben korurugutioni asi kotoretech, kou; Maembe ak Sebesebe.

Kainetab Ketik	Orurunet	Ole Kiminchin	Boisienyin	Keswot	Ak Alak
Maembe	Tinye Sogek Che Chang Kasarta Age Tugul Ko Nyalil Kyome Logoek.	Nomegei Ak Emet Ne Momiten Robta	Tinye Kwenik, Omitwokik, Tere Koristo, Urwet.	Kimine Kotwon	Tinye Vitamin A Ak
Sebesebe	Magatet Ko Tui, Tinye Sogek Che Terter	Moche Ngungunyat Ne Kararan	Kwenik, Nesek, Bogoinik, Tere Ngungunyek	Mogitesin Gii Keswot	Kimine Ak Omitwogik



Kogibwatin membaek konai kole ketik chemoche TIST kochebo kasarta ne goi. Ibe kasarta keti asi konyor indonyo anan aldaet, kenyisiek 20 ak kwo tai. Ye kitil ketik en imbar kobitu tuguk oengu.

- a. Monyorunen kurubit kelibonchi rabisiek amun ketik chu koboisien koristo.
- b. Ongibwat kele ye gakwalda Clear Air Corporation Koristo ko netai ko nyoru rabisiek chegiboisien en program ini Korong. Agopa any 70% faida kobunchi kurubisiek. Angot komiten kurubit ne kitil ketik ko monyoru rabisiek. Ongerib Niton bute bandabtai nebo TIST ak kurubisiek chemengech.

KETIKAB KIPKAA.

- a. **PRUNUS AFRICANA (Kikuyu: Muiri; Kimeru: Mweria; Kipsigis: Tenduwet)**

Keti kenyorchin timwek che echem. Keswek kenyoru en nyumnyumindo amau irorochin kwony en kasarta ne kagogongio. En minetab Keswet kinto koteb saisiek 24 ye kainemu ingo tar saisiek 4 asi inte betit. Tore keswot wigisiek 6-8 asi korut.

Boisiet:

- Imuchi koon susurik amun tinyei koristo ne ya. Tinye segemik borotet amun nyorunen

omitwogik. Tinye kora kwenik.

- Kerichek: Bertenyin kotinye bek che inyoe miondab kalutik ak ketesi bek, toreti tuga kora kogerak moet.
- Tere ngungunyek: Sogek kotoreti kogaitit ngungunyek ak kotesin okwoindo.
- Tinye kororinto. Tinye kororinto ne kararan ye imin en kaa.

b. **Peacock Flower (Kikuyu. Mukurwe)**

Klnyorinchin keti ole miten robta ak ole mataoo missing robta ak missing ole miten osnet. Keswot kimuchi kemin kotuon ko maggita kii. Ye kigonor keswot kimuchic kilalang bek a ketorchi. Rutu keswot kotinye betusiek 10, nyumnyum kowech susurik ye igage missing.

Boisiet.

- Kiboen segemik, kenik, bogoinik ak manget.
- Kerichot: Kitue keswot, toreti moet ak bertet kobo eset.
- Toret koter ngungunyek: Toret tigitik konam ngungunyek asi moib beek.



- Tinye urwet, toreti kogochin ngungunyek omitwogik.
- Tinye kororinto (kimine missing en town) Kimine en kiwotosiek.

c. Olea Africana (Kipsigis: Emitiot). Keti kenyorchin mengotosiek che chang kou, ole mibek, kererusiek, anan ole mi tirikwek. Keswek kimuchi kemin kotuon anan yon kayam kindo bek saisiek 48, kibore keswek ak eut asi keisto magatet.

Boisiet.

- Omitwogik: kirurunyi keswek kechoben mwanik (Olive oil).
- Omitwogikab kiyagik: Sogek keboen tuga, kwenik, nesek ak bogoinik.
- Toreti en wegunetab osnet: Karan missing keti en angotosiek asi koter.

d. Wateberry- Kipsigis- Lamaiyat: Keti kenyorchin ole miten bek embwen anan ko soito missing ko ngegusiekab bek. Keswek kenyoru en kasarta ne kergei tugul, tore betusiek (20-50) nigomotinye kiyamsi geswek.

Boisiet.

Omitwogik keswek en biik ak torik, chome segemik, tinye bogoinik, kwenik ak bostisiek. Tinye kerichiek che toreti moet yon bendi. Ago tinye mwaet kele imuchi kotinye ngoyondid en chito.

GETIKAB LOGOEK

Avocado (Persea Americana)

Sobenyin: Mising kochome ole kaitit. Keswot kindo koteben bek saisiek 24 ak kinte kabeti, motinye kegonor keswot. Kimuch kinamsi (kerob) kotinye 3-4 wikisiek. En minet kemine en nafas nepo kokwoutik 6 agetugul. Nyolu keminchin olebo kaa.

Boisiet: Kwenik, Nesek, omitwogik, mwanik. Konu keti kelunoik che chang.

e. Guava (Kipsigis: Maberiat): Sobenyin kochome ole yamat ak ole kaitit, momoche ole miten bek chetonontos. Keswot korutu en ogosiekab wigisiek 3. Minet ko kogwoutik 4 (4 meters).

Boisiet: Tinya kwenik, nesek, Vitamin C ak A, tore kenysisiek (3-4) asi kosich logoek. Keti kotinye konya kou moet, kipsununut, kalutik ak metit.

f. Mango- (Kipsigis-Maembe): Maembe sobenyin komomoche olemi bek chome



ngungunyek che kororon, ago mosose missing ole yamat.

Keswek komotinye kegonor en kasarta ne goi.

Kimuch kerob (kinamsi)

Boisiet: Kwenik, Logoek, omitwogik en tuga.

MATAIYANAT CHEPKUGUT GEI (Eucalyptus)

Chechang en ngomotik che tononchin intondab emet kotinye saget en keti. En netai komwoe kole kitinye korik chechang missing che motinye kobesoet.

Miten anyun kerutik cheibu keti:

- Ketu ko yee bek chechang en ole mi.
- Ketu komosuse omitwogik tugul en ngungunyek.
- Sogekyik ko monuntos.
- Ole miten komonyoru mengotosiek ketik alak ak tiongik en kasarta ne nin.

Biik che chang komotinye kayanet agobo nito amun tinye keret agaobo ket amun chogu en kasarta ne nuach agosich rabisiek. En TIST komiten kurubisiek

chemwoe kole kigoger kogigobosok bek en oinosiek. Membæk tuguls chebo TIST anan temik tugul go mat omin ketik en e miten bek kou, silanga, kondametusiek, oinosiek che itendene. Ye imoche imin keti inyoru offisayatab timwek asi konetin. Nebo oeng, en temik chechang kimuchi kotil ketik en kasarta ko mait kenysisiek 20. Nito anyun ko monyuru kurubit rabisiek.

g. Grevillea- Kipsigis: Sebesebe.

Sobenyin: Ketu kochome ole ma ya ngungunyat.

Keswot: Kimuchikegonor kasarta ne goi. Minet ko koguotik 4-5 metres.

Boisiet: Tinye kwenik, pogoinik, omitwogik en tuga, itoldole ngungunyek.

h. Cyprus- Kipsigis: Cheborus.

Ketu kochome ole kaitit ak ole burgei. En ribenyin kochogu missing en ole kaitit. Minet ko kokwoutik 2-3 M.

Boisiet. Pogoinik, tere koristo, tinye keret ne karan, tinye koristo ne karan. Ketu ko mogigole ak rurutik ago magararan en teretab ngungunyek.