

# Mazingira Bora



# TIST

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

**English Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**TIST farmers from Chamaner and Kapsigirio, Bomet County, during their monthly Cluster meeting.**

## ***Inside:***

**The Rains Have Come -Time to Plant Many More Trees. Page 2**

**The Importance of Trees. Page 3**

**Controlling Mosquitoes. Page 3**

**Small Group Techniques: Group interaction. Page 4**

**Thinning your trees for successful growth - avoid clear - cutting! Page 5**



# The Rains Have Come -Time to Plant Many More Trees.

## Preparing seedlings for transplanting (Hardening Off).

Now that the rains have come, seedlings need to be planted out. It is important this month to make sure that seedlings will be ready to be moved from the nursery and planted in the field.

Seedlings first need to be prepared for the harsher conditions of the field. If seedlings were properly looked after in a nursery, they may have received more water and shade than they would have once they have been planted. Gradually reduce the watering and expose the seed-lings to full sunlight to make this transition successful.

## Characteristics of good seedlings.

As a general guide (remember different species have different characteristics) good seedlings for planting out have the following characteristics:

- ✓ The shoot should be twice the length of the roots or the pot.
- ✓ The stem should be strong and woody.
- ✓ The seedlings should have many thin roots in addition to the main roots
- ✓ Many seedlings will achieve these characteristics two months after germinating.

## Transplanting.

- Transport the seedlings in an upright position.
- Mark out a circle with a diameter of 30cm in the field.

- Remove the topsoil and place in a pile.
- Remove the next soil layer to a depth of 30cm and place in a separate pile.
- Put in a 5cm layer of grass (dry grass in rainy season, fresh grass in dry season called mulching). Some groups add manure as well.
- Remove the seedling from the polythene bag; do not break the earth-balls around the roots.
- Place the seedling in the hole
- Replace the topsoil first, then the second soil layer.
- Some groups do not fill the hole completely, but leave a gap of a few cm. This helps the rainwater enter the hole and infiltrate the soil.
- This can be especially helpful in dry areas.
- Any remaining soil can be placed in a mound on the downhill side of the seedling. This will help trap any rainwater and divert it into the hole.
- Water the seedling

Where trees are closely spaced, TIST does skip count with a spacing of 2m. In tightly spaced trees (less than 2m), it is advisable for the farmers to continue thinning trees for firewood or fodder as trees mature and canopies get thicker.



## The Importance of Trees.

Trees are very important for environmental and material reasons:

### A. Environmental improvement:

- Trees cover soil, which protects it from wind and water erosion.
- Leaves and twigs fall to the ground and provide the soil with extra nutrients.
- Trees increase soil moisture by covering the soil and hence reducing evaporation.
- Tree roots help bind the soil and therefore reduce erosion.
- Tree roots also help water to enter the soil and improve underground water circulation.
- Trees improve local weather conditions by increasing the amount of water vapor in the air (increased humidity).
- Trees improve air quality by absorbing carbon dioxide and releasing oxygen.
- Trees provide shade and shelter.

### B. Material and nutritional value:

- Construction materials (furniture, posts, fences, rope etc.)
- Fuel wood
- Medicine
- Food/fodder

These benefits are really valuable for farmers and for the world. A recent survey of TIST farmers in Kenya showed that the value of fruits, nuts, fodder, and firewood from trees they have planted in TIST and improved yield from using Conservation Farming averaged almost 37,000 shillings per farmer. It's harder to put a value on the benefits of cooler, moister soil, cleaner air and some of the other benefits of the work we do in TIST, but we feel it on our farms every day.

Promoting tree planting is of great importance to the community. Imagine what we can do when we plant more together!

---

## Controlling Mosquitoes.

**D**uring wet seasons, malaria infections become common. Mosquitoes, which are responsible for the spread of malaria pathogens, breed fast. It is important to look after your homes to reduce the presence of mosquitoes.

### These steps can help:

- Clear your compound of any unwanted bushes or grasses.
- Drain away any stagnant water near your compound; stagnant water provides breeding ground for mosquitoes.
- Clear away any leftover food over-night.
- Keep rubbish outside the house in a covered container or rubbish pit.
- Sweep your house and compound daily.
- Remember to use mosquito nets when possible.



## **Small Group Techniques: Group interaction.**

**a) What is the best way to arrange people during a Small Group meeting?**

A small circle is the best. Don't have a table because it creates barriers between people. Don't have a chair and a large seat for the most important person. In TIST, we all sit the same way. We either all sit on the ground, or we all sit on chairs.

**b) What do you do if more than twelve people want to join your group?**

If there are more than twelve people interested in joining your group, it is best to form a new group. The group can split in two, or three or four members of the original group form the core of the new group. This is better than one member trying to start a group alone. Remember to start using rotating leadership straight away.

**c) What techniques can you use if the group energy is low?**

Split up the group into pairs and get each pair to talk about the task. Dramas also help. Sometimes stopping and each person saying something good that their group is doing can also motivate people again. Also remember to keep the meeting from becoming too long. By having a co-leader who is keeping time, you can focus the group's energy to making sure the work gets done in the agreed upon time period.

### **Meeting Schedule.**

To manage time well, a Small Group should have a well-organized meeting schedule. This is important because it will help you keep focus on your agenda and the most important activities. It is also important because in TIST, we commit to work together for the long-term to grow and maintain our trees for the carbon market. We need to know our fellow Small Group members well, since each person's actions impact our whole group and all of TIST.

It is important, too, for your Small Group to have regular meetings, preferably once a week or once in two weeks. This will give all members in your group an opportunity to strengthen your group and share and learn new ideas.

During your meeting, it is necessary to focus on important issues. Many TIST Small Groups have found the process below as a best practice for successful meetings:

**Step I. Greetings and introductions for any new members (5 - 15 minutes):**

Make sure everyone feels welcomed. Make it brief but let each person introduce him or herself.

**Step II. Opening prayer (2 minutes):**

A short word of prayer can help the group unite.

**Step III. Songs (5 minutes):**

These could be songs written by your group, or songs that encourage people such as religious songs.

**Step IV. Agreement on task and time (5 minutes):**

The meeting's leader explains what was planned for the meeting and the group members discuss and then agree on what the agenda should be. The time spent on each task or discussion should be agreed so that the co-leader can help keep the meeting on time.

**Step V. Group work on tasks (1 hour):**

Ideally, tasks should have been discussed at the end of the last meeting. Tasks might include sharing what each person has done to help TIST activities, sharing best practices, training on some subject of interest, and any other important issue that will help your Small Group to prosper.

**Step VI. Kujengana (5 minutes):**

Each group member makes one positive, specific statement to that week's leader about his or her observable leadership of the meeting. In addition, anyone may identify a gift seen in the leader.

**Step VII. Closing prayer (2 minutes)**



## **Thinning your trees for successful growth - avoid clear - cutting!**

**W**e are very proud that almost all TIST members are following the TIST Values and living by the contract that they signed. Very few TIST members have broken the contract, clear cut their trees, and sold them for other uses. In fact, less than 1% of the 40,000 TIST groves in Kenya have been cut during the thirteen years that TIST has been operating in Kenya.

The purpose of having regular thinning is to achieve maximum growth and value of the trees that are left standing. The cuttings also provide firewood, poles, building materials, and other benefits directly to the TIST participant. That is the reason that we have the policy of creating a sustainable forest by only harvesting a maximum of 5% of the trees per year, after the trees are 10 years old.

When an occasional TIST member decides to clear cut their grove, they harm all the rest of the TIST members in their Small Group, in their Cluster and in all of Kenya. The actions of very few people can cause problems for everyone. We expect other Small Group members and members of the Cluster to pay attention and make sure that no one cuts trees before they are supposed to.

The OLC is going to work with some of the participants who made a mistake and cut the trees to work out a proper plan for those people to reinvest some of their profits into the TIST Program so they are able to help other farmers rather than hurt them.

When we signed the GhG Agreement, we committed to maintain the trees we plant for TIST to let them grow for 30 years before harvest. This

is one reason it's so important to think carefully about what kinds of trees we want to grow on our farms. Thinning and pruning can help keep trees healthy and provide useful products while the trees grow.

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

To grow strong, healthy trees, a spacing of two meters or more is recommended. This spacing works for many TIST trees (i.e. grevillea and cypress), but remember some trees require more space like mango and macadamia. Giving trees proper spacing helps them get enough water and nutrients to grow to their full potential. Closer spacing is acceptable when trees are young. As the trees begin to mature, some trees will be larger and more robust than their neighbours. These are the trees that should be kept. In determining which trees should be removed, look at the best trees and determine if they are appropriately spaced. If they are not, you should remove some nearby trees. When making thinning choices, remember that growth rate varies greatly by species. If a mango tree is growing near lots of eucalyptus, the mango may be far smaller and slower growing than the fast-growing eucalyptus, but it certainly should not





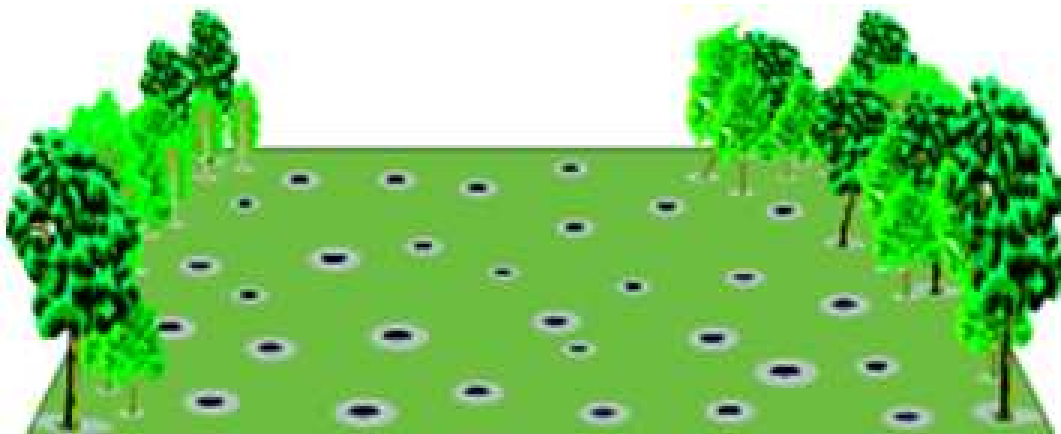
be cut simply because it is smaller! A mango tree is of great importance due to its usefulness in producing fruit for food and sale.

**Best Practices while Thinning.**

- Allow crop trees to grow to maturity
- Thin to proper stocking (number of trees per acre). In TIST, we can select up to 5% of our trees, after 10 years, thinning by selecting as they grow, and providing income.
- Remove dying, diseased, decaying, and poor quality trees.

- Protect trees from logging damage.
- Use low-impact logging methods.
- Promote tree species diversity.
- Monitor your forest for insect and disease outbreaks.
- Cooperate with government agencies in controlling forest insect and disease outbreaks
- Prevent wild fire

**DO NOT do this**



**Clear cutting**

**DO THIS**



**Single tree selection**

# Mazingira Bora



# TIST

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

**Kimereu Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**Wakulima wa TIST kutoka Chamaner na Kapsigirio, County ya Bomet wakiwa kwa mkutano wao wa Clasta wa kila mwezi.**

## ***Inside:***

**Mbura ikwija- Ni igita ria kuanda miti ingi imingi. Page 2**

**Bata ya miti. Page 3**

**Kuniyia rwagi. Page 3**

**Njira cia ikundi bibinini: Gukaranira gwa gikundi. Page 4**

**Caa miti kenda ikura bwega na turigirie kuriika buru. Page 5**



## **Mbura ikwija- Ni igita ria kuanda miti ingi imingi.**

### ***Kuthuranira miti iria iumithitue ithamua ita muundene (Kumithithia uria ikomba kuumiria muundene)***

Nandi niuntu mbura ikwija, miti iria iumithitue nigwiia kuandwa ome ya munanda. Burina bata mweri juju kumenyeera ati miti iu yaku iri tayari kuthamua kuuma munandene iandwa muundene. Miti iji iumithitue mbele nikwenda kuthuranirwa niuntu bwa mantu jamomu nkuruki naria muundene. Kethira miti nithiritwe ikimenyagirwa bwega munandene, no ithirwe ikiiri ruuji na kirundu gikingi nkuruki ya kiria kiri muundene yarikia kuandwa. Mpari mpari nyiyia ruuji ruria ukumikiira na umirugurire riu rionthe nikenda yumba gukara bwega yathama.

### **Miti ya kuanda iria miega ithagirwa irina jaja**

Ta njira ya kawaida (ukirikanaga mithemba mwanya irina mantu mwanya) miti imiega ya kuanda niithagirwa irina jaja:

- Gitina kiria kiumirite kithirwe kiri na uraja bwa miri kana mubuko jairi
- Gitina kithirwe kirina inya na kiri gikiumu
- Miti ithirwe irina miri imiceke imingi na imwe iminene
- Miti iria mingi nikinyithagia mantu jaja na igita ria mieri iiri yarikia kuuma

### **Kuthamiria miti muundene**

- Kamata miti irungi

- Maka kithiururi kiri na warie bwa 30cm muundene kana aria ukwenda kuanda
- Rita muthetu jwa iguru na urikire amwe
- Rita muthetu jou jungi mwanka 30cm kwinama na urikire muthetu juju angi.
- Ikira nyaki centimeter ithano ( nyaki imbumu riria gukuura, nyaki itiumi igitene ria uumu)
- Rita muti mubukone. Ukagwithia muthetu jou jugwatene na miri.
- Ikira muti kirinyene
- Cokia muthetu jwa iguru mbele, riu jou jungi jwa iiri
- Ikundi bimwe bitiujuragia kirinya buru, indi nibatigaga kanya ga cm inkai. Bubu nibutethagia ruuji rwa mbuura gutonya kirinyene na kwou gutonya muthetune. Bubu nobutethie mono mono naria kuri gukuumu
- Muthetu jungi juria jumba kwithirwa jutigere nijwikagwa na kibango bwagaiti ya muti. Juju nijugwatagia ruuji rwa mbuura na jukarutongerua gutonya kirinyene
- Ikira muti ruuji.

Ririkana kinya ati nikenda ua muti kanya gakanene ga gukura nuubati kuanda utarenie 2m. Waanda ikwianiritie nkuruki miti itikinyirwa ni ruuji na irio biria ikwenda nontu kwina gushindana gukwingi. Ikaaga inya na no ikue, kwou thingata mwitire jumwega buru jwa gutarania na meter ijiri na nusu gwita ithatu.





## Bata ya miti.

Miti iri bata mono niuntu bwa mantu jeienaria gututhiurukite na biria tutumagira:

### A. Kuthongomia naria gututhiurukite:

- Miti nikunikagira muthetu, untu buria buebithagia gukamatwa kwa muthetu ni ruugo na ruuji.
- Mathangu na maang'i nijagujaga muthetune na jakongeera irio muthetune
- Miti niingiagia ruuji muthetune gukurukira gukunikira muthetu na kwou kunyiyia gukamatwa kwa ruuji ni riuu.
- Miri ya miti nitethagia kugwata muthetu na kwou kunyiyia gukamatwa kwa muthetu.
- Miri ya miti nitethagia kinya ruuji gutonya muthetube na kwou kuthongomia kuthiuruka kwa ruuji nthiguru ya muthetu.
- Miti nitethagia kutongomia rera ya aria iandi gukurukira kwingiyia ruuji ruria ruri ruugone.
- Miti nithongomagia uthongi bwa ruugo gukurukira gukucia ruugo ruruthuku na kurita ruugo rurwega.
- Miti niejanaga kirundu na antu a gwikunikira.

### B. Into na irio biria miti iejanaga:

- Into bia gwaka ( into bia nyomba, ikingi, ndwego, mikanda)
- Nkuu na makara
- Ndawa
- Irio bia antu na ndithia

Baita iji icithiritwa ciri inene mono kiri arimi na nthiguru yonthe. Uteri bwarua bwa arimi ba TIST ndene ya Kenya nibwonenie ati baita cia matunda, nkandi, iria ria ndithia na nkuu kuumania na miti iria baandite ndene ya TIST na maciara jamathongi nkuruki kuumania na urimi bubwega niikinyite baita ya ngiri mirongo ithatu na mugwanja kiri o murimi. Burina inya nkuruki kuthima baita ya muthetu juri na ruuji rurwingi nkuruki na ruugo rurutheru nkuruki na kinya imwe cia baita ingi cia ngugi iria turitaga ndene ya TIST, indi nitucigagua ndene ya miunda yetu ntuku cionthe.

Kwou gwitithia na mbele uandi bwa miti kurina bata mono kiri antu betu. Thugania jaria tuthithia tukeja kuanda miti ingi turi amwe!

## Kunyiyia rwagi.

gitene ria mbura, rwagi nirugwatanangaga mono. Rwagi, ruria rutumaga antu bagwata ni murimo juju jwa rwagi, niruciarangaga. Buri na bata kumenyeera njaa cienu nikenda bunyiyia rwagi. Matagaria jaja nojatethie:

- Theria njaa yaku ukiritaga mathaka na nyaki iria itikwendeka
- Riita ruuji runthe ruria rwigari akui na kieni giaku. Ruuji rwigari niruejaga rwagi antu a guciarania

- Rita irio biria bitigaraga ugoro.
- Rita ruko wikire kiri gikebe gikunikiri kana kirinyene oome ya nyomba
- Egera nyomba na kieni giaku ntuku cionthe
- Ririkana gutumira net cia kurigiria rwagi riria kuumbika



# Njira cia ikundi bibinini: Gukaranira gwa gikundi.

**a) Ni njira iriku iri injega buru ya kubangania antu mucemanione jwa gikundi gikinini?**

Kithiururi gikinini ni njira iria njega buru. Gukethirwa kurina metha niuntu nitumaga gukagia kigitaria gati gati ka antu. Gukethirwa kurina giti kana giti gikinene kia muntu uria urina gitio kiria kinene buru. Ndene ya TIST, twinthe tukaraga nthi na njira imwe. Twinthe tukaraga nthi muthetune kana tugakarira iti

**b) Niatia buumba kuthithia kethira antu nkuruki ya ikumi na bairi ibakwenda gutonya gikundine kienu?**

Kethira kurina antu nkuruki ya ikumi na bairi baria bakwenda gutonya gikundine kienu, ni bwega nkuruki kwambiria gikundi gikieru. Gikundi nokigaane jairi, kana amemba bathatu kana banna ba gikundi kiu gikuru baambie gikundi gikieru. Iji ni njira injega nkuruki ya mumemba umwe kugeria kwambiria gikundi wenka. Ririkana kwambiria utongeria bwa kithiuruko orio.

**c) Ni njira iriku umbu gutumira kethira inya ya gikundi iri nthiguru?**

Gaana gikundi kie antu bairi bairi na antu bau bairi baririe ngugi iria irio. Matinda kinya jo nijatethagia. Rimwe na rimwe kurungamithia na kuuria o muntu auge gintu kimwe gikiega kiria gikundi kienu gikuthithia o gutethia gwekira antu motisha ingi. Ririkana kinya kumenyeera ati mucemanio jutarea mono. Na njira ya kwithirwa kurina muthetheria wa mutongeria wa gwika mathaa, bukomba kwerekeria inya ya gikundi kiri kumenyeera ati ngugi ikathithika ndene ya mathaa jaria ibangiri.

**Mubango jwa mucemanio.**

Kenda mathaa jatumika bwega, gikundi gikinini nikibati kwithirwa kiri na mubango jubangi bwega jwa gwitithia mucemanio. Bubu burina bata niuntu bugatetheria kumenyeera ati mathuganio nijerekerete mantu jaria jabangiri na mantu jaria jarina bata nkuruki. Kinya burina bata niuntu ndene ya TIST, nituciritahira gwitaniria ngugi amwe kenda igitene riraja tukura na twika miti yetu bwega niuntu bwa thoko ya ruugo. Nitugwitia kumenya amemba ba gikundi gietu gikinini bwega niuntu mathithio ja o muntu nijathithagia mwanya kiri gikundi na TIST yonthe.

Kairi burina bata gikundi giaku kinini gwita micemanio ya igita nyuma ya igita, mono o kiumia kana rimwe ndene ya biumia biiri. Bubu bukaa amemba bonthe ndene ya gikundi giaku kanya ga gwikira gikundi inya na kugaana na kuthoma mantu jameru.

Mucemanione, kurina bata kwerekeria mathuganio mantune jaria jarina bata nkuruki. Ikundi bibinini bibingi bia TIST nibionete njira iji iri mwitire juria mwega buru kiri kuthithia micemanio ya bata:

**Itagaria ria mbele. Gukethania na gucimenyathia kwa amemba baaberu (Dagika ithano gwita ikumi na ithano):** Menyeera ati muntu wonthe nakwigua ang'anirite. Dagika inkai itumirwe indi umenye ati o muntu nakwimenyithania wengwa.

**Itagaria ria jairi. Iromba ria kwambiria (Dagika ijiri):** Iromba ririkui noritethia kureta gikundi amwe.

**Itagaria ria jathatu. Ndwimbo (Dagika ithano):** Iji nociithirwe ciandiki ni gikundi kienu kana ndwimbo cia gwikira antu inya ta ndwimbo cia kidini.

**Itagaria ria janna. Gwitikaniria ngugi na mathaa (Dagika ithano):** Mutongeria naugaga jaria jakathithua mucemanione na amemba ba gikundi bagetikaniria kurita ngugi iu. Mathaa jaria jagatumika kuthithia o ngugi kana kwaniria nijabati gwitikanirua nikenda mutetheria wa mutongeria agatetheria gwika mathaa ja mucemanio.

**Itagaria ria jatano. Gikundi gikarita ngugi iria irio (Ithaa rimwe):** Kiri njira iria bwega buru, ngugi nicibati kwithirwa ciaariritue mucemanio jugikinya muthia. Ngugi nociithirwe ciri amwe na kugaana jaria o muntu athithitie gutethia mantu ja TIST, kugaana mitire iria miega buru, kuritana kwegie mantu jaria antu bakwenda na gintu kingi kiria kirina bata na kiria gigatethia gikundi giaku gwita na mbele.

**Itagaria ria jatantatu. Gwakana (Dagika ithano):** O mumemba wa gikundi auge gintu kimwe gikiega kiri mutongeria wa kiumia kiu kwegie utongeria buria bwonekete ndene ya mucemanio. Kwongera, muntu omba kuuga kiewa kiria oonete ndene ya mutongeria ou.

**Itagaria ria mugwanja. Iromba ria kuthiria (Dagika ijiri):**



## **Caa miti kenda ikura bwega na turigirie kuriika buru.**

**I**tukwiguna mono tontu akui amemba bonthe ba TIST ibakuthingaitira maritano ja TIST gukurukiira gucaina gwa contract. Ni amemba bakai ba TIST batiumbite gwika wirane, bagitite miti buru na bendia niuntu bwa ngugi ingi. Amu nthiguru ya imwe kiri igana (1%) ya tumwitu 40,000 twa TIST ndene e Kenya nitugiti igitene ria miaka inana iria TIST ithiritwe ikiritaga ngugi Kenya.

Gitumi gia gucaa miti nikenda miti iria itigarite ikura bwega. Gucaa igutethagiria na nkuu, ikingi, into bia bwaka na ibitethagiiria amemba ba TIST. Kiu nikio gitumi twithagirwa turina policy ya kugita miti gacunci ka ithano kiri igana (5%) o mwaka miti yakinyia ukuru bwa miaka ikumi keenda tumwitu tutikathire.

Riria mumemba umwe wa TIST abangaga kugiita miti yonthe, ugwati ibutonyaga kiri amemba bangi bonthe ndene ya gikundi, ndene ya cluster na Kenya. Li mma tumantu tuu tutuniini ituretaga thiina kiri muntu wonthe. Itukwirigiira amemba ba cluster na ikundi bakathingatiira uju na gutiwe ukagiita miti riria itibati.

OLC niitite gwita ngugi na amemba baria beeirie na kugita miti kenda boomba kubanga uria bagatethia antu bau gutumira baita yao kiri mitarataru ya TIST ya gutethia arimi. Riria twacainire gwitikaniria kwa GhG, twaciejanire kumenyeera miti iria twandite ya TIST na kumirekeria ikura kagita ka miaka mirongo ithatu mbere ya gutemwa. Giki nikiabata kenda tuumba kumenya miti iria

tukaanda miundene yetu. Gucaa na gukuura igutethagia miti gukura bwega.

Gitumi kia gucaa na gukuura miti nikenda o muti gukura bwega amwe na mwitu. Bubu buthithagua na njira ya kumenyeera miti iria miega na gukuura ingi. Kiri mithemba imingi ja miti imiumo, giriberia, mibao mauta na cypress, iria ikuuragwa ni imenene na itamburuki. Miti irina mobataru mwanya gukurukiira mithemba, aria yaandi, uria iandi na naria yaandi indi mantu jangi ijabati kuthingatirwa.

Gukuria miti irina na inya, waarii bwa mita ijiri ibu bubati. Waarii bubu ibubujaira mono miti ya TIST i.e. giriberia na cypress indi riikana miti ingi ta miembe na mikandania yeendaga waarii nkuruki. Kwaa miti waarii bubwega ibutumaga ikoona ruuji rwa kung'ana na ruuji nkuruki kenda ikura uria ibaterie. Gukuiianiiria kwa miti kwendekanaga miti iri micanchaana. Miti yaambiriiria gukura, imwe ineneaga nkuruki ya ingi, iji nio ibati gukurua. Kenda umenya ni miti iriku ubati gukuura, tega miti iria miega na wone kethira irina waarii buria bwagirite. Kethira tiu, kuura miti iria iri akui.

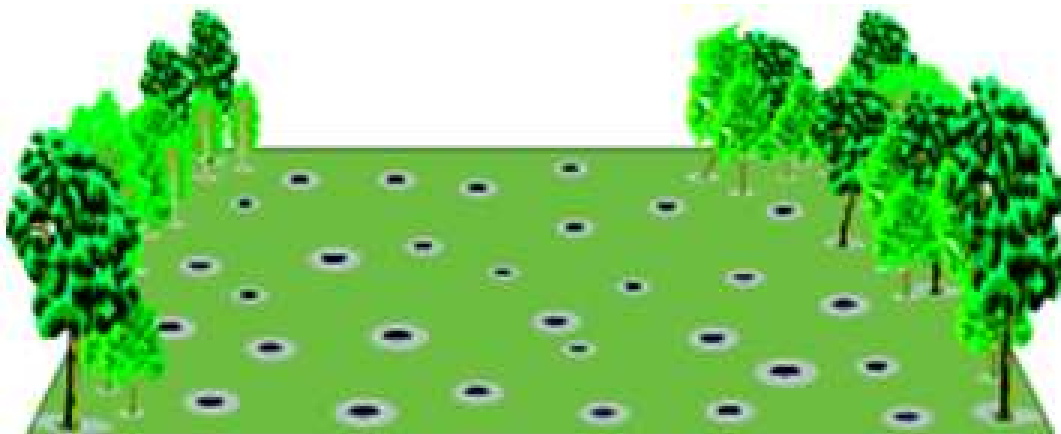
Riria ugucaa menya, miti ikuraga mwanya kuringana na muthemba mwanya. Kethira muembe ijugukurira akui na mubau mauta, jugakura mpaari nkuruki ya mubau mauta, indi jukagitwa nontu l muniini! Li mma muembe jwina bata mono nontu ijuciaraga matunda ja kuria na kwendia.



**Njira injega ya gucaa**

- Eteera miti ikure buru.
  - Chaa kuringana na wingi (kuringana na miti kiri acre). Kiri TIST, tuthuuraga gacunci ka ithano kiri igana (5%) kiri miti yetu, nyuma ya miaka ikumi tugicaaga kuringana o uria igukura na gutwaa baita.
  - Kuura miti iria ikwora, ikunyaara, irina murimo na iria itigukura bwega.
- Rigiiria miti ityakarikwe.
  - Riika na njira iria yaagirite.
  - Anda miti ya mithemba imingi.
  - Menyeera mwitu jwaku nontu bwa mang'inyo na mirimo.
  - Gwatanira na thirikari niuntu bwa kumenyeera mang'inyo na mirimo.
  - Rigiiria mianki ya mwitu.

**Ukathithia uju.**



**Kugiita miti buru**

**Thithia uju.**



**Kugiita muti jumwe jumwe.**



# Mazingira Bora



# TIST

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

**Kikuyu Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**Wakulima wa TIST kutoka Chamaner na Kapsigirio, County ya Bomet wakiwa kwa mkutano wao wa Clasta wa kila mwezi.**

## ***Inside:***

**Mbura niyurite – kahindaga kuhanda miti makiria. Page 2**

**Bata wa miti. Page 3**

**Kunyahia rwagi. Page 3**

**Maundu ma ikundi: Uikarania wa ikundi. Page 4**

**Guceha na gutagania miti yaku niguo ikure wega. Page 5**



## Mbura niyurite – kahindaga kuhanda miti makiria.

### ***Kuhariria mimera niguu kuhanda mugundaini.***

Riu tondu mbura niyurite, mimera niyagiriirwo nikuhandwo migundaini kuuma nthari. Niwega mweri uyu gutigirira mimera iri ho ya kuhandwo. Mimera yagiriirwo ni wambere kuharirio niundu wa riera iritu mugundaini. Angikorwo mimera nditoretwo wega iri nathariini, akorwo niirahetwo maai maingi na kiiruru gukira uria yagiriirwo kana gukira uria ikuheo yathii mugundaini. Kahora kahora nyihia muhere wa maai na wehutie kiiruru hari mimera niguu ihote guikara migundaini

### **Mimera miega ikoragwo na;**

Ta kioereria kiega, (ririkana mithemba ngurani ya miti ndihanana) mimera miega ya kuhanda ikoragwo na;

- Mimera uraihe maita meeri gukira muri
- Mumeru ukorwo na hinya
- Mumeru ukorwo na miri miingi
- Mimera miingi niikinyanagiria maundu maya thutha wa mieri 2

### **Guthamia miti.**

- Thamia mimera irugamite na iguru
- Cora tuthiururi twa warii wa 30cm mugundaini

- Eheria tiiri wa iguru
- Eheria tiiri ucio ungi urumiriire nginya uriku wa 30cm
- Ikira mahuti urku wa 5cm (nyeki nyumu hingo ya mbura nanjigu hingo ya riuu) ikund ingi cihuthagira thumu
- Ruta mimera kuuma maratathiini na ndugatinie gatiiri karia kari muthiaini wa muri
- Ikira mimera irimaini
- Ikira tiiri wa iguru na ucokerere na ucio ungi.
- Ikundi ingi citihuragia irima na tiiri biu. Njira ino niiteithagiriria maai ma mbura kuingira irimaini na gutonya tiiriini na njira ino ninjegamahinda ma riuu.
- Tiiri uria ungikorwo utigarite nouguo nakianda ia irima niguu uhingiririe maai.
- Itiriria mimera maai.

Ningi tigurira niwahee mimera maundu mega niguu ihote gukura wega na kuhanda na utaganu wa 2cm. Ungimihanda ikuhaniriirie ndikuhota gukinyirwo ni maai na unoru wa tiiri uria irabatara tondu kuri na ucindani na indo ingi. Niikwaga hinya na noyume.



## Bata wa miti.

Miti niiri bata wa maundu maria maturigiciirie.

**A. Kwagirithia maria maturigiciirie:**

- Miti niihumbagira tiiri, njira iria iugitagira kumana na ruhuho na maai
- Mahuti magwa thi nimatumaga iiri ugie na ugunyu
- Mahuti magwaa thi nimongagirira thumu tiiriini
- Miri ya miti niinyitagirira tiiri kumana na gukuuo ni maai
- Miri ningi niiteithagia maai kuingira tiiriini
- Miti niyagiragia riera na ikaingiria maai rieraini
- Miti niitheragia riera na njira ya kugucia carbon dioxide na kuruta oxygen.
- Miti niikoragwo na kiiruru

**B. Indo cia micii na cia kuria:**

- Indo cia gwaka(mbau, rugiri, ndigi etc)
- Ngu
- Dawa
- Irio cia mahiu.

Maundu maya nimakoragwo na umithio kuri arimi othe thi yothe. Uthuthuria uria wikitwo ni TIST thiini wa Kenya wonanitie ati umithio wa matunda na iria cia mahiu na ngu kuma mitiitni iria ihanditwo ni arimi a TIST niikoretwo ikiongereka kumana na urmi wa Kilimo Hai na igateithia arimi na 37,000 hari o murimi. Niuritu kumenya umithio kumana na tiiri na riera riega na maundu mangi maingi no nituonete TIST igiteithia arimi o muthenya.

Kwa uguo kuhanda miti nikuo kumgiteithia arimi na matuura. Tawicirie maundu maria tungika riria twahanda miti ino turi hamwe!

## Kunyahia rwagi.

**K**imera kia mbura, mrimu ya malaria niingihaga. Rwagi, ruria rurehaga mirimu ino nirukuraga nau ihenya na rugaciarana, niwega kuora mucii waku niguo kunyahia rwagi. Makiny maya nomateithiririe.

- Theria mucii waku
- Thereria mmai mothe marugamite tondu nikuo rwagi ruciaranagira

- Theria irio iria ciatigara
- Ehutia giko giothe nmuciini
- Haata nja yaku o muthenya.

Huthira neti ya rwagi riria kurabatarania



## Maundu ma ikundi: Uikarania wa ikundi.

**a) Ni njira iriku njega ya kubanga andu mucemano-ini wa ikundi?**

Githiururi kinini nikio kiega. Mutigakorwo na metha tondu niikoraga mikira andu-ini. Mutigakorwo na giti kinene kuri iria ingi kia mutongoria. Thiini wa TIST, ithuothe tuikaraga andu umwe. Tuikaraga thi kana tugaikarira iti.

**b) Twikaga atia riria andu makiria ma 12 magia na wendi wa kuingira gikundi?**

Riria kwagia na andu makiria ma 12 marena kuingira gikundi, niwega guthondeka gikundi kingi. Gikundi giki nokigayanio maita 2 kana 3 ona kana 4 na niwega andu a tene gikundu mambiririe icio ingi mari o. njira ino ni njega gukira amemba eru makigeria guthondeka gikundi kieru mari oiki. Ririkanai guthiururukia utongoria.

**c) Ungika atia riria hinya wagikundi wathii thi?**

Gayania amemba eri eri na umere mariririe uhoro ucio. Geriai guthaka mithako ya ngerekano tondu niiteithagia. Maita maingi riria mundu umwe arugama kuga maundu maria mega muhotete gwika niguteithagia muno na gugekira hinya ringi. Na ningi ririkana ndukareke micemano inenehe muno. Riria muri na muteithia wa mutongoria uria uraiga mathaa, nouhote kuhuthira mucemano wega na mukaiguithaniria.

### **Mutaratara wa mucemano.**

Niguo kuhuthira mathaa wega, ikundi ciagiriirwo nigukorwo na micemano mibang wega. Njira ino niya bata tondu niigutuma murumirire mutaratara na muhote kwaririria maundu maria ma bata. Nangingi niyabata tondu thiini wa TIST nitukoragwo twiheanite gukiria na gutungata miti gwa kahinda kanene niundu wa thoko ya carbon. Nitwagiriirwo nikumenya arimi othe a ikundi wega, tondu ciiko cia I mundu nicia bata kuri gikundi.

Niundu wa bata, na makiria kuri gikundi gukorwo na micemano ya o hindi na mungihota o wiki. Uu niukuhe amemba thiini wa gikundi kamweke ga gwikira gikundi hinya.

Riria muri na micemano, niwega murore maundu maria ma bata. Ikundi nyingi niconete mutaratara uyu ukimateithia muno.

**Ikinya ria I: Kugeithania na kumenyithania amemba eru(Ndagika 5-15):**  
tigirira o mundu niaigua amukiritwo wega. Mutikoe kahinda kanene no utigirire andu nimemenyithania.

**Ikinya ria II. Mahoya ma kuhingura (Ndagika 2):**  
Mahoya manini nimateithagia kunyitithania giundi.

**Ikinya ria III Ruimbo(Ndagika 5):**  
Ici nocikorwo iri nyimbo citungitwo ni gikundi kana ciagwikira andu hinya na cia kugooa Ngai.

**Ikinya ria IV. Kuiguithania kiria gikwariririo na mathaa(Ndagika 5):**  
Mutoingoria agatariria maundu maria makwariririo nao amemba magetikaniria. Mahidam a r i a makuhuthirwo kwaririria makaiguithanirio niguo muteithia wa mutongoria akahota kuiga mathaa.

**Ikinya ria V. Kwaririria maundu (ithaa I):**  
Niwega maundu maria makwariririo makoragwo mathondeketwo mucemano-ini urcio ungi. Maundu maya nita uria andu mahotete gukuria TIST, guthomithania maundu na mitaratara bata iria iguteithia gikundi gukura wega.

**Ikinya ria VI. Kujengana(ndagika 5):**  
O memba wa gikundi niaheanaga kaundu kega ka wiki iyo na akauga uria onete utongoria thiini wa mucemano. Na makiria, mundu o wothe akauga kiheo kiria onete hari mutongoria.

**Ikinya ria VII. Mahoya ma kuhinga (Ndagika 2):**





## Guceha na gutagania miti yaku niguu ikure wega.

**T**hiini wa TIST, nitwirutagira guturia miti iria twahanda na tukatreke ikure miaka itanyihire 30 mebre ya gutemwo. Giki nikio gitumi kinene giagutuma twicirie muno mithemba ya miti iria turahanda migunda-ini iitu. No ona kuri o uguo, guceha na ggutagania miti niguteithagia miti gukura ii na hinya na kuheana umithio mwega riria irakura.

Hamwe, gitumi kia guceha na gutagania miti ni kwongerera ugima wa muti kiumbe na wa mutitu uri wothe. Uu wikikana kuhitukira guchagura miti iria miega thiini wa mutitu. Kuri mithemba miingi, hamwe na miti iria itagwo hardwoods, grevilea na mibau na mithithinda, niyo muno ikoragwo iri minene gukira iria ingi iri mitungu wega. Miti niibataraga muigana wa mugunda ngurani kuringana na muthemba waguo, kuria uri, muhandire na riera no maundu mangi nimatumaga.

Niguu muti ukure uri na hinya, utaganu wa 2 mtrs niwagiriire. Utaganu uyu wagagirira miti miingi (ta grevilla na cypress), no uririkane miti ingi niibataraga utaganu munenanene (ta maembe, macadamia). Riria wahee miti utaganu muiganu nigutumaga miti ikinyirwo ni maai na unoru wa tiiri ni igakura wega na iri na hinya. Utaganu munini wa miti nimwitikiriku riria miti iri minini. Na riria yambiriria kugimara, miti ingi niigukorwo iri miraihu gukira iria ingi. Ino niyo miti iria yagiriirwo gutigwo mugunda. Niguu umenye miti iria ugutema, rora miti iria miraihu na wone kana niitaganitio wega na angikorwo timitaganu no uteme imwe yayo.

Thutha wa kumenya miti iria ugutema, mitemere haria gitina-ini. Thutha wa ciumia na mieri, imwe yayo niithudukaga. Na niguu ndigakure ringi, tinia mahuti maria marathunduka kuma githuki-ini. Njira imwe ya iria huthu ya kumenya muti kana

niwagiriirwo nigutemwo nikurora unene wayo uringithanitie na iria iriganitie nayo iri ya riika na mutemba umwe. Gukura kwa miti nogukorwo kuri na utiganu kuringana na tiiri na maai na mangi maingi. Angikorwo miti ya muthemba umwe mwena umwe iri na ukuru uiganaine, miti iria minene niyagiriirwo ni gucagurwo niguu ikure. Njira ingi ya kumenya ugima wa miti ni kurora mururi waguo. Miti iria iri na mururi muraihu gukira iiria ingi noihote kwamukira utheri muiganu na ikure na ihenya. Na muthia, miti yagiriirwo gukura na mwahu umwe, na itari na mirimu minene kana ironda. No ona kuri o uguo, uu tikuga ati miti yothe minii niyagiriirwo nigutemwo! Tigirira utaganu niwa 2-3mtrs niguu miti ikure iri minene niguu ihote kugucia carbon nyingi.

Ugitua matua ma gutagania, ririkana mukurirme wa muti ningurani kuringana na muthemba wa muti. Angikorwo miti ya maembe irakuranira na mibau, maembe nomakure mari manini na ikure kahora muno gukira mibau iria ikuraga na ihenya, na ndiagiriirwo nigutemwo tondu niminini! Muti ta muembe niwabata niundu wa matunda maria ukuragia na makendio.

Maembe nimakuranagira na indo ingi migunda-ini. Mibau ndirekaga muti kana mumera ungi ukure hakuhi. Niwega kuririkana uguo riria uracagura miti ya gutagania.

Miti niikoragwo na mabata maingi kuringana na muthemba waguo. Kwa muhiano, nowende muti niundu wa kiruru. Niundu wa uguo, niwagiriirwo kuhe muti mweke muiganu niguu utheremie mahuti.

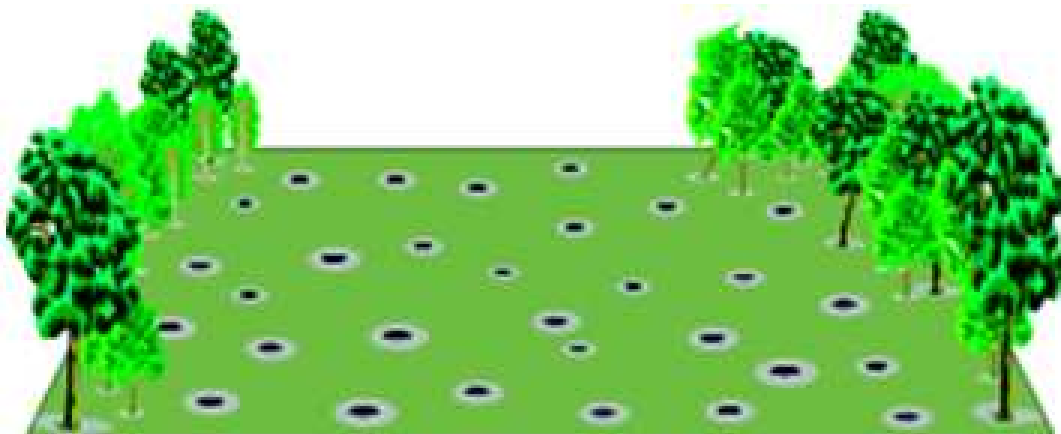
Angikorwo urenda gukuria muhari wa miti niundu wa kunyihia ruhuho, tigirira miti niyakuhaniriria no wehutie iria itari mahariini niguu ndugathondeke githaka.



## Mitaratara ya gutagania.

- Reke miti ikure nginya igimare.
- Korwo na namba ya miti iratwarana na muigana wa mugunda waku. Thiini wa TIST, noucagure gicunji kia miti kia 5%, thutha wa miako 10, gutagania miti o igikuraga na kurehe umithio.
- Eheria miti iria irakua, iri na mirimu na itari na ugima mwega.
- Gitira miti kumana na utemi utari mwikiriku.
- Tema miti na njira itakuhukia mutitu waku.
- Handa miti mithemba miingi.
- Rora mutitu waku ndugatharikirwo ni tutambi.
- Nyitanira na honge cia thirikari niguu kugitira mirimu.
- Gitira miaki.

## Ndugeke uu



## Kuheria gutheria

## Ika uu



## Guthuraniria miti

# Mazingira Bora



# TIST

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

**Kiswahili Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**Wakulima wa TIST kutoka Chamaner na Kapsigirio, County ya Bomet wakiwa kwa mkutano wao wa Clasta wa kila mwezi.**

## ***Inside:***

**Mvua imefika - Wakati wa kupanda miti mingine mingi. Page 2**

**Umuhimi wa miti. Page 3**

**Kudhibiti mbu. Page 3**

**Mbinu za vikundi vidogo: Mwingiliano wa kikundi. Page 4**

**Kupunguza miti yako ili ikue vizuri, jiepushe na kukata miti yote. Page 5**



# Mvua imefika - Wakati wa kupanda miti mingine mingi.

## ***Kutayarisha miche ili kuihamisha (Kuitayarisha kuishi katika hali ngumu)***

Sasa kwa kuwa mvua imefika, miche inahitaji kupandwa. Ni muhimu mwezi huu kuhakikisha kuwa miche iko tayari kuhamishwa kutoka kitaluni na kupandwa shambani.

Miche kwanza inahitaji kutayarishwa kwa hali ngumu iliyo shambani. Kama miche imekuwa ikichungwa vyema kitaluni, inaweza kuwa ikipata maji zaidi ya ambayo itapata ikishapandwa shambani. Kidogo kidogo, ipunguzie maji unayoipa na uifungulie jua lote kuhakikisha itaweza kuhimili uhamisho huu inavyofaa.

## **Sifa za miche mizuri**

Kama mwelekezo wa kijumla (ukikumbuka namna mbalimbali huwa na sifa mbalimbali) miche mizuri ya kupanda huwa na sifa zifuatazo:

- Shina linapotokeza lafaa liwe na urefu wa mizizi au mfuko mara mbili.
- Shina lafaa kuwa lenye nguvu na gumu.
- Miche inapaswa kuwa na mizizi myembamba mingi pamoja na mizizi mikubwa.
- Miche mingi itakuwa na sifa hizi baada ya miezi miwili ikishaota.

## **Kuhamisha**

- Beba miche ikiwa imesimama inavyofaa
- Pima duara lenye upana wa sentimeta thelathini shambani

- Toa mchanga wa juu na huuweke kwa pango
- Toa safu la pili la mchanga hadi sentimeta thelathini na uweke kwa pango lingine.
- Safu la nyasi sentimeta tano (nyasi kavu msimu wa mvua, nyasi mbichi msimu wa ukavu). Vikundi vingine huongeza mbolea pia.
- Toa mche mfukoni. Usivunje mchanga uliozunguka mizizi.
- Weka mche shimoni
- Rudisha mchanga wa juu kwanza, halafu safu la pili la mchanga.
- Vikundi vingine havijazi shimo hadi pomoni, ilhali huacha pengo lasentimeta chache. Hili husaidia kuingiza maji ya mvua shimoni na mchangani. Hili sana sana husaidia maeneo makavu.
- Mchanga ambao hubaki unaweza kuwekwa kwa pango kwa upande wa chini wa mche. Tendo hili husaidiakushika maji yoyote ya mvua na kuyarudisha shimoni.
- Chotea mche maji.

Kumbuka pia kuwa ili kuupa mche wako nafasi nzuri ya kuishi inafaa huipande ikitengana meta mbili. Ukiipanda karibu kuliko hivyo, miche yako haitapata maji na madini ya mchanga yote inayoitaji kwa sababu ya ushindani mwingi. Itakosa nguvu na yaweza kufa.





## Umuhimi wa miti.

Miti ni muhimu sana kwa sababu za kimazingira na kibidhaa:

### A. Kuboresha mazingira:

- Miti hufunika mchanga, tendo ambalo hulinda mchanga kutokana na mmomonyoko unaosababishwa na upepo na maji.
- Majani na matawi huanguka ardhini na kuoongeza madini mchangani.
- Miti huongeza unyevu mchangani kwa kuufunika mchanga na kupunguza **evaporation**.
- Mizizi ya miti husaidia kuushika mchanga na hivyo basi kupunguza mmomonyoko.
- Mizizi husaidia maji kuingia mchangani na hivyo basi kuboresha mzunguko wa maji yaliyo chini ya ardhi.
- Miti huboresha hali ya anga ya ilipopandwa kwa kuongeza unyevu hewani (kuoneza ubaridi)
- Miti huboresha uzuri wa hewa kwa kunyonya hewa chafu na kupumua hewa safi.
- Miti hutupa kivuli na pa kujifunika.

### B. Thamani ya kibidhaa na kilishe:

- Bidhaa za kujenga ( vyombo vya kutumia ndani ya nyuma, gogo, kamba na kadhalika)
- Kuni au makaa
- Dawa
- Lishe ya watu na ng'ombe

Faida hizi ni zenye thamani sana kwa mkulima na kwa dunia yote. Utafiti wa hivi juzi wa wakulima wa TIST katika Kenya ulionyesha kuwa thamani ya matunda, lishe ya ng'ombe na kuni kutoka kwa miti waliyopanda wakiwa TIST na mavuno bora kutokana na Ukulima Bora ilifika elfu thelathini na saba kwa kila mkulima. Ni ngumu kupima thamani ya faida za mchanga baridi na wenye unyevu zaidi na faida zingine za kazi tunayofanya katika TIST, lakini tunaiona thamani hii mashambani mwetu kila siku.

Kupendakeza upandaji wa miti hivyo basi, ni muhimu sana kwa jamaa. Fikiria ambayo twaweza kufanya kukipanda zaidi tukiwa pamoja!

## Kudhibiti mbu.

**K**atika majira ya mvua, maambukizi ya malaria huwa kawaida. Mbu, ambao hueneza vimelea vya ugonjwa huu, huzaliana kwa haraka. Ni muhimu kutunza nyumba zenu ili kupunguza uwepo wa mbu. Hizi hatua zaweza kusaidia:

- Wazisha kiwanja chako kutokana na vichaka na nyasi zozote zisizohitajika
- Toa maji yoyote yaliyotuma karibu na kiwanja chako. Maji yaliyotuma huwapa mbu pahali pa kuzaliana

- Tupa chakula chochote kilichoashwa usiku mzima
- Weka taka nje ya nyumba katika chombo kilichofunikwa au katika shimo la taka
- Fagia nyumba na kiwanja chako kila siku
- Kumbuka kutumia vyandarua vya mbu kila iwezekanapo



## **Mbinu za vikundi vidogo: Mwingiliano wa kikundi.**

**a) Ni njia gani bora zaidi ya kuwapanga watu wakati wa mkutano wa Kikundi kidogo?**

Msiwe na meza kwa sababu inajenga vizuizi kati ya watu. Msiwe na kiti cha kukaliwa na mtu aliye na muhimu zaidi kati yenu. Katika TIST, sote twaketi kwa njia iliyofanana. Sote hukaa chini udongoni au sote kukalia viti.

**b) Mtafanyaje kukiwa na watu zaidi ya kumi na wawili wanaotaka kujiunga na kikundi chenu?**

Kama kuna zaidi ya watu kumi na wawili wanaotaka kujiunga na kikundi chenu ni vizuri zaidi kuanzisha kikundi kipya. Kikundi chaweza kujigawanya na kuwa vikundi viwili, ama wanakikundi asili watatu au wanne wawe msingi wa kikundi kipya. Hii ni vizuri kuliko mwanakikundi mmoja kujaribu kuanzisha kikundi peke yake. Kumbuka kuanza uongozi wa mzunguko kutoka mwanzo.

**c) Ni mbinu zipi mwaweza kutumia ikiwa nishati ya kikundi iko chini?**

Gawanya kikundi kiwe wawili wawili na uulize kila jozi kujadiliana kuhusu kazi iliyopo. Michezo ya kuigiza husaidia pia. Mara kwa mara kuwasimamisha na kila mtu kusema kitu kizuri ambacho kikundi chao kinafanya husaidia kuwapa watu motisha nyingine. Pia kumbuka kuuachisha mkutano usiwe mrefu. Kwa njia ya kuwa na msaidizi wa kiongozi anayesaidia kuweka masaa, unaweza kuelekeza nishati ya kikundi kuhakikisha kazi inafanyika katika muda uliopangiwa.

### **Ratiba ya mkutano.**

Kutumia muda vizuri, kikundi kidogo chapaswa kuwa na ratiba ya mkutano iliyopangika vizuri. Hii ni muhimu kwa sababu itakusaidia kuzingatia yaliyo katika ajenda na mambo yaliyo muhimu zaidi. Ni muhimu pia kwa sababu katika TIST, tunajitolea kufanya kazi pamoja kwa muda mrefu ili kukua na kudumisha miti yetu katika soko la hewa. Tunahitaji kujua wanakikundi wenzetu vizuri, kwa sababu matendo ya kila mtu hushikilia kikundi chote na TIST yote.

Ni muhimu pia, kwa kikundi chako kidogo kuwa na mikutano ya mara kwa mara, ikiwezekana mara moja kila wiki au mara moja kila wiki mbili. Hili litawapa wanakikundi chenu nafasi ya kuimarisha kikundi na kugawana na kujifunza mafunzo mapya.

Wakati wa mkutano, ni muhimu kuzingatia mambo yaliyo muhimu. Vikundi vingi vya TIST vimeona utaratibu unaofuata ukiwa mwenendo bora zaidi ili kuwa na mikutano ya kufanikiwa:

**Hatua ya kwanza. Salamu na kujijulisha kwa wanakikundi wapya (dakika tano kufika kumi na tano):** Hakikisha kila mtu anajisikia nyumbani. Hakikisha ni fupi lakini muache kila mtu ajijulisha.

**Hatua ya pili. Maombi ya kuanza (Dakika mbili):** Ombi fupi laweza kusaidia kuunganisha kikundi.

**Hatua ya tatu. Nyimbo (Dakika tano):** Hizi zaweza kuwa zilizoandikwa na kikundi chako, au nyimbo zinazowatia watu nguvu kama nyimbo za kidini.

**Hatua ya nne. Kuitikiana kuhusu kazi na masaa (Dakika tano):** Kiongozi anaeleza yatakayofanyika mkutanoni na wanakikundi waitikie kufanya kazi hiyo. Masaa yatakayotumika kwa kazi hiyo au mjadala yakubalianwe ili msaidizi wa kiongozi aweze kuweka masaa ya mkutano.

**Hatua ya tano. Kazi ya vikundi (saa moja):** Ili kufanya vizuri zaidi, kazi yapaswa kujadiliana mkutano wa mwisho ukiisha. Kazi zaweza kuwa pamoja na kugawana ni nini kila mtu amefanya ili kusaidia kazi za TIST, kugawana mienendo bora zaidi ya kufanya mambo tofauti, kufunza kuhusu vitu fulani na jambo lingine lolote la maana litakalosaidia kikundi chenu kukua .

**Hatua ya sita. Kujengana (Dakika tano):** Kila mwana kikundi anasema jambo moja nzuri kwa kiongozi wa wiki hiyo kuhusu uongozi wake ulioonekana katika mkutano. Kuongezea, mtu yeyote aweza kusema ni zawadi gani katika uongozi ameona katika kiongozi huyo.

**Hatua ya saba. Ombi la kufunga (Dakika mbili):**



## Kupunguza miti yako ili ikue vizuri, jiepushe na kukata miti yote.

**T**unajivunia sana kuwa wanaTIST wote wanafuatilia maadili ya TIST na kuishi wakizingatia kandarasi waliyotia saini. Ni wanaTIST wachache waliovunja mkataba huo, wakakata miti yote na kuiuza kutumika vinginevyo. Kwa kweli ni chini ya asilimia moja ya mashamba elfu arobaini katika Kenya imekatwa katika miaka nane ambayo TIST imekuwa Kenya.

Madhumuni ya kupunguza miti ni ili miti iliyobaki ikue na dhamani yake ipande inavyofaa. Miti hii iliyokatwa pia hutupa kuni, fito, vifaa vya ujenzi na faida nyinginezo kwa mshiriki wa TIST. Hii ndio sababu tuna sera ya kuanzisha msitu endelevu kwa kuvuna miti isiyopitisha asilimia tano baada ya miti kufikisha miaka kumi.

Wakati mwanaTIST mmoja napoamua kukata shamba lote, wanadhuru wanaTIST wote katika kikundi chao, katika cluster yao na katika Kenya yote. Kwa kweli, matendo ya wachache hao yaweza kuletea shida kila mmoja. Tunatarajia wanakikundi wengine na wanacluster kuwa makini na kuhakikisha kuwa hakuna anayekata miti kabla ya wanapopaswa.

Kikundi cha OLC kitafanya kazi na baadhi ya washiriki waliofanya kosa na kukata miti kufanya mpango wa hao watu kurudisha sehemu ya faida yao katika mradi wa TIST ili waweze kusaidi wakulima wengine badala ya kuwaumiza.

Tulipotia saini mkataba wa makubaliano wa GhG, tuliahidi kutunza miti tunayopanda katika TIST na kuiacha kukua kwa muda wa miaka thelathini kabla ya kuvuna. Hii ni sababu moja ya kwa nini ni muhimu kufikiria kwa makini kuhusu ni miti ya aina gani tunayotaka kukuza katika mashamba yetu. Kupunguza miti na kupogoa kwaweza kusaidi kuweka miti ikiwa yenye afya na kutupa vitu vinavyotumika miti bado ikikua.

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

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

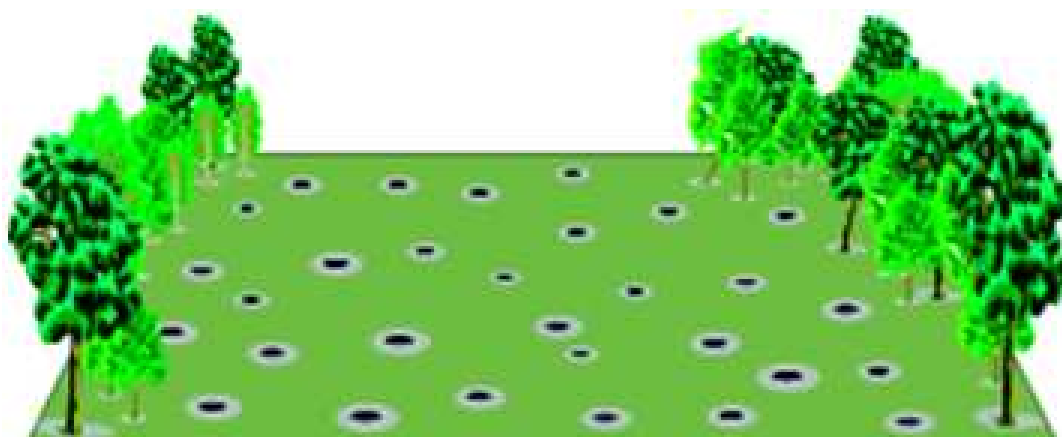
Unapofanya uhamuzi wa kupunguza miti, kumbuka kuwa kiwango cha ukuaji hutofautiana kulingana na aina ya mti. Kama mwembe unakua karibu na mikaratusi mingi, mwembe unaweza kuwa mdogo na unaokua pole pole zaidi ya mikaratusi inayokua haraka, lakini kwa uhakika haupaswi kukatwa kwa sababu ni mdogo zaidi! Kwa kweli, mti kama mwembe ni wenye umuhimu mkubwa kwa sababu ya matumizi yake katika kupeana matunda ya kula na a kuuza.



## Mazoezi bora unapopunguza miti.

- Iruhusu miti kukua hadi ukomavu.
- Punguza hadi inavyofaa (nambari ya miti katika ekari). Katika TIST, twaweza kuchagua hadi asilimia tano ya miti yetu, baada ya miaka kumi, kupunguza kupitia kuchagua inavyokua na kutuletea pesa.
- Kata miti inayokufa, iliyo na magonjwa, inayooza na isiyo na ubora.
- Linda miti kutokana na uharibifu kutakana na ukataji wa magogo.
- Tumia njia za ukataji magogo zenye athari chache inapowezekana.
- Himiza wingi wa aina za miti.
- Fuatilia msitu wako ili kujua kukizuka wadudu na magonjwa.
- Shirikiana na kampuni za serikali katika kudhibiti kuzuka kwa wadudu na magonjwa.
- Zuia mioto ya msitu.

## USIFANYE hivi



Kukata miti yote

## FANYA hivi



Chagua mti mmoja mmoja.



# Mazingira Bora



# TIST

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

**Kikamba Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**Wakulima wa TIST kutoka Chamaner na Kapsigirio, County ya Bomet wakiwa kwa mkutano wao wa Clasta wa kila mwezi.**

## ***Inside:***

**Mbua niyukie - Ivinda yingi ya uvanda miti ingi mingi. Page 2**

**Vata wa Miti. Page 3**

**Kwisiania na umuu. Page 3**

**Nzia ila itumiawa ni tukundi tunini: Ta kulikangana na kukwatangana. Page 4**

**Kutaanisa miti kwa kwiana kwailu kwa miti, ndukenge. Page 5**



## **Mbua niyukie - Ivinda yingi ya uvanda miti ingi mingi.**

### ***Kuseuvya miti yikivuioni nikanya ithyamiw'e muundani/kithekani (Kumiumiisya)***

Nundu yu mbua niyukie, miti ila yikivuioni niyaile uvndwa miundani. Ni useo kuikiithya miti ila yikivuioni yina ivinda yaile ya kuthamiw'a miundani.

Miti ino niyaile kuumiwa kwa kumyeteelya kuvanda kuithekani vala iteusuviwa muno ta kivuioni. Ngelekany'o ila yikivuioni nikwataa kiw'u kingi, muunyi kwi yathamiw'a kithekani. Nikana iumiie niuseo kuola kiw'u kila uungithya na mavinda ala uungithya na kumiveta muunyi nikana wamithamya ndikew'e thina yithiwe itonya kumiisya.

### **Mbeu nzeo iilye yithiawa na mawonany'o mailye ata.**

Kwa mithemba yoonthe nikana mithemba kivathukany'o yithiawa na mawonany'o kivathukanyo. Miti ya mbeu nzeo ilye uu

- Munguthe wayo ni muasa kundu kwili kwa mwii kana mbisu.
- Muthamba withiawa na vintya na wimunou
- Ingi yaile ithiwa natumii tungi twingi vamwe na mwii ula munene.
- Mithemba mingi ya miti yaile ithiwa na mawonany'o aya itina wa kumea.

### **Kuthamya.**

- Mikue iungye ndukakulumanie
- Thima kyelenge kina uthathau wa 30cm kithekani vala uvanda
- Umya muthanga wa iulu na uyumba kavumbu
- Umya muthanga ula uatiie ta uliku wa 30cm na uyumba kavumbu kangi.
- Ikiya nyeki susue kisio kya 5cm ethiwa kwi mbua ongela vuu.
- umya ithanguni kana mbisuni na uyumya nesa ndukatilange mii.
- Vanda yiimani yiu
- Ususya na ula muthanga wayiulu
- Ikundi imwe iyusuasya muthanga vuu nimatiaa mwanya wa kiw'u. Kii kithiawa kiseo kya utwiikana kiw'u yila mbua yaua na kutetheesya kiw'u kunywa muthangani.
- Ngithya mbeu isu wavanda.

Ingi lilikana kunenga muti usu wavanda ivinda ya kwikala na uvanda utaanu wa matambya 2. Wamivanda itherngeanie ndikwata kiw'u na unou mwianu. Wavanda ithengeanie yiithiwa yimimosu na nitonya ukwa kwoou.



## Vata wa Miti.

Miti niyavata muno kwa mawithyululuko nundu wa itumi ii:-

### A. Kwailya mawithyululuko

- Miti niwika muthanga, na kuusiana na kukuwa ni kiseve kana kiw'u
- Matu na ngava ila syavaluka nisyooa na kutwika liu kwa muti
- Miti niyongelaa wiu wa muthanga nundu nisiiia kiw'u kukuwa ni nzeve kuma muthangani.
- Mii ya miti nayo niyovaa na kukwatany'a muthanga na kuola muthanga kukuwa
- Mii ya miti ingi nitetheesya kiw'u kunywa nthi na kwailya kiw'u kya ungu wa muthanga kuyaiikani.
- Miti niyailasya nzeve ya vandu kwa kuthithya nzeve
- Miti nitheesya nzeve kwa kuveta nzeve itavisaa nzeveni ila ingi.
- Miti ninenganae muunyi na wivitho / Mawikalo.

### B. Kutune unou ula waile na miti ya utumia

- Miti ya kwaka, kwikia wiio, makanda etc
- Ngu
- Ndawa
- Liu wa andu na uithyo wa indo.

Vaita ula miti itunengai niwavata muno kwitu aimi na nthi yonthe. Ukunikili ula uneekiwe o mituki kwa aimi ma tist niwoonanisye kana matuna, mbindi, liu wa indo syonthe kuma mitini ila ivanditwe ni aimi ma TIST kwa nzia ya nima ya kusuvia ninenganite ueti museo na vaita wa silingi 37,000 kwa kila muimi. Ve vinya kwikia thooa kwa vaita ula umanite na uthithu, kimeu kya muthanga na nzeve ntheu wivo vaita na useo ungi mwingi kumana na wia wa TIST, indi nitwiw'aa useo kila muthenya twi miundani yitu.

Kwoou ni useo munene kutavya angu vaita na vata wa kuvanda miti ala twi isioni imwe namo na mbaitu. Kweesilye undu tutonmya kwika tukavanda miti mingaingi mbee kwa vamwe!

## Kwisiania na umuu.

**K**wavika ivinda ya uthithu na mbua, malelia nitwika uwau kundu kwingi, Umuu ula niw'o unyaiikasya uwau uyu niuyaiikasya uwau kwa mituki. Ni useo kuola umuu musyi kwaku.

Matambya aya nimatonya utetheesya:

- Enga ikuthu ila syi vakuvi na nyumba vamwe na nyeki

- Temea kiw'u kila kituumanite kithi kila kivakuvi na mawikalo/nyumba nundu nikw'o umuu usyaaniaa
- Veta matialyo ma liu ula wakoma
- Mavuti ndukaie nyumba ikya iimani ya kiko
- Tuta nyumba yaku na nza kila muthenya.
- Lilikana kutumia neti sya usiia umuu vatonyeka.



# Nzia ila itumiawa ni tukundi tunini: Ta kulikangana na kukwatangana.

**a) Ni nzia yiva nzeo ya kuvanga andu tukundi yila mwi mbumbanoni?**

Kilinge kinini nikiseo muno. vaikethiwe na mesa kati nundu noithukume ta ukuta kati wa andu vaikethiwe uvanthukanu wa kila kikwikalilwa ethiwa ni kivila ateo kwa mundu munengete ndaia mbee. Ingi nthini wa TIST ithyoo the twikalaa nthi undumwe ethiwa ni muthangani kana ivilani kwa kila umwe.

**b. Nata mutonye kwika ethiwa andu mbee wa 12 nimekwenda kulika kakundini kenyu?**

Ethiwa ve andu aingi mekwenda ulikana nenyu nikavaa kusevya kakundi kangi kana tungi twili vena mainyiva ene ana kana atatu kuma kakundini kala kambee (amemba ala akuu). Uu ni useo mbee kwi mundu umwe kwenda kwambiia kakundi eweka. Lilikanai kwambiia utonoi na kusumia nzia ya utongoi wa kithyululu.

**c. Ni nzia myau utonya utumnia ethiwa vinya wa kakundi winthi?**

Aanai withie ni andu eli eli na kila umwe ayosa undu uu ta muio wake. Ingi mathau ma malimano na nthekany'a ni matetheeasya kwongela ngwatanio vinya na uthangaau. Ingi kunee niea wia wenyu museo kwakwiyonany'a mwi mbee nikutumaa angi makwata vinya na thambuu. Lilikanai yila mwoombana kulea kuselewa na kumina mbumbano tene. Kwithiwa na munini wa muungamii imusyaisya wa masaa nokutume kila umwe ekia vitii na kuthangaa kwona wia ula walanitw'e niwathela masaani ala maile.

## **Walany'o wa kukomana**

Nikana musuvie ivinda tukundi tunini nitwaile kwia walany'o museo wa mbumbano. uu ni useo nundu nukumwia mwina mwolooto wa kila angyendani ya muthenya usu na mawia ala maile kwianiw'a muthenya usu. Ingi ni useo nundu nthini wa TIST nitweeyumisye kuthukuma vamwe kwa ivinda yiasa kuvanda na kuea miti yiane kuvikia soko wa nzave itavisaa. Nitukwenda kumanya tukundu tunini twitu na ena mwatw'o na kwona ni itambya yiva tutonya kwosa kuikiithya ithyotha na TIST nitweethiwa na kivathukany'o.

Ni undu wavata kumanya kakundi kaku kanini nikaile kumbana kaingi ona ethiwa ni keli kwa mwai. Kii nokiete kwosa vinya kwa kikundi kyenyu kwa kuthuthany'a na kila umwe kunenga ula ungi utao na undu wikite kwake omithenya ila mutela onana na kila kinakivathukany'o na kitonya uete ualyuku museo kwa kila umwe vamwe na uu mawoni meu.

Yila mwoombana niuseo kwia mbee maundu ala mavata. Tukundi tunini twingi nitwoonie kuatiia nzia ithi syi vaa nthi kwi kwavata nthini wa mbumbano, na matambya asu ni:

**Itambya 1. Ngethi na kwimanyithany'a kwondu wa andu ala eu kikundini (Ndatika 5-15):**

Ikiithyayi kila umwe niweew'a e muthokye, kila umwe etavany'a kwa mituki.

**Itambya 2. Mboya sya kwambiia (ndatika ili (2))**

Mboya nini nguvi noitethye kwa kwongela ngwatanio.

**Itambya 3. Wathi (ndatika itano 5)**

Uyu no withiwe wi wathi usevitw'e ni kikundi kyenyu kana wathi wa Ngai wina uthuthio kwa kila umwe

**Itambya 4. Kwiw'ana undu mukwika na mwitumia ivinda yiana ata (Ndatika itano(5))**

Mutongoesya akaeleany'a kila kikwikwa wumbanoni na ene kikundi mayitikila kwika. Masaa ala meutumika kwa kila undu nonginya mambe uneenewa na munini wa mutongoesy no ethiwe emusyaisya wa masaa.

**Itambya 5. Wia wa kikundi (Isaa yimwe I)**

Nonginya muimina kila wumbano nimwithiawa muneene wia ula mukoka uthukuma wumbanoni ula ungi. Ngelekany'o ethiwa no kila umwe kutunga livooti ya undu wikite kutetheesya TIST na mawalany'o na uthukumi wayo museo. Kumanyiany'a nzia nzau na maundu angi mavata ala matonya utuma kakundi kenyu keana na kwaila.

**Itambya 6. Kwakana (ndatika itano (5))**

Kila mumemba kunengane ondeto imwe ya kwakana onaethiwa ni yiulu wa utongoi. ingi kinengo kila kikivathukany'o kyonekete kwa mutongoi nikyaile uwetwa ethiwa kivo.

**Itambya 7. Mboya ya kumina/ kvinga wumbano (ndatika ili (2))**



## **Kutaanisa miti kwa kwiana kwailu kwa miti, ndukenge.**

Ithi nthini wa TIST vakuvi ithyoothe nituatiiaa mawalany'o na nzia nzeo sya tist tuatiie na kwikala kuatiiana na wiw'ano ula tweekie saii. Ni andu anini ala matulile wiw'ano uu na meenga miti yoo yonthe na mamita kutumiwa nziani ingi.. kwa w'o ni anini kwi kilio kya 1% kati wa miti ila ivanditwee nguumoni syi mbee wa 40,000 sya TIST nthini wa Kenya ila syengetwe myakani 8 ila TIST yithiitwe iithukuma vaa Kenya.

Kitumi kya kutaanisa miti kila ivinda ni kuvikia kwa miti kwiana vyyu vate kuvingiisana na ingi na vaita wa muti ula watiwa kwongeleka. Kutaanisa kuu nikunenganae ngu, miti ya kwaka, na moseo angi ala maumaas mutini muteme kwa ene TIST. Kii nikyo twithiawa na walany'o museo wa kwikalya mititu kwa kuketha iyingiva 5% ya miti ila twinayo kwa mwaka ethiwa yina myaka ikumi kwambata no ti itheo wa myaka isu.

Yila memba wa TIST waamua kwenga miti yake , ni uumiasya kakundi kake kala ke nthini wa ngwatanio ya tist nthini wa Kenya. Kwa w'o wiko uu wa andu asu anini nuetae nthina munene kwa kila umwe. Twiikwata tukundi tunini na a member oothe kumanya na kuikiithya vaiumwe unatemanga miti yake itavikiite ivinda ya utemwa.

OLC nikuthukuma vamwe na amwe ala meekie makosa ma kutema miti yoo yoonthe na kusisya walany'o ula matonya utumia kuikiithya andu asu nimavanda ingi ukwati woo nthini wa walany'o wa TIST nikana methiwe matonya kutethya aimi vandu va kumaumisy.

Yila twee kia saii wiw'ano wa GhG Agreement, twithwaa tweeyumya kwikalya miti yitu ila tuvandite ta ya Tist vandu va myaka 30 mbee wa kumiketha. Kii nikimwe kati wa itumi ila twaile usisya mbee wa kuvanda miti ni miti yiva tukwenda nthini wa miunda yiotu na ikwithiwa itonya kwikala kwa ivinda yiu iteudemwa. Kusea na kutaanisa miti ni useo nundu niku nengae miti kwiana nesa na kuitunenge vaita wa utumia usyao wa miti o iendee

na kwiana.

Kwa vamwe vata wa kusea na kutaanisa miti ni kwailya uima wa muti na mutitu w'onthe. Uu wikawa kwa kusuvia miti ila miseo mutituni kwa kuveta ila itena uima museo na ila itonya kutuma uyu museo uteana nesa. Kwa mithemba mingi ya miti ta mikuvulya, minyoonyoo, misanduku miti ya kuveta ni ila minene ila yina muthamba umwe mulungalu. Miti niyithiawa na mawendi kivathukany'o ya mwanya kwianana na muvai wa muti na niva ivanditwe na ivandiwe ki (ta miti ivandaniw'e na liu kana ya kusii nzeve), uvinduku wa nzeve onakau mawendi amwe methiawa kwa kila muvai.

Kumea yina vinya, na yaile miti kaingi niyendaa utaaniu wa matambya eli kana maingi. Mwanya uyu wa matambya eli kaingi uthukumaa kwa miti ta mikuvulya na misanduku. lilikana ka miti ingi niyendaa mwanya munenange ta miembe na mikandania. kunenga miti mwanya ula waile ninengae miti ivuso ya kukwata kiw'u nesa na unou kuma muthangani na kwiana undu vaile. Kuvanda miti uthunganie vanini nikwitikilikaa kwa miti yi mini indi oundu miti iendee na kwiana imwe niyonekaa yi minene kwi ingi. Miti ino minene kwi isu ingii niyo yaile kuekwa na ila minini iteanite nesa kuvetwa, Sisy miti ila minene na miseo yila usakua miti ya kutia uendee na utaanisa miti. Ethywa yothe no miseo sisya uole imwe nikana ivikie utaaniu ula waile na yithiwe itonya kwiana nesa.

Yila usakua miti ya kuveta lilkana, kwina kwa miti kuendanasy na muvai wa muti nundu mithemba imwe niyianaa kwi ingi. Ethywa ni kiembe kimeete vakuvi na musanduku, kiembe nikyonekaa ta kite kwiana nundu musanduku wianaa mituki, kii ti kitumi kya kuveta kiembe nundu ni kinini anyee. Sisy useo na vaita wa muembe ni mwingi kwi wa musandu nundu muembe no utumike ta liu na no ukunenge mbesa wata matunda maw'o.

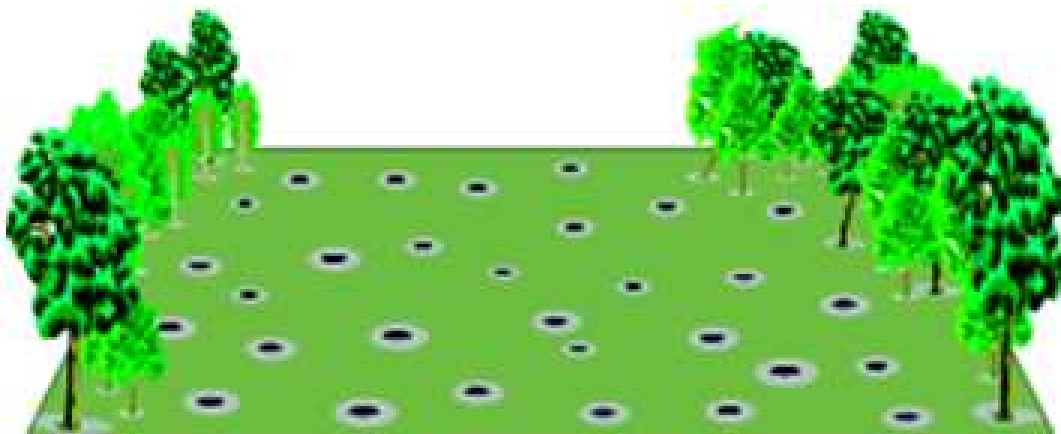




## Mawiko maseo yila uutasisya miti.

- Eka miti ila ya liu yiane nginya ivike.
- Ola miti yianie ila yaile uyiatiia walany'o wa miti ila yaile kwithiwa nthini wa eka umwe. Nthini wa TIST no tusakue nginya 5% ya miti yitu itina wa myaka ikumi.
- Kutaanisya oundu iendee kwiana na iiendee kutune ukwati.
- Kuveta ila myumu, miwau, iendee kwoa na ila itemiseo.
- Suvia miti kumana na kiw'u kuema uthi.
- Tumia nzia ila itatuumanasya kiw'u.
- Kwata mbau uvandi wa miti mithemba kivathukany'o.
- Syaiisya mutitu waku kumana na tusamu tula twanangaa na uwau.
- Ngwatana na athukumi kuma ngwatanioni sya selikalini kusii mowau na tusamu tula twanangaa mititu.
- Sii mwaki wa kitheka.

## NDUKEKE UU



Clear cutting

## IKA UU



Single tree selection

# Mazingira Bora



# TIST

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

**Kipsigis Version**

**TIST is an innovative, time - tested,  
afforestation program led by the  
participants.**



**Wakulima wa TIST kutoka Chamaner na Kapsigirio, County ya Bomet wakiwa kwa mkutano wao wa Clasta wa kila mwezi.**

## **Inside:**

**Iwatgut inguni: Ongemin ketik. Eng kasari komiten Robta neo ogemin ketik. Page 2**

**Komonut nebo ketit. Page 3**

**Teretab konyingisik (Mosquitoes). Page 3**

**Mitindoishak chepo groupishek che meng'echen: Kotuyet tap ke en Groupishek. Page 4**

**Kechoror ketiguk sigogorogitu ak ibagach kolulet. Page 5**



# Iwatgut inguni: Ongemin ketik. Eng kasari komiten Robta neo ogemin ketik.

Chobchingei chitugul eng arawani ile  
kegol eng chonginto.

## ***Nebotai ko kechobchigei kesuwek:***

Chobchigei eng kabeti amun miten beek  
chechng. Eng kabeti iger ile keter beek  
komowech ak ingany uruwet asi mowechok  
ketik en kabeti.

kosibet ne karan nebo kesuwek: (en abogora  
kotiye ketik terchinet eng kabeti kotienge  
korikab ketik.) Tinye ortinuwek che uchu:

- Metitab kesuwot kotiye kebarta oeng  
kosir tigitiyot.
- Nyonu kogimit temet
- Nyonu kotiye tigitik chemengechen  
chechang.
- Nyonu en orowek oeng kotiye oteboni.

## **Minet:**

- Min ketit kotonon komie
- Bal keringet nebo 30cm kotuyo
- Itaban ngungunyek chebo barak
- Itaban chebo orit ak ichek
- Inte susuwek cheyomiyotin koit 5cm ak  
itesi keturek.
- Itutun ketit mat imin ak selele.
- ingoto ngugngunye chetai
- Mat inyit ngugngunyek kerimget asi  
kotoche beek.
- Ingo nyor koguwouti 2m asi komuchi  
koet ak kosich omituwogik.



## Komonut nebo ketit.

Bo komonut ketit eng ribetab Itondab Emet ak amuneisiek checheng:

### A - Ribetab Emet:

- Ketik kotere ngungunyek, koristo asi moib.
- Tesin sogek ngungunyek koyor omituwogik.
- Igochin ketik koyor beek ngungunyek ak koter beek komaiyeso koba barak.
- Igochin tigitik koyum asi moib beek
- Nyorunen Emet koristo ne karan.
- Kiyorunen uronok ak teretab koristo.

### B -Tuguk chegiboisien ak Omituwogik:

- Kimyorunen (bogoinikak kwenik)
- Kerichek
- Omituwogik eng biik ak Tuga

Tuguchuton tugul kobo komolut eng temik ak Nguwony komugul. Miten chi en tist ne koyai kosegei komwa kole bogomolut logoek, kuwelik ak ketik chegigemin ak imarenik chema kigol komuchi koyor Temintet age tugul Ksh 37,000. Kimoginigei tuguk chechang eng kaa ak eng imarenikiyok asi keitin mogutikiyok.

Ogetes ketik eng mbarenik kiyok asi keyorun mengotet ne kararan. Ogibwat kemin eng kibagenge keigu koborunet eng biik.

---

## Teretab konyingisik (Mosquitoes).

**E**ng kasartab robta eng Emet komugul ko kasarta neo mising Eset en emet. Nito koibu konyinyisik amun bitos en kasariton ko nyonu ketiye ribet ne kararan eng kaa kou:

- Itilil yebo kaa iiste saratik kou susuwek ak bugonok.
- Mat kobit beek che katerem eng kaa amun igochin kotesak.

- Kemeto ngetunanikab omituwogik che konget.
- Ketuch saratik anan kinte kapsarati.
- Ibuchu kaa ak kongung.

Ibuwat iboisien net tab konyinyisik.



# Mitindoishék chepo groupishek che meng'echen: Kotuyet tap ke en Groupishek.

## a) *Ne oret ne kimuche kepanganen pik en tuyoshek chepo groupit?*

Oret ne kararan ko kechop circle. Matonde mezoshek amun iku koimutyet. Matochop ngecherok che echen anan ko ngecherok alak tugul chebo pik che bo maana. En TIST, ketibotosi tukul kokerkeit. Kimuche ke toboten tugul en ng'echerok anan ketobote en ng'weny.

## b) *Nen ne iyoe yon moche kochut pik che ite taman ak oeng' groupit?*

Angot komi pik che sire taman ak oeng' che moche kochut groupit kokararan inda kichope groupit ake. Imuch kebchei groupit koyop oengu, anan konget membaek somok anan ko angwan chebo groupit neta kochop core nebo groupit ne kitou. Inoni ko kaikai kosir koto membayat ageng'e. Obwat oboishen zungganet ab kandoinatet kobore konam.

## c) *NE oret ne omuche oboishe yon kiten inguvut nebo groupit?*

Bchei groupit korop pairishek. Toreti kora drama. Saaishek alak ketononi, ak kekas komwa chi tugul ki ne ibwate agobo groupit. Obwat kora orib saaishek asimakoit tuyet. Yomeke kecheng' netoreti kondoindet en ripet 'ab saaishek, Imuche igeshi nguvushek chepo groupit iger ile kakai kasit nekokitokchinke.

### **Ole kiyuito tuyet.**

Asi kerip sait komye, Groupit ne kiten koyoche kotinye schedule nebo tuyet. Inoniton koba maana angamun kere kole kotar agendas chebo maana koron. Kora koba maan en TIST angamun, kikekonu ke en boishek nebo minet 'ab ketik, kemin ak kerip ketik chebo carbon markets. Yoche kora kenai membaekchok en groupishek che meng'echen komye, angamun chitukul kotinye jukumu en groupit ak en TIST kotugul.

Bo maana kora koyai groupishek tuyoshek kila mara, sana sana en kila wikit anan ko oeng' en wikishek oeng'. Inoniton kokochin membaek koneteke

en groupit ak kotech groupit ko mugul ak konai tugul che imbya.

En tuyoshek chuton, kobo maana keker tugul che bo maana. Groupishek che chang' en TIST kokoker kole boishe mtindo ne isubu en tuyoshek

### **Stepit neta; Kokotiet ak Tachet'ab membaek che imbya(5 – 15 minutes):**

Hakikishan ile kokas chitugul komi komye. Ingonwakit lakini bokochin chitugul komwa ge.

### **Stepit nebo oeng;. Saet ne kiyoten tuyet (2 minutes):**

Saet yon kinome tuyet kotoreti groupit koik kibageng'e.

### **Stepit nebo aomok; Tyenwokik (5 minutes):**

Imuche koik tyenwokik che kisire membaek, anan ko tyenwokik che ituitos pik kou chepo kanisa.

### **Stepit nebo angwan; kiyonchindos sait ak boishonik(5 minutes):**

Ororu kondoindet boishonik che kiyoe en groupit ak koyon chin membaek koyai kasishek choton. Kasarta neki boishen en kasit ake tugul koyoche kiyonchin asi kong'et co-leader kotoret korip saishhek en tuyet.

### **Stepit nebo mut. Kasishek ab groupit (1 hour):**

Yoche kokidiscussen boishonik en tuyet ne kikobata. Boishonik komuch koik tugul che kikitoret chitugul groupit groupit anan ko TIST, training en tugul che bo maana, ak ki ake tugul ne imuch kotoret groupit kota kwo taa kosir ole mi.

### **Stepit nebo lo. Tachet'ab ke (5 minutes):**

Kila membayat koyoi teset en TIST. En teset komuche kobor chei kit ne talenta en kondoindet.

### **Stepit nebo tisab. Saet ne kikeran tuyet (2 minutes):**





## **Kechoror ketiguk sigogororogitu ak ibagach kolulet.**

**K**iboboi mising amun kingen kele membakab TIST kosibi tolochikab TIST ak kotebie en koyochinet ne kioyan. Ngerin temikab TIST che kibut koyochinoton, miten che kilit ketik ak kuwalta koboisien, kebeberiatib 1% en imbarenik 40,000 che kigimich ketikab TIST en kenya ko kogonam kotit ketik en kastab kenyisiek sisit kongeten igeto TIST en kenya.

Amune asi kechochor ketik kosigobwa kome ak konget kotonontos kinyoru kuwetik, postisiek ak chegitesen en eche temikab TIST niton anyun komitenngatutiek neribe osnet anan asi konget ketik muwoe kole keges kebortab 5% en ketik cheitinen en kasartab kenyisiek taman kongeten igemin nyon kabit imbaret ne kogitinen ketik tugul, kogonu asenet neo mising en kurubit, en kilasta ak en emet tugul. Biik chengerin cheimuchi kogochi biik alak asenet neo. Kimongu biikab kurubisiet chemengech ak kilasta kogasit komtil ketik en kasarta nemonyolu.

Kondoikab oli kotonyi boroindo koboisi biik che kogikochi lelutiet kou tiletab ketik amun kimogin biik konyor melegto en ketik asi kotestai tetetab TIST.

Kin kogagiochin en koyosienyon (ghg) kogimitech niton kerib ketik chegigemin ago moetenech keges koit kenyisiek sosom, niton kogobwotutiet ne kararan missing kibwat kele ketik ochon chegimuchi kegol en imbrenikyok kechoror ketik ko kararan amun kinyorune kelut ak kobwa kochok ketik.

Ye kiyoe kouniton kogochin ketit konyor itondo ne kararan ak kobit osnet ne kararan niton koribetab ketik ak kemin alak miten alage kou kipkaa, sebesebe, chepkogutgei ak cheborus ko ketik chegitu agomotinye temenik chechang, ketik agetugul kotinye mogutik kiik, anage kobo kwenik, tere alage koristo alage kemine ak rurutik. Alage kowole itondab emet.

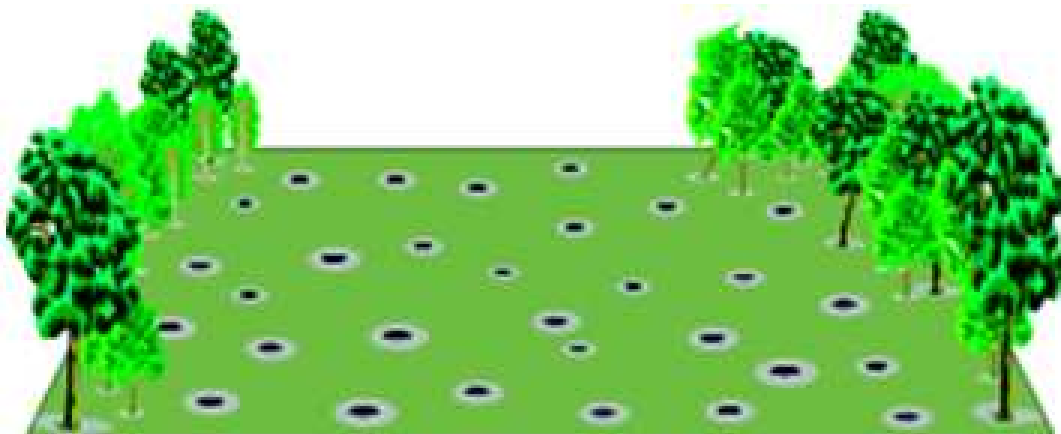
Nyolunet anyun kemin ketik kokwontik oeng anan kosomok, asi konyor kimlotet ketik niton ko koyochinetab TIST. Ketik alak (kou maembe ak avocado) komoche kokwoutik chechang chesire mut, enyor ketit kokwoutik cheyome konyoru beek ak omitwogik cheyome go etu kitit komie. Monyolu kemin ketik kochilgei amun moegitu ago norchin omitwogik alage koechen.



## Koborunet ne karan ak minet.

- Chomchin ketik korut kot koit kogong.
- EnTIST kochamtaat inges ketik kebebtab 5% en ketik cheitinye chebo kenyisiek taman asi inyoru melegto.
- Isten ne meat, ne mioni ak nemotinye kenut.
- Boisien tugul cheitinin chimiten kwony en oliyet.
- Min ketik chegororon.
- Ruten iger ketikuk igomiten ne mioni anak kogonam isirek.
- Oyomegei ak biikab sirigali asi komuch koter miyonuwokik anan ko isirek che ome ketik.
- Ogeter anan ogerib mat.

### DO NOT do this



Clear cutting

### DO THIS



Single tree selection