

# Mazingira Bora



# TIST

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

**English Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Members of Kangeta Cluster. Last month, they were trained about establishing tree nurseries and preparing land for Conservation Farming. Six Small Groups joined Tist During this meeting.**

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## Your Accountability Person and Co-Leader will now serve you in Group of Cluster Council.

In TIST, we learn and develop best practices by trying new things and observing and learning from the results. After a year of experience with elected Group of Clusters Councils Representatives, many TIST farmers have come up with ideas to improve this service structure. The TIST Leadership Council has agreed to this idea: beginning this month, the Cluster Accountability Person and the Co-leader will serve as the Cluster's representatives to the Group of Clusters Council. This change will simplify elections and give the elected cluster leaders more ways to grow and serve in TIST.

A Group of Clusters is 2 to 4 clusters close enough to be able to share equipment and training capabilities.

Like in the previous Councils, the new GOCC will serve for 6 months. Please note, Co-leader will serve as GOCC representative for the period he or she is serving as Co-Leader (4 months) and two more months while serving as the Cluster Leader. Similarly, the Accountability Person will serve on the Council for 4 months while serving as Accountability Person and 2 more months while serving as Co-Leader. Both leaders will rotate out when they have served 6 months but will continue to serve their clusters for the remaining period in their Cluster leadership roles.

The Group of Council (GOC) will be meeting monthly preferably on the first week of the month and should submit reports of each meeting.

### Responsibilities of elected Group of Clusters 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 Regional Council;
- 6) Expand TIST through present Clusters;
- 7) Hold Administrative Hearings if a Quantifier or Trainer 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.

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## TIST and its benefits continue to grow!

*By Aaron Kaindio*

As TIST expands to new areas within our country, more and more Clusters are being formed, and existing clusters are growing as neighbors join to create new TIST Small Groups. TIST benefits are being shared and experienced in new areas.

Today, more than 130 active clusters have been formed. We are working hard to increase the number of Clusters to 200 by the end of this year.

We thank our TIST Kenya Team for their hard work and dedication to ensure that each and every cluster is well organized, well served, and moving ahead to meet the TIST goals.

As we all know, we all need to work together to help TIST and its benefits grow. We

can plant trees, and develop and use other TIST Best Practices like Conservation Farming (CF), improving riverbanks, and planting and caring for diverse trees to make our clusters strong as we improve our own farms and lives.

As a reminder:

- A Cluster should have 30-50 Small Groups
- A Cluster's Small Groups should be within walking distance of a central meeting point
- A Cluster should have at least 100 hectares of land set aside for tree planting
- A Cluster should have at least 200,000 live trees
- A Cluster should do accurate quantification and high quality training



- A Cluster should have enough seedlings in nurseries for annual planting needs. Each Small Group should plant at least 1,000 trees per year to have 5,000 trees by the fifth year

What Should a Good Cluster Do?

- A Cluster should hold elections each 4 months to select an Accountability Person who will rotate through the positions
- A Cluster should meet every month for training, sharing of best practices, distribution of Mazingira Bora, payments, and other matters
- At Cluster meetings, representatives should share information transparently with other members, such as how the cluster budget was used
- At the monthly Cluster meeting, a Cluster should submit their Cluster Meeting Record and their Cluster Accounting Form by Palm
- A Cluster should actively request quantifications when needed
- A Cluster should ensure that quantification is accurate
- A Cluster should work to improve data quality

of its Small Groups so that more trees can be eligible for the carbon market (included in Carbon Project Documents)

- A Cluster should work to make payments to each Small Group
- A Good cluster is always recruiting and training new Small Groups. GROWTH makes the TIST program stronger! A Cluster should multiply to 2 when it reaches 400 members

What Should You Do If You Need Assistance?

- For information on quantification data quality, contact Martin Weru 0722846501
- For information on equipment (Palms), contact Charles Ibeere 0720474209
- For information on expanding your Cluster, contact Eunice Wambui 0724431071

At today's meeting, talk with your Cluster Service Team and Cluster Representatives. How many trees does your cluster have today? How many Small Groups does your cluster have today? What can YOU do today to make your cluster strong? In TIST, we can!

Creating a bright future for our children: diverse trees help!

By Aaron Kaindio

When you plant a tree, know that you are helping even the future generation so they will have a good, clean and beautiful environment. They shall appreciate that we worked so hard to fight climate change and to eradicate poverty. This is why we in TIST are more selective on what species of trees to plant in on our lands and along our riverbanks. We are planting not just for ourselves, but also for our children, and theirs.

Some trees can be harmful to our environment in some areas, though they have other benefits. Trees like eucalyptus grow very quickly because they consume a lot of water and soil nutrients. For this reason, this tree can be good for commercial purpose, but may harm the environment in some areas, especially along rivers and in wetlands. They do not grow well in fields where we want to grow other crops and may make the soil less suitable for crops even after tree harvest.

We are planting trees, which shall last for the

long-term (30 years and over) as required by carbon markets. Farmers in Small Groups with high percentage of eucalyptus should try to achieve the TIST recommendation of having no more than 33% eucalyptus trees, by planting indigenous trees on new land or thinning some eucalyptus and replacing them with other trees, especially indigenous trees. This is especially important along rivers. Remember that the government discourages planting of eucalyptus near rivers and in riparian areas. Plant water friendly indigenous trees, and follow best practices, and you may be able to qualify for the additional incentive for indigenous trees in riparian areas. You'll be making rivers healthier for your family, for people downstream, and for generations to come.

Let's all do this so that we can sustain our TIST program and also our entire environment.

**The writer is TIST Quantifier, Kigucwa Cluster. aronkandio@tist.org.**



# Green gram program farming clusters.

By Jennifer Kithure

TIST Clusters have begun yet another Best Practice: growing green grams for more income and nutritional purposes for our families. We have started with twelve pioneer clusters, which, through the **Helped to Help program**, will expand to other Clusters in coming seasons.

These pilot clusters are Mumbuni, Kiengu, Kaanwa, Mworoga, Giaki, Matakiri, Kirindini, Nkondi, Tunyai, Gachuaa, Kawiru MCK and Mikinduri.

In each of the 12 Clusters above, 5 members each received 5kgs of green gram of N26 variety to plant on one acre. Due to smaller land size in some areas, in some clusters, farmers shared the seed to combine effort, with each to plant on his or her land half an acre of green gram. Harvest will be in January, and each promised to share from their harvest so that 2 more farmers in their cluster can plant next season. To this end, in February, pioneers will pass 5kgs of N26 green gram to three others in their cluster.

Thousands of TIST farmers want to grow green gram, both for its good nutrition and its commercial potential, since it grows well even with low rainfall. Pioneers were trained on marketing of Green Gram at a seminar You can organize in your clusters to try growing green gram. Here are some things to keep in mind for success in the green gram market:

## Commercialization eye.

Commercialization is a commercial approach to enterprise development that looks at a business processes from a benefit maximization perspective. For success, an entrepreneur needs to identify all the activities involved in the running of his /her enterprise with a business mind. It involves analyzing every stage to identify the cost and benefits. Producer/processing groups need to view their farming activities with a commercial eye. In addition to producing for subsistence needs, the members should gear themselves to producing for income generation. The incomes generated should however be sufficient to meet for the costs incurred in production and to create optimal profits for the members.

## Community commercialization involves:

1. Ensuring that the enterprise emphasizes a business/market oriented approach at all levels to facilitate a less cost –more value attitude

- among the producers, fostering optimal profits.
2. Producers conducting a simple market research to identify their strengths and the underlying market opportunities.
3. Producers forming business units with clear membership guidelines and allocations of duties and responsibilities.
4. Different TIST producer groups coming together to form large units otherwise known as commercial villages to bulk enough produce for institutional, formal and mass markets
5. Establishing the producer group governance structures.

## TIST Cluster commercialization.

Definition – Cluster commercialization is a market led commercial approach through which typical TIST cluster are commercialized and equipped to meet private sector markets requirements and further increase the commercial village participation along value chains. Villages are empowered to operate like business units to achieve significant volumes of farm produce supply consistently, improve their supply and outsourcing logistics and achieve efficiency.

This aims at:

- a. Mobilizing farmers in the social villages to form commercial producers groups (CPG).
- b. Integration of small groups farmers and villages into mainstream value chains.
- c. Enhance the capacity of clusters as respectable market players.
- d. Increase the competitiveness of small holders.

## Benefits of Cluster commercialization.

The major benefit or advantages that are derived from such an approach include:

- a. Collection, transportation, processing and marketing of produce together effectively and efficiently.
- b. Support to agricultural production of members through distribution of farm inputs
- c. Dissemination of applied technology to members.
- d. Provision of credit to members for defraying urgent expenses such as school fees, funerals, hospital bills etc. at affordable cost.
- e. Creating employment indirectly, through self-employment in the industry.
- f. Collective marketing increases product



- volumes thus increasing chances of attracting more buyers.
- g. A contract farming or contract production for groups.
  - h. Proper saving schemes enable members to reduce mismanagement of funds both for group and for members.
  - i. Group planning on viable business opportunities
  - j. Organized groups attract donors to support group projects.

TIST Clusters green gram champions are in all the 12 clusters that have started the green gram farming program. They will support with green gram production, seed bulking and marketing. This will happen with advice and support of Farm Concern International, who trained the champions on the matters described in this article.

#### **Core factions and responsibilities of green gram champions.**

- I. To review periodically the situation of green gram production and examine problems of common interest in this field;

- II. To prepare coordinated production program schedules to be executed by the commercial producer groups.
- III. To ensure the coordination of effort and the cooperation of production units.
- IV. To discuss technical subjects in relation to green gram production and marketing with other stake holders.
- V. Work out a production and marketing plan in consultation with the local producers
- VI. To promote the sharing of responsibility for resource management and planning between the different spheres of Government, the farmers and other stake holders.
- VII. To provide guidelines on sustainable development of natural and physical resources for the farmers.

Learn more about green gram today! If your cluster is in a region favorable for cultivating green gram, and you are interested in joining to eradicate hunger in our community and country at large – just contact Jeniffer Kithure phone no. 0726319539 for more information. With TIST we grow, eradicate hunger and sell carbon credits.

## **Trees make the environment better for us all.**

In TIST, we plant trees to take part in the carbon market and earn income from carbon offset sales. However, the other benefits of trees are enormous! Here are just a few benefits we (and the rest of the world) enjoy:

- Trees serve as natural habitat to support a wide variety of flora and fauna. They provide a sense of privacy and security to wildlife seeking shelter in the woods and provide them with food. Protecting biodiversity makes our farms and our planet more productive and resilient to climate change and other challenges.
- Trees improve the quality of air and reduce dangerous pollution. Trees remove excess carbon dioxide and air pollutants including sulfur dioxide, ozone and nitrogen oxide. In return, they give us oxygen required for life.
- The visual quality of a landscape is improved by planting trees, which, in turn, improves the quality of life. The greenery of trees adds color to the landscape and enhances the picturesque beauty of the environment.

- Trees control the climate by moderating the effects of sun, wind, and rain. They can help prevent severe floods, landslides, and wind damage. Trees moderate flood hazards by allowing the rainwater to percolate into the soil instead of running over it.
- Trees reduce soil erosion. Their roots bind soil that would otherwise wash away in rainstorms and floods. Trees also help improve the fertility of soil. Rich soil transfers nutrients to food, which contributes to human health.
- Trees are great absorbers of noise. Noise pollution can be reduced to a great extent by planting more and more trees.

The demand for clean drinking water can be met by planting indigenous trees. Forests and plant cover naturally slows the runoff of rainwater and filters it into the soil. Once slowed, rainwater seeps down to refill underground aquifers we depend on for our use. Trees also shade rivers, keeping water cool, and slowing its loss through evaporation.



# Fast growing indigenous trees.

By Christine Yankel

Indigenous trees provide many different benefits. This month, we focus on some indigenous trees that are especially useful because they are fast growing. In the wild, often these species are pioneer species, growing first and fast when space is opened by fire or cutting. Talk to trainers and other Small Groups in your cluster and discuss together which species are best in your area.

***Hagenia abyssinica***, African redwood, muhooru



With its beautiful red timber, and growing quickly up to 20 m, *Hagenia abyssinica* is a good tree to grow in high elevations that receive 1,000 to 1,500 mm of rainfall each year. It has many benefits: its leaves enrich soil, and make it a good tree for planting in farm fields for agroforestry. It is a medicinal tree, and can help preserve the soil. Its wood is valuable timber and also makes good firewood or charcoal.

The tree grows easily from seed. Pretreatment is not necessary and seeds germinate within 10-20 days of planting with a germination rate of 40-60%.

If planted in together with crops, plant at a low density. Prune branches to encourage straight growth of the trunk.

***Macaranga kilimandscharica***, mukuhakuha/mukura



*Macaranga* is a fast-growing tree that is a good choice for growing together with coffee or bananas.. It grows best with 1,500 to 2,500 mm of rainfall each year. It is a good barrier tree, and because of its fast growth, can protect soils from eroding. Its wood is good for firewood and is used in making boxes or fencing. An extract of its roots is useful medicine.

Grow macaranga from seed. The tree grows well and with minimal care once well established

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## **Mumenyeri wa mauku na mbeba cia cluster na mutetheria wa mutongeria nandi bagaita ngugi ta gikundi gia kiama gia cluster.**

Ndene ya TIST nituthomaga na tukathithia mitire imiega nkuruki ya kuthithia mantu na njira ya kugeria mantu jameru na gutega na kuthoma kumania na jaria jakaumira. Nyuma ya mwaka jwa kuritanira ngugi na arungamiri ndene ya kiama gia gikundi gia cluster, arimi babaingi ba TIST nibejite na mathuganio ja kuthongomia mubango juju jwa kurita ngugi. Kiama kia atongeria ba TIST nigitikiritie ithuganio riri; kwambiria mweri juju, mwiki mbeba na mauku ja cluste na mutetheria wa mutongeria bakarita ngugi ja arungamiri ba cluster ndene ya kiama kia gikundi gia cluster. Kugarurwa guku gukothia uringi kura na kue atongeria athure ba cluster njira ingi cia gukura na kuritira TIST ngugi.

Gikundi gia cluster ni gia cluster ijiri gwita inya iria cikuaniritie uria ciumba gutumira into na aritani bamwe.

Ja ndene ya biama biria bitwire, gikundi gikieru kia GOCC gikarita ngugi mieri itantatu. Itu menya, mutetheria wa mutongeria akarita ngugi ta murungamiri ndene ya GOCC ndene ya igita riria we akurita ngugi ja mutetheria wa mutongeria (mieri inna) na mieri ingi iiri arri mutongeria. O ta ou, mwiki mauku na mbeba cia cluster akarita ngugi ndene ya kiama mieri inna akiritaga ngugi ja mwiki mauku na mbeba cia cluster na ingi iiri ari mutetheria wa mutongeria wa cluster. Atongeria bau bobairi bakauma mieri itantatu yathira indi beete nambele

kuritira cluster yao ngugi ndene ya igita riria rikethira ritigeere ja atongeria ba cluster.

Gikundi gia cluster (GOC) bagatirimanaga o mweri mono kiumia kia mbele kia mweri na nibabati gutuma ripoti o mucemano junthe.

### **Ngugi cia gikundi gia cluster kiu kithure.**

- 1) Kumenya na kugaana mitire iria miega buru ya kuthithia mantu ;
- 2) Kumenyeera ati uritani ni bwa iguru ndene ya cluster bukithingataga jaria TIST iikirite;
- 3) Kumenyeera uteri miti bwa iguru bukithingataga jaria TIST iikirite;
- 4) Gwiika into bia kurita ngugi ya uritani na uteri miti bwega;
- 5) Kuuga thina na njira cia gucithiria nikenda batetheria kuthithia rwatho ndenne ya kiama kia region;
- 6) Gutambia TIST gukurukira cluster iria cirio;
- 7) Kuthikira ja utongeria riria mutari miti kana muritani arungikwa ngugine nikenda mantu jategerwa gutetheria kugiita igamba kwegie kurungikwa guku ;
- 8) Kuthikira ja atongeria riria mutongeria wa cluster atikuthingatira jaria TIST iikirite;
- 9) Gukurukia antu kuuma kiri gikundi gia cluster nikenda baewa ngugi ingi cia TIST ja mutegi ngugi, TSE kana Muritani umunene.

## **TIST na baita ciayo nicigwita na mbele gukura!**

*Niu Aaron Kaindio akuuga*

O uria TIST igutamba ntuurene injeru ndene ya nthiguru yetu, cluster ingi na ingi nicikuthithiua na cluster inkuru nicigukura o uria atuuri bagutonya na kuthithia ikundi bibieru bia TIST. Baita cia TIST nicikugaanwa na kwonekana ndene ya ntuura injeru.

Narua nkuruki ya cluster igana na mirongo ithatu iria ciritaga ngugi nicithithitwue. Nitugwita ngugi nainya kwingiyia namba ya cluster ikinye Magana jairi mwaka juju jugikinya muthia.

Nitugucokeria timu ya atongeria ba TIST ndene ya Kenya niuntu bwa ngugi yao indito na kwiritaniria kumenyeera ati o cluster yonthe nibanganitue bwega, nikuritirwa ngugi bwega na nigwita na mbele kenda ikinyira bioneki bia TIST.

O jauria twiji twinthe, nitugwitia kuritaniria ngugi twinthe gutetheria TIST na baita ciayo gukura. No tuande miti, na kuthithia na gutumira mitire

imiega buru ta urimi bubwega, kuthongomia nteere cia ruuji, na kuanda na kumenyeera miti ya mithemba mwanya nikenda twikira cluster cietu inya na kuthongomia miunda na miturire yetu.

Turikaneni:

- Cluster ibati kwithirwa irina ikundi bibinini mirongo ithatu gwita itano
- Ikundi bibini bia cluster nibibati kwithirwa bikuianiritie uria bionthe bikomba gukinya na maguru antu athure a mucemano
- Cluster nibati kwithirwa iri na munda nkuruki ya hectare igana jwiki jwi jwa kuanda miti
- Cluster nibati kwithirwa irina nkuruki ya miti ngiri Magana jairi iri mwoyo
- Cluster nibati kuthithia utari miti bubwega na uritani ba iguru
- Cluster nibati kwithirwa irina mbeu ya miti





ing'ani ndene ya minanda niuntu bwa uandi miti wa o mwaka. O gikundi gikinini nikibati kuanda miti igukuruka ngiri o mwaka na kithirwe kirina miti ngiri ithano ndene ya mwaka jwa itano.

Cluster injega ibati kuthithia atia?

- Cluster nibati kuthithia ithurano o mieri inna kuthuura mwiki mauku na mbeca cia cluster uria ukathiuruka itine bia utongeria
- Cluster nibati gutirimana o mweri niuntu bwa uritani, kugaana mitire iria miega buru, kugaana Mazingira Bora, kuriwa na mantu jangi
- Ndene ya micemanio ya cluster, arungamiri nibabati kugaana mantu na weru na amemba bangi, ta mung'uanano, uria mbeca cia cluster cia o mweri citumiri
- Ndene ya mucemanio jwa o mweri, cluster nibati gutuma rekodi cia mucemanio jwa cluster na fomu ya utumiri mbeca cia cluster bagitumagira Palm
- Cluster nibati kuria gutarirwa miti riria gukwendeka
- Cluster nibati kumenyeera ati uteri miti ni bwa iria irio yongwa

- Cluster nibati kurita ngugi kuthongomia data ya ikundi bibinini nikenda miti ingi iuma gutonyithua ndene ya thoko ya ruugo ( iri kiri mauku ja muradi jwa kaboni)
- Cluster nibati kurita ngugi ya kuria o gikundi
- Cluster injega ithagirwa rionthe igitonyithia na kuritana ikundi bibinini bibieru. GUKURA nigwikagira TIST inya! Cluster nibati guciarana cikaa ijiri yakinya amemba Magana janna.

Niatia ubati kuthithia wenda utethio?

- Wenda kumenya mantu jegie uthongi bwa data ya utari miti, ringira Martin Weru 0722846501
- Wenda kumenya mantu kwegie into bia utari miti, ringira Charles Ibeere 0720474209
- Wenda kumenya kwegie kuneneyia cluster yaku, ringira Eunice Wambui 0724431071

Mucemanione jwa narua, aria na timu ya kuritira cluster yenu ngugi na arungamiri ba cluster. Ni miti cluster yenu irinayo narua? Ni ikundi bibinini bing'ana cluster yenu irina bio narua? Niatia umba kuthithia narua gwikira cluster yaku inya nkuruki? Ndene ya TIST twomba!

## **Kuthithia ruju rurina weru niuntu bwa aana betu: miti mithemba mwanya nigutethia!**

*Ni Aaron Kaindio ukuuga*

Riria waanda muti, menya ati nugutethia baria bakeeja nikenda bethirwa barina guntu kubathiurukite gukwega, gukutheru na gukuthongi. Bakagwirua kumenya nitwaritire ngugi nainya nikenda turua na kugaruka kwa reran a kuthiria ukia. Giki nikio gitumi batwi ndene ya TIST tutaraga ni mithemba iriku ya miti ya kuanda miundene yetu na nterene cia nduuji cietu. Turianda niuntu bwetu twinka indi niuntu bwa kinya aana betu na bao.

Miti imwe nimithuku kiri naria gututhiurukite ndene ya ntuura imwe, kinyethira irina baita ingi. Miti ja mibao nikurangaga niuntu nijukagia ruuji na irio bibingi. Niuntu bwa gitumi giki, muti juu nijumwega kiri kwendia indi jwomba kugitaria naria kuthiurukite ntuurene imwe, mono nterene cia nduuji na ntuura iria cirri mbura inyingi. Itikuraga bwega bienine naria tukwenda kuanda imera bingi na noitume muthetu jukathuka kiri imera kinya nyuma ya miti yagitwa.

Nitukuanda miti iria igakara igita ririraja (miaka

mirongoithatu na nkuruki) ja uria tukuurua ni thoko cia kaboni. Arimi ndene ya ikundi bibinini baria barina gicunci gikinene kia mibao nibabati kugeria gukinyira uria TIST iuritie ati bethire barina gicunci kia mibao gitigukinya mibao mirongo ithatu na ithatu kiri o miti igana, na njira ya kuanda miti ya gintwire ndeneya miunda imieru kana kunyiyia mibao na kuanda antu ayo mithemba ingi, mono ya gintwire. Bubu burina bata mono nterene cia nduuji na akui na nduuji iji. Aanda miti ya gintwire iri ikaranagira ba ruuji bwega na uthingatire mitire imiega nkuruki na womba kuwera mbeca cia kwongera niuntu bwa miti ya gintwire ndene ya miunda iria iri akui na nduuji. Ugatuma nduuji cigie thiria nkuruki niuntu bwa nja yaku, antu baria bari bwagaiti nab aria bakeeja.

Tuthithieni bubu twinthe nikenda tuumba gwika muradi jwetu jwa TIST na kinya naria gututhiurukite. **Muandiki ni Mutari miti wa TIST, Kigucwa Cluster. [aronkaindio@tist.org](mailto:aronkaindio@tist.org).**



# Murandi jwa kuanda ndengu ndene ya Cluster.

*Ni Jennifer Kithure ukuuga*

TIST niambiritie mwitire jungi jumwega nkuruki: kuanda ndengu niuntu bwa mbeca na na kinya niuntu bwa kuriwa ni nja cietu. Nitwambiritie na cluster ikumi na ijiri, juria, gukurukira mubango jwa Tethua Utethie jugeta kiri cluster ingi ndene ya mbura iria ikeeja.

Cluster iji ciambiritie ni Mumbuni, Kiengu, Kaanwa, Mworoga, Giaki, Matakiri, Kirindini, Nkondi, Tunyai, Gachuaa, Kawiru MCK na Mikinduri.

Ndene ya o cluster kiri iji, amemba batano nibaewi o muntu kilo ithano cia ndengu cia mthemba jwa N26 kuanda ndene ya acre imwe. Niuntu bwa thina ya miunda iminini ndene ya ntuura imwe, arimi nibagaanire mbeu, na o muntu aanda acre nusu ya ndengu. Maketha ni mweri jwa January na o muntu nekire wirane kugaana kuumania na iketha riawe nikena arimi bangi bairi ndene ya cluster yao bomba kuanda mbura iu ingi. Ndene ya mweri jwa iiri, baria bambiririe muradi juju bakanenkanira kio ithano cia N26 kiri bangi bathatu ndene ya cluster yao.

Ngiri cia arimi ba TIST niikiwenda kuanda ndengu, niuntu bwa kuria bwega na kinya mbeca, niuntu niukuraga bwega na ngai inkai. Baria bambiririe nibaritanirwe kwendia ndengu ndene ya semina. No bumbanganie ndene ya cluster yenu kugeria kuanda ndengu. Aja ni mantu jamwe jaria ubati gwika mutwe nikenda uumbana ndene ya thoko ya ndengu:

## **Riitho ria kuthithia biashara.**

Commercialization ni njira ya kibiashara ya gukura kingugi iria itegaga biashara na riitho ria kuneneyia baita uria kuumbika. Nikenda ombana, mubiashara netagia kumenya mantu jonthe jaria joonekaga kiri biashara iu na mathuganio ja kibiashara. Ni amwe na gutegeera o itagaria nikenda umenya mbeca iria igatumika na baita. Ikundi bia kuthithia nibigwitia gutegeera urimi bwao na ritho ria kibiashara. Amwe na kurima irio, amemba nibabati gwisukuma kiri gucua mbeca. Mbeca iria ikaumania na bubu nibati kung'ana kuria mbeca iria ciatumiri kiri kurima na kua amemba baita.

## **Gukura kibiashara gwa ntuura niamwe na:**

1. Kumenyeera ati biashara nigutumira mono njira ya kibiashara mantune jonthe nikenda ithuganio ria utumiri bwa mbeca inkai - na mantu jamanene gukinyirwa kiri baria bakurima, nikenda baita cinenea.

2. Arimi gucua umenyo bwegie thoko nikenda boona inya ciacio na twanya turia turi thokone.
3. Arimi bakuthithia biashara cirina mantu jaria amemba babati kuthingatira, na ngugi cia o umwe.
4. Ikundi bia arimi mwanya ndene ya TIST biria bikugwatana kuthithia biashara inene iria ciitagwa ntuura cia kibiashara kuuthurania into bing'ani bia thoko inene.
5. Gwitikaniria njira ya utongereria ya gikundi

## **Gutegeera mantu ja Cluster TIST na njira ya kibiashara.**

Guku ni kuuga -lji ni njira ya kibiashara iria cluster ya TIST yumba gukura kibiashara na kuumba gukinyira mantu jaria thoko cia antu ciitagia na kuingia antu baria bari biasharene ndene ya ntuura kuringana na uthongi bwa into biria bakurima. Ntuura niciikagirwa inya gwita ngugi ta biashara gukinyira ukethi bwa into bibingi bia munda rionthe, kwingiyia biria bakurima, kugura biria bakwenda na gukinyira

Nibutegagira :

- a. Kwariria arimi ndene ya ntuura cia ikaro kwegie kuthithia ikundi (CPG- commercial producers groups)
- b. Integration of small groups farmers and villages into mainstream value chains. Kugwatana kwa arimi na ntuura ndene ya ikundi bibinini
- c. Enhance the capacity of clusters as respectable market players.
- d. Increase the competitiveness of small holders.

## **Baita cia gutegeera mantu na ritho ria kibiashara ndene ya Cluster.**

Iria nene buru iria ciumba kuumania na njira iu ni:

- a. Kuuthurania, gukamata, kuthithia na kwendia gwa gintu amwe bwega na ntuti.
- b. Utethio kiri urimi kiri amemba gukurukira kuwera into bia gutumira muundene
- c. Gukinyirua umenyo bwa njira injeru cia gutumira kiri amemba.
- d. Kuwera marandu kwa amemba nikenda batumira kiri mantu jaria jakwijira ta mbeca cia cukuru, cia mathiko, ciao cibitari bakiriagua baita iria bakomba kuria
- e. Kuthithia ngugi gukurukira guciandika ndene ya biashara iji.
- f. Kwendia amwe nikuvingiagia into na kwou



- gukomba gukucia aguri babaingi.
- g. Urimi bwa kuthithia into biititue ni ikundi.
  - h. Mibango imiega ya gwika mbeba nitethagia kunyiyia winyanga bwa mbeba ni gikundi na ni mumemba.
  - i. Kubanga ta gikundi niku kwega kiri kujukia twanya twa kibiashara.
  - j. Ikundi bibanganitie nibikucagia airitiri ba kuejana mbeba gutetheria miradi ya gikundi.

Antu baria baritenwe kwegie ndengu ndene ya cluster cia TIST bari ndene ya cluster cionthe ikumi na ijiri iria ciambiritie muradi jwa uandi ndengu. Bagatetheria kiri urimi bwa ndengu, kuuthurania mbeu na kwendia. Bubu bugakarika kuumania na umenyo na utethio kuuma kiri Farm Concern International baria baritanire antu baba kwegie mantu jaja jaandiki.

**Ngugi iria nene cia antu baba baritanirwe kwegie urimi bwa ndengu.**

- I. Gutegeera o nyuma ya igita aria urimi bwa ndengu bukinyite na gutegeera thina iria cikwoneka mono urimine bubu;

- II. Kubangania uria urimi buria bukuthithua ni ikundi biria bikendia ndengu uria bugwita.
- III. Kumenyeera uriti ngugi na kugwatanira kwa baria bakurima ndengu.
- IV. Kwariria mantu jegie urimi na kwendia kwa ndengu amwe na bangi baria bakoona baita kuumania naku.
- V. Kuthithia mubango jwa kurima na kwendia ndengu amwe na arimi bangi.
- VI. Gwikira inya kugaana kwa ngugi ya kumenyeera na kubangira into gatigati ka thirikari, arimi nabaria bangi bakwona baita kuumania na urimi bubu.
- VII. Kuejana rwatho rwegie gwitithua nambele ni arimi kwa into biria birio buria bukombika ndene ya igita riraaja.

Menya jangi kwegie ndengu narua! Kethira cluster yaku iri antu aria urimi bwa ndengu bukabua na urina bata ya gutonya nikenda uthiria mpara ndene ya ntuura yaku na nthiguru yetu- aria na Jeniffer Kithure namba ya thimu 0726319539 nikenda wirwa jangi. Amwe na TIST nitukuraga, tukathiria mpara na tukendia kaboni.

## **Miti niitumaga naria gututhiurukite gukathongoma nkuruki kiri twinthe.**

Ndene ya TIST, nituandaga miti nikenda tuumba gutonya thokone ya kaboni na twona mbeba kuumania na kwendia ruugo ruruthuku. Indi-ri, baita ingi cia miti niinene!

Aja ni baita imwe inkai iria batwi (na nthiguru yonthe) tugwiragirua:

- Miti ni gikaro kiria gikaragwa ni mithemba imingi ya imera na nyomoo. Niithaga na gukaria nyomoo cia kithaka iria igucua gwa gukara na ikabaa irio. Kumenyeera mithemba imingi ya nyomoo na imera nigutumaga miunda yetu na nthiguru igaciara nkuruki na ikarega kugaruka rera na mantu jangi.
- Miti nithongomagia ruugo na ikanyiyia kuthuuka kuria gutibui. Miti niritaga ruugo ruruthuku rwa kaboni na rungi ruria ruthukagia ruugo ta rwa sulfur, ozone na nitrogen. Gucokia, nituejaga ruugo rurwega rwa oxygen.
- Nthi nithongomaga methone ni kuanda miti, buria buthiongomagia miturire. Rangi ya miti niongagira rangi na ikathongomia naria gututhiurukite.

- Miti nithithagia reran a njira ya kunyiyia urito bwa riuu, ruugo na ngai. No itethie kuthiria kuigara kwa ruuji, kugua kwa nthi na kugitara kuumenie na ruugo. Miti ninyiagia mantu jaria jaumanagia na kuigara kwa ruuji na njira ya gwitikiria ruuji rwa ngai rutonya muthetune antu a gwitira iguru.
- Miti ninyiagia gukamatwa kwa muthetu. Miri yayo nigwataga muthetu juria juringi gukamatwa ni ngai indito na inene. Miti nitethagia kuthongomia unoru bwa muthetu. Muthetu jumunoru nijuretaga nutrient kiri irio, untu buria butethagiria thiria ya antu ya mwiri.
- Miti nijukagia gituma. Kuthukia ruugo na gituma no kunyiue nainya mono na njira ya kuanda miti ingi na ingi.

Ruuji rurutheru rwa kunyua no ruretwe ni kuanda miti ya gintwire. Miitu na imera nibinyiagia spidi ya ruuji rwa ngai na bikarutonyithia muthetune. Ruuji rwanyiyia spidi, ruuji rwa ngai nirutonyaga nthiguru na kujuria irinya biria tutumagira. Miti kinya nikunikagira nduuji, na gwika ruuji na mpio kou kunyiyia gukamatwa kwaru ni riuu.



# Miti ya gintwire iria ikurangaga.

Ni Christine Yankel

Miti ya gintwire nithagirwa iri na baita inyingi mwanya. Mweri juju, tugategera miti ya gintwire imwe mono iria itethagia nontu nikurangaga. Nau mwitune, jaria maingi mithemba iji ni mithemba ya kwambia, ikuraga mbele na ikurangaga riria kanya kathithua gukurukira kuithia kana kugiita. Uria aritani na ikundi bingi bibinini ndene ya cluster yaku mithemba iria iri imiega ntuurene yaku

*Hagenia abyssinica*, African redwood, muhooru



Na mbao ciaju intune inthongi, na jugikurangaga mwanka uraja bwa 20m, muhooru ni muti jumwega jwa kuanda guntu kuria kuri iguru kuria kwithagirwa kuri na ngai inyingi (1000 gwita 1500mm ya ngai o mwaka). Muti juju jurina baita inyingi: mathangu jaju nijanoragia muthetu, na bubu nibujuthithagia muti jumwega jwa kuanda miundene ya imera amwe na imera riria ukwenda kuungania. Ni muti jurina ndawa, na jumba gutethia gukaria

muthetu. Mbao ciaju ni injega mono cia gwaka na kinya niithithagia nkuu injega kana makara

Muti juju nijukuraga jutina thina kuuma kiri mbira. Ti lazima mbegu iji cithuranirwa nontu mbira niciumaga ndene ya ntuku ikumi gwita mirongo iiri na niikurangaga (na rate ya 40 gwita 60%).

Jukaandwa amwe na imera, ukaanda imingi. Gita mathangu nikenda muti jukuura jurungami bwega

*Macaranga kilimandscharica*, mukuhakuha/mukura



Mukura ni muti jukurangaga na ni muti jumwega riria ukujuandaniria na kauwa kana marigu. Nijukuraga bwega buru guntu kuri kuri na mbura inyingi ya kuuma 1500 gwita 2500mm omwaka. Ni muti jumwega jwa kunyiyia ruugo na niuntu nijukurangaga, jwomba kumenyeera muthetu kumania na gukamatwa. Miiri yaju nithithagia ndawa iria itethagia mono.

Anda mukura kuuma kiri mbira. Muti juju nijukuraga bwega na kumenyeerwa gukai riria jwagata.

# Mazingira Bora



## TIST

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

**Kikuyu Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Amemba a Kangeta Cluster. Mweri uria urathirire nimathomithirio guthondeka nursery na kuhaririria mugunda niundu wa kuhand irio. Ngurubu ithathatu nini niciaingirire Tist ihinda ria mucemano (mathomo).**

### ***Thiini:***

**Muigi mathabu na munini wa mutongoria nimaritungataga thiini wa gikundi kia kanju ya cluster. Page 2**

**TIST na mawega mayo kwongerereka! Page 2**

**Guthondeka muturire wa mbere mwega kuri ciana ciitu: miti mithemba miingi niiteithagia! Page 3**

**Cluster cia urimi wa ndengu. Page 4**

**Miti niyagirithagia maria maturigiciirie. Page 5**

**Miti ya ki-nduire iria ikuraga naihenya. Page 6**



## Muigi mathabu na munini wa mutongoria nimaritungataga thiini wa gikundi kia kanju ya cluster.

Thiini wa TIST, tuthomaga na tugeka maundu meru na kwiruta na maciaro mamo. Thutha wa mwaka I turi na kanju ya gikundi kia cluster, arimi aingi nimaheanite mawoni ma uria tungigacirithia mutaratara uyu. Kanju ya utongoria ya TIST niitikirite mawoni maya: kwambiriria mweri uyu, muigi mathabu hamwe na munini wa mutongoria nimaritungataga ta arugamiriri thiini wa kanju ino. Ugaruruku uyu niukuhuthia ithurano na uhe atongoria aria mathuritwo thiini wa cluster njira nyingi na njeru cia gukura na gutungata thiini wa TIST.

Gikundi kia cluster githondekagwo ni cluster 2-4 iria cikuhaniiririe niguu mahote kuhuthira indo imwe cia githomo.

Ota uria kwari thiini wa kanju ya hau kabere, GOCC njeru iritungataga mieri 6. ririkana munini wa mutongoria aritungataga thiini wa GOCC ari ta murugamiriri gwa kahinda karia ari utongoriaini ta munini wa mutongoria(mieri 4) na mieri ingi 2 ari ta mutongoria wa cluster na uu noguo aritungataga. Atongoria aya eeri nimaricenjanagia marikia gutungata mieri 6 na nimarithiaga nambere gutungata gwa kahinda karia gatigaru mari atongoria a cluster.

Gikundi gia kanju (GOC) kiricemanagia o mweri na muno kiumia kia mbere kia mweri na magatuma ripoti ya micemanio.

### Mawira ma murugamiriri muthure wa gikundi gia cluster;

1. Guthundura na guthomithania mitaratara mieru.
2. Gutigirira githomo ni gia gikiro kia iguru akirumirira mitaratara ya TIST,
3. gutigirira miti niyatarwo wega akirumirira mitaratara ya TIST.
4. Kumenyereza indo cia wira cia githomo na utari wa miti.
5. Kuheana ripoti na gutaara kanju ya matuura
6. Gutheremia TIST kuhitukira cluster.
7. Gutuithania ciira angikorwo mutari wa miti kana muthomithania niarugamitio wira.
8. Gutuithania ciira angikorwomutongoria wa cluster ndararumirira mitaratara ya TIST.
9. Kuheana andu kuri gikundi gia cluster niguu mongererwo mawira ta Auditors, TSE kana muthomithania munene.

## TIST na mawega mayo kwongerereka!

*Mwandiki Aaron Kaindio.*

O TIST igithiaga na-mbere na gukura icigo nyingi cia bururi, cluster nyingi makiria nicirathondekwo, na iria cirikuo nicikurite andu angi makiingiraga niguu mathondeke ikundi nini. Mawega ma TIST nimarathii na-mbere na kuoneka na kuiguika.

Umuthi uyu, makiria ma cluster 130 nicithondeketwo. Nituraruta wira na hinya niguu tuongerere namba ya cluster ikinye 200 tugikinyiria muthia wa mwaka uyu.

Nituracokeria timu ya TIST Kenya ni wira wa hinya na kwirutira kunene gutigirira o cluster niibangitwo weega na guthii na-mbere gukinyaniria kiroti gia TIST.

Ota uria tuui, niturabatara kuruta wira na-hinya turi ithuothe niguu tuteithie TIST na mawega mayo ikure. No tuhande miti, tuthondeke na tuhuthire mitaratara miega ta Kilimo Hai, tumenyere njuui ciitu na tuhande miti ngurani niguu twikire cluster ciitu hinya na twagirithie migunda iitu na miturire

iitu.

Ta kiririkania:

- Cluster yagiriirwo nigukorwo na ikundi 30-50.
- ikundi thiini wa cluster ciagiriro ni gukorwo hakuhi handu andu mangithii maguru.
- Cluster yagiriirwo gukorwo na mugunda utanyihire 100 hectares wa kuhanda miti.
- Cluster yagiriirwo gukorwo na miti 200,000 iri muoyo.
- Cluster yagiriirwo gutarirwo miti wega na gukorwo na githomo kia iguru.
- Cluster yagiriirwo gukorwo na mimera ya kuigana niundu wa uhandi miti wa o mwaka. O gikundi kiagiriirwo kuhanda miti 1,000 o mwaka niguu gukorwo na miti 5,000 makirikia mwaka wa gatanoo.

Cluster njega yagiriirwo ni gwika atia?



- Cluster yagiriirwo gwika githurano thutha wa mieri 4 niguu guthura muigi mathabu uria ukuambatira ikiroini cia utongoria.
- Cluster yagiriirwo gucemanio o mweri guthomithio, na gukurania mitaratara-ini miega, kuamukira ngathiti, kwamukira marihina maundu mangi maingi.
- Thiini wa micemanio ya cluster, arugamiriri magiriirwo ni guthomithania maundu matekuhithirira na aria angi ta uria budget ya cluster yahuthirirwo.
- Mucemanio-ini wa mweri wa cluster, cluster yagiriirwo ni gutuma ripoti cia mucemanio na fomu ya mathabu na palm
- Cluster niyagiriirwo ni kuria itarirwo miti niria kurabatarikana.
- Cluster niyagiriirwo nigutigirira ati ithabu ria miti nirikinyaniru.
- Cluster niyagiriirwo gutigirira gikiro kia mathabu ni kia iguru kia ikundi nini niguu miti miingi itikirike thiini wa thoko ya carbon.

- Cluster niyagiriirwo ni gutigirira ikundi nini niamukira marihi
- Cluster njega niingagiria ikundi njeru na igacithomithia. Gukura nigwikiraga TIST hinya! Cluster niyagiriirwo nikuganyio yakinyia arimi 400.

Ungika atia riria wabatara uteithio?

- Kwa uhoro wa uigiririku wa ithabu ria miti, araniria na Martin Weru 0722846501
- Kwa uhoro wa indo cia wira (palm) araniria na Charles Ibeere 0720474209
- Kwa uhoro wa gutheremia Cluster, araniria na Eunice Wambui 0724431071

thiini wa mucemanio wa umuthi, araniria na timu ya wira ya cluster na arugamiriri a cluster. Cluster yanyu iri na miti iigana umuthi? Ni ikundi cigana iri thiini wa Cluster yanyu? Niatia mungika umuthi niguu gwikira cluster yanyu hinya? Thiini wa TIST, notuhote!

## **Guthondeka muturire wa mbere mwega kuri ciana ciitu: miti mithemba miingi niiteithagia!**

*Mwandiki: Aaron Kaindio*

Riria wahanda miti, menya ati niurateithia kwagirithia miturire ya *ruciar ruguka niguu* magie na maria maturigiciirie mega na matheru. Nimagakenera ati nitwarutire wira na kio niguu kuhurana na ugaruruku wa riera na kuhurana na uthini. Na nikio ithui thiini wa TIST nituthuraga muno miti iria turahanda migunda-ini iitu na njuui-ini ciitu. Tutirahanda niundu witu no niundu wa ciana ciitu na ciana ciacio.

Miti ingi noikorwo na ugwati kuri maria maturigiciirie miena ingi, ona gutuika iri na umithio. Miti ta mibau niikuraga na-ihanya muno tondu niigucagia maai maingi muno na unoru wa tiiri. Niundu wa gitumi giiki, miti ino nimiega na biashara no noithukie maria maturigiciirie, na makirie ruteere-ini rwa ruui na kuria kuri na itomboya. Ndikuraga wega migundaini kuria twendaga kuhanda irio na noinine unoru wa tiiri.

Niturahanda miti, iria iguikara kahinda kanene(miaka 30na makiria) ta uria kurendekana

thoko-ini ya carbon. Arimi thiini wa ikundi nini aria mari na gicunji kinene kia miti ya mibau nimagiriirwo gukinyiria watho wa TIST wa gicunji kia 33% kia miti ya mibau, riria twahanda miti ya ki-nduire migunda-ini miero kan kunyihia miti ya mibau na kuhanda ingi ya kinduire. Njira ino ninjega na makiria ruteere-ini rwa njuui.

Ririkana ati thirikari niinhinyagiriria andu matikahande miti ya mibau hakuhi na njuui kuria kwaraga. Handa miti iiguanite na maai ya ki-nduire, na urumirire mitaratara ya TIST na nowitikirike kuheo njohherera niundu wa kuhanda miti ya ki-nduire kuria kwaraga. Niugukorwo ukiagirithia njuui niundu wa mucii waku, andu aria marahuthira ruui ruu na ruciaro ruguka.

Reke ithuothe twike uu niguu tuturie TIST na twagirithie maria maturigiciirie.

**Mwandiki ni mutari wa miti thiini wa Cluster ya Kigucwa. [aronkandio@tist.org](mailto:aronkandio@tist.org)**



## Cluster cia urimi wa ndengu.

*Mwandiki: Jeniffer Kithure.*

Cluster cia TIST niciambiriirie mutaratara ungi: gukuria ndengu niguu magie na mbecha makiria ohamwe na guthondeka miiri yao na ya micii yao. Nitwambiriirie na ikundo 12 iria kuhitukira mutaratara wa **Help to Help** nicigutheremia kuri Cluster iira ingi

Cluster ici cia kwambiriria ni Mumbuni, Kiengu, Kaanwa, Mworoga, Giaki, Matakiri, Kirindini, Nkondi, Tunyai, Gachuaa, Kawiru MCK and Mikinduri. .

Thiini wa o cluster ici 12, makiria ma amemba 5 nimamukirire ndengu 5kgs cia N26 niguu mahande thiini wa 1 acre ya mugunda. Niundu wa unyihu wa migunda miena imwe, thiini wa cluster imwe, arimi nimagayanaga ndegu niguu makahande o mundu akihanda thiini wa mugunda wa nuthu acre. Magetha nima January, na o murimi nieraniire ati nimakaheana magetha kuri arimi angii 2 thiini wa cluster yao niguu mahande kimera giki kingi. Nginyagia riu, thiini wa February, aria mambiriirie nimakaheana 5kg cia ndengu kuri andi 3 thiini wa cluster.

Makiri ma arimi a TIST nimarenda kuhanda ndengu, niundu wa mawega macio ma kimwiri na wendia wacio thoko-ini, na tondu nicikuraga wega nginya kuria kwaraga. Aria mambiriirie nimaguthomithia aria angii wendia wacio thiini wa seminar. Nomubange thiini wa cluster yanyu uria mukurima ndengu. Maya ni mamwe ma maundu maria wagiriirwo ni kuririkana niguu ugacire thoko-ini ya ndengu.

### **Ritho ria biashara.**

Commercialization ni njira ya kurora biashara na maciaro mayo. Niguu ugie na maciaro, niwagiriirwo ni kumenya maundu maria mabataranagia niguu biashara itihii na-mbere. Wagiriirwo ni guthuthuria a gikiro giothe na urore na riitho ria biashara. Na makiria ma gukuria na kugetha ndengu niundu wa umithio wa ki-mbecha, amemba nimagiriirwo ni

kwihariria niguu magie na maciaro maingi. Maciaro maria makumana na urimi uyu nimagiriirwo gukorwo mari maiganu kuriha mahuthiro maria mahuthiritwo urimi-ini uyu na magie na faida.

Commercialization ya muingi ikoragwo na:

1. gutigirira ati andu nimarora biashara na njira ya guthondeka mbecha niguu magie na mahuthiro manini na umithio munene.
2. Gutigirira niweka uthuthuria wa uria thoko ihana na kumenya uhuthu na uritu wayo.
3. Guthondeka ikundi cia biashara iri na memba etikiriku na mawato ohamwe na kugayana wira.
4. Ikundi cia wonjoria cia wonjoria cia TIST kunyitana niguu ithondeke gikundi kimwe kinene niguu mahote kwonjorithia wega.
5. Kugia na mawatho ma ikundi cia wonjoria.

### **Commercialization ya Cluster cia TIST.**

Commercialization ya cluster ni murorere wa cluster na njira ya wonjoria kuhitukira kuhe cluster indo iria cirabatarania wonjoria-ini niguu gukinyiria ikiro cia wonjoria wa andu kiumbe na. Matuura nimekagirwo hinya niguu makorwo mari ta ikundi cia wonjoria niguu mahote kwonjorithia na kwendia indo ciao.

Gitumi kia maundu maya ni:

- kuhinyiriria arimi mathondeke ikundi cia wonjoria.
- Kunitithania ikundi na matuura.
- Kuongerera uhoti wa cluster wa kwonjorithia.
- Kwongrera gucindana thiini wa ikundi.

### **Mawega ma Cluster commercialization.**

Umithio uria munene wa maundu maya ni ta maya:

- Kungania, gukuaa guthondeka na kwendia indo na njira njega.





- Kunyita mbaru urimi wa amemba na njira ya kuheana indo cia urimi.
- Kuhuthira njira cia technology kuri amemba
- kuheana ngombo kuri amemba niguu mahote guthomithia ciana , kuriha thibitari na mangi maingi.
- Guthondeka mieke ya mawira na njira ya kwiandika.
- Kwendia indo muri hamwe niguu indo cikorwi ciri nyingi.
- Gwikanirira kiore muri ta arimi.
- Guthondeka mutaratara wa kuhonokia mbea.
- Kubanga wega maundu ma biashara.
- Ikundi njega nicigucagiriria donors.

Aria mararuirira urimi wa ndengu thiini wa cluster mari thiini wa cluster 12 iria ciambiriirie kuhanda. Nimakuheana ndengu ohamwe naguteithiriria hari wendia wa ndengu. Maundu maya makuhanika hari na utaari kuma kuri ruhonge ruria rwathomithiria ambiriria na niruo Farm Concern International.

**Mawira na uigiririki wa ambiriria.**

- I. Kurora weru muikarire wa urimi wa ndengu na na guthuthuria mathina mugundaini.
- II. Kuhariria na gutabarira mibango ya wonjoria.
- III. Gutigirira maundu nimaratarwana na-njira iria yagiriire.
- IV. Kwaririria maundu megii ndengu na wonjoria wacio.
- V. Kuhariria na guthondeka mubango wa wonjoria wacio.
- VI. Kwagiririthi wira wa urimi wa ndengu na gucaria honge cia thirikari hamwe na cia andu kiumbe
- VII. guthondeka mawatho na mibango ya kunyitirira uthii wa na-mber wa urimi uyu.

Thoma makiria uhoro wa urimi wa ndengu! Angikorwo cluster yaku iri thiini wa icigo iria ingirimwo ndengu, na niurenda kunyitanira kunina ng'aragu thiini wamura maitu na bururi wothe – araniria na Jennifer Kathure Phone 0726319539 kwa uhoro makiria. Turi thiini wa TIST nitukuraga, kukeheria ng'aragu na tukendia carbon.

**Miti niyagirithagia maria maturigiciirie.**

Thiini wa TIST, tuhandaga miti niguu tuhote kwonjorithia thoko-ini ya carbon na tugie na mbea nikunyahia carbon. Ona kuri o uguo, mawega mangi ma uhandi wa miti ni maingi na mamagegania!

Maya ni mamwe ma mawega maya kuri ithui na thi yothe;

- miti niikoragwo iri ituuro cia nyamu nyingi na mithemba miingi niguu gucihe ugitiri na maundu mangi maingi ohamwe na gucihe irio.
- Miti niyagirithagia riera na kunyahia uthukangia wario. Miti niyehutagia carbon iria iri riera-ini na indo ingi cia guthukia riera ta sulphur dioxide, ozone na nitrogen dioxide. Na igatuhe oxygen iria ibataranagia ni muoyo.
- Miti niithakaragia migunda na micii iitu na kumihe rangi mwega.

- Miti niiteithagiriria hari urumaniriru wa imera na ikaiganania riuu, ruhuho na mbura. Niiteithagia kugitira kumana na muiyoro wa maai na mitino ingi.
- Miti niinyihagia tiiri gukuo ni maai. Miri yayo nihotaga kunyitirira tiiri wega. Miti ningi niikiraga tiiri unoru.
- Miti niinyhagia inegene.

Wendeku wa maai matheru noukinyanire tungihanda miti ya ki-nduire. Mititu na miti ingi niinyihagia uteng'eru wa maai na ikamatheria. Riria maai manyihia ihenya, maai nimaingagira wega tiiri-ini. Miti niiumbagira njuui na ikaiga maai mari matheru na makaga kunyuo ni riuu.



## Miti ya ki-nduire iria ikuraga naihenya.

*Mwandiki Christine Yankel*

Miti ya ki-nduire niikoragwo na mawega maingi. Mweri uyu tukurora miti ingi ya kinduire iria ihuthikaga tondu ikuraga na ihenya. Ithaka-ini , mahinda maingi miti ino ikoragwo iri ya kiambiriria na ikuraga naihenya riria yatemwo kana yacinwo ni mwaki. Ariria athomithania na ikundi ingi thiini wa cluster yanyu na mwariririe ni mithemba iriku miega.

*Hagenia abyssinica*, African redwood, muhooru



Uri na mbau thaka na ndune, na ugikura naihenya nginya uraihu wa 20m Hagenia abyssinica ni muti mweka ungikurio kundu kwamukagira githimi kia mbura kia 1.000-1,500mm o mwaka.niukoragwo namawega maingi, mahuti maguo nimega na tiiri na kwa uguo ugakorwo uri mweka kuhanda kundu kuri na irio. Niukoragwo na dawa na nouhuthike

kumenyerera tiiri. Niukoragwo na mbau njega muno na ngu njega ohamwe na makara.

Muti uyu ukuraga kuma mbegu-ini. Guthondeka mbegu mbere ya uhandite nikwagiriire na imeraga na thiku 10-29 na kumera na gicunji kia 40-60%.

Ungihandanirio hamwe na irio cia mugunda ceha mahuti niguo mimera ikure wega.

*Macaranga kilimandscharica*, mukuhakuha/mukura



Macakanga ni muti ukuraga na-ihenya hamwe na kahua kana marigu. Ukuraga wega na githimi kia mbura kia 1,000-1,500mm hari mwaka. Niundu wa gukura na-ihenya, niugitagira tiiri kumana na kiguu. Nimweka na mbau na ngu hamwe na kuiriga na ugakorwo na dawa.

Kuria macakaranga kuma mbegu-ini. Muti uyu ukuraga wega na mubacirire munini.

# Mazingira Bora



## TIST

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

**Kiswahili Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Wanachama wa Kangeta Cluster. Mwezi uliopita walikuwa na mafunzo kuhusu kutengeneza tuta na upandaji wa miti na ukulima. Vikundi sita mpya walijiunga na TIST wakati huo wa mafundisho.**

### **Dani:**

**Mweka vitabu na pesa zenu na msaidizi wa kiongozi sasa watawatumikia katika chama cha kikundi cha cluster. Ukurasa 2**

**TIST na faida zake zaendelea kukua! Ukurasa 2**

**Kujenga kesho iliyo na mwangaza kwa watoto wetu: miti ya aina mbali mbali husaidia! Ukurasa 3**

**Mradi wa kulima ndengu katika Cluster. Ukurasa 4**

**Miti hufanya mazingira kuwa bora kwetu sote. Ukurasa 4**

**Miti ya kienyenji inayokua haraka. Ukurasa 6**



## **Mweka vitabu na pesa zenu na msaidizi wa kiongozi sasa watawatumikia katika chama cha kikundi cha cluster.**

Katika TIST, twasoma na kuanzisha njia bora zaidi za kufanya mambo kupitia kujaribu mambo mapya na kuangalia na kuyajua matokeo. Baada ya mwaka mmoja wa kuangalia kazi ya waliochaguliwa kama wawakilishi katika chama cha kikundi cha cluster kadhaa, wakulima wengi katika TIST wamekuja na mawazo ya kuboresha muundo huu wa utumishi. Chama cha uongozi katika TIST kimeitikia wazo hili: kuanzia mwezi huu, mwajibikaji wa cluster na msaidizi wa kiongozi watawatumika kama wawakilishi wa cluster katika chama cha kikundi cha cluster. Mabadiliko haya yatarahisisha uchaguzi na yawape viongozi wa cluster jia zaidi za kukua na kutumikia TIST.

Kikundi cha cluster ni cha cluster mbili kufika nne zilizo karibu vile zaweza kutumia vifaa na mafunzo pamoja.

Kama katika vyama vilivyopita, GOCC mpya itatumikia miezi sita. tafadhali jua, msaidizi wa kiongozi atatumika kama mwakilishi katika GOCC kwa muda anaotumika kama msaidizi wa kiongozi (miezi minne) na miezi mingine miwili akiwa kiongozi. Similarly, the Accountability Person will serve on the Council for 4 months while serving as Accountability Person and 2 more months while serving as Co-Leader. Vivyo hivyo, mweka vitabu na pesa za cluster atatumika katika chama hiki kwa miezi minne akiwa mweka vitabuna pesa na mingine

miwili akiwa msaidizi wa kiongozi.

Chama cha GOC kitakuwa kikikutana kila mwezi sana sana wiki ya kwanza ya mwezi na kutuma ripoti za kila mkutano.

### **Kazi za wawakilishi wateuliwa wa kikundi cha cluster**

- 1) Kugundua na kugawana mbinu bora kutoka kwa cluster;
- 2) Kuhakikisha mafunzo ya hali ya juu ya cluster yakifuatilia maadili ya TIST;
- 3) Kuhakikisha uhesabu miti wa hali ya juu ukifuatilia maadili ya TIST;
- 4) Kudumisha vifaa vya kazi ya mafunzo na uhesabu miti;
- 5) Kuripoti masuala yanayoleta wasi wasi na kutoa mapendekezo ya sera kwa baraza la mkoa;
- 6) Kupanua TIST kupitia cluster zilizopo;
- 7) Kufanya mikutano ya kiutawala iwapo mhesabu miti au mwalimu ameachishwa kazi na kuchunguza ukweli na kufanya mapendekezo kuhusu kusimamishwa ;
- 8) Kufanya mikutano ya kiutawala iwapo kiongozi katika cluster hafuatili maadili ya TIST;
- 9) Kupendekeza watu kutokana na kikundi cha cluster watakoongezewa wajibu mwingine katika TIST kwa mfano mkaguzi, TSE au mwalimu bingwa.

## **TIST na faida zake zaendelea kukua!**

*Umeletewa na Aaron Kaindio*

Jinsi TIST inavyotambaa katika maeneo mapya katika nchi yetu, cluster zingine na zingine zaendelea kutengenezwa na cluster zilizopo zaendelea kukua jinsi majirani wanavyojiunga kutengeza vikundi vipya vya TIST. Faida za TIST zagawanywa na kushuhudiwa katika maeneo mapya.

Leo, zaidi ya cluster mia moja thelathini zimetengezwa. Tunafanya kazi kwa bidii kuongeza cluster ili ziwe zimefika mia mbili ifikapo mwisho wa mwaka huu.

Twashukuru timu ya TIST ya uongozi katika Kenya kwa kazi yao ya bidii na kujitolea kwao kuhakikisha kuwa kila cluster imejipanga sawa, inatumikiwa vizuri na inasonga mbele kufikia mabao ya TIST.

Kama tunavyojua, twahitaji kufanya kazi pamoja

kusaidia TIST na faida zake kukua. Twaweza kupanda miyi, na kukuza na kutumia njia bora zaidi za TIST kama Kilimo hai, kuboresha kando za mito, kupanda na kutunza miti ya aina tofauti ili kuongeza cluster zetu nguvu tunavyoboresha mashamba na maisha yetu.

Kama kumbusho:

- Cluster yafaa iwe na vikundi vidogo thelathini kufika hamsini
- Vikundi vidogo vya cluster vyafaa viwe vimekaribiana na mahali pa mikutano hadi umbali unaoweza kutembewa kwa miguu
- Cluster yafaa kuwa na shamba lisilopungua hekari mia moja lililotengwa kwa upanzi wa miti
- Cluster yafaa kuwa na miti isiyopungua mia



mbili iliyo hai

- Cluster yafaa kufanya uhesabu miti makini na mafunzo ya hali ya juu.
- Cluster yafaa kuwa na miche wanayohitaji katika mwaka tosha katika minanda yao. Kila kikundi kidogo chafaa kupanda miti isiyopungua elfu moja kila mwaka ili wawe na miti elfu tano katika mwaka wa tano.

Cluster nzuri yafaa kufanya nini?

- Cluster yafaa kufanya uchaguzi kila miezi mine kuchagua mwajibikaji wa cluster ambaye atazunguka viti vya uongozi
- Cluster yafaa kukutana kila mwezi ili kupata mafunzo, kugawana njia bora za kufanya mambo, kupeana mazingira Bora, malipo na mambo mengineo.
- Katika mikutano ya cluster, wawakilishi wanafaa kugawana ujuzi bila kuficha lolote na wanacluster wengine, kwa mfano jinsi pesa za cluster zilivyotumika.
- Katika mkutano wa cluster wa kila mwezi, cluster yafaa kutuma rekondi ya mkutano wa cluster na fomu ya uwajibikaji kwa kutumia kifaa kinachoitwa Palm.
- Cluster yafaa kuhitisha wahesabu miti ili kuhesabu miti inapohitajika

- Cluster yafaa kuhakikisha kuwa uhesabu miti ni wa makini
- Cluster yafaa kuboresha data ya vikundi vidogo ili miti mingine iweze kuingia katika soko la hewa. (iliyopo katika maagano ya miradi ya kaboni)
- Cluster yafaa kufanya bidii kufanya malipo kwa kila kikundi.
- Cluster nzuri inaingiza na kufunza vikundi vipya. KUKUA hufanya mradi wa TIST kuwa yenye nguvu zaidi! Cluster yafaa kujigawa na kuwa mbili inapofikisha wanacluster mia nne.

Wafaa kufanya nini ukihitaji usaidizi?

- Ili kupata maelezo zaidi kuhusu hali ya data ya uhesabu miti, ongea na Martin Weru 0722846501
- Kwa maelezo zaidi kuhusu vifaa (Palms), ongea na Charles Ibeere 0720474209
- Kwa maelezo kuhusu kupanua cluster yako, ongea na Eunice Wambui 0724431071

Katika mkutano wa leo, ongea na timu ya utumikaji ya cluster yako na wawakilishi wa cluster. Cluster yako ina miti mingapi leo? Waweza kufanya nini leo ili kufanya cluster yako kuwa na nguvu? Katika TIST, twaweza!

## **Kujenga kesho iliyo na mwangaza kwa watoto wetu: miti ya aina mbali mbali husaidia!**

*Umeletewa na Aaron Kaindio*

Unapopanda mti, jua kuwa unasaidia ata vizazi vijavyo ili viwe na mazingira mazuri, masafi na yenye urembo. Watashukuru kwa kuwa tulifanya kazi kwa bidii sana kupigana na mabadiliko ya tabia nchi na kumaliza umasikini. Hii ndiyo sababu sisi katika TIST tunachagua ni miti ya aina gani kupanda katika mashamba yetu na kando ya miti. Tunapanda sit u kwa ajili yetu, bali pia kwa watoto wetu na wao.

Miti mingine yaweza kuumiza mazingira yetu katika maeneo mengine, ata ingawa ina faida nyinginezo. Miti kama mikaratusi hukua haraka sana kwa sababu inachukua maji na virutubisho vya udongo vingi. Kwa sababu hii, mti huu waweza kuwa mzuri kwa sababu za kibiashara lakini waweza kuumiza mazingira katika maeneo mengine, san asana kando ya mito na ardhi oevu. Haikui vyema katika mashamba tunayotaka kupanda mimea mingine na yaweza kufanya udongo kuwa mibaya kwa mimea ata baada ya miti kukatwa.

Tunapanda miti, ambayo itakaa muda mrefu

(miaka thelathini au zaidi) kama inavyohitajika katika masoko ya hewa chafu). Wakulima katika vikundi vidogo vya TIST walio na asilimia kubwa ya mikaratusi vyafaa kujaribu kufikia mapendekezo ya TIST ya kuwa na asilimia isiyozidi asilimia thelathini na tatu, kwa kupanda miti ya kiasili katika mashamba mapya au kupunguza mikaratusi na badala yake kupanda miti mingine, sana sana miti ya kiasili. Hii ni muhimu hasa kando ya mito. Kumbuka kuwa serikali inakataza upanzi wa mikaratusi karibu na mito na maeneo yaliyozunguka mito. Panda miti ya kiasili iliyo mizuri kwa maji katika mashamba yaliyo karibu na mito. Utakuwa unafanya mito kuwa bora zaidi kiafya kwa familia yako, kwa watu walio chini ya mto na kwa vizazi vingi vijavyo.

Acheni sote tufanye haya ili tuweze kuendeleza mradi wetu wa TIST na pia mazingira yetu yote.

**Aliyeandika ni Mhesabu miti wa TIST, Kigucwa Cluster. aronkandio@tist.org.**



# Mradi wa kulima ndengu katika Cluster.

*Umeletewa na Jennifer Kithure*

Cluster za TIST zimeanza zoezi lingine bora zaidi: upanzi wa ndengu ili kupata pesa zaidi na kwa sababu za kilishe katika familia zetu. Tumeanza na cluster kumi na mbili ambazo kupitia mradi wa Saidiwa usaidie, tutapatambaza kwa cluster zingine misimu ijayo.

Cluster hizi zilizoanza ni Mumbuni, Kiengu, Kaanwa, Mworoga, Giaki, Matakiri, Kirindini, Nkondi, Tunyai, Gachuuu, Kawiru MCK na Mikinduri.

Katika kila cluster kati ya hizi kumi na mbili, memba watano walipewa kila mtu kilo tano za ndengu za aina ya N26 za kupanda katika ekari moja. Kwa sababu ya shida ya mashamba madogo katika maeneo mengine, katika cluster zingine, wakulima waligawana mbegu ili kusaidiana, na kila mmoja akapanda katika nusu ekari ya shamba lake. Mavuno ni Januari, na kama ilivyoahidiwa kugawana kutokana na mavuno yao ili wakulima wengine wawili katika cluster yao waweze kupanda msimu hujao. Mpaka sasa, mwezi wa Februari, walioanza watapitisha kilo tano za ndengu aina ya N26 kwa wakulima wengine watatu katika cluster yao.

Maelfu ya wakulima wa TIST wanataka kupanda ndengu, kwa sababu za kimalisho na kupata pesa, kwani ndengu hukua vyema ata mahali penye mvua chache. Walioanzisha walifunzwa kuuza ndengu katika Semina. Mnaweza kupanganisha cluster yenu ili muanze kuuza ndengu. Yafuatayo ni mambo unayofaa kuweka akilini katika soko la ndengu:

## Jicho la Biashara.

Hii ni njia ya kibiashara ya kuendeleza biashara na lengo la kupata faida kubwa zaidi. Ili kufanikiwa, mwenye biashara anahitaji kujua mambo yote yanayohusika katika kuendeleza biashara yake kwa akili ya kibiashara. Inahusisha kuchambua kila hatua ili kubaini gharama na faida. Vikundi vya uzalishaji vyahitaji wanachama kujihami kuzalisha kwa ajili ya kupata mapato. Mapato yanapatikana yafaa kutosha kugharamia gharama iliyohusika katika uzalishaji na kutengeza faida bora kwa wanachama.

## Kuleta biashara katika jamii kunahusisha:

1. Kuhakikisha kuwa biashara inatumia njia ya kibiashara katika ngazi zote ili kuwezesha mtazamo wa gharama chache- thamani bora kati ya wazalishaji, ili kuleta faida bora.
2. Wazalishaji wanaofanya utafiti rahisi wa soko

ili kubaini nguvu zao na fursa za soko zilizopo.

3. Wazalishaji wanaofanya biashara walio na miongozo wazi ya uanachama na ugawaji wa wajibu na majukumu
4. Vikundi mbalimbali vya uzalishaji vinavyojiunganisha kutengeza biashara kubwa zinazojulikana tena kama vijiji vya kibiashara ili kuzalisha tosha kwa ajili ya masoko ya taasisi, rasmi na makubwa.
5. Kuanzisha miundo ya utawala ya vikundi vya uzalishaji.

## Kuendeleza Cluster za TIST kibiashara.

Hii ni njia ya inayoongozwa na soko ambayo cluster kawaida za TIST zinaendelezwa kibiashara na kuwezesha kukidhi mahitaji ya masoko ya sekta binafsi na pia kuongeza ushiriki wa vijiji vya kibiashara katika minyororo ya thamani. Vijiji vinawezeshwa kufanya kazi kama viungo vya kibiashara ili kufikia uzalishaji mkubwa wa mashamba, kuzalisha thabiti, kuboresha mazao na kuleta vifaa kutoka nje na kufikia ufanisi.

Inalenga:

- a. Kuhamasisha vijiji vya kijamii kufanya vikundi vya uzalishaji vya kibiashara (CPG).
- b. Kuunganisha wakulima wa vikundi vidogo na vijiji kuingia katika minyororo ya thamani.
- c. Kuongeza uwezo wa cluster kuwa wana soko wenye heshima.
- d. Kuongeza ushindani kati ya wenye mashamba madogo.

## Faida za kuendeleza Cluster kibiashara.

Faida kubwa zinazotokana na kuifuatilia hii njia ni:

- a. Ukusanyaji, usafirishaji, usindikaji na uuzaji wa mazao wa pamoja ulio bora na fanisi.
- b. Msaada katika uzalishaji katika kilimo kwa wanachama kupitia usambazaji wa pembejeo za kilimo.
- c. Usambazaji wa teknolojia inayotumika kwa wanachama.
- d. Utoaji wa mikopo kwa wanachama kwa gharama za haraka kama karo, mazishi na pesa za hospitali kwagharuma nafuu.
- e. Nafasi za ajira kupitia kujijiri katika sekta hii.
- f. Uuzaji wa pamoja unaongeza mazao kwa hivyo kuongeza nafasi ya kuvuta wanunuzi zaidi.
- g. Uzalishaji wa kikataba kwa vikundi.



- h. Mipango sahihi ya kuweka pesa husaidia wanachama kupunguza usimamizi mbovu wa pesa kwa kikundi na kwa wanachama.
- i. Mipango ya kikundi kuhusu nafasi zinazowezezana za kibiashara.
- j. Vikundi vilivyojipanga huvuta wafadhili wa kusaidia miradi ya vikundi.

Mabingwa wa ndengu katika cluster za TIST wapo katika cluster zote kumi na mbili zilizoanza kulima ndengu. Watasaidia katika uzalishaji, kukusanya mbegu na uuzaji. Hili litatendeka pamoja na ushauri na usaidizi wa Farm Concern International, ambao waliwafunza wabingwa kuhusu mambo yaliyotajwa katika makala haya.

#### **Majukumu ya mabingwa wa ndengu.**

- I. Kutathmini mara kwa mara hali halisi ya uzalishaji wa ndengu na kuchunguza matatizo ya maslahi ya pamoja katika uwanja huu;
- II. Kutayarisha ratiba ya uzalishaji itakayotumiwa

- na vikundi vya uzalishaji.
- III. Kuhakikisha uratibu wa juhudi na ushirikiano wa vitengo vya uzalishaji.
- IV. Kujadiriana na wamiliki hisa wengine kuhusu mada za kiufundi zinazohusu uzalishaji na uuzaji wa ndengu.
- V. Kutengeneza mpango wa uzalishaji na uuzaji wakishauriana na wazalishaji wengine
- VI. Kukuza ugawanaji wa wajibu wa usimamizi wa rasilimali na upangaji kati ya Nyanja tofauti za serikali, wakulima na wamiliki hisa wengine.
- VII. Kutoa miongozo juu ya maendeleo endelevu ya maliasili nay a kimwili kwa wakulima.

Jua zaidi kuhusu ndengu leo! Kama cluster yako ipo katika eneo lililo nzuri kwa ukulima wa ndengu na iwapo una haja ya kuingia ili kumaliza njaa katika eneo letu na nchi yetu kwa ujumla- ongea na Jeniffer Kithure ili kupata maelezo zaidi; namba yake ni 0726319539. Na TIST tunakua, tunamaliza njaa na tunauza hewa safi.

## **Miti hufanya mazingira kuwa bora kwetu sote.**

Katika TIST, sisi hupanda miti ili kujiunga na soko la hewa na kupata pesa kutokana na kuuza hewa chafu. Hata hivyo, faida zingine za miti ni kubwa! Zifuatazo ni faida chache ambazo sisi (na dunia yote) hufurahia:

- Miti utumika kama makazi asili ya mimea na wanyama wa aina nyingi mbali mbali. Huwapa wanyama pori wanaotafuta makazi mitini hisia ya faragha na usalama na kuwapa chakula. Kulinda bionuwai hufanya mashamba na sayari yetu kuwa na uzalishaji zaidi na kukataa ubadilikaji wa tabianchi na changamoto zinginezo.
- Miti huboresha ubora wa hewa na hupunguza uchafu ulio wa hatari. Miti hutoa hewa chafu ya kaboni na uchafu wa hewa kama dioksidi sulfuri, ozone na oksidi za nitrojeni. Kurudisha, inatupa oksijeni inayohitajika ili kuishi.
- <sup>3</sup>/<sub>4</sub> Ubora wa ardhi kwa macho unaboreshwa kwa kupanda miti, ambayo nayo inaboresha hali ya maisha. Kijani cha miti huongeza rangi ya ardhi na huongeza urembo wa mazingira.
- Miti hudhibiti tabianchi kwa njia ya kuwastanisha madhara ya jua, upepo na mvua.

Yaweza kusaidia kuzuia mafuriko, maporomoko ya ardhi na uharibifu wa upepo. Miti huwastanisha madhara ya mafuriko kwa kuruhusu maji ya mvua kuingia udongoni badala ya kupitia juu yake.

- Miti hupunguza mmomonyoko wa udongo. Mizizi ya miti hushika udongo ambao ungeoshwa na maji ya mvua na mafuriko. Miti pia husaidia kuboresha rutuba ya udongo. Udongo wenye rutuba huhamishia virutubisho kwa chakula, jambo ambalo huboresha afya ya binadamu.
- Miti hunyonya kelele. Uchafuzi wa kelele waweza kupunguzwa kwa njia ya kupanda miti mingine na mingine.

Mahitaji ya maji masafi ya kunyua yaweza kufikiwa kupitia kupanda miti ya kiasili. Misitu na mimea hupunguza mwendo wa maji ya mvua na kuyaingiza udongoni. Mwendo ukipunguzwa, maji ya mvua yanaingia ardhini kujaza mashimo yaliyo chini ya ardhi ambayo tunategemea kwa matumizi yetu. Miti pia hufunikia mito, yakiyafanya maji kukaa baridi na kupunguza kupotea kwa maji kupitia uvukizi.



# Miti ya kienyenji inayokua haraka.

By Christine Yankel

Miti ya kiasiri hutupatia faida tofauti. Mwezi huu tunaangalia baadhi ya miti ya kienyeji ambayo ni ya manufaa na kukua kwa haraka. Kwenye poli miti hii hukua haraka ikiwa imekatwa au kuchomwa na moto. Jadiliana na walimu au vikundi vya cluster kuhusiana ma miti hii na hasa ile inayomea huku kwetu.

***Hagenia abyssinica***, African redwood, muhooru



Mbao yake ya rangi nyekundu inapendeza sana na imamea haraka kwa kufikia meter 20, *Hagenia abyssinica* ni mtu mzuri na unakua ukienda juu na pia unafanya vizuri mahali kuna mvua ya kima cha 1,000 to 1,500 mm kwa mwaka. Ina manufaa mingi kama matawi yake inatoa rutuba. Inatumika kama dawa. Pia inatumika kwa kuzuia mmomonyoko wa udongo. Muti mwenyewe unatoa kuni na makaa mazuri sana na pio mbao.

Muti mwenyewe unamea kutokana na mbegu yake. Haihitaji kunyunyizia dawa. Mbegu inamea kwa munda wa siku 10-20 na inamea kwa muda wa 40-60%.

Ikipandwa na mimea mingine hakikicha umekata matawi ili mtu mwenyewe ukuwe ukienda juu.

***Macaranga kilimandscharica***, mukuhakuha/ mukura



Macaranga ni mtu unaokua haraka sana na unafanya vizuri sana na mimea mingine kama Kahawa ama madizi. Inafanya vizuri sana wakati kuna mvua ya kima cha 1,500 to 2,500 mm kwa mwaka. Kwa sababu ya ukuaji wa haraka wake, inazuia mmomonyoko wa udongo. Ni mzuri sana kwa kuni na kwa kujengea ukuta. Mbao yake ni nzuri sana kwa kujengea masanduku, meaza, viti na kadhalika. Mizizi yake inatumika kama dawa.

Macaranga inamea kutokanan na mbegu yake macaranga. Haihitaji kuchungwa sana ndio ikue.



# Mazingira Bora



## TIST

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

**Kikamba Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Visa ino ni ya:-** Ene ma TIST kuma ngwatanioni ya Kangeta (Cluster) mwai muthelu, vala mavundiw'e iulu wa useuvya ivuio na miunda/itheka kwoondu wa uimi wa kusuvia (CF).  
Tukundi tunini thathatu nitwalikile ngwatanioni ino ivindani yii maina wumbano uu.

### ***Nthiini:***

Mwii wa kinandu kana mwiki wa masavu vamwe na Munini wa Mutongoi wenyu wa kikundi yu nukumuthukuma nthini wa kanzu ya ngwatanio (Cluster Council). *Page 2*

TIST na vaita wayo kuendee na kwiana! *Page 2*

Kwia walany'o mwailu wa uni kwoondu wa syana situ. Miti kivathukany'o niutethya. *Page 3*

Ngwatanio yina umi wa ndengu (Green gram) *Page 4*

Miti nitumaa mawithyululuko methiwa maso kwitu ithyoothe. *Page 5*

Miti ya kithio ila imeaa mituki. *Page 6*



## **Mwii wa kinandu kana mwiki wa masavu vamwe na Munini wa Mutongoi wenyu wa kikundi yu nukumuthukuma nthini wa kanzu ya ngwatanio (Cluster Council).**

Nthini wa Tist, nitukwimayisya na kwiany'a wiki museo kwa kutata maundu meu na kusisya na kwimanyisya kumana na usyao ula twakwata. Itina wa mwaka wa kwithiwa tuiyua andu kuma ikundini situ kututhukuma nthini wa Kanzu ya ngwatanio (Clusters Councils), Aingi ma aimi ma TIST nimookie na mawoni undu wa kwailya uthukumi witu. Utongoi wa Kanzu ino niweetikilanile na woni uyu; kwambiia mwai uyu, mwii wa kinandu vamwe na munini wa mutongoi wa kikundi nimomakathukumaa na kanzu ino. Uvinduku uyu nukwailya uyuvani na kuea atongoi aya na nzia ila yaile kuthukumwa nthini wa TIST.

Ikundi sya ngwatanio 2 kuvika inya ila ithengeanie nitonya utumiana mii na uvundisya.

Ota kanzu ila ingi mbituku yu GOCC nikuthukuma myai nthanthatu (6months) vala ula ukethiwa aithukuma ta munini wa mutongoi wa kikundi kyenyu vandu va myai ina na ili ta mutongoi wa kikundi. Now'o onake mwii wa kinandu akathukuma kikundini myai ina na ili ta munini wa mutongoi ila ukethiwa e umwe wa anzami ma Kanzu. Atongoi aya makaendee na utongoi wa kithyululu wa kikundi undu vaile kwa ivinda yila maile uthukuma ovamwe na kuthukuma thini wa kanzu ino movaka ivinda yila manengetwe kuthukuma.

Kanzu ya ikundi (Group of Council (GOC)) ikakomanaa kila mwai indi munamuno kyumwa kya mbee kya mwai na nimaile utunga livoti ya kila ngwatanio.

### **Mawia ma atongoi anyuve kuma ikundiniala mail kuthukuma nthini wa ngwatanio sya ikundi (Clusters)**

1. Kumatha nzia nzau sya uthukumi na kwonany'a nzia nzeo sya uthukumi kuma kikundini ingi kuthi kingi.
2. Kuikiithya uvundisyo wii iulu na kuatiia mawalany'o na myamulo ya tist.
3. Kuikiithya uvitukithya wa kilasi ki iulu na mwailu uatiie mawalany'o ma Tist.
4. Kusuvia mii ya wia ya uvundisya na uvitukithya.
5. Kutunga livoti iulu wa mawoni ala manenganitwe na mitalatala ya kanzu wa isio
6. Kuthathasya Tist kwisila ikundini na ngwatanio ila syivo.
7. Kukwatiia utongoi vamwe na kusilany'a vala veethiwa na thina kwa kwithukiisya ethiwa Muthiani/Muvitukithya kana mumanyisya niwaetwe kwoo vena nthina. kukunikila na kunengane mwolooto ula waile iulu wa undu usu.
8. Kwithiwa na kikalo na kwithukiisya ethiwa mutongoi wa ngwatanio ya ikundi nde kuatiia mawalany'o ma Tist
9. Kunengane mawoni iulu wa kikundi kwongelwa mawia ma TIST ta Auditor, TSE na Master Trainer.

## **TIST na vaita wayo kuendee na kwiana!**

Oundu tist iendee na kuvika isioni nzau nthini wa nthi yitu no'w iendee na usevya ngwatanio nzau na ngwatanio vamwe na ikundi ila syivo kuendee na kwiana nundu niw'o atui maendee na ulika ikundini na ngwatanioni ithi. Moseo ma Tist nimaendee na unyaiika kila vandu ona isioni nzau.

Umunthi twina ngwatanio mbee wa 130. Ni tuendee na uthukuma kwa kithito kukiithya tuivika muminukilyo wa mwaka uyu nitwa vikya ngwatanio 200.

Nituu tunga muvea kwa TIST Kenya nundu wa vitii na wia woo vamwe na kithito kila mekiite kuikiithya kila ngwatanio niya ungama, nithukume nesa na niendete na mbee kuvikia ngolu ya TIST.

Otondu ithyi twisi, ithyoothe nitwaile uthukuma vamwe kutetheesya TIST na moseo mayo kwiana. Notuvande miti, no tumisevye na kutumia nzia ingi nzeo sya TIST ta uimi wa kusuvia (Cf),

kwailya nguumo sya mbusi, kuvanda na kusuvia miti mithemba kivathukany'o nthini wa ngwatanio situ na ikundi kuikiithya twi alumu na nitwailya miunda yitu na mathayu maitu.

Ata ulilikano:-

- Ngwatanio ya ikundi yaile ithiwa na ikundi katikati wa 30 na 50.
- Kikundi kyaile ithiwa thini wa ngwatanio yivakui kiasi kya kutembea na kuu
- Ngwatanio iinyiva yaile ithiwa na kithaka kiinyiva eka 100 kya kuvanda miti
- Ngwatanio yaile ithiwa na inyiva miti yivo mbee wa 200,000
- Ngwatanio niyaile ika kuvitukithya kwa kila kyaw'o na kumanyisya kwa nzia yi iulu.
- Ngwatanio ya ikundi yaile ithiwa na miti mianu yi kivuioni ya kuvanda kila ivinda. Kila kikundi



kithini wa ngwatanio ino kyaile ithiwa na iiyiva mbeu yi kivuioni ya miti 1,000 kila mwaka nikana withie ivikia myaka itano yila miti ngili itano.

Ngwatanio ya ikundi nzeo yaile ika ata?

- Nimaile kwithiwa na unzakuani kila myai ina (4 months) kusakua mundu wa masavu na ala angi maithi kithyululu.
- Nimaile ukomana kila mwai kuvundiany'a, na kumanyiany'a mawiko maseo, kukwata ithangu ya Mazingira bora, Ndivi, na maundu angi maingi.
- Yila kwina mbumbano ithi nimaile unengane kyenini uvoa wa undu mbesa itumikite na budget undu iilye na itumikite.
- Yila mombanite kila mwai nimaile kunengane lekoti syoo vamwe na Accounting Form by palm.
- Nimaile kwitya kuthianwa na kuvitukithw'a yila mekwona maile.
- Nyaile kuikiithya kana mavitukithw'a unduvaile na w'o niwaatiwa
- Nimaile uthukuma vamwe na ikundi ila syithini

woo kuikiithya nisyeeethiwa na miti itonya kuvikw'a sokoni wa uta nzeve itavisaa (cabon market) na nimatalika nthini wa mathangu ala me uthukuma project isu.

- Kila ngwatanio nyaile uthukuma kuikiithya nyaiva ikundi vamwe na tukundi.
- Ngwatanio nzeo ni ila iendeeaa na kumanyisya na kulikya angi. Kwiana nikutumaa walany'o wa TIST withiwa wi mulumu . Ngwatanio nyaile kuaanw'a keli yavikia ikundi maana ana (400 member groups)

Nata utonya kwika ethiwa nukwenda utethyo?

- Wenda uvoa iulu wa kuvitukithw'a kwa uvoa muna neena na Martin Weru : 0722 846501
- Wenda uvoa iulu wa miio (i.e. Palms), neena na Charles Ibeere : 0720 474209
- Wenda uvoa iulu wa kwamyaa ngwatanio yenyu neena na Eunice Wambui 0724 431071

Umuthi wumbanoni wenyu, neena na athukumi ma ngwatanio yenyu. Ni miti yiana ila ngwatanio yenyu ninayo? Ni ikundi siana ata ila ilikite ngwatanioni yenyu ya ikundi? Nata utonya kwika umunthi kwikia ngwatanio yenyu vinya. Nthini wa Tist nitutonya.

## **Kwia walany'o mwailu wa uni kwoondu wa syana situ. Miti kivathukany'o niutethya.**

*na Aaron Kaindio*

Yila wavanda muti, manya kana uendee na utethya usyao wa uni kwithia mena mawithyululuko matheu, na manake. Makatunga muvea kwithia kana nitwathukumie na tqwokitia uvinduku was eve na twaveta ukya. Kii nikyo nthini wa Tist tuyuvaa nimivai/mithemba yiva ya miti tuuvanda miundani yitu na nguumoni sya mbusi. Tuiuvanda tu nundu witu, lakini nundu wa syana situ na syasyo.

Mithemba imwe ya miti niyithiawa yina sumu kwa mawithyululuko isioni imwe onakua ndyaa vaita wayo. Miti ta misanduku/minyoonyoo nimeaa na kwiana na mituki nundu nyusaa kiw'u kingi na nitumiaa unou mwingi wa muthanga. Nundu wa kitumi kii, muti uyu nimuseo kwa viasa, indi wina sumu kwa mawithyululuko munamuno isioni ila syikiw'u na nguumoni sya mbusi. Miti ino ndikaa nesa miundani kula tuvanda miti ila ingi na nitumaa muthanga usu ueka ika nesa wavanda mimea ingi na uyithiwa na ngetha nini.

T wivanda miti ikwikala vandu va ivinda iasa tam bee wa myaka miongo itatu (30 years and over) ta undu ukwendeka ni soko wa nzeve itavisaaa (carbon

market). Aimi me ikundini na tukundini mena misanduku/minyoonyoo mingi mitini yoo nimaile utata na vinya mavikiie kilungu kya itheo wa 33% kya miti isu kwianana na walany'o wa Tist. Kwa kuvanda miti ya kiene/kikamba isioni nmzau kana kuola misanduku na vandu vayo uyikia miti ya kikamba. Undu uu niwavata munamuno nguumoni sya mbusi. Lilikana kana silikali nikuleana na uvandi uu wa misanduku nguumoni sya mbusi na isioni ila syi kiw'u. Vanda miti ya kiene/kikamba ila yinduu na kiw'u, na uatiia nzia nzeo sya uvandi wa miti nikana utonye ukwata ndivi ya uthuthio kuma kwa miti ya kiene nguumoni, na syandani. Wiithiwa uyaikya mbusi kwondu wa musyi waku, andu maku na atui la meitheo usini kwoondu wa umuthi na kwa syawa syukite.

Ekai ithyoothe tukeke unduu uu nikana twikalaye ngwatanio yitu ya tist na ingi kwoondu wa mawithyululuko.

**Muandiki ni muvitukithya/muthiani wa ngwatanio ya Kigucwa (kigucwa cluster) aronkandio@tist.org.**



# Ngwatanio yina umi wa ndengu (Green gram)

na Jennifer Kithure

Ngwatanio imwe ya Tist yiyambiie umwe wa mawiko maseo wa kuvanda ndengu kwoondu wa kukwata vaita na kwailya uima wa mii ya andu moo. Nitwa mbiie na ngwatanio ikumi na ili ila kwisila nziani ya kutethw'a utethyee (**helped to help**) nikwiana kuvinkia ngwatanio ingi mbuani syukite..

Ngwatanio ithi ni Mumbuni, Kiengu, Kaanwa, Mworoga, Giaki, Matakiri, Kirindini, Nkondi, Tunyai, gachua, Kawiru MCK na Mikinduri.

Nthini wa kila ngwatanio syi 12, ene atano nimakwatie kilo itano sya ndengu muthemba N26 kuvanda ekani umwe. Nundu wa miunda kunyiva isioni imwe aimi nimaanie imbue na kwavamwe mathi kuvanda kila umwe nyusu ekani ila yake. Ngetha nikwithiwa mwai uyu wambee na kila umwe niweeyumisye kuaina imi angi eli nikanma mavande mbua isu ingi yukite. Tuivika mwiso wa mwai mbee mwambiioni wa February alamambiie makanengane 5kg sya ndengu muthemba N26 kwa andu angib atatu.

## Itho ya Viasala

Viasala ikunawa na nzia ya kivasala kwa kwiany'a kila kiilyi ukunika viasala na kuminenevya kuendee na kukwata vaita munene. Nikana mundu aendee niwaile kumanya kila kikwendeka na vata wa viasala uyu kilikoni kyake ekiite ni viasala nawaile kuendee na kumune vaita. Nivenda kusiisya kwa vakuvi nthini wa kila itambya mundu ukwika kwona vaita na utumiku ula uvikiwa kuete vaita uyu. Ikundi nisyaille usisya uimi wasyo na itho ya viasala. Vamwe na kuima undu wa ukwata kya uya withie mundu nutonye kwitethya kumana na kila waima akwata. Vala kuete ukwati nonginya masisye kana ngalama ila manyi niyamanenge vaita munene vya kwi ngalama ila mekuthi maiseuvya ukwati uyu kwa kila mwene.

## Mbai kulika visalani.

1. Ikiithya kilaviasala ukwambiia ni waile kwa soko mithemba yonthe nikana withie kwambiia ngalama ni nini na vaita ni munene.
2. Mbee nimwaile ika ukuninikili iulu wa soko na kwona ulumu na ivuso yila yivo mbee wa kwambiia.
3. Ngwatanio iyambiia viasala uyu nimweekia mawalany'o maseo na mwaana mawia kwa kila umwe nesa.
4. Aimi kivathuky'o ma Tist nimaendee na kuka

vamwe na kuseuvya ikundi nene ikwitwa utui wa viasala nikana methiwe na syindu sya utandithya mbianu kwa soko nene ta syivalo sya isomo na masoko manene.

5. Kwia walany'o wa kuungamia ikundi ithi.

## Viasala wa ngwatanio ya Tist

Nimaanisya ata:- kutw'a ngwatanio viasala ni kwithiwa kwosa mwolooto wa kivasala kuatania na soko ila niyo yikiite bvinya ngwatanio ya Tist kulika masokoni ma kiene na ingi kwongeleka na kulika vi wa asalanikindua (Commercial village). Ndua ithi nthini wa viasala ninengetwe mwanya wa kuthukuma ta viasala kuvikia kunengane kana kutandithya usyao wa muundani mavete kutiia na kumathiia ila matenasyo mavikie wendi wa athooi.

## Kii kyelekele:-

- a. Kuthuthya aimi ala methni wa ndua sya unyanya kuseuvya ikundi sya viasala (commercial producers groups (CPG)).
- b. Kulikya tukuni tunini twa aimi nthini wa usimunene wa nyolo ino ya viasala
- c. Kwialya utonyi wa ngwatanio kwithiwa me athauki anene sokoni ithi.
- d. Kwongela usindani kwa ikundi nini kana ala mena umya munini.  
Vaita wa ngwatanio kutwika kuthi viasala.

## Vaita ula ukwatikanaa kuma nziani ino ni vamwe na:-

- a. Kumbany'a, kukuithya vame na kuatia nzia sya soko syikawa kwa vamwe na iikuaa vinda inene.
- b. Nimakwataa utethyo kwa kunewa miio ya muundani kwa aimi
- c. Kweethiwa na masamo meu nimavikiaa ene kwa mituki.
- d. Nivethiawa kukovethw'a kwa en eta ethiwa mundu ena vata wa mituki ta ndivi ya sukulu kana mathiko, ona mbilu sya sivitali kwa thooa matonya.
- e. Kuseuvya mawia kwa andu kwiyiandika ene miundani na viasalani uy.
- f. Kuta vamwe nikwongelaa kila kiutewa na na kwoou kwendeessa aui angi.
- g. Kuima kwa ivinda muandikanite kwa ikundi
- h. Nzia nzeo sya kwia mbesa nitetheessa ene ikundi ithi na amemba.



- i. Mwalany'o ma undu viasala uyu utonya kuendee nimekawa kwa vamwe.
- j. Ngwatanio/ikundi ila syinamawalany'o maseo nikwataa avothi ma ngoo nzeo kumatetheesya.

Ngwatanio sya Tist ila iendee na uvandi wa ndengu syi 12 nisyambiee uimi uyu kwa vamwe. Nimekwambiia ukwatana mbau kwa kuima ndengu na kusyumbany'a vamwe na kuta. Uyu ukeethiwa ethiwa makeetikila woni kuma kwa Farm concern Internationa, ala mamanyiasya iulu wa undu uu.

**Kithini kya ikundi na mawia kwa ikundi ithi sya ndengu.**

- i. Kwikala maisisya itina wa ivinda undu ndengu iendee na uma na kuthunikia ethiwa ve nthina uvwanene muundani.
- ii. Kwalany'a invinda ya kuivanda kwithiwa yi kwavamwe nundu wa viasala kwa kikundi.

- iii. Kuikiithya kana ngwatanio na vinya wa vamwe niweekiwa kuiima.
- iv. Kuneenanisya mavata ma ndengu kuma kuivanda nginya sokoni vamwe na ene
- v. Kusisya nzia ila yaile kwa ala me kuta sokoni ya vamwe na ala maivandaa.
- vi. Kwendeesya kaaana mawia ma kuungamia kuma ngwatanioni kivathukany'o ta silikali na aimi na angi ala me nthini.
- vii. Kunengane mwolooto iulu wa undu wa kwikalya maindeo ma uthwii wa nthi kw aaimi.

Soma muno iulu wa ndengu, ethiwa ngwatanio yenyu yi siioni nzeo ila itonya kuimwa ndengu na wina wendi wa kukwata na angi kuola nzaa nthini wa mbai yenyu na nthi yitu kwa vamwe neenany'a na Jeniffer Kithure – 0726 319539 kwa uvo mbeange. Twina tist nitukwinana na kuvetanazaa vamwe na kuta nzeve itavisaa.

## **Miti nitumaa mawithyululuko methiwa maso kwitu ithyoothe.**

Nthini wa Tist, tuvanda miti kwosa mwanya nyini wa soko ya nzeve itavisaa na kumita kukwata vvaia. Onakau moseo ala angi tukwataa kuma miniti nimaingi!

Vaa ve amwe kati wamo (ala ona nthi yothe itaniaa) ala tutaniaa.

- Miti niyithiawa ta mawikalo ma malaa . Ninengae nyamu sya kitheka wivitho na liu. Suvia mawithyululuko kuma miundani yitu na ikonyo inya sya nthii ikeethiwa na wumya mwingi vamwe na uvinduku wa nzeve na mathina angi ala maetawe ni miti kwithwa itevo kuoleka.
- Miti niseuvasya nzeve ila tuvevaa kwa kuola uthokoanu. Miti niyumasya carbon dioxide ila mbingi kuma nzeveni vamwe na sulfur dioxide na kutunge nzeve ya uveva oxygen.
- Miti niyailasya vandu ukethia nivekwendeesya

ona kwa metho. Ingi mii niyongelaa langi na kwanakavya nthi.

- Miti niyailasya nzeve kwi ivinda ya sua, kiseve kana mbuani. Ingi nisiiia kukuwa kwa muthanga na kwanangika kwa nthi.
- Miti nusuviaa onou wa muthanga nundu miyayo nikwatanasya muthanga nakumine nzeve vamwe na matu mayo ala moa manengae muthanga unou. Muthanga munou nengae mundu liu museo kwoondu wa uima wake.
- Miti nimelasya kineene na kwoou miti nimiseo twasisya kwa kila ngaliko.

Wendi wa kiw'u kiseo kya unywa no uvikiwe kwa kuvanda miti mingi ya kiene. Miti kaingi nisiiiaakiw'u yila kwaua kusemba kwoou kikanywa nthi na ingi uyithia kyalika muthangani kikisunge na kikiso kwa kwiswa ta ndovoi na kutumiwa. Miti ingi niyikiaa muunyi mbusini na kwoou kiw'u ukethia kila kimbusini ni kithihu na kiinangala kwa mituki.



# Miti ya kithio ila imeaa mituki.

Na Christine Yankel

Miti ya kithio nitunengae moseo mainngi me kivathukanyo. Mwai uu twikunikila miti mina ya kithio ila yi vata muno nundu niyianaa mituki .Kithekani mbai sya miti ino nisyo mbai sya tene na nisyo imeaa mbee na mituki yila sya temwa kana kuvya ni mwaki. Ta amanyiwa na ikundi ingi nini nduani yaku ni miti yiva ila yikaa nesa nduani yenyu ?.

**Hagenia abyssinica**, African red wood, muhooru.



Kwoondu wa mbwau syayo ndune, na kwiana kwa wo kwa mituki kulia mita ta miongo ili Hagenia abyssinica ni muti museo uivandwa nthi ila mbukilu na ikwataa mbua ya mm katikati wa 1000 na 1500 kila mwaka. Wi mavata maingi, matu mawo ni manoasya muthanga, na ni muti museo uivandwa kula kwi mititu. Ni muti museo kwa uiiti na nusiiaa muthanga kutwawa, ni muti museo wa mbwau na na ngu na makaa.

Muti uu numeaa mituki kuma mbeuni yawo. Tilasima ukunwe ndawa na mbeu yayo nimeaa katikati wa matuku 10 na 20 itina wa kuvandwa na niwianaa na mituki na uasa 40-60% itna wa mumea

Ethiwa miti uu nuuvandwa muundani vanda wimutaaniu. Sea mbonge nikana wiane win a muthamba mulungalu.

**Macaranga kilimandscharica**, mukuhakuha / mukura.



Makaranga ni muti umeaa mitiki na museo uivandaniwa vamwe na kaawa na maiu.

Umeaa nesa kula kwi mbua ya katikati wa mm1500 na 2500 kila mwaka. Ni muti museo kwa wiio na nundu wakumea mituki nusiiaa kutwawa kwa muthanga. Muti uu ni museo kwa ngu, kuseuvya masanduku na kwa kwiia wiio. Mii yawo nitumika kwa uiiti. Vanda ngii sya makaranga na muti uu ndwendaa usuvii mwinga wa mina kumea.

# Mazingira Bora



## TIST

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

**Kipsigis Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



**Members of Kangeta Cluster. Last month, they were trained about establishing tree nurseries and preparing land for Conservation Farming. Six Small Groups joined Tist During this meeting.**

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## Accountability Person ak Co-Leader nengwon'et kotoretok en Groupit ak Cluster Council.

En TIST, keneteg'e tuguk che imbya yon kakiyomte ak kejaribunan tuguk che lelach ak kinetenge wolutik che kakinyoru. En experience nebo kenyt ageng'e, che kikilewen koik membaek 'ab Group of Clusters Councils Representatives, chehchang' en temik 'ab TIST kokonyor service structure. Noton council nebo kondoik en TIST kokoyan koyai kou noton : konome en arawaniton , Cluster Accountability Person ak Co-leader komuche kotoretis ko Cluster's representatives chebo Groupit en council nebo Council. Wolutyoni kotoreti en lewenishet ak kogochi kondoik chebo cluster leaders more ways to grow and serve in TIST.

Groupishek chebo clusters ko 2 anan ko 4, che imuche kopchei tuguk chebo training ak facilities alak.

Kou en Councils ne koipoto , GOCC ne koinome koyoe kasit en orowek 6.lbwat ile , Co-leader komuche komiten en GOCC representative en kasarta ne tagoyoe kasit ko Co-Leader nebo groupit (orowek angwan') ak orowek alak oeng' koyoe kasit ko kondoidet nebo Cluster. Kora , Accountability Person koboto che miten council en orowek angwan koyoe kasit ko Accountability Person ak orowek alak oeng' koyoe kasit ko Co-Leader. Kondoichon oengn' kowolchin'ge en orowek 6 lakini kotesetai koserverni cluster ko

kondoik 'ab Cluster.

Noton Group of Council (GOC) kotinye tuyoshek en kila arawet , sanasana en wikit netai nebo arawet ak koyoche kokon report nebo kila arawet .

### Kasishek che tinye Clusters Representatives che kakelewen.

- 1) Konai akobo practices che nomege ak Clusters ak konete iko;
- 2) Koker kole kakiyae training nebo barak en cluster che isubi TIST Values;
- 3) koker kole Quantification en cluster komi barak kou en TIST Values;
- 4) lchek che konori equipment chebo training ak Quantification;
- 5) Koreporten ngal alak tugul che tese tai en cluter ak policies chebo Regional Council;
- 6) Kotes TIST en Clusters che miten en inguni;
- 7) Koyai Hearings chebo Administrative yon kakisuspenden Quantifier anan ko Trainer ak koyai recommendations agobo suspension noton ;
- 8) Koyai Administrative Hearings yon moisubi Cluster Leader TIST Values;
- 9) Korecommenden bik chebunu groupishek chebo cluster koyai kasishek chebo TIST kou Auditor, TSE, anan ko Master Trainer.

## TIST ak borotoshek chik kokotestai koyechegitun !

*By Aaron Kaindio*

Kotese tai TIST koyetu koitchin emetnyon nebo Kenya, Kotese tai kochong'oegitun clusters chemiten en Kenya ,ak koyechekitun clusters che miten en TIST angamun chong'oekitun groupishek che meng'echen. Borotet netinye TIST kotese tai kopchee emet komugul.

En inguni , Kokechob clusters che ite 130. Kigile ge ketes numbarit koit bogol oeng'

Kimwochi kongoi TIST Kenya Team en kogiletnywei ak konunet nekikokon ge koker kole banganat cluster agetugul en TIST, kogiserven komyei , ak kotese tai kogilchin ge konyor goals chebo TIST.

Kou ole king'ende tugul , koyoche kigil ge tugul keger kole kokioret TIST ak kotagoet borotetnyai. Kemin ketik , ak koyet ak keboishen practices

chebo TIST cheu Conservation Farming (CF), improving riverbanks, ak planting ak ripet 'ab ketik asi kotestai koyechegitun clusters chechok.

kokabwotutyet:

- Cluster koyoche kotinye groupishek chemeng'echen 30-50.
- Groupishek chemeng'echen chebo Clusterkoyoche konegitchin ak ole kituyechin.
- Cluster koyoche kotinye imbaret neite hectares 100 chebo minset 'ab ketik icheken.
- Cluster koyoche kotinye ketik che moregunen 200000.
- Cluster koyoche koyai quantification ak high quality training ne' kararan.
- Cluster koyoche kotinye seedlings en nurseries chebo minset 'ab ketik en kila kenyt.kila





groupit nemingin koyoche komin ketik 1,000 en kila kenyit ak kotinye ketik 5,000 en kenyishek mut.

Ne neyoche koyai cluster ?

- Cluster koyoche koyai lewenishet en kila orowek 4 kolewen kondoik 'ab Accountability che roteteni en ng'echerochuton.
- Cluster koyoche kotuyo en kila arawet agobo training, kebchei practices chebo TIST, kealdat Mazingira Bora, libanet , ak tuguk alak chebo maana.
- En tuyoshek chebo clusters ,koyoche kopchei representatives ngalek ak membaek alak ,kou ole yoche kepcheita budget nebo cluster.
- En tuyoshek chebo cluster , koyoche kosubmiten Cluster Meeting Record ak Cluster Accounting Form koboishen Palm
- Cluster koyoche koyoe quantifications yon magat.
- Cluster koyoche koker kole kagiyai quantification che imanit.
- Cluster koyoche koger kole kagiimbroven data en groupishek che meng'echen asikobor ketik

koba carbon market (ketesta en Carbon Project Documents)

- Cluster koyoch kogil 'ge koliban groupishek che meng'echen.
- cluster ne kararan koyoche korecruiten ak ko-trainen Groupishek che meng'echen . YETUNET neyoe koetTIST!Yoche koet konyil oeng' yon kakoit membaek 400.

Ne neyoche iyai yon imoche toretet?

- Yon imoche quantification data quality, contact Martin Weru 0722846501
- Yon imoche ngalek che nomeg ak equipment (Palms), contact Charles Ibeere 0720474209
- Yon imoche ng'alek che nomege ak teset 'ab cluster Cluster, contact Eunice Wambui 0724431071

En tuyet 'ab raini , ongalal ak Cluster Service Team ak Cluster Representatives. Ketik ata chetinye cluster neng'wonget? Groupishek ata chemeng'echen chetinye cluster neng'wong'etagoi raini? Ne neimuche iyai raaini asi koet cluster neng'wong'et? En TIST, kimuche!

## Kechob future nekararan nebo logokchok: toreti ketik che terterchin!

By Aaron Kaindio

Yon kemin ketit, Inai ile itoreti generations che isubu konyor emet ne kararan , ago tilil . Mwaaitoenech kongoi angamun en kasishek che kikakiyai ketere climate change ak keter bananda. Noton amaune asi echek en TIST kekere komye ketik che kimine en oinoshek ak che kimine en imbarenik . kimine ketik agobo generations che isubu .

Ketik alak komuche kowech emet en olda age ,agandan tinye borotet. Ketik cheu eucalyptus koyechegitun en chokchinet angamun yee bek chechang' ak mbolea chemiten en ng'ung'unyek. Angamun en niton , keti chuton koyomege keboishen kobunchi biashara, lakini imuche kowech emet en olda ag'e, sanasana en tobonwokik 'ab oinoshek . Moyechegitun komye en kiwanchoshek yon kakimin ak tuguk alak ak kora koyoe ng'ung'unyik kotutiginin mbolea.

Kimine ketik , che iburtos en kasarta ne goi (kenyishek 30 anan kosir) kou ole magat en carbon

markets. Temik chemiten en Groupishek chemeng'echen chetinye eucalyptus chechang' koyoche koyom konyor recommendation TIST che moyoche kotinye 33% chebo ketik cheu eucalyptus, Yon kakimin ketik en imarenik che imbya anan kewal ak ketik alak koik eucalyptus, sanasana ketik che indigenous. Inoniton kobo maana sanasana en oinoshek. Ibweaat ile serikali komomoche minset 'ab eucalyptus en ole negit ak oinoshek ak en riparian areas. Ongemin ketik che indigenous, ak kisub practice che kororon , ago kimuche kequantifyen kenyonun incentives che chang' koyobu ketik che minotin en riparian areas. En yoton kokagichob oinoshek kogororonegetun, en biik chemenye legem en oinoshek,.

Ongeyai tugul kou niton asi kesustainen ak program kigimit program nebo tistak emetnyon ko mugul.

**Sirindet ko Quantifier en TIST , Kigucwa Cluster. aronkandio@tist.org.**



# Green Gram PROGRAM nebo temishet en clusters.

By Jennifer Kithure

Clusters chebo TIST kokonaam practice alak che kororon :Minset 'ab grams che nyolien asi kenyorun borotet en korikchok ak ksich chepkondok che chang'. Ne kobune oret 'ab **Helped to Help program**, kotesoksei koba clusters alak.

Clusters ichuton ko Mumbuni, Kiengu, Kaanwa, Mworoga ,Giaki, Matakiri, Kirindini, Nkondi, Tunyai, Gachuuu , Kawiru MCK and Mikinduri.

Age tugul en clusters ichton 12 Clusters, koginyor membaek mutu kiloishok 5kgs chebo green gram chebo N26 asi komin en acrerit ageng'e. Angamun en ming'inindab imbarenik , en clusters alak che kitinye, Kogipchei temik keswek che mine en imbarenik. Kibute en january, ago kiiyan age tugul kopchei rurutik asi komuch komin age tugul en temik en kenyt nenyonen . angunon en February, pioneers komin 5kgs chebo N26 green gram.

Chang' temik chebo TIST chemoche komin green gram, angamun en borotenywai en borto ak en rabinik, rutu komye ogot yon mowon robta. Pioneers koginet agobo ole kioldoito Green Gram en seminar .imuche iyomde inet pik chemiten cluster nengwong'et komin green gram. Ichochu ko alak en tuguk che yoche ibwaat asi koaldaak green gram en market:

## **Commercialization nebo community:**

1. Koger kole koigil enterprises koguyet ne business/market en temik ak community ko mogul.
2. Kocheng' producers ychebo simple market opportunities chemiten chetomo keitchi bik alak.
3. Producers chebo TIST kokotuyoge kochob markets che yechen che kikuren commercial villages asi konyor rurutik che chang' chebo institutional, formal ak mass markets
4. Kochob group governance structures.

## **TIST Cluster commercialization.**

Maana – Cluster commercialization ko indonyo netinye koguyet 'ab commercial ole imuche kobun

TIST cluster asi ke'commercializen ak ke'equippen ak kenyoru mogutik chebo private sector. Kogilgil kokwotiwewek asi koyai kasit kou business units asi kenyorun output chechang', ak ketes logistics ak efficiency.

Inoni koaimeni konyor:

- a. Kigil temik kochob commercial producers groups (CPG).
- b. kotuyoet 'ab ge nebo temik che miten en groupishek che meng'echen koik che yechen.
- c. Teset 'ab ke nebo market koik cheyechen en market.
- d. Kotes competition en temik chemiten local.

## **Manufaa nebo Clusters commercialization.**

Manufaa chebo oraniton ko,

- a. Ibet ak aldaet ab' produce chebo temik.
- b. Korobtaat tuguk ch kiboishen en imbarenik koitchi temik.
- c. Koneet membaek agobo technology che kogoit.
- d. Kokoochi temik credits yon miten nyosutik cheu school fees, funerals, hospital bills etc. at affordable cost.
- e. Kochob kasishek yon kasinge temik
- f. contract nebo temishet anan ko contract production nebo groupishek .
- g. Savings kotoreti temik komagi wechowech funds chebo groupit.
- i. Planning en groupit kobore soiti en business opportunity.



j. Groupishek che organized kogure sponsors kobwa kotoret groupit.

TIST Clusters green gram champions tugul ko 12 clusters che kigonam green gram farming program. Ichek kotoreti green gram production, seed bulking ak marketing. Inoniton koyooksek en toretet nebunu Farm Concern International, che kitraineni champions ichuton.

**Kasishek che tinye green gram champions.**

- I. Koger olerutundo green gram ak kotatuan shidaishek chemiten en imbarenik ‘ab green gram;
- II. Kochob program ne isubi commercial producers groups.
- III. Koger kole kagibjei kasishek komye en clusters.

IV. Kongalalen ole kimuche ketes market nebo temik, ak stakeholders alak che toretetech.

V. Kotoretge ak temik kochob plan ole kimuche ketestai market

VI. Kotes bang’anet ‘ab resources sanasana ko chubunu serikalit ,anan ko chebunu temik ak stakeholders

VII. Kogon oratinwek ole imuche kotes temik rurutik ‘ab greengram

Inet ge’ chechang’ agobo green gram raaini ! Angot komiten korengwong ole tot kominak green gram, ago imoche keisten rubet en emet komugul–ibirchi simuit Jeniffer Kithure phone no. 0726319539 asikomwoun chechang’.ongealden carbon credits chechang’ angamun en TIST keyechegitu.

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## **Ketik koyoe emet kokararanit en echeck tugul.**

En TIST, kemin ketik asi ketestech en carbon market ak kenyoru libanet en carbon offset che kakealdei. Lakini , ketik kotinye maana alak chechang’!

Ichochu ko alak en maana chechwaget :

- Ketik keboishen en koik ole menye tyong’ik ak flora ak fauna. Ketik ko konu ung’atet ak ripest nebo tyong’ik ab’ timin ,kogochin omitwokik ak urityet . Ribe biodiversity ak kochob imbarenikchok koik chetinye rurutik ak kobos climate change ak yomutik alak.
- Ketik kobose koriswek cheyachen ak kochob’ koristo ne kararan en emet. Ketik koisto carbon dioxide akkoriswek alak che yachen cheu sulfur dioxide, ozone ak nitrogen oxide. Ak kokonech oxygen negiboishen en sobet.
- Kororonindab emet kou landscape kotese ketik , ne noton kotese quality nebo emet . Angamun nyolilen ketik kokororonite emet.

- Ketik kochobe climate nebo emet angamun tere asista ,koriswek ,ak robwek.Ter komabit robwek che loe bik ,landslides, ak koriswek che weche emet. Chomchin bek kochut ng’ung’nyek .
- Ketik kobose erosion en ng’ung’nyek . Tikitik ‘ab ketik konome ng’ung’nyek komala bek en robwek . Ketik kora kotese rurotet ‘ab imbarenik.Ng’ungunyek chetinye nutrient koibe omitwogik koba ketit , noton kotese health nebo pik.
- Ketik kobose bollet . Bollet en townishek kimuche kebos yon kakimin ketik che chang’. Maget ‘ab beek che tillilen kimuche kenyor yon kakimin ketik che indigenous. Osnoshek ak minutik kobose rwaet nebo beek asikochut ng’weny. Yon kagebos rewet nyai ,kochute bek ng’weny ak kochut aquifers chemiten ng’weny. Ketik kora kobose evaporation en oinoshek ak koyai kokoititekitun .



# Ketikab gaa cherutu kochogu.

Kosire Christine Yankel

Ketikab gaa kotinye boishonik chechang che ter. En arawani, kegere alak en ketikab kaa chebo komonut ak kochogu. En timwek mising' ko ketichuton ko che tai, che rutu kochokyin ak kochogu mising' ko ole momi ketik. Ng'ololchin konetik ak groupiskek alak en cluster ing'ung' akobo ketikab kaa en kebebertang'uong'.

Hagenia abyssinica, African redwood, muhooru



Tinye bogoinik chebiriren ak korutu en chokyinet agoi mitaishek tibtem. Hagenia abyssinica ko ketit ne kararan negimuche kemin en ole tulwet ole siche milimitaishek 1000 agoi 1500 nebo ropta kila kenyin tinye boishonik che chang': sogek chik kotoldole ng'ng'unyek ak koyai ketit ne kararan ne kimine en imbarenik en minsetab minutik ak ketik. Keti kobo kerichek ak komuche kotoret koter ng'ng'unyek. Bogoinik kyik

kobo olyet nemi barak ak en kwenik ak makaa keti kemine koyop tenderek. Robsetab tenderek ko mobokomonut ak rutunet koen egosyek 10 agoi 20 ak rutunetab 40-60%.

Ngemin koboto minutik kotinye nyigisindo nebo ng'wony til ketik si kotoret koteta.

Macaranga kilimandscharica , mukuhakuha/ mukura



Macaranga ko ketit nerutu kochogu nemie kemin koboto ndisinik ana ko kahaawek. Rutu komie yon kosich roptab milimitaishek 1500 agoi 2500 en kenyit. Kararan en teretab koristo ak amun en rutunetab chokyinet komuche koter ngu' ngunyek en ibet. Bogoinik kyig ko kororon ago tinye kwenik che kororon ak kimuche keboishen en ng'otishet. Tigkeitondonyin ko kerichek. Kimine Macaranga keboishen tenderek.

Keti ko chogu mising' ko yon kagimin komye ko momoche robet ne o.