

# Mazingira Bora



# TIST

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

**English Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Athi Cluster TIST members receive training during their monthly cluster meeting.**

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# Proof of Progress: Clusters to receive Bonuses this month.

In February 2012, TIST participants at a Seminar agreed that clusters that do well should be rewarded with a bonus. The seminar came up with activities that bring results and amount that should be paid as a bonus to the Cluster if the results are accomplished.

This effort was meant to help Clusters develop to become self-governed in a sustainable way that reduces costs and increases results.

Some of the Cluster members will receive over 50,000/= because they have over 100,000 trees in their Cluster. The extra .5/= per tree recognizes that a Cluster having over 100,000 trees is much more cost-effective to quantify and to administer than Clusters with fewer trees. Lower costs and big results mean

that those Cluster participants can earn bigger pre-payments on their carbon revenue.

Many other Clusters have received bonuses because they have done a good job at reporting their Cluster Meetings and submitting their Accounting Report, and some for getting their Small Groups paid on a regular basis. The Cluster Leaders will receive a letter from the OLC explaining how their bonus was calculated, so that they can read that letter at the Cluster Meeting. We expect that each Cluster will discuss in their Cluster Meeting how they want to spend their bonus.

The following are Clusters that have qualified to earn bonuses.

| CLUSTER NAME | BONUS     | CLUSTER NAME     | BONUS    | CLUSTER NAME      | BONUS  |
|--------------|-----------|------------------|----------|-------------------|--------|
| 1 ICHUGA     | 65,557.00 | 19 NCHIRU        | 1,500.00 | 55 MATAKIRI       | 500.00 |
| 2 MWOROGA    | 54,450.00 | 20 NTUGI         | 1,500.00 | 56 MURINYA        | 500.00 |
| 3 KISIMA     | 54,190.00 | 21 MANYATTA      | 1,500.00 | 57 MURUTA         | 500.00 |
| 4 KIGUCHWA   | 54,132.00 | 22 KARABA-MBEERE | 1,250.00 | 58 NKUMBO         | 500.00 |
| 5 KAGAENE    | 3,000.00  | 23 BARANGU       | 1,250.00 | 59 THIIIRA        | 500.00 |
| 6 ITANGINI   | 2,750.00  | 24 CIAKANYINGA   | 1,250.00 | 60 AGUTHI         | 500.00 |
| 7 TANDARE    | 2,250.00  | 25 IRIGA         | 1,250.00 | 61 BUURI          | 500.00 |
| 8 GITIMENE   | 2,000.00  | 26 KAGUMO        | 1,250.00 | 62 KAHUHO         | 500.00 |
| 9 NAARI      | 2,000.00  | 27 KIRUBIA       | 1,250.00 | 63 KARUNDAS       | 500.00 |
| 10 NYWERI    | 2,000.00  | 28 MIRURIIRI     | 1,250.00 | 64 KIMAHURI       | 500.00 |
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| 13 KIRINDINI | 1,750.00  | 31 SALAMA        | 1,250.00 | 67 MURUNGAI       | 500.00 |
| 14 NTAKANI   | 1,750.00  | 32 WIUMIRIRIE    | 1,250.00 | 68 NJORUA         | 500.00 |
| 15 RAGATI    | 1,750.00  | 33 IGWANJAU      | 1,000.00 | 69 PONDO          | 500.00 |
| 16 CHUNGARI  | 1,500.00  | 34 KAMBITI       | 1,000.00 | 70 THOME          | 500.00 |
| 17 KAIRUNI   | 1,500.00  | 35 KIRIMAITUNE   | 1,000.00 | 71 THUNGARI       | 500.00 |
| 18 KITHOKA   | 1,500.00  | 36 NKANDO        | 1,000.00 | 72 WARAZO JET     | 500.00 |
|              |           |                  |          | 73 RAICHIRI PONDO | 250.00 |
|              |           |                  |          | 74 GACHUA         | 200.00 |

Please note, this proof of progress covered March 2012 – March 2013. A new Proof of Progress covering another period in future will be developed

by TIST’s Operational Leadership Council (OLC) and shared to you and your Clusters.

# What your Cluster should do every month to assure success.

In TIST, we find strength in taking action together and sharing our successes with others in our Small Groups, in our Clusters, and beyond. Monthly Cluster Reports on Cluster meetings and accounting are an important part of this success.

Each cluster is responsible for submitting an accurate Cluster meeting and Cluster accounting report every month, and should announce how the budget was spent each month during Cluster meetings.

Transparency and mutual accountability are key values of TIST. Each TIST cluster must report how it spends its 900/= Cluster budget to achieve big results.

Each Cluster Servant has access to a working Palm, they should use the Cluster Meeting and Accounting Forms on the Palms. Make sure you remind your Cluster Servant to send your Cluster records immediately after every meeting.

If we do not receive reports from clusters, OLC may assume your cluster is inactive. In this case, you will not receive a budget, or the chance to learn and share at seminars. Let’s work to share our reports

and our success every month!

**Reminder:** for success, every month your cluster should:

- 1) Attend your cluster meeting and remind other groups to attend.
- 2) Review the results your cluster has achieved: new trees planted, groups quantified, and how budget was spent together as a cluster .
- 3) Send reports by Palm for Cluster Meeting and Cluster Accounting.
- 4) Organize quantification with Cluster Servants. Make sure someone from your cluster assists in each quantification!
- 5) Invite your friends and neighbors to join TIST at a cluster meeting. Share this Mazingira Bora and help them with the application process.
- 6) Make bigger results! Plant trees, build or buy an energy saving stove, practice CF .

Together ,we can achieve anything!



## Leadership and Governance in your Cluster.

**T**oday, TIST has more than 160 Clusters. In each cluster Servant Leaders support our success and share their strengths. Each Cluster has governance and leadership as follows:

Elected Cluster Leadership

- Cluster Leader.
- Cluster Co- leader.
- Cluster Accountability person.

Cluster Leaders, Co-leaders, and Accountability people serve in each position for a period of 4 months. After 4 months of service, the Cluster leader rotates out. The Co-leader becomes the Leader while the Accountability person becomes the Co-leader. Women and men alternate in the elections – if this Accountability Person is a man, the next one elected will be a woman. Your Cluster should democratically elect a new Accountability person. Cluster elections are important and mandatory for all TIST Clusters.

### Roles of Cluster Leadership.

#### Roles of a Leader

1. Should be a servant to the whole cluster and exemplify TIST Values.
2. Leads/facilitates cluster activities: coordinates cluster meeting, quantification and training schedules with other servant leaders.
3. Motivates Groups to achieve big results, including planting trees and practicing CF . Helps the Cluster to remain strong and united
4. Helps plan for well-organized Cluster Meetings with other servant leaders and making sure the meetings are properly led and trained.
5. Works with Accountability Person to ensure that Cluster Meeting and Accounting records are kept properly.
5. Works with Accountability Person to ensure monthly Cluster reports and Accounts reports are sent and are accurate.
6. Helps recruit more Small Groups to be registered.
7. Helps Small Groups have their Green House Gas contracts signed, scanned and uploaded if necessary.
8. Welcomes and introduces any new visitor who might attend the meeting.
9. For payments: gets vouchers and other materials before cluster meeting. Works with Accountability Person to make sure the proper payment process is followed, and communicate

any questions or problems to TIST leaders and Cluster Servants.

10. Reminds Small Group members of the next meeting.

#### Roles of an Accountability Person

1. Receives Cluster Budget and announces amount received and spent at each Cluster meeting.
2. Works with the Cluster to plan how to use the Cluster Budget to achieve big results.
3. Keeps and maintains Cluster records in an organized cluster record book, accurately and in proper condition.
4. Allows inspection of Cluster Records to Cluster members and TIST leaders.
5. Sends both Monthly Cluster meeting and Accounting reports every month.
6. Trains the next accountability person
7. Helps and supports other servants to serve the Small Groups.
8. During payments: hands out vouchers to groups with 2 members present, reviews vouchers, communicates with payment support coordinators, and follows the payment process accurately and honestly.

#### Roles of a Co-leader.

1. Takes over when the leader is not there. A co-leader is to serve both the cluster members and the cluster leader .
2. Helps during Cluster Meetings in keeping time
3. Takes records during the cluster meeting.
4. Reads the previous minutes to the meeting
5. Keeps record of the minutes and discussion held in the cluster .
6. Helps train newly elected Accountability People.

#### Cluster Representatives to the Group of Clusters Council.

The Co-leader and Accountability person will also serve in GOCC. Each one will serve on the GOCC for a total of 8 months, and then when they become Cluster Leader their service on the GOCC will end.

The GOCC is composed of representative from 2 -5 Clusters that are close neighbours. The Group of Council (GOC) will be meeting monthly preferably on the first week of the month and should submit reports of each meeting to OLC.



**Roles of Group of Clusters Council Representatives.**

- 1) Discover and share Best Practices from Clusters;
- 2) Assure high quality training for the Clusters following TIST Values;
- 3) Assure high quality Quantification following TIST Values;
- 4) Maintain working equipment for training and Quantification;
- 5) Report concerns and make recommendations for policies to OLC;

- 6) Expand TIST through present Clusters;
- 7) Hold Administrative Hearings if a Cluster Servant is suspended to investigate facts and make recommendations on suspension;
- 8) Hold Administrative Hearings if a Cluster Leader is not following TIST Values;
- 9) Recommend people from the Group of Clusters for additional TIST responsibilities such as Auditor, TSE, or Master Trainer and other responsibilities.

**Cluster Audits help measure our progress and performance.**

After every 3 months, each Cluster is audited. Audits make sure that the Cluster Servant is well-trained, doing an accurate Quantification job, doing a good job of providing training, measuring the knowledge of the Cluster members, and measuring the biodiversity impact the Cluster is having.

This provides important information so that the GOCC can make sure that the Cluster Servants are doing a really good job and that the Clusters are making progress toward many more trees, more Conservation Farming, more stoves, and more biodiversity.

Clusters that are successful in their audits will

continue to receive more support including helping them become SACCOS and be self-governing.

Each member has a part to play in order to ensure that your Cluster Audits are successful. Attending Cluster meetings to receive training helps you practice TIST Best Practice in more accurate manner, and achieve better results. When more Cluster members practice CF, adopt TIST stoves, do more nurseries, plant many more trees, the stronger your Cluster becomes and attains higher points during Audits. This helps put your Clusters among the first prioritized Clusters to be considered to become a SACCO.

**Keeping Our Farms Fertile and Productive.**

We need to manage our land carefully so our farms do not lose useful soil nutrients and minerals, and became less productive.

This can happen when a farmer grows one type of crop for several seasons (monoculture), or when soil erodes away. Growing the same crop on our farm year after year also can cause the number of pests for those crops to increase on our land since they have a home and food year after year (see the following article on Maize Necrosis). These pests can become so numerous that we cannot harvest a good crop. Avoid practicing monoculture to keep your soil fertile. The removal of essential soil nutrients decreases crop yields and can cause food shortages.

**What you can do to keep your farm fertile and productive**

Plant leguminous crops or trees that fix nitrogen. Plants in the bean and pea family have microbes in their roots that can take nitrogen from the atmosphere and change it into a form that plants can make use of.

When we plant beans, cowpeas, soybeans, and

trees like Sesbania, Sesban, Leucaena, and Acacia, we increase the nitrogen in our soils without adding chemical fertilizer. Practice crop rotation because different crops add and remove different soil nutrients, so the next crop can replace what is removed in one year the following year.

**For example, we practice rotation in a field in this way:**

- Season-1 Beans
- Season 2 Sorghum
- Season -3 Maize
- Season -4 Grazing animals (their waste adds valuable nutrients to our field)
- Season 5-Beans

**Preventing soil erosion:**

As many of the soil nutrients are found in topsoil, any action that stops soil erosion will help reduce nutrient loss. Practice Conservation Farming and plant trees in your field. When we follow these Best Practices our farms can have good yields for years to come.



## Be Aware, Maize Lethal Necrosis.

*As adapted from KARI and CIMMYT*

**M**aize lethal necrosis (MLN) is a viral maize disease that has devastated farms in Kenya. It was first reported in Peru in 1973, and first reported in Kenya in May 2011 in Bomet County where the local people refer to it as “Koroito,” meaning plague. Today, the disease has spread to many other parts of the country.

This disease affects all varieties of maize (*Zea mays*). When it strikes in a maize field, it can destroy up to 30%-100% of the crop. Some varieties have some resistance to the blight, and breeders are working on improved varieties, but MLN is a serious challenge.

### Signs of Maize lethal necrosis.

Leaves turn yellowish with stripes all over the leaves. This may start with the youngest leaves, and on larger leaves, spreads from leaf edge to center. At advanced stage, the cobs produce very few grains.

### How to prevent Maize lethal necrosis.

- a. Diversify the crops you grow. Maize lethal necrosis only affects maize.
  - b. Do not plant maize near a field that already shows this infection.
  - c. Plant maize at the onset of the main rainy season, rather than during the short rain season; this break between maize crops interrupts the disease cycle.
  - d. Avoid bringing fodder of maize stalks or green manure from elsewhere to your farm.
  - e. In case your maize stalks are affected, immediately remove diseased plants from the field. You may feed leaves to animals, but ears and grains can be dangerous and should be burnt.
- In your next Cluster meeting, discuss with other members about this disease, share experiences and agree on how to curb the menace.

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## Keeping Our Environment and Our Bodies Clean.

**T**housands of TIST farmers' worldwide plant millions of trees each year. These trees contribute enormously in cleaning our environment. Trees clean the air by taking up the excessive carbon emission gases from the atmosphere to build their trunks, leaves, branches and roots. This is hugely important and helpful work. All of world's people find the world a better place to live when new trees are planted and old ones conserved and protected.

Just as we work in TIST to make the environment and air clean, so, too should we work to keep our homes and ourselves clean and hygienic. Let's follow these Best Practices and encourage our families and others to do the same. TIST servants regularly share these Best Practices on health and hygiene and ask cluster members to share their best practices too.

### Washing hands.

Washing our hands is simple, but it is one of the most important things we can do to stay healthy and prevent the spread of diseases. During the day our hands get dirty and pick up germs from soil, other people, raw meat and other places in the environment.

Germs can enter our bodies and make us sick and spread from our hands to others. It is important to wash our hands thoroughly with water and soap to kill germs and stop us from getting sick. Hand washing is especially important before preparing food, after using the latrine and before eating. If we don't wash our hands well, our families may get diseases like diarrhea more often.

Many studies prove that the action of rubbing

the hands is the most important factor in removing germs. If soap is not available, sand or ash also is effective.

### Drying utensils after washing.

Drying food and cooking utensils is important because leftover water can hold germs and give them a place to multiply. We can make simple wooden drying racks to let utensils dry in the sun, which can help kill germs. If this cannot be done, we can use a clean cloth to dry utensils. If using a cloth, we should wash and thoroughly dry the cloth regularly to prevent the cloth from becoming a home for germs, and causing germs to spread.

### Rodent and mosquito control.

Rats and mosquitoes can carry diseases. To help control these pests, we can:

- Clear our compounds of any unwanted bushes and grass.
- Drain away any stagnant water near your compound. Even a small amount of water on a piece of rubbish can provide a breeding place for mosquitoes that carry malaria, so clear away rubbish.
- Clear away or cover securely any left over food.
- Keep rubbish outside the house in a covered container or rubbish pit.
- Sweep your house and compound daily.
- Remember to use mosquito nets all the time.

Let's make our environment green and clean for a healthy habitation.



## 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 8 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. In fact, the actions of that very few people can cause big 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 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.

In general, the purpose of thinning and pruning trees is to improve individual tree health, as well as overall forest health. This is done by protecting the "best" trees in the forest and thinning the others. For many species, including hardwoods, 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 (mango and macadamia, for example). Giving trees proper spacing helps them get enough water and nutrients to grow to their full potential. Closer spacing is acceptable when

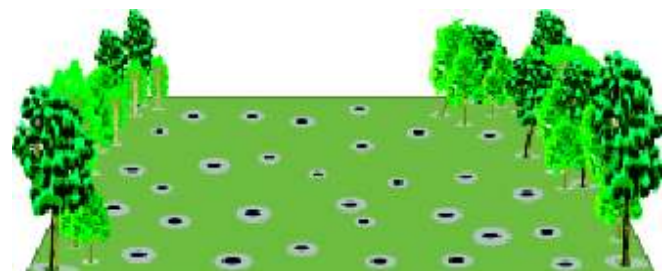
trees are young. As the trees begin to mature, some trees will be larger and more robust than their neighbors. These are the trees that should be kept. In determining which trees should be removed, look at the best trees and determine if they are appropriately spaced. If they are not, you should remove 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! In fact, a tree like mango 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



### DO THIS



Single tree selection

# Mazingira Bora



# TIST

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**Kimereu Version**

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# Witi na mbere: clusters kuewa bonuses mweri juju.

**M**weri jwa iri (February) 2012, athingati ba TIST baria bari seminar, betikaniririe clusters iria ikathithia bwega ikaegwa kiewa kia bonus. Seminar ni yabangire ngugi iria ikareta uumithio na mbeca iria ikariwa ta bonus kiri cluster uumithio bwonekana.

Untu bubu bwari bwa gutethia cluster yumba gutethia na njira iria ikanyia gutumirika kwa mbeca na ingiye uumithio.

Amemba bamwe ba cluster bakona nkuruki ya 50,000/= tontu barina miti nkuruki ya 100,000 kiri cluster yao. Nkuruki ya ciringi 5/= o muti iria ikwonekana kiri cluster iria ciina miti nkuruki ya 100,000, cirionekana untu bwa utumiri bwa mbeca

bunini na urungamari nkuruki ya clusters iria irina miti imikai. Utumiri bwa mbeca buukai na uumithio bunene burionania amemba ba cluster bakona marii jamanene ja ugoti bwa carbon.

Cluster ingi inyingi icionete bonus niuntu bwa kurita ngugi injega ya gutuma ripoti ya micemano na gwikia ripoti ya mathabu, na bangi niuntu bwa gutuma tukundi twao turiwa kuri o. Atongeria ba clusters bakaewa baruga kuuma kiri OLC kwonania uria bonuses ciao ciatari, nikenda bakathoma barua iu kiri mucemano jwa cluster. Itugwitikia o cluster ikabanga kiri mucemano jwa cluster uria bakwenda gutumira bonus ciao.

lji nicio clusters iria ciumbite kwona bonus:

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|              |           |                  |          | 74 GACHUA         | 200.00 |

Menya, wiiti na mbere bubu, bwarungamirire mweri jwa ithatu (march) 2012 mwanka mweri jwa ithatu (march) 2013. Witi na mbere bubweru burungamirite igita rijite, bukaritwa ni TIST's Operational Leadership

Council (OLC) na bukonanua kiri ugwe na clusters cienu.

## Uria cluster yaku yumba kuthithia o mweri kenda yona umbani.

**K**iri TIST, twonaga inya kiri kujukia itagaria turiamwe na kwirana umbani bwetu na bangi kiri tukundi twetu tunini, cluster yetu, na kuraja. Ripoti cia cluster cia mweri, kiri micemano ya cluster na utumiri bwa mbeca iciithairwa cirina bata kiri uumbani bubu. O cluster yonthe, nibaterie gwikia ripoti ibui ya micemano na utumiri bwa mbeca o mweri na yuge uria budget yatumiri o mweri kiri mucemano.

Weeru na gwikania nibio itugi bia TIST. O cluster yonthe ya TIST, nibati kwonania uria itumagira 900/= bajeti ya cluster kwona uumithio bunene.

Mwiti ngugi wonthe wa cluster agaita ngugi na Palm, na nibabati gutumira micemano ya cluster na fomu cia mathabu kiri Palm. Rikania mwiti ngugi wa cluster yaku gutuma rekondi mucemano jwathira orio. Twarega kwona ripoti kuma kiri clusters, OLC ikajukia ka cluster yaku iti gwita ngugi. Untune ta bubu, utiona bajeti kana kaanya ka kuthoma na gwita maoni kiri semina. Twite ngugi na maoni ja ripoti na uumbani mieri yonthe!

### Rikana: kenda kuumbana, mieri yonthe o cluster ibati:

1. Ita micemano yonthe yaku ya cluster na urikanie ikundi bingi gwita micemanione.
2. Tegera uumithio bwa cluster yaku: kuanda miti imieru, ikundi gutarwa, na uria bajeti yatumiri amwe ta cluster.
3. Tuma ripoti ya Palm ya micemano na mathabu ja cluster.
4. Banga na ariti ba ngugi ba cluster utari. Ikwithirwe kuri na muntu kuuma kiri cluster yaku kenda atetheeria utari bwa cluster.
5. lira acore baku na atuuri batonye TIST kiri mucemano jwa cluster. Eejana Mazingira Bora na ubatetherie na guciandikithia.
6. Thithia uumithio bunene! Anda miti, thithia kana ugure riko riria ritigutumira mwanki jumwingi, thithia CF.

*Turiamwe tukombana!*





## Utongeria na witi na mbere ndene ya cluster.

**N**arua, TIST irina cluser nkuruki ya 160. O kiri cluster atongeria, ibagwatagwa mbaru witi na mbere na inya yetu. Witi na mbere na utongeria bwa cluste ita uju:

Kuthurwa kwa mutongeria wa cluster

- Mutongeria wa cluster
- Munini wa mutongeria
- Mwitithia na mbere cluster

Atongeria ba cluster, anini bao, na etithia mbere barungamaira o giti kagita ka mieri ina (4 months). Mieri ina ya ngugi ya thira, bakagaruranua. Munini wa mutongeria akaethua munene, nawe mwitithia mantu na mbere akaethua munini wa mutongeria. Aka na arume kaba garukanaga kagita ka ihuranu. Kethira mwitithia mbere wa gikundi arari ntomurume, uria ungi akathurwa akethirwa ari muntu muka. Ithurano bia cluster I bia bata na bi bati kuthithwa ni clusters cionthe cia TIST.

### Ngugi ya utongeria bwa cluster.

#### Ngugi ya mutongeria

1. Ethirwe agitungataira cluster yonthe na kwonania mikarire ya TIST.
2. Gwitithia mbere manto ja clusters, kubanga micemanio, gutaara na gwitana amwe na aiti ngugi bangi.
3. Gwikira inya ikundi kenda biona uumithio nkuruki ta, kuanda miti, na kuthithia CF. Guteetheria cluster igia na inya na ngwataniro.
4. Guteetheria kubanga na witi na mbere bwa micemanio ya cluster na atongeria bangi.
5. Gwitania ngugi na mwitithia mbere wa mibango kenda ripoti na mathabu ja cluster o mweri jagutumwa jaticereri.
6. Guteetheria kuthurwa na kuandikithua kwa tukundi tunini.
7. Guteetheria Green House Gas cia tukundi tunini ciitikirua.
8. Kugwata ugeni muntu umweru uria umba kuriungira gikundi mucemanione.
9. Marii: Kuthuranira into bionthe biria bikwendekana mbere ya mucemanio. Gwitania ngugi na muntu wa accountability kenda amenya njira yonthe ya marii nithingati bwega,

kwaraniria mobatu na mathiina kiri anene ba TIST na atongeria ba cluster.

10. Kurikania amemba ba tukundi tunini mucemanio juu jungi.

### Ngugi ya muntu wa witi na mbere

1. Kujukia na kuuga bajeti ya cluster na uria itumirikite kiri o mucemanio jwa cluster.
2. Gwitania ngugi na cluster kubanga uria bajeti igaita maciara.
3. Gwika na kumenyera mauku na recondi cionthe cia cluster.
4. Gwitikira gutegwa kwa recondi cia cluster ni amemba ba cluster na anene ba TIST.
5. Gutuma ripoti cionthe cia micemanio ya o mweri na mathabu.
6. Kuritana muntu uu ungi wa akaunti.
7. Guteetheria na guikira inya ariti bangi ba ngugi guteetheria tukundi tunini.
8. Igita ria marii: kunenkanira vucha kiri gikundi kiria amemba bairi bariku, gutega vucha, kwaraniria na antu ba marii na kuthingatiria njira ya marii nierekene.

### Ngugi cia munini wa mutongeria

1. Gutongeria riria mutongeria atiku. Gutungatira amemba ba cluster na mutongeria wa cluster.
2. Guteetheria igita ria micemanio ya cluster kiri gwika mathaa.
3. Kuandika mibango igita ria micemanio ya cluster.
4. Kuthoma miniti cia mucemanio juria jwathirire.
5. Gwika mantu ja gikundi na ndwaria iria ciaragua kiri mucemanio
6. Guteetheria kuritana muntu umweru kiri ngugi cia mathabu

### Arungamiiri ba kanju ya gikundi kia cluster

Munini wa mutongeria na muntu wa mathabu agaita ngugi na GOCC. O muntu agaita ngugi kiri GOCC mieri inana na batwika anene ba cluster ngugi yao kiri GOCC gekathira.

Gikundi kia GOCC kithithitue ni arungamiiri ba cluster ijiri kana ithano baria bari ba cluster igukuianiria. Atongeeria ba gikundi GOC (bagatirimanaga o kiumia kia mbere kia mweri kenda baikia ripoti ya mweri kiri OLC.

**Ngugi Ya Atoongeria Ba Kanju ya Ikundi bia Cluster**

1. Kumenya na kugaa mantu jaria mega ja o cluster
2. Kurikithia kwina kuritana kwa njira ee iguru kiri clusters kuthingata utungata bwa TIST
3. Kurikithia umenyeeri bwa iguru buria bukuthingata mantu ja TIST
4. Kumenyeera into bia ngugi bia kurita
5. Kuuga na kwariria mantu jaria jabatere niuntu

bwa sheria kiri OLC

6. Kwaramia TIST gukuriira cluster iria iri o.
7. Gwika micemanio ya kuthikiira mantu mwiti o ngugi o cluster na kuthingatiira kenda arungikwa.
8. Gwika micemanio ya mutongeeria uria utikuthingatiira mathithia ja TIST.
9. Gwikiira antu ba ikundi bia clusters ngugi ingi cia TIST ja auditor, TSE, Master Trainer na ingi inyingi.

## Utegi Bwa Mauku Bwa Cluster Butegagiira Witi Na Mbere Na Uriti Bwa Ngugi.

**O**o nyuma ya mieri ithatu, cluster yonthe nitegagirwa. Gutega mauku ikutumaga gukamenyekana muriti wa ngugi naritani bwega, nakurita ngugi bwega na nakurita ngugi ya kuritanana na kumenya umenyi bwa amemba ba cluster na umenyi bwa umenyeeri bwa mazingira. Bubu ibwejanaga nteto cia bata kenda GOCC imenya ati ariti ba ngugi ba cluster ibakurita ngugi injega na clusters icigwita na mbere kwona miti imingi, urimi buria bubati, mariko jamaingi na umenyeeri bwa mazingira.

Cluster iria igwita bwega ki macabu jao

bageeta na mbere guteetherua kwaa SACCO's na gucirungamira ciongwa.

Mumemba wonthe ari na ngugi ya kurita kenda mathabu ja cluster yao jeeta bwega. Gwita micemanio ya cluster kuthomithua nitumaga muntu athithia mantu jameega ja TIST na njira yagirite kenda oona maciara jameega. Riria amemba babaingi ba cluster bakuthithia CF, na gutumira mariko ja TIST, kuumithia miti nkuruki nou cluster ikugia na inya na kwona pointi inyingi igita ria mathabu. Iji nitumaga cluster yaku ituika imwe ya iria iri cia mbere kuethua SACCO.

## Gwika miunda yetu iminoru na iri na maciara.

**I**tubateere kumenyeera miunda yetu na njira iria yagirite nikenda itigate unoru bwa mithetu na irega kurita maciara. Bubu bukarikaga riria murimi aandaga muthemba jwa kimera kimwe kagiita gakaraja kana riria mutethu jwakururu. Kwaanda kimera kimwe mathingatana igutumaga tung'inyo turia turijaga kimera kiu tuciarana tontu twina biakuria na agukara. Tung'inyo tutu twomba kwingia tutiketthe irio bibiega. Tiga kwaanda kimera kimwe kenda muthetu jwaku jwithirwa jwi jumunoru. Kuritwa kwa unoru bwa muthetu ikunyiagia maciara na kugatuma irio bikarega kung'ana.

### Niatia uumba kuthithia kenda muthetu jwaku jwithirwa jugikaraga junori na jwina maciara?

Aanda imera ta mung'au na miti nikenda iikira muthetu nitrogen. Imera ta mung'au na nono birina microbes mirine iria ijukagia nitrogen kuuma kiri riera na kumiethia gintu kiria kimera giga tumira. Riria tukwaanda mung'au, nono, soya na kwaanda miti ta ya sesbania, sesban, leucaena na acacia nitwongagiira nitrogen muthetune tutigutumira

fertilizer. Aanda imera mianya mianya tontu o imera mianya ibiikagira na kurita nutrients mithetune, kwou kimera kimwe kiomba gucokia gintu kiria kirariti muthetune mwaka juu jungi.

### Ngerekano, tuthithagia rotation na njira ta iji:

|                  |   |
|------------------|---|
| Season ya mbere  | - mung'au   |
| Season ya ijiri  | - muyea   |
| Eason ya ithatu  | - mpempe  |
| Season ya inya   | - kurithia (mborea nitethagiria kunoria muthetu.) |
| Season ya ithano | - mung'au   |

### Kurigiiria gukururu kwa muthetu

Niuntu nutrients iria nyingi ciithagirwa cii muthetune jwa iguru, untu bunthe buria bukarigiiria gukururu kwa muthetu igutethagiria nutrients itikaure. Thithagia urimi bubwega na waande miti mundene jwaku. Twathingatiiria mantu ja urimi bubwega tukoona maciara jameega miaka imingi iria ijite.



# Menyeera, Lethal Necrosis Ya Mpempe.

*Kuumania na KARI na CIMMYT*

**L**ethal Necrosis ya mpempe ni murimo jwa virusi juria ntuku iji juthukitie miunda imiingi Kenya. Jwonekanire mbere nthiguru ya Peru 1973, na kuripotwa Kenya mweri jwa itano mwaka jwa 2011 ndeene ya kaunti ya Bomet naria jwitagwa “koroito”. Narua murimo juu ijweneete ntere inyingi cia nthiguru yetu. Murimo juu juthukagia mithemba yonthe ya mpempe. Jugatonya muundene jwa mpempe no juthukie gicunci kia 30% - 100% gia kimera. Mithemba imwe ya imera itiumbagwa ni bright na aumithia ibaciumitie kuumithia kimera gikiega nkuruki, indi MLN niugwati buunene.

## Dariri cia murimo juu jwa mpempe jwa Lethal necrosis.

Mabura jagiijaga rangi ya yeruu na migiira maburene. Buu ibwambairia na mabura jaria maanake ona mabura jaamanene jugitaambaga karomone ga kibura gwita gatigati. Murimo juu jwakura buru muchako jwithagirwa jwina tupindi tukai.

## Njira cia kurigiria murumo jwa MLN.

1. Cinjanagia imera biria ukwaanda. MLN ithukagia mpempe aki.
2. Ukaanda mpempe muundene juria jukwonia jwina ugwati bwa murimo juu
3. Aanda mpempe ngaine inene na riria yaratha antu a kuanda igiita ria ngai inini. Bubu iburigagiiria gutamba kwa murimo.
4. Rigiiria kureta mabua ja mpempe na mboleo itiumi kuuma guntu kungi muundene jwaku
5. Mpempe ciaku ikeeja kugwatwa l murimo juu cirite o rio muundene. Noo urumie nyomoo ciaku mabura indi muungi na mpindi cirina ugwati na ibati kuithua.

Mucemanione juu jungi jwa cluster yenu, aria na ambemba mantu ja murimo juu bugaane mathuganio na bwitikaniirie uria buumba kuthiria murimo juu.

# Gwika riera rietu na miiri yetu na utheru.

**M**angiri ja arimi ta TIST nthiguru yonthe ibaandaga mamillioni ja miti o mwaka. Miti iji niteethagiria nainya mon kuthambia riera rietu. Miti nithambagia ruugo rwetu na njira ya kujukia carbon na nduugo ingi cia riera kuthithia miti, mabura biang'l na miri. Iji ni ngugi ya bata na utethio mono. Antu ba nthiguru yonthe boonaga nthiguru iri injega ya gukara riria miti ikwaandwa na iria mikuru ikumenyeerwa na kuthiithirua.

Ota uria tukurita ngugi na TIST kumenyeera riera na ruugo nou kinya batwi tubatere kumenyeera nja cietu na miiri yetu. Tuthingateni mantu jaja jameega na twoneerie bangi na nja cietu kuthithia ouu. Ariti ngugi ba TIST o magita ibagaanaga mawega jaja ja thiiria na utheru bwa mwiri na bakonia amemba ba cluster kuugaa mantu jau kinya bo.

## Kuthamba njara cietu

Kuthamba njara gutina inya indi ni ngugi imwe iria iri ya bata tuumba kuthithia kenda tukaraga na thiiria injega na kurigiiria gutamba kwa mirimo. Muthenya njara cietu icigijaga ruko na germs kuumania na muthetu, antu bangi, nyama itirugi, na guntu kungi gukwingi. Germs itonyaga miiri yetu na igatuma tukaajua na gutambia mirimo kuumania na njara cietu kiri bangi. Ni untu bwa bata mono kuthamba njara cietu na cabuni na ruuji tutikaajue. Kuthamba njara ni kwa bata mbere ya kuthithia biakuria, riria muntu auma kiorone na mbere ya kuria. Tukarega kuthamba njara cietu bwega nja cietu

ciomba kugwatwa ni murimo ta jwa kwarwa kagiita gakaingi.

Ucunkuni bubwingi ibwonenie gukirania njara ikuritaga germs. Gukeethirwa gutina cabuni, muthanga kana muju nobitumirwe.

## Kuunyaria into nyuma ya kuthambia

Kuumia irio na into bia kurugira ni untu bwa bata mono tontu matigari ja ruuji ijakaraga na germs na jagatuma igaciarana. No tuthithie ntara cia miti cia kunyariria into riugene riria ritethagiria kuraga germs. Kethira bubu butiumbika no tutumire tutambaa tututheru kuumia into. Kethira tugatumira tutambaa, tubati kuthambua na kuumua bwega tutigatambie germs.

## Kurigiiria mbea na rwagi

Mbea na rwagi ibiretaga mirimo. Kurigiiria tunyomoo tutu, tubati:

- a) Kutheria bweni bietu na kugiita ithaka na nyaki indaaja
  - b) Kurita nduuji iria itigwita kienine. Kinya tuuji tuniini twi rukone itutumaga rwagi ruria ruretaga malaria rugaciarana kwou theria.
  - c) Ika bwega kana ukunikire irio biria bitigeere
  - d) Kunikira ruko ruria ruri oome ya nyomba
  - e) Egera kieni na nyomba yaku ntuku cionthe
  - f) Tumira neti magiita jonthe
- Twikeni rieri rietu ritheri kenda twithirwa na muturire jumwega.



# Caa miti kenda ikura bwega na turigirie kuriika buru.

**I**tukwiguna mono tontu akui amemba bonthe ba TIST ibakuthingaatira 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 nikiu 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 mitarata 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. Gukuianiiria kwa miti kwendekanaga miti iri micanchaana. Miti yaambiriiria gukura, imwe ineneaga nkuruki ya ingi, iji nio ibati gukurua. Kenda

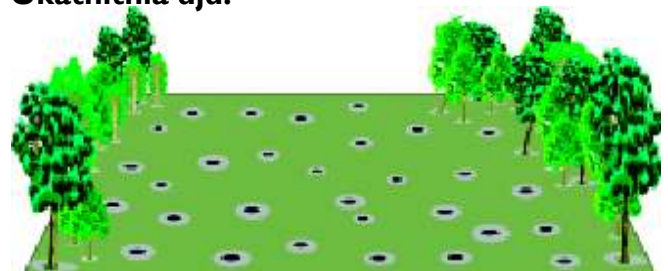
umenya ni miti iriku ubati gukuura, tega miti iria miega na wone kethira irina waarii buria bwagirite. Kethira tiu, kuura miti iria iri akui.

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**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Athi Cluster TIST members receive training during their monthly cluster meeting.**

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### Kionania kia ati niturathii na-mbere: cluster kwamukira bonus mweri uyu.

**K**uri February 2012, arimi a TIST aria mari semina nimetikiiririe ati cluster iria iraruta wira wega niciagiirwo nikuheo bonus. Semina niyaririirie maundu maria mangiongerera maciaro na muigana wa ,mbece iria cingirihwo cluster makinyaniria maundu mayu.

Ikinya riri riari ria guteithiriria cluster guthii na-mbere niguo ciirugamiriire na njira njega niguo kunyihia mahuthiro na kwongerera maciaro.

Imwe cia cluster nicikwamukira 50,000/= tondu ciri na makiria ma miti 100,000. 0.5/= makiria hari o muti nikuga ati cluster iri na miti 100,000 niuhuthu kumitungata gukira riria iri na miti minini.

| CLUSTER NAME | BONUS     | CLUSTER NAME     | BONUS    |
|--------------|-----------|------------------|----------|
| 1 ICHUGA     | 65,557.00 | 19 NCHIRU        | 1,500.00 |
| 2 MWOROGA    | 54,450.00 | 20 NTUGI         | 1,500.00 |
| 3 KISIMA     | 54,190.00 | 21 MANYATTA      | 1,500.00 |
| 4 KIGUCHWA   | 54,132.00 | 22 KARABA-MBEERE | 1,250.00 |
| 5 KAGAENE    | 3,000.00  | 23 BARANGU       | 1,250.00 |
| 6 ITANGINI   | 2,750.00  | 24 CIAKANYINGA   | 1,250.00 |
| 7 TANDARE    | 2,250.00  | 25 IRIGA         | 1,250.00 |
| 8 GITIMENE   | 2,000.00  | 26 KAGUMO        | 1,250.00 |
| 9 NAARI      | 2,000.00  | 27 KIRUBIA       | 1,250.00 |
| 10 NYWERI    | 2,000.00  | 28 MIRURIIRI     | 1,250.00 |
| 11 THUURA    | 2,000.00  | 29 NGARENDARE    | 1,250.00 |
| 12 KIANJAGI  | 1,750.00  | 30 TUNYAI        | 1,250.00 |
| 13 KIRINDINI | 1,750.00  | 31 SALAMA        | 1,250.00 |
| 14 NTAKANI   | 1,750.00  | 32 WIUMIRIRIE    | 1,250.00 |
| 15 RAGATI    | 1,750.00  | 33 IGWANJAU      | 1,000.00 |
| 16 CHUNGARI  | 1,500.00  | 34 KAMBITI       | 1,000.00 |
| 17 KAIRUNI   | 1,500.00  | 35 KIRIMAITUNE   | 1,000.00 |
| 18 KITHOKA   | 1,500.00  | 36 NKANDO        | 1,000.00 |

Mahuthiro manini na maciaro maingi nikuga cluster noyamukire marihi maingi hari wendia wa carbon.

Cluster ingi nyingi niciamukirite bonus tondu nicirutite wira mwege wa kuripoti micemano, kuneana mathabu na ingi niundu wa kuhotithia ikundi kwamukira marihi na njira nginyaniru. Atongoria a cluster nimakwamukira marihi kuma OLC makuga uria bonus igutarwo, niguo mathome marua macio mucemano-ini wa cluster.

Niturerigirira ati o cluster niikwaririria thiini wa mucemano uria merigiriire kuhuthira bonus. Ici nicio cluster iria ciitikirikite kwamukira marihi.

| CLUSTER NAME  | BONUS    | CLUSTER NAME      | BONUS  |
|---------------|----------|-------------------|--------|
| 37 RUNYENYE   | 1,000.00 | 55 MATAKIRI       | 500.00 |
| 38 KARABA     | 1,000.00 | 56 MURINYA        | 500.00 |
| 39 KAROKI     | 1,000.00 | 57 MURUTA         | 500.00 |
| 40 KIAMARIGA  | 1,000.00 | 58 NKUMBO         | 500.00 |
| 41 KIAMATHAGA | 1,000.00 | 59 THIIIRA        | 500.00 |
| 42 MALE       | 1,000.00 | 60 AGUTHI         | 500.00 |
| 43 MIAMOJA    | 1,000.00 | 61 BUURI          | 500.00 |
| 44 NYARIGINU  | 1,000.00 | 62 KAHUHO         | 500.00 |
| 45 KIANYAGA   | 500.00   | 63 KARUNDAS       | 500.00 |
| 46 ANTUBOCHIU | 500.00   | 64 KIMAHURI       | 500.00 |
| 47 BURIMARIA  | 500.00   | 65 MURIRU         | 500.00 |
| 48 KAAGA      | 500.00   | 66 MURUKU PESI    | 500.00 |
| 49 KANYAKINE  | 500.00   | 67 MURUNGAI       | 500.00 |
| 50 KARURUNE   | 500.00   | 68 NJORUA         | 500.00 |
| 51 KIAMIOGO   | 500.00   | 69 PONDO          | 500.00 |
| 52 KIBIRICHIA | 500.00   | 70 THOME          | 500.00 |
| 53 KIRIA      | 500.00   | 71 THUNGARI       | 500.00 |
| 54 KITHURINE  | 500.00   | 72 WARAZO JET     | 500.00 |
|               |          | 73 RAICHIRI PONDO | 250.00 |
|               |          | 74 GACHUA         | 200.00 |

Ririkana ati, kionereria giki kia uthii wa na-mbere nikia March2012 – March 2013. kionereria kingi kiria gigukorwo na mahinda mangi na giguthonddekwo

ni Operational Leadership Council(OLC) na gikaheanwo kuri cluster

### Uria cluster ingika o mweri niguo igie maciaro.

**T**hiini wa TIST, nitugiaga na hinya riria twoya makinya na tugathoma kuma maciaro ma aria angi thiini wa ikundi, cluster na kungi. Ripoti cia o mweri cia cluster cia micemano na mathabu nicia bata hari maciaro maingi.

O cluster niikoragwo na uigiririki wa gutuma mathabu makinyaniru na ripoti cia micemano o mweri na kwanirira budget uria yahuthirwo o mweri thiini wa micemano ya cluster.

Utheri na uigiririki ni values cia bata thiini wa TIST. O cluster ya TIST no muhaka yonanie uria yahuthira budget ya 900/= kugia na maciaro maingi.

Ndungata o yothe ya cluster niyagiirwo nigukorwo na palm, magiriirwo kuhuthira fomu cia micemano ya cluster na cia mathabu. Tigririra niwaririkania ndungata yanyu ya cluster gutuma rekodi cianyu o thutha wa mucemano.

Riria twaga kwamukira ripoti cia cluster cianyu, OLC noicirie cluster yanyu niyakuire. Niudu wa uguo, mutikwamukira budget, kana mweke wa guthoma thiini wa semina. Nituthii na-mbere na kuruta ripoti o mweri!

**Kiririkania:** niguo kugia na maciaro, o mweri cluster yagiirwo:

1. thii micemano ya cluster na muririkanie ikundi iria ingi.
2. Ongerera maciaro ma cluster yanyu: kuhanda miti mieru, gutarira ikundi na kwonania uria budget yahuthirwo.
3. Tuma ripoti na palm cia micemano na mathabu ma cluster.
4. Hariria utari wa miti na atungata a cluster. Tigririra kuri mundu umwe thiini wa cluster urateithiriria uhoro ucio.
5. Ita arata aku na aria muriganitie maingire TIST thiini wa micemano ya cluster. Heana ngathiti ya Mazingira Bora na umateithiririe hari kwiwandikithia.
6. Gai na maciaro maingi! Handa-i miti, thondeka-i kana mugure riiko ria TIST, rima-i Kilimo hai.

Tunyitaniire notuhote maundu moothe!



## Utongoria na wathani thiini wa Cluster.

**U**muthi, TIST iri na makiria ma cluster 160. thiini wa o cluster, atungata nimateithagiriria na magekirana hinya. O cluster iri na wathani na utongoria ta uu.

Aria mathuraguo ni;

- Mutongoria wa Cluster
- munini wa mutongoria.
- Muigi mabathu.

Mutongoria, munini wake na muigi mathabu matungataga mieri 4 o giti na magathiururukana. Munini wa mutongoria agatuika mutongoria na ke muigi mathabu agatuika munini wa mutongoria. Athuri na atumia nimacenjanagia hari utongoria-angikorwo muigi mathabu ni muthuri, uria ungi uguthurwo thutha wake agukorwo ari mutumia. Clustyer yanyu yagiriirwo gukorwo na githurano kiri na utheri na uigananu riria murathura atongoria. Ithurano cia cluster nicia bata na cia muhak kuri cluster ciothe.

### Mawira ma utongoria wa cluster.

#### Mawira ma mutongoria wa cluster.

1. Agiriirwo gukorwo ari ndungata kuri cluster yothe na akorwo na values cia TIST.
2. Gutongoria mawira ma cluster: kubanga micemano ya cluster, utari wa miti na ithomo na atongoria aria angii.
3. Gwikira ikundi hinya niguu cigie namaciario mingi hamwe na uhandi wa miti na Kilimo Hai. Guteithiriria cluster kunyitanan na kugia hinya.
4. Guteithiriria mibango ya micemano ya cluster hmwe na atongoria angii na gutigirira micemano niyathii n-mbere wega.
5. Kurutithania wira na muigi mathabu gutigirira ripoti cia mathabu ninginyaniru na niciatumwo.
6. Guteithiriria kwandikithia ikundi njeru.
7. Guteithiriria ikundu kugia na uiguithanio wa Green Gas Contract, gwikira kirore na gutumwo.
8. Kwamukira na kumenyithania geni aria mangikorwo mari mucemano-ini.
9. Hari marihi: kuoya vouchers na indo ingi nbere

ya micemano. Kurutithania wira na muigi mathabu gutigirira marihi nimarihwo na gukinyi ciuria kana mathina kuri atongoria a TIST na cluster

10. Kuririkania ikundi muthenya wa mucemano.

### Mawira ma muigi mathabu

1. kwamukira budget ya cluster na kumenyithnia muigana na uria cihuthiritwo o mucemano.
2. Kurutithania wira na cluster kubanga uria budget ikuhuthirwo niguu kuongerera maciario.
3. Kuiga nma kumenyerera rekodi cia cluster na njira njega ya nabuku.
4. Gwitikiria uthuthuria wa rekodi cia cluster kuri memba a cluster na atongoria a TIST.
5. Gutuma ripoti cia micemano namathabu ma cluster o mweri.
6. Guthomithia muigi mathabu uria ukumucoka.
7. Guteithiriria atungati angii gutungatira ikundi.
8. Mahinda ma marihi: kuheana voucher kuri ikundi riri kuri na amemba 2 kana makiri, kurora vouchers, kwaraniria na atabariri a marihi na kurumirira mitaratara yothe na njira ya utheri na nginyaniru.

### Mawira ma munini wa mutongoria.

1. Kunyitirira riria mutongoria atari kuo. Agiriirwo ni gutungata ari mumemba hamwe na mutongoria.
2. Guteithiriria kuiga mathaa micemano-ini.
3. Kuoya rekoti thiini wa micemano.
4. Guthoma minutes cia mucemano ucio ungi.
5. Kuiga mathaa maria mahuthirwo mucemano-ini.
6. Guthomithi muigi mathabu mweru.

### Arugamiriri a ikundi thiini wa kanju ya utongoria (GOCC)

munini wa mutongoria na muigi mathabu nimatungataga thiini wa GOCC. O umwe agatungata gwa kahinda ka mieri 8 na agatuika mutongoria na agatiga gutungata kanju-ini ino. GOCC ithondekagwo ni arugamiriri 2-5 a cluster



aria mataraihaniriirie. GOC iricemangia o mweri na muno kiumia kia mbere kia mweri na igatuma ripoti cia omweri kuri OLC.

**Mawira ma GOCC.**

1. Guthundura na kurumirira mitaratra ya cluster.
2. Gutigirira githomo kia iguru nikiathanwo kuri cikirumirira values cia TIST;
3. gutigira utari wa miti muega kuringana na values cia TIST;
4. kumenyerera indo cia wira cia uthomithania

na utari wa miti;

5. kumenyithania mathina na kuheana utaari kuri OLC;
6. gutheremia TIST kuhitukira cluster;
7. gutabania ciira wa kurugamio kwa atungati niundu wa ungumania;
8. gutabania ciira angikorwo mutongoria ndararumirira values cia TIST;
9. kuheana andu makiria kuma kuri GOC kuri mawira ta Auditor, TSE kana athomithania anenena mangi maingi.

**Audit cia cluster niiteithagiriria guthima uruti wa wira.**

**O**thutha wa mieri 3, a cluster ni ikagwo audit. Audit itigagirira atongoria a cluster mari na githomo kiiganu, nimaratabania utari wa miti mukinyaniru, nimarathomithania wega, kurora uugi wa amemba a cluster, guthima biodiversity iria cluster iri nayo.

Njira ino niiehanaga uhoro wa bata niguu GOCC ihote atungata a cluster nimararuta wira mwega na nicirathii na-mbere kugia na miti miingi, Kilimo Hai, mariiko maingi na biodiversity makiria.

Cluster iria ciahituka audit niciguthii na-

mbere kuheo uteithio makiria hamwe na guciteithiriria gutuika SACCO na ciirugamirire.

O mumemba ari na itemi ria kunyita niguu gutigirira ati audit ya cluster niyakinyanira. Guthii micemania ya cluster kwamukira githomo niguteithagia kurumirira mitarata ya TIST na njira njega, na kugia na maciaro maingi. Riria arimi makiria mahuthira Kilimo Hai, mariko ma TIST, makorwo na nathari cia miti, mahanda miti miingi nogu cluster yanyu ikugia na hinya na mugie na poits nyingi hindo ya audit. Njira ino niiteithagiriria cluster itikirike gutuika SACCO.

**Kuiga migunda iitu iri minoru na ikiruta maciaro maingi.**

**N**itwagiriirwo ni gutungata migunda iitu niguu ndigate unoru wayo na yage maciaro. Uu nouhanike riria arimi makuria irio muthemba umwe gwa kahinda karaihu, kana riria tiiri wakuu ni maai. Kuhanda irio muthemba umwe mahinda maingi nigutumaga tutambi tuingi tugumire mugunda nundu wakuona gwa guikara na gikuria. Thoma rugano rwa Maize Necrosis. Tutambi tutu notugumire mugunda o nginya turemwo nikugetha. Menyerera ndukarime kindu kimwe imera nyingi niguu migunda iitu ikorwo iri minoru. Riria weheria unoru wa tiiri, maciaro nimanyihaga na nokugie na wagi wa irio.

**Uria ungika niguu wuige mugunda waku uri munoru.**

Handa mimera na miti iria ikiraga nitrogen. Mimera muthemba wa mboco na ndengu nicikoragwo na microbes thiini wa miri yayo iria ingioya nitrogen kuma riera-ini na kumicinja nginya iteithie tiiri.

Riria twahanda mboco, cowpeas, soybeans na miti ta sesbania, sesban, Leuceana na Accacia, nitwongagirira nitrogen thiini wa tiiri utakwongerera fertilizer. Huthira gucenjania mimera tondu mimera ngurani niikiraga na kuruta nutrients.

Kwa muhiano, nitucenjanagia irio migunda-ini:

- Kimera 1 – Mboco
- Kimera 2 – Muhia
- Kimera 3 – Mbembe
- Kimera 4 – Kuriithia mahiu
- Kimera 5 – Mboco

**Gitira tiiri gukuu ni maai:**

ota uria unoru muiingi wa tiiri ukoragwo tiiri-ini wa iguru, kaundu o gothe kangigitira tiiri gukuu ni maai niguteithagia kuiga unoru. Huthira Kilimo Hai na uhande miti mugunda-ini waku. Riria twarumirira mitarata ino migunda iitu niyongagirira maciaro kwa miaka miingi.





## Wimenyerere Maize Lethal Necrosis.

Mwandiki: Kimani arutite KARI na CIMMYT

**M**aize Lethal necrosis (MLN) ni murimu wa virus wa mbembe uria umakitie migunda thiini wa bururi wa Kenya. Wonekire ria mbere mwaka wa 1973 bururi wa Peru na guku Kenya ukioneka May 2011 thiini wa county ya Bomet kuria arimi akuo mawitaga “Koroito” kuuga pluugue. Umuthi, murimu uyu ni uthetheremete miena ingi ya bururi na ugatharikira mithemba yothe ya mbembe. Riria waingira mugunda-ini wa mbembe, nouthukie nginya gicunji kia 30%-10% kia mimera. Mithemba ingi niitiragia murimu wa heho na aciarithania nimararora uria mangiongerera mbegu hinya wa gwitiria murimu uyu no ni murimu muuru muno.

### Kionania kia Maize Lethal necrosis

- mahuti magatuika ma yellow na micoora mahuti-ini. Uu nowambiririe riria mahuti

mari manini na mahuti maria maraihu magakunjana.

- Riria wathianga, mimera irutaga magetha manini.

### Kugiririria Maize Lethal necrosis

- handa mimera mithemba ngurani. Maize Lethal necrosis unyitaga o mbembe.
- Ndukahande mbembe kuria kwonekete murimu uyu.
- Handa mbembe kimera kia riu;
- Ndukarehe thumu wa mabebe kuma mugunda ungi mugunda-ini waku.
- Mabebe maku manginyitwo, orio eheria maria manyite. No umahe mahiu kana ucine.

Thiini wa mucemanio ucio ungi wa cluster yanyu, araniriai na amemba othe uhoro wigii murimu uyu na uria mungigitira.

## Kuiga maria maturigiciirie na miiri iitu iri mitheru.

**M**akiri ma arimi a TIST thi yothe nimahandaga miti mamilioni maingi o mwaka. Miti ino niiteithagiriria hari kwehulia carbon riera-ini na guthondeka mahuti na honge na miri. Njira ino ni njega na yaguteithia. Andu othe athi nimendaga guikara kundu kwega kuri na miti mieru na mikuru riria yamenyererwo na yatungatwo.

Niguo micii iitu na ithui twagia na utheru. Reke-i turumirire mitarata ino miega ya ugima wa miiri na utheru na tuurie amemba a cluster gutheremia uhoro ucio.

### Guthambia moko.

Guthambia moko maitu nikuhuthu, no ni imwe ya njira iria cia batatungihuthira niguo tuikare wega na tugiriririe gutherema kwa mirimu. Kuri muthenya moko maitu nimonganagia giko ta germs kuma tiiri-ini, andu aria angi, nyama itari hii na kundu kungi kuingi.

Germs noringire miiri-ini na citume tunyitwo ni mirimu na tumitheremie. Niwega guthambia moko na maai na thabuni niguo kuraga germs na gutugitira kumana na mirimu. Guthambia kwa moko namaai na makiria riria urahariria irio, thutha wa kuhuthira kioro na mbere ya kuria. Riria twaga guthambia maoko wega, micii iitu niinyitagwo ni mirimu ta kuharwo maita maingi.

Uthuthuria muingi niwonanitie ati kuhuura moko nikuo kwabata muno hari kuraga germs.

Angikorwo nduri na thabuni, muthanga kana muhu nouteithie.

### Kuniaria indo cia riiko thutha wa guthambia.

Riria waniaria indo cia kuriira ni undu wa bata tondu maai maria matigaraga nomakorwo na germs na ugacihe kamweke ga gutherema. Notuthondeke handu na mbau hakuniariria riu-ini, na nouteithie kuraga germs. Angikorwo ndungihota uguo, nouhuthire gitambaya. Angikorwo urahuthira gitambaya, niwagiriirwo guthambia weega na ukaniaria gitambaya kugitira gutuika giikaro kia germs.

### Kugitira Rwagi na mbia.

Rwagi na mbia nicikuuaga mirimu. Niguo kwigitira kumana na nyamu ici, wagiriirwo ni;

- Theria ihinga ciothe micii-ini na nyeki.
- Theria maai mothe marugamu micii-ini. Ona tumai tunini notukorwo turi giikaro kia rwagi.
- Eheria matigio mothe ma irio.
- Ehulia giko giothe kuma nyumba na ukunikire haria ugwikira.
- Haata nja yaku o muthenya.
- Huthira neti ya rwagi mahinda mothe.

Reke tukorwo na maria maturigiciirie matheru niguo tugie na ugima mwege wa mwiri.



## 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 gucchagura 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 gukura iria ingi iri mitungu wega. Miti niibataraga muigana wa mugunda ngurani kuringana na muthemba wagu, 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 gukura 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 wagu. Miti iria iri na mururi muraihu gukura iria 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 gukura mibau iria ikuraga na ihenya, na ndiagiriirwo nigutemwo tondu niminini! Muti ta muembe niwabata niundu wa matunda maria ukuragia na makendio.

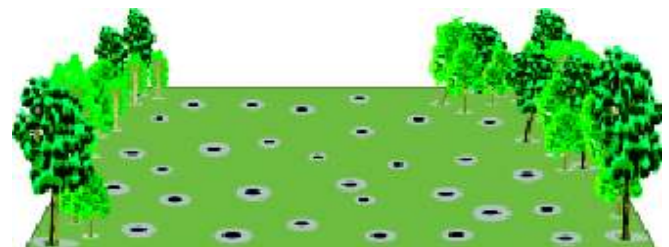
Maembe nimakuranagira na indo ingi migunda-ini. Mibau ndirekaga muti kana mumera ungi ukure hakuhi. Niwega kuririkana uguo riria uracagura miti ya gutagania.

Miti niikoragwo na mabata maingi kuringana na muthemba wagu. 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, tigrira 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 mwitikiriku.
- 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.



Ika uu



Single tree selection

# Mazingira Bora



## TIST

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

**Kiswahili Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Cluster ya Athi TIST members wakipata mafunzo wakati wa mkutano wao wa kila mwezi.**

### ***Ndani:***

**Ushahidi wa maendeleo: Cluster kupata nyongeza mwezi huu. *Page 2***

**Cluster yako inavyofaa kufanya ili kuhakikisha kufanikiwa. *Page 2***

**Uongozi na Utawala katika cluster yako. *Page 3***

**Ukaguzi wa cluster husaidia kupima maendeleo na utendaji. *Page 4***

**Kuweka mashamba yetu yakiwa yenye rutuba na yenye uzalishaji. *Page 4***

**Chunga, Ugonjwa mbaya wa mahindi (Maize Lethal Necrosis). *Page 5***

**Kutunza mazingira yetu na miili yetu. *Page 5***

**Kupunguza miti yako ili ikue vizuri, jiepushe na kukata miti yote. *Page 6***



## Ushahidi wa maendeleo: Cluster kupata nyongeza mwezi huu.

**K**atika mwezi wa pili mwaka 2012, wanaTIST katika semina waliitikiana kuwa cluster zitakazo na nyongeza. Semina hiyo ilianzisha shughuli ambazo zitaleta matokeo na pesa ambazo zitalipwa kama nyongeza au pesa za ziada kwa cluster kama matokeo yatafikiwa. Juhudi hii ilikuwa ili kusaidia cluster kukua ili kuweza kujiongoza kwa njia endelevu inayopunguza utumizi wa pesa na kuongeza mazao.

Baadhi ya wanacluster watapata zaidi ya elfu hamsini kwa sababu wana zaidi ya miti elfu mia moja katika cluster yao. Shilingi tano zilizojuu ya malipo ya kila mti inaonyesha kuwa cluster iliyo na zaidi ya miti elfu mia moja ni bora kigharama katika uhesabu miti na uongozi zaidi ya cluster zenye miti michache.

| CLUSTER NAME | BONUS     | CLUSTER NAME     | BONUS    |
|--------------|-----------|------------------|----------|
| 1 ICHUGA     | 65,557.00 | 19 NCHIRU        | 1,500.00 |
| 2 MWOROGA    | 54,450.00 | 20 NTUGI         | 1,500.00 |
| 3 KISIMA     | 54,190.00 | 21 MANYATTA      | 1,500.00 |
| 4 KIGUCHWA   | 54,132.00 | 22 KARABA-MBEERE | 1,250.00 |
| 5 KAGAENE    | 3,000.00  | 23 BARANGU       | 1,250.00 |
| 6 ITANGINI   | 2,750.00  | 24 CIAKANYINGA   | 1,250.00 |
| 7 TANDARE    | 2,250.00  | 25 IRIGA         | 1,250.00 |
| 8 GITIMENE   | 2,000.00  | 26 KAGUMO        | 1,250.00 |
| 9 NAARI      | 2,000.00  | 27 KIRUBIA       | 1,250.00 |
| 10 NYWERI    | 2,000.00  | 28 MIRURIIRI     | 1,250.00 |
| 11 THUURA    | 2,000.00  | 29 NGARENDARE    | 1,250.00 |
| 12 KIANJAGI  | 1,750.00  | 30 TUNYAI        | 1,250.00 |
| 13 KIRINDINI | 1,750.00  | 31 SALAMA        | 1,250.00 |
| 14 NTAKANI   | 1,750.00  | 32 WIUMIRIRIE    | 1,250.00 |
| 15 RAGATI    | 1,750.00  | 33 IGWANJAU      | 1,000.00 |
| 16 CHUNGARI  | 1,500.00  | 34 KAMBITI       | 1,000.00 |
| 17 KAIRUNI   | 1,500.00  | 35 KIRIMAITUNE   | 1,000.00 |
| 18 KITHOKA   | 1,500.00  | 36 NKANDO        | 1,000.00 |

Gharama ya chini zaidi na matokeo makubwa umaanisha kuwa wanacluster watapata malipo zaidi ya awali ya kaboni.

Cluster zingine nyingi zimepata malipo ya ziada au nyongeza kwa sababu wamefanya kazi nzuri katika kuripoti kuhusu mikutano yao na kutuma ripoti za matumizi ya pesa za cluster, na zingine kwa sababu ya kupata kulipa vikundi vidogo wanapofaa kila baada ya muda Fulani. Viongozi wa cluster watapata barua kutoka kwa OLC ikieleza jinsi nyongeza yao ilivyohesabiwa, ili wasome barua hii katika mkutano wa cluster. Tunatarajia kuwa kila cluster itajadili jinsi ya kutumia nyongeza yao katika mkutano wa cluster. Cluster zifuatazo zimefuzu kupata malipo ya ziada.

| CLUSTER NAME  | BONUS    | CLUSTER NAME      | BONUS  |
|---------------|----------|-------------------|--------|
| 37 RUNYENYE   | 1,000.00 | 55 MATAKIRI       | 500.00 |
| 38 KARABA     | 1,000.00 | 56 MURINYA        | 500.00 |
| 39 KAROKI     | 1,000.00 | 57 MURUTA         | 500.00 |
| 40 KIAMARIGA  | 1,000.00 | 58 NKUMBO         | 500.00 |
| 41 KIAMATHAGA | 1,000.00 | 59 THIIIRA        | 500.00 |
| 42 MALE       | 1,000.00 | 60 AGUTHI         | 500.00 |
| 43 MIAMOJA    | 1,000.00 | 61 BUURI          | 500.00 |
| 44 NYARIGINU  | 1,000.00 | 62 KAHUHO         | 500.00 |
| 45 KIANYAGA   | 500.00   | 63 KARUNDAS       | 500.00 |
| 46 ANTUBOCHIU | 500.00   | 64 KIMAHURI       | 500.00 |
| 47 BURIMARIA  | 500.00   | 65 MURIRU         | 500.00 |
| 48 KAAGA      | 500.00   | 66 MURUKU PESI    | 500.00 |
| 49 KANYAKINE  | 500.00   | 67 MURUNGAI       | 500.00 |
| 50 KARURUNE   | 500.00   | 68 NJORUA         | 500.00 |
| 51 KIAMIOGO   | 500.00   | 69 PONDO          | 500.00 |
| 52 KIBIRICHIA | 500.00   | 70 THOME          | 500.00 |
| 53 KIRIA      | 500.00   | 71 THUNGARI       | 500.00 |
| 54 KITHURINE  | 500.00   | 72 WARAZO JET     | 500.00 |
|               |          | 73 RAICHIRI PONDO | 250.00 |
|               |          | 74 GACHUA         | 200.00 |

Tafadhali jua kuwa, ushahidi huu wa maendeleo umehesabiwa kutoka Machi 2012 hadi Machi 2013. Ushahidi wa maendeleo mpya utakaohesabiwa siku

za usoni utapangiwa na baraza la Uongozi wa TIST (OLC) na kuletwa kwenu na kwa cluster zenu.

## Cluster yako inavyofaa kufanya ili kuhakikisha kufanikiwa.

**K**atika TIST tunapata nguvu za kuchukua hatua pamoja na kugawana mafanikio yetu na wengine katika vikundi vyetu, katika cluster zetu na kwa wengi zaidi. Ripoti za kila mwezi za cluster kuhusu mikutano ya cluster na matumizi ya pesa ni sehemu muhimu katika mafanikio haya.

Kila cluster ina jukumu la kutuma ripoti ya ukweli kuhusu mkutano na matumizi ya pesa kila mwezi, na yapaswa kutangaza jinsi pesa za kila mwezi zilivyotumika kila mwezi katika mikutano ya cluster.

Uwazi na kuwajibikiana ni maadili yenye uzito mwingi katika TIST. Kila cluster ya TIST yafaa kuripoti jinsi walivyotumia shilingi mia tisa walizopewa kufikia matokeo makubwa.

Kila mtumishi wa cluster ana uwezo wa kufikia Palm inayofanya kazi, wanapaswa kutumia fomu za mikutano ya cluster na za matumizi ya pesa zilizo katika Palm zao. Hakikisha umekumbusha mtumishi wa cluster yako kutuma rekodi za cluster mara moja baada ya mkutano kila mwezi.

Tusipopata ripoti kutoka cluster yenu, OLC waweza kufikiri kuwa cluster yenu haiendelei na kazi zake. Hapa, hamtapata pesa za kila mwezi za matumizi

ya cluster, ama nafasi ya kusoma na kugawana katika semina. Acheni kufanye kazi ya kugawana ripoti na mafanikio yetu kila mwezi!

Kumbuka: ili kufanikiwa kila mwezi, cluster yako yafaa:

- 1) Hudhuria mkutano wako wa cluster na ukumbushe vikundi vingine kuhudhuria.
- 2) Pitia matokeo ambayo cluster yako imefikia: miti iliyopandwa, vikundi viivyohesabiwa miti na jinsi pesa ilitumiwa na cluster kwa pamoja.
- 3) Tuma ripoti kupitia Palm kuhusu mkutano wa cluster na kuhusu matumizi ya pesa za cluster.
- 4) Pangia uhesabu miti pamoja na watumishi wa cluster. Hakikisha mmoja kutoka kwa cluster yenu anasaidia katika kila uhesabu miti!
- 5) Alikeni marafiki na majirani kuingia katika TIST mkutanoni mwa cluster. Wape Mazingira Bora hii na uwasaidie kupitia mchakato wote wa kuomba kuingia katika TIST.
- 6) Fikia matokeo makubwa zaidi! Panda miti, jenga au ununue jiko la kuokoa nishati, lima kilimo bora.

Pamoja ,twaweza kufikia chochote!



## Uongozi na Utawala katika cluster yako.

**T**IST ina zaidi ya cluster mia moja sitini. Katika kila cluster, viongozi watumishi husaidia katika mafanikio yetu na hugawana nguvu zao nasi. Kila cluster inaa utawala na uongozi kama ifuatavyo: Viongozi wa cluster waliochaguliwa,

- Kiongozi wa cluster
- Msaidizi wa kiongozi katika cluster
- Mwajibikaji wa cluster

Cluster elections are important and mandatory for all TIST Clusters. Kiongozi, msaidizi wake na mwajibikaji wa cluster hutumika katika kila nafasi kwa muda wa miezi mine. Baada ya miezi mine ya kutumika, kiongozi wa cluster hutoka uongozini. Msaidizi wake huingia kuwa kiongozi naye Mwajibikaji huwa msaidizi wa kiongozi. Wanawake na wanaume huzungukana katika uchaguzi- kama mwajibikaji ni mwanamume, huyo mwingine atakuwa mwanamke. Cluster yako yafaa kuchagua mwajibikaji mpya kwa njia ya kidemokrasia. Uchaguzi wa cluster ni muhimuna wa lazima kwa cluster zote za TIST.

### Majukumu ya viongozi wa cluster.

#### Majukumu ya kiongozi.

1. Anafaa kuwa mtumishi wa cluster yote na kuonyesha maadili ya TIST.
2. Huongoza katika shughuli za cluster; huratibu mikutano ya cluster, uhesabu miti na ratiba ya mafunzo pamoja na viongozi wengine.
3. Huvipa motisha vikundi kufikia matokeo makubwa, pamoja na kupanda miti na kilimo hai. Husaidi cluster kubaki na nguvu na umoja.
4. Husaidia kupanga mikutano ya cluster iliyopangwa vizuri pamoja na viongozi wengine na kuhakikisha mikutano inaongozwa na kufunzwa vizuri.
5. Hufanya kazi na Mwajibikaji kuhakikisha kuwa rekodi za mkutano wa cluster na za uwajibikaji zimetunzwa vizuri.
6. Husaidia kuingiza vikundi vidogo vingine
7. Husaidia kuhakikisha kuwa kadarasi za GhG za vikundi vidogo zimetwa saine, kuwekwa katika computa na kuingizwa mtandaoni ikitakikana.
8. Hukaribisha na kujulisha mgeni yeyote ambaye amehudhuria mkutano.
9. Katika malipo: Huleta vocha na vitu vingine kabla ya mkutano. Hushirikiana na mwajibikaji kuhakikisha mchakato wote wa ulipaji

umezingatiwa na kufikisha maswali au shida zozote kwa viongozi wa TIST na watumishi wa cluster.

10. Huwakumbusha wanavikundi vidogo kuhusu mkutano unaofuata.

### Majukumu ya Mwajibikaji.

1. Hufikiwa na bajeti na kutangaza kiasi kilichofika na kutumika katika kila mkutano wa cluster.
2. Hushirikiana na cluster kupanga jinsi ya kutumia bajeti ya cluster kufikia matokeo makubwa.
3. Huweka na kutunza rekodi za cluster katika kitabu cha rekodi kilichopangwa vizuri cha cluster, kama ilivyo na kwa hali nzuri.
4. Huruhusu kuangaliwa kwa rekodi za cluster kwa wanacluster na viongozi wa TIST.
5. Hutuma ripoti ya kila mwezi ya mkutano wa cluster na ya uwajibikaji kila mwezi.
6. Hufunza mwajibikaji anayemfuata.
7. Husaidia watumishi wengine kutumikia vikundi vidogo.
8. Wakati wa malipo: hupeana vocha kwa vikundi vyenye memba wawili mkutanoni, hupitia vocha, huwasiliana na ratibu wa kusaidia katika malipo na hufuata mchakato wa malipo umefuatwa kwa usahihi na ukweli.

### Majukumu ya msaidizi wa kiongozi

1. Hushika usukani kiongozi asipokuwa. Msaidizi wa kiongozi anatumikia memba wa cluster na kiongozi wa cluster.
2. Husaidia wakati wa mkutano kuweka masaa.
3. Huchukua rekodi wakati wa mkutano wa cluster.
4. Husoma yaliyoandikwa katika mkutano uliopiata.
5. Huandika masaa na majadiliano yaliyo katika cluster.
6. Husaidia kufunza mwajibikaji mpya aliyechaguliwa

### Wawakilishi wa cluster katika Chama cha GOCC.

Msaidizi wa kiongozi na Mwajibikaji watatumika pia katika GOCC. Kila mmoja wao atatumika katika GOCC kwa muda wa miezi minane halafu akiwa kiongozi wa cluster, utumishi wao katika GOCC utaisha.

GOCC ina wawakilishi kutoka cluster mbili kufika tano ambazo ni majirani wa karibu. Kikundi hiki kitakutana kila mwezi ikiwezekana wiki ya kwanza na chapaswa kutuma ripoti ya kila mkutano kwa OLC.

**Majukumu ya wawakilishi katika GOCC**

- 1) Kugundua na kugawana njia bora za kufanya mambo kutoka kwa cluster;
- 2) Uhakikikisha mafunzo ya hali yaa juu katika cluster yakifuatilia maadili ya TIST;
- 3) Uhakikisha uhesabu miti wa hali ya juu unaofuatilia maadili ya TIST;
- 4) Hutunza vyombo vya kazi vya ufunzaji na uhesabu miti;
- 5) Huripoti wasiwasi zilizopo na kutoa mapendekezo ya sera kwa OLC;

- 6) Hueneza TIST kupitia cluster zilizopo;
- 7) Huita mikutano ya utawala iwapo mtumishi amesimamishwa kazi ili kuangalia mambo yaliyokuwa na kutoa mapendekezo kuhusu kusimamishwa kwake;
- 8) Huita mikutano ya utawala iwapo kiongozi wa cluster hafuatilii maadili ya TIST;

Hupendekeza watu katika GOCC watakaooongezwa majukumu zaidi kwa mfano mkaguzi, TSE, ama mkufunzi mkuu na kazi zingine.

**Ukaguzi wa cluster husaidia kupima maendeleo na utendaji.**

**K**ila baada ya miezi mitatu, kila cluster ukaguliwa. Ukaguzi huhakikisha kuwa mtumishi wa cluster amefunzwa vizuri, anafanya kazi ya uhesabu miti iliyo sahihi, anafanya kazi nzuri ya kufunza, kupima ujuzi wa memba wa cluster, na kupima athari ya cluster kwa bionuwai.

Jambo hili uwapa taarifa muhimu ili GOCC ihakikishe kuwa watumishi wa cluster wanafanya kazi iliyo nzuri na kuwa cluster zinaendelea kuelekea kupata miti mingi, kilimo hai, meko bora zaidi na bionuwai zaidi.

Cluster zinazopita ukaguzi huu zitaendelea kupata usaidizi zaidi pamoja na kuwasaidia kuwa

SACCO na kujitawala.

Kila memba ana sehemu yake ya kusaidia ili kuhakikisha kuwa ukaguzi wa cluster unafanikiwa. Kuhudhuria mikutano ya cluster ili kupata mafunzo ukusaidia kutumia njia bora zaidi za kufanya mambo kwa njia iliyo sahihi zaidi na kupata matokeo bora zaidi. Wakati memba wa cluster wengi zaidi hufanya kilimo hai, kutumia meko ya TIST, kuanzisha minanda zaidi, kupanda miti mingi zaidi, ndivyo cluster yako inaongeza nguvu na kupata alama nyingi zaidi katika ukaguzi. Haya husaidia kuweka cluster yenu juu kwa cluster zinazopewa kapaumbele kuwa SACCO.

**Kuweka mashamba yetu yakiwa yenye rutuba na yenye uzalishaji.**

**T**unahitaji kusimamia ardhi yetu kwa uangalifu ili tusipoteze rutuba ya udongo na madini na kupunguza uzalishaji. Ili laweza kutendeka mkulima anapopanda aina moja ya mmea misimu mingi inayofuatana, ama udongo unapobebwa. Kukuza aina moja ya chakula katika mashamba yetu mwaka baada ya mwaka kwaweza kufanya wadudu wa aina kadhaa walio katika mimea hiyo kuongezeka katika ardhi yetu kwani wana makazi na chakula mwaka baada ya mwaka (angalia makala yafuatayo kuhusu ugonjwa unaoitwa Maize Necrosis). Wadudu hawa waweza kuwa wengi hadi tusiweze kuvuna mme mzuri. Jiepushe na ukulima huu wa mmea wa aina moja ili kuweka udongo wako ukiwa na rutuba. Kutolewa kwa virutubisho muhimu hupunguza mazao na waweza kusababisha uchache wa chakula.

**Waweza kufanya nini ili kuweka shamba lako likiwa lenye rutuba na uzalishaji**

Panda mimea au miti ya jamii ya kunde inayoweka virutubisho udongoni. Mimea katika familia ya maharagwe ina mizizi inayochukua naitrojeni kutoka kwa hewa na kuigeza kuwa virutubisho ambavyo mimea inaweza kutumia.

Tunapopanda maharagwe, kunde, soya na miti

kama Sesbania, Sesban, Leucaena, na Acacia, tunaongeza naitrojeni kwa udongo bila kuongeza mboleo za kemikali. Jaribu kuzungusha mimea kwa sababu mimea tofauti huongeza na kutoa virutubisho vya udongo tofauti, kwa hivyo mmea utakaofuata kupandwa utarudisha virutubisho vilivyotolewa mwaka uliofuata.

**Kwa mfano, tunazungusha mimea katika shamba kwa njia hii:**

- Msimu 1 Maharagwe
- Msimu 2 Mtama
- Msimu 3 Mahindi
- Msimu 4 Kulisha mifugo (taka yao huongeza virutubisho katika mashamba yetu)
- Msimu 5 Maharagwe

**Kuzuia mmomonyoko wa udongo:**

Kwa sababu virutubisho vingi vya udongo vipo katika udongo wa juu, jambo lolote linaloachisha mmomonyoko wa udongo husaidia kupunguza kupotea kwa virutubisho. Jaribu kilimo hai na upande miti katika shamba lako. Tunapozingatia njia hizi bora za kufanya mambo katika mashamba yetu tunaweza kupata mazao mazuri miaka mingi inayokuja.



## Chunga, Ugonjwa mbaya wa mahindi (Maize Lethal Necrosis).

*Ujumbe ulioombwa kutoka kwa KARI na CIMMYT*

**M**aize lethal necrosis (MLN) ni ugonjwa unaosababishwa na virusi wa mahindi ambao humekuwa ukiharibu mashamba Kenya. Uliripotiwa kwanza katika nchi ya Peru mwaka 1973, na kuripotiwa mara ya kwanza katika Kenya mwezi wa tano mwaka 2011 katika jimbo la Bomet ambapo watu huuita “Koroito” kumaanisha tauni. Leo, ugonjwa huu umetambaa katika maeneo mengine ya nchi.

Ugonjwa huu unaathiri aina mbalimbali za mahindi (*Zea mays*). Unapoingia katika shamba la mahindi, unaweza kuharibu asilimia thelathini hadi mia moja ya mimea. Aina zingine zina usugu kidogo katika kukauka na wanaotengeza wanajaribu kutengeza aina bora, lakini MLN ni changamoto kubwa.

### Ishara za ugonjwa huu wa Maize lethal necrosis

- Majani yanageuka na kuwa rangi ya manjano iliyo na mistari majanini. Inaweza kuanza katika majani yaliyo machanga zaidi na majani makubwa, ikitambaa kutoka ukingoni hadi kati kati ya jani.
- Ugonjwa ukikaa sana, nafaka chache za mahindi hupatikana.

### Jinsi ya kuzuia Maize lethal necrosis

- Panda aina nyingi za mimea. MLN huathiri mahindi pekee.
- Usipande mahindi karibu na shamba lilaloonyesha ugonjwa huu.
- Panda mahindi msimu mkuu wa mvua, badala ya wakati wa msimu mdogo wa mvua; pumziko ili kati ya mimea ya mahindi huhinikiza mzunguko wa ugonjwa huu.
- Epuka kuleta mahindi na mbplea isiyokauka kutoka kwinginepo hadi shambani mwako.
- Iwapo mahindi yako yamefikiwa na ugonjwa huu, toa mimea iliyogonjeka kutoka shambani. Unaweza kuipa mifugo majani, lakini masikio na nafaka zaweza kuwa hatari na zafaa kuchomwa.

Katika mkutano huo mwingine wa cluster yako, jadiliana na wancluster wengine kuhusu ugonjwa huu, gawana mliyoona na mkubaliane kuhusu njia ya kukabana na hatari hii.

## Kutunza mazingira yetu na miili yetu.

**M**aelfu ya wakulima duniani kote hupanda mamilioni ya miti kila mwaka. Miti hii huchangia sana kusafisha mazingira yetu. Miti husafisha hewa kwa kuchukua gesi za kaboni zinazotolewa kwa hewa kujenga vigogo, majani, matawi na mizizi. Hii ni kazi iliyo na umuhimu na inayosaidia sana. Watu wa dunia nzima huishi dunia iliyo bora zaidi miti mipya inapopandwa na miti mizee kuhifadhiwa na kulindwa.

Kama tunavyofanya kazi katika TIST kusafisha mazingira na hewa, ndivyo pia, tunafaa kufanya kazi kuweka nyumba zetu na miili yetu ikiwa safi. Tufuatilieni mienendobora ya kufanya mambo na kutia moyo familia zetu na wengineo kufanya vivyo hivyo. Watumishi wa TIST hugawana kila baada ya muda kuhusu njia bora za kiafya na kiusafi na kuuliza memba wa cluster kugawana njia bora pia.

### Kuosha mikono

Kuosha mikono ni rahisi, lakini ni jambo moja muhimu zaidi ya kuishi na afya na kuzuia kuenena kwa magonjwa. Wakati wa mchana mikono yetu hupata uchafu na kuchukua vijidudu kutoka udongoni, kwa watu wengine, nyama isiyopikwa na kutoka kwa mahali kwingineko katika mazingira.

Vijidudu vinavyoeneza magonjwa vyaweza kuingia katika miili yetu na kutufanya wagonjwa na kuenea kutoka kwa mikono yetu hadi kwa wengine. Ni muhimu kuosha mikono yetu vizuri kwa maji na sabuni ili kuua vijidudu hivi na kutuzuia kuwa wagonjwa. Kuosha mikono ni muhimu zaidi kabla ya kutayarisha vyakula, baada ya kutumia choo na kabla ya kukula. Tusipoosha mikono yetu vizuri, familia zetu zaweza kupata magonjwa kama kuhara mara nyingi.

Tafiti nyingi hushuhudia kuwa tendo la kuisugua mikono ni muhimu zaidi katikakutoa vijidudu. Kama sabuni haipo, mchanga au majivu yaweza kutumika.

### Kukausha vyombo baada ya kuosha

Kukausha vyombo vya kulia na kupikia ni muhimu kwani maji yaliyobaki yaweza kuweka vijidudu na kuvipa mahali pa kuzalia. Twaweza kufanya kifaa cha mbao cha kuweka vyombo ili kuviruhusu kukauka nje kuliko na jua, jambo ambalo litawaua vijidudu hawa. Kama hauwezi fanya hivi, waweza kutumia kitambaa safi kukausha vyombo Kama unatumia kitambaa, twafaa kukiosha na kukikausha vizuri kila baada ya muda ili kukizuia kuwa makazi ya vijidudu na kusababisha vijidudu kuenea.

### Udhibiti wa panya na mbu

Panya na mbu waweza kubeba magonjwa. Kusaidia kudhibiti hawa, twaweza:

- Kuwasisha viwanja vyetu kwa kuvitoa vichaka na nyasi isiyohitajika
- Kutoa maji yote yaliyosimama karibu na uwanja wako. Hata kiasi kidogo cha maji katika taka kidogo chaweza kuwa makazi ya kuzalia ya mbu ambao hubeba malaria kwa hivyo toa taka yote.
- Toa au ufunike vyakula vyote vilivyobaki
- Weka taka nje ya nyumba katika mkebe uliofunikwa au shimo la taka.
- Fagia nyumba na uwanja wako kila siku.
- Kumbuka kutumia neti ya mbu kila siku

Acheni tuweke mazingira yetu yakiwa ya kijani na safi ili kupata makazi yenye afya.



## **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 walivyotia saina. 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 saina 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 haisaidia kupata maji na virutubisho tosha vya kuikuza hadi panapowezekana. Nafasi ndogo zaidi inaruhusiwa

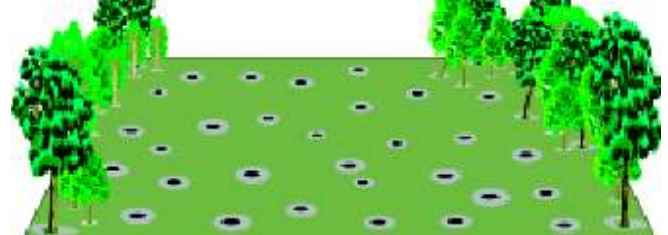
miti ilipo michanga. Miti inapokua, miti mingine itakuwa mikubwa kuliko majirani. Hii ndiyo miti wapaswa kuacha. Kuchagua ni miti gani ya kukata, angalia miti iliyo bora zaidi na ujue kama ina nafasi ifaayo. Kama haina, wafaa kutoa miti mingine iliyo karibu.

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**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Athi Cluster TIST members receive training during their monthly cluster meeting.**

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# Wonany'o wa kwiana: ngwatanio (clusters) kukwata mbonasi mwai uu.

Mwaini wa keli mwaka wa 2012, ala mai seminawni ya tist nimeetikilanile kana kila ngwatanio ikwika nesa niyaile unewa mbonasi. Semina ino ni ya nenganie maundu ala ngwatanio itonya kwika nikana methiwe na uendeeu museo na ni mbesa siana ata ila maile kuivwa ta mbonasi ethiwa ngwatanio niya vikiia ukwata usyao ula waile kana kuvikia ngolu ila mathitwe.

Ino yai nzia imwe ya kutetheesya ngwatanio kwiana na kwithiwa itonya kwiyoungamia na kwiyoungamia kwa kuola utumiku wa mbesa na kwongela usyao.

Ngwatanio imwe (clusters) niukwata mbonasi ya silingi mbee wa ngili miongo itano (50,000/=) nundu mena miti mbee wa 100,000 ngwatanioni yoo. kila silingi itano(5/-) kwa muti sionanany'a ngwatanio isu yina miti mbee wa 100,000 yithiawa na utumiku munini wa mbesa yila ikuvitukithwa na kuungamiwa kwi ngwatanio ila

syina miti minini. utumiku munini wa mbesa na usyao munene wimanyisya kana ene ngwatanio ithi nomethiwe na ukwati munene kuma kwa ndivi ya kuta nzeve itavisaa (carbon revenue).

Ngwatanio ingi mbingi nikwatite mbonasi ndunu wa wia museo ula matethetye kwa kwithiwa maitunga livoti nzeo na masavu moo, na angi kwa kutetheesya tunini kuiwa kila ivinda. Atangoi ma ngwatanio ithi nimeukwata mavalua kuma kwa OLC ileeteye undu mbonasi ithi manengetwe ivikiitwe nikana mamasomee ene ngwatanio ithi wumbanoni wa mwai ila mekumbana. Twiikwatya kila ngwatanio nikuneeenany'a undu inikwenda kutumia mbonasi yoo.

Vaa vena ikundi ila ivitukithw'e kukwata mbonasi.

| CLUSTER NAME | BONUS     | CLUSTER NAME     | BONUS    | CLUSTER NAME      | BONUS  |
|--------------|-----------|------------------|----------|-------------------|--------|
| 1 ICHUGA     | 65,557.00 | 19 NCHIRU        | 1,500.00 | 55 MATAKIRI       | 500.00 |
| 2 MWOROGA    | 54,450.00 | 20 NTUGI         | 1,500.00 | 56 MURINYA        | 500.00 |
| 3 KISIMA     | 54,190.00 | 21 MANYATTA      | 1,500.00 | 57 MURUTA         | 500.00 |
| 4 KIGUCHWA   | 54,132.00 | 22 KARABA-MBEERE | 1,250.00 | 58 NKUMBO         | 500.00 |
| 5 KAGAENE    | 3,000.00  | 23 BARANGU       | 1,250.00 | 59 THIIIRA        | 500.00 |
| 6 ITANGINI   | 2,750.00  | 24 CIAKANYINGA   | 1,250.00 | 60 AGUTHI         | 500.00 |
| 7 TANDARE    | 2,250.00  | 25 IRIGA         | 1,250.00 | 61 BUURI          | 500.00 |
| 8 GITIMENE   | 2,000.00  | 26 KAGUMO        | 1,250.00 | 62 KAHUHO         | 500.00 |
| 9 NAARI      | 2,000.00  | 27 KIRUBIA       | 1,250.00 | 63 KARUNDAS       | 500.00 |
| 10 NYWERI    | 2,000.00  | 28 MIRURIIRI     | 1,250.00 | 64 KIMAHURI       | 500.00 |
| 11 THUURA    | 2,000.00  | 29 NGARENDARE    | 1,250.00 | 65 MURIRU         | 500.00 |
| 12 KIANJAGI  | 1,750.00  | 30 TUNYAI        | 1,250.00 | 66 MURUKU PESI    | 500.00 |
| 13 KIRINDINI | 1,750.00  | 31 SALAMA        | 1,250.00 | 67 MURUNGAI       | 500.00 |
| 14 NTAKANI   | 1,750.00  | 32 WIUMIRIRIE    | 1,250.00 | 68 NJORUA         | 500.00 |
| 15 RAGATI    | 1,750.00  | 33 IGWANJAU      | 1,000.00 | 69 PONDO          | 500.00 |
| 16 CHUNGARI  | 1,500.00  | 34 KAMBITI       | 1,000.00 | 70 THOME          | 500.00 |
| 17 KAIRUNI   | 1,500.00  | 35 KIRIMAITUNE   | 1,000.00 | 71 THUNGARI       | 500.00 |
| 18 KITHOKA   | 1,500.00  | 36 NKANDO        | 1,000.00 | 72 WARAZO JET     | 500.00 |
|              |           |                  |          | 73 RAICHIRI PONDO | 250.00 |
|              |           |                  |          | 74 GACHUA         | 200.00 |

kwandaia manya: wonany'o uyu wa kwiana niwa ivinda ya kuma march 2012 kuvika march 2013. Wonyany'o ungi wa kwiana ukaseuvw'a ivinda yukite ni kanzu ya

Tist (Operational Leadership Council) OLC na kunenganwe kwenyu na ngwatanioni syenyu.

# Undu ngwatani yenyu yaile ika kila mwai kuikiithya kuvikia moseo manene na kiellelo kyenyu.

Nthiniwa tist nitwosaa vinya kwa kuthukuma vamwe na kutethany'a kwianna na kil;a tuvikiite tukundini twitu tunini kuvika ngwatanioni situ na mbee. livoti sya ngeatanio sya kila mwai iulu wa mbumbano situ nisyavata muno kuvikia woni witu na moseo manene.

kila ngwatanio yina muio wa kuvikya livoti yaw'o na masavu matheu kila mwai, ingi nimaile utangaasa undu matumiite mbesa syoo sya kila mwai yila kwina umbano wa kila mwai.. kwia kila kindu kyenini na kwithia matonya kumya utalo wa mbesa na meko ma walany'o maseo ma tist. kila ngwatanio nonginya yonany'e unud itumiite silingi 900/= kuvia kuete usyao museo.

Kila muthukumi wa ngwatanio ethiawa atonya kuvikia ivuku ya Palm yila yaile utumika yila kwina mbumbano sya ngwatanio kutunga livoti kila mwai. Lilikanya athukumi menyu kutunga livoti sya ngwatanio yenyu itina wa kila wumbano. Ethiswa tuiukwata livoti sya ngwatanio yeyu, OLC ikeesilya kana muiuthukuma. Na vailye uu mumanye muitonya ukwata mbesa sya kila mwai kana kwithiwa na ivuso ya kotalwa na kuthokw'a yila kwina semina. Tuthukume vamwe kutunga livoti sya kila mwai kuikiithya nitwavikia moseo

manene.

**Kililikany'o:** Kwakuvikia moseo manene nonginya ngwatanio yenyu kila mwai yithiwe:-

1. Muyumbana kila mwai na kulilikanya ikundi ila ingi mwithiawa nasyo kuvika
2. Kuisya kila muvikiite ta ngwatanio, kuvanda miti myeu, kuvitukithw'a kwa ikundi na undu mutumiite mbesa syenyu sya kila mwai ta ngwatanio.
3. Kutunga livoti sya kila umbano muitumia ivuku ya Palm
4. Kwia walany'o wa kuvitukithwa mwina athukumi ma ngwatanio na kuikiithya kana mundu kuma ngwatanioni yenyu niwatetheesya kila ivinda kwina uvitukithya.
5. Kuthokya anyanya na atui menyu kulika nthini wa tist ota yila mwina mbumbano na kumanene ithangu ya Mazingira Bora kwisomea na kumatetheesya kwika undu vaile.
6. Seuvya usyao muenen, vanda miti, aka kana uue iiko ya usuvia mwaki, ima nima na kusuvia (Cf).

Vamwe notuvikie undu w'otho.



## Utongoi na uungamii wa ngwatanio yaku.

**U**imuthi tist yina ngwatanio mbee wa 160. Nthini wa kila ngwatanio vena mutongoi ula ula ukwete mbau kuendeeza kwitu na kwithiwa naitu nthini wa mawonzu na molumu maitu. kila ngwatanio yina utongo na uungamii uilyi uu:

Atongoi anyuve ma ngwatanio

- Mutongoi wa ngwatanio
- Munini wake
- Mwii wa kinandu / mwiki wa masavu.

Utongoi uyu wa ngwatanio niwaile uthukuma vandu va myai ina naindi uthi kithyululu vala munini wa mutongoi utwika mutongai na mwiki wak masavu aitwika munini wake na vaiyuvwa mundu ungi wa uthukuma ta mwiii wa kinandu kyumanisyo ethiwa mwii wa kiandu ula unaivo ni mundu muka ula usakuawa kumuatiia ethiawa e munduume. ngwatanio yenyu niyo yaile usakua ula ukutwika mwii wa kinandu itina wa kila myai ina. uyu ni undu wa lasima kwa kila ngwatanio ya tist.

### Mawia ma utongoi wa ngwatanio

#### Mawia ma mutongoi

1. Aile ithiwa e mthukumi kwa ngwatanio yontha na engelekany'o kwa maundu na walany'o wa tist.
2. Nutongoasya maunduni ma ngwatanio, kuungamia mbumbano sya kila mwai, uvitukithya, umanyisya ena atongoi ala angi.
3. Kuthuthya ikundi kuvikia mosyao manene ta kuvanda miti, nima ya kusuvia (CF), kutetheesya ngwatanio kwikala yi numu na yina uumwe.
4. Nuthukumaa vamwe na mwii wa kinandu na atongoi ala angi kuikiithya livoti na mathangu ma mbumbano sya ngwatanio nimaie nesa nakuikiithya yila kwina umanyisya na mbumbano nisyekwa nesa na kwa nzia ila yaile.
5. Nuthukumaa vakuvi na mwii wa kinandu kuikiithya kana livoti sya mbumbano na masavu nimaw'o ma kila mwai na niwatunga livoti isu syi nzeo na ite nzelee.
6. Nutetheesya kumanyisya tukundi tunini undu tutonya ulika ngwatanioni na kutuandikithya.
7. Nutetheesya tukundi tunini kwona contract syoo na Green House Gas nisyee kiwa saii, syekwa scan nasya likwa kwa internet ethiwa vena vata.
8. Nuthokasya na kumanyithany'a mueni ula wavika mbumbanoni syoo.
9. Kwa ndivi: Nulatasya mathangu ma ndivi (voucher) na kila kingi kikwendeka mbee wa mbumbano. Nuthukumaa na mwii wa kinandu kuikiithya nzia ila yaile ya ndivi niyaatiwa, na

kuneenany'a ethiwa ve ikulyo kana thina kwi atongoi ma Tist na athukumi ma ngwatanio.

10. Kuliikan'ya tukundi iulu wa wumbano ula ungi yila ukethiwa.

### Wia wa mwii wa kinandu

1. Nukwataa mbesa sya mbungyeti ya ngwataniona kutangaasa ni mbesa nziana ukwatie na undu itumikie kila wumbanoni wa ngwatanio.
2. Nuthukumaa na ngwatanio kwia mivango ya undu meutumia mbesa ithi sya mbangyeti kuvikia usyao munene.
3. Niwaa na lekoti na mavuku mangwatanio na kuikiithya mena uw'o na nimaandikitwe nesa.
4. Nunengae ene ngwatanio na atongoi ma tist mwanya wa kunikila mavuku aya na lekoti.
5. Nutumaa livoti sya kila mwai itina wa mbumbano sya ngwatanio.
6. Numanyiasya mwii wa kinandu ula ungi wasakuwa.
7. Nutetheesya athukumi ala angi kuthukuma tukundi tunini.
8. Ivindani ya ndivi: nunenganae mathangu ma ndivi (vouchers) kwa ikundi ve ene ikundi eli kuma kila kikundini, nunenansya na ala maivaa na kukwata mbau wia uu na kuatii kwona ndivi yeekwa kwa w'o na kwa nzia ila yaile.

### Wia wa munini wa muttongoi.

1. Ni ukwatiiaa mawia ma mutongoi yila mutongoi utevo na kuthukuma ene ngwatanio vamwe na mutongoi.
2. Nutetheesya yila kwina mbumbano kwa kusyaiisya masaa
3. Ni uandikaa na kwia lekoti na kuandika kila kyaneenwa yila kwina mbumbano.
4. Nusomaa kila kyaneenaniw'e yila kwai na wumbano muvituku
5. Niwaa lekoti sya uneenanya ula weethiwa nthini wa ngwatanio
6. Nutetheesya kumanyisya mmwii wa kinandu ula wasakuwa.

Ula withiawa kanzuni ya ikundi vandu va ngwatanio yake (Cluster representative to the group of cluster council).

Munini wa mutongoi na mwii wa kinandu wa ngwatanio nimathukumaa nthini wa GOCC. kila umwe niuthukumaa vandu va myai nyaanya (8months) naindi atiwika mutongoi wa ngwatanio uthukumi wake thini wa GOCC uithela.

GOCC iseuvitwe ni ala methiawa ilioni sya ikundi ta 2-5 ila ituanie. kanzu ino (GOC) ni kakomanaa kila



mwai ta kyumwa kya mbee kya mwai na kunengane livoti ya mbumbano syoo kwi OLC.

**Mawia ma ula withiawa kilioni kya kanzu ino ya ikundi (GOCC)**

1. Kumatha nzia nzau sya uthukumi kwa ngwatanio
2. Kuikiithya umanyisya museo na wa yiulu maatii mawalany'o na myamulo ya tist.
3. Kuikiithya kuvitukithya kwa kila kiseo vaatiwe mawalany'o ma tist
4. Kwikalya miio ya uvundisya na uvitukithya ithukuma nesa.

5. Kutunga livoti na kunengane woni nthini wa Olc
6. Kuthathysya Tists maatii ngwatanio ila syivo.
7. Kwithiwa na syikalo sya kwithukiisya na kwika ukunikili ethiwa muthukumi wa ngwatanio nimuungamye wiani na kunengane wani iulu wa kuungamw'a kuu.
8. Kwithiwa na syikalo sya kwithukiisya ethiwa mutongoi waa ngwatanio nde kuatiia mawalany'o ma tist
9. Kumya woni iulu wa ikundi kuma ngwatanioni kwongelwa wia ni tist ta Auditor, TSE, Master Trainer na mawia angi.

**Kwika ukunikili wa masavu nikuthimaa kwina na uendeu wa ngwatanio.**

I tina wa kila myai itatu ngwatanio niyikiawa kithimini. Kuthima kuu nikuikiithasya athukumi ma ngwatanio ni amanyisye nesa na uvitukithya niwikawa waw'o, kwika wia museo wa kumanyisya, kuthima ui wa ene ngwatanio na kuthima undu kila ngwatanio yikite.

Undu uu nunenganae uvoo wa vata kwa GOCC ila iikiithasya athukumi ma ngwatanio nimaendee kwika wia museo na ngwatanio niendee kwika nesa kwa nzia ila yaile ta kuvanda miti ingi, uimi mwingi wa kusuvia (CF), Maiko maingi ma kusuvia mwaki na uyaiiku wa mikalo kivathukany'o.

Ngwatanio ila syeethiwa syithimite nesa ni siukwata utethyo mbeange na kutetheew'a kwithiwa

na Sacco na kwithiwa syiyiungamie. kila memba/mwene ena undu waika kutetheesya ngwatanio yake kwithiwa yeekiwa kithimini kwithiwa yailite. Kuvika mbumbanoni sya ngwatanio kukwata umanyisyo nikuutetheesya kwika na kuatiia mawalany'o maseo ma Tist kuvikia matunda maseo na manene. Yila amemba aingi meeka uimi wa kusuvi (CF, nnatumia maiko ma usuvia mwaki, maseuvia ivuio, mavanda miti now'o ngwatanio yenyu imeasya vinya na ikakwata voiti mbingi yila meekiwa kithimini. Kiikitetheesya ngwatanio yenyu kwithiwa yi imwe kati wa ila syambee kutwikithw'a Sacco.

**Kwia miunda yitu yi minou na yina wumi.**

N itwaile kuungamia itheka situ nesa nikana miunda yitu ndikashe unou wa muthanga na kutuma withiwa itena wumi/ ueti nesa. Umosu wa muthanga no uetwe ni muimi kuvanda muvai umwe wa liu vandu vamwe kwa ivinda iasa kana mbua siatanie kana yila muthanga wakuwa. Kuvanda mumhamba umwe wa mumea mbua itina wa mbua , mwaka itina wa mwaka no iete umosu wa muthanga, tusamu tulatwanangaa mimea nundu nitwithiawa na liu na mawikalo mwaka kuthi ungi (ona uvoo wa uwau wambemba ukwitwa maize Necrosis kilunguni kivaa thi). Tusamu tuu nitwingivaa na tukethwa twi mithemba kivathukany'o nokethia ve vinyakuketha ngetha nzeo nundu watw'o. Ivathane na kuvanda muthemba umwe wa mumea kisioni kimwe kwa ivinda iasa nikana wikalye muthanga wi munou. Nundu mimea kivathukany'o nitumiaa unou kivathukany'o kuma muthangani na kuvanda muvai umwe wa mumea nikutuma muthanga withiwa na ukya wa muthemba umwe wa unou na usyao wa mumea usu kuoleka.

**Undu utonya kwika kwikalya muthanga/ muunda waku wi munou na wina wumi.**

Vanda muthemba wa mimea wa mavoso kana miti ila yikiaa muthanga nitrogen. Muthemba wa mavoso kana

miti ila yithiawa na makwasi miini yamo nitoinya kumya nitrogen nzeveni na kumikia muthangani na kumitwikithya muthemba ula utonya utumika ni mimea ingi yi muthangani.

Yila twavanda mboso, nthooko, mavoso ma soina miti ta Sesbania, Leucaena na Acacia nitwongelaa nitrogen muthangani tutekwikia vuu wa luthooa ula wi sumu (fertilizer). Tata wumanisye kuvanda mimea kivathukany'o nundu unou ula waumwa ni mumea umwe no utungwe ni mumea ungi.

**Ngelekany'o, No tukuany'e uvandi wa mimea kivathukany'o uu**

- |           |  |
|-----------|--|
| Mbua ya 1 | Mboso  |
| Mbua ya 2 | Muvya  |
| Mbua ya 3 | Mbemba   |
| Mbua ya 4 | kuithya indo (kyaa kya indo nikyongelaa unou muundani) |
| Mbua ya 5 | Mboso  |

**Kusiia kukuwa kwa muthanga**

Nundu kaingi unou wa muthanga withiawa muthangani ula wi iulu, nzia syoothe nisyaille utumiwa kusiiia kukuwa kwa muthanga uyu ta. Nima ya kusuvia(CF) na kuvanda miti ithekani situ. Yila twaatiia nzia nzeo sya uimi nitukwataa ngetha nene kila mwaka.



## Ithiwa ngunuu, uwau wa mbemba (maize Lethal Necrosis)

(otondu yosetwe kkums KARI na CIMMYT)

**U**wau uyu wa mbemba (MLN) nuetawe ni virus na ivindani yii nuthinitye aimi muno miundani yitu kuu kenya. Yambee vyu niwoonekie Peru mwakani wa 1973 na wawetwa mbee kuu kenya mwakani wa 2011 mwai wa katano nthini wa county ya Bomet vala ene kisio kiiu mawiti “Koroito” maimaanisya ukune (plague) Umuthi uwauu uu nunyaiikite muno isioni mbingi vaa Kenya.

Uwau uyu nukwataa mithemba yonthe ya mbemba (Zea mays). Yila wavika muundani niwanangaa kilio kya katikati wa 30% na 100% ya mbemba. Mithemba imwe ya mbemba ndikwatawa ni muu/Maa indi uwau uu wa MLN ni utato munene nundu vai muthemba uteuwaa.

### Undu utonya kusiiia uwauu uu (MLN)

- Nthathasya uvandi waku kwa kuvanda mivai ingi ya mimea nundu uwau uu wa MLN ukwataa mbemba syoka.

- Ndukavande mbemba vakuvi na muunda ukwionany'a kwithiwa na uwau uyu.
- Vanda mbemba mbua ayambiia ivinda ya mbua ndasa vandu va ivind aya mbua nguvi. Weka uu withiwa waananga nzia ya uwau uyu ila itonya kuatiia nundu vayiithiwa na mbemba sya kuwikalya yila watiia kuvanda mbemba.
- Vatonyeka ndukaete uithyo kana mavya kana vuu kuma muundanii ungi nundu ndwisi kna wina uwau usu.
- Ethiwa mavya maku mena uwau uyu umya kwa mituki mavya ala makwatitwe ni iwau uyu na nounenge indo ikaya no ti mbemba kanga mithuka ya mavya kita kuvivya ithi.  
Nthini wa umbano wenyu ula wuikite neenanisyai uwau uyu mwina amemba ala angi, na ula withiwa akwatwitwe ni thina wa uwau uyu na undu mutonya kusiiia kunyaiika kwaw'o.

## Kwikalya mawithyululuko maitu na mii yitu yi theu.

**M**akili ma aimi ma tist nimavandaa miti kila mwaka. Miti ino nitethasya kwa kuthesya mawithyululuko maitu. Miti nitheasyas nzeve kwa kwosa nzeve itavisaa Carbon kuseuvya mithamba, matu, mbonge na mii. Uyu ni wia museo ukunawa ni miti na niwia utethasya muno uyu wa kuvanda miti. Andu oothe nduniani nimonaa kwikala nthi ino kwi kuseo yila miti myeu yavandwa na ila mikuu kusuviwa.

Oundu tuendee kuthukuma nthini wa Tist kuthesya mawithyululuko na nzeve onau now'o twaile uthukuma kuikiithya misyi yitu na mii yitu ni mitheu na yina uima. Tua tiie nzia nzeo na mawalany'o manzea kuthuthya andu ma misyi yitu na andi kwika uu. Athukumi mma tist kaingi ni mamayiasya angi iulu wa nzia ithi nzeo na uima na utheu wa mwii kwa ene/amemba ma ngwatanio na nzia nzeo sya kuatiia kwikalya utheu uyu.

### kuthamba moko.

kuthamba moko ni undu munini indi numwe kati wa maundu ma vata la m undu utonya kwika kwikala ena uima na kusiiia mowau. Nthini wa muthenya moko maitu nimathokoanaa nakwosa germs kuma muthangani, anduni angi, nyamani mbiothi na kundu kungi kwingi.

Germs nitonya ulika miini yitu na kutuma tuwaa na kunyaiikya uwau uyu kuma mokoni maitu kwa andu angi. Ni useo kuthamba moko nesa na kiw'u na savuni kuaa germs na kusiiia kuwaa. Kuthamba moko kaingi nikwaile mbee wa useuvya liu, itina wa kutumia kyoo na mbee wa kuya. Twalea uthamba moko nesa misyi yitu nitoya ukwatwa ni mowau ta kwituaa kaingi.

Usomi mwingi wiikithya kana kutitia moko kumya germs mudi aithamba ni kwavata mbee. Ethiwa vai savuni tumia kithangathi kana muu ila ni itheasya ta savuni.

### Kunyasya miio itina wa kumithambya.

Kunyasya liu na miio ya kuaa ni kwa vata nundu kiw'u kila kyatiwa miioni nikitonya kwithiwa na germs ila itonya kwongeleka kiw'u kiiu kyaendee kwikala vo. No tuseuvye utaa wa kwanika miio ikanyaw'a ni sua na germs kukw'a itina wa kumithambya. Ethiwa uu ndutonyeka no tutumie kitambaa kitheu kila twaile uvua kila ivinda kumivanguula.

### Kusiiia mbia na umuu.

Mbia na umuu nikuaa mowau na kutetheesya kusiiia nyamu ithi nitutonya

- Kuthesya nza situ na kuveta ikuthu na nyeki ila itaile
- Kutemea kiw'u kila kiungye mitau kithi. Ona kiw'u kini kivandu ve takataka nikitonya useuvya vandu a umuu kusiyaia na kuendee kunyaiikya ndetema kwoou veta kiko kyothe.
- Veta kana ukunike matialyo ma liu.
- La mavuti ala me sa wa nyumba me mavwike kana wikye iimani ya kiko.
- Tuta nyumba na nza yaku kila muthenya
- Lilkana kutumia neti sya kusiiia umuu ivinda yonthe

*Ekai twikalye mawithyululuko maitu mema ngilini mematheu kwa uima na wikalo.*



# Kutaanisya 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 ithukuma vaa Kenya.

Kitumi kya kutaanisya miti kila ivinda ni kuvikia kwa miti kwiana vya vate kuvingiisana na ingi na vaita wa muti ula watiwa kwongeleka. Kutaanisya kuu nikunenganae ngu, miti ya kwaka, na moseo angii 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 kutaanisya 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 kutaanisya miti ni kwailya uima wa muti na mutitu w’ontho. 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

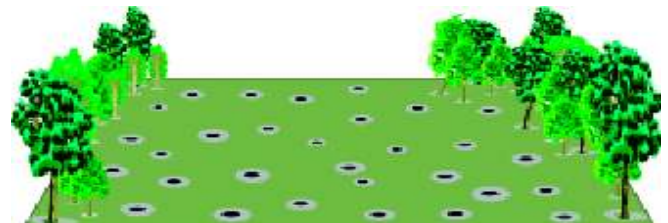
kwiana undu vaile. Kuvanda miti uthungianie vanini nikwitikilikaa kwa miti yi mini indi oundu miti iendee na kwiana imwe niyonekaa yi minene kwi ingi. Miti ino minene kwi isu ingii niyo yaile kuekwa na ila minini iteanite nesa kuvetwa, Sisy miti ila minene na miseo yila uusakua miti ya kutia uendee na utaanisya miti. Ethywa yotho no miseo sisya uole imwe nikana ivikie utaaniu ula waile na yithiwe itonya kwiana nesa.

Yila uusakua miti ya kuveta lilikana, 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 uutanisya miti

- Eka miti ila ya liu yiane nginya ivike
- Ola miti yanie ila yaile uyatiia 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 iendee 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
- Syaisya mutitu waku kumana na tusamu tula twanangaa na uwau
- Ngwatana na athukumi kuma ngwatanioni sya selikalini kusii mowau na tusamu tula twanangaa mititu.
- Siia mwaki wa kitheka.

Ndukeke uu



## DO THIS



Single tree selection

# Mazingira Bora



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

**Kipsigis Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Athi Cluster TIST members receive training during their monthly cluster meeting.**

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## Bantabtai ne iyanat konyor kilasta kelunoik en arawani.

En arawetab oeng 2012, kiiyonchin biik che kiyaba konetisiet kole kilasta ne kayai komie konyoru kelunoik (bonus) en biik chegimiten tuyonoton kogimwa boisionik ak wolutik ak rabisiek chegiliboni yon koituwosi mogutik kilasta. En kimnotoni kotoreti kilasta kotestai ak kotonotonchiegen en oret neimuechi konyo kwony ak kotesak walutik imuchi konyor membaek kilasta rabisiek che sire 50,000/= amun tinye ketik chesire 100,000/= en kilasta nenyuan en 5/= en ketit agenge kotogu kilasta kotinye ketik chesire 100,000 konyumnyum konyor oliyet kosir ketik chengerin

oliyet nemiten kwony ak walutik chechang kogochin kilasta konyor melekto neo mising en altaetab koristo

Chechang en kilasta konyuru melekwek en boisiek nemie amun iyoto rebotisiek chebo kilasta ak ole kiloisionto legunyuan ak konyuru kurubisiek chemengech melekwek kuwak en kasarta ne noton nyoru kora kotoikab kilasta baronok koyob ole asi kosomonchi biik en tuyosiekab kilasta kimongu biik chobe kilasta angetugul kongalalen ole boisto en rabisiekwak chesibun ko kilasta chegosir konyor kelunoikwak

| CLUSTER NAME | BONUS     | CLUSTER NAME     | BONUS    | CLUSTER NAME      | BONUS  |
|--------------|-----------|------------------|----------|-------------------|--------|
| 1 ICHUGA     | 65,557.00 | 19 NCHIRU        | 1,500.00 | 55 MATAKIRI       | 500.00 |
| 2 MWOROGA    | 54,450.00 | 20 NTUGI         | 1,500.00 | 56 MURINYA        | 500.00 |
| 3 KISIMA     | 54,190.00 | 21 MANYATTA      | 1,500.00 | 57 MURUTA         | 500.00 |
| 4 KIGUCHWA   | 54,132.00 | 22 KARABA-MBEERE | 1,250.00 | 58 NKUMBO         | 500.00 |
| 5 KAGAENE    | 3,000.00  | 23 BARANGU       | 1,250.00 | 59 THIIIRA        | 500.00 |
| 6 ITANGINI   | 2,750.00  | 24 CIAKANYINGA   | 1,250.00 | 60 AGUTHI         | 500.00 |
| 7 TANDARE    | 2,250.00  | 25 IRIGA         | 1,250.00 | 61 BUURI          | 500.00 |
| 8 GITIMENE   | 2,000.00  | 26 KAGUMO        | 1,250.00 | 62 KAHUHO         | 500.00 |
| 9 NAARI      | 2,000.00  | 27 KIRUBIA       | 1,250.00 | 63 KARUNDAS       | 500.00 |
| 10 NYWERI    | 2,000.00  | 28 MIRURIIRI     | 1,250.00 | 64 KIMAHURI       | 500.00 |
| 11 THUURA    | 2,000.00  | 29 NGARENDARE    | 1,250.00 | 65 MURIRU         | 500.00 |
| 12 KIANJAGI  | 1,750.00  | 30 TUNYAI        | 1,250.00 | 66 MURUKU PESI    | 500.00 |
| 13 KIRINDINI | 1,750.00  | 31 SALAMA        | 1,250.00 | 67 MURUNGAI       | 500.00 |
| 14 NTAKANI   | 1,750.00  | 32 WIUMIRIRIE    | 1,250.00 | 68 NJORUA         | 500.00 |
| 15 RAGATI    | 1,750.00  | 33 IGWANJAU      | 1,000.00 | 69 PONDO          | 500.00 |
| 16 CHUNGARI  | 1,500.00  | 34 KAMBITI       | 1,000.00 | 70 THOME          | 500.00 |
| 17 KAIRUNI   | 1,500.00  | 35 KIRIMAITUNE   | 1,000.00 | 71 THUNGARI       | 500.00 |
| 18 KITHOKA   | 1,500.00  | 36 NKANDO        | 1,000.00 | 72 WARAZO JET     | 500.00 |
|              |           |                  |          | 73 RAICHIRI PONDO | 250.00 |
|              |           |                  |          | 74 GACHUA         | 200.00 |

Niton ko keret nebo arawetab somok 2012 arawatab somok 2013. Keret nenyone kotestai en

kasarta nenyone koyob kontoikab (olc) asi kopchei ak kilosta.

## Nee keret nenyoe kilasta en kila arawa asi konyore borotet.

En tist kogere kole ingeboisi kibangenge kenyoru kimnotet ak kechei borotenyon ak biik alak en kurubisiek che mengech ak kien kilastaisiek kiyok kiyokto rebotisiekab tuyosiek ak chebo legusiek kobo komonut ak kogonu borotet

eniton komonyoron kelchinet en kila arawa.

Kilasta agetugul kotinye chomchinet koyoto rebotisiekwak en kila arawa ak komwochi biik entuiyet ole koboisionto rabisiekwak

### Okibwat kelchinet, en arawa koyai kouni

Toloitab tist kogeitige ak keyai borsionik che togu. Kilasta agetugul en tist konyolu koyoto rebot ole koboisionto rabinikwa 900/= chenyoru kila arawa asi konyor woluki chechang

1. Iwe tuiyetab kilasta ak ibuwoti kurubisiek alak
2. Ibuat borotetab kilasta: ketik chegotesak, kurubisiek chegonuor koitetab ketik ak ole kogiboisioto legutab kilasta
3. Oyoten rebot nebo tuiyetab kilasta ak ole kogiboisioto legut
4. Otet ak kiboitiyotab kilast ayobo koitetab ketik agobit toretinte ne toreti
5. Otach choronok ak biikab kokwet gochut tist oyon omiten tuiyet. Ak obchei masingira bora ak onet ole bwolunto
6. Asi kenyoru wolutik chemi barak kemin ketik, ketech ma nemoboisien kwanik chechang, kemin minutik en imbaret ne makibat. Kibangenge kogonech kenyorun kitagetugul

En kiboitio agetugul en kilasta konyolu kotinye masinit ne boisien ak legutab kilasta agetugul. En tuiye tagetugul ne koyo kiboitiolab kilasta koyoto rebot en betunoton

Agot komoginyuru rebot nebo kilasta, kotinye kotokab (olc) kole kilasta komoboisie anan (ruwot)





## **Kandoinatet ak ngatutik en kilasta.**

**E**n iguni kotinye tist kilataisiek 160 kilasta agetugul kiboistinikab kilasta kotoreti ak boisionik kiyok ak kobchee kotinye ngotutik ak kandoinatet kouni:

Kondoik chelewenotin

- Kondoitetab kilasta
- Rubeiyot
- Chemotogo

En kibotnik chetonkotinye boronodo nebo orowek angwa koboisie yeibata komanda kondaitetab kilasta konyon konomchi rubeiyot koik kondoitet neo, konyo akine chemotogo koik rubeiyot en let kelewen chemotogon ne lelel. Tinye boroindo kwonyik agichek koik kondoik. Bogomunet niton kayai lewenisiet en tist kilasta tugul.

### **Boisietab kondoikab kilasta**

Boisietab kondoitet

1. Koik kiboitiyotab kilasta tugul ak kobor totochikab tist
2. Kondoik chetolonchin boisionikab kilasta, koitikab ketik kotet konetulik ak kiboitinik alak
3. Konet kurubisiek konyor melekwek chechang, kobo komin ketik, koyai (cf) ak kotoret kilasta kotuiya asi kogimit
4. Kotet agobo tuyosekab kilasta ak kiboitinik alak
5. Kobois ak chemotogo agoger kole kogerib sirutik komobetiyo, ak kiyoto rebotisiek tugul
6. Kotach kurubisiek che lelach
7. Kotoret kiyoto (koyososiekab kurubisiek chelelach)
8. Kotoch toek ak konet yon kabwa tuiyet
9. Koger kole konyor kurubisiek vochaisiek yon miten kotomo kinan tuiyet. Ak kosib kon ole nyoluncho
10. Kobwotik biik agobo tuiyet nrnyone

### **Boisietab chemotogo**

1. Kotoch che kochut legut ak komwochi biik ak chegagiboisien en betutab tuiyet
2. Kotet ak tuiyet ole kiboisionto asi kenyor melekto neo
3. Korib ak kosir wolutik en kitabu en oret neiyat ak kogonor komie
4. Koyonchi kondoikab tist kosuwa ak chebo kilasta
5. Koyoto rebotisiek tugul chebo kilasta
6. Konet chemotogo ne isibu inendet
7. Kotoret ak konet kiboitinikab kurubit
8. Kotoret kogoito vochaisiek en kastab libanet en kurubit nemiten biik oeng kawekta vochait ak kongalal ak chito ne tonouchi libanet

### **Boisietab rubeiyot**

1. Kotonchi tuiyet yon momiten kondointet ak kotoret membaek and kondochi yuiyetab kilasta
2. Koribchi tuiyet saisek
3. Kosir walutik en tuiyet
4. Kosomochi tuiyet wolulikab arawet ne gosirto
5. Korir walutik ak kit neganga lalen tuiyet
6. Konet chemotogo lelel

### **Kondoikab kilasta kobenti koik kondokab council (gocc)**

Rubeiyot ak chemotogo kobenti koikadoik en (gocc) en korurugutioni koboisiechin kilasta en kasartab orowek sisit komanda

En korurugutioni (gocc) koyomtosgei kilataisiek 2-5 che itinge. Kondoichin kotinye tuiyenwan en kila arwa wigit netain nebo arawet. En ngalenwan koyongto reboysisiekwak koba (olc)



**Boisietab kondoikab council**

1. Konger agobchei boisionik chemiten kilasta
2. Konger kole koitik konetisosiek kilasta ak tolochikab tist
3. Kotononchi masinisiek chekiboisien ak koitetab ketik
4. Koyoto reboisiek kon olenyolu koba tuiyetab (olc)
5. Kotech kilasta koet
6. Kotononchi kiboitinikab kilasta
7. Kotononchi kondointetab kilasta ak kogas ingoboisie ago isibi tolochikab tist
8. Kongolonchi biik agobo tesetabtain agobo tist
9. Kotonchin agobo koitosiekab ketik ngosibi tolochigab tist kou chigilisiet tse ak kibotnik tugul.

**Chegilisiet koboruwech kimnotenyon ak boisionik kiok.**

**E**n kila kogaibata orowek somogu kerutechi kalasta keswa igoite ketik komie, igoyoe boisiel nelitit, igo netisie komie ak ngomnotetab membaek ak keger minetab ketik olen

En niton kogochin kondoikab (gocc) konai kole nee ne testain en kiboitinikab kilasta ak kilasta komugul

En kilasta chegosiriyo en chigilisiet konyoru

toret neo agetoret kochut (saccos) ago tononchigen koichek

Membaiyat agetugul kotinye boroinde konai igo kosir kilasta en chigilisiet yon kibenti tuiyetab kilasta kenyoru konetitosiek che ter en oret nebo imanit ak kenyoru wolutik che kororon, kemin ketik enito konyoru kilasta kimnotet en betutab chigilisiet nyoru boroinde kilasta konyoru (sacco)

**Kerib imbarenikiok konyor katondolet ak kogonech rurutik.**

**N**yolu kerib en ngomnotet neo mising imbarek asi mogibet ogunoiyetab ngungunye agot komogirib komokinyoru rurutik en imbarenikiok. Nito kenyoruagot kemin kitagenge en imbar en kasr ne goi ye tastai kegol kora kegole kutik en chongindo amun nyoru kutichu omitwogik chechang kou (maize neerosis) istoenge koletab kitagenge. Igochin niton komonyor imbaret nito kora kobitu rubet oguwoiyet.

oguwoyet en ngungunyek kemin tuguk alak en imbar kou.

En kasrta netai:

1. Ngendek
2. Mosongik
3. Bandek
4. Kiyagen tuga
5. Ngendek

**Iyone asigobit konyor imbarengu kotondoleiwek ak rurudik .**

Miten rurutik (leguminous crops) ak ketinye che nome koristo (nitrogen) en soet koik omitugul ago boisien kimuchi kemin kou imbasi, soybeans ak ketik kou sesbania, sesban, ak kotok choton ak alak kotese

**Teretab ngunguyek.**

Ngungunyek chegororon kenyoruren ogukwoindo en basagutab choton koyegiter ngungunye kenyoru ogukwoindab imbar ye kimin ketik kotreti mising ago kinyoru rurutik en kenyyit agetugul, ogeyom keyai kouniton en imbarenikyok



# Ogeribegi miondab bandek (lethal necrosis) kouyemwae ngomotik kap kari ak cimmyi.

**E**n miondab bandek (mln) ko kogaim temik en emenyon bo kenya. Netai ko kiiborgei en peru en 1973 ak kotok en kenya en arawetab mut 2011 en county nebo bomet kotochi biik koguren “koroito,” kiit negomong tesetai enguni kogoyom emet komugul.

Miyonidon konyorioten mising kobot bandek (minutik tugul chetinye otebetab bandek).Ye kagoit imbar koroiton kobore kabeberietab 30% chebominutik. Minutik alage kotinye teret ne moichikonyor koroiton, miyoinndon kogonu koimutik chechak.

## Togunetab koroiton lethal necrosis

togunen bandek yeinam kotolelionit sogek, mising bandek chemengech sogek. Ngeten walitab sogiot kot koyom sogek tugul. Meyeitanyi kenyoru rurutik

chengerin.

## Olekimuchi keter koroiton (lethal necrosis)

- A) Kemin rurutik cheterchin amun koroiton konome bandek kityok.
- B) Mat imichi bandek imbaret nenegit ole kogonom mionidon.
- C) Min bandek en kasarta neo robta kosir kasarta ne momiten rob.
- D) Mat iibu sogekab bandek ana mobek koyob oldage.
- E) Ye keger bandiat ne tinye koroito itutu en imbar.

En tuiyet nenyone nebo kilasta ongalalen agobo koroiton en kerenguok, ago yochine agobo ole kimuche keterto

# Ogerib ole kimenye ak boruwe kiyok.

**E**n keyitagetugul kotinye boroindo teemikab tist komin ketik chechang en emet komogu ketichun kogochin ole kimenye kotililit. Ketichun koune koristo nemite soet kotegen berik, sogek, temenik ak tigitik niton ko boisiet neo mising ago toretech kimugul met kochenge ile menye ye karara yon kagim ketik ak kerib chemiten.

Yegiboisie en tistgechobe ole kimenye ak kenyoru koristo ne kararan,kotos kiribe kaa ak boruwekiyok koyot tititindo. Ogoyain koborunoni ak kemwochi kapchiisisek kiyok koyai koutonon kiboitunikab tist abogora koche ak biik agobo lililindo, onge mwochin membaek en kilasta kobchei ngolalaniton.

## Kounetab eut.

Bogomonut niton yon kogiun eunekiyok ketere miyoluwek en boruwekiyok en betut kenyoru simdo en eunek yon kaginam ngungunyek,biik alag,banyak ak tugul alage en olegimenye murindo konyole boruwegiok ak kemian ak kinamde biik alak.Kararan yon kogiun eunek komie ak beek ak sobunit niton kobore murindo nemiten eunek

Kotomo kechob omituagik kiun eunek amun agot kounoton kenyo miyondo neu (komanda moet

en abogora)

Mwoe kipsomanik kole kararan mising ketintinye eunek yon momiten sobunit ak orek, anan ko ngainet.

## Yon kogiun tugul chegiboisien kebagach kosoio.

Omitwogik ak tugul chegiboisien kobo komonut mising amun igebagach koteben beek kogochin simdo kotesak yon kogiun tugul kemoe en sanet en sang asi konyor asista. Agot komogitini, ko kimuchi keboisien kitambaet ne tilil ak keusen keiste beek en tugul.

## Nunalik ak teretab umbu.

Murek ak konyinyisik koibote miyonuwek teretab chuton ko

- Keisto tumndo ak susuek en negit kaa
- Keisto beek che katagum en yenegit kaa
- En omitwogik chegonget keger komie
- Kiruruch saratik en keriget ak kebel
- Keus kok en kila betut
- Keboisien netisiek asi kimuch keter konyinyisik ogerib olekimenye kotililit asi kogonech kogororonitun borukyok, en ole kimenye



# 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, kebeberiatat 1% en imbarenik 40,000 che kigimich ketikab tist en kenya ko kogonam kotit ketik en kastab kenysisiek 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 kebertab 5% en ketik cheitinen en kasartab kenysisiek 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 koboisii 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 kenysisiek 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

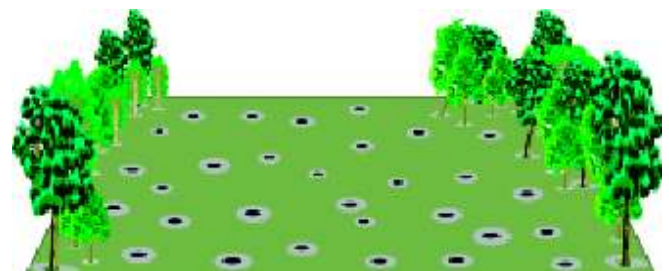
Ye kiyoe kouniton kogochin ketit konyor itondo ne kararan ak kobit osnet ne kararan niton koribetab ketik ak kemin alak miten alage kou kipkaa, sebesebe, chepkogutgei ak cheborus ko ketik chegitu agomotinye temenik chechang, ketik agetugul kotinye mogutik kiik, anage kobo kwenik, tere alage koristo alage 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
- En tist kochamtaat inges ketik kebebertab 5% en ketik cheitinye chebo kenysisiek 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



## DO THIS



Single tree selection