

Mazingira Bora



TIST

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

English Version

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



Njorua TIST Cluster in Laikipia West, during their September 2019 Cluster meeting.

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TIST: Greenhouse Gas Business.

Growing trees absorb carbon dioxide through photosynthesis. Carbon dioxide is one of the 'greenhouse gases', which captures the sun's radiant heat inside the Earth's atmosphere, helping to maintain the temperature of the Earth's surface. The Earth is getting hotter and hotter which can be very damaging. This is called the Greenhouse Effect, which causes some areas of the world to experience more flooding, more drought or desertification.

The burning of fossil fuels like oil, coal and natural gas and the cutting down of trees produces carbon dioxide. Because growing trees absorb carbon dioxide, they help reduce the Greenhouse Effect. Governments and large industries in many countries want to reduce their emission of carbon dioxide, so that the Earth does not heat up as much. They have signed many different agreements including the Paris Accords, which have every government in the world involved.

TIST Quantifiers count and measure the trees we plant, so that CAAC can work out how much carbon dioxide the trees absorb. The unit of measurement is equal to one tonne of carbon dioxide absorbed

and sequestered in the living tree. In order to make a 'carbon credit', the TIST program must be "Validated" by an outside third party to assure that all international requirements are met. Then the amount of CO₂ sequestered by the TIST trees is "Verified", to be accurate. Companies and Governments can then buy those 'carbon credits', meaning they can pay for TIST trees to reduce their carbon dioxide emissions for them.

We must have honest and accurate data on trees to sell these credits to a buyer. The carbon credit money can help groups to be even more productive, effective and start new projects. TIST groups get paid an advance of \$20 for each 1000 trees each year (roughly 2.00 Kshs per live tree per year). When the carbon is sold, the TIST farmers will receive 70% of the profits. In addition to the greenhouse gas payments, the TIST farmers also benefit from other TIST activities that the Verifiers have determined are worth over 40 times as much as the prepayments to date.

TIST Farmers - lets plant more trees!

Together we achieve greater benefits.



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.



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

With over 200 Clusters now in TIST, we have the opportunity to have over 600 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 the techniques used for Quantification, understand the carbon business better, and serve their fellow TIST members in their area. 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 so TIST Small Groups can get paid is also hard work. Learning to use the handheld computers, the GPS, the reporting systems, and organizing for excellent training and interesting monthly meetings—all of that is hard work and rewarding. 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.



TIST: Sustainable Development.

Global Environmental Overview

Kenya does not exist in isolation from the rest of the world and having knowledge about world environmental problems can help to identify future risks to Kenya. It is important to look at the world's environmental problems and understand the negative effects on our environs.

Climate change

The burning of fossil fuels (coal, oil, natural gas) produces carbon dioxide. This traps heat in the atmosphere causing the earth's temperature to increase, polar ice caps start to melt, and the sea level rises. This results in an increased risk of flooding and increasing temperatures which have negative effects for agriculture in parts of the Africa continent and the world.

Air pollution

Poisonous fumes from industries and vehicles can cause respiratory problems to people. The fumes can dissolve in rainwater forming acid rain, which damages plants and buildings. Many cities have problems with smoke where the pollution hangs over the city like low-lying clouds or mist that reduces visibility and causes health problems.

Water pollution

Industry waste, sewage and chemical fertilizer waste from farmers can enter streams, rivers and oceans polluting the world's water sources and causing harm to plants, animals and human health.

Decreasing biodiversity

Biodiversity means the total variety of all different plants and animal species.

Pollution and deforestation decrease the number of living species with over 100 species become extinct each day. This reduces resources used for materials energy and medicine.

Desertification

When land loses all vegetation and the soil becomes dry and blows or washes away, land becomes less productive. This is also known as the 'spread of deserts' turning fields and pastures into barren wastelands encompassing many hectares of land areas, which are potentially at risk.

Hazardous Waste

Toxic and poisonous waste can come from factories using chemical or radioactive materials. The waste harms all ecosystems through disasters

such as when a Union Carbide pesticide factory leaked chemicals in Bhopal, India, causing the factory to explode.

Acid Rain

Already mentioned the under air pollution, acid rain destroys forests and lakes especially in Europe and North America. When pollution dissolves in water it makes the rain acidic. Trees, plants, fish and even buildings are all affected.

Ozone Depletion

Certain chemicals like chlorofluorocarbons (CFC's) are used in products for refrigeration and other industrial processes but are now found to destroy the ozone layer. The Ozone layer protects the earth from harmful sunrays known as ultra-violet rays (UV). When the chemicals destroy the ozone layer, increased levels of UV rays can reach the earth's surface and are harmful to human health causing skin cancer and other illnesses.

Urban Problems

Many towns and cities suffer from litter, air pollution, noise pollution, congestion and decreasing areas of countryside.

Resource Depression

Increased energy and material requirements throughout the world are causing natural resources like oil, coal, minerals and forests to become depleted. This encourages competition for resources causing increased international conflict. Finding more resources for energy requirements will soon become a big problem unless alternative sources of energy are used like water, wind or nuclear energy instead of using finite resources of oil, coal and gas.

Trainers, ask the Cluster participants these questions:

Does Kenya suffer the bad effect of some of these problems?

Does Kenya contribute toward or cause any of these problems?

As Kenya develops, which global environmental problems do you think will become worse?

Encourage your TIST Clusters and other community members to plant more trees to minimize some of these climatically bad effects so our environment can be better!

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Kimereu Version

**TIST is an innovative, time - tested,
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Njorua TIST Clusta kutoka Laikipia Magharibi, wakiwa kwa mkutano wao mwezi wa tisa 2019.

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TIST: Biashara ya ruugo ruruthuku.

Kuanda miti nikujukagia ruugo rwa ruruthuku rwa Carbon dioxide gukurukira kuthithia irio. Carbon dioxide ni rumwe rwa ruugo ruria rwitagwa rwa 'greenhouse' (antu gukunikenue), ruria rugwatagia mwanki jwa riu ndene ya nthiguru na gutetherie gwika mwanki jwa nthiguru. Athomi bamwe nibathuganagia ati nthiguru nikugia mwanki nkuruki na nkuruki untu buria bumba kwithirwa buri bwa kugitaria. Bubu nibu bwitagwa 'greenhouse eefect', untu buria butumaga guntu kumwe ndene ya nthiguru kuur mbuura iria igutuma kuigara, na namwe gukaaga mbura na gukooma

Kuithia kwa into bimwe ta beteroi, makara na bingi nigwitaga ruugo rwa carbon dioxide. Niuntu miti nijukagia carbon dioxide, niitethagia kunyiyia untu bubu bugwitwa "greenhouse effect". Thirikari na kambuni inene ndene ya nthiguru inyingi nicikwenda kunyiyia kuthithua kwa carbon dioxide nikenda nthiguru itagie mwanki jumwingi.

Atarimiti ba cluster nibataraga na kuthima miti iria

tuandaga nikenda TIST yumba gutara ni ruugo rung'ana rwa Carbon miti iu ikujukia. Carbon iu ithimagwa na gintu gigitwa "carbon credits", nan i umwe na kilo ngiri imwe cia ruugo rwa carbon ruria rujukitue. Kambuni na thirikari riu nocigure carbon credits iji kuuga no iririire miti nikenda inyie uriti bwa ruugo rwa carbon.

No mwanka twithirwe tujukitie mantu jamma na jario jegie miti nikenda tuumba kwendie credit iji cia carbon kiri muguri. Mbeca kuumania na kwendia guku no itethie ikundi kuumba kuthithia mantu jamaingi nkuruki, kurita ngugi uria bibati na kwambiria miradi imieru. Ikundi bia TIST nibiriagwa mirongo iiri kiri o miti igana o mwaka (ni akui umwe na shilingi 1.8 kiri o muti juria juri mwoyo o mwaka). Mbeca iji cia ruugo ti baita yonka iria ikundi bibinini bionaga nontu miti iri na baita maita ikumi gwita mirongo inna nkuruki ya mbeca iria ciumanagia na biashara iji ya kwendia ruugo.

Arimi ba TIST – tuandeni miti ingi! Amwe tukinyire baita inene nkuruki.



Arimi ba TIST nibakurua na Kwongeraka kwa murutira jwa nthi na kugaruka kwa rera.

Arimi 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. Kwonia 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 kiria 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 kwelewa 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?

Ii! Nthiguru niongerokete 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, beteroi, 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 riuu. 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.
- ♦ Kunyia kwa maketha kuumania na kulima ndene ya nthiguru iria ciri guntu kurina riuu riringi, mono nthiguru iria ciri East Africa. Niuntu bwa kunyia 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 kuberia 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 riuu 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. Bubugatethia 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 kiana 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 irititwe 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. tutumba kugiita mwitu junthe kana tugiita miti tuanda ingi nontu bobu butibui kiri mazingira. no mwanka tucititwe 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 ikuaniritie.

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 gutegerwa 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.



Nimbi ituma mpenda kua mutongeria ndene ya cluster?

Kurina nkuruki ya cluster 200 narua ndene ya TIST, turina kanya ga kuthura atongeria baberu nkuruki ya magana janna na mirongo inana 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 nturere 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.



Witi na mbele bukumbika.

Gutegera mazingira ndene ya nthiguru yonthe.

Nthiguru ya Kenya itithagirwa iri antu amwe yonka kuraja na nthiguru ingi na kwithira irina umenyo bwegie thina cia nthiguru yonthe ciegie naria kuthiurukite nogutethie kwonera thina iria cikwenda kwija Kenya kuraja. Burina bata gutega thina cia naria kuthiurukite na kwelewa mantu jamathuku kiri naria gututhiurukite jaria jejanagia na thina iji.

Kugaruka kwa rera.

Kuithua kwa maguta (maguta ja maiga, maguta jongwa na gasi ya gintwire) nikurita ruugo rwa kaboni. Ruru nirugwatagia kirutira ndene ya nthiguru na gutuma murutira jwingia, mitwe ya irima ya nkamia kwambiria gukeruka na ruuji ndene ya iria kwongereka. Jaja nijaongagira kuigara kwa ruuji rwa mbura na kwongera murutira, mantu jaria jaretaga thina kiri urimi ndene ya Afrika na nthiguru yonthe.

Kuthukua kwa ruugo.

Toi cirina sumu kuuma kiri kambuni cia kuthithia into na ngari noirete thina cia gukucia miruki kiri antu. Toi iji nocitonye ruujine rwangai na kuthithia ngai ya acidi iria ithukagia imera na nyomba. Tauni inyingi cirina thina ya toi niuntu niitagia iguru igakara ta matu jamarito kana ta nduume iria itumaga antu baremwa kwona kuraja na iria iretaga thina cia mwili.

Kuthukua kwa ruuji.

Ruuko kuumania na factory cia kambuni na ruuko na fertilizer kuuma kiri arimi norutonye nduujine na iriene na kwou rukathukia biumo bia ruuji bia nthiguru yonthe na kugitaria imera, antu na thiria ya antu.

Kunyyia mithemba ya imera na nyomoo iria igukaraniria.

Biodiversity ni mithemba yonthe mwanya ya imera na nyomoo.

Kuthukia na kugiita miitu nikunyyiagia mithemba ya biumbe biria biri moyo na gutuma nkuruki ya mithemba igana mwanya ithira buru nthigurune o ntuku o ntuku. Bubu nibunyyiagia into biria bitumagirwa kuruga na ndawa.

Gutamba kwa uumo.

Riria muunda jwathia imera na muthetu jwooma na jwakamatwa, muunda nijunyyiagia unoru. Gutamba guku kwa uumo nikugaruraga miunda na antu a kuriithia gukaa antu guticiara kinya mbi na nokujukie hectare inyingi cia munda, juria juri akui.

Ruuko ruria rugitaragia na njira inene.

Ruuko rumba kwajithia kana rurina sumu kuuma kiri factory iria igutumira chemical kana into bingi biria bitibui kiri thiria ya mwiri. Ruuko ruru nirugitaragia into bionthe biria biri moyo gukurukira mantu jaria jatieteretwe, mung'unano, riria factory ya kiama ya kuthithia ndawa ya iria yeeturire chemical iji naria Bhopal ndene ya India, factory niyalipukire.

Ngai ya acidi.

Nigwetetwe au iguru kiri kuthukia ruugo, ngai ya acidi nigitaragia miitu na nduui mono ndene ya Europe na North America. Riria ruuko ruru rwatonya ruujine na rwatuma ngai igia acidi, miti imera, makuyu na kinya miako nigitaragua.

Kuthiria nkuniki ya ozone.

Chemical imwe ja CFC nitumagirwa kiri into biria bitumagirwa nikenda into biungwa gwika igita riraja bitirathuka na kiri kuthithia into bingi, indi nandi nimenyekene ati nicithukagia nkuniki iu ya Ozone. Nkuniki iji niithaga nthiguru kuumania na miale ya riu iria igitaragia iria itagwa ultra-violet rays (UV). Riria chemical iji ciathukia nkuniki iji, riu ririthuku riu UV nirikinyagira nthiguru na rikagitaria thiria ya mwili ya antu na gutuma bajua ni cancer ya ngozi na mbajua ingi.

Thina cia tauni.

Tauni inyingi ciri thina cia ruuko, kuthukua kwa ruugo, gituma, kwingia gwa antu na ngari na kunyia kwa naria gutina nyomba cia biashara.

Kuthirua kwa into bia gutumira.

Kwongereka gwa utumiri bwa maguta na nkuu na into bingi nthigurune yonthe ja maguta, maguta ja maiga, na miitu no gutume into bibi bithire. Untu bubu nibwongagira gushindanira into bibi na kwou ndua cia nthiguru ikaingia. Gucua into bibi bia gutumira akui mono gukareta thina mono tiga aki into bingi bigatumirwa antua bibi, into bibi ni ja ruuji, ruugo kana nuclear antu a gutumira biria biumba kuthira ta maguta, maguta ja maiga na ngasi.

Aritani, urieni amemba ba cluster biuria bibi:

Kenya nionaga mantu jamathuku jaria jaumanagia na imwe cia thina iji?

Kenya nionagagira kana nitumaga kugia imwe cia thina iji?

O uria Kenya igwita na mbele, ni thina iriku cia nthiguru yonthe ukuthugania igeta ikiingiaga nkuruki?

Ikira inya cluster cia TIST na amemba bangi ba ntuura kuanda miti ingi imingi nikenda thina imwe cia rera cinyia nikenda naria gututhiurukite kuthongoma nkuruki!

Mazingira Bora



TIST

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

Kikuyu Version

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



Njorua TIST Clusta kuuma Laikipia Ruguru, mari mucemano-ini wao mweri wa kenda 2019.

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TIST: Biashara ya Greenhouse Gas.

G

ukuria miti nikugucagia
carbon dioxide kuhitukira
photosynthesis. Carbon

gitagwo carbon credits, na kiiganaine na tonne
imwe ya carbon dioxide iria igucitio. Kambuni na
thirikari nocigure carbon credits na uu nikuga
nocirihe miti iria irahuthika kugucia.

dioxide ni imwe ya 'Greenhouse gases', iria ihotaga
kunyita urugari wa riuu thiini wa thi igateithia kuiga
urugari wa thi. Atalamu amwe maugaga thi ithiaga
na-mbere na kuhuaha na uhoro ucio nouthukie
maundu. Mathina maya nimo metagwo ma
Greenhouse, maria matumaga miena imwe ya thi
igie na miihuro ya maai, kwaga mbura na gukagia
na ngaragu.

Nomuhaka tukorwo na wihokeku na
ukinyaniru hari mathabu ma miti kuri aria turenderia
carbon credits. Mbeca cia carbon credits
niciteithagia ikundi gukorwo na maciaro maingi na
kwambiriria itaratara ingi. Ikundi cia TIST
nicirihagwo \$20 kuri mit 1000 iria iri muoyo (kindu
1.8ksh hari o muti). Marihi ma greenhouse gas to
mo marihi moiki ikundi ciamukagira tondu miti iri
na mbeca maita 10-40 makiria ma mbeca ici.

Gucina indo ta maguta, coal na gas ingi
niguthondekaga carbon dioxide. Na tondu miti
niigucagia carbon dioxide niguo thi ndikahiue
muno.

Arimi a TIST - reke tuhande miti miingi! Turi
hamwe nitwigiagira maciaro maingi

Atari a miti a TIST mataraga na magathima miti
iria wahanda niguo TIST ihote guteithiriria kugucia
carbon dioxide.. githimi kia carbon iria igucitio

**Amemba a cluster ya Karaba kuma County
ya Laikipia mari mecemanio mweri ucio
urathirire.**



Arimi a TIST kuhurana na ugaruruku wa riera.

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

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 cijenje na gukagia na ihuhakanio 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?

Ii! 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 nichotaga 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.
- Kunyihia kwa magetha ma urimi na makiria mabururi-ini maria mari East Africa. Na niundu wa kunyihia 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 nimakunyihia 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 iigite 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 riuu-ini. Riria thi yaikara iri hehu, tiiri niuhotaga gkuiga



ugunyu 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 mimerera 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 kunyihia 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 wothe, 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 gwitu tondu undu uyu niuthukagia maria maturigiciirie. Nonginya twitikire kuiga miti iri muoyo gwa kahinda ka miaka 30 na makiria. Nonginya tuheane ugoro mukinyaniru. Riria miti yahandwo, ithimi na uteri nicihuthikaga 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. Mbeca 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 yothe 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 kwiyendera tondu 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 mbeca ciao niguo kuhinyiriria andu kuhanda mit. Muhiano nit a kuriha mitarataru 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 kwiyendera uhnyihia wa carbon nitondu 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.



Nikii kingituma nyende guthurwo ta mutongoria wa Cluster?

Kuri na makiria ma cluster 200 thiini wa TIST, turi na mweke guukorwo na

atongoria 480 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 ugoro 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 ugoro 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.



Mogaruruku mangihoteteka.

Kenya ndikoragwo keheri-ini kuma kuri thi yothe na riria twagia na umenyo wa mathina ma maria maturigiciirie notuhote kumenya ugwati uria utung;etheire turi Kenya. Niundu wa bata kurora mathina ma maria maturigiciirie thi yothe na tutaukwo ni mathina maria mangirehwo kuri ithui.

Ugaruruku wa riera.

Gucinwo kwa indo cia tene ta (coal, maguta na natural gas) nikuinhagia carbon dioxide. Njira ino nihitagiriria urugari riera-ini na kwa uguo gutuma thi kwongerereke urugari. Barafu cia riera-ini cikambiriria gutwekuka na maai ma iria makambatira. Maundu maya nimatumaga kugie na miyuro ya maai na kwongerera riera njira iria ikoragwo na mathina ma kuhotomia urimi na makiria icigo cia Africa thiini wa thi..

Uthukia wa riera.

Ndogo njuru na iri na giko kuma iganda-ni o hamwe na ngari nocirehe thina wa mahuri kuri andu. Ndogo ino riria yathii riera-ini niithondekaga mbura iri na acid, iria ithukagia mitera na miako. Cities nyingi niciretwa na thina wa ndogo kuria ndogo ino iinyitagirira na igacuha ta matu kana thatu na andu makaga gukorwo makiona wega ohamwe na gukorwo na ugima muuru wa miiri.

Uthukia wa maai.

Giko kia iganda, giko kia ciuro ohamwe na fertilizer kma kuri arimi nocingire njuui-ini na iria-ini na cithukie maai na mitera ohamwe na indo iria cikaraga maai-ini na ningi ugima wa miiri ya andu.

Kunyahia biodiversity.

biodiversity nikuuga mithemba yothe ya miti na ya nyamu.

Uthukia na utemi wa miti niunyahia muigana wa mithemba ya indo iria cikoragwo thi na igathira na muigana wa 100 o muthenya. Njira ino niunyahia indo iria ithondekaga hinya na dawa.

Desertification.

rira mugunda wanina miti na mitera yothe na tiiri waniara biu, mugunda ucio niunyahia maciaro maguo. Njira ino ningi niitagwo "spread of desert" kugarura migunda ituike mihinju na gutuma migunda miingi muno igie na mogwati maingi.

Giko kiri na ugwati

giko kiria gikoragwo na poison nokiume thiini wa factories iriri cihuthagira chemical na indo iria cikoragwo ciri radioactive. Giko giki nigithukagia ecosystems kuhitukira ugwati ta wa riria Union Carbade kiganda kiria githondekaga dawa cia tutambi kiaunithiirie chemicals thiini wa Bhopal, India na gutuma kigana kiu gituthuke.

Mbua iri na acid.

Kuri maundu maria magwetagwo ma uthukia wa riera, mbura ya acid niithukagia mititu na iria na muno Europe na North America. Riria giko kiaingira maai-ini nigitumaga mbura igie na acid. Miti, mitera, thamaki na miako cigakorwo ugwati-ini.

Ozone Depletion.

Chemicals ingi ta chlorofluorocarbons (CFC's) nichuthagirwo hari kuheha na njira ingi thiini wa iganda. No riu nicionekete nocitukie layer ya ozone. Layer ya ozne igitagira thi kumana na miruri ya riu iria itagwo Ultra Violet rays (UV). Riria chemical yathukia ozone, muigana wa UV niukinyafira thi na nourehe murimu wa cancer ya ngothi na mirimu ingi miingi.

Mathina ma town.

matown maingi nimakoragwo na thina wa giko, guthuka kwa riera, inegene na muhinyano wa andu na kunyahia andu ichagi-ini.

Kunyahia kwa indo cia bata.

Kuongoerereka kwa ma-hinya ma ai ma kinduire thiini wa thi nigutumite mahinya ma ki-nduire ta maguta, coal, minerals na mititu cinyihe. Njira ino niiratumama macindano ma indo ici cia bata makorwo iguru thi yothe. Kuhota kuona indo ici ci kinduire niugukorwo uri thina munene muno gutangikorwo na njira ingi ta maai, ruhuho na hinya wa nuclear handu ha kuhuthira maguta, coal kana gas.

Athomithania uriai ciuria ici kuri arimi a cluster.

Kenya niikoragwo ni mogwati ma mathina maya? Kenya niichangagira kana igatuma kugie na mathina maya?

O kenya igithiaga na mnere, ni thina uriku munene urona ta ungineneha makiria?

Hinyiriria amemba a cluster yaku kuhanda miti miingi niguo kunyahia mathina ma ki-rirea niguo tuthondeke maria maturigiciirie.

Mazingira Bora



TIST

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

Kiswahili Version

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



Njorua TIST Clusta kutoka Laikipia Magharibi, wakiwa kwa mkutano wao mwezi wa tisa 2019.

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TIST: Biashara ya hewa chafu.

Miti inayokua hunyonya gesi ya kaboni kwa njia ya kutengeneza chakula. Kaboni

dioksidi ni mojawapo ya 'gesi chafu' (greenhouse gases) ambazo huteka joto la jua lililopo katika anga ya dunia na kusaidi kudumisha hali ya joto katika uso wa dunia. Wanasayansi wengine wanafikiri kuwa dunia inazidi kuwa na joto zaidi na zaidi, joto ambalo lweza kuwa lenye kudhuru sana. Jambo hili huitwa athari ya hewa chafu (greenhouse effect), ambayo hufanya maeneo mengine kupanda mafuriko zaidi, ukame zaidi au kuenea kwa janga.

Kuchomwa kwa ngataa kama mafuta, makaa yam awe na gesi ya kiasili hutoa kaboni dioksidi. Kwa sababu miti huchukua kaboni dioksidi kutoka hewani, inasaidia kupunguza athari za gesi chafu. Serikali na viwanda vikubwa katika nchi nyingi wanataka kupunguza utoaji wa kaboni dioksidi ili dunia isizidishe joto sana.

Maqwantifaya wa TIST huhesabu na kupima

miti tunayopanda ili TIST ifanye kazi ya kuhesabu ni kiasi kipi cha kaboni dioksidi kinachonyonywa na miti. Kipimo chake huitwa 'carbon credit' (kadi za kaboni) na ni sawa na kunyonya kilo elfu moja za kaboni dioksidi. Makampuni na serikali zaweza kununua kadi hizi kumaanisha wanaweza kulipia miti ili ipunguze utoaji wa kaboni dioksidi.

Lazima tuwe na data yenye kuaminika na sahihi kuhusu miti ili kuuza kadi hizi za kaboni kwa mnunujaji. Pesa kutokana na kuuza kaboni hii zaweza kusaidia vikundi kuzalisha zaidi, kufanya kazi zaidi na kuanza miradi mipya. Vikundi vya TIST hulipwa dolla ishirini kwa kila miti elfu moja iliyo hai kila mwaka (takriban shilingi 1.8 kwa kila mti hulio hai kila mwaka). Malipo ya gesi chafu si faida ya kipekee kikundi kidogo hupata kwa sababu miti ina thamani mara kumi hadi arobaini kuliko pesa inayopata kutokana na biashara ya kaboni.

Wakulima wa TIST – tupandeni miti zaidi!

Pamoja tufikie faida kubwa zaidi.



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 yaweza 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 itakayoirusu 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.



Mbona nitake kuchaguliwa kuwa kiongozi katika cluster?

Kukiwa na zaidi ya cluster mia mbili katika TIST sasa, kuna nafasi za kuwa na viongozi wapya zaidi ya mia nne themanini 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.



Maendeleo Endelevu.

Kuangalia mazingira ya dunia kwa ufupi.

Kenya haijatengwa kutokana na sehemu zingine za dunia na kuwa na ujuzi kuhusu matatatizo ya kimazingira ya dunia nzima kwaweza kusaidia kutambua hatari kwa Kenya kwa umbali. Ni muhimu kuchambua matatatizo ya dunia ya kimazingira na kuelewa madhara hasi yanayoweza kufikia mazingira yetu.

Madaliko ya hali ya anga ya muda mrefu.

Kuchoma ngataa au mafuta (makaa yam awe, mafuta, gesi asilia) hutoa hewa chafu ya kaboni. Hii hewa hutega joto katika anga na kusabasisha joto duniani kuongezeka, kofia za barafu katika maeneo ya milima kuanza kuyeyuka na kiwango cha maji katika maziwa kupanda. Haya husababisha uwezekano wa mafuriko na joto kupanda jambo ambalo huwa na athari mbaya kwa kilimo katika sehemu za bara la Afrika na dunia nzima.

Uchafuzi wa hewa.

Mafusho yenye sumu kutoka viwandani na kwa magari yaweza kusababisha shida za kupumua kwa watu. Mafusho haya yaweza kuingia katika maji ya mvua na kutengeneza mvua wenye asidi, ambao hudhuru mimea na mijengo. Miji mingi huwa na matatizo ya moshi ambapo machafuko hutanda juu ya miji kama mawingu ya chini na kupunguza uwezo wa kuona mbali na kusababisha shida za kiafya.

Uchafuzi wa maji.

Maji na uchafu kutoka viwandani na kemikali kutoka kwa wakulima zaweza kuingia katika vijito, mito na maziwa na kuchafua vyanzo vya maji vya dunia nzima na kudhuru mimea, wanyama na afya ya binadamu.

Kupunguza bionuwai.

Baonuwai ni wingi wa aina mbalimbali za mimea na wanyama. Uchafuzi na kukata miti hupunguza nambari ya viumbe hai na kumaliza zaidi ya aina mia moja kila siku. Jambo hili hupunguza rasilimali inayotumika kama vifaa, nishati na dawa.

Kuenea kwa jangwa.

Ardhi inapoteza mimea na udongo unapokauka na kubebwa, ardhi hukuwa na uzalishaji uliopungua. Hili pia linajulikana kama 'kuenea kwa jangwa' na hugeza mashamba na mahali pa kulisha wanyama kuwa ardhi isiyona uzalishaji iliyo hectare nyingi, zilizona uwezekano wa kupotezwa.

Uchafu wenye madhara.

Uchafu wenye sumu unaotoka kwa viwanda vinavyotumia kemikali na mionzi. Taka hii hudhuru mazingira yote kupitia majanga kama kiwanda cha chama cha kutengeneza dawa ya magugu kilipovuja kemikali huko Bhopal, India, kiwanda kililipuka.

Mvua ya acidi.

Imetajwa hapo juu chini ya uchafuzi wa hewa, mvua ya acidi huharibu misitu na maziwa hasa katika Europa na Amerika Mashariki. Uchafuzi unapoingia majini na kufanya mvua kuwa yenye acidi, miti, mimea, samaki na hata mijengo huathirika.

Kupungua kwa safu ya ozoni.

Baadhi ya kemikali kama chlorofluorocarbons (CFC's) hutumiwa katika vitu vinavyotumika katika majokofu na katika taratibu nyinginezo za viwandani lakini sasa zinaonekana kudhuru safu ya ozone. Safu ya ozone hulinda ardhi kutokana miale hatari ya jua inayoitwa ultra-violet rays (UV). Kemikali zinapoharibu safu ya ozone, kuongezeka kwa miale ya UV hufika ardhini na kudhuru afya ya binadamu huku ikileta kansa ya ngozi na magonjwa mengineyo.

Matatizo mijini.

Miji mingi hukabiliwa na shida za taka, uchafuzi wa hewa, kelele, msongamano na kupungua kwa maeneo yakuishi.

Kupungua kwa rasilimali.

Ongezeko la mahitaji ya nishati na rasilimali katika dunia nzima linasababisha rasilimali ya kiasilia kama mafuta, makaa ya mawe, madini na misitu kuisha. Jambo hili linaongeza ushindani wa rasilimali jambo ambali linaleta migogoro ya kimataifa. Kutafuta rasilimalizaidi ili kutimiza mahitaji kutakuwa shida kubwa hivi karibuni isipokuwa vyanzo vya nishati badala vvitumike kama maji, upepo au nishati ya nyuklia badala ya rasilimali inayopimika kama mafuta, makaa ya mawe au gesi ya kiasilia.

Wakufunzi, uliza wanacluster maswali haya:

Je, nchi ya Kenya hufikiwa na athari za baadhi ya shida hizi?

Je, Kenya huchangia au kusababisha yoyote ya shida hizi?

Jinsi Kenya inavyokua, unafikiria ni shida zipi za kidunia zitakuwa mbaya zaidi?

Hamasisa cluster yako ya TIST na wanajamii wngine kupanda miti zaidi ili kupunguza baadhi ya athari hizi mbaya kwa hali ya anga ili mazingira yetu yawe bora zaidi!

Mazingira Bora



TIST

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

Kikamba Version

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



Njorua TIST Clusta kutoka Laikipia Magharibi, wakiwa kwa mkutano wao mwezi wa tisa 2019.

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TIST: Viasala wa Greenhouse Gas.

Kuvanda miti nikumasya nzeve itavisaa mawithyululukoni. Carbon Dioxide ni nzeve imwe kati wa ila syithiawa nthini wa Greenhouse Gases. Ila syosaa uvyuvu wa sua na kuutunga kwithiwa na uvyuvu wa nthi. Asomi amwe ma Saiyanzi mesilasya kana nthi niyiendee na uvyuva muthenya kuthi ula ungi undu ula utonya kuete wanangiko. Uyu niw’o witawa usyao Greenhouse kila kitumaa kundu kumwe kwithiwa na mavuliko kana yua na maweu/mang’alata kunyaiika.

Kuvivya kwa syindu ta mavia ma mwaki (Coal), mauta na nzeve kumasya nzeve itavisaa (Carbon dioxide, Nimatetheeasya kuola uthuku ula uetetwe ni Greenhouse. silikali na indasituli nthini wa nthi yingi nikwenda kuola undu ikumya nzeve itavisaa nikana nthi ieke uvyuva muno. Avitukithya/Athiani ma TIST nimatalaa nakuthima miti ila twavanda nikana TIST makeka masavu ma undu miti yosete nzeve itavisaa kuma mawithyululukoni.

Kithimi kila kitumiawa kuthima kitawa Carbon Credit kila kithiawa kianenen na tani imwe ya Carbonk withiwa yumitw’e mawithyululukoni. Kwoou kambuni na silikali nitonya kuaa “Carbon Credits” kwasya nomaivie miti kuola nzeve itavisaa ile methiitwe mayumya na kumilekya mawithyululukoni.

Nitwaile ithiwa na uw’o na kunengane uvoo wa uw’o nikana tukwate athooi ma Credits. Mbesa sya Carbon Credit nitonya utetheesya ikundi kwithiwa syina projects na kwithiwa na ukethi munene na maendeeo. Ikundi sya TIST nikwataa ndivi ya \$20 kwa kila miti ngili imwe (1000) kila mwaka . Ndivi ya Greenhouse gas tiw’o vaita w’oka ikundi na aimi makwataa nundu miti yoo yina vaita kundu 10-40 kwi undu ndivi ya Greenhouse gas yiana.

Aimi ma TIST tuvande miti kwa wingi!

Kwa vamwe no tuvikie vaita munene.



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

angi 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 yia 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 ueeangwa mbee undu wa uvyuvu wa nth 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?

Ii!, nthi yilu 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 kusiiia 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 kusiyaia na niw'o ukuaa tulinyu twa uwau wa malaria. Kwoou yila uu weethiwa 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 yuaa 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 misiyini kuthi mbaini na nthi kwa vamwe.
- Nthooa wa maliu 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 uioleka 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 yuaa nakw'o kula kwi ukanga na maia kiw'u kiyongeleka na uyithia mawikaloo 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 yonthi. Miti niyosaa nzeve ino kuma kwa mawithyululuko yila ikuseuvya 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 angi kisioni kyaku.

Carbon Credits nimyau?

Kuseuvya 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 / muvutukithya kuikiithya kana mawiko othe mekitwe undu vaile.

Miti niyosaa nzeve itavisaa kuma mawithyululukoni na kutumia kuseuvya 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 yiaa. 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 yotho 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 mawithyululukoni. 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 nzeve 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 ivitukithw'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 nisyu kilasi kiyiulu. Ve kilasi kivathukany'o na miao iulu wa uvandi wa miti yikalaa isesya na kusyaiiwa 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 nisyuile - verified carbo standard (VCS) kwa nzeve, mawithyululukoni, 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 mawithyululukoni 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.



Niki nende kusakuwa ta mutongoi wa ngwatanio?

Twina ngwatanio mbee wa 200 nthini wa tist twina ivuso ya kwithiwa na atongoi mbee wa 480 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 kumayiw'a 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, kuelewana 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.



Maendeeo ma kwikala meanite.

Undu Nthi yonthe isiasya na kwona mawithyululuko.

Kenya ndikalaa yiyoka itena ikonyo ingi sya nthi. Kwina umanyi iulu wa manthina ala methiitwe na mawithyululuko ni utetheesya Kenya kumanya iulu wa mathima ala makoka ivindani yukite. Ni useo kusisya mathina ala methiitwe mawithyululukoni nikana kuelewa mothuku ala methiawa kwa mawithyululuko.

Movinduku ma Nzeve.

Kuvivw'a kwa mauta na makaa ma coal nikumasya nzeve itavisaa. Kii kietae uvyuvu mawithyululukoni na kwoou kwambatya uvyuvu wa nthi, Kula kwithiawa na ia yiyambiia uyaiika na utwika kiw'u na kyalika ukangani naw'o uyambiia kwambata na kuvwika nthi nyumu. Kii kitumaa kwithiwa na mavuliko na nzeve kuvyua na kwoou nima iyanangika munamuno isioni sya ilembeta ya Africa na nthi yonthe.

Kuthokoanwa kwa nzeve

Miuke kuma kwa maindasituli na ngali nimaetae mauwau ma mimeo na manthina kwa andu maveva nzeve isu. Miuke ino nitonya kulika kiw'uni kya mbua na kutuma kithiwa na asiti na kuete wanangiko kwa mimea na myako. Misyi mingi yithina wa nzeve kuthokoanw'a ni miuke vala yikalaa iniine ta matu kana muumbi na kuola metho kwona na ni itonya kuete mathina ma uima wa mwii.

Kiw'u kuthokoanwa.

Kiko kuma kambunini sya useuvya syindu na siwengyi, vatalinza kuma miundani nutonya uluka mikaoni, mbusini na kula kiw'u kyumaa na kwananga mimea na kuete uwau kwa andu na nyamu.

Kuoleka kwa mithemba kivathukanyo.

Mithemba ya yamu, miti, ikuthi ona mimea yothye niyiolekaa yila kweethiwa na nzeve ka kumiwa kwa nzeveni na miti kutemwa vakuvi mithemba 100 niyaa kila muthenya. Kii nikiolaa matilio na kundu kula kumaa vinya na kula ndawa ikwatikanaa.

Kutwika weu/Ing'alata.

Yila nthi yaasya ngua syayo ila ni mimea muthanga niwumaa na nukuawa ni kiw'u kana nze na uyithiwa utena w'umi nesa. Ingi ii niyiawa ni nzia ya kunyaiikya mang'alata.

Kiko kina sumu.

Kiko kuma kambunini kana vakitolini nikithiawa na kemikoo na matilio itonya uete na kuaa syindu kwa kulivuka kana kuivivya syonthe syi thau. Kwa ngelekany'a yila kambuni kuma India imwe (Bhopal) ya useuvya ndawa sya kuaa mitutu yeethiwe iyita kemikoo matesi niyalivukile.

Mbua ya Asiti.

Kiw'u kii kina asiti ni kyanangaa mititu na masiwa munamuno ta ngaliko sya Europe na North America. Yila kiw'u kya mbua kyalikana na kuthokoanw'a ni asiti niw'o kiseuvasya mbua ya asiti.

Miti, Makuyu na myako niw'o kietae wanangiko.

Itu yila yivwikite wingi wa sua kuendee na kwanangika.

Yila ndawa thuku (kemikoo) ta Chlorofluorocarbons (CFC's) syatumika syinduni kuete mbalavu na kwa indasituli kuseuvya syindu ukunikili weekwa nisyonekete kana nimwe kati ka syindu ila ikwananga itu yila yisiiaa sua kuatha (kuola uvyuvu wa sua) na kwananga (UV "ultra violet rays). Yila kemikoo syaananga itu yii niw'o UV syongelekaa kuvika nthi na kuete mauwau kwa andu ta uwau wa kenza ya kikonde na mauwau angi.

Mathina ma misyi minene ya mataoni

Mataoni maingi mina nthina wa kiko kya mavuti, nzeve kumiiwa, kelele, kusuania na kunyiva kwa isio sya miundani.

Monou manthi kunyiva.

Kwongeleka kwa wendi wa matilio sya kutumika ni andu nthi yonthe uthwii wa nthi ta mauta, mavia mavisaa (coal) na mititu niiendee kuoleka. Kii kithuthasya na kuthingiisya masindano na kuete uvituukanu wa nthi kivathukany'o. Kumatha mothwii ma nthi ma kutunenge vinya na mwaki omituki nukwithiwa wi nthina munene ateo vethiwe na nzia ingi sya kukwata mwaki na vinya ila nisyindu sya vata muno ta kukwata syindu ithi kuma kiw'uni, nzeveni na neukilia vandu va utumia mothwii ala manini ta mauta ma nthi, mavia mavisaa (coal na Nzeve ya kuma nthi.

Amathisya ma Tist nimakulasya ala mekw'o kwoondu wa ngwatanio syoo makulyo aya:

Kenya nikwatawaq ni mathina amwe ala maetetwe ni manthina aya twasisya vaa iulu?

Kenya ni imwe kati wa nthi ila ietae wongeleku wa mathina aya?

Oundu Kenya iendee na kwiana nimawiko meva ukwisilya maendee matonya kuendee na kwinthiwa me nthina munene oundu Kenya iendee na kwiana?

Thuthya ala mwi imwe nthini wa ngwatanio yenyu ya tist undu wa kuendee na uvanda miti kunyivya mathina ala maetetwe thini wa mawithyululuko na kuete uvinduku wa nzeve ni mawiko ma andu kwoondu wa mawithyululuko maitu methiwe manzeo!

Mazingira Bora



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Kipsigis Version

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Njorua TIST Clusta kutoka Laikipia Magharibi, wakiwa kwa mkutano wao mwezi wa tisa 2019.

Inside:

TIST koristab mugaret. Page 2

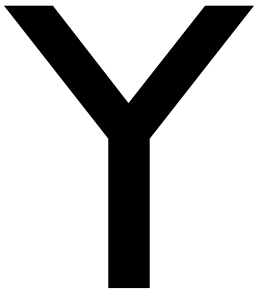
Temikab TIST kotinye naet agobo burgeiyetab nguony ak waletab itondab emet. Page 3

Ene asiamach kelewenon oig kondoidet 'ab cluster? Page 5

Keri b bandabtai. Page 6



TIST koristab mugaret.



enkimin ketik konyoru

koboisien koristo noton yaa

(CO2) korisiton ko agenge

en chekiguren (greenhouse gases), en niton kotere

burgeyeta nguwotut en soet asi konyor burgeyeta

neo ng'uwotut, mwoe ng'omutik kole kigoeta

burgeyeta en emet ako magararan weche emet en

niton koweche emet, eniton koweche emet amun

emotinwek alak komuche koeta robta mising, bitu

kameusiek anan ko meleweta, bitu koristo neyaa yon

koboisien karisiek mwanik, kou makaa (neseke)

amun ketik koboisien koristo kobose chongitab

korisuweta chemi soeta, moche anyun seregali ak

emotinuwek cheboisein (industries) kobos koristo

neyaa asi nguwotut borgeiyeta neyomegei.

En koitika ketik chebo tista koiti ak

kobimoni toltolita ketik asi komuch konai kole

tiana koristo negobosien ketit, kobunisieke ak

seregali kwole koristo neya ak koliban ketik ak

kobos korisota.

Nyolche ko kibo imaniti ak chelititi en

koiteta ketik asi kimuch kiyanteni, ye ka konyoru

rabisieki komuche kurubiti koboisieni komnye ak

konam koyai tuguk alak che komagotinye,

kurubisieki kelibochini \$20 chebo ketik 1000 en

kenyiti (kogerge ak 1.80ksh.) En ketiti ne sobe,

nyorunen kelchil temik kosiri olik amun chechuak

ketik.

Membraekab karaba kilasta en laikipia

county komiten tuiyeta en arawaniki konye.



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 waletab 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 1^oc. 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 burgeiyetab emet?

- ◆ 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 tulonok, komagenyoru beek che kimuchi keboisien en imbarenik, kobetio omituokik, komagenyoru stimet ak beek en korik ak en townisiek.
- ◆ Biik che chang komosiche mengotosiek en maranetab neek.

**Omuche oter burgeiyetab emeti?****Min ketik ak irib!**

Kou en mwaetab koristo noton ya (Carbon) ko konu burgeiyetab emet. Ketik anyun koboishen koristo (carbon dioxide) en yaetab omitwogik, konori en temenik, tigitik ak ngunyek, yegitil ketik any ko kagichunda korisoton kwo soet, kotes burgeiyetab emet.

Tos imuch inai ile ketit kotinye waletab emet?

Ketit ak orwet gotuche emet. 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.

Mungaretab koristo konee?

Mungaret kotinye tuguk somok:

1. Komiten keretab bosetab 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 tanye.

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 tanye 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 chetebesen ak chegoen kotinye koristo neo kosir ketik chemengechen. Ketik chetebesen 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 boroindo en ole imoche. Amun tanye boroindo olik ak oldoik (kou kawek kotinye keruti).

Miten kobesosiek en indonyo amun tanye 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 tanye kapuatet ne mie ko kon rabisiek, kogochi che kimin ketik. Nipo oeng komiten kombunisie en US, Europe, Canadaa ak emotinwek alak chegitestai kotinye maget kepos koristo ne yaa.

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



Ene asiamach kelewenon oig kondoindet ‘ab cluster?

TIST kotinye en inguni clusters cheite 200, ketinye opportunityche chang’ yon kitinye 480kondoig cheingen membaek en TIST. Inoniton koboru manufaa cheibu Programnebo TISTkonyo Kenya.

Inonito ko opportunity ne kararan en membaek ‘ab TIST. Chi agetugul ne kileweni koig kondoindet ‘ab Leader (Accountability Person, Co-Leader, anan ko Leader) Kotinye en kenyt mizima opportunity konyor konetutishet , koyai kasit en Group nebo Clusters Council (GOCC)kopractisen kandoinatetnyawai, Konetge saidi agobo tuguk che kiboishen en Quantification, konetge agobo carbon business , ak koyochi kasit membaekchwaig. Nyoru opportunity koitchi seminars, koyai kasit ak Cluster Servants/Quantifier ak komuche kowo groupit agetugul en TIST en Cluster nenywanet, koger Best Practices chekiyoe en groupishechoton Cluster, konetge agobo improved stoves, konetge agobo manufaa chebo ketik mbalimbali, ak topikishek alak che chang’.

En iman keig’ kondoindet ‘ab komogit ne raisi.

Keitchi groupit agetugul en cluster ko kasit ne yoche kewendot, kengololchinot ,ak kinatat. Kora, kerib records chebo cluster chebo borotet ak records alak chebo groupit komogchinge kasarta newo.

Kebanga groupishek chemeng’echen chebo TIST komo kasit ne raisi kora. Kinetge agobo oleboishoito computer, GPS, reporting systems, ak keorganizen training ak tuyoshek chebo kila arawet —ichochu tugul kokasidhek che moche kogilet ‘ab ge ago ibu borotet. Kou olekingende ,Yon kewe Seminar nebo TIST itinyoru nafasi nekararan lakini moche kogilet’ab ke. Iyoe kasit en betut tugul ,ago itinye homework nebo lang’at!

So ingunon nyolu igonuge iyae kasit ‘ab kandoinatet ang’ot koitinye maget inetge chechang’, ak igilge iigu servant en groupishek chemeng’echen chemiten en Cluster nengung’et. Angot itinye maget neu’nito ak inyoru kasarta kelewenin imuche inyoru nafasishek chechang’ en ProgramTIST. Amuaan..



Keri b bandabtai.

Geretab ole kimenye en nguong kenya komomiten inegen kotabanat kition en nguong komugul miten kotinye kabwatet en koimutik che nyoru ak kogere agobo mengotodiek en agobo mengotosiek en agobo betusiek chebwone, bogomonut mising ye kiger koimutichuton ak kiguiyo ngemisiet ne konu waletab mengotosiek.

Waletab emet.

Ye kibel ngetuna nikab tiongik (coal, oil, natwal gas) kogonu koristo ne ya (carbon dioxide) niton kogochin kotal burgeiyet ne miten soet kogochin ng'ontet koet burgeiyet, nyoru nyanchosiet chemiten muret nebo katam kotesak beak amun chotos koigab beak, bitunen maranet nebo oinosiek, rurutik komonyor kelchin amun etu burgeiyet en ne met (kement) en africa ak en ngu'wong komugul.

Air pollution.

Koristo nebunu karisiek ak industries konyorunen bik kaimetab ge amun moitin konyor koristo ne kararan, ye imuka en soet nesechuton ko yerobon ekochote ak goik (acid rain) ne imuchi kowech menutik ak teksosiek, en mengotosiek cheech komiten kewelnatet nebo iyet neimuchi kosoginin en town koige bolik ne moimuchi biik kosoita ak kogonu miyonuek.

Beek chenobirotin.

Beek chemongunen (industries) chemongunen kabngatat, kerichek che mongunen imbarenik kotetechin oinosiek ak nyanchosiek kongochin kotametusiekab beek, nyorunen tiongik ak minutik ak biik mionuwek.

Ichuchuchi minutik ak tiongik.

Nyorunen ketik ak minutik kobosok amun en waletab emet, ak tiyongik nyabira niton ak tiletab ketik kobose inyotetab mengikab timuwek en kila belut bose kora tuguk chegitekseen ak kerichek.

Kaumanikab beek cheyachen

Chuton ko beek cheyachen mising chebunu factorisk che imuchi kobutok anan kongemak ko weche emet.

Robta netinye acid.

Kagemwai entai agobo niton kiristo ne nyabirat, chetinye acid weche niton timwek ak oinosiek cheech en europe ak muret nebo katam en america, yon korobon kobitu beek chetinye acid ko ketik, minutik, nchirenik ak teksosiek ko ngeme.

Istoetab burang'etitab nguong.

Miten anyun kerichek cheu (chlorocarbons) chekiboisien kogotiten mongutik chebo factory chuton anyun kongeme burangetitab nguong, burongetini kotuche nguondet asi monyor burgeiyet neo mising, ye bii miyonuek kou; lubaniatab magatet ak miwonuek cheter ak chetes.

Nyoru koimutik mengotosiekab barak.

En toonisek ak cilies konyor murindo neo, koristo, bolotosiek, chiletabgei ak kobosok ole kemenye.

Rorunetab kelunoikab emet.

En amun kimogingei tuguk chechang chegiboisien en nguong komugul kobitu rorunetab tuguk kou, oil, coal, mineral ak timwek kobenti kobetos, en rorunetab tuguchu kogonu boriosiek, komalo kobitu kewelnatosiek amun en rorunetab kimnotetab mat ne kimogingei baten kecheng oretagei kou beek ak koristo ne kata oil, coal.

Konetikab cluster oteben biik tebutichu.

tos nyoru kenya youtichu yachen, tos toreti kenya anan tesini koimutichuton, oketeben kenya agobo tetet, ainon koimutiet nebo mengotet ne gibuoti kele nyone koyoitu missing oginet biik en tuiyopsiekab kilasta ak biik alak komin ketik en chonginto asi komuch kotes tuguk alak che wole emet, asi kenyorun mengotet ne kaigai