

# Mazingira Bora



# TIST

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

**English Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**TIST Uganda: Bwambara Cluster in Uganda. Members learning how to construct a Raised seed bed on April 28 2017.**

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## TIST Receives Visitors from key Tea Local and International Buyers.

**D**uring the global Ethical Tea Partnership annual meeting held in Nairobi, Kenya last month, a number of important participants got interested to know TIST better and see its work.

TIST Kenya was represented in this important meeting by Ben and Vannesa Henneke, Kimani Mwangi, Dorothy Naitore and Patricia Wachuka. This Team did a wonderful presentation about TIST that made most people in the meeting want to see TIST.

On 9<sup>th</sup> May 2017, an arrangement was made to visit some of the TIST sites in newly expanded area of Makomboki Tea catchment area in Muranga County. Among the visitors included staffs from Unilver Ltd, Finlays Tea Ltd, Oxfam, Mars , Talyors Tea , Ethical Tea Partnership, GIZ and KTDA Foundation. Taylors Tea is an important partner with TIST in expanding tree planting effort in four Tea

growing areas.

The visit included a tour of Makomboki Tea Factory and field visits to TIST Farmers groves. The visitors were particularly impressed by efforts the farmers are doing in adding a diversity of trees in the farms. A TIST farmer, Mr. Zacharia Muhia, had this to tell the visitors, since TIST came to our area, we have learned a lot. We are now planting trees in a professional manner. We have learnt how to do a raised seed bed. Our seedlings are doing better once we transplant them into the farms. Raised seed beds is all we wanted to assure high survival of our trees. We are grateful to TIST.

Our visitors were very impressed with TIST. Farmers do the work by themselves. TIST only offers them trainings, support, encouragement and opportunity. Many of the visitors made requests to us to expand in their home areas. They said, TIST model is working!

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## TIST VALUES: The Foundation and Strength of TIST.

**M**ost TIST Small Groups appreciate and practice TIST Values. The success of TIST is based on the integrity and effort of individual members. Our achievements are largely guided by each one of us keenly abiding by these Values.

In many of our activities, from tree planting, practicing Conservation Farming, improving biodiversity, building or buying improved stoves, teaching and practicing important health issues,

protecting our lands against soil erosion and other degradation causes, fighting climate change and deforestation, protecting our rivers for clean and adequate water and many other activities including income generating, TIST Values play a central role.

In TIST, We Are: We are Honest; We are Accurate; We are Transparent; We are Servant to each other; We are Mutually Accountable; We are Role Models; We are Volunteers. And we create Big Results with Low Costs!



## Kirubia TIST Cluster: Keeping Our Nearby Schools Green.

**W**e, Kirubia TIST Cluster from Tharaka Nithi County, are happy for the rains this season. We are working together again, to plant more trees and do more tree nurseries.

Last year, 2016, we helped Karurini Primary School in planting over 500 trees. This we do, to encourage pupils the importance of trees and teach them how to plant trees. We have been monitoring these trees and many of the trees have survived.

This year, our focus is on Mugwe Primary School. We have already helped them plant 200 gravellia trees and 350 indigenous trees Minguani and Muriru trees.

Like in previous rainy season, we are sharing again, among ourselves the tree seedlings that are ready for planting. The cluster members are determined to enlarge the tree nursery so that we can share with nearby institutions.

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## Strength in diversity: TIST protects biodiversity.

**B**iodiversity, the richness and variety of nature, is essential to a healthy environment. Variety is especially important for responding to change and challenges, like drought, pests, or climate change. Since biodiversity is so important, you might think that people everywhere are working to make sure we protect and preserve this natural richness. However, each day, because of our human actions, we are losing species and genetic diversity as forests are cut, wetlands are drained, and resources are over-exploited. We see this loss every day. Think of how many kinds of plants, birds, and animals that you saw often when you or your parents were young but that are rare or gone today? There are nine million different species of organisms on our

planet, and when we destroy them, it is a permanent loss for each of the seven billion people who share this planet, for our children, and for their children.

TIST farmers are making a difference, working to preserve this rich diversity. Each tree we plant is an important renewable resource. Each tree we plant reduces pressure on natural, diverse forest since we can use it instead of cutting forests for fuel wood, timber, and other products. When we plant indigenous trees, as many groups have in riparian buffer groves and thousands of TIST farmers have on their farms, we directly protect biodiversity. These diverse indigenous trees also provide habitat and food for insects, birds, and animals, many of which are important for pollinating our crops, eating pests, or keeping our soil healthy.



## TIST: Pest Management.

**E**very farmer knows how difficult it can be to keep crops and trees free from pests and diseases. There are many different types of pests that can damage your fields including rodents, insects, birds, fungi, bacteria and viruses. Weeds are unwanted plants that reduce productivity by competing with your trees and crops for nutrients, water, space and light.

This article is split into two parts - the first part gives some broad advice on general management strategies, which can reduce the risk of pests and diseases. These use best practices from conservation agriculture.

The second part collects some of the most useful advice from the internet on specific pests, diseases and strategies. It is not possible in this article to cover all the different crop types, pests and appropriate control strategies that TIST small groups need information on. It is important for trainers to research with their small groups what the most common problems are. Then trainers can access solutions through checking the resources provided in this article. Sometimes being a good trainer is not knowing all the answers at once, but knowing where to look for further information!

### **Part A: General pest management strategies**

Through using the best practices from conservation agriculture you will also be helping to protect your fields from pests and diseases. The following are some key points to consider:

**Fertile soil:** Having soil rich with nutrients gives your crops the best chance of growing well and stronger crops will be more resistant to diseases.

**Crop rotation:** Certain pests depend on a specific food source. If you grow the same crop in a field year after year it increases the risk of pests being able to survive and thrive in that area. Changing the crop through rotation practices means that pest cycles can be disrupted and damage to your crops minimized.

**Intercropping:** Increases the diversity of plant life in the plant, and can help prevent one type of pest dominating. Certain pests also get confused by intercropping and do not spread as quickly as in a field with just one crop. Try intercropping with plants, which repel some pests through their odor (such as onion, leek, mint, garlic, sweet basil, oregano, marigold).

**Cover crops and mulching:** Are not just good for increasing soil fertility and water content, but can also reduce weeds by increasing shade. Do not use plant material that has flowered and seeded as your mulch, however, as this may accidentally spread diseases.

**Use resistant crop varieties where possible:** Remember that indigenous seeds may be the most resistant of all in some cases and it is not always necessary to buy imported strains. However, the context varies and you should get local knowledge from other small groups.

**Removal of diseased plants or plant parts:**

Diseased plants need to be properly disposed of so that they do not spread the infection to other healthy plants. Sometimes it is clear that the whole plant is not affected and can be controlled through pruning of specific branches.

**Plant seeds that are disease-free and appropriate:** to the local conditions to give your crops the best chance of survival.

If you are applying **nitrogenous fertilizer:** make sure you are using the correct amounts, as over-fertilizing a field may increase the risk of certain pests. Consider making and using compost instead.

**Attract natural enemies/farmers friends:** these include predators (those that eat the pests), parasitoids (they lay eggs in certain insects that are killed when the larvae hatch) and pathogens (infectious agents causing disease in pests). Examples include conserving ladybirds, spiders and hoverfly larvae, which feed on aphids, caterpillars and other pests. Hedges and mulch can provide good habitats for many natural enemies, as can certain flowering plants such as fennel and celery. However, it is important to be able to tell the differences between which are your farmers friends and which are pests! Resources in the second part of this article will help you identify natural enemies at different stages of their life cycle, and which ones are most useful for the specific crops you are growing.

If you have tried the above suggestions and still have pest problems, you may need to **consider pesticides**. Some pesticides you can make yourself using natural ingredients and others you can buy from shops. Both types need to be used very carefully. The correct use of them can kill the pests and weeds, and increase crop yields. However, inappropriate use can kill beneficial organisms such as pollinators (e.g. bees) and natural predators which feed on pests. Pesticides can lead to resistance in pests, and can be harmful to human health if not applied in the right concentrations. If you do use pesticides, ensure you carefully follow the correct storage, usage and disposal guidelines. Wear the right type of clothing and make sure to wash yourself and your clothes after applying any pesticide. Get the right dilution, ensure you know whether to spray down on the plant or up from underneath (or both) to find the pests, choose pesticides which are specific to the pest you have a problem with, and choose ones with as low toxicity as possible. Using broad spectrum pesticides in high concentrations which kill everything may actually be worse for your crops and the ecosystem, so take the time to educate yourself on which products are most appropriate to the problem you are facing.

**Weeding:** Although it is hard work, it is worth keeping your fields as clean as possible. Remember that some weeds can be beneficial some types fix nitrogen, some can be used for fodder, some have medicinal properties and some produce flowers useful for producing nectar for bees.



# TIST: Best Tree Species.

**D**uring 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

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**Kimereu Version**

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**TIST Uganda: Cluster Bwambara Uganda. Amemba bakiritanwa kuthithia munanda jukiritue, mweri jwa ina (April) 28, 2017.**

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## **TIST kwamukira ageni kuuma kiri aguri ba maana ba majani ba aja na ba kinthiguru.**

**I**gita ria mucamano jwa kinthiguru jwa ngwataniro ya Majani juria jwathithiritue Nairobi Kenya mweri muthiru, mantu jamaingi ja gitumi kiri baria bari mucemanione juu beenda kumenya mono iguru ria TIST bwega nkuruki na boona ngugi yayo.

TIST Kenya yawakilishitwe kiri mucamano juju ni Ben na Vanessa Henneke, Kimani Mwangi, Dorothy Naitore na Patricia Wachuka. Timu iji yathithirie ngugi injega ya kwonania mantu ja TIST jaria jatumire antu babaingi baria baari mucemanione beenda kwona TIST.

Ntariki 9, mweri jwa ltano mwanka jwa 2017, mubango ijwathithirue jwa gucera kiri miunda imieru kiri ntura cia Makomboki ndene ya kaunti ya Murang'a. Kiri ageni baria bari ndiungene iji ni amwe na ariti ngugi ba Unilever ltd, Kambuni ya majani ya Finlays, Oxfam, Taylors Tea na Ethical Tea Partnership, GIZ na KTDA Foundation. Taylors Tea ni umwe wa agwati mbaru ba TIST kiri gutambia kwa waandi bwa miti kiri zuni inya cia naria majani jaandagwa.

Ndiunga iji niamwe na kuriungira factory ya majani ya Makomboki na ndiunga ciao cia miunda ya Arimi ba TIST. Ageni baba nibagwirirue ni wiru buria arimi bari nabu kiri kwongera miti mwanya mwanya kiri miunda yao. Mirimi wa TIST Mr. Zacharia Muhia, nari na jaja ja kwira ageni “Kuuma TIST ireeja ntura yetu, nituthomete mantu jamaingi mono. Nandi turianda miti na njira ya kithomo ya kinandi. Nitumenyete kwaanda miti kiri minanda yukiritue. Mbegu cietu nandi nikuuraga bwega twathamia kuuma kiri minanda gwita miundene yetu. Minanda yukiritue niyo twendete kenda miti yetu ikura na njira ya iguru. Tugucokia nkatho kiri TIST”

Ageni betu nibagwirirue ni TIST. Arimi baritaga ngugi bongwa. TIST ibatethagia na uritani, ugwati mbaru na kubaa moyo na kanya ga gukura. Ageni babaingi nibaturirie twaramie mibango iji kiri nja nja ciao. Baugire Mubango jwa TIST nijugwita ngugi!

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## **Jaria TIST ikirite: Musingi na inya ya TIST.**

**I**kundi bibinini biria bingi bia TIST nibigwiragirua na kuthingatira jaria TIST ikirite. Kuumbana gwa TIST ni kuringanaga na uumma na ngugi ya o mumemba. Jaria tuthithagia nijathingatanaga na o umwe wetu kuthingatira jaria TIST ikirite.

Ndene ya mantu jamaingi jaria tuthithagia, kuuma kiri uandi miti, urimi bubwega, kuthongomia gukaranira kwa imera na nyomoo, gwaka kana kugura mariko ja nkuu inkai, kuritana na kuthingatira mantu ja thiria, kumenyeera miunda yetu kuumania

na gukamatwa kwa muthetu na jaria jangi jajuthukagia, kurua na kugaruka kwa rera na kugita miti, kumenyeera miuro yetu nikenda tuona ruuji rurutheru na rurwingi na mantu jangi jamaingi jaria jaretaga mbeba, jaria TIST ikirite nijendekaga mono.

Ndene ya TIST Turi. Turi ba mma; Turi ba jaria jario jongwa; Turi ba weru; Turi nthumba gati gati getu; Turi ba Kumenyanira; Turi ba gutegwa; Turi aciritiri.





## Cluster ya Kiribua ya TIST: Gwika cukuru cietu iri na riera ririega.

**B**atwi Cluster ya Kiribua kuuma kaunti ya Tharaka Nithi, turi na kugwirua niuntu bwa igita riri ria mbura. Turiritaniria ngugi amwe kairi kwaanda miti ingi imingi na kuthithia minanda imingi

Mwaka muthiru 2016, twatetherie cukuru ya Karurini Primary kwaanda nkuruki ya miti Magana jatano (500). Jaja tuthithagia kwonia aritwa bata ya miti na kubaritana uria bakaanda miti. Nitugutegera

miti iji na imingi yayo niumbite gukura

Mwaka juju, mworoto jwetu ni kiri cukuru ya Mugwe Primary. Nitubatethetie kwaanda miti Magana jairi, ya Gravellia na 350 ya gintuire ya Minguani na Muriru.

Oja magita ja mbura jamaingi jaria jakurukite, nitukugaana kairi okiri bwatwi mbegu cia miti iria ikaandwa. Amemba ba Cluster bari na wiru bwa kwaramia minanda ya miti kenda tumba kugaa na cukuru iu ingi iri akui

## Inya ndene ya mithemba imingi ya imera na nyomoo gukaranira: TIST niikaragia wingi bubu bwa imera na nyomoo amwe.

**G**ukaranira guku na utonga bubu bwa imera na nyomoo cia mithemba imingi mwanya—kurina bata kiri gwika aria gututhiurukite kuri na thiria. Wingi bubu bwa mithemba burina bata mono kiri kurua na kugaruka na thina iria tutirimanaga nacio ta uumo, tunyomoo turia tuthukagia imera, na kugaruka kwa rera. Niuntu gukaranira kwa mithembaimingi ya imerana nyomoo kurina bata mono, no uthuganie antu bonthe kuunthe nibakurita ngugi kumenyeera ati nitugukaria na gwika utonga bubu bwijite buungwa. Indi, o ntuku, niuntu bwa mathithio ja antu, nituguta mithemba imingi na nja inyingi o uria miitu ikugitwa, nduuji ikathirua na into biria biro bigatumirwa nkuruki ya uria bibati. Nitwonaga gutaukirwa guku ntuku cionthe. Thuugania ni imera, nyoni na nyomoo mithemba ing'ana iria wonaga riria ugwe kana aciari baku banyii na nandi ni imikai kana itio narua? Kurina mithemba ya imera na nyomoo milioni

kenda ndene ya nthiguru yonthe, ni gutaukirwa kwa igita riraja kiri o umwe kiri antu bilioni mugwanja baria bari nthigurune iji, kiri aana betu na kiri aana bao.

Arimi ba TIST nibakuthithia mwanya, bakiritaga ngugi gwika wingi bubu bwa mithemba. O muti juria tuandaga ni gintu kiumba kuthithua kairi kiria kiria na bata mono. O mut juria tuandaga nijunyiagia murigo kir mwitu jura juumite juungwa na jurina mithemba imingi niuntu no tujutimire antu a kugiita miitu niuntu bwa nkuu, mpao na into bing. Riria twaanda miti ya gintwire, ta uria ikundi bibingi biria birina miunda akui na nduuji na ngiri cia arimi ba TIST bathithitie ndene ya miunda yao, nitukaragia wingi bwa mithemba. Mithemba iji imingi ya miti kinya niretaga ikaro na irio kiri tunyomoo, nyoni na nyomoo, iria nyingi ciacio cirna bata kiri guciarithia mera bietu kuria tunyomoo turia turijaga imera bietu kana gwika muthetu jwetu jurina thiria.



## **TIST: Kunyiyia tunyomoo turia tuthukagia imera.**

**O**murimi naiji uria kuri inya gwika imera na miti itirumi ni tunyomoo na itigwati ni mirimo. Kurina tunyomoo twa mithemba mwanya turia tuumba kuthukia miunda yaku amwe na mbiti ta mbea, nyoni, na tunyomoo turia turetaga mirimo. Iria ni imera biria bitikwendeka biria binyiagia uciari bwa imera gukurukira gushindana na miti na imera biaku niuntu bwa irio, ruuji, guntu gwa gukara na weru

Mantu jaja jariritue ndene ya icunci biiri – gicunci kia mbele kiriejana kirira gikiarie kwegie njira cia kumenyeera iria ciumba kunyiyia ugwati bwa tunyomoo na mirimo. Njira iji cia urungamiri itumagiira mitire iria miega buru ya urimi bubwega.

Gicunci kia biiri kiriuthurania mathuganio jamwe ja jaria mega buru kuuma kiri internet kwegie o kanyomoo, murimo na njira ya urungamiri. Tutumba kwariria mantu jonthe kwegie mithemba yonthe mwanya ya imera, tunyomoo na njira iria njega cia kunyiyia iria ikundi bibinini bia TIST bikwenda umenyo kwegie. Burina bata aritani kuuria na gucua umenyokwegie thina iria boonangaga barina ikundi biao. Riu aritani nobacue njira cia gukabana na mantu jaja gukurukira gucwaa guntu kuria baathiria bacue aja nthi. Magitene jwamwe kua muritani umwega ni kwithirwa utiji macokio o rimwe, indi ukamenya naria umba gucua umenyo nkuruki!

### **Njira cia urungamiri bwa tunyomoo.**

Gukurukira gutumira mitire ya urimi bubwega ukoomba kinya gutethia kumenyeera miunda yaku kuumania na tunyoo na mirimo. Jaja jathingatite ni mantu jamwe ja bata mono ja kuthuganiria:

**Muthetu jumunoru:** Kwithira urina muthetu jumunoru na irio nikuejaga imera biaku kanya gakanene ga gukura bwega na imeraa birina inya nkuruki bikoomba gukabana na mirimo bwega

**Kugarurania imera:** Tunyomoo tumwe turijaga irio kuuma kimera muthemba munna aki. Ukaanda kimera kia muthemba jumwe muundene mwaka nyuma ya mwaka nwongagira kanya ka tunyomoo kuumba gutuura na gukura bwega antu au. Kugarura kimera na njira ya kuthiurukia ni kuuga guciarana kwa tunyomoo tutu gukagitarua na magitaria ja imera biaku jakanyia.

**Kuandaniria imera bia mithemba mwanya:** Nikwongagira wingi bwa imera biria bigukaraniria na nogutethe kuthiria kwathana kwa muthemba jumwe jwa tunyomoo. Tunyomoo tumwe kinya nitwanganatanagua ni uandi bwa imera mithemba mwanya na tutiumbaga gutamba na mpwi ja ndene ya munda jurina muthemba jumwe aki jwa kimera. Geria kuandaniria mithemba ya imera iria ingaga tunyomoo gukurukira miruki yabio (ja matunguru, leek, mint, garlic, sweet basil, oregano, marigold).

**Cover crops and mulching Kuanda imera bia gukunikira muthetu na gukunikira muthetu na imera bigitwi:** Mantu jaja jatibui aki niutntu bwa kwongera unoru bwa muthetu na ruuji ndene ya muthetu, indi kinyanijanyiagia iria gukurukira kwongera kirundu. Ugatumira imera biria birina maua kana birina mpindi gukunikira mutheti, nontu jaja nojatambie mirimo.

**Tumira mithemba ya imera iria itigwatangagwa ni tunyomoo na mirimo riria gukuumbika:** Rikana ati mpindi cia gintwire nicio ciumba kwithirwa ciumbaga gukabana na mantu jamaingi nkuruki ya ingi naamwe na rionthe ti mwanka ugure mpindi cia mithemba ya kuretwa. Indiri, bubu iburinganaga na nubati kwamba gucua umenyo kuumania na ikundi bibinini bingi.



**Kurita kwa imera kana icunci bia imera biria birina mirimo:** Imera birina mirimo nibibati gutewa bwega nikenda bitigatambie mirimo iji kiri imera biria biri thiria. Rimwe nikwonekaga ati kimera kionthe gititongi ni murimo na murimo nojuthirue gukurukira kugita bing'i bimwe.

**Anda mbeu iria itina mirimo na ikabua antu au:** Kuringana na rera na uria antu au akari nikenya ua imera biaku kanya gakanene nkuruki ga gutuura.. Kethira nugwikira fertilizer ya nitrogen ya nduka: menyeera nugutumira ithimi biria ubati niuntu gwikira inyingi nkuruki muundene nikwongagira kumbikua kwa tunyomoo twa mithemba imwe kwongereka.

**Thithia mantu ja gukucia anthu ba tunyomoo/ acore ba arimi:** Anthu baba ni nyomoo iria cirijaga tunyomoo tutu, tunyomoo turia tuciaragira nkara kiri tunyomoo tutu tungi na gutuuraga nkara ciakomoka na tunyomoo turia turetaga mirimo ndene ya tunyomoo tutu ukwenda kwinga. Ming'uanano ni amwe na kumenyeera ladybird, mbwibwi natwana twa hoverfly turia turijaga mang'ingo na tunyomoo tungi. Ndwego na imera bia gukunikira muthetu ni antu aega a gukarwa ni antu baba ba tunyomoo tutu, na kinya imera bimwe biria biri maua ja fennel na celery. Indiri, burina bata kuumba kuathurana gatigati ka anthu ba tunyomoo baria bari acore ba murimi kumania na tunyomoo tutu tuthuku! Aja nthiguru ndene ya gicunci kia biiri nikuandiki mantu jaria jomba gugutethia kumenya anthu ba tunyomoo riria bari kiri igita mwanya ria ukuru, na ni mithemba iriku igatethia nkuruki kiri imera biria ukuanda.

Kethira nugeretie mantu jaja na no urina thina cia tunyomoo, nubati kuthugania gutumira ndawa. Ndawa imwe womba kuthithia wengwa ugitumagira into bia gintwire na ingi nougure kuuma ndukene.

Mithemba iu yoiiri nibati gutumirwa umenyerete. Utumiri bubwega bwacio nobuurage tunyomoo na iria na bukoongera maciara kumania na imera. Indi, utumiri bubuthuku noburage nyomoo cia bata ja iria itethagiria kiri gutambia mbeu (ja njuki) na anthu baria barijaga tunyomoo. Ndawa nocitume tunyomoo tukagia njira cia gukabana nacio na nocigitarie thiria ya muntu ciarega gutumirwa na ithimi biria bibati. Watumira ndwa, menyeera ati nukuthingata antu aria wiri wike, utumiri na guta uria wiri ute, ongera ruuji ruria ubati, menyeera nwiji kethira ubati kuugira kimera na bwanthi kana na ntere cioijiri nikenda uugira aria kurina tunyomoo, taara ndawa iria cibati gutumirwa kiri tunyomoo tungwa turia wina thina natu na utumire iria iina sumu inkai uria kuumbika. Gutumira ndawa iria cithithitue ciri cia tunyomoo twa mithemba imingi na wingi iria iuraaga into bionthe nokwithirwe kuri gukuthuku nkuruki kiri imera biaku na kinya imera na nyomoo cionthe iria ciri antu au, kwou jukia kanya ucithomithie kwegie ndawa iria ciri injega buru kiri thina iria urinayo.

**Gukurira iria:** Kinya kethira ni ngugi injumu, kurina bata gwika munda jwaku jutheri uria kuumbikika. Rikana ati iria rimwe riri baita – mithemba imwe nitonyithagia ruugo rwa nitrogen muthetune, imwe no iriwe ni ndithia, imwe iri ndawa na imwe niraaga maua jaria jatumagirwa kuthithia naicu ni njuki.

Aririeni ndene ya micemano ya Cluster cienu mantu jamwe jaria jari jamega mono jaria bubwiri kuthithia na jamenyekene kiri kurwa na mirimo na tunyomoo tungi turia turetaga mirimo na kwinyangia imera bietu. Tukagwirua mono kwamukuria njira iria itumikaga kuraga tunyomoo tutu kenda tumba kwira arimi bangi kiri baruga iji ya nteto.



## TIST: Mithemba iria miega buru ya miti.

**N**dene 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 muthemba 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. Munganano jwa gutumira (miembe na mikima ni ming'uanano yonka):

Riitwa iria jwitagwa mono	Uria muti jukari	Muthemba 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 iniyiyia kirundu. Ni iria ria ndithia ria bata mono igitene ria uumo

# Mazingira Bora



# TIST

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

**Kikuyu Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**TIST Uganda: Cluster Bwambara iria iri Uganda. Amemba guthoma kuhaririria tuta ya igutu mweri 28 wa kana 2017.**

## ***Thiini wa Ngatheti:***

**TIST kwamukira ageni kuma aguri mari gatu a macani kuma guku gwitu na murimo. Page 2**

**Mabata ma TIST: Muthingi na hinya wa TIST. Page 2**

**Kilasta ya TIST Kirubia: Kuiga macukuru maria maturigicirie mari green. Page 3**

**TIST: Arimi a TIST kwirutira kugitira Biodiversity. Page 3**

**TIST: Kurua na tutambi. Page 4**

**TIST: Mithemba iria miega makiria ya miti. Page 6**



## **TIST kwamukira ageni kuma aguri mari gatu a macani kuma guku gwitu na murimo.**

**H**ingo ya kigomano wa o mwaka wa Ethical Tea Partnership uria wagomanitwo Nairobi, Kenya mweri muthiru , amwe a aria mari kigomano-ini mendire kumenya TIST na kuona wira wao.

TIST Kenya yarugamiriirwo kigomano-ini uyu wa bata na Ben na Vanessa Henneke, Kimani Mwangi, Dorothy Naitore na Patricia Wachuka. Timu ino ni yarutire wira mwega muno kurugamirira TIST na magituma andu aingi aria mari kigomano-ini giki guthii kuona TIST.

Kuri mweri 9/05/2017, mubango ni wabangirwo guthii gucerera miena imwe iria TIST makoragwo ta Makomboki Tea catchment area Muranga County. Amwe a ageni aria mathire ni kuma Unilver Ltd, Finlays Tea Ltd, Oxfam, Mars , Talyors Tea , Ethical Tea Partnership, GIZ and KTDA Foundation. Talyors Tea ni amwe a anyitaniri a TIST

kuaramia ukuria wa miti matura-ini mana maria mahandagwo macani.

Icera riri riari hamwe na guthii Makomboki Tea Factory hamwe na gucerera arimi a TIST. Ageni ni makenirio ni wirutiri wa arimi niundu wa kuongerera riri wa miti migunda-ini. Murimi umwe wa TIST Mr. Zacharia Muhia, nierire ageni ati kuma riria TIST mokire ritu, nituthomete maingi. Turahanda miti na utaramu muingi. Nituthomere uria tungihura mbegu tuta-ini iria yoetwo iguru. Miti itu ni ireka wega twaruta tuta-ini na kuhanda migutanda-ini. Tuta cia iguru nicio twabataraga kugitira mimera itu. Nitukenete ni TIST.

Ageni aitu ni makenirio ni TIST. Arimi marutaga wira wao ene. TIST imaheaga o githomo, kumateithia, kumomiriria na mahinda. Ageni aingi ni mahoire TIST kumaramiria micii ya arimi. Maugire mubango wa TIST ni mwega!

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## **Mabata ma TIST: Muthingi na hinya wa TIST.**

**I**kundi nyingi cia TIST nicikeneire na kurumirira values cia TIST. Kugacira kwa TIST urugamitio iguru ria uigiririki na uhoti wa amemba. Maria tuhotete nitondu o umwe witu niarumagirira values ici na gucikenera.

Thiini wa maundu maitu, kuma uhandi wa miti, kurima Kilimo Hai, kuongerera biodiversity, guthondeka na kwendia mariko ma TIST, guthomithania na kurumirira githomo kia ugima wa mwiri, kugitira migunda iitu kumana na tiiri gukuuo

ni maai na mathina mangi maingi maria marehagwo ni ugaruruku wa riera na temi wa miti, kugitira njuui niguu maai makorwo mari matheru na maiganu na maundu mangi maingi ta ma kwambiriria mitaratara ya kwonaa mbeca, values cia TIST nicikoragwo na mawega maingi.

Thiini wa TIST, ithui turi. Turi ehokeku; Turi akinyaniru; tuhuthagira utheri; nitutungatanagira; nituigiririkaga; turi cionereria na nitwirutagira.



## **Kilasta ya TIST Kirubia: Kuiga macukuru maria maturigicirie mari green.**

**K**thui, Kirubia TIST Kilasta kuma Tharaka Nithi County, turi na gikeno niundu wa mbura. Turaruta wira hamwe ringi, kuhanda miti ingi miingi na kuhaririria tuna nyingi.

Mwaka muthiru wa 2016, ni twateithiriirie Karurini Primary School kuhanda makiria ma miti 500. Twikaga uguo niguu kuguciriria arutwo bata wa miti na kumathomithia kuhanda miti. Ni tuthiite

na mbere kuramata miti ino miingi ya yo ni irakura wega.

Mwaka uyu, tuguteithia Mugwe Primary School. Ni tumateithitie kuhanda miti 200 ya gravellia na miti 350 miti ya kinduiri ta Munguani na Muriru.

Ota imera iria hituku, ni turagayana mbegu iria nginyu ihinda ria kuhanda. Amemba a Kilasta ni merutiire kunenehia na kuaramia tuta nigetha tuhote kugayana na macukuru.

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## **TIST: Arimi a TIST kwirutira kugitira Biodiversity.**

**B**iodiversity, wega utonga na unduire wayo nimwega kuri ugima mwega wa maria maturigicirie. Warii wayo niwabaa niguu kuhurana na mogaruruku ma riera ta riuu inene, tutambi, gucenjia kwa riera. Na tondu biodiversity niya bata, nowiciria andu othe mari haria mari nimaragitira na makamimenyerera. No, o muthenya, niundu wa ciiko cia andu, niturathukia mithemba miingi ya na warii wa mititu riria yatemwo, kuria kugunyu gukoma, na indo cia bata cikora.

Turagirwo ni indo ici cia bata o muthenya. Wicirie uria mithemba miingi ya nyoni mimera na nyamu iria wonaga tene riria wee kana aciari aku mari anini no riuu citionekaga, ciathire ku? Kuri na makiria ma mithemba ya indo 9million thiini wa thin

a riria twacithukia ni thina munene kuri andu othe 7billion aria makoragwo thi – kuri ciana ciao na ciitu.

Arimi a TIST ninimaronania mogaruruku hari kugitira biodiversity. Hari o muti twahanda ni kindu kimwe kia bata makiria. Muti o wothe twahanda niunyihagia thina wa kinduire, ugatheremia mutitu tondu notuuhuthire handu ha gutema muti ungi niundu wa ngu kana mbau na indo ingi. Riria twahanda miti yak i-nduire kuria kwaraga ta uria arimi aingi a TIST mekite migunda-ini yao, nitugitagira biodiversity. Miti ino ya mithemba miingi ya ni cikaro cia nyamu, tutambi na irio ci mucii. Miingi yayo niya bata hari guteithiriria guciarithia mimera, kuingata tutambi na guthondeka tiiri.



## **TIST: Kurua na tutambi.**

Murimi o wothe nioi mauritu maria makoragwo ho kuiga mimera itakurio ni tutambi na mirimu. Kuri na mithemba miingi ya tutambi turia tungithukangia mimera ta mbia, tutambi, nyoni, fungi, bacteria na virus. Riia ni mahuti mariamanyihagia magetha niundu wa gucindanira na miti na irio cia mugunda indo iria njega ta maai, unoru na utheri wa riuu.

Gutingihoteteka thiini wa gicunji giki kuhutia mithemba yothe ya mimera, tutambi na maundu ma kugitira maria ikundi cia TIST irabatara uhoro kuma. Niwega aria marathomithania gwika utuiria mari hamwe na arimi mathina maria mahuanaine. Ningi athomithania nomahote kuona uhoro ucio kuhitukira mathomo. Maita maingi riria watuika murutani tigutuika ukoragwo uui maundu mothe o rimwe, no nikumenya kuria ungiruta uhoro.

### **Maundu ma kugitira tutambi.**

Kuhitukira kuhuthira mitaratara iria yagiriire hariurimi niugukorwo ugiteithia kugitira mugunda kumana na tutambi na mirimu. Maya nimo maundu mamwe maria ungirora.

**Tiiri munoru:** Riria wagia na tiiri munoru niuheaga mumera mweke wa gukura wega na uri na hinya na ugiitiria mirimu.

**Urimi wa guthiururukania:** Tutambi tungi tutegemeagiira muthemba umwe wa mimera. Riria wakuria muthemba umwe wa mumera mugunda-

ini mwaka-ini umwe niwongagirira ugwati wa tutambi na ugatuhotithia guciarana. Riria wacenja mimera kuhitukira guthiururukania nikuuga niwarenga muturire watuo.

**Kuhandaniria irio:** Nikwongagirira gutherema kwa miti na gukura kwayo na noguteithie kugitira kumana na muthemba umwe wa tutambi kugumira mugunda. Tutambi tungi nitutukanagirwo riria wahandaniria irio mugundaini. Geria kuhandaniria na mimera, iria itanyitagwo ni tutambi ta itunguru, leek, mint, garlic, sweet basil, Oregon, marigold na ingi.

Kuhumbira mimera na mahuti: njira ino nditeithagia o kunoria tiiri na kwongerera maai tiiri-ini no niinyihagia riia na kwongerera kiiruru. Ndukahuthire mithemba iria ikoragwo na mahua na mbegu hari kuhumbira tiiri, no, nitondu niitheremagia mirimu.

**Huthira mimera iregitira:** Ririkana ati mbegu cia kinduire nocikorwo cirri cio ciregitira muno kwa mahinda maingi na timuhaka ugure mbegu cia kuma nja. No ningi, maundu maya nimaringanaga na urie wega.

**Kwehutia mimera iria irwarite :** Mimera iria irwarite yagiriirwo nikwehutio na guteo. Mahinda maingi nikuuikaine ati mumera wothe timuhutie wothe na noucehwo na uhone.





**Kuhanda miti iria itanyitagwo ni mirimu:** Kuri maundu ma kinduire niguu kuhe mimera kahinda keega ga gukura.

**Angikorwo niurekira fertilizer iri na nitrogen:** Ririkana kuhuthira githimi kiria kiagiriire tondu wakiria niukuguciiiriria tutambi.

**Guciriria thu cia tutambi na mirimu:** Ici ni indo ta predators, parasitoids(iria cirekagia matumbi kuri tutambi na tugakua riria matumbi maturika) na pathogens(indo iria cirehaga mirimu kuri tutambi). Muhiano ni nyoni, mbumbui na ciihuruta imwe, rira ciriaga aphids, caterpillars na tutambi tungi. Mahuti na hefges nocikorwo na maundu mega ma kinduire ma kurehe thu cia tutambi ota indo ingi. No ona kuri o uguo niwega kuheana ngurani ya iria iri araata a arimi na ni tutambi! Maundu maria mari thiini wa gicunji gia keeri nimegukuonia uria maundu ngurani na maria mahuthikaga kuri gukura kwa irio. Angikorwo niugeretie maundu maya na nourathii nambere na kugumirwo ni mirimu na tutambi niwagiriirwo ni kuhuthira dawa cia kunina tutambi. Dawa imwe nicikoragwo cirri cia kinduire na ingi nougure kuma dukaini. Mithemba yotr h yagiriirwo nikuhuthirwo na umenyereeri munene. Riria wahuthira muigan uria wagiriire niukuraga tutambi na riia na wongerere magetha. No, riria wahuthira githimi gitakinyaniire nourage nginya mimera yaku kana indo ta njuki iria citeithagiriria guciarithania. Dawa ici nicitumaga mimera iremwo ni kwigitirana nicikorwo cirri ugwati kuri andu riria ciahuthirwo

uuru. Riria wahuthira dawa, tigrira niwarumirira maundu maria magiriire na uthambie indo icio wega. Tigrira niwahuhira wega handu hothe mumeraini. Riria wahuthira dawa cirri na hinya muingi na waga gutukania wega nourage mimera yaku na uthukie maundu. Kwa uguo oya kahinda guthomithia indo iria iri njega na mathina maria uri namo.

**Kurimira:** Ona gukorwo ni wira muingi, niwega kuiga mugunda waku uri mutheru. Ririkana ati riia rimwe nirikoragwo na kiguni – mithemba imwe niikiraga nitrogen, ingi niuhuthikaga ta irio cia mahiu na ingi ta dawa cia kiimerera na ingi ikahuthika guthondeka uuki.

#### **Kuria ungiaria uhoro mukinyaniru.**

Maundu maria maheanitwo gicunji-ini kia mbere nimaguguteithia mugundaini niguu ukorwo uri mwega na guguthomithia mitarataru miega iria ikunyihia tutambi na yongerere magetha. No ona kuri o uguo, mahinda mangi ikundi nicicemanagia na mathina ma tutambi. Riria wathuura njira iria njega na dawa iria ciagiriire kuringanaga na ni tutumbi turiku turehete murimu. Maundu maria haha nimaguguteithia kumenya uhoro makiria.

Ndamuthaitha aririria mucemano-ini wa Cluster maundu mamwe maria mubumburite kuhurana na tutambi na mirimu. Ni tugukena twamukira maundu maria mwikite migunda-ini yanyu na kugayana na arimi angu ngathiti-ini ino.



# TIST: Mithemba iria miega makiria ya miti.

**H**ingo ya micemano yanyu ya cluster, reke amemba mariririe mari ikundi-ini na mandike mithemba ya miti iria marecira 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 marecira niyo miega makiria. Oya macokio na umandike. Aririria maritwa macio muri inyothe na muiguithanirie list imwe. Mwagia na list yanyu inyothe ya miti 6 iria miega muno, uria arimi uria marecira ciuria ici;

- *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?*

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

Niwega kuhuthira maundu maya niguu 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

# Mazingira Bora



# TIST

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www.tist.org

**Kiswahili Version**

An Environmental, Sustainable  
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Program.



**TIST Uganda: Cluster ya Bwambara ya Uganda. Wanachama wanafundishwa kutengeneza kitanda ya miche iliyoinuliwa mwezi wa nne 2017.**

## ***Ndani ya gazetu:***

**TIST Kupowapokea Wageni Kutoka Maeneo Misingi ya Mitaa ya Chai pamoja na Wanunuzi wa Kimataifa. Page 2**

**Maadili ya TIST: Miundo Misingi na Nguvu ya TIST. Page 2**

**Cluster ya TIST ya Kirubia: Kuweka Shule zilizokaribu nasi kuwa Kijani. Page 3**

**Nguvu katika Utofauti: TIST hulinda viumbe hai. Page 3**

**TIST: Usimamizi wa Wadudu. Page 4**

**TIST: Aina bora zaidi za miti. Page 6**



## TIST Kupowapokea Wageni Kutoka Maeneo Misingi ya Mitaa ya Chai pamoja na Wanunuzi wa Kimataifa.

**K**atika mkutano wa mwaka wa Ethical Tea Partnership uliofanyika mjini Nairobi, Kenya mwezi uliopita, idadi kubwa ya washiriki muhimu ilipata hamu ya kujua TIST vyema na kuona kazi zake.

TIST Kenya iliwakilishwa katika mkutano huu muhimu na Ben na Vannesa Henneke, Kimani Mwangi, Dorothy Naitore na Patricia Wachuka. Timu hii ilifanya uwasilishaji ajabu kuhusu TIST na kuwafanya watu wengi katika mkutano huo kutaka kuona TIST.

Mnamo tarehe 9 mwezi wa Mei mwaka wa 2017, utaratibu uliwekwa ili kuyatembelea baadhi ya maeneo mapya ya TIST yaliyopanuliwa ndani ya eneo la ukuzaji chai la Makomboki katika Kaunti ya Murang'a. Miongoni mwa wageni waliokuwa ni pamoja na wafanyakazi kutoka kampuni ya Unilver Ltd, Finlays Tea Ltd, Oxfam, Mars, Talyors Tea, Ethical Tea Partnership, GIZ na KTDA Foundation. Kampuni ya Talyors Tea imekuwa mshirika muhimu wa TIST katika kueneza shughuli za upandaji wa miti katika maeneo nne ya kukuza mmea wa chai.

Ziara hiyo ilihusisha kuzuru kiwanda cha Makomboki Tea Factory na kutembelea mashamba ya wakulima wa TIST. Wageni walifurahishwa sana hasa na juhudi ambazo wakulima wanafanya katika kuongeza aina tofauti za miti katika mashamba yao. Bwana Zacharia Muhia ambaye ni mkulima katika TIST aliwaambia wageni ya kwamba tangu TIST ikuje katika eneo lao, wameweza kujifunza mengi. Kwa sasa, wanapanda miti ka njia za kitaalamu. Wamejifunza jinsi ya kukulia mbegu kitanda. Miche yao pia inafanya vyema baada ya kupandikizwa katika mashamba. Anasisitiza ya kwamba jinsi ya kukulia mbegu katika kitanda ni jambo walilokuwa wakitaka ili kuhakikisha maisha ya mbegu zao. Wanashukuru TIST.

Wageni wetu walistaajibishwa sana na TIST. Wakulima hufanya kazi kwa wenyewe. TIST hutoa mafunzo, misaada, faraja na fursa. Wageni wengi waliomba tuweze kupanua TIST hadi maeneo yao ya nyumbani. Walisema ya kuwa mfano wa TIST unafanya kazi.

## Maadili ya TIST: Miundo Misingi na Nguvu ya TIST.

**B**aadhi ya Vikundi vidogo vya TIST vinafahamu na kujaribu maadili ya TIST. Mafanikio ya TIST yana misingi ya uadilifu na juhudi za wanachama binafsi. Mafanikio yetu kwa kiasi kikubwa yanaongozwa na kila mmoja wetu kuyafuta maadili haya.

Katika shughuli zetu nyingi, kutoka kwa upandaji wa miti, utumiaji wa Kilimo Hai, kuboresha viumbe hai, ujenzi au ununuza wa meko bora, kufundisha na kufanya mazoezi ya masuala muhimu ya afya, kulinda ardhi dhidi ya mmomonyoko wa

udongo na shughuli zingine zilizo na uharibifu, kukabiliana na mabadiliko ya hali ya hewa na uharibifu wa misitu, kulinda mito yetu ili tupate maji safi na ya kutosha na shughuli nyingine nyingi zikiwa ni pamoja na kuzalisha mapato, maadili ya TIST huwa na jukumu kuu.

Katika TIST, Sisi ni: Waaminifu, Sahihi; Wazi, Watumishi wa kila mmoja; Wa kuajibika kwa pamoja, Mifano ya Kuigwa; Wa kujitolea. Sisi huyaleta matokeo makubwa kwa gharama ya chini!



## Cluster ya TIST ya Kirubia: Kuweka Shule zilizokaribu nasi kuwa Kijani.

**S**isi, Cluster ya TIST ya Kirubia kutoka kaunti ya Tharaka Nithi, tuna furaha kwa kuwa tuna mvua msimu huu. Tunafanya kazi kwa pamoja tena ili tupande miti zaidi na tutengeneze vitalu zaidi vya miti.

Mwaka jana, 2016, tuliisadia shule ya msingi ya Karurini kupanda miti zaidi ya mia tano (500). Tunafanya hivi ili kuwahimiza wanafunzi waone umuhimu wa miti na tuwafunze jinsi kuipanda miti. Tumekuwa tukifuatilia miti hii na idadi kubwa

ilinusurika.

Mwaka huu, lengo letu ni Shule ya Msingi ya Mugwe. Tayari tumewasaidia kupanda miti mia mbili (200) ya gravellia na miti mia tatu na hamsini (350) Minguani na Muriru miti.

Kama katika msimu uliopita wa mvua, tunashiriki tena kwa kusambaza kati yetu miche ya miti ambayo ni tayari kupandwa. Wanachama wa Cluster wameamua kupanua vitalu vya miti ili tuweze kusashiriki na taasisi jirani.

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## Nguvu katika Utofauti: TIST hulinda viumbe hai.

**V**iumbe hai—utajiri na aina ya asili— ni muhimu kwa mazingira yaliyo na afya. Aina pia ina umuhimu hasa kwa kukabiliana na mabadiliko na changamoto, kama ukame, wadudu, au mabadiliko ya hali ya hewa. Kwa kuwa viumbe hai ni muhimu sana, unaweza kufikiria ya kwamba watu kila mahali wana kazi ya kuhakikisha ulinzi na uhifadhi wa utajiri huu wa asili. Hata hivyo, kila siku, kwa sababu ya matendo yetu kama binadamu, tunapoteza aina tabia za vizazi kwa sababu misitu inakatwa, ardhi oevu sasa ni mchanga, na rasilimali inatumikwa visivyo. Tunaiona hasara hii kila siku. Fikiria ni aina ngapi za mimea, ndege, na wanyama ulizoonna mara nyingi wakati wewe au wazazi wako mlipokuwa vijana lakini sasa ni nadra. Je wamekwenda wapi leo? Kuna aina milioni tisa tofauti za viumbe katika sayari yetu, na wakati tunawaangamiza, ni hasara ya kudumu kwa kila mmoja wa watu bilioni saba ambao wapo katika

dunia hii sasa, kwa watoto wetu, na kwa watoto wao.

Wakulima wa TIST wanafanya maamuzi tofauti, kwa kufanya jitihada kuhifadhi utofauti huu tajiri. Kila mti tunaoupanda ni rasilimali muhimu mbadala. Kila mti tunaoupanda husaidia kupunguza shinikizo kwa misitu ya asili kwa sababu tunaweza kuitumia badala ya kukata misitu ya kuni, mbao, na bidhaa nyingine.

Tunapoipanda miti ya asili, kama vikundi vingi vilivyofanya katika mashamba ya bafa yaliyo kandokando ya mito na maelfu ya wakulima wa TIST katika mashamba yao, tunalinda viumbe hai moja kwa moja. Miti hii mbalimbali ya asili pia hutoa makazi na vyakula kwa ajili ya wadudu, ndege, na wanyama, wengi ambao ni muhimu kwa ajili ya uchavushaji mazao yetu, kuwala wadudu, au kuweka udongo wetu na afya.



## TIST: Usimamizi wa Wadudu.

**K**ila mkulima anajua jinsi ilivyo vigumu kuweka mazao na miti mbali kutokana na wadudu na magonjwa. Kuna aina mbalimbali ya wadudu ambao wanaweza kuharibu mashamba yako wakiwa ni pamoja na panya, ndege, fungi, bakteria na virusi. Magugu ni mimema isizohitajika na hupunguza tija na kushindana na miti yako na mazao kwa ajili kupata ya madini, maji, nafasi na mwanga.

Nakala hii imegawanyika katika sehemu mbili - sehemu ya kwanza inatoa ushauri mpana juu ya mikakati ya usimamizi wa jumla, ambayo unaweza kupunguza hatari ya wadudu na magonjwa. Hivi hutumia njia bora za kilimo cha hifadhi.

Sehemu ya pili inakusanya baadhi ya ushauri muhimu sana kutoka kwa mtandao kuhusu wadudu maalum, magonjwa na mikakati. Haitawezekana kwa nakala hii kufidia aina zote za mimea, wadudu na mikakati sahihi ya kudhibiti ambazo zinahitajika na vikundi vidogo vidogo vya TIST vinahitaji maelezo kuhusu. Ni muhimu kwa wakufunzi kufanya utafiti na makundi yao madogo ili kujua matatizo gani ni ya kawaida. Kisha wakufunzi wanaweza kupata ufumbuzi kwa njia ya kuangalia rasilimali zinazotolewa katika nakala hii. Wakati mwingine, si vizuri kwa mkufunzi kujua majibu yote kwa mara moja, lakini kujua ni wapi pa kuangalia ili apate maelezo zaidi!

### Part A: Mikakati ya Usimamizi wa Wadudu kwa ujumla

Kwa kutumia njia bora zinazotokana na kilimo cha hifadhi, wewe pia utakuwa unasaidia kulinda mashamba yako kutokana na wadudu na magonjwa. Zifuatazo ni baadhi ya hoja muhimu za kuzingatia:

**Udongo wenye rutuba:** kuwa na udongo ulio na utajiri wa virutubisho hupea mazao yako nafasi nzuri ya kukua na kuwa mazao yatakuwa yanaweza stahimili magonjwa.

**Kukuza mimea kwa Mzunguko:** wadudu fulani hutegemea vyanzo maalum vya chakula. Kama umekuza zao moja katika uwanja mmoja mwaka baada ya mwaka, unaongeza hatari ya wadudu kuwa na uwezo wa kuishi na kustawi katika eneo hilo. Kubadilisha mimea kwa njia hii ya mzunguko inamaanisha ya kwamba wadudu wanaweza kukatizwa na uharibifu wa mazao yako kupunguzwa.

**Kupanda mimea kwa mseto:** njia hii huongeza tofauti ya maisha ya mimea unapoupanda, na inaweza kusaidia kuzuia aina moja ya wadudu sugu. Baadhi ya wadudu pia huchanganyikiwa na mseto na hawawezi kuenea haraka katika shamba lako kwa zao moja tu. Jaribu mseto huu na mimea ambayo kuzuia baadhi ya wadudu kwa njia ya harufu yao (kama vile vitunguu, leek, mint, vitunguu, sweet tamu, oregano na marigold).

**Mimea ya kufunikia na boji:** si nzuri tu kwa ajili ya kuongeza rutuba ya udongo na unyevu, bali pia kupunguza magugu kwa kuongeza kivuli. Usitumie vifaa vya kupanda ambayo vina maua na mbegu kama boji yako kwani njia hii inaweza kuchangua kuenea kwa magonjwa kwa bahati mbaya.

**Matumizi ya mazao stahimilivu inapowezekana:** Kukumbuka kwamba mbegu za jadi zinaweza kuwa stahimilivu na wakati mwingine si muhiu kununua aina zingine kutoka nchi za nje. Hata hivyo, mazingira yanatofautiana na unapaswa



kupata maarifa ya ndani kutoka kwa makundi mengine madogo.

**Kuondolewa kwa sehemu za mimea zilizo na ugonjwa:** Mimea migonjwa inahitaji kutupa vilivyo ili kukinga dhidi ya kueneza maambukizi kwa mimea mingine yenye afya. Wakati mwingine ni wazi kwamba si mmea wote ulioathirika bali ni sehemu ndogo basi njia ya kurekebisha ni kupogoa matawi maalum.

**Panda mbegu ambazo hazina magonjwa na ni sahihi:** Na hali ya hewa ya unapopanda inayapea mazao yako nafasi nzuri ya kuishi.

Kama unatumia **mbolea ya naitrojeni:** hakikisha ya kwamba unatumia kiasi sahihi, kwa sababu kutumia kiwango kingi inaweza kuongeza hatari ya wadudu fulani. Fikiria kuhusu kutengeneza na kutumia mbolea badala yake.

**Kuvutia maadui asilia/marafiki kwa mkulima:** Hawa ni pamoja na wanyama wanaokula wenzao (panoja na wanaokula wadudu), *parasitoids* (ambao hutaga mayai katika wadudu na kuwaua wakati wa mabuu kufika) na vimelea (husababisha uambukizaji na kusababisha magonjwa katika wadudu). Mifano ni pamoja na kuhifadhi *ladybirds*, buibui na mabuu ya *hoverfly*, ambao hula *aphids*, viwavi na wadudu wengine. Ua na boji inaweza kutoa makazi nzuri kwa ajili ya maadui wengi wa kawaida, kama vile mimea fulani ya maua kama shamari na *celery*. Hata hivyo, ni muhimu kuwa na uwezo wa kutofautisha kati ya marafiki wa mkulima na wadudu. Rasilimali katika sehemu ya pili ya nakala hii yatasaidia kutambua maadui asilia katika hatua mbalimbali za mzunguko wa maisha yao, na ambayo ndio ni muhimu sana kwa mimea maalum ambayo unapanda.

Kama umejaribu mapendekezo yaliyo pale juu

na bado una matatizo ya wadudu, unaweza kuhitaji kuzingatia kutumia dawa. Unaweza kujitayarishia mwenyewe baadhi ya dawa kwa kutumia viungo asili na wengine wanaweza kununua kutoka kwa maduka. Aina zote mbili zinahitajika kutumika kwa makini sana. Matumizi sahihi yanaweza kuua wadudu na magugu, na kuongeza mazao. Hata hivyo, matumizi mabaya yanaweza kuua viumbe manufaa kama vile *pollinators* (kwa mfano nyuki) na mahasimu ambao hula wadudu. Madawa ya kuulia wadudu yanaweza kusababisha wadudu kustahimili athari na pia yanaweza kuwa na madhara kwa afya ya binadamu kama hayakutumika katika viwango sahihi. Kama unatumia dawa, hakikisha kwa umakini ya kwamba unafuata miongozo ya uhifadhi, utumizi na utupaji wa dawa. Vaa aina ya mavazi yanayotakikana na uhakikishe ya kwamba umeoga na ukaosha nguo baada ya kutumia dawa yoyote. Pata usawa kati ya maji na dawa, hakikisha ya kwamba unajua kama dawa ni ya kupuliza kutoka chini ya mimea au ni ya kutoka chini kwenda juu (au zote mbili) ili kuwapata wadudu, chagua dawa ambazo ni maalum kwa wadudu ambao wanakutatiza na chagua zile zilizo na sumu ya chini iwezekanavyo. Kwa kutumia dawa zilizo na wigo mpana katika viwango vya juu ambazo hua kila kitu, mazao na mazingira yako yanaweza kuathirika. Kwa hivyo, chukua muda wa kujieleimisha juu ya bidhaa zinazoeza kuwa sahihi kwa tatizo linalo kukabidhi.

**Kupalilia:** Ingawa ni kazi ngumu, ni kwa mathumuni yako kuweka mashamba yako kama safi iwezekanavyo. Kumbuka kwamba baadhi ya magugu yanaweza kuwa ya manufaa; baadhi husaidia kuongezea naitrojeni, baadhi kutumika kwa lishe, baadhi kwa mali ya dawa na baadhi kuzalisha maua kwa ajili ya kuzalisha nekta kwa nyuki.



## TIST: Aina bora zaidi za miti.

**K**atika mkutano wenu wa cluster, waache wanacluster wajaadiliane 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 yatakapoanwa.

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 kabla 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 <i>Magnifera indica</i>	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 kuoteshwa 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.
<i>Grevillea robusta</i> 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



# Mazingira Bora



# TIST

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

**Kikamba Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**TIST Uganda: Ene ma ngwatanio ya Bwambara Uganda maimanyiw'a undu wa usevya kivoio kya kitanda matuku 28/04/2017**

**Inside:** TIST kuthokewa ni aeni ala ni aui anene ma maianii kuma nthi sya nza na kuu musyi. *Page 2*

**Mawalany'o ma TIST: Musingi na ulumu wa TIST.** *Page 2*

**Ngwatanio ya TIST Kirubia: Kwikalya sukulu situ ila syi vakuvi syi ngilini**  
*Page 3*

**TIST: Aimi ma TIST kuthukuma kusuvia mila na uvathukanu wa isio na mikalo.** *Page 3*

**TIST: Kusiia na kuunganya tusamu tula twanangaa.** *page 4*

**TIST: Mithemba miseo ya miti.** *Page 6*



## **TIST kuthokewa ni aeni ala ni aui anene ma maianii kuma nthi sya nza na kuu musyi.**

**Y**ila kunai wumbano wa ngwatanio ya aui ma maini kuma nthi syothe vaa ilovi Kenya mwai muthelu, amwe mai nthini wa wumbano uu nimeethiwe na wendi wa umanya undu TIST ithukumaa na kwona wia wayo.

TIST Kenya ni yatumite Ben na Vennessa Henneke, Kimani Mwangi, Dorothy Nairore na Patricia Wachuka. Timu ino ya TIST niyeekie undu wa useng'yo ula watumie aingi ma ala mai wumbanoni uu menda umanya undu TIST ithukumaa na kumyona.

Matuku 9/5/2017 nikweekiwe mivango ya uvika isoni imwe ila TIST inavikie ivindani yitevaasa ta Makomboki Teach Catchment Area ila yi Muranga county. Ala mavikie nthini wa ngwatanio ino ya Makomboki ni vamwe na athukumi kuma Unilver Ltd, Finlays Tea Ltd, Oxfam, Mars, Talyors Tea, Ethical Tea Partnership, Giz na KTDA Foundation. Vala Taylors ni amwe me ngwatanio na TIST kwa

uthathasya uvandi wa miti nthini wa isio ila ivandawa maiani.

Tembea ino niyavikie kithiini kya maiani kya Makomboki na miundani ya aimi ma TIST. Aweni aa nimataniw'e muno nikwona kithito kya aimi ma tist kya uvanda mivai kivathukanio ya miti thini wa miunda yoo. Muimi umwe wa TIST Mr. Zachari Muhia aina uu wa kutavya aeni maitu " kuma tist yooka kisini kity nitwimanyiitye maundu maingi kuma kwoo. Nituuwanda miti na nzia ila yaile, nitumanyite undu wa useuvya ivuio sya kitanda na kwou mbeu yitu ya miti kwika nesa mbee wa kumitwaa miundani na ithekani situ. Kivuio kya kitanda nikyo twendaa muno kwoondu wa miti yitu kukwata vinya wa kwiana ona yatwawa miundani. twina muvea kwa TIST"

Aeni maitu nimataniw'e muno no TIST. Muno kwona aimi mayikia mawia moo itina wa kwithiwa maimanyiw'a, kukwatwa mbau, kuthuthw'a na kunewa ivuso ni TIST. Aeni aingi nimakulilye tuthathasye TIST kuvika kila musyi isioni syoo. Maisye walanio wa TIST nukuthukuma!

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## **Mawalany'o ma TIST: Musingi na ulumu wa TIST.**

**T**ukundi twingi twa TIST ni tututaniaa na nituatiaa mawalany'o ma TIST. Kuthaia kwa TIST ni kuetetwe ni vinya kwa kila memba na kwithiwa na ukiikiku. Kuvikia monene ala tuvikiite ni undu wa kila umwe kikala mawalany'oni ma Tist.

Nthini wa mawiko maitu maingi, kuma kuvanda miti, kuima kwa kusuvia, kwaiya kithio, kua kana kwaka maiko ma usuvia mwaki, kumanyiany'a na maundu ma uima wa mwii, kusuvia muthanga witu

na kukutana na uvinduku na moalyuku ma nzeve, kukitana na kunyaiika kwa mang'alata na weu, kusuvi mbusi kwondu wa kiw'u kitheu na maundu angi maingi ona la matueteae mbesa, mawalany'o ma Tist nimatethasya vanene tamo muti wa muongo.

Nthini wa Tist, twivo. Twi akiikiku, twina uw'o, twithiawa kyenini, twi athukumi umwe kwa ungi, nitumasya utalo wa mwikalo, twi ngelekany'o, nitwiyumasya vate ndivi.



## **Ngwatanio ya TIST Kirubia: Kwikalya sukulu situ ila syi vakuvi syi ngilini**

**I**thyi, ngwatanio ya Tist Kirubia kuma tharaka Nithi County twin autanu nundu wa mbua ino yikw'o.

Twithukuma vamwe kuvanda miti na kuseuvya ivuio.

Mwaka muthelu wa 2016, nitwatetheeisy sukulu wa Karurini wa musingi kuvanda miti mbee wa 500. Uu twikaa kuthuthya amanyiw'a kumanya vaita wa miti na kumamanyisa undu wa kumivanda.

Twithiitwe tuisyaiisya miti ino na mingi yayo nimivitu.

Mwaka uu metho maitu me sukuluni wa musingi wa Mugwe. Nitumatetheesye kuvanda miti 200 ya mivaliti na 350 ya kiene ila ni Munguani na Muriru. Ta mbua ila ingi nitukuaana miti ila tunavuiite na nituendee na uvanda miundani yitu. Ene ngwatanio ino ya Kirubia nimeyumitye kuthathasya kivuio kyoo nikana tuaiae atui maitu na mivea ya kisomo

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## **TIST: Aimi ma TIST kuthukuma kusuvia mila na uvathukanu wa isio na mikalo.**

**M**wikalo na mila ni uthwii wa kuma kumbwani na ni wavata kwa uima wa mawithyululuko. Ingi ni museo kwa kumianisya na uvindu wa nzeve ta yua, mitutu na tusamu tula twanangaa, kana nzeve kusesya. Onakau uvathukanu uu niwavata nowisilye kila mundu nduniani nikwenda kuusuvia uthwii uyu wa mumbo. Onakau mawiko ma mundu ma kila muthenya nimatumite twasya muno kuma mithemba ya miti, syanda, mititu ya tene na uu uetetwe ni meko ma mundu ma kutema miti kwa ivinda itekuvandwa ingi kana kunengwa ivinda ikasyaana.

Nitwona wasyo uyu kila muthenya. Isilye ni mithemba yiana ata ya nyunyi, miti na nyamu wona yila wai munini na usianisya na umunthi wonaa siana ata? Kwi mithemba mingi ya nyamu na

syindu kivathukany'o ta milioni kenda ila syoombiwe na yila twasyananga na kuiveta iulu wanthi iyonekaa ingi na niwasyo kwa andu mbilion muonza ila syi nduniani kwoondu wa syana situ na syana syasyo. Aimi ma Tist nimathukumite maetete kivathukany'o kusuvia uvathukanu uu wa wumbe. Kila muti twavanda ni uvathukanu tasuvia. Kila muti twavanda nuolaa utumiku wa muti ungi vandu na kusuvia muvai waw'o kwithiwa vo uni, nundu nitutonya utumia muti usu vandu va kuthi na kutemanga mititu. Ingi miti ya kiene nii liu na misyi/ mawikaloma syindu kivathukany'o ta nyamu, tusamu, tususni na mimea kivathukany'o, ingi ila niyavata kwa kunyaiikya mbeu na kwongela unou wa muthanga.



## **TIST: Kusiia na kuungamya tusamu tula twanangaa.**

**K**ila muimi ni wisi undu ve vinya kuiana liu na tusamu tula tuwanangaa. Tusamu tuu ni mithemba mingi twambiia na mbia, ngulu, kimbalutya, iinyu, nyunyi, fungi, bacteria na viruses. Yia ni mimea itendekaa na isindanaa na mimie ya liu kutumia unou wa muthanga, mwanya na kyeni.

Tuitonya uandika iulu wa kila mumea nthini wa ithangu yii. TIST nikuandika iulu wa kwisuvianana na mitutu imwe na mowau amwe ma mimea ila kaingi ivandawa ni aimi tukundini tunini twa TIST. Ni useo kwa kila kakundu kwithiwa na ala meumavundisya mayika ukunikili kwianana na mathina ma uwau wa mimea kulingana na kakundi koo. Kwithiwa wi mumanyisya museo ti kwithiwa wisi usungio wa kila nthina, indi kwithiwa wisi vala utonya ukwata usngio!.

### **Nzia sya Kusunga tusamu tula twanangaa mimea kwa vamwe.**

Kwa kutumia nzia nzeo sya nima ta Nima ya kusuvia ila ukethiwa ona usiia muunda waku kukwatwa ni mauwau na tusamu. Vaa ve syindu imwe waile umanya iulu wasyo:-

**Unou wa Muthanga:** Muthanga munou nutumaa mimea ila yamea yithiwa yina vinya na itonya kwisiia mauwau.

**Nima ya kusesany'a/kukuania:** Mithemba imwe na tusamu ni iisaa mithemba imwe ya mimea. Ethywa niwavanda mithemba umwe wa liu mbua imwe kuthi ila ingi nikutumaa tusamu na uwau ula

ukwataa muthemba usu wa mumea umesya mii na kwithiwa wi vinya kuthela. Kwoou yila wakuanya mimea niwatuma mithemba wa tusamu na uwau ula wiimumeani ula unavandite ukosa liu na kwoou kukw'a na kuoleka.

**Kuvandanisya:** Yila wavandanisya mithemba ya mimea nitumaa withia tusamu na uwau ula ukwataa muthemba umwe wa mumea ndiithiwa na vinya ta uvandite mumea usu wi w'oka na ingi uwau kana tusamu tuu tuiyaiikaa muno nundu kwi mimea imwe ilungasya tusamu na muuke wayo. Ta itunguu, leek, kaluma, saumu, sweet basil, oregano na marigold).

Mimea ya uvwika na kwikia muunyi wa mavuti: ii ninzia imwe nzeo sya kwongela unou wa muthanga na kiw'u kwikala muthangani kwa kuola yia na kuvwika ungu wa mimea ila ingi nayo kana kuvanda mimea ila itambaa na kuvwika muthanga. Ndukatumie yia ilauku na isyau kuvwika muthanga nundu kii niutuma uwau na yia yii yongeleka.

Tumia mimea ila itonya kukitana na mauwau vatonyeka: Lilkanana mithemba ya mbeu sya kiene imwe yithiwa itonya kukitana na mauwau na tusamu nesa kwi mimea ya kuka. Onakau niwaile umanya kivathukany'o kwisila ikundini syenyu mbee.

Kumya ilungu na liu ula utonya kwithiwa na uwau na kuuvetana na ula ungi: Yila waveta ni useo kuvivya kana kwisia vaasa nikana usiie kunyaiika kwa uwau uyu. Ingi nutonya kwina ni ngava na ti mumea w'o the muwau kwaau veta kaukava kala kawau kwa kusea.



Vanda mbeu theu itena uwau na ila yaile: Nikana withie mimea yaku no yike nesa na kwikana niwaile usisya mbeu ila yikaa nesa kisioni kyaku na iyithiwa itena uwau.

Ethiwa witumia vuu wa nitrogen ikiithya watumia kithimo kila kyaile nundu weekia vuu mwingi noutume tusamu sumwe twambiia kwongeleka.

Kunenga we amaitha / Nthu na anyanya ma muimi: li ni vamwe na tusamu tula tuisaa tungi ngelekany'o ta matumbi ma mbuambui, kang'athu, maki nimaisaa iinyu maalikw'a na tusamu tungi kwikia uthui na muunyi nikuetae tusamu twingi muthangani tumwe twi nthu na tungi anyanya. Nthini wa ithangu ya mwai wukite tukakuelesya undu wa umanya amaitha na anyanya ma muimi na undu utonya usakua kwianana na uthayo ula mime yaku ikukwata kuma tusamuni tuu tukaa na kwendeewa kwithiwa muthangani muvwike.

Ethiwa nutatite nzia ithi syivaa yiulu na wiona nthina wa tusamu niwaile kwisilya utumia ndawa sya kuaa tusamu tuu. Ndawa imwe no useuvye uitumia ndawa sya miti ya kiene kana ukaua kuma ndukani. Mithemba yothe ya ndawa niyendaa utumiwa nesa. Utumiaa ndawa ino nikana wuae tusamu na yiia yila yanangaa mimea na uyithiwa utonya ukwata liu mwingi. Kutumia ndawa ithi undu vataile no itume wuaa tusamu twa vata ta nzuki na tungi twingi ta tula tutetheeasya muthanga kwithiwa na nzeve. Ingi utumii muthuku no utume tusamu tuu tumayia ukethia tuikwiw'a ndawa. Ingi ndawa ithi nisyithiawa ite nzeo kwa mungu na niutuma uima wake uthuka syatumiwa nai ta kwikiwa mbingi ukethia ona mumea waiwa ni mundu niwatwika sumu.

Ethia nuutumi ndawa sya kuaa mitutu ikiithya niwaia na nzia ila yaile wamina utumia. Ethiwa ve muthemba muna wa ndawa wisi niw'o utonya kuaa tusamu tula ukwenda tumia ndawa ila ite na sumu mwingi niwkoonda wa kusuvia mawithyululuko na nundu ndawa imwe syithiawa itonya kuaa kila kindu.

**Kuimia:** Onakau ni wia muiito ni useo kwikalya miunda yaku yi mitheu. Lilikana yiia yimbe niyithiawa ya vata muundani nundu niyongelkaa nitrogen, yingi ni liu wa indo na yiia yimwe ni muiito na yingi yina malaa maseo kwa nzuki kuseuvya uki.

#### **Vala utonya ukwata uvoo muna.**

Maundu aa manenganitwe kilunguni kya A makeethiwa ma utethyo lwa miunda ethiwa tukatumia nzia nzeo sya nima na kuola tusamu tulatwanangaa na kwithiwa na ngetha nzeo. Onakau tukundi tumwe nituukwatwa ni thina wa tusamu na kwitiwa mayenda uiiti umwe. Kusakua kwa ndawa kana kila kiuya kiingi nikyendaa usakuwa nesa na ethiwa ni ndawa niyaile umanyika nesa niyva na nthina ula wina mumea niwaile ithiwa wisikie. Vaa ve ikwatany'o imwe ila iukutetheesya kwosa uvoo ula waile na kuuvikya kakundini kenytu.

Kwandaia yila mwina umbano wa ngwatanio yenyu mwai uu neenanisyai nzia nzau na ila mwithiwa mwisi sya kukitana na uwau wa miti na mimea vamwe na tusamu tula twanangaa liu miundani. Nitukwithiwa na utanu kukwata nzia imwe mutumiite na ikathukuma kumanyithya aimi ala angi nthini wa valua wa mwai ukite.



# TIST: Mithemba miseo ya miti.

**Y**ila mwina wumbano wa kila mwai, eka amemba maneanie 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 muiw'ana kwa vamwe mithemba ila miseo na kumakulya makulyo aya

- *Ni muthemba wiva museo wa muthanga kwa muthemba 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 ninenganae 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

# Mazingira Bora



# TIST

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

**Kipsigis Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**TIST Uganda: Mombaek chembo Kilasta nebo Bwambara ko kitinye konetisietagebo kabeti ne kanabataat en iwatgut 28/2017**

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## **Kikotach Toek TIST koyob – key Tea local ak international buyers.**

**E**n arawet ne koibototo ko kimiten tuiyet nebo keretab kenjit, nebo global Ethical partnership en Nairobi, ole kiboiboenchi chechang che kimitenen yoton komache konaigobo TIST ak boisienyuan. En tononoik che kitete agobo tuiyonoto bo TIST Kenya ko. Ben ak Venesa Henneke, Kimani Mwangi, Dorothy Naitore ak Patricia Wachuka. En koyomoge nebo bichiton ko kiibarta boisonikab komonut got komach biik koswa TIST.

En 9<sup>th</sup> may 2017, kobit anyun ketete keritechi temik chebo TIST en komostab lelel ole tesetai TIST en komostab mokomboki ole miten kotametutab beek en muranga county. En toek che kimiten ko koyob uniliver ltd, finlay Tea ltd, Oxfarm, mars, Talyoys Tea, Ethical Tea Partnership, Giza ak

KTDA foundation. Tarloys Tea ko Agenge en che kiyoomoge ak TIST asi komuchi kotesak minetab ketik en komoswek Angwan chebo minikab chaik. Kigiruto koba factory nebo mokomboki ak kerutechi imbarenikab temik. Kiboiboenchi toek mising kokiletab temik en minetab ketik. Mr zacharia ko agenge en temik chebo TIST ye kinyor akobo TIST kole kigonyorunen boisionik chechang, kou kosibetab minetab ketik. Kabeti ne kanabtaat ko kitoretech amun moginyoru asenet ye kingemin keetik. Amun rubosiek ketik en kabeti.

Kiboiboenchin toek TIST. Amun icheget Temik che boisie nyorunen temik konetisiet, Toretet, kogiletabgei ak boroinuwek koyob TIST. Kosom anyun toek koityi agichek TIST emotinuwek kwak, ole menye.

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## **Values chebo TIST: Foundation ak Strength nebo TIST.**

**C**hechang' en Groupishek 'ab TIST koyoni ak koyoe kou en TIST Values. Borotet netinye TIST kotiyenge integrity ak effort nebo membayat agetugul. Borotenyon kotiyenge chi agetugul ne membayat ak kisubi Values ichuton komye.

En activities chechoget chechang' , konam minet 'ab ketik , keyai kasit 'ab Conservation Farming, Ribet 'ab biodiversity, teg'et aka let 'ab improved stoves, kanetishet ak practicing nebo ng'alek chetinyege ak borto, Ribet 'ab

imbarenikchok komabar erosion nebo ng'ng'unyek ak tugun alak che imuche kowech ng'ung'unyek, keyom keisten climate changes ak tilet 'ab osnoshek, ribet 'ab oinoshekchok asi kenyorun bek che yomech ago tililen ak tuguk alk chechang' agot generating income, TIST Values koche nomu kwenet en chu tugul.

En TIST, We Are. Ko ketononchini imanit; ki accurate; ki Transparent; Ki cheyochin ge kasishek ; Ki Mutually Accountable; Ki Role Models; ago kiVolunteers.





## Kirubia TIST nebo klasta kikonyo itondo ne kararan ne negit ak echek.

**A**chek kilasta nebo kirubia koyob Tharakanithi county ko kiboiboi missing en robta ne koituech asi kimuch kemin ketik ak kitich kabetsiek kiyok En kenyitgonye ko kigiminchi primary nebo karurini ketik chesire 500 niton ko kogimitetab logok chemengech asi koguyo agobo ketik.Echek

chegeribe ketik chon ago sobtos chechang.

En kenyini ketinye tete kemichin mugwe primary school ne en inguni kotinye ketik 200 chebo sebesebe ak 350 chebo kipkaa.

Kichopcchinigei kora en Robta ne nuyone kemin ketik en sugulisiek chemiten kobotech.

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## Temikab TIST kebosie timwek.

**T**imwek kogonech mogornote ak koribok olto ak kenyoru tilindo en ole kimenye kararan niton amun tere tuguk chebitu kou kement,

Susurik, anan ko burgeyetaf emet, onger timwe amun toreti biik chechang ak kogonech mogornotet. Miten walet en nguni ak kasarta negibo sisig chebo tai kou mengenyoru toritik, tiongik kokigoba kochangat mengotosiek, ak

mengomiten ketik chechang, chemoginge biik chang, tinye anyun temikab tist boroinde korib timwek, ketage tugul ne kagimin keyome kewegun indondab emet.

Tinye temikab TIST bcheetaf ngomnotet agobo timwek asi kewegun ketik ak tiongik chelegiten, ogeibu konguwot asi kimuch kewal akenyoru mogor notosiekab emet, mising ketikab kipkaa.



# TIST: Tononet ne Kararan.

**T**iinye teminde age tugul Kewelatet en Tibetab Minutik ak Ketik ak susik ak Miyonuel cheimuchi

kowech imbar cheu sususik ,Toritik ,Koristo ak Kutik.Timto en imbar Kogochin Rurutik ak Ketik Komonyor Boiboiyet amun Toren amitwogi,Bek,Boroindo ak Asista.

Miten anyun koyob oengu en Sirani .Nabotai kotinye Kabwatet neitwin chi tugul ineimuchi koter komonyor susurik ak miyonuwek. Oret ne karan Kegol imbareni ko magitem. Oret ab oeng ke nyeru eng temik Chechang chetinye Kotigonutik en chigitetab Susurik ,miyonuek.Mogiitini Koenyoru mising akobo niton amun minutik chechang kotinye Miyonuek chechang Kosibgei ak Susurik cheter.inye boroindo kondoik tukul koyai ngalatet ak biik en kurubit.

## Kabwatet ne kararan.

Kitinye kabwatet kile intoimugosei Kegol Rurutik en imbarenik che Magitem Kotoret Mising

koter Susurik ak Miyobuwek. Che isibu ko tugul imuchi kibowoti.

**Onguidab Nyungunyek:** Igochin nito Rurundi kochok ak kogimit amun konyo omitwogik che kororonen, komonyoru miyondo

**Minutik cheterechin enimbar;** milen anyun susurik chetiengei minutiet nekararan komat imin rurutiet Agenge en kila kenyit, wal igol rurutik alek asi mosich boroindo susurik

**Kole tab minutik cheter en imbaret Agenge;** Niton kogochin kobos susurik che mokingei Rurutiet Agenge mitenkora chengemin ak rurutik kotinye koristo ne imuchi koisto susurik en imbar, yomiten kou.

**Keurto minutik ak tuchi;** kararan niton amunteseni ngungunyek tondonito ak kogochin ngungunyek konyor bek en kasarta age tugul,nito



amun kobose timdo en imbar. Matiboisien ketik che  
tinye tobtok ak keswek chuton koibu miyonuwek  
en rurutik.

**Boisien ngetunanikab Rurutik komukosei;**

ibuwat iboisen kesuwekab kipkaa chemiten anan  
chetinyea amun motinye borotet chebo sang En  
kurubit omuchi Onyorunen ngomnot.

**Oratinuek chegiistoen miyonuwek ak****kebebertab Rurutik;** minutiet age tugul netinye

miyondo kinemu en imbar asi maimuch  
koisto. Imuch komanam ketik katugul, kinemu  
kebeberta netinye miyondo.

**Koi kesuwek che moitin miyondo ak ne****kararan; neimuchi** kogochi rurutik

kosobcho. Agot iboisien kotoltoleiwek che nirib asi  
maimuch koib miyonuwek kobwa imbar.

**Chetinye keret ne kararan en bunik;** En

abagora komiten susurik ak kutik chechang en

imbarenikyok yon miten minutik imbar. Miten  
tiyongik chemengechen chekinyorunen kelchin en  
kasarta netinye susurik maanik anan yon itinye  
Arek koigu amitwogikab alak. Somunyk,  
Birechik, Kiprorogoik ak Toritik ko chetoreti  
konemu en Rurutik. Moyome nilon imuchi igeng  
kerichek cheimuchi kotoretin. Alage Komuchi  
kotoretin en susurik ak timdo en imbar. Chigit  
amun kerichek che iboisien asinyorunen kelchin  
en imbarengu ak inyoru Rurutik che kororon.

**Semberet;** Ngandan ui mising niton ago nyolu

amun keisto timdo en imbar. Alak ko omitwogik en  
tuga an alak ko kerichek akotinye tobtok che  
nyorunen segemik omitwogik.

## Kinyorchin en konetisioni; Konetisiet ne kinyoru

en [A]kotoretin inye mising isoengei Susurik ak  
minyonuwwekab Rurutik. Lewwnchigei kerichek  
cheimuchi iboisien en imbarengung en Rurutik  
chenin. Oyai ngalalet en kurubit asi onyorunen  
borotet.



## TIST: Korikab Ketik Chegororon.

**K**ongalalen 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.

<b>Kainetab Ketik</b>	<b>Orurunet</b>	<b>Ole Kiminchin</b>	<b>Boisienyin</b>	<b>Keswot</b>	<b>Ak Alak</b>
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