

Mazingira Bora



TIST

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

English Version

An Environmental, Sustainable
Development and Community Forestry
Program.



TIST Kenya Cluster Servants during their seminar last month.

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Thank you TIST Kenya and TIST Uganda Quantifiers: We have passed the Largest Verifications.

Last year, TIST Program underwent vigorous successful verifications both in Kenya and Uganda. Kenya project involved 480,617 tonnes of carbon, while Uganda had the biggest with 550,957 tonnes of carbon. These are saleable tonnes available now for purchase!

We, TIST family, are grateful to our Quantifiers for their hard work and dedication to TIST. As you know, TIST was formed to help improve the environment by planting trees and to use the carbon stored in the trees as a new source of income for the participating farmers.

Turning carbon into income is a challenge and developing a project that involves over 80,000 farmers is exceedingly difficult. However, we at TIST always believed it could be done, but we needed the proper tools. The TIST monitoring system was part of the answer, but equipment and computer programs don't mean a thing, without people with the skill to use them. As a TIST Quantifier, you have been responsible for collecting the data required by the international carbon market. It has required countless days of travel, learning to use the palm

computers and GPS, taking accurate tracks, identification of over 100 species of trees and getting accurate counts.

As per the verification and certification procedures, we submitted our project documents under the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Standard (CCB). Only those TIST groves that met the full requirements of these standards were included. Rigorous audits of those groves were done by our verifiers (third-party auditor). In both cases, we passed successfully with less than 2.5% risk level (buffer) against the allowed 10%.

Along with these verifications, the verifiers also measure the impact of the program along climate, community and biodiversity benefits. In Kenya alone, this verification reported that a TIST farmer involved in the project has benefits up to Ksh 146,224. These benefits are measured against the availability of increased firewood and savings, fodder for cattle, fruits & nuts, honey, improved agriculture, increased crop yields, and timber, among others.



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.

TIST: Small Groups that Qualified for Payments but missed Vouchers will be paid soon!

TIST Leadership Council notes with regret that besides Small Group payments happening most of the time last year, there were a considerable number of groups having fully qualified for payments but missed their vouchers, and hence their payments.

Leadership Council has since established a special team to look this issue. A decision will be made to pay them promptly, even where the database fails to generate their vouchers. LC will try to transparently and accurately calculate the amount owed to Small Group manually.

As a reminder, in all payments, Small Groups need to do the following in order to make payments smooth and effective:

Things that your Small Group should do:

1. Be on time! When you are late to the meeting, it causes delays for everyone.
2. Make sure your Small Group is represented in all Cluster meetings. During the issuing of vouchers, at least two members of your group must be present. You will be paid the month after you receive your voucher.
3. When your Small Group is issued your voucher, please be sure to:
 - a. Inform all members of your group that you received the voucher and its amount.
 - b. All members of your group should sign the Agreement to accept Mpesa payments.
4. You should select two of your group members, one to hold the SIM card and one as PIN Custodian for your group.

5. At least three members of your group should sign the voucher.
6. Make sure that your Safaricom SIM card has been registered with MPesa and that the card is active. Your SIM Card custodian should be the one to be registered on behalf of the Small Group but the MPesa PIN should be secretly kept by your PIN Custodian – another member apart from SIM card custodian.
7. If your group was previously issued a SIM card by TIST and it was registered, you need not have another card, but always make sure that it remains active.
8. During payments, your Small Group should be represented by a minimum of 2/3 of your members. Your Small Group members who signed the voucher should be present during the payment meeting.
9. If there are MPesa delays or any other problem that causes your group to be delayed in payments, give phone contacts of at least two more members, other than the SIM card and PIN custodians, to your cluster Accountability Person.
10. Upon receiving your payments, please inform other members of your Small Groups and also your Cluster Accountability person.

Make sure that your cluster representatives return the signed vouchers to the TIST office. This is important for accurate payments to take place. If there is a delay in receiving vouchers, it may cause a delay in payment for your cluster.

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Kimereu Version

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Mbica ya atari ba miti ba TIST Kenya bari semina Gotoro mweri muthiru.

Inside: Nkatho Kiri atari miti ba TIST Kenya na TIST Uganda: Nitucindite utegi ngugi uria urari munene muno. *Page 2*

TIST: Biashara ya ruugo ruruthuku. *Page 3*

Arimi ba TIST nibakurua na Kwongeraka kwa murutira jwa nthi na kugaruka kwa rera. *Page 4*

Tukundi tu nini twa TIST turia twabwiiri kuriwa indi tutoona vucha nandi ni kagiita kaa bakariwa rua muno. *Page 6*



Nkatho Kiri atari miti ba TIST Kenya na TIST Uganda: Nitucindite utegi ngugi uria urari munene muno.

Mwaka muthiru, muradi jwa TIST nijurakurukire utegi ngugi bwina ushindi munene, ndeene ya Kenya na Uganda. Nthiguru ya Kenya yari na tani 480,617 nayo ya Uganda tani 550,957. Thaa iji tani iji cionthe cii tayari gwikua thokone.

TIST yonthe ina gikeno ki nene muno kiri atari miti niuntu bwa ngugi injumu na kwiritaniria kwao kiri muradi jwa TIST. Ota uria twijii, TIST yejiree nikenda tuthondeke riera gukurukiira uandi bwa miti na gutumira riera riu rigitwe ndene ya miti iu ja njira ingi ya kureta mbeba kiri arimi.

Kugarura CO₂ igatuika mbeba ni ngugi injumu na kuthondeka muradi wina nkuruki ya arimi 80,000 ni ngugi injumu makiria. Kunari ugu, TIST nietikirie ikombana, indi niyabataranagua ithirwe ina machini imbega. Mitandao ya TIST ikioneka iri ya bata, indi biu bionthe ona gwata makompiuta itingithirwa jii na gitumi kethirwa antu beena uume bwa gutumira batoneka. Ja mutari wa miti ya TIST, niwendekaga wite miundene na utege ngugi bweega ojauria ikwendekana ni thoko cia nthiguru cia oome. Nijukagia ntuku inyingi gwita na kuthoma

gutumira (Palm Computa na GPS) kujukia mbica injega cia miunda, kumenya miti mithemba imingi nkuruki ya 100 ona gwata gutaara bweega.

Oja uria kwagirite kiri utegi bwa ngugi ona gwata kwegwa catifikiti, TIST niombere kunenkanira ngugi kiri (Verified Carbon Standards-VCS) na (The Climate, Community and Biodiversity Standard-CCB). Miunda iria yakinyagiria kithimi kiu niyo aki yaraitthagwa. utegi ngugi u munene niwathithirwe miunda iu ni ategi ba kuuma oome ya TIST. Kiri mootegi jau jo jairi ni twombanere bwega muga twi nthiguru ya 2.5% aria tuejagwa guatia mwanka 10% .

Amwe na utegi bubu, ategi nibategaga nkinya mawega ma muradi kiri rera, ntuura iria muradi juri na mawega mithemba imingi. Kiri Kenya aki, ategi nibaumbire kuuga murimi uriw ee muradini juju niombite kugwata baita inene nkinya ksh 146,224. Baita iji iteganagwa uria murimi ombite kwona nkuu na kumenyera mbeba ciawe, iria ria ndithia, matunda ona makandamia, uki(nainchu), urimi uumwega irio ikongereka, mbau cia gwaka ona jiiingi inyingi.



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 kuelewa murutira jwa nthiguru na kugaruka kwa rera bwega nkuruki. Tukaambiria na kumenya o riiwa ririuga atia na kueleza nkuruki na riu tuthome uria miti yaku iritaga ngugi ikwoneka kiri kunyiyia magitari jaria jaumanagia na kurutira kwa nthiguru.

Kurutira kwa nthiguru nimbi?

Kurutira kwa nthiguru ni kwongeraka kwa mwanki ndene ya nthiguru, kuria kuretaga kugaruka kwa rera. Nthiguru irina murutira nkuruki no irete kugaruka kwa mbura, biurutani birina inya nkuruki, kwongeraka 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 kurutira nthiguru, ja kuithia into ja makara ja maguta, beteroli, ngasi na kugiita miitu na kumenyeera muunda bubuthuku.

Greenhouse effect nimbi?

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



cia kuigara kwa ruuji na kugua kwa nthi, kuria gucukumagwa ni kwongereka kwa mbura na nterene cia iria, kwongereka kwa ruuji iriene.

Natia mpumba kueberia kurutira kwa nthi? Anda na umenyeere miti!

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

Nwiji o muti nojuthithie rera ya antu au gukuiritie?

Miti na kithiiki kiayo niioragia nthi. Nwiji kuganirwa kuria kuri kithiikine kia muti. Ona ati muthetu juria juri rungu jurina ruuji nkuruki ya juria juri aria kurina riu na gutina kithiiki. Riria nthi ikaraga na gapio, nthiguru niikaga ruuji igita riraja nkuruki. Guku nita kuugamiti iria iri muundene jwaku nitethagia kwongera ruuji ruria ruri muthetune jwaku, na igatethia kuruika ku igita riraja nkuruki. Bubugathethia 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) Gutaarwa 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 kiama gitina uthoni na TIST kiria kibati kwona ati mantu nijathithikite kuringana na mawatho jonthe.

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

Tist niumbaga kwendia kaboni iria iri kiri miti iji o uria antu bendagia sukari na iria. Indi-ri kiri kaboni, utikagia muti thokone. Antu au, uguri ni kuumania na kaboni iria iriritwe ruugone, na yekwa

mitine ndene ya munda kana mwitu jwaku, ithimwi na ripoti yaikua. Kwendia na kugurwa kwa krediti iji nikuthithikaga, New York, Chicago, London na tauni ingi ndene ya nthiguru kana gukabangwa gatigati ka antu kana kambuni. No mwanka tukinyire mawatho na jaria jakwendeka ndeme ya thoko. tutiumba kugiita mwitu junthe kana tugiita miti tuanda ingi nontu bobu butibui kiri mazingira. no mwanka tucitit 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. Mbeca iria TIST ithithagia kuumania na kwendia kaboni ni kiumo gikieru kia mbeca 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 mbeca inyingi kuuma kiri krediti cia kaboni. Guku ni kuuga miti iandi itarenie bwega irina kanya ga kunenea na kurea na kwona mbeca inyingi nkuruki kuumania na kaboni. Iticindanagira irio na ruuji ja miti iria iandi ikuianiritie.

Kwou, nikenda twona mbeca 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 mbeba nikenda bekira antu motisha ya kuanda miti. Ming'uananona ni amwe na kuririra miradi ya uandi miti nikenda batuma muranu kana mucemanio 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.

Tukundi tu nini twa TIST turia twabwiiri kuriwa indi tutoona vucha nandi ni kagiita kaa bakariwa rua muno.

Atongeria ba (Leadership Council- LC) bari na kwithiikira muno niuntu ona kethwa mwaka muthiru marihi ma ikundi inini nimetiire mbere, kwinjio namba oo imbega iria jia bwiiri kuriwa itombere kwona vocha jiao kwogu ikiaga marihi mao.

Atongeria baba (LC) nibathondekete kiama kia bata gia gutegeera nteto iji. Kiama giki gikareta meciria ma kuriha ikundi iji ona nkinya aria mitandao yomba kuremerwa. LC ikageria na njiira yagiirite gutaara bungwa mbeba iria ikundi iji ibwirite.

Ja Kirirania, kiri marihi ma ikundi, tukundi tunini tunthe itubwiiri kuthithia mantu jaja niguu marihi mathithike na njira imbega:

1. Gukinya thaa jiongwa- ukeja gucererwa mucemanio, utumaga muntu wonthe acererwa.
2. Tigagiira gakundi gaku kanini kena muntu kiri micemanio oo yonthe. Kiri uejani bwa vocha, no nkinya amemba bairi bethirwe be mucemanione. Marihi namo mejaga mweri jou jothingatagiira wagwata vocha.
3. Riria gakundi gaku kanini kagwata vocha, ririkana atiri:
 - a) Kumenyithia amemba bonthe ba gakundi gaku niwonere vocha na nkinya ubeere mbeba.
 - b) Amemba bonthe nibabwiiri gucaina gwitikiria kirigwa na Mpesa.

4. No nkinya bugataara amemba bairi ba gakundi, umwe wakwiiga laini (sim card) na ungi wa kwiga namba ya siri ya Mpesa (Pin)
5. No nkinya amemba bathatu bacaine vocha.
6. Tegagiira laini yenu ya Safaricom niandikithitue kiri Mpesa na ni igwita ngugi. Mu memba uria ukaiga laini (sim custodian) niwe ukajiiandikithia kanyani ka gikundi nayo namba ya siri igwee ni mu memba ungi (pin custodian)
7. Kethirwa gikundi giaku nikia etwe laini ni TIST na niyandikithitue, butigacue ingi indi butigagiire laini ni igwita ngugi magita jonthe.
8. Kagita ka marihi, no nkinya gakundi gatikanyihie nthiguru ya antu bathatu. Amemba baria bacainire vocha no nkinya bethirwe bari mucemanione.
9. Riria kwina thina ya Mpesa kana thina ingi yonthe ingigiria gakundi gaku kuriwa, ejana namba jiiingi jia thimu jiiiri jia amemba ba gakundi indi tija (sim custodian) kana (pin custodian) kiri Accountability wa cluster.
10. Bwagata marihi ma gakundi, menyithia amemba bau bangi ona gwata Accountability wa Cluster yenu.

Tigagiira atongeria ba cluster bagucokia vocha iria icainitwe kiri obici ya TIST. Bubu buri na gitumi nikenda marihi maria mabwirite mathithika. Riria vocha iji jia cererwa nkinya marihi onamo kamaceragirwa ma cluster.

Mazingira Bora



TIST

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

Kikuyu Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Mbica ya atari a miti a TIST Kenya mari semina Gitoro mweri ucio urathirire.

Inside:

Ni ngatho kuri Quantifiers a TIST Kenya na Uganda: Nituhitukite uthuthuria wa verification na gikiro kinene. Page 2

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Ni ngatho kuri Quantifiers aTIST Kenya na Uganda: Nituhitukite uthuthuria wa verification na gikiro kinene.

Mwaka muthiru, murandi wa TIST nihitukire kugurimwo ukinyaniria wa ikiro cia verification bururi wa Kenya na Uganda. Kenya ikihituka na tani 480,617 cia carbon na Uganda igikorwo na 550,957 tani cia carbon. Tani ici cia carbon iri thoko na igurwo o hindi o yothe!

Ithui turi family ya TIST twina ngatho kuri Quantifiers ni wira wao mwega. Otauria uui, TIST yambiriirio nigetha tugacirie mazingira na njira ya kuhanda miti na gutumira riera ria carbon kuuma miti-ini na kuriendia na koguo kuhotithia arimi kugia na mbeca.

Wira wa guthondeka tani cia carbon nigetha ituike mbeca ni wira muritu muno uria unyitithanitie makiria ya arimi 80,000. No ithuii turi TIST nitui ni wira uhotekaga, tungikorwo na indo cia wira iria ciagiriire. Njira ya mwanya ya TIST yakungania uhoro wigie wira wa arimi na njira ya komputa (monitoring system) ni njira imwe ya uhotani, no komputa itingiruta wira hatari andu. TIST Quantifier niwe uthiaga mugunda akongania

maundu maria marendekana thoko-ini ya kimabururi ya carbon. Quantifier niahuthiraga mahinda make nigetha amenye kuhuthira palm komputa, hamwe na GPS, akoya track njega, akahota gukurana makiria ya mite mithemba ngurani makiria ya 100 na agatara miti wega.

Kuringana na mitaratara ya uthuthuria wa Verification na certification, nitwatwarire document iria ciendekanaga kuringana na ithimi cia Verified Carbon Standard (VCS) na Climate, Community and Biodiversity Standard (CCB). Grove iria ciakinyitie ikiro nicio ciekiririrwo hari uthurumi uyu. Thiinii wa Kenya na Uganda nitwaturire wega. Hamwe na uthurumi uyu, verifier ni mathuthuririe uigana wa uteithio ungi tiga carbon murimi wa TIST egwatagira riria ekuhanda miti kana murima CF.

Guuku gwitu Kenya, riboti yao yanonanirie ati murimi ugaciire wa TIST niagia na umithio wa makiria ma Ksh 146,224. Umuthio uria umanagia na kugia na ngu na kuhonokia mbeca cia kugura ngu, kugia na irio cia mahiu, matunda, ngimbo, uuki, magitha maingi kuuma mugunda, mbau na mangi maingi.



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 riuwa 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 ndikahiuhe 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.

Mwari uyu ngathiti niikwonania maundu maria maririirio thiini wa semina maria mangituthia 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 ihuhakano nene na maai ma iria makambatira, mimera igathuka na miti ikaninwo ohamwe na nyamu cia githaka. Riria ataalamu makwaria maundu megii ugaruruku wa riera, nimaroraga muno global warming iria irahagwo ni maundu mariu mundu ekaga na mogwati maria marehagwo ni maundu maya.

Thi niirahuha makiria?

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 nicihotaga kunyita hinya wa riuu. Carbon nyingi yumanaga na gutema miti, ndogo ya iganda, ndogo ya ngari na ndogo ya makara na miti.

Mogwati ma Global Warming ni mariku?

- Kwaga kwa maai na kuuma kwa migunda.
- Gutherema kwa mirimu ta malaria. Kugia na urugari muingi na kuhotithia rwagi guciarana na kwongerera ugwati wa malaria. Micii miingi na mathibitari nomakorwo ni ugwati uyu na mituurire ya andu ikanyiha na ikuu cikongerereka.
- 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 miciiini 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 miciiini nigukuhutio ona kuo.
- Mamilioni ma andu mari ugwati-ini wa muiyuro wa maai uria urehagwo ni mbura nene na maai ma iria kwambatira.

**Niatia tungigitira Global Warming?****Handa na utungate miti!**

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

Niui ati o muti nouthondeke riera riagu?

Miti na mahuti maguo niuhumbagira tgi. Niitumaga kugie na riera riega na kiiruru gikaagira. Niukuona ati tiiri uria uri miti-ini iria iri na kiiruru niukoragwo uri mugunyu gukira uria uri riua-ini. Riria thi yaikara iri hehu, tiiri niuhotaga gkuiga uggunyu gwa kahinda karaihu. Uu nikuga ati miti iria iri mugunda-ini gwaku niiteithagia tiiri kugia na maai na igateithia kugia maai macio gwa kahinda karaihu. Njira ino niiguteithiriria mimeru 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 nichuthikaga guthima muigana wa carbon iria igucitio ni miti ya arimi a TIST. Ririkana o ringi, miti nditwaragwo thoko. likaraga migunda-ini na o uria iraikara kuo noguo marihi maguthii nambere na kuingiha. Kwa uguo murimi athiaga nambere na kuiga miti iri muoyo na ikamuhe irio cia mahiu ohamwe na ngu na matunda. 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 nihotaga 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 mwege 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 mwege.



Kuri na ikiro ngurani cia thoko na mawatho ngurani maria macenjagia ma uhandi wa miti, urori na uramati na nomuhaka tukinyanirie maundu maya niguu 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

mbea ciao niguu kuhinyiriria andu kuhanda mit. Muhiano nit a kuriha mitaratara ya uhandi wa miti niguu 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.

TIST: Ikundi iria ciagire vouchers na ni ikinyitie ikiro cia kurihwo ni irathondekerwo marihi mao.

TIST Leadership Council ni irahoya muhera kuri ikundi nyingi iria vouchers cia itaumire na ni ikinyitie ikiro cia marihi.

Leadership Council riu niithondekete kamati ya kurora uhoro uyu. Itua ria kuriha ikundi ici niriguo ona ihenya ona kungituika mbea cia igutarwo na moko .

Ririkana, ota hindi ya marihi maria mangi, gikundi kianyu kiagiriirwo ni kwihariria na njira icio niguu marihi mathii wega;

Things that your Small Group should do:

1. Mukinye mathaa maria magiriire. Gucererwo kwanyu gugatuma andu othe macerererwo ni kurihwo
2. Gikundi kianyu kiagiriirwo ni gukorwo na memba aiganiru. Hindi ya vocha, amemba matanyihire eere. Mukarihwo thutha wa mweri umwe thutha wa kwamukira vocha.
3. Gikundi kianyu kiamukira vocha, mwagiriirwo;
 - a. Kumenyithia amemba acio angi anyu nimwanyita vocha na niya mbea cigana
 - b. Amemba othe a gikundi kianyu nimagiriirwo gwikira korore agreement ya gwitikira kuriho na njira ya mpesa.

4. Nimwagiriirwo ni gucagura andu eeri a gikundi kianyu. Umwe akorwo niwe wina laini ya mpesa na ucio ungi akorwo na PIN
5. Amemba matanyihire atatu nimagiriirwo ni gusaini vocha.
6. Nimwagiriirwo ni gutigirira safaricom sim card yanyu ni yandikithie gukorwo na mpesa menu na ni iraruta wira.
7. Angikorwo nimwahetwo sim card ni TIST na niiraruta wira niwega muthii na mbere na kumihuthira.
8. Hindi ya marihi, gicunji gia igiri hari ithatu kia memba anyu no muhaka makorwo mucemanio na aria masainire vocha no nginya makorwo mucemanio wa hindi ya kuriha gikundi kianyu
9. Angikorwo kwina delay cia mpesa hindi ya marihi kana o gathina o gothe kangiiria murihwo muthenya ucio, nimwagiriirwo ni kuheana namba cia memba anyu eeri makiria ya uria wina laini ya thimu na uria wina pin.
10. Mwamukira mbea niwega mumenyithie amemba acio angi na mugayane mbea kuringa na mundu na miti yake kana uria gikundi kianyu kiiugwithanitie.

Nimwagiriirwo ni kunengera vocha ya kuonania ni mwarihwo wabici ya TIST.

Mazingira Bora



TIST

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

Kiswahili Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Picha ya wanaohesabu miti katika TIST Kenya wakiwa katika seminali Gitoro mwezi uliopita.

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Asante TIST Kenya na TIST Uganda Watakwimu: Tumeipitisha Uhakikisho mkubwa Zaidi.

Mwaka jana, Mpango wa TIST ulipata uthibitisho mkubwa mafanikio nchini Kenya na Uganda. Mradi wa Kenya ulikuwa na tani 480,617 za kaboni wakati Uganda ilikuwa kubwa zaidi na tani 550, 957 za kaboni. Hizi ni tani zilizopatikana zilizopo sasa kwa ununuzi!

Sisi, familia ya TIST, tunashukuru kwa Watakwimu wetu kwa kazi yao ngumu na kujitolea kwa TIST. Kama unajua, TIST iliundwa ili kusaidia kuboresha mazingira kwa kupanda miti na kutumia kaboni iliyohifadhiwa katika miti kama chanzo kipya cha mapato kwa wakulima wanaohusika.

Kugeuza kaboni katika mapato ni changamoto na kuendeleza mradi unaohusisha wakulima zaidi ya 80,000 ni vigumu sana. Hata hivyo, sisi katika TIST daima tuliamini kwamba inaweza kufanyika, lakini tunahitaji zana sahihi. Mfumo wa ufuatiliaji wa TIST ulikuwa sehemu ya jibu, lakini vifaa na mipango ya kompyuta haimaanishi kitu, bila watu wenye ujuzi wa kutumia. Kama watwawakwimu wa TIST, umekuwajibika kwa kukusanya data zinazohitajika na soko la kimataifa

la kaboni. Imehitaji siku nyingi za kusafiri, kujifunza kutumia kompyuta za mitende na GPS, kuchukua nyimbo sahihi, utambulisho wa aina zaidi ya 100 za kuzingatia na kupata hesabu sahihi.

Kwa mujibu wa taratibu za ukaguzi na vyeti, tumewasilisha nyaraka za mradi wetu chini ya Verified Standard ya Carbon (VCS) na Kiwango cha Hali ya Hewa, Community and Biodiversity (CCB). Ni wale tu TIST ambao walikidhi mahitaji kamili ya viwango hivi walijumuishwa. Uhakiki mkubwa wa mashamba hayo ulifanywa na wahakikisho wetu (mkaguzi wa tatu). Katika kesi zote mbili, tumefanikiwa kwa kiwango cha hatari chini ya 2.5 (buffer) dhidi ya kuruhusiwa 10%.

Pamoja na uthibitishaji huu, watazamaji pia wanapima athari za programu pamoja na faida za hali ya hewa, jamii na biodiversity. Katika Kenya peke yake, uthibitisho huu uliripoti kuwa mkulima wa TIST aliyehusika katika mradi imekuwa faida hadi Ksh 146,224. Faida hizi zinapimwa dhidi ya upatikanaji wa kuni na kuokoa, chakula cha ng'ombe, matunda & karanga, asali, kilimo bora na kuongezeka kwa mazao ya mazao, mbao kati ya wengine.



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 kilichochochuliwa kutoka kwa hewa hupimwa na kuhesabiwa, halafu, kinapothibitishwa kuwa sahihi, kaboni hii iliyonyonywa yaweza kuuzwa katika soko la ulimwengu kama kadi za kaboni. Wanunuzi waweza kununua kadi hizi kukabiliana na kaboni wanayoachilia kwa hewa.

TIST huweza kuuza kaboni iliyonyonywa na

miti kama wazalishaji wanavyouza sukari na maziwa. Hata hivyo, katika kaboni, hauhitaji kutuma mti sokoni. Badalake, thamani ya kaboni iliyotolewa katika hewa na kuwekwa katika miti iliyo shambani au katika msitu wako, hupimwa na kuripotiwa. Biashara ya kadi za kaboni zaweza kufanyika New York, Chicago, London na mijiji mingineyo ulimwenguni, ama pia kupangwa kati ya watu au kampuni mbili moja kwa moja. Lazima tutimize sheria na mahitaji ya soko. Hatuwezi kukata msitu wote au kukata miti ili kupanda miti kwani hili ni baya kwa mazingira. Lazima tujitoe kuweka miti hii katika shamba kwa muda mrefu, thelathini au zaidi. Lazima turipoti data sahihi. Miti inapopandwa, vipimo na hesabu hufanyika ili kupima kiasi cha kaboni iliyonyonywa na miti ya mkulima katika TIST. Kumbuka tena, miti haipolekwi 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 itakayo iruhusu 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 mahitaj kwa sababu kadi zake ni za hali ya juu.

Kuna viwango mbali mbali katika masoko haya vilivyo na sheria mbali mbali na zinazobadilika kila



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

TIST ina wanunuzi wa aina mbili msingi:

Aina ya kwanza ni ya watu wanaojitolea kupeana pesa ili kuwapa watu motisha ya kupanda miti. Kwa

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

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

TIST: Vikundi Vidogo ambavyo vinafaa kwa Malipo lakini vimekosa Vipeperushi vitalipwa hivi karibuni!

Halmashauri ya Uongozi wa TIST inasema kwa kusikitisha kwamba pamoja na malipo ya Kikundi cha Kidogo kinachotokea mara nyingi mwaka jana, kulikuwa na idadi kubwa ya makundi yaliyostahiki kabisa kwa malipo lakini walikosa vyeti zao hivyo malipo yao.

Halmashauri ya Uongozi tangu sasa imeanzisha timu maalum ili kuangalia suala hili. Uamuzi utafanyika kulipa mara moja hata ambako database haiwezi kuzalisha vocha zao. LC itajaribu kwa uwazi na kwa usahihi kuhesabu kiasi kilicholipwa kwa Kundi Lidogo kwa mkono.

Kama kukumbusha, katika malipo yote, Vikundi Vidogo vinapaswa kufanya zifuatazo ili kufanya malipo vizuri na yenye ufanisi:

Mambo ambayo kundi lako ndogo linapaswa kufanya:

1. Kuwa na wakati! Unapomaliza mkutano, husababisha kuchelewesha kwa kila mtu.
2. Hakikisha Kundi lako Ndogo linawakilishwa katika mikutano yote ya Cluster. Wakati wa utoaji wa vyeti, angalau wanachama 2 wa kikundi chako lazima wawepo. Utalipwa mwezi baada ya kukupokea
3. Wakati Kundi lako Ndogo limetolewa chacha yako, tafadhali hakikisha:
 - a. Wajulishe wajumbe wote wa kikundi chako kwamba umepokea vocha na kiasi chake.
 - b. Wanachama wote wa kikundi chako wanapaswa kusaini Mkataba wa kukubali malipo ya Mpesa.
4. Unapaswa kuchagua wajumbe wawili wa kikundi chako, moja kushikilia SIM kadi na moja kama PIN Mdhobi wa kikundi chako.

5. Angalau wajumbe watatu wa kundi lako wanapaswa kusaini vocha.
6. Hakikisha kuwa kadi yako ya Safaricom SIM imesajiliwa na MPesa na kwamba kadi inafanya kazi. Msaidizi wa SIM kadi yako lazima awe yule aliyejandikisha kwa niaba ya Kikundi Kikubwa lakini PIN ya MPesa inapaswa kuhifadhiwa kwa siri na Mdhobi wako wa PIN - mwanachama mwingine isipokuwa na mtunza SIM kadi.
7. Ikiwa kikundi chako awali kilitolewa na kadi ya SIM na TIST na ilisajiliwa, huna haja ya kuwa na kadi nyingine, lakini daima uhakikishe kwamba inabakia hai.
8. Wakati wa malipo, Kundi lako Ndogo linapaswa kusimamishwa kwa kiwango cha chini cha 2/3 ya wanachama wako. Washirika wako wa Kikundi Kikubwa ambao wamesaini vyeti lazima wawepo wakati wa mkutano wa malipo.
9. Ikiwa kuna ucheleweshaji wa MPesa au tatizo lolote linalosababisha kundi lako lichelewe katika malipo, fanya anwani za simu za wanachama wengine zaidi ya 2 isipokuwa SIM kadi na watunza PIN kwenye Mtu wa Uwezeshaji wa nguzo.
10. Baada ya kupokea malipo yako, tafadhali wajulishe wajumbe wengine wa Vikundi Vidogo na pia mtu wako wa Uwezeshaji wa Cluster.

Hakikisha kwamba wawakilishi wako wa nguzo kurudi vyeti zilizosainiwa kwenye ofisi ya TIST. Hii ni muhimu kwa malipo sahihi ya kutokea. Ikiwa kuna kuchelewa katika kupokea vyeti, inaweza kusababisha kuchelewa kwa kulipa kwa kikundi chako

Mazingira Bora



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Kikamba Version

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TIST Kenya Athukumi ma ngwatanio ivindani yila manai na semina mwai muthelu.

Inside: Nimuvea TIST Kenya na TIST Uganda nundu wa Kuvitukithw'a: Nituvitukithitye miti mingi vyu. *Page 2*

TIST: Viasala wa Greenhouse Gas. *Page 3*

Aimi ma TIST kuola uvyuvu wa nthi na uvinduku wa nzeve. *Page 4*

TIST: Tukundi tunini kuvitukithw'a kwa ndivilakini kulea ukwata mathangu ma ndivi (Vouchers) ni mekuivwa o mituki! *Page 6*



Nimuvea TIST Kenya na TIST Uganda nundu wa Kuvitukithw'a: Nituvitukithitye miti mingi vyu.

Mwaka muthelu, walanio wa TIST niwesiile uthiani muvyu na wa kwaila nthini wa Kenya na Uganda.

Project ya Kenya niyavitukithisya tani 480,617 sya nzeve itavisaa (Carbon) vala Uganda yaina ila mbingi tani 550,957 sya nzeve itavisaa. Ii ni nzeve ila itonya utewa na yivo kwayu kana kutewa!

Ithyi musyi wa TIST, twina utanu na ngatho nundu wa avitukithya/athiani kwondu wa kwiyumya kwoo na wia muto ula mathukumite nthini wa TIST. Otondu mwisi, TIST yaseuviw'e kutetheesya kwailya mawihyululuko kwa nzia ya kuvanda miti na kutumia nzeve itavisaa ila yitwe nthini wa miti ta nzia umwe ya kuete ukwati kwa aimi ala me nthini wayo.

Onakau kutwikithya nzave itavisaa ukwati ni nzia imwe ngito na kwailya project yina aimi mbee wa 80,000 ni undu wivinya. Onakau, ithyi nthini wa TIST tuikiie kana nivatonyeka, onakau nitukwenda miio yaile uthukumi uu. Asyaiisya ma TIST ni methiitwe maitune usungio umwe, indi miio na mawalanio ma kombyuta maina useo vate andu mena utuika wa kutumia. Ta muthiani/Muvitukithya wa TIST niwithiitwe na wia wa kwosania uvo kwinana na undu ukwendeka ni soko sya nthi sya nza (International Carbon Market).

Nivethiawa na kuthi kuasa na kwa ivinda iasa, kumanyiw'a kutumia palm kombyuta na GPS, kwosa thuva waw'o, kumanya mithemba mingi mbee wa 100 ya miti and kwika utalo waw'o.

kwianan na uvitukithya na nzia sya ukunikili/ uthiani, nitwa nenganie mathangu mena uvo muvitukithye

na mwailu ungu wa Verified Carbon Standard (VCS) na uvinduku wa nzeve, mbai na mwikalo mwailu woo (Community and Biodiversity Standard (CCB). Miti ila ivanditwe vamwe yavikiie kilasi kya mawendi ma ngwatanio ii ya vitukithiw'e. Kwanzia ya kwika utalo ni muthiani witu wa katatu (third party auditor) kundu kwili nitwavitukithisye 2.5 ila tutena muikiio na yo kwa kilio kila kyathiiwe kya 10%.

Vamwe na miti ila mivitukithye, ala mavitukithasya nimathimie ualyuku ula uvikiiwa nthini wa uvinduku wa nzeve, kwa ekali ma kisio, na vaita kwa kyonthe ki nthini wa kisio kiu. Kenya yoka nimatungie livoti kana muimi muvitukithye wa TIST ila wi nthini wa walanio uyu ena vaita wa silingi ta (kshs) 146,224. Uu ni vaita uthimitwe kwa kuisya wongeleku wa ngu na kusuvia mwaki, Liu wa indo, matunda na mbindi, uki wa nzuki, nzia mbailye sya nima na wongeleku wa ngetha, mbwau kati wa maundu angi maingi.



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 2003 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 ueengwa mbee undu wa uvyuvu wa nthi na uvinduku wa nzeve mbeange. Mbee twianmbiia kwa kumanya kila ndeto na tuyona undu miti ithukumaa kuete ualyuku nthini wa uvyuvu wa nthi.

Uvyuvu wa nthi nikiyau?

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

Ikonyo inya sya nthi niendee na uvyuva?

Ii!, nthi yi\u tui niyongelete uvyuvu kwa ndikilii imwe 100 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 weeethiwa uwau wa malaria uyiiaika 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 nakyoo ingi kiituma liu ulea ukethwa nesa nundu vai kiw'u kya kungithya miunda. Ingi sitima uioleka kwa industries, 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 mawikalo nimeethiwa matevo.

**Nata tutonya ysiia Uvyuvu wa Nthi?****Vanda an Kusuvia miti!**

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

Ni wisi kana kila muti nuseuvasya kauvinduku ka nzeve?

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

Carbon Credits nimyau?

Kusevya Carbon Credit sya TIST wienda syindu itatu

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

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

TIST nitonya uta nzeve ino itavisaa oundu mundu utesaa sukali kana yiia. Onakau kuta nzeve ino mundu ndalisasya muti melini/isiwani. Indi vaita ni kuma nzeve ila muti uyu wuwity'e mawithyululukoni na kwithiwa muti wivo uendee

na unyw'a nzeve itavisaa. Nzeve ino itavisaa itesawa sokoni sya New York, Chicago, London na misyi ingi minene nthi yonthe 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 netae mbesa mbingi nthini wa soko wa carbon credits. Kii nikwasya utaaniu wa miti niwaile nikana unenge miti nzeve na kwithiwa itonya uthathaa na kuasava nikana yithiwe na ueti museo. Ingi yimitaaniu nesa ndiithiwa iyuaania unou wa muthanga, kiw'u kana sua. Kwoou nikana ukwate ndivi nzeo kuma mitini manya kana utaaniu wa miti niwaile nikana yiane nesa yimithathau na miasa. Ingi kuola miti ni kuseo ni kutumaa ukwata ngu na kutuma miti ila yatiwa yiana nesa.

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

Kwayu nzeve ino itesawa sokoni sya kwiyumy'a. Nitonya kwithiwa ivitukithw'e kivathukany'o kwa ivinda na mivai kivathukany'o otondu soko syithiwa kivathukany'o sya kaawa na kaawa ka kwiseuvisya ungu wa masyitwa kivathukany'o. TIST nitonya uta carbon credits syayo nundu niatiie mawalany'o na nisya kilasi kiyiulu. Ve kilasi kivathukany'o na miao iulu wa uvandi wa miti yikalaa isesya na kusyaiw'a na livoti ila taile uvikia nikana tute nzeve yitu sokoni ithi yiya kilasi kya yiulu. Nitutumiaa nzia sya yiulu muno kuvitukithya,



kukunikila, kuthiana n akwona nisyale - verified carbo standard (VCS) kwa nzeve, mawithyululuko, mbai na uvathukanu wa syithio situ (Climate, Community na Biodiversity Alliance Standards).

TIST yithiawa na aui mithemba ili:

Mbee ni andu ma ngoo sya wendi museo ala mauaa kwa kwenda matuthuthye kuendee na kuvanda miti .Ngelekany'o Kuiva andu mande miti kwa alusi

kana conference ya kwikala tuolette nzeve itavisa.

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

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

TIST:Tukundi tunini kuvitukithw'a kwa ndivilakini kulea ukwata mathangu ma ndivi (Vouchers) ni mekuivwa o mituki!

Utongoi wa kanzu ya TIST nikwilila nundu wa kwithiwa ndivi mbingi ya tukundi tunini ila inee kiwe mwaka muthelu vena tukundi twa utala tuvitukithitw'e na tuineekwata mathangu ma ndivi kwoou makalea ukwata ndivi yoo.

Utongoi wa kanzu ino ya TIST niusevitye kikundi sya usisya undu na kuamua undu me kuivwa ona kutwika masine nileetwe kumya mathangu moo. Kanzu ino nikutata na kwanzia yi kyenini na yaw'o kwika masavuu ma tukundi tuu na kwona kila mataite.

Ta ulilikanio, nthini wa ndivi syonthe, tukundi tunini twaile ika maundu aa nikana kuikiithya ndivi vatena nthina.

Maundu ala kakundi kaku kaile ika:

1. Atiiai masaa, waselewa niwaselesya kila mundu
2. Ikiithya kakundi kaku kena mundu yila kwina umbano wa ngwatanio. Ivindani ya mathangu ma ndivi (vouchers) nivaile ithiwa na amemba mainyiva eli kuka kakundini kenyu. Ndivi yukaa mwai ula uatiie itina wa ukwata ithangu ya ndivi.
3. Yila kakundi kenyu kanewa ithangu ya ndivi ikiithya.
 - a) Wakwata niwamanyithya ala angi ma kakundi kaku iulu wa mbesa ila nandike ithanguni yiu.
 - b) Amemba oonthe ma kakundi kenyu nimekia saii kwitikila ndivi kwisila Mpesa.
4. Nimwaile uyuva andu eli kuma amembani

menyu ma kakundi kenyu kwikala na laini wa simu na pin ya kakundi kenyu.

5. Mainyiva amemba atatu kuma kakundini kenyu mekie saii kwa ithangu ya ndivi.
6. Ikiithya laini wenyu wa Safaricom kana nimuandikihye na Mpesa na laini nuuthukuma. Ula ukwikala na laini wenyu niwe waile kuandikithw'a vandu va kakundi kenyu. Pin ya Mpesa yaile ithiwa na mundu ungi eka ula wina laini wa simu na ula wina pin aile ikala amivithite iteumanyika ni kila mundu na ti ula wina laini.
7. Ethiwa kakundi kenyu mbeeni nikanengetwe laini ni TIST nikaile ithiwa na laini ungi na kuikiithya nuu thukuma kila saa.
8. Ivindani ya ndivi ikiithya mwina andu mainyiva 2/3 ma amemba ma kakundi kenyu. Ala meekiie saii mathanguni menyu ma ndivi maile ithiwa vo muiivwa.
9. Ethiwa kwina thina wa Mpesa kana nthina ungi utuma ndivi ya kakundi kenyu iselew, nanganai namba syenyu kwa mainyiva andu eli eka ula wina laini wa simu yenyu na ula wina pin ya mpesa ta mwii wenyu wa kinandu.
10. Wamina ukwata ndivi, kwandaia tavya amemba onthe ma kakundi kaku na uisyoka utavye mwiki wa masavu wa Ngwatanio yenyu.

Ikiithya ngwatanio yenyu niyatunga mathangu mwikiite saii kwa uvisi wa TIST. Undu uu ni wavata nundu wa ndivi mbianu kwikwa. Ethiwa vena museleanio wa kutunga na kukwata mathangu ma ndivi, nikutuma ndivi ya ngwatanio yenyu iselewa.

Mazingira Bora



TIST

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

Kipsigis Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Kibotikab Kilasta nebo TIST Kenya komiten tuiyet en arawa ni konye.

Inside: Gongoi mising TIST kenya ak TIST Uganda en okwek kiboitinikab kilasta; Amun ko kisultaen chigilisiet Neo. *Page 2*

TIST koristab mugaret. *Page 3*

Temikab TIST kotinye naet agobo burgeiyetab nguony ak waletab itondab emet. *Page 4*

TIST: Kurubisiek che mungechen che kimonyor vochaisiek ago kigiiti ketik konyoru melekwekwok konegit. *Page 6*



Gongoi mising TIST kenya ak TIST Uganda en okwek kiboitinikab kilasta; Amun ko kisultaen chigilisiet Neo.

En kenyit konye kigimuch kemandaen chigilisosiek che mongerin en kenya ak Uganda. En bandabtai nebo kenya kotinye kaumanikab koristo tanisiek 480,617 kotinye Uganda chechang mising choton ko 550,957 chobotin chuton anyun konyor oliyet en oligab indonyo.

Echek kapchiisiekap TIST ko kigiboboечи boisyonigab kiboitinik chuton en boisiyet neui ne kigoyai en TIST. Kou yeonge ole kingetou TIST ko sigotoret idondab Emet ak kogimit en minetab ketik asi komuchi koyum kristo noton yaa ak kenyorunen kelunoik temik chemiten en TIST.

En anyun kewal koristo got koit koik rabisiek ko boisiet neui mising got koit ketoo bandabtai ne miten temik 80,000 che kitestai konyor kewelnatet neui got. En echek chegimiten en TIST ketinye kayanet ne koyoen boisiet baten kimoginigei tuguk che chon keboisien. En TIST ketiye kiboitinik che tononchin, niton ko agenge en en wolutik tuguk cheu computer en bandabtai ko motilu kii ko momiten biik chetinye Ngomnotet asi komuchi koboisien. Kou kiboitiyotab kilasta inendet kotiye boisiyet neui amun inendet ne iyumi koitetab ketik en imbarengab temik amun moginge olik chebo nguwoy konai agobo niton. Kora

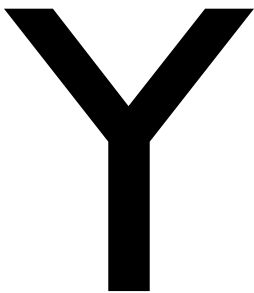
komiten betusiek che wetote kiboitiyot konetege koboisien Palm ak GPS asi koiti konyor choranetab imbaret en lititindo ole kimichi temindet ketik. Ye imuchi koyor korikab ketik 100 ak kobesiyo en oret ne litit.

En anyun chigilisiet ak yametabge ne tetesai ketesini bandatai ne nyon sirutik kiyok asi konyor Verified Carbon Standard (VCS) and climate, community and Biodiversity standard (CCB) icheget ko tolochikab mungaretab koristo ne miten en ketikab temik. En imbarenik chetiye mogutik che yonotin en temik komiten orit yuton amun kiyom chigilik ko chigil en kokwoutik somok asi komuchi komandaen. En komosuwek tuwan o'eng ko kigimuchi kemadaen kesir en 2.5% kemoche nemi nguwoy ko 10%.

En keroniton ko kinyor chigilik ak ichek kole miten kaimetabge kosibgei ak ole uemet, mengotosiek ak kelunoikab minutik. En kenya komwat en chigilik kole kigotoretok temik che en TIST en bandabtai en kelchinet nebo Ksh 146.224. En kelunoik chuton komiten keruti che togu kou, miten kwenik, omitwogikab Tuka, Logoek, Tenderekab ketik, kumik en segemik, Teretab ngungunyek, kogimitab minutik, ak kotesak rurutik ak chechang.



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 koboisien 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 chechuaki

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 kibu 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 kondametusiekab 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 kotinygei ak boisionikab biik missing ko agobo itondab emet ko bitumen niton.

Tos tesosei mat en emet?

Ee amun en kenysisiek 100 chegogopata kogitesak 1°C. 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, komagenyuru 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 kotiyet 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 tinye.

Ketik koboisien carbon ak kogonor en ketik, tigitik

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

Tos ketik tugul koboisien koristo ne kergei?

Acha, ketik 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 tinye boroindo olik ak oldoik (kou kawek kotinye keruti).

Miten kobesosiek en indonyo amun tinye



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

TIST kotinye olik oeng

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

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

TIST: Kurubisiek che mengechen che kimonyor vochaisiek ago kigiiti ketik konyoru melekwekwok konegit.

Kondoikab Leadership Council ko komua en rirenetabge kole en kenyt konye ko maimuch kosulda komie libanetab rabisiek en kurubisiek tugul. Amun miten che kii tuyosi mogutik amanyor vochaisiekwak.

Miten anyun biik chemi ak leadership che toretigei tugul asi komuch kosuldaen agobo niton agot igobabit vochasiek keliboni. LC koyome koyai boisiet kotok en chitugul en ui tugul ole miten ak kolitit boisiyonik asi konyor kurubit rabisiekwak tugul.

Obuwotuwok agobo libamet agetugul ko nyonu kotinye korubit age tugul kosiboni asi komuch kotestai komiye choton ko;

1. Nyolu omiten yoto tugul asi onai tuguk che tai.
2. Ker ile kurubit ko tesetai en tuyosiek chebo kila arawa amun imuchi komong vochaisiek, komoginge biik o'eng komiten asi en arawet ne isibu onyoru rabisiek.
3. Ye konyoru vochait onaisi biik.

- a) Inaisi ilenchi konyoru vochait ak kit neten rabisiek.
- b) Nyolu koyochin membaek tugul agobo mpesa.
4. Nyolu olewe biik oeng netinye mpesa ak netinye pin kobesiyotin.
5. Biik somok che nyolu konde siyet vochait mising ko biik che tinye ketik chechang.
6. Nyolu ko rigistaat sim card mpesa ago boisie.
7. Agot kotinye kurubi tist sim card ko mat kowal.
8. Ye kiliboni komoche komi biik 2/3 chon ko chegiinde siyet vochait.
9. agot komite koimutiet en mpesa omochi ogochi chemotogo nambaisiekab biik chemobo kurubit asi koboisien chon.
10. Ye konyoru libanet onasi chi tugul en kurubit en let ogochi kiboitiyotab kilasta vochait asi koweta

kuwo of isitab TIST. ye miten kagaetab vocheisiek ko unoton en libanet agine.