

Mazingira Bora

Newsletter September 2026

tist Growing Trees
Growing Leaders

1. We are Honest
2. We are Accurate
3. We are Transparent
4. We are Servant to each other
5. We are Mutually Accountable to each other

www.tist.org

English Version

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

Dial *709# (Safaricom) or *789*7000# (Other Networks) and get to know more about TIST and your Small Group. Follow the prompts. Safaricom is Free.



**Bondii TIST Cluster meeting held on 20/08/2026.
Next meeting will be held on 17/09/2026.**

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TIST Farmers Combat Global Warming and Climate Change.

TIST farmers have responded to a global call to combat global warming and climate change. Many farmers have sought understanding through TIST seminars/trainings and at Cluster meetings, to learn and understand more about global warming, its effect on the climate, and mitigation approaches. We see many impacts of climate change today. Just to illustrate a few instances of impacts - floods, droughts and typhoons are more intense. Other notable illustrations are the gradual wearing off the glaciers at the peak of Mt. Kenya, unpredictable weather patterns that have resulted in crop failures in many areas, drying of water springs and water catchments areas, among many others.

This month's newsletter will share training notes from seminars, so that we all can understand global warming and climate change better. We will begin by defining each term and explaining it further and then learn how your trees play a significant role in mitigating the effects of global warming.

What is Global Warming?

Global warming refers to an average increase in the Earth's temperature, which in turn causes changes in climate. A warmer Earth will lead to changes in rainfall patterns, stronger storms, a rise in sea level, crop failures, and a wide range of impacts on plants, wildlife, and humans. When scientists talk about the issue of climate change, their concern is about global warming caused by human activities and the extremes of climate and weather variability this brings about.

Is the Earth getting warmer?

Yes! The Earth has warmed by about 1°C over

the past 100 years. Over 95% of the world's leading climate scientists say that things people do are making the Earth warmer, such as burning of fossil fuels including coal, petrol, and natural gas, and cutting forest and managing land poorly.

What is the Greenhouse Effect?

The greenhouse effect is the rise in temperature that the Earth experiences because certain gases in the atmosphere, called greenhouse gases - like carbon dioxide, nitrous oxide, sulfur dioxide, and methane - trap energy from the sun. Major sources of carbon are deforestation, gases emitted from industries, gases emitted from motor vehicles, gases emitted from burn of wood fuel or charcoal and burning of forests.

What are the dangers of Global Warming?

- Severe water stress in the arid and semiarid land areas would result in more areas becoming desert.
- Increased spread of diseases like malaria. As areas become warmer, they become suitable breeding grounds for mosquitoes, and increasing risks of malaria infection. Many families and health institutions can be impacted, average life spans decline, and infant mortality rates rise.
- Decreased agricultural production in many tropical and subtropical countries, especially countries in East Africa. Due to decreased rainfall and increased breeding of pests, due to increased warming, the production of food crops may decrease, and this results in poverty and hunger among many families and communities.



- Higher worldwide food prices. As more farmers get less yields and food supplies become scarce, the prices increase because the demand is high, and supply is low.
- Major changes in the productivity and composition of critical ecological systems, particularly forests. Water catchment areas in the mountains and forests continue to dry up. This will affect the ability to irrigate crops and will reduce stream flows necessary to keep dams and reservoirs replenished. This will reduce generation of hydroelectric power. Our industries, hospitals and other institutions that heavily rely on electricity will be severely affected. The supply of piped water to urban areas, as well as rural homes, will also be affected.
- Tens of millions of people at risk from flooding and landslides, driven by projected increases in rainfall intensity and in coastal areas, rising sea levels.

How can I prevent Global Warming?

“I’m a farmer. I can grow crops and I can absorb carbon. I can sell my crops and I can sell my carbon.”

Plant and care for trees!

As mentioned above, carbon dioxide is the major cause of global warming. Trees absorb carbon dioxide from the air during photosynthesis and store it in the wood, roots, and soil as cellulose carbon. However, when trees are cut and burned, they release most of the carbon they had stored back to the air.

Did you know each tree could create a microclimate?

Trees and their cover cool the surface of the earth. Feel the comfort of the shade of a tree. Notice that the soil below is moister than where the sun bakes it with no shade. When the ground stays cooler, the ground holds more moisture longer. This means that trees on your land will help improve the amount of water in your soil and help retain it for a longer time. This will help your crops and also even help the water users in your area.

What are carbon credits?

To make a TIST carbon credit requires three things:

- 1) A real and additional reduction in the carbon dioxide (CO₂) in the air;
- 2) A promise to keep the carbon out of the air for many years (usually 30);
- 3) A Verification by an independent third party that certifies that the actions have taken place according to all the rules, and the amounts of tonnes sequestered are accurate.

Trees absorb carbon dioxide from the air during photosynthesis and store it in the wood, roots, and soil. The amount of carbon taken from the air and stored can be measured and calculated, and then, when verified as accurate, this absorption of carbon dioxide can be sold on the world market as carbon credits. Buyers can purchase these credits to offset their carbon dioxide emissions.

TIST is able to sell the carbon absorbed in trees, just like producers sell sugar and milk. With carbon, however, you don’t ship the tree to the market. Instead, the value is from the carbon



taken out of the air, kept in the tree on your farm or forest, measured and reported. The trading of carbon credits can be done through electronic exchanges, or it can be arranged between people or companies directly. We have to meet the market rules and requirements. We cannot clear forest, or cut trees to plant trees, since this is bad for the environment. We have to commit to keep trees in a grove growing for the long-term, 30 years or more. We have to report data accurately. Once trees are planted, some measurements and calculations are made to measure the amount of carbon TIST farmers trees have absorbed. Note again, trees are never actually taken to the markets. They remain in the shambas and the longer they stay alive, the longer the period of receiving payments. So, the farmer keeps the trees, the fodder, the firewood, and the fruits and the nuts. The money that TIST makes selling carbon offsets creates a new source of income and is then shared with TIST Small Groups and used to support the costs of TIST, including training, quantification, and management.

Do all trees absorb the same amount of carbon?

No. Trees with wider circumference (more biomass) store more carbon than trees that are thin. Taller trees also absorb more carbon than short trees. Therefore, trees that are thick will bring more income from carbon credits. This means trees planted with good spacing have a chance of growing big and tall and earn more carbon income. They do not compete for soil nutrients and water as much as trees that are closely spaced.

Therefore, in order to receive good payments out of our trees, it is important to plant them in a good enough spacing that will allow them to grow healthy, tall, and big. Thinning some of

the trees to harvest firewood and keep the other trees growing well is usually the best way to manage your trees.

Where/who are the buyers of carbon credits?

Currently, carbon credits are sold on voluntary markets and in compliance markets. They may be certified in different ways, just as there are different brands and certifications for other products you buy and sell (like coffee, and organic coffee under different labels). TIST could market its carbon credits on the compliance or the voluntary market because they are of high quality.

There are many different standards in these markets with different and ever-changing rules about tree planting, monitoring, and reporting that we must meet to sell carbon offsets. We use the highest quality standards for the Validation and Verification — the Verified Carbon Standard (VCS) and the Climate, Community, and Biodiversity Alliance Standards (CCBA).

TIST has two basic types of buyers:

The first is made up of people willing to give money to encourage people to plant trees. Examples include paying for tree planting projects to make a wedding, or a conference, carbon neutral. The second type is made up of companies in the US, Europe, Canada, and other industrial countries that are making voluntary commitments to reduce their GhG emissions, either because they are good stewards of the environment, or they are preparing for future regulatory requirements.

TIST is very happy to have good quality carbon credits, and to be able to supply many different customers.



TIST: Important Reminder – New Groups, New Groves, New Trees.

When NEW farmers join TIST, they often ask whether their existing trees in their farms will be counted as TIST Trees for Carbon business. The answer to this is **NOT YET!** Right Now - New Groves should have New Trees.

Carbon projects are initiatives designed to reduce, avoid or remove Greenhouse gas (GhG) emissions from the atmosphere. In some cases, these projects generate **carbon credits** that can be sold in compliance and voluntary markets and earn revenue/income for the project.

There are many categories for different carbon projects. Examples are

1. Afforestation, Reforestation (A/R) carbon project – TIST
2. Reducing Emissions from Deforestation & Degradation (REDD+)
3. Energy Efficiency projects such as Cookstoves
4. Soil carbon Sequestration e.g. adopting Conservation Farming
5. And many more.

TIST currently operates under Afforestation, Reforestation (A/R) carbon project. This category requires the project to plant NEW trees (afforestation) or restoring forests (reforestation) in areas where forests were previously absent or degraded.

In other words, in order for TIST members to earn Carbon Credits, they need to establish new forests (Groves) on non-forested land (afforestation) or replanting trees in deforested or degraded areas (reforestation) in areas that were not a forest in the last 10 years. To earn carbon credits under this category, the carbon Accounting measures look at the amount of carbon removals from the atmosphere as trees grow.

To summarize, in order for your Trees to qualify for A/R carbon credits, you should plant new trees when you join TIST. In the same note, if you establish a new TIST Grove, that Grove should also have new trees.

It is important to note TIST gets audited by international Verifiers who must ensure we are adhering to the rules under Afforestation, Reforestation (A/R) methodology. Today, the world technology is so advanced that people in faraway continents can know when your trees were planted. If one farmer is caught cheating, all of TIST suffers.

Therefore, let's all remain Honest, Accurate and Transparent in our TIST and other daily activities. When a Cluster Servant visit your farm, let them know the Accurate age of your trees. If some of them were planted before the Small Group knew about TIST, will be considered **Baseline Trees**. TIST is now working to develop the ability to have the Baseline Trees also count toward carbon credits. We will keep you informed as we make progress!

We should ALL help others TIST Farmers understand Carbon Business.



TIST: Why should I want to be elected as a Cluster leader?

With over 500 Clusters now in TIST, we have over 1500 new leaders being identified each year by their fellow TIST participants. This is wonderful proof of how much capacity the TIST Program is developing in Kenya.

It is a great opportunity for individual TIST participants. Someone who is elected as a Cluster Leader (Accountability Person, Co-Leader, or Leader) has a one-year opportunity to receive additional education, serve in Group of Clusters Council (GOCC), practice their leadership gifts, learn much more about the equipment and techniques used for Quantification, better understand the carbon business, and serve their fellow TIST members in their community. They will have the opportunity to attend Seminars, to work with the Cluster Servants/Quantifier and visit each of the TIST Small Groups in their Cluster, to see the Best Practices that are being used in their Cluster, learn about improved stoves, learn about the benefits of many tree species, and many other topics.

Of course, being a Cluster Leader is hard work.

Going and visiting the Small Groups in your Cluster involves lots of walking, talking, watching, and learning. Also, keeping the records of the achievements of the Cluster requires time and concentration.

Organizing TIST Small Groups so they can get paid is hard work. Learning to use the handheld computers, GPS, reporting systems, and organizing for excellent training and interesting monthly meetings — all of that is hard but rewarding work. As many of you know, when you go to a TIST Seminar you have a good time-but you also work very hard. You work the whole day, and then have homework at night!

So, you should only be interested in being elected as a Cluster Leader if you have a great desire to learn more and work hard to be a good servant to the Small Groups in your Cluster. If you have those desires, and you do get elected, it can be the beginning of even more opportunities in the TIST Program. You decide.

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**Bondii TIST Cluster wakiwa kwa mkutano wao tarehe 20/08/2026.
Mkutano mwingine utakuwa tarehe 17/09/2026.**

- Inside:**
- ✓ Arimi ba TIST nibakurua na Kwongeraka kwa murutira jwa nthi na kugaruka kwa rera. *Page 2*
 - ✓ TIST: Kiririka kua gitumi - Ikundi injeru, miunda imieru, miti imieru. *Page 5*
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Arimi ba TIST nibakurua na Kwongeraka kwa murutira jwa nthi na kugaruka kwa rera.

Arim ba TIST nibaigitue na bacokia kiriro kia nthiguru gia kurua na murutira jwa nthi na kugaruka kwa rera. Arimi babaingi nibacuite kuelewa gukurukira semina na moritani ja TIST nan dene ya micemano ya cluster nikenda bathoma na belewa kwegie murutira juju, jaria jwijanagia najo, na jaria tuumba kuthithia nikenda tujwebera. Nitwonaga mantu jamaingi jaria jaumanitie na kugaruka kwa rera narua. Kwonania ming'uanano imikai, ngai ya Elnino ya mwaka jwa 1998 iria yathukiria akui nthiguru yonthe na mpara iria yathingatire, na kiurutani kia mwaka jwa 2004 iria kiongerere murutira juju nainya. Ming'uanano ingi iria ubati kumenya ni kunyia kwa nkamia iria iri mulima Kenya kuria kwonekete, rera itikuumba kubangirwa iria itumite imera bithuuka ndene ya ntuura inyingi, kunyara kwa ithima nan aria kugwatagia ruuji, amwe na mantu jangi jamaingi.

Gatheti ya mweri juju nikugaana moritani kuumania na semina nikenda tuumba kuelewa murutira jwa nthiguru na kugaruka kwa rera bwega nkuruki. Tukaambiria na kumenya o riiwa ririuga atia na kueleza nkuruki na riu tuthome uria miti yaku iritaga ngugi ikwoneka kiri kunyiyia magitari jaria jaumanagia na kurutira kwa nthiguru.

Kurutira kwa nthiguru nimbi?

Kututira kwa nthiguru ni kwongereka kwa mwanki ndene ya nthiguru, kuria kuretaga kugaruka kwa rera. Nthiguru irina murutira nkuruki no irete kugaruka kwa mbura, biurutani birina inya nkuruki, kwongereka kwa ruuji iriene, kuthuka kwa imera, na magitaria jamaingi kiri imera, nyomoo cia kithaka na kinya kiri antu. Riria athomi barairia kugaruka kwa rera, wasiwasi yao ni mono kwegie kurutira kwa nthi kuria kuumanagia na mantu jaria jathithagua ni

antu na kugaruka gukunene kwa rera kuria kuumanagia na bubu.

Ka Nthiguru igwita na mbele kurutira nkuruki?

li! Nthiguru niongerekete kimwanki nauu 1°C ndene ya miaka igana iu ikurukite. Babaingi ba Athomi ba science baria batongeretie ndene ya nthiguru nibathuganagia ati mantu jaria antu bathithagia nijatethagia kurutiria nthiguru, ja kuithia into ja makara ja maguta, beteroli, ngasi na kugiita miitu na kumenyeera muunda bubuthuku.

Greenhouse effect nimbi?

Iji ni kwongereka kwa mwanki juria nthiguru igagua niuntu ruugo rumwe, ruria rwitagwa ruugo rwa greenhouse, ja carbon dioxide, nitrous oxide, sulphur dioxide, na methane nirugwatagia mwanki jumwe kuumania na riua. Biumo biria binene bia carboni ni ugiti miitu, ruugo ruria rurekagua kuuma viwandene, ruugo kuumania na ngari, ruugo kuumania na kuithua gwa nkuu kana makara na kuumania na kuithia miitu.

Kurutira kwa nthi kuretaga magitari jariku?

- ♦ Kwaga ruuji ndene ya ntuura injumu (ndwanda) kuria kuumba gutuma ntuura inyingi nkuruki ikaa rwanda.
- ♦ Kwongereka kwa gutamba kwa mirimo ja rwagi. O uria ntuura cirutagira, nou ciejaga injega cia guciarana kwa rwagi na kwongerwa kwa kuumbika gwa kuajua ni rwagi. Nja na cibitari inyingi no citongwe ni jaja, miaka ya gutuura ninyiaga na gukua kwa aana babanini gukongereka.



- ♦ Kunya kwa maketha kuumania na kulima ndene ya nthiguru iria ciri guntu kurina riu riringi, mono nthiguru iria ciri East Africa. Niuntu bwa kunya kwa ngai na kwongereka kwa tunyomoo turia tuthukagia imera niuntu bwa kurutira, maketha kuumania na imera bia irio no janyie na bubu bukareta ukia na mpara ndene ya nja na ntuura inyingi.
- ♦ Irio kwongerra goro ndene ya nthiguru yonthe. O uria armi babaingi baguketha maketha jamanini na irio bekanyia, nou ngarama ya irio ikongereka na irio ndene ya thoko bikaa bibikai.
- ♦ Nikugijaga kugaruka gukunene kiri maketha na gukarania kwa imera na nyomoo mono ndene ya miitu. Naria kugwatagia ruuji ndene ya irima na miitu nigwitaga na mbele kunyara. Bubu bukareta thina ya kurima na ruuji na bukanyia ruuji ndene ya miuro ruria rwendekanaga nikenda naria gwaki gwa kugwatia ruuji kuumba kung'ania ruuji. Untu bubu bukanyia kuthithua kwa sitima. Kambuni, cibitari iria citumagira stima na wingi ikagitarua. Ruuji rwa paipu rwa tauni na rwa risabu kinyaru rukagitara.
- ♦ Antu makumi ja mamilioni bakarugurirwa thina cia kuigara kwa ruuji na kugua kwa nthi, kuria gucukumagwa ni kwongereka kwa mbura na nterene cia iria, kwongereka kwa ruuji iriene.

Natia mpumba kueberia kurutira kwa nthi?

Anda na umenyeere miti!

Ja ou tuugite au iguru, ruugo rwa carbon dioxide ni rumwe rwa iria iretaga kurutira kwa nthi. Miti nijukagia carbon dioxide kuuma ruugone riria ikuthithia iria na ikamiika ndene ya rubau, miri na muthetune ja kaboni ya cellulose. Indi-ri, riria miti yagitwa na yaithua, kaboni iu ireki nirekagua ruugone kairi.

Nwiji o muti nojuthithie rera ya antu au gukuiritie?

Miti na kithiiki kiayo niioragia nthi. Nwiji kuganirwa kuria kuri kithiikine kia muti. Ona ati muthetu juria juri rungu jurina ruuji nkuruki ya juria juri aria kurina riu na gutina kithiiki. Riria nthi ikaraga na gapio, nthiguru niikaga ruuji igita riraja nkuruki. Guku nita kuugamiti iria iri muundene jwaku nitethagia kwongera ruuji ruria ruri muthetune jwaku, na igatethia kuruika ku igita riraja nkuruki. Bubu bugatethia imera biaku na kinya butethie baria batumagira ruuji ndene ya ntuura yaku.

Krediti cia kaboni nibicio?

Kenda uthithia krediti ya kaboni ya TIST nigwitagia into bithatu:

- 1) Gutaurwa kwa mma na kwongerekete gwa carbon dioxide iria igutonyithua ruugone;
- 2) Ahadi ya gwika kaboni iu kuraja na ruugo ndene ya igita ria miaka imingi;
- 3) Gutegerwa ngugi na gukurukithiua ni kياما gitina uthoni na TIST kiria kibati kwona ati mantu nijathithikite kuringana na mawatho jonthe.

Miti nijukagia ruugo rwa kaboni riria ikuthithia irio na kumiika ndene ya rubau, miiri na muthetune. Kaboni iria ijukagua kuuma ruugone na gwikwa noithimwe na igatarwa, na riu, yarikia gukurukithua ati ni yam ma, kujukua guku kwa ruugo rwa kaboni no kwendue ndene ya thoko ya nthiguru yonthe ja krediti cia kaboni. Aguri nobagure krediti iji nikenda bathiria ruugo rwa kaboni ruria bagutonyithia ruugone.

TIST niumbaga kwendia kaboni iria iri kiri miti iji o uria antu bendagia sukari na iria. Indi-ri kiri kaboni, utikagia muti thokone. Antu au, uguri ni kuumania na kaboni iria iriritwe ruugone, na yekwa mitine ndene ya munda kana mwitu



jwaku, ithimwi na ripoti yaikua. Kwendia na kugurwa kwa krediti iji nikuthithikaga, New York, Chicago, London na tauni ingi ndene ya nthiguru kana gukabangwa gatigati ka antu kana kambuni. No mwanka tukinyire mawatho na jaria jakwendeka ndeme ya thoko. tutiumba kugiita mwitu junthe kana tugiita miti tuanda ingi nontu bobu butibui kiri mazingira. no mwanka tucititie gwika miti ndene ya miunda moyo ndene ya igita riraja, miaka mirongo ithatu kana nkuruki. No mwanka tuuge mantu jongwa jaria jario. Riria miti yaandwa, ithimi na mathabu jamwe nijathithagua kuthima ni kaboni ing'ana miti ya arimi ba TIST ijukitie. Rikana kairi, miti itikagua thokone. Ikaraga miundene na ouria ikaraga igita ririraja iri moyo, nou igita ria kuriwa riongerekaga. Kwou, murimi neekaga muti, irio bia nithia, nkuu na matunda na nkandi. Mbeka iria TIST ithithagia kuumania na kwendia kaboni ni kiumo gikieru kia mbeka na riu ikagaanwa na ikundi bibinini bia TIST na igatumirwa kutirima ngarama cia TIST, iria ciri amwe na moritani, utari miti na urungamiri.

Miti yonthe nijukagia ruugo rung'anene?

Aari, miti iria iri imiarie nkuruki niikaga kaboni inyingi nkuruki ya miti imiceke. Miti imiraja kinyayo nijukagia kaboni inyingi kiri miti imikui. Kwou, miti iria imati niretaga mbeka inyingi kuuma kiri krediti cia kaboni. Guku ni kuuga miti iandi itarenie bwega irina kanya ga kunenea na kurea na kwona mbeka inyingi nkuruki kuumania na kaboni. Iticindanagira irio na ruuji ja miti iria iandi ikuianiritie.

Kwou, nikenda twona mbeka injega kuumania miti yetu, burina bata kumianda itarenie bwega nikenda yumba gukura irina thiria, ia imiraja na imiarie. Gutaura miti imwe nikenda twona nku riu tugeeke iu ingi igikuraga bwega jaria maingi niyo njira iria njega buru ya kumenyeera miti yaku.

Ninaa/Ni bau baguraga krediti cia kaboni?

Nandi, kaboni yendagua thoko cia kwiritira nandene ya thoko cia lazima. Thoko iji citikurukanagia umwe, ojauria kurina mianya na gukurukua kwa into bingi biria uguraga na kwendia. TIST noyendie krediti cia kaboni kiri thoko imwe ya iji nontu krediti iji ni injega mono.

Kurina ithimi mwanya ndene ya thoko iji birina mawatho mwanya na jakaraga jakigarukaga kwegie uandi miti, kumenyeera na kureta ripoti jaria tubati kuujuria nikenda tuumba kwendia ruugo rwa kaboni ruria twitite. Nitutumagira ithimi biria biega buru kiri gutegetwa ngugi na gukurukithua — the Verified Carbon Standard (VCS) na Climate, Community, and Biodiversity Alliance Standards (CCBA).

TIST irina mithemba iiri ya aguri:

Muthemba jwa mbele ni jwa antu baria bakwenda kunenkanira mbeka nikenda bekira antu motisha ya kuanda miti. Ming'uananona ni amwe na kuririra miradi ya uandi miti nikenda batuma muranu kana mucemano jutikongere kaboni ruugone. Muthemba jwa iiri jurina kambuni ndene ya US, Europe, Canada na nthiguru ingi iria ciri mbele mantune ja ibanda baria bakwiritira bongwa kunyiyia kuongerwa kwa ruugo ruruthuku (ruugo ruria ruretaga murutira) nontu bari akaria babega ba mazingira kana niuntu nibakwithuranira niuntu bwa gutirimana na mahitaji manna jaria jakwendeka. TIST nigwiritue mono kwithirua irina krediti cia kaboni cia iguru, na kuumba kuenderia aguri babaingi mwanya.



TIST: Kiririkania kia gitumi - Ikundi injeru, miunda imieru, miti imieru.

Riria arimi eeru bathungira ndeene ya TIST, niboragia kethira miti iria ithagirwa ndeene ya muunda yomba gutarwa ja miti ya TIST niuntu bwa biashara ya kaboni. Macokio ja kiria giki ni **Ari**, kagita gatakinya! Kagitene gaka - miunda imieru nonkinya iandwe miti imieru.

Miradi ya kaboni ni mibango ya kunyihia, kurigiriria kana kurita ngasi cia greenhouse (GhG) kuuma kiri riera. Kagita kamwe, miradi iji ni ithithagia **kaboni krediti** iria ciumba kwendua thokone ciegie mawatho na ingi cia kwiritira na kuumba kuleta mbeca kiri muradi.

Kuri na iwango mwanya cia miradi ya kaboni. Kwa ngerekano:-

1. Kuanda miti kuria gutari na miti, kuanda miti ringi kuria kwaritirwe miti (A/R) muradi wa kaboni- TIST.
2. Kunyia ruuko rugone rureti ni ugitangi miitu na na kwinyangika kwa miunda (REDD+).
3. Utumiri umukai wa nku ja mariko ja kuruga.
4. Kaboni kumania na mithetu ja kuthithia urimi bubwega (CF).
5. Na ingi inyingi.

TIST nandi itumagira kiwango kia kuanda miti kuria gutari na miti, kuanda miti ringi guntu kuria yaandi yatemwa (A/R). Kiwango giki, gitikagiiria uandi wa miti imieru kuria gutari na miti kana kuanda miti ingi imieru kuria miti yariti kuria gutari na miitu kana yenyangua.

Na njira ingi, Nikenda arimi a TIST boomba

kwona mbeca cia Kaboni, nonkinya baande miitu imieru (miunda) guntu kuria gutina miitu kana baande miti ingi imieru guntu kuria kwari miitu kagita yenyangua kana kuria miunda yenyangitue. Guntu ja guku nonkinya kwithirwe gutari mwitu mia ikumi miituku. Kugwata mbeca cia kaboni kiri kiwango giki, njira cia gutegeera kaboni ni kwona ni kaboni ing'ana iriti rerene o uria miti igukura.

Kwa njira ikuhi, nikenda miti yaku yona mbeca kiri muradi juu jwa A/R, nonkinya ukaanda miti imieru riria wathungira ndeene ya TIST. Na ringi, riria wagia kamunda kangi ga TIST, kamuunda gaka nonkinya kethirwe kari na miti imieru.

Nibwega kumenya ati TIST ni itegagirwa ngugi yayo ni Verifiers kuuma oome ya nthiguru baria batigagiira ni tukuthingatiira mawatho ja kuanda miti imieru, kuanda ringi miti imieru kuria yatemi (A/R) methodology. Narua iji, technology ya nthiguru iri kirathi kia iguru muno ati bari kuraja na natwi boomba kumenya riria miti yaku yaandi. Kethira murimi umwe akugwatwa akiria marongo, muradi jwa TIST junthe ni jionaga thina.

Niuntu bubu, nituikare turi antu ba gwitikua, antu ba uuma bungwa na antu bari na utheri kiri ngugi cia TIST na ngugi ingi cia umuthenya. Riria mutari miti eja muundene jwaku, tiigiira niakumenya miaka yongwa ya miti yaku. Kethira miti imwe ni yaandi mbere ya gakundi kumenya TIST, miti iji ijukagua iri **baseline trees** (kana miti imikuru). TIST ni igwita ngugi kwona miti iji kethira yomba gutarwa ikareta mbeca cia kaboni. Tugeeta mbere gukumenyithia o uria tugwita mbere!

Nonkinya twinthe tutethie arimi bangi ba TIST kumenya biashara ya kaboni.



Nimbi ituma mpenda kua mutongeria ndene ya cluster?

Kurina nkuruki ya cluster 500 narua ndene ya TIST, turina kanya ga kuthura atongeria baberu nkuruki ya 1500 bakionekaga o mwaka ni amemba ba TIST. Giki ni gintu gikinene gikwonania jaria muradi jwa TIST jukumba gukinyira ndene ya cluster.

Ni kanya gakanene kiri o mumemba ndene ya TIST. Muntu uria uthuragwa ta mutongeria wa cluster (mwiki mauku na mbecha, mutethia wa mutongeria, mutongeria) arina kanya ka mwaka jumwe ga gukinyirwa ni kithomo gia kwongera, kurita ngugi ndene ya GOCC, kuritithia kiewa kiawe kia utongeria ngugi, kumenya biashara ya ruugo bwega nkuruki na kuritira amemba bangi ba TIST nturene yao ngugi. bakethira barina twanya twa gwita ssemina, kurita ngugi na nthumba cia cluster/atari miti na kuriungira o gikundi gikinini gia TIST ndene ya cluster yao, kwona mitire imiega ya kuthithia mantu iria igutumirwa ndene ya cluster yao, kumenya kwegie mariko jamega nkuruki, kumenya kwegie baita cia kuanda miti ya mithemba mwanya amwe na mantu jangi jamaingi.

Ni mma, kua mutongeria ni ngugi indito.

Gwita kuriungira ikundi bibinini ndene ya cluster yaku nigukujukia gwita na maguru, kwaria, kwona na kuthoma. Kwongera, gwika rekondi cia mantu jaria cluster ikinyirite nigukwenda mathaa na gwika akili o.

Kubanga uria ikundi bibinini bia TIST bikariwa kinya ku ni ngugi indito. Kumenya gutumira Palm, GPS, njira ya gutuma ripoti na kubangira uritani bwa iguru na micemanio ya o mweri irina mantu jagukenia antu - jaja jonthe ni ngugi indito irina macokio. Ja uria baingi benu baiji, riria weta Semina ya TIST niwithagira urina igita ririega- indi nuritaga ngugi nainya mono. Nuritaga ngugi ntuku yonthe, riu ukathithia ngugi ingi ugoro!

Kwou ubati kwenda kuthurwa ja mutongeria ndene ya cluster kethira urina wendo bwa kumenya jangi nkuruki na kurita ngugi nainya kua mutongeria umwega kiri ikundi bibinini ndene ya cluster yaku. Kethira urina wendo bubu, na ukuthurwa, no kwithirwe kuri mwambirio jwa twanya tungi tutwingi ndene ya muradi jwa TIST. Ugwe Thuura.

Mazingira Bora

Newsletter September 2026

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Kikuyu Version

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**Bondii TIST Cluster mari mucemani-ini wao uria wari mweri 20/08/2026.
Mucemano ucio ungi ugakorwo mweri 17/09/2026.**

- Inside:**
- ✓ Arimi a TIST kuhurana na ugaruruku wa riera. Page 2
 - ✓ TIST: Kiririkano kia bata – Ngurubu njeru, Gikundi mieru, miti mieru. Page 5
 - ✓ Nikii kingituma nyende guthurwo ta mutongoria wa Cluster? Page 6



Arimi a TIST kuhurana na ugaruruku wa riera.

A memba a TIST nimakoretwo makihurana na ugaruruku wa riera uria ukoretwo kuo thi yothe na arimi aingi nimoritie mataaririo wega thiini wa semina na micemano niguu mataukwo wega uhoro uyu wigii ugaruruku uyu wa riera, maundu maria ungirehe na uria mangihota kuhurana nangu.

Nitwonaga maundu maria ugaruruku wa riera urehete umuthi. Na kuheana mamwe ma maundu maria marehetwo niguu, mbura iria yari nene muno ya Elnino ya mwaka wa 1998 iria yathukirie bururi na gukigia na ng'aragu nene muno hamwe na muiyuro wa maai iriaini wa mwaka wa 2004 muno ciarehetwo ni ugaruruku uyu wa riera. Maundu mangi ni ta guthira kwa barafu iria ikoragwo kirima-ini kia Mt. Kenya na imera citarathimika na cigatwarana wega iria citumite magetha mathuke na manyihe, kuhua kwa njuui na ihumo cia maai na mangi maingi.

Mweri uyu ngathiti niikwonania maundu maria maririirio thiini wa semina maria mangitutethia gutaukwo wega ugaruruku wa riera nikii. Tukwambiriria na kumenya wega ciugo icio naningi tuthii na mbere na guthoma uria miti yaku inyitaga itemi kunyihia ugwati uria umanaga na ugaruruku wa riera.

Ugaruruku wa riera ni kii?

Ugaruruku wa riera ni kwongerereka kwa urugari uria uri thi uria ucokaga ugatuma riera ricenje. Thi riria yagia na urugari muingi niitumaga imera cia mbura cicenjie na gukagia na ihuhakano nene na maai ma iria makambatira, mimera igathuka na miti ikaninwo ohamwe na nyamu cia githaka. Riria ataalamu makwaria

maundu megii ugaruruku wa riera, nimaroraga muno global warming iria irahagwo ni maundu mariu mundu ekaga na mogwati maria marehagwo ni maundu maya.

Thi niirahuha makiria?

li! Thii niyongereire urugari na muigana wa 1°C kwa makiria ma miaka 100. Aingi a ataalamu a uhoro wa riera monaga ati andu nio matumite thi yongerereke urugari na njira ya gutema miti na gucina indo cia tiiri, coal petrol na riera itheru na kwaga gutungata migunda yao.

Maundu maria marehagwo ni Greenhouse.

Maundu maria marehagwo ni greenhouse nit a kwongerereka kwa urugari wa thi nitondu riera guku iguru riria ritagwo greenhouse ta carbon dioxide, nitrous oxide, sulphur dioxide na methane nicihotaga kunyita hinya wa riuu. Carbon nyingi yumanaga na gutema miti, ndogo ya iganda, ndogo ya ngari na ndogo ya makara na miti.

Mogwati ma Global Warming ni mariku?

- Kwaga kwa maai na kuuma kwa migunda.
- Gutherema kwa mirimu ta malaria. Kugia na urugari muingi na kuhotithia rwagi guciarana na kwongerera ugwati wa malaria. Micii miingi na mathibitari nomakorwo ni ugwati uyu na mituurire ya andu ikanyiha na ikuu cikongerereka.
- Kunyiha kwa magetha ma urimi na makiria mabururi-ini maria mari East Africa. Na niundu wa kunyiha kwa mbura na



kwongerereka kwa guciarana kwa tutambi niundu wa ungi wa urugari, magetha nimanyihaga na uthoni ugathii nambere na kuongerereka miciini iitu.

- Kwongerereka kwa mathogora ma irio nitondu arimi aingi nimanyihitie magetha na irio cikanyiha, mathogora nimathiaga iguru nitondu andu nimarabatara irio na ni nini.
- Mogaruruku manene ma magetha na riera na muno mititu. Ihumo cia maai cikahua. Maundu maya nimagutuma uhei wa maai wa irio unyihe. Maundu maya ningi nimakunyahia uthondeki wa thitima ya maai. Iganda ciitu, mathibitari na kundu kungi kuria gutumagirwo thitima nigukuhutio na njira nene ma. Utambia wa maai mataown-ini na miciini nigukuhutio ona kuo.
- Mamilioni ma andu mari ugwati-ini wa muiyuro wa maai uria urehagwo ni mbura nene na maai ma iria kwambatira.

Niatia tungigitira Global Warming?

Handa na utungate miti!

Ta urui twona haha iguru, carbon dioxide ni imwe ya riera riria rirehaga global warming. Miti niigucagia carbon dioxide kuma riera-ini riria ireka photosynthesis na ikamiiga thiini wayo mutiini na miriirni hamwe na tiiri ta cellulose carbon. Na ningi, riria miti yatemwo na yacinwo niirekagiriria carbon iria ikoretwo igite rieraini.

Niui ati o muti nouthondeke riera riaguo?

Miti na mahuti maguo niuhumbagira tgi. Niitumaga kugie na riera riega na kiiruru gikaagira. Niukuona ati tiiri uria uri miti-ini iria

iri na kiiruru niukoragwo uri mugunyu gukira uria uri riua-ini. Riria thi yaikara iri hehu, tiiri niuhotaga gkuiga ugungu gwa kahinda karaihu. Uu nikuga ati miti iria iri mugunda-ini gwaku niiteithagia tiiri kugia na maai na igateithia kuiga maai macio gwa kahinda karaihu. Njira ino niiguteithiriria mimera yaku hamwe na aria mahuthagira maai.

Carbo Credits ni kii?

Niguo uthondeke carbon credits cia TIST urabatara indo 3;

- 1) Kwongerereka kwa kunyiha kwa carbon riera-ini
- 2) Kwiranira kunina carbon riera-ini gwa kahinda karaihu.
- 3) Kuhitukio ni honge ciirugamiriire ati makinya nimoetwo kuringana na watho.

Miti niigucagia carbon dioxide kuuma riera-ini riria ireka photosynthesis na ikamiiga thiini wayo ,miri-ini ohamwe na tiiri-ini. Muigana wa carbon uria woyagwo kuuma riera-ini na ukaigwo nouthimike na uthuthurio na uhitukio na njira nginyaniru na kugucio kuu kwa carbon rieraini nokwendio kuri thoko ya carbon credits. Aguri nomagure carbon credits ici niguo kunyahia carbon dioxide.

TIST iri na uhoti wa kwendia carbon iriaigucitio miti-ini ota uria arimi mendagia igwa kana iria. No riria urendia carbon ndurabatara kuneana muti. No urabatara kugucia carbon dioxide kuma riera-ini mugunda-ini waku kana mutitu-ini na utarirwo. Wendi wa carbon nouhanikire New York, Chicago kana London ona kana micii



mingi bururi-ini wotha, kana uiguithanirio ni andu kiumbe na makambuni imwe kwa imwe. Nonginya tukinyirie ikiro na mawatho ma thoko. Tutingitema mititu kana miti iria iri migunda-ini gwisu tundu undu uyu niuthukagia maria maturigiciirie. Nonginya twitikire kuiga miti iri muoyo gwa kahinda ka miaka 30 na makiria. Nonginya tuheane uhoro mukinyaniru. Riria miti yahandwo, ithimi na uteri nichuthikaga guthima muigana wa carbon iria igucitio ni miti ya arimi a TIST. Ririkana o ringi, miti nditwaragwo thoko. likaraga migunda-ini na o uria iraikara kuo noguo marihi maguthii nambere na kuingiha. Kwa uguo murimi athiaga nambere na kuiga miti iri muoyo na ikamuhe irio cia mahiu ohamwe na ngu na matunda. Mbeka iria TIST ithondekaga kumana na wendia wa carbon cithondekaga kihumo kia marihi maria magayanagwo ni arimi a TIST na igatumika gutheremia TIST, hamwe na githomo, uteri wa miti na utungati wa TIST

Miti yotha igucagi carbon iiganaine ?

Aca, miti iria ikoragwo na utungu munene niihotaga kuiga carbon nyingi gukira iria miceke. Miti miraihu noayo niigugagia carbon nyingi gukira iria mikuhi. Kwa uguo, miti mitungu niirehage marihi maingi kumana na carbon credits. Uu nikuga ati miti iria ihanditwo na utaganu mwega iri na mweke wa gukura iri minene na irehe marihi maingi. Ndigayanaga unoru wa tiiri na maai ta miti iria ikuhaniriirie.

Kwa uguo, niguo kwamukira marihi maingi kumana na miti, ni hari na bata kuhanda miti na utaganu muiganu uria ukumiteithia gukura iri mitungu na miraihu. Kuhurura miti niguo wone ngu na niguo ikure wega ni njira njega ya gutungata miti.

Aguri a carbon credits mari ku na ni ariku?

Gwa kahinda gaka carbon credits yendagio na njira ya kwirutira kuhitukira gukinyiria mawatho ma thoko. Mawatho maya nomakorwo mari ngurani ota uria gukoragwo na mithemba ngurani ya indo thoko-ini ingi iria wendagia na ukagura(ta kahuwa). TIST noyendie carbon credits kuhitukira mawatho maya kana kuhitukira thoko ya kwiendera tundu ikoragwo iri na ukinyaniru mwega.

Kuri na ikiro ngurani cia thoko na mawatho ngurani maria macenjagia ma uhandi wa miti, urori na uramati na nomuhaka tukinyanirie maundu maya niguo tuhote kwendia carbon. Tuhuthagira uthuthuria uria niwa kirathi kia iguru muno – Verified Carbon Standard (VCS) na Climate, Community and Biodiversity Alliance Standards (CCBA).

TIST ikoragwo na aguri mithemba iiri.

Wa mbere ni andu aria merutiire kuheana mbeka ciao niguo kuhinyiriria andu kuhanda mit. Muhiano nit a kuriha mitarata ya uhandi wa miti niguo gutua uhiki na micemanio iri na riera itheru. Wa keeri ni kambuni thiini wa US, Europe, Canada na mabururi maria mangi makoragwo na iganda maria marihaga na kwiendera uhnyihia wa carbon nitundu nomakorwo mari na wendi mwega kana makihariria niundu wa ,awatho maria mangiuka thutha-ini.

TIST niikenetio nigukorwo na carbon credits ya kirathi kia iguru na ikahota kuhe aguri aao.



TIST: Kiririkano kia bata – Ngurubu njeru, Gikundi kieru, miti mieru.

Riria arimi eru maingira TIST, ni moragia kana miti yao iria mari nayo migunda-ini yao no itarwo thiini wa biacara ya TIST ya Carbon. Anja ni **ACA!** Mahinda maya – Ikundi nini cibatie gukorwo na miti mieru.

Projects cia Carbon ciambiriirio kunyihia, kweheria kana kunina kuruta Greenhouse gas (GhG) kuma riera-ini. Mahinda mangi, mibango ino irutaga **carbon credits** iria cingiendio kuringana na uigiririki na kwirutira thoko-ini na kugia na mbea kumanagia na mubango uyu.

Kuri na ikundi nyingi cia carbon projects. Kwa muhiano:-

1. Kuhanda miti, kwongerera uhandi wa miti (Afforestation, Reforestation (A/R)) carbon project – TIST.
2. Kunyihia kura kwa riera kumanagia Deforestation & Degradation (REDD+).
3. Mahuthiro ma mwaki wa riko ta Cookstoves.
4. Ugitiri wa tiri ta kumenyerera tiri ukirima.
5. Na mangi mainigi.

TIST mahinda maya iraruta wira rungu rwa Afforestation, Reforestation (A/R) carbon project. Ngurubu ino irabatarania project kubanga uhandi wa miti mieru (afforestation) kana gucokia mititu (reforestation) kuria mititu yari kana kuria mititu yatheririo.

Hamwe na uguo, niguo mumemba wa TIST agie na mbea cia Carbon Credits, no nginyagia tugie na mititu mieru (Groves) kuria kuri na migunda iria itari mihande (afforestation) kana kuhanda miti kuria miti itemetwo kana kuhanda kuria gutari kuhande (reforestation) matura-ini maria gutari mititu miaka 10 mithiru. Guthukuma na carbon credits rungu rwa category, gutarwo gwa carbon kuroragwo carbon iria irutagwo kuma riera-ini o uria miti irakura.

Kurikiriria, niguo miti ihituke ya A/R carbon credits, ubatie kuhanda miti mieru riria waingira TIST. Oro hau, wambiririe githaka kieru, githaka kiri na miti mieru.

Ni wega kumenya ati TIST ihuthagira atari kuma mabururi ma nja (international verifiers) aria matigagirira ati mitarataru rungu rwa Afforestation, Reforestation (A/R) ni rwamirirwo. Umuthi, techonology ni ithiete na mbere muno ati andu mari thi cia kuraya no mamanye riria miti yaku yahandirwo. Murimi umwe anginyitikana ahenanitie, TIST yothe igiaga na thina.

Kwa uguo, rekei tuikare turi ehokeku, tukiaria uhoro wa ma na waragania thiini wa TIST oro hamwe na maundu ma oro muthenya. Riria muruti wira wa Clasta uka mugunda-ini waku, rekei mamanye ukuru wa miti yanyu. Angikorwo kuri yahandirwo mbere ya kuingira ngurubu nini rekei TIST imenye, na niigukorwo iri **miti ya kiambiriria**. TIST riu ni irathugunda kurora kana miti ya kiambiriria no ituike ya gutarwo thiini wa carbon credits. Ni tukumumenyithia oro uria tuguthii na mbere!

Ithui othe ni tuguteithia arimi a TIST kumenya uhoro wa biacara ya Carbon.



Nikii kingituma nyende guthurwo ta mutongoria wa Cluster?

Kuri na makiria ma cluster 500 thiini wa TIST, turi na mweke guukorwo na atongoria 1500 eeru aria makwoneka o mwaka kumana na amemba a TIST. Uu niundu wa magegania kwonania uria TIST ihotete guthundura iheo cia utongoria thiini wa bururi wa Kenya.

Ni mweke wa bata muno kuri mundu kiumbe. Mundu uria wathurwo ta mutongoria wa TIST ari na mweke wa mawka I kwamukiraa githomo kia uria angihota gutungatira cluster na gukorwo thiini wa Group of Cluster Council (GOCC) niguo magacirithie utongoria wao ohamwe na kumenya kuhuthira indo cia utari wa miti, gutaukwo ni thoko ya carbon na gutungatira amemba a TIST kwao. Nimagukorwo na mweke wa guthii semina, kurutithania wira na atari a miti na guceerera o gikundi thiini wa cluster niguo kuona mitaratara iria marahuthira ohamwe na guthoma uhoru wigii riiko ria TIST na githomo kia miti mithemba miingi.

Nima gukorwo uri mutongoria no muhaka wirutanirie.

Guthii na guceerera ikundi nini thiini wa cluster nikubataraga rugendo runene, kwaria muno, kwirorera na guthoma. Na ningi, kuiga rekodi cia uria wona na maundu maria cluster irabataa.

Khariria cluster niundu wa marihi ni undu ubataraga wira munene. Kumenya kuhuthira computers, njira ya gutuma uhoru ya GPS na kuhariria githomo gikinyaniru na micemanio-maya mothe mabataraga kwirutira. Ta uria aingi anyu muui, riria wathii thiini wa semina ya TIST ukoragwo na kahinda keega no ugakorwo ukiruta wira muingi muthenya wothe!

Kwa uguo niwagiriirwo ni kwenda guthurwo ta mutongoria tondu noukorwo uri kiambiriria kia mieke ingi miingi thiini wa TIST. Tua itua.

Mazingira Bora

Newsletter September 2026

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Kiswahili Version

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**Bondii TIST Cluster wakiwa kwa mkutano wao tarehe 20/08/2026.
Mkutano mwingine utakuwa tarehe 17/09/2026.**

- Ndani ya gazetti:**
- ✓ **Wakulima katika TIST wapambana na ongezeko la joto ulimwenguni na mabadiliko ya tabia nchi. Uku. 2**
 - ✓ **TIST: Kikumbusho muhimu - Vikundi vipya, Vichaka vipya, miti mipya. Uku. 5**
 - ✓ **Mbona nitake kuchaguliwa kuwa kiongozi katika cluster? Page 6**



Wakulima katika TIST wapambana na ongezeko la joto ulimwenguni na mabadiliko ya tabia nchi.

Wakulima katika TIST wameitikia mwito wa ulimwengu wa kupambana na ongezeko la joto na mabadiliko ya tabia nchi. Wakulima wengi wametafuta kuelewa kupitia semina/mafunzo ya TIST na katika mikutano ya cluster ili kusoma na kuelewa mengi zaidi kuhusu kuongezeka kwa joto, athari zake kwa tabianchi na mbinu za kukabiliana nalo. Tunaona athari za mabadiliko ya tabianchi leo. Ili kuonyesha matukio kadhaa ya athari hizi, mafuriko ya Elnino ya mwaka 1998 yaliyovuruga karibu nchi yote na ukame mrefu uliofuatilia, na upepo mkali wa mwaka 2004 sana sana uliongezewa na ongezeko la joto duniani. Viashiria vingine mashuhuri ni kupunguzika kwa barafu katika kilele cha mlima Kenya, hali ya anga isiyo na utaratibu na ambayo imesababisha kuharibika kwa mazao katika maeneo mengi, kukauka kwa chemichemi na vyanzo vya maji, pamoja na mengine mengi.

Jarida la mwezi huu linaangazia mafunzo kutoka semina ili sote tuelewe ongezeko la joto duniani na mabadiliko ya tabianchi. Tutaanza kwa kuelezea kila neon na kulieleza zaidi na pia tujue jinsi miti yako ina jukumu kubwa katika kukabiliana na athari za ongezeko la joto duniani.

Ongezeko la joto duniani ni nini?

Ongezeko la joto duniani ni ongezeko wastani la joto duniani, ambalo huleta mabadiliko katika tabianchi. Dunia yenye joto zaidi yaweza kusababisha mabadiliko katika mvua, dhoruba kali zaidi, kuongezeka kwa maji baharini, kuharibika kwa mimea, na athari kadhaa kwa mimea, wanyama pori na wanadamu. Wanasayansi wanapoongea kuhusu suara la mabadiliko ya tabianchi na katika hali ya anga, wasi wasi yao huelekezwa kwa ongezeko la joto

linalotokana na kazi za binadamu na utofauti katika tabianchi na hali ya anga unaoletwa na jambo hili.

Je, joto katika dunia linaongezeka?

Ndio! Dunia imeongezeka joto zaidi ya digrii moja katika miaka mia moja iliyopita. Wengi wa wanasayansi wanaoongoza katika dunia hufikiri kuwa shughuli za binadamu hufanyanya dunia kuongezeka joto, kama kuchoma makaa yam awe, petrol na gesi ya kiasilia na kukata misitu na usimamizi mbaya wa ardhi.

Greenhouse Effect ni nini?

Athari hii ni kuongezeka kwa joto duniani kutakotokana na uwepo wa gesi Fulani katika hewa, zinazoitwa gesi chafu, kama, carbon dioxide, nitrous oxide, sulphur dioxide, na methane ambazo hutega nishati kutokana na jua. Vyanzo vikuu vya kaboni ni ukataji wa misitu, gesi kutokana na viwanda, gesi kutokana na magari, gesi kutokana na kuchoma miti au makaa na kuchoma misitu.

Hatari za ongezeko la joto duniani ni zipi?

- Uhaba wa maji mkali katika maeneo kame au yanayopakana na maeneo kame waweza kusababisha maeneo zaidi kuwa na jangwa.
- Ongezeko la kuenea kwa magonjwa kama malaria. Jinsi maeneo yanavokuwa yenye joto zaidi, yanakuwa mwafaka zaidi kama maeneo ya kuzalisha ya mbu, na kuongeza uwezekano wa kupata malaria. Familia na hospitali nyingi zaweza kuathirika, wastani ya miaka ya kuishi kupungua, na ongezeko la vifo vya watoto wadogo.



- Kupunguka kwa uzalishaji katika nchi za kitropiki na kisub-tropiki, hasa nchi katika Afrika Mashariki. Kwa sababu ya mvua iliyopunguka na ongezeko la uzalishaji wa wadudu kwa sababu ya joto, uzalishaji wa chakula waweza kupungua na ili husababisha umaskini na njaa katika familia na jamii nyingi.
- Gharama zilizoongezeka za chakula katika ulimwengu mzima. Jinsi wakulima wengi watakavyopata mazao chache na chakula kuwa adimu, ndivyo bei ya chakula itakavyoongezeka kwa sababu mahitaji ni mengi na usambazaji ni kidogo.
- Mabadiliko makubwa katika uzalishaji na muundo wa mifumo muhimu ya mazingira hasa misitu. Maeneo ya vyanzo vya maji katika milima na misitu huendelea kukauka. Hili litaathiri uwezo wa kumwagilia mazao maji na kupunguza maji katika mikondo ya maji yanayohitajika kujaza mabwawa na hifadhi za maji. Hili litapunguza kutengenezwa kwa umeme. Viwanda, mahospitali na taasisi zinginezo zetu ambazo kwa kiwango kikubwa hutegemea umeme zitaathirika sana. Usambazaji wa maji ya paipu katika maeneo ya mijini nay ale ya vijijini pia utaathirika.
- Makumi ya mamilioni ya watu watawekwa katika hatari ya mafuriko na maporomoko ya ardhi, yanayoletwa na makadirio ya ongezeko la uzito wa mvua na katika maeneo ya bahari, ongezeko la viwango vya maji.

Nawezaje kuzuia ongezeko la joto ulimwenguni?

Panda na uichunge miti!

Kama ilivyotajwa hapo juu, carbon dioxide ni moja ya gesi zinazoleta ongezeko la joto

ulimwenguni. Miti hunyonya gesi hii kutoka kwa hewa inapotengeneza chakula na kuiweka katika mbao, mizizi na udongo kama kaboni selulosi. Hata hivyo, miti inapokatwa na kuchomwa, huachilia kaboni iliyokuwa imeweka.

Unajua kuwa ila mti waweza kutengeneza tabianchi ndogo mahali ulipo?

Miti na bima yake hupunguza joto lililo katika uso wa dunia. Hisi faraja ya kivuli cha mti. Tambua kwamba udongo ulio chini yake huwa na maji zaidi kulika ya udongo ulio palipo na jua pasipo na kivuli. Udongo unapokaa ukiwa baridi, huwa unaweka maji muda mrefu zaidi. Ili lamaanisha kuwa miti katika ardhi yako itasaidia kuongeza kiasi cha maji katika udongo wako na pia itasaidia kuweka maji udongoni kwa muda mrefu zaidi. Hili litasaidia mimea yako na pia kusaidia watu wanaotumia maji katika eneo lako.

Kadi za kaboni ni nini?

Ili kutengeneza kadi ya kaboni wahitaji vitu vitatu:

- 1) Punguzo la kweli na la kuongeza la kaboni dioksidi iliyo katika hewa;
- 2) Ahadi ya kuweka kaboni hiyo mbali na hewa kwa muda mrefu;
- 3) Ukaguzi unaofanywa na chama tofauti kinachothibitisha kwamba shughuli zimefanyika kulingana na mujibu wa sheria.

Miti hunyonya kaboni dioksidi kutoka kwa hewa wakati inapotengeneza chakula na kuiweka katika mbao, mizizi na udongo. Kiasi cha kaboni kilichochukuliwa kutoka kwa hewa hupimwa na kuhesabiwa, halafu, kinapothibitishwa kuwa sahihi, kaboni hii iliyonyonywa yaweza kuuzwa katika soko la ulimwengu kama kadi za kaboni. Wanunuzi waweza kununua kadi hizi kukabiliana na kaboni wanayoachilia kwa hewa.

TIST huweza kuuza kaboni iliyonyonywa na miti



kama wazalishaji wanavyouza sukari na maziwa. Hata hivyo, katika kaboni, hauhitaji kutuma mti sokoni. Badalake, thamani ya kaboni iliyotolewa katika hewa na kuwekwa katika miti iliyo shambani au katika msitu wako, hupimwa na kuripotiwa. Biashara ya kadi za kaboni zaweza kufanyika New York, Chicago, London na mijiji mingineyo ulimwenguni, ama pia kupangwa kati ya watu au kampuni mbili moja kwa moja. Lazima tutimize sheria na mahitaji ya soko. Hatuwezi kukata msitu wote au kukata miti ili kupanda miti kwani hili ni baya kwa mazingira. Lazima tujitoe kuweka miti hii katika shamba kwa muda mrefu, thelathini au zaidi. Lazima turipoti data sahihi. Miti inapopandwa, vipimo na hesabu hufanyika ili kupima kiasi cha kaboni iliyonyonywa na miti ya mkulima katika TIST. Kumbuka tena, miti haipelekwi sokoni. Hukaa shambani na jinsi inavyokaa hai, ndivyo malipo yanavyoongezeka. Kwa hivyo, mkulima hukaa na miti, lishe ya mifugo, kuni, matunda na pia karanga. Pesa zinazotengenezwa na TIST katika kuuza kadi za kaboni hujenga chanzo kipya cha mapato na hugawanywa kati ya vikundi vidogo katika TIST na hutumika kusaidia kukidhi gharama za TIST, ambazo ni pamoja na mafunzo, uhesabu miti na usimamizi.

Je, Miti yote hunyonya kiasi saw ach kaboni?

La, miti iliyo na mzingo mpana huweka kaboni zaidi ya miti iliyo myembamba. Miti mirefu pia hunyonya kaboni zaidi ya miti mifupi. Hivyo basi, miti iliyo mipana huleta mapato zaidi kutokana na kadi za kaboni. Haishindani kupata virutubisho katika udongo na maji kama miti iliyokaribiana.

Hivyo basi, ili kupata mapato mazuri kutokana na miti yetu, ni muhimu kuipanda kwa nafasi tosha itakayoiruhusu kukua kiafya, kwa urefu

na upana. Kupunguza miti ili kupata kuni na kuiacha miti mingine ikue vizuri huwa njia nzuri zaidi ya kusimamia miti yako.

Ni wapi/nani hununua kadi za kaboni?

Hivi sasa, kadi za kaboni huuzwa katika masoko ya hiari na katika masoko ya kuhitimu mahitaji. Zaweza kuthibitishwa kwa njia tofauti, kama kulivyo na bidhaa mbalimbali na kuthibitishwa kwa bidhaa zingine unazonunua na kuuza (kama kahawa, kahawa aina mbalimbali). TIST yaweza kuuza kadi zake za kaboni katika masoko ya hiari au katika masoko ya kuhitimu mahitaji kwa sababu kadi zake ni za hali ya juu.

Kuna viwango mbali mbali katika masoko haya vilivyo na sheria mbali mbali na zinazobadilika kila baada ya muda zinazohusu upandaji wa miti, ufuatiliaji, na kuripoti ambazo tunahitajika kuhitimu ili kuuza kadi hizi za kaboni. Tunatumia viwango vya hali ya juu zaidi katika ukaguzi na kuthibitishwa — the Verified Carbon Standard (VCS) na the Climate, Community, and Biodiversity Alliance Standards (CCBA).

TIST ina wanunuzi wa aina mbili msingi:

Aina ya kwanza ni ya watu wanaojitolea kupeana pesa ili kuwapa watu motisha ya kupanda miti. Kwa mfano kulipia miradi ya upandaji wa miti kufanya harusi au semina kuwa kuwa isiyoongeza kaboni katika hewa. Aina ya pili ni ya makampuni yaliyo Amerika, Uropa, Canada na katika nchi zingine zilizokua viwanda zinazojitolea kupunguza gesi chafu zinazotoa kwa sababu mawakala wema wa mazingira au wanajitayarisha kuhitimu mahitaji Fulani ya baadaye.

TIST ina furaha sana kuwa na kadi za kaboni za hali ya juu, na kuweza kusambaza kwa wateja mbalimbali.



TIST: Kikumbusho muhimu - Vikundi vipya, Vichaka vipya, miti mipya.

Wakulima WAPYA wanapojiunga na TIST, mara nyingi huuliza kama miti yao iliyopo kwenye mashamba yao itahesabiwa kama Miti ya TIST kwa biashara ya Kaboni. Jibu la hili **BADO!** Hivi sasa - Miti Mipya inapaswa kuwa na Miti Mipya.

Miradi ya kaboni ni mipango iliyoundwa ili kupunguza, kuepuka au kuondoa utoaji wa gesi joto (GhG) kutoka angahewa. Katika baadhi ya matukio, miradi hii hutoa **mikopo ya kaboni** ambayo inaweza kuuzwa kwa kufuata sheria na masoko ya hiari na kupata mapato/mapato ya mradi.

Kuna kategoria nyingi za miradi tofauti ya kaboni. Mifano ni:-

1. Upandaji miti, upandaji miti upya (A/R) mradi wa kaboni – TIST.
2. Kupunguza Uzalishaji wa hewa ukaa kutokana na Ukataji miti na Uharibifu (REDD+).
3. Miradi ya Ufanisi wa Nishati kama vile Cookstoves.
4. Kuondoa kaboni ya udongo k.m. kupitisha Kilimo Hifadhi.
5. Na mengine mengi.

TIST kwa sasa inafanya kazi chini ya mradi wa kaboni wa Upandaji miti, Upandaji miti (A/R). Kundi hili linahitaji mradi kupanda miti MPYA (upandaji miti) au kurejesha misitu (upandaji miti) katika maeneo ambayo hapo awali misitu haikuwapo au kuharibiwa.

Kwa maneno mengine, ili wanachama wa TIST wapate Mikopo ya Carbon, wanahitaji kuanzisha misitu mipya (Groves) kwenye

ardhi isiyo na misitu (upandaji miti) au kupanda tena miti katika maeneo yaliyokatwa miti au yaliyoharibiwa (upandaji miti) katika maeneo ambayo hayakuwa msitu katika kipindi cha miaka 10 iliyopita. Ili kupata mikopo ya kaboni chini ya kategoria hii, hatua za Uhasibu wa kaboni huangalia kiasi cha uondoaji wa kaboni kutoka angahewa miti inapokua.

Kwa muhtasari, ili Miti yako ifuzu kwa salio la A/R la kaboni, unapaswa kupanda miti mipya unapojiunga na TIST. Katika maelezo sawa, ukianzisha TIST Grove mpya, Grove hiyo inapaswa pia kuwa na miti mipya.

Ni muhimu kutambua kwamba TIST hukaguliwa na Wathibitishaji wa kimataifa ambao lazima wahakikishe tunafuata sheria chini ya mbinu ya Upandaji miti, Upandaji Misitu (A/R). Leo, teknolojia ya ulimwengu imeendelea sana hivi kwamba watu katika mabara ya mbali wanaweza kujua wakati miti yako ilipandwa. Ikiwa mkulima mmoja atakamatwa akidanganya, TIST yote huathirika.

Kwa hivyo, hebu sote tubaki Waaminifu, Sahihi na Wazi katika TIST yetu na shughuli nyingine za kila siku. Mtumishi wa Nguzo anapotembelea shamba lako, wajulishe umri Sahihi wa miti yako. Ikiwa baadhi yao yalipandwa kabla ya Kikundi Kidogo kujua kuhusu TIST, itachukuliwa kuwa **Miti ya Msingi**. TIST sasa inafanya kazi kukuza uwezo wa kuwa na Miti ya Msingi pia kuhesabiwa kuelekea mikopo ya kaboni. Tutaendelea kuwajua kadri tunavyopiga hatua!

SOTE tunapaswa kuwasaidia wengine Wakulima wa TIST kuelewa Biashara ya Carbon.



Mbona nitake kuchaguliwa kuwa kiongozi katika cluster?

Kukiwa na zaidi ya cluster mia tano katika TIST sasa, kuna nafasi za kuwa na viongozi wapya zaidi ya elfu moja mia tano wanaochaguliwa kila mwaka na wanaTIST. Hili ni onyesho la kuajabisha kuhusu uwezo ambao mradi wa TIST unakuza katika Kenya.

Ni nafasi kubwa kwa kila mmoja katika TIST. Mtu anayechaguliwa kuwa kiongozi katika cluster (mweka vitabu na hazina, msaidizi wa kiongozi, au kiongozi) ana nafasi ya mwaka mmoja ya kupata mafunzo nyongeza, kutumika katika chama cha GOCC na kupata mafunzo ya vifaa vya uhesabu miti, kuelewa biashara ya hewa chafu na kutumikia memba wenzao katika TIST. Watakuwa na nafasi ya kujiunga na semina, kufanya kazi na watumishi wa TIST/ Wahesabu miti na kutembelea kila kikundi kidogo cha TIST katika cluster yao, kuona njia bora za kufanya mambo, kusoma kuhusu jiko bora, kujua faida za miti ya aina mbalimbali, na mambo mengine.

Ni ukweli, kuwa kiongozi wa cluster ni kazi ngumu.

Kuenda na kutembelea vikundi vidogo katika cluster yako hutaka kutembea kwingi, kuongea, kuangalia na kusoma. Pia, kuweka rekodi za mambo yaliyofanyika katika cluster huhitaji wakati mwingi na kujiweka kazini sana.

Kupanga ili vikundi vidogo vya TIST vipate malipo pia ni kazi ngumu. Kusoma kutumia Palm, GPS, njia za kuripoti, na kupangia mafunzo ya hali ya juu na mikutano ya kila mwezi inayofana - haya yote ni kazi ngumu. Kama wengi wenu wanavyojua, ukienda katika semina za TIST unakuwa na wakati mzuri- lakini pia unafanya kazi kwa bidii. Unafanya kazi siku yote, halafu unapata kazi ya ziada ya jioni!

Kwa hivyo unafaa kutaka kuchaguliwa kama kiongozi katika cluster tu kama una upendo mwingi wa kusoma mengi zaidi na kufanya kazi kwa bidii kuwa mtusishi mzuri kwa vikundi vidogo katika cluster yako. Kama unaupendo huo, na uchaguliwe, inaweza kuwa mwanzo wa nafasi zingine nyingi katika mradi wa TIST. Wewe Amua.

Mazingira Bora

Newsletter September 2026

tist Growing Trees
Growing Leaders

1. We are Honest
2. We are Accurate
3. We are Transparent
4. We are Servant to each other
5. We are Mutually Accountable to each other

www.tist.org

Kikamba Version

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

Dial *709# (Safaricom) or *789*7000# (Other Networks) and get to know more about TIST and your Small Group. Follow the prompts. Safaricom is Free.



**Bondii TIST Cluster wakiwa kwa mkutano wao tarehe 20/08/2026.
Mkutano mwingine utakuwa tarehe 17/09/2026.**

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 - ✓ **TIST: Ulilikany'o wavata - Ikundi nzau, ikuthu nzau na miti myeu. Page 5**
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Aimi ma TIST kuola uvyuvu wa nthi na uvinduku wa nzeve.

Aimi ma TIST nimeetikie wito wa kumatha undu tukuola uvyuvu wa nthi na uvinduku wa nzeve. Aimi anga nimamathie undu matonya kuelewa nzia ii kwisila kwa momanyisyo na semina sya TIST na ingi kwa mbumbano sya ngwatanio sya kila mwai nimaendeeie na kuelew'a undu wa uvyuvu wa nthi na uvinduku wa nzeve na niata matonya kwika kuola mothuku ala maetawe ni uvyuvu na uvinduku. Kwa ngelekany'o ta El-Nino ya 1998 ila yaetie wasyo munene na itina yaatiwa ni yua inene nthini wa nthi yitu Kenya, Ingi kiseve kinenen kya hurricane mwakani wa 20003 ila tukwo nitasyaetiwe ni uvyuvu na uvinduku wa nzeve. Ngelekany'o ingi ni kuthela kwa ia kiimani kya Mt. Kenya, mbua kwithiwa iteumanyika yiuu indii na kusesya ivinda yila yauaa na kwoou kundu kwingi ithima, nthongo kungala vamwe na mbusi na mikao ila itany'aa.

Ithangu ya mwai uyu ni kukwony'a momanyisyo amwe ma semina ala meutuma ueangwa mbee undu wa uvyuvu wa nthi na uvinduku wa nzeve mbeange. Mbee twianmbiia kwa kumanya kila ndeto na tuyona undu miti ithukumaa kuete ualyuku nthini wa uvyuvu wa nthi.

Uvyuvu wa nthi nikiyau?

Uu ni wongeleku muutia kuma muthangani ula uetae uvinduku wa nzeve. Uvyuvu/muutia mwingi kuma nthi utumaa undu mbua yuaa isesya, kukethiwa na iutani, kiw'u kya ukanga kwambata, mimea kulea usyaa, nyamu sya kithekani kukosa liu, miti vamwe na andu. Yila asomi ma saensi mekwasya uvyuvu wa nthi niwongelekete nundu wa mawiko ma mundu na kuete mauvinduku manene ma nzeve na uvyuvu wa nthi.

Ikonyo inya sya nthi niendee na uvyuva?

li!, nthi yi'u tui niyongelete uvyuvu kwa ndikilii imwe 10C ivindani ya myaka iana (100years). Asomi aingi meisilya kana mawiko ma mundu ala uendee na kwika nimo matumaa muiitia wa nthi uendee na kwongeleka amwe nita:- kuvivya syindu ila sumasya syuki ithuku muno ta mavia ma coal, mauta ma petrol na nzeve ila syi ungu wa muthanga vamwe na kutema miti na kulea usuvua itheka.

Nyumba ya Ngilini yithiawa na uthuku mwau?

Nyumba ino ya ngilini niyongelaa uvyuvu wa nthi nundu nzeve ila yumasya na kulekya nthini wa mawithyululuko nzeve nthuku ta Carbon Dioxide, Nitrous Dioxide, Sulphur Dioxide na Methane Trap kuma suani.

Nzeve ithi nthuku sumaa ona kambunini na industries syosawa ni miti na kwoou yila miti itevo iyiete uvyuvu kwa kwosa na kusii vinya kuma suani. nzeve ithi nisumaa nthini wa mitokaa, ngu syavivya na mititu yakana.

Mothuku ma uvyuvu wa nthi mni mau?

- Kiw'u kwaa isioni ila sya weu na kutuma iso ingi itwika weu kana mangalata.
- Kwongeleka kwa mowau ta malaria. nundu undu kundu kwavyuva niw'o kwithiawa kwaseuvya isio nzeo sya umuu kusiya na niw'o ukuaa tulinyu twa uwau wa malaria. Kwoou yila uu weeethiwa uwau wa malaria uiyaiika na kwongela ikw'u sya tuukenge na kutuma masivitali mausua.



- Kuoleka kwa ngetha ta undu kwithiitwe nthini wa nthi sya umiloni wa sua. Yila mbua yaua nini na tusamu tula twanangaa liu twongeleka nundu wa uvyuvu liu kuma miundani naw'o nunyivaa nundu wa ukosa mbua na kulika ni tusamu tuu nakii kiyiete wongeleku wa ukya misyini kuthi mbaini na nthi kwa vamwe.
- Nthooa wa malii niwongelekaa nundu yila liu munini na ayi ini aingi na vai liu ungi nonginya vei wambate nikana uiwe nala mena mbesa sya kuuthooa.
- Ingi usyai na mititu iivinduka nundu ethiwa kuna kiw'u na liu nyamu nikuoleka kwa kukw'a na kukosa liu na mititu iyuma nundu miti ndikala vate kiw'u. kii nakyo ingi kiituma liu ulea ukethwa nesa nundu vai kiw'u kya kungithya miunda. Ingi sitima uiweleka kwa ndustries, sivitali na kunduni kungi kwa vata kwa mundu. Ingi kiw'u kya miveleki kwa andu ma mataoni na kula kungi kiyioleka onakyo.
- Mamilioni ma andu nimekwithiwa na ivuso ithuku nundu wa muthanga kutuuka, nundu mbua yaua nakw'o kula kwi ukanga na maia kiw'u kiyongeleka na uyithia mawikalo nimeethiwa matevo.

Nata tutonya ysiia Uvyuvu wa Nthi?

Vanda an Kusuvia miti!

Oundu tuwetete vaa iulu nzeve itavisaa (Carbon dioxide) ni imwe ya nzeve ila ietae uvyuvu nthini wa nthi yonthe. Miti niyosaa nzeve ino kuma kwa mawithyululuko yila ikusevya liu na kwia nthini wa mithamba, mii, matu na muthanga. Onakau yila twatema miti na twavivya isyokaa

ikaumya nzeve isu itavisaa na kumilekya ingi mawithyululukoni.

Ni wisi kana kila muti nuseuvasya kauvinduku ka nzeve?

Miti na matu mayo nimavwikaa muthaka wa nthi. Nutaniaa muunyi wa muti. Sisyu ungu wa muti nukwona muthanga ula wivo ni mwiu na ti undu umwe na ula uathitwe ni sua. yila ungu wa muti vena muunyi nivathithu na vena kimeu kwa ivinda iasa kwi vala vaathitwe ni sua. kii kionany'a kana miti ila yi muundani kwaku nitetheeasya muthanga kwia kimeu na kiw'u kwa ivinda iasa kwi vala vate miti. Kiw'u kii kikatethya mimea yaku ni kikatumika maundu ni angu kisioni kyaku.

Carbon Credits nimyau?

Kusevya Carbon Credit sya TIST wienda syindu itatu

1. Nzeve itavisaa kwithiwa iyioleka na kwingeleka nzeveni (mawithyululukoni).
2. Kwiyiava kuola nzeve itavisaa kuma mawithyululukoni
3. Muthiani / muvitukithya kuikiithya kana mawiko othe mekitwe undu vaile.

Miti niyosaa nzeve itavisaa kuma mawithyululukoni na kutumia kusevya liu wayo vala iwiaa ta ngu mithambani, miini na muthangani. Nzeve itavisaa ila yumitw'e mawithyululukoni ithimawa na undu muti utonya kwia yiana naindi niw'o yikawa isavu na kuvitukithw'a kana ni yawo na indi nzeve ino yumitw'e mawithyululukoni na kwiwa mutini niyo itesawa sokoni ta Carbon Credits. Athooi ala mauaa mauaa ta nzia imwe ya kuola nzeve ino nthuku methiitwe mailekya mawithyululukoni.



TIST nitonya uta nzeve ino itavisaa oundu mundu utesaa sukali kana yiia. Onakau kuta nzeve ino mundu ndalisasya muti melini/isiwani. Indi vaita ni kuma nzeve ila muti uyu wuwity'e mawithyululukoni na kwithiwa muti wivo uendee na unyw'a nzeve itavisaa. Nzeve ino itavisaa itesawa sokoni sya New York, Chicago, London na misyi ingi minene nthi yothe nitesawa kwa mivango kati wa andu kana kambuni. Nonginya tuvikie miao ya soko nikana tute nthini wa isoko. Mwiao umwe nikana miti ndyaile utemwe ngulutu kana mititu kwengwa nundu uu ni uthuku kwa mawithyululuko. Nitwaile kwiyumya kuvanda miti yikale kwa ivinda iasa ta myaka miongo itatu. Na ingi nitwaile unengane uvoo waw'o. Miti yamina uvandwa masavu amwe nimaile kwikwa ta undu nzeve itavisaa ikwoswa ni miti ivanditwe ni aimi ma TIST. Manya ingi kana miti nditwaawa sokoni itiawa o muundani kwaku vala yaile ikala kwa ivinda iasa nikana ukaendee ukwata ndivi na kuunenge liu wa indo, ngu, matunda na mbindi/ngii. Mbesa ila TIST ikwataa kuma kutani kwa nzeve itavisaa nikuaaniaw'a tukundi tunini twa TIST na ingi utumika kukwatiia ndivi sya kumanyisya, kuvitukithya na kuungamia.

Miti yoothe inyusaa nzeve itavisaa yianene?

Anye'ee, Miti ila mithathau noyo yiaa nzeve mbiki kwi miti mitheke. Miti miasa niyosaa nzeve mbingi kwi miti mikuvi. Kwoou uthathau wa muti nuetae mbesa mbingi nthini wa soko wa Carbon Credits. Kii nikwasya utaaniu wa miti niwaile nikana unenge miti nzeve na kwithiwa itonya uthathaa na kuasava nikana yithiwe na ueti museo. Ingi yimitaaniu nesa ndiithiwa iyuaania unou wa muthanga, kiw'u kana sua. Kwoou nikana ukwate ndivi nzeo kuma mitini manya kana utaaniu wa miti niwaile nikana yiane

nesa yimithathau na miasa. Ingi kuola miti ni kuseo ni kutumaa ukwata ngu na kutuma miti ila yatiwa yiana nesa.

Niva kana ni aau mauaa nzeve itavisaa (Carbon Credits)?

Kwayu nzeve ino itesawa sokoni sya kwiyumy'a. Nitonya kwithiwa ivitukithiw'e kivathukany'o kwa ivinda na mivai kivathukany'o otondu soko syithiawa kivathukany'o sya kaawa na kaawa ka kwiseuvisya ungu wa masyitwa kivathukany'o. TIST nitonya uta carbon credits syayo nundu niatiie mawalany'o na nisy kilasi kiyulu. Ve kilasi kivathukany'o na miao iulu wa uvandi wa miti yikalaa isesya na kusyaiw'a na livoti ila taile uvikia nikana tute nzeve yitu sokoni ithi yiya kilasi kya yiulu. Nitutumiaa nzia sya yiulu muno kuvitukithya, kukunikila, kuthiana n akwona nisyale - verified carbo standard (VCS) kwa nzeve, mawithyululuko, mbai na uvathukanu wa syithio situ (Climate, Community na Biodiversity Alliance Standards).

TIST yithiawa na aui mithemba ili:

Mbee ni andu ma ngoo sya wendi museo ala mauaa kwa kwenda matuthuthye kuendee na kuvanda miti . Ngelekany'o Kuiva andu mande miti kwa alusi kana conference ya kwikala tuoete nzeve itavisa.

Keli ni kambuni ila syi US, Europe, Canada na nthi ingi ila syina industries nimeyumasya kuola GhG ilasyumite nikwithiwa mena wendi museo kwa mawithyululuko kana meenda wambiia kuete walany'o wa kuola nzeve itavisaa.

TIST yina utanu kwithiwa nzeve yayo yi imwe ya kilasi kya iulu na itonya uteea athooi aingi kivathukany'o.



TIST: Ulilikany'o wavata - Ikundi nzau, ikuthu nzau na miti myeu.

Yila aimi eu malika nthini TIST, Kaingi nimakulasya miti ila meitwie nayo kana ikatalika ta ya viasala wa nzeve itavisaa ya TIST. Usungio ni **TI OYU!** Kwa yu ikuthu nzau syaile ithiwa na miti myeu.

Ilelelo sya nzeve itavisaa syithiawa na walanio wa kuola kana kuveta nzeve sya Nyumba sya ngilini (kikusuni) (Greenhouse Gas) ila ilikaa mawithyululukoni. Kundu kumwe, Miti ino na ilelelo sya miti ino nitumikaa kuete carbon Credits ila itonya utewa mwa kwiyumya sokoni na kuseuvya ueti kwa mwolooto uu.

Ve ngelekanio mbingi ila itumikaa ta kileelo. Kwa ngelekanio:-

1. Kuthungya mititu, Kuvanda miti kula miteme (A/R) kieleelo kya nzeve itavisaa na TIST.
2. Kuola wanangiko kumana na kutemwa kwa miti na muthanga kukuwa (REDD+).
3. Nzia sya kusuvia mwaki ta maiko ma matuku aa.
4. Kwailya nzeve muthangani kwa nzia ya nima ya kithyululu, (CF).
5. Na maundu angi maingi.

TIST yithukuma ungu wa kuthungya mititu na kuvanda miti kula yatemiwe / itekw'o (A/R) (Carbon Project). Kiwango kii kyendaa kuvandwa kwa miti MYEU (Kuvanda miti kula kutai) kana kuvanda miti kula yatemiwe mitituni kula myanangiku (Reforestation) kula tene kwai mititu.

Kwa ndeto ingi, nikana memba wa TIST kuivika kumana na nzeve itavisaa (carbon credit), nimambiia na kuvanda miti weu ta

kamutitu (Groves) vala vatai miti (afforestation) kana kuvanda mitiangwa kana yaanangika (reforestation) vala vethiitwe vate miti kana yimioleku kwa ivinda ya ta myaka ikumi (10) mithelu. Nikana kuivika ungu wa walanio uyu , eki ma masavu ma nzeve itavisaa nimasyaasya na kwika masavu ma nzeve itavisaa ila yosetwe ni miti ino kwianana na undu yianite.

Kwa ukuvi, nikana uvitukithw'e kukwata ndivi ya nzeve itavisaa kuma uvandini wa miti kwa A/R, Niwailite uvanda miti walika nthini wa TIST. Ingi niwaile umanya wambiia uvanda miti myeu kwa ukuthu, ikuthu isu nisyale ithiwa na miti myeu.

Ingi niundu wa vata kumanya kana TIST yikiawa ukunikiliwa masavu ni Nthi yonthe (International Verifiers) ala maile kuikiithya miao ila itumikaa kwa uvandi wa miti (A/R). Umunthi tekinolongyi yi yiulu tita tene yu andu ona me vaasa nimesi yila na vala maile uvanda miti. Ethiwa muimi umwe nukukengana akatuma aimi othe ma TIST mathinika.

Kwoou, twikale na uikiiku, Uw'o na kwika maundu Kyenini nthini wa TIST yitu maunduni maitu ma kila muthenya. Yila muthukumi wa ngwatanio ya TIST wathoka muundani kwaku, mumanyithye ukuu wa miti yaku ula waw'o. Ethiwa imwe yavandiwe mbee wa utamanyite iulu wa TIST, ikatalika ta miti ya mwambiio (**Baseline trees**). Kwayu TIST niendee na uthukuma kuseuvya nzia ya umanya utalo wa miti ya kwambiia (base line) nicana italike nthini wa soko ya nzeve itavisaa (Carbon Credit). Nitukukwikala tuumanyithitye oundu tuendee!

Nitwaile kutethya kila muimi wa TIST aelewe iulu wa utandithya uu wa nzeve itavisaa.



TIST: Niki nende kusakuwa ta mutongoi wa ngwatanio?

Twina ngwatanio mbee wa 500 nthini wa TIST twina ivuso ya kwithiwa na atongoi mbee wa 1500 kusakuwa kila mwaka ni aimi ma TIST. Ino ni nzia imwe ya kwonany'a undu TIST yianite nthini wa kenya.

Ni ivuso iseo kwa TIST vala ula weethiwa na ivuso ya kusakuwa ta umwe wa atongoi aya atatu withiawa na mwaka muima wa kumayiwa ethiwe aithukuma thini wa kanzu ya ngwatanio (Group of clusters council GOCC). Kuthukumithya inengo syoo sya utongoi, kumaya mbeange iulu wa miio ya utumia, na nzia ila itumiawa kuvitukithya, kuelewa nesa undu wa viasala wa nzeve itavisaa (carbon business), kuthukuma enen tist ala angi isioni syoo. Makethiwa na ivuso ya kuvika seminani kuthukuma na athukumi angi ma ngwatanio sya TIST vamwe na kutembele tukundi tunini ngwatanioni syoo na kwona ni nzia syiva nzeo iendee na utumika, kwona undu wa maiko ma usuvia mwaki na kumanya vaita wa miti kivathukany'o na miovai yayo na maundu angi maingi.

Kwithiwa wi mutongoi wa ngwatanio ni undu wi vinya.

Kuthi kuvikia tukundi tunini tula twi ngwatanioini yaku kwi minoo nundu ve kutembe na kuthi nzi ndasa, ve kusyaiisya, na ve kuneena. Ve kwia lekpti sya undu ngwatanio nyenyu na ii syoothe ni syendaa ivinda na mutwe/kiliko kwithiwa vamwe.

Kumbanya tukundi tunini na kwailya mawalany'o matw'o kuivwa no wia ungi wi vinya. Kuvundisya utumia computer sya ukwata na kw'oko, GPS, nzia sya utunga livoti na kwia walany'o undu wa nzia nzeo sya umanyisya na kuvundisya na kwithiwa na mbumbano sya kila mwai syina wendeesyo kwa aimi, uyu woothe ni wia muto na nimwendaa ndivi. Oundu mwisi yila twathi seminani sya TIST vethiawa na ivinda iseo onakau niwaile uthukuma na kithito. Uthukumaa muthenya muima na wiyoo uinewa wia waika wavika musyi wioo.

Kwoou ethiwa nukwenda unyuvwa ta mutongoi wa ngwatanio ethiwa wina wendi wa wa kumanya, kuthukuma na vinya kwithiwa wi muthukumi museo wa tukundi tunini thini wa ngwatanio yenyu. Ethiwa wina mawendi aya na niwayuvwa kwithiwa wi mutongoi ikeethiwa yi ivuso iseo kwa TIST na mwambiio museo wa mawalany'o ma TIST. Ni vaku utw'e.

Mazingira Bora

Newsletter September 2026

tist Growing Trees
Growing Leaders

1. We are Honest
2. We are Accurate
3. We are Transparent
4. We are Servant to each other
5. We are Mutually Accountable to each other

www.tist.org

Kipsigis Version

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

Dial *709# (Safaricom) or *789*7000# (Other Networks) and get to know more about TIST and your Small Group. Follow the prompts. Safaricom is Free.



**Bondii TIST Cluster wakiwa kwa mkutano wao tarehe 20/08/2026.
Mkutano mwingine utakuwa tarehe 17/09/2026.**

- Inside:**
- ✓ Temikab TIST kotinye naet agobo burgeiyetab nguony ak waletab itondab emet. *Page 2*
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Temikab TIST kotinye naet agobo burgeiyetab nguony ak waletab itondab emet.

Ngen che chang en temikab TIST agobo niton. Kigechil niton temik en konetisiosiek ak seminars ak en tuiyosiekab kilasta koguiyo agobo burgeiyetab emet, ak nee nebitu agobo niton ne oret negimuche keposen. Kitinye ak kenyoru koimutik en betusiek tugul. Koborunet netai ko kirobon robta El Nino en 1998 ne kibut emet ak let konyo kemeut, kibitz kora koristo neo missing en 2004 nito ko koborunetab waletab emet. Kibit en emet; kosib kochotio koikab beek en Mt. Kenya amun en burgeiyet ne kibitz en emet; kosib ko kobetio anan rorunetab amitwogik ene emet, kotenyo beek en kondametusiiekab beek ak anagei chechang chegitok.

En arawani ketinye asi komuch koguiyo biik agobo burgeiyetab emet ak walletab emet komie. Kitinye ororunetab chuton tugul asi iguiye ile tos imuch kotoret.

Ne anyun burgeiyetab emet?

Burgeiyab emet kogochin nguwendet koet missing burgeiyet, niton kogochin emet

konyor wallet. Ye eet mat en emet komuch kowal orowekab robta, koriswek che gimen, kotesak beek en nyanchosiek, lo mabit omitwogik, koseretio ketik, tiongik ak biik. Ye ngalal ngomotik agopo niton bo waletab emet kotinygei ak burgeiyetab emet; niton kotinyegei ak boisionikab biik missing ko agobo itondab emet ko bitumen niton.

Tos tesosei mat en emet?

Ee amun en kenysisiek 100 chegogopata kogitesak 1⁰c. Tinye ngomotik kole eng bosionikab biik che yoe kogochin ngwoindut koet mat. Niton kounetab mwanik chegitom kepoishen, petro, koristo nemiten ak koluletab keti, ribetab emet ne mayamat.

Tos tinye koriswek alak?

Niton keguren kotab kurwek amun miten en nguony koriswek che terotin kou carbon dioxide nitrous oxide, sulphur dioxide, mitane trap energy koyob asista. Olepitunen korisi ya (carbon) kotiletab timwek, koristo ne yopu factorisiek karisiek, nesek ak beletab osnosiek.

**Ne ngoiyondit ne konu burgeyeta beemet?**

- ♦ Konu kotesak ongatet en ye mamiten beek.
- ♦ Konu kotesak mionwek kuo eset.
- ♦ Amun igochin kalyangik che ibu eset kochanga, komuchi kebek biik che chang.
- ♦ Konu koet bananda en biik amun ye kaet mat, komuchi komabiit omitwogik missing ko korotinwek chemiten oretab asista.
- ♦ Konu kobit oliet ab omitwogik. Kwo barak missing amun rorunet.
- ♦ Ye tiny timwek ak osnosiek kobitu kobetio beek en tulong, komagenyuru beek che kimuchi keboisien en imbarenik, kobetio omituokik, komagenyuru stimet ak beek en korik ak en townisiek.
- ♦ Biik che chang komosiche mengotosiek en maraneta beek.

Omuche oter burgeiyeta beemet?**Min ketik ak irib!**

Kou en mwaeta koristo noton ya (Carbon) ko konu burgeiyeta beemet. Ketik anyun koboishen koristo (carbon dioxide) en yaeta omitwogik, konori en temenik, tigitik ak ngunyek, yegitil ketik any ko kagichunda korisoton kwo soet, kotes burgeiyeta beemet.

Tos imuch inai ile ketit kotinye waleta beemet?

Ketit ak orwet gotuche beemet. kaitit urwet kosir olemiten asista.ole kaitit kogochin yoto kokoitit en abogora niton koboru kole ye imin ketik konyoru ngungunyek chemiten imbarengung kotityet en kila ak kila ,agotrurutik tugul.

Mungareta koristo konee?

Mungaret kotinye tuguk somok:

- 1) Komiten kereta boseta koristo noto yaa (CO₂) en koristo.
- 2) Kebos carbon en kenysisiek chechang.
- 3) Miten biik che tononchingei asi korib agoib kokwout kole kogisib mogutik tugul che tinye.



Ketik koboisien carbon ak kogonor en ketik, tigitik ak en ngungunyek. Kimuch kenai koristo ne yaa nemiten barak ak nekogiboisien ak keyai esabu. Ko bit anyun chemungarainik che ole ak kwoldoi.

Itin anyun TIST koalda koristo ne kogiboisien en ketik kou temik che tinye sugaruk ak chego. Mogimuchi keib ketit kwo ndonyo kobaten kibimoni toltolindab ketit ak kiyokto. Mungarani kotesetai en New York, Chigaco, London ak emotinwek alak. Miten ngotutik che bo mungaret ak tononywan. Biik alak komuche kotil ketik en osnet asi kogol alak, maiyanat niton amun ketesi carbon kotes burgeiyet. Kimokinigei kemin ketik chebo kasarta ne goi choton ko kipkaa. Ye testai temik koribe ketik konyorunen kelunoik chetoretegei en kaa kou- rabisiek, kwenik ak logoek.

Tos ketik tugul koboisien koristo ne kergei?

Acha, ketik chetebes en ak chegoen kotinye koristo neo kosir ketik chemengechen. Ketik chetebes kotinye raninik che chang amun konori koristo neo. Noton anyun ye kigole ketik kigochi kokwoutik che yome asi koet ak konyor beek. Rib ketingung ak

kechororchi asi koegitun ak inyorunen kwenik ak omitwogikab tuga.

Ano/ng'o che ole koristo?

En nguni kochang olig ago miten boroinde en ole imoche. Amun tinye boroinde olik ak oldoik (kou kawek kotinye keruti).

Miten kobesosiek en indonyo amun tinye agetugul ngotutikyik kou ole kimindo ketik, ole kiribto ak ole kiyumdo report. Kiboisien biik che miten barak (validation and verification, V.C.S) ak Climate Community and Biodiversity Alliance Standard (CCBA).

TIST kotinye olik oeng:

Netai miten biik che tinye kapuatet ne mie ko kon rabisiek, kogochi che kimin ketik. Nipo oeng komiten kombunisiek en US, Europe, Canadaa ak emotinwek alak chegitestai kotinye maget kepos koristo ne yaa.

TIST kotinye boiboiyet en amun tinye koristo ne kararan netinye mungaret, en olik che chang.



TIST: Kobwotutiet nebo komonutiet - Katuiyosiek che lelach, Timwek che lelach, Ketik che lelach.

Oloon kochut temik che lelach TIST, kotebe en abokora angot kite ketikuak che mi mbarenikuak koik che chute Mungaretab Aldaetab koristo nebo Ketikab TIST. Walutiet ko **TOMO KOITYI!** En nguni, Timwekche Lelach ko nyolu kotindoo ketik che lelach.

Tetutikab koristo ko tetutik che kirindoo, istoengee anan ko istoo koristo ne ya en emeet. En kasarta age, tetutichu ko konu carbon credit che choto ko che kioldoo kou en ng'otutik ak ndonyo ne bo chametab chi ak konyorchigee rabisiek en tetutiet.

Mi konyil che chang' tetutikab koristo ne kioldoo. Korogutiet ko:

1. Taunetab osnosiek, Kolelitetab osnosiek, tetutietab koristo - TIST.
2. Kachuchugetab lyeet koyoob tiletab osnosiek ak g'emisiet.
3. Tetutik che ribe Kimnotosiek che kilole cheu jikosiek che ribe maat.
4. Kotorchinetab koristo en ng'ug'unyeek kou Temisiet nebo Ribetab Emeet.
5. Ak alak che chang'.

En kasari ko boisie TIST en Taunetab Osnosiek, Wekunetab Osnosiek ko tetutietab koristo. Ichochu ko moche kemin ketik **CHE LELACH** (Taunetab Osnosiek) anan ko kewek osnosiek che kikobetyo en komosuek che m Kimakomii ososiek anan ko che kimii osnosiek en taa ako kikeng'em.

En ng'alek alak, asi komuch membaekab TIST koyorchigee rabisiek en Aldaetab Koristo, ko nyolu ko too osnosiek che lelach en ole

momii osnet anan komiin ketik en ole kikitilen osnosiek anan ko ole kikeng'emen osnosiek anan komiin ketik en olikmakomii osnosiek en kenyisiek 10 che kokosirto. Asikimuch keyor rabisiek en orani, ko nyolu en chigiletab rabisiek ko keer kole koristo ne ya ne tiana ne kokiisto en emeet en kasarta ne tesetaa korutu ketik.

En nwogindo, asi komuch ketikuk konyorchigee rabisiekab aldaetab koristo, ko nyolu imiin ketik che lelach oloon kechut buch TIST. En mwaanoton kora, angot itou Timtone Leel en TIST, ko nyolu en timoton kora konyor ketik che lelach.

Bo komonutiet kenai kele TIST ko chigili biik che chigil rabisiek en ng'wony tugul che kere kole kokisib ng'otutik tugul chebo ole kiyooitoo Taunetab Osnosiek, Wegunetab Osnosiek che Kiketil. En raini, ko biik che mii ole loo en ole imenye konoe kobun musognotet nebo kasari kole kiimine au ketikuk. Angot kenyor temindet agenge en katuiyet kele koboisien ng'olseet, ko ite koseretio membaek tugul chebo katuiyonoton.

Kou noton, onkeigun tugul che yoe imanit, che moichilie ako che togunotin en TIST nenyon ak boisionikab betusiek tugul. Olon korutechi Kiboitiotab Isasamet mbareng'ung', ibakack konai kenyisiek chebo ketikuk. Angot kokimiine alak kotomo konai Katuiyet akobo TIST, ko nyolu keyai choton koik cheiboru kiwotetab ole kimiine ketik. En nguni ko tete TIST kamugetab keyai Ketik cheiboru kiwoto koik che kite akichek en aldaetab koristo. Kitesetaa kemwowok logoiwechu olon kitesetaa en boisiet!

Nyolu en echeek tugul ketoret temikab TIST alak kokuyo akobo Mung'aretab Koristo.



TIST: Amunee asiamach aik lewenintet?

Komi en nguni isasamook che sire 500 en TIST, ko mii kandoik che sire 1500 che lelach che ke kusinkong' biikuak en TIST. Inoni ko bo komonutiet amun ibooru ole testo taa tetutietab TIST en Kenya.

Bo kelchin inoni en biik che tesetaa en noton. Chito ne kileweni koik kandoindet (choton ko ne ribe lengut, rubeiywotab knadoindet ak kandoindet) ko tindoo kenyt agege konyoor kanetisiet ne tesaat, koboisiechi Kansol nebo Isasamook (che choton ko Group of Clusters Council - GOCC), koboora kandoinatenyuan, konetgee missing akobo karik chebo musoknotet chebo koitosiek, missing akobo mung'aretab koristo, ak koboisiechi membaek alak chebo boror. Nyoru kora kasarta koba semina, kobois ak Kiboitinikab Isasamook/Koitiik che iite ketik ak koba akoi Katuiyosiek che Mengechen chebo TIST en isasamookuak, konaikonetgee akobo Ortinwek chemkiachen chebo boisiet

chebo isasamet, konetgee akobo mostinwek/jikosiek che bo komonutiet che ribe maat, konetgee akobo kelchinoikab ketik che terterchin, ak tuguk alak che chang'.

Iman, keik Kandoindetab Isasamet ko boisiet ne ui.

Keba kerutechi Katuiyosiek che Mengechen e isasamet ko moche banda ne oo, ng'alalet, kegeer ak kinetgee. Kora ko mii ribetab tuguk che kikenyor en Isasamet ako choton tugul ko moche kasarta ak tokinetab gee. Ketet katuiyosiek che Mengechen akoi konyor lipanosiek ko boisiet ne ui. Kinetgee keboisien komutaisiek che kiname en eunek, GPS, ole kiyoktoito logoiwek, ak kete akobo kanetisiet ak tuiyosiek chebo kwong'utik en arawet age tugul, chu tugul ko boisiet ne ui kobaten konu kelchinoik. Kou ole ongente che chang' keba semina nebo TIST ko kenyoru chi kasarta ne kararan, kobaten moche boisiet ne oo. Iboisie betut komugul, ko en kemoi itindoi boisiet ne iyoe ne oo. So kou noton imoche chi kelewenin iiku kandoindetab isasamet yon itinye mageet inetgee boisiet ne tesat ak iyai boisiet ne oo iiku kiboitiot ne mie en Katuiyosiek che Mengechen ak Isasamet. Angot intindoi mogutichoton, ak koit kelewenin, komuche koik kanametab kelchinoik alak che chang' en tetutietab TIST. Neng'ung' tilet.