

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.



Limoro TIST Cluster monthly meeting held on 7th October 2022

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Susan Kabirithu: TIST is an Eye Opener to Many Farmers.

Story prepared by Alice Nkirote, TIST Cluster Servant.

My name is Susan Kabirithu from Meru County, Kenya. I joined TIST program in 2005. This is the same year, TIST began registering Small Groups in Kenya, having been introduced from Tanzania in August of 2004. So, me and members of other Small Groups are pioneer farmers of TIST program. My Small Group is known as Thaberia C, TIST number 2005KEI 163.

When we began TIST in our areas, there was little training about tree species. Many farmers just planted any tree they could get. However, as we continued receiving trainings at our node meetings then, we started to appreciate benefits of different species of trees. We also learnt how some of the trees can harm the environment.

This training helped me make important decisions about which trees to plant in my farm. I focused on fruit trees, nut trees, fodder trees, and indigenous trees. Though I had planted several exotic trees including eucalyptus, I decided to continue taking care of them for carbon business.

The reason I kept Eucalyptus is because some sections of my land was degraded. Only Eucalyptus tree could do well there. Food crops were not surviving in that part of the land. So, I decided to keep Eucalyptus trees so they could continue holding the soil.

Having planted macadamia trees at early age of TIST program, I am now reaping the benefits. Over the years, I have been receiving TIST carbon pre-payments. Though little amount, it helped me to tender my trees as well as meeting my small kitchen budgets.

However, I am now reaping big! My macadamia trees are now mature and giving me nuts. I am

harvesting an average 1500 Kilograms (Kgs) on an annual basis. When market is good, I do sell a Kg at Ksh 90.00. Besides nuts, I am also reaping big from fruit trees. What makes my heart more glad is the fact that when trees are giving me fruits and nuts, I am also receiving profit share from sale of carbon credits. This year, I received over Ksh 30,000!

My farm has become so profitable! I feel like I am full time salaried. So far, I have planted over 725 trees in my farm. As I said earlier, some of my trees are also fodder trees. This has eased my dairy farming. I keep a dairy cow that gives me 20 liters of milk every day. This is another revenue stream.

For many years, subsistence farmers considered themselves poor. TIST has truly changed this narrative. Our farms are now the biggest employer! Our eyes have opened!



Susan Kabirithu in her TIST trees Grove.



TIST: Greenhouse Gas Business.

TIST helps farmers participate in the carbon credit business. Farmers receive a 70% share of profits from the sales. Profits are created through participating in the carbon business, which involves planting trees and keeping them alive for long term.

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 Cluster Servants 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 – let's 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 semi-arid 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.

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Kimereu Version

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



Mkutano wa kila mwezi wa Nguzo ya TIST ya Limoro uliofanyika tarehe 7 Oktoba 2022.

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TIST: Biashara ya ruugo ruruthuku. *Page 3*

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



Susan Kabirithu: TIST ni igukunura arimi baingi metho.

Rugano ruandiki ni Alice Kambura, TIST clasta servant.

Ritwa riakwa ni Susan Kabirithu kuuma Meru county aja Kenya. Ndathungiire ndeene ya TIST mwaka jwa 2005. Mwaka juju noju TIST yandikithagia arimi ba tukundi tunini aja Kenya, yambite kumenyeka kuuma Tanzania mwaka jwa 2004 mweri jwa August. Nandi uni na arimi bangi ba tukuundi tunini nitwii ambiriria ba muradi wa TIST. Gakundi gakwa kanini getagwa Thaberia C, namba ya gikundi 2005KEI 163

Riria twambiririe TIST nturene cietu, kwari na kithomo gikai muno kiegie mithemba ya miti. Arimi baandaga muti o junthe bakoona. Kunari uju, o uria twetire mbere kugwata ithomo kiri micemano kagitene kau, nitwambiririe gukeneera baita jia uandi wa miti mithemba i mingi. Nkinya nitwathomere uria miti imwe yumba kuthukia jaria jatuthiurukite.

Kithomo giki nikiambumbithirie gutua matua ja meega jegie ni miti iriku mbuumba kuanda muundene jwakwa. Ndekiire mathuganio jakwa kiri miti ya matunda, makandamia, miti ya iria ria ndithia na nkinya miti ya kinduire. Nkinya kethira ni ndaandite miti i mingi ya ugeni amwe na mibau, nindajukirie itagaria ria gwita mbere kumimenyeera niuntu bwa biashara ya kaboni. Gitumi kiria ndekire mibau nikwithirwa miena imwe ya muunda juakwa jutibuii. Mibau aki niyo yombaga gukura guntu kuu. Imera cia irio itoombaga gukura nteere iji. Nandi nkibanga gukuria mibau nikenda ita mbeere kugwatiira muthetu.

Kwithirwa ni ndaandire miti ya makandamia kagiita riria ndathungiire kiri muradi wa TIST, nandi iji ninguketha baita. Gwa kagita nandi, nimbithiritwe kigwata alubanyi ya mbece cia kaboni kuuma kiri TIST. Nkinya kethira nti mbece inyingi, nijia ntethererie kumenyeera miti yakwa na nkinya kuona biakuria.

Nandi iji, ndina baita inene! Miti ya makandamia ni i minene na nigwita makandamia. Ninguketha kilo 1500 o mwaka. Riria thoko imbege nimbendagia o kilo ksh 90. Nkigwata baita ya

makandamia nonkwona baita ingi kuuma kiri miti ya matunda.

Kiria kigwiragia nkoro yakwa nikwithira ati nkigwata baita kiri makandamia na matunda nombitite mbere kugwata baita ya wendia wa kaboni. Mwaka juju, nindagwatire nkuruki ya ksh 30,000!.

Muunda jwakwa nijugite na baita inene muno! Mbigagua ta muntu wandiki. Mwanka nandi, nimbandite nkuruki ya miti 725 Muundene jwakwa. O ja uria mbugire kiambiria, miti imwe ni ya iria ria nyomoo. Bubu nibumbite kuuthia ngugi ya urithi wa ng'ombe ya iria. Ni ndithitie ng'ombe imwe na nimbonaga lita 20cia iria o ntuku. Ino ni njira ingi ya kugwata mbece.

Gwa kagita ka miaka i mingi, arimi banini baijukagia bari nkia. TIST nandi niicenjetie muthuganirie uju. Miunda yeetu nandi niyaere mwandiki ngugi u munene wetu. Metho jeetu nandi nijaruguri!



Susan Kabirithu ari kiri muunda jwawe jwa miti ya TIST.



TIST: Biashara ya ruugo ruruthuku.

Murandi wa TIST ni utethagirira arimi gutonya kiri biashara ya Carbon Credit.

Arimi nibagwataga baita ya kiwango gia 70 kiri 100 kuumania na wendia wa Carbon. Baita iji yonekaga kukurukira kurita ngugi ya Carbon jayo kuanda miti na kumiika moyo kagiita gakanene.

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.

Arim ba TIST nibaigitue na bacokia kiriro kia nthiguru gia kurua na murutira jwa nthi na kugaruka kwa rera. Arimi babaingi nibacuite kuelewa gukurukira semina na moritani ja TIST nan dene ya micemanio ya cluster nikenda bathoma na belewa kwegie murutira juju, jaria jwijanagia najo, na jaria tuumba kuthithia nikenda tujwebera. Nitwonaga mantu jamaingi jaria jaumanitie na kugaruka kwa rera narua. Kwonania ming'uanano imikai, ngai ya Elnino ya mwaka jwa 1998 iria yathukiria akui nthiguru yonthe na mpara iria yathingatire, na kiurutani kia mwaka jwa 2004 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?

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

kuria kuumanagia na mantu jaria jathithagua ni antu na kugaruka gukunene kwa rera kuria kuumanagia na bubu.

Ka Nthiguru igwita na mbele kurutira nkuruki?

li! Nthiguru niongerekete kimwanki nauu 1°C ndene ya miaka igana iu ikurukite. Babaingi ba Athomi ba science baria batongeretie ndene ya nthiguru nibathuganagia ati mantu jaria antu bathithagia nijatethagia kurutiria nthiguru, ja kuithia into ja makara ja maguta, 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 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 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 mbebe 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 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. Bubu bugatethia imera biaku na kinya butethie baria batumagira ruuji ndene ya ntuura yaku.

Krediti cia kaboni nibicio?

Kenda uthithia krediti ya kaboni ya TIST nigwitagia into bithatu:

- 1) Gutaurwa kwa mma na kwongerekete gwa carbon dioxide iria igutonyithua ruugone;
- 2) Ahadi ya gwika kaboni iu kuraja na ruugo ndene ya igita ria miaka imingi;
- 3) Gutegerwa ngugi na gukurukithiua ni 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 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.tutiumba kugiita mwitu junthe kana tugiita miti tuanda ingi nontu bobu butibui kiri mazingira.no mwanka tuciitie 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 mbeca 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.

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.



Mucemanio wa oro mweri wa Clasta ya TIST ya Limoro uria weri 7 wa ikumi 2022.

***Thiini
wa
ngathiti:***

Susan Kabirithu: TIST ni ihingurite maitho arimi aingi. Page 2

TIST: Biashara ya Greenhouse Gas. Page 2

Arimi a TIST kuhurana na ugaruruku wa riera. Page 4



Susan Kabirithu: TIST ni ihingurite maitho arimi aingi.

Rugano ruhariiro ni Alice Nkirote, TIST Cluster Servant.

Ritwa riakwa ni Susan Kabirithu kuma Meru County, Kenya. Ndaingirire mibango-ini ya TIST mwaka-ini wa 2005. Uyu niguo mwaka uria TIST yambiriirie kwandikithia ngurubu nini bururi-ini wa Kenya, yukite kuma bururi-ini wa Tanzania mweri wa kana 2004. Kwaugwo, nii na amemba anga a ngurubu nini itu twari arimi aria mambiriirie TIST. Ngurubu itu nini itwagwo Thaberia C, namba ya TIST ni 2005KEI 163.

Riria twambiriirie TIST itura-ini ritu, gutiari na mithomere maingi ya mithemba ya miti. Arimi aingi mahandaga miti oro yote iria makorerera. No thutha wa guthomithio, tukigia na umenyo wa kuhanda miti mithemba ngurani. Oro ho tukimenya uria miti imwe ithukagia maria maturigiciirie.

Githomo giki kiandeithirie gutwa matua miti iria nguhanda mugunda-ini wakwa. Ngihanda miti ya matunda, miti ya irio cia mahiu na miti ya kiunduire. Ona akorwo nindahandire miti ingi ya kiiriu ta minyua mai, ngiciiria ngumitungata niundu wa biacara ya carbon.

Gitumi giagutigia miti ya minyua mai ni tondu mwena umwe wa mugunda wakwa ndwari mwagiriru wari muinamu muno. No miti ya minyua mai ingiakurire kuo. Miti ya irio ndiekaga wega mwena ucio. Kwaugwo, ngiciiria kuhanda minyua mai niguo inyitirire tiri.

Ndahandire miti ya macadamia tene riria TIST yambiriirie, riu ni ndiraria maciaro. Mahinda mothe, ni nyamukagira marihi ma carbon kuma kuri TIST. Ona akorwo ni tunini, ni cindeithagia gutungata miti yakwa oro hamwe kunyihia bageti ya riko.

No riri, riu ndinamagetha maingi! Miti yakwa ya macadamia riu ni migima na niirahe matunda. Ni ngethaga ta kilo ngiri imwe na magana

matano (1500 kg) oro mwaka. Riria thoko iri njega, nyendagia oro kilo ciringi mirongo kenda (Ksh. 90.00). Hamwe na uguo ni ngethaga magetha mega kuma kuri matunda macio mangi. Kiria gikenagia ngoro yakwa niundu ati riria miti yakwa irihe matunda, ni nyamukagira profit share kuma kuri kwendia carbon credits. Mwaka uyu, ndiramukirire makiria ma ciringi ngiri mirongo itatu (Ksh. 30,000)!

Mugunda wakwa utuikite wa bairu muno! Ndiiguaga ta ndi wa mucara wa mweri. Riu handite makiria ma miti 725 mugunda-ini wakwa. Ta uria ngugite hau mbere, miti imwe ni irio cia mahiu. Indeithiriirie hari ng'ombe yakwa ya iria. Ndina ng'ombe ya iria iria iheaga litre 20 oro muthenya. Giki ni githima kingi kindeithagia.

Handu-ini ha miaka maingi, murimi minini atuikaga ati ni muthini. TIST ni icenjetie woni uyu. Migunda itu ituikite mwandikani uria munene! Maitho maitu ni mahingukite!



Susan Kabirithu ari mugunda-ini wake wa miti ya TIST.



TIST: Biashara ya Greenhouse Gas.

Murandi wa TIST ni uteithagiriria arimi gutonya kuri biashara ya

Carbon Credit. Arimi ni magiaga na baina ya kiwango kia 70 kuri 100 mumanagia na wendia wa Carbon. Baita ino yonekanagia kumanagia na kuruta wira wa Carbon ino kuhanda miti na kumiiga muoyo ihinda inene.

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

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

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.

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

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 nanguo.

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 mangitutethia gutaukwo wega ugaruruku wa riera nikii. Tukwambiriria na kumenya wega ciugo icio naningi tuthii na mbere na guthoma uria miti yaku inyitaga itemi kunyihia ugwati uria umanaga na ugaruruku wa riera.

Ugaruruku wa riera ni kii?

Ugaruruku wa riera ni kwongerereka kwa urugari uria uri thi uria ucokaga ugatuma riera ricenje. Thi riria yagia na urugari muingi niitumaga imera cia mbura cicenjie na gukagia na 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?

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

Maundu maria marehagwo ni Greenhouse.

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

Mogwati ma Global Warming ni mariku?

- Kwaga kwa maai na kuuma kwa migunda.
- Gutherema kwa mirimu ta malaria. Kugia na urugari muingi na kuhotithia rwagi guciarana na kwongerera ugwati wa malaria. Micii miingi na mathibitari nomakorwo ni ugwati uyu na mituurire ya andu ikanyiha na ikuu cikongerereka.
- 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

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

Carbo Credits ni kii?

Niguo uthondeke carbon credits cia TIST urabatara indo 3;

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

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

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.



Mkutano wa kila mwezi wa Nguzo ya TIST ya Limoro uliofanyika tarehe 7 Oktoba 2022

Ndani ya Gazetti: Susan Kabirithu: TIST ni Kifunguo cha Macho kwa Wakulima Wengi. Uku. 2
TIST: Biashara ya hewa chafu. Uku. 3

Wakulima katika TIST wapambana na ongezeko la joto ulimwenguni na mabadiliko ya tabia nchi. Uku. 4



Susan Kabirithu: TIST ni Kifunguo cha Macho kwa Wakulima Wengi.

Hadithi iliyotayarishwa na Alice Nkirote, Mtumishi wa Nguzo wa TIST.

Jina langu ni Susan Kabirithu kutoka Kaunti ya Meru, Kenya. Nilijiunga na programu ya TIST mwaka wa 2005. Huu ni mwaka huo huo, TIST ilianza kusajili Vikundi Vidogo nchini Kenya, baada ya kuanzishwa kutoka Tanzania mwezi Agosti 2004. Kwa hiyo, mimi na wanachama wa Vikundi vingine vidogo ni wakulima waanzilishi wa programu ya TIST. Kikundi Changu Kidogo kinajulikana kama Thaberia C, nambari ya TIST 2005KEI 163.

Tulipoanza TIST katika maeneo yetu, kulikuwa na mafunzo machache kuhusu aina za miti. Wakulima wengi walipanda tu mti wowote ambao wangeweza kupata. Hata hivyo, tulipoendelea kupokea mafunzo kwenye mikutano yetu ya nodi wakati huo, tulianza kuthamini manufaa ya aina mbalimbali za miti. Pia tulijifunza jinsi baadhi ya miti inavyoweza kudhuru mazingira.

Mafunzo haya yalinisaidia kufanya maamuzi muhimu kuhusu miti ya kupanda katika shamba langu. Nilikazia fikira miti ya matunda, kokwa, miti ya malisho, na miti ya kiasili. Ingawa nilikuwa nimepanda miti kadhaa ya kigeni ikiwa ni pamoja na mikaratusi, niliamua kuendelea kuitunza kwa biashara ya kaboni.

Sababu iliyonifanya kuhifadhi Mikaratusi ni kwa sababu baadhi ya sehemu za ardhi yangu ziliharibiwa. Mti wa Eucalyptus pekee ndio ungeweza kufanya vizuri huko. Mazao ya chakula hayakuwa katika sehemu hiyo ya nchi. Kwa hiyo, niliamua kuweka miti ya Eucalyptus ili waendeleo kushikilia udongo.

Baada ya kupanda miti ya makadamia katika umri mdogo wa programu ya TIST, sasa ninavuna manufaa. Kwa miaka mingi, nimekuwa nikipokea malipo ya awali ya kaboni ya TIST. Ingawa kiasi kidogo, kilinisaidia kutengenezea miti yangu na pia kukidhi bajeti yangu ndogo ya jikoni.

Walakini, sasa ninavuna sana! Miti yangu ya makadamia sasa imeiva na kunipa njugu.

Ninavuna wastani wa Kilo 1500 (Kgs) kwa mwaka. Wakati soko ni nzuri, mimi huuza Kg kwa Ksh 90.00. Kando na karanga, pia ninavuna mengi kutoka kwa miti ya matunda. Kinachofurahisha moyo wangu zaidi ni ukweli kwamba wakati miti inanipa matunda na njugu, pia ninapokea mgao wa faida kutokana na mauzo ya mikopo ya kaboni. Mwaka huu, nilipokea zaidi ya Ksh 30,000!

Shamba langu limekuwa na faida sana! Ninahisi kama ninalipwa mshahara kamili. Kufikia sasa, nimepanda zaidi ya miti 725 katika shamba langu. Kama nilivyosema awali, baadhi ya miti yangu pia ni miti ya malisho. Hii imerahisisha ufugaji wangu wa maziwa. Ninafuga ng'ombe wa maziwa anayenipa lita 20 za maziwa kila siku. Huu ni mkondo mwingine wa mapato.

Kwa miaka mingi, wakulima wadogo walijiona kuwa maskini. TIST imebadilisha simulizi hii kweli. Mashamba yetu sasa ndio mwajiri mkuu! Macho yetu yamefunguliwa!



Susan Kabirithu katika miti yake ya TIST Grove.



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, mkaa yamawe 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 wanapongea kuhusu suara la mabadiliko ya tabianchi na katika hali ya anga, wasi wasi yao huelekezwa kwa ongezeko la joto

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

Je, joto katika dunia linaongezeka?

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

Greenhouse Effect ni nini?

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

Hatari za ongezeko la joto duniani ni zipi?

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



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

Nawezaje kuzuia ongezeko la joto ulimwenguni?

Panda na uichunge miti!

Kama ilivyotajwa hapo juu, carbon dioxide ni

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

Unajua kuwa ila mti waweza kutengeneza tabianchi ndogo mahali ulipo?

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

Kadi za kaboni ni nini?

Ili kutengeneza kadi ya kaboni wahitaji vitu vitatu:

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

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



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

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.



Wumbano wa mwai wa ngwatanio ya TIST Limoro ula wai 7/10/22

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Susan Kabirithu: TIST nivinguite aimi aingi metho.

Ngewa iseuvitwe ni Alice Nkirote, TIST muthukumi wa ngwatanio.

Isyitwa yakwa ni Susan Kabirithu kuma Meru county, Kenya. Nineeyiandikithisye nthini wa walanio wa TIST mwaka wa 2005. Uu now'o mwaka ula TIST yambiie kuandikithya tukundi tunini nthini wa Kenya, imanyithanitw'e kuma Tanzania mwai wa nyanya 2004. Kwoo ny'i na amwe ma kakundi kaitu twi amwe ma ambiliilya ma aimi ma walanio wa TIST. Kakundi kakwa ketawa Thaberia C, namba ya TIST ni 2005KEI163.

Yila twambiie TIST isioni situ kwai umanyisyo munini iulu wa mithemba ya miti. Aimi aingi mavandaa miti oila mavikila. Onakau nitwaendeeie ukwata umanyisyo yila twiba mbumbano nitwambiie kuelewa useo wa miti kivathukanio. Ingi nitwasomie undu miti imwe itonya kuthukya mawithyululuko.

Umanyisyo uu niwandethisye kuamua miti ila nguvanda kithekani kwakwa. Ni nalianiye na miti ta matunda, mbindi, uithyo wa indo na miti ya kiene. Onakau ninavandite miti ta misanduku ninaamuue kumisuvia nundu wa ndunyu ya nzeve itavisaa.

Kitumi kala kyatumie nisuvia misanduku ino nundu wa kwithiwa isio imwe sya kitheka kyakwa ni mosu muno. No misanduku ino itonya ika nesa vi. mimea ya liu nditonya kwikala kisioni kii kwoou naamua kava miti ino nundu no iendee ukwatiia muthanga.

Nundu ninavandite mikandania mwambiioni wa malanio wa TIST. Yu ninguketha vaita. Kwa myaka isu mithelu ninithiitwe ndikwata ndivi ya nzeve itavisaa kuma kwa TIST. Onakau ni mbesa nini nindetheesye vanene kusuvia miti yakwa na utumii wa ikoni.

Onanaku, yu ningethete vanenen na miti yakwa ya Makandania ila yu nimiima na ninengae

mbindi. Nithiitwe ndiketha kilo ta 1500(kgs) kila mwaka. Yila ndunyu nzeo ninitesaa kilo kwa silingi 90/= mbesa sya Kenya. Utee na mbindi ingi ningethaa muno kuma mitini ya matunda. Kila kitanasya ngoo yakwa muno nikana yila miti iendee na unenga matunda na mbindi, no ngukwata ndivi ya vaita wa kuaana kuma utandithyani wa nzeve itavisaa. Mwaka uyu ningwatite mbee wa Ksh. 30,000!

Kitheka kyakwa nikitwikite kya vaita! Niiw'a ta mundu muandikie musaala. Kwa yu ninivandite miti mbee wa 725 kithekani kwakwa. Otondu niwetete vau mbeeni miti imwe niya uithyo wa indo. kii nikimbuthisye wia wa ndithya ya yiia. Niniithasya ng'ombe ya yiia ila inengae lita 20 sya yiia kila muthenya. Ino ninzia imwe yakwa ya ukwati.

Kwa myaka mingi aimi anini metalaa ta nya. TIST nivinduite ngewa ino. Miunda yitu yu niyo muandiki ula munene! niyavinguiie metho maitu!



Susan Kabirithu e muundani wake wa miti.



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 saianzi 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 kuuu “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 nimeetiekie wito wa kumatha undu tukuola uvyuvu wa nthi na uvinduku wa nzeve. Aimi angini mamathie unduu matonya kuelewa nzia iki 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 yaatiiwa 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 yiuu indii na kusesya ivinda yila yauaa na kwoou kundu kwingi ithima, nthongo kungala vamwe na mbusi na mikao ila itany'aa.

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

Uvyuvu wa nthi nikiyau?

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

Ikonyo inya sya nthi niendee na uvyuva?

Ili!, 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 kusyaia na niw'o ukuaa tulinyu twa uwau wa malaria. Kwoou yila uu weeethiwa uwau wa malaria uiyaiika na kwongela ikw'u sya tuukenge na kutuma masivitali mausua.



- Kuoleka kwa ngetha ta undu kwithiitwe nthini wa nthi sya umiloni wa sua. Yila mbua yaua nini na tusamu tula twanangaa liu twongeleka nundu wa uvyuvu liu kuma miundani naw’o nunyivaa nundu wa ukosa mbua na kulika ni tusamu tuu nakii kiyiete wongeleku wa ukya misyini kuthi mbaini na nthi kwa vamwe.
- Nthooa wa 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 yaua nakw’o kula kwi ukanga na maia kiw’u kiyongeleka na uyithia mawikalo nimeethiwa matevo.

Nata tutonya ysiia Uvyuvu wa Nthi?

Vanda an Kusuvia miti!

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

ikaumya nzeve isu itavisaa na kumilekya ingi mawithyululukoni.

Ni wisi kana kila muti nuseuvasya kauvinduku ka nzeve?

Miti na matu mayo nimavwikaa muthaka wa nthi. Nutaniaa muunyi wa muti. Sisyu ungu wa muti nukwona muthanga ula wivo ni mwiu na ti undu umwe na ula uathitwe ni sua. yila ungu wa muti vena muunyi nivathithu na vena kimeu kwa ivinda iasa kwi vala vaathitwe ni sua. kii kionany’a kana miti ila yi muundani kwaku nitetheeasya muthanga kwia kimeu na kiw’u kwa ivinda iasa kwi vala vate miti. Kiw’u kii kikatethya mimea yaku ni kikatumika maundu ni 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 yia. Onakau kuta nzeve ino mundu ndalisasya muti melini/isiwani. Indi vaita ni kuma nzeve ila muti uyu wuwity'e mawithyululukoni na kwithiwa muti wivo uendee na unyw'a nzeve itavisaa. Nzeve ino itavisaa itesawa sokoni sya New York, Chicago, London na misyi ingi minene nthi yothe nitesawa kwa mivango kati wa andu kana kambuni. Nonginya tuvikie miao ya soko nikana tute nthini wa isoko. Mwiao umwe nikana miti ndyaile utemwe ngulutu kana mititu kwengwa nundu uu ni uthuku kwa mawithyululuko. Nitwaile kwiyumya kuvanda miti yikale kwa ivinda iasa ta myaka miongo itatu. Na ingi nitwaile unengane uvoo waw'o. Miti yamina uvandwa masavu amwe nimaile kwikwa ta undu nzeve itavisaa ikwoswa ni miti ivanditwe ni aimi ma TIST. Manya ingi kana miti nditwaawa sokoni itiawa o muundani kwaku vala yaile ikala kwa ivinda iasa nikana ukaendee ukwata ndivi na kuunenge liu wa indo, ngu, matunda na mbindi/ngii. Mbesa ila TIST ikwataa kuma kutani kwa nzeve itavisaa nikuaaniaw'a tukundi tunini twa TIST na ingi utumika kukwatiia ndivi sya kumanyisya, kuvitukithya na kuungamia.

Miti yoothe inyusaa nzeve itavisaa yianene?

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

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

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

Kwayu nzeve ino itesawa sokoni sya kwiyumy'a. Nitonya kwithiwa ivitukithitw'e kivathukany'o kwa ivinda na mivai kivathukany'o otondu soko syithiawa kivathukany'o sya kaawa na kaawa ka kwiseuvisya ungu wa masyitwa kivathukany'o. TIST nitonya uta carbon credits syayo nundu niatiie mawalany'o na nisy kilasi kiyiulu. Ve kilasi kivathukany'o na miao iulu wa uvandi wa miti yikalaa isesya na kusyaiiw'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 nisyaila - 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.

Mazingira Bora



TIST

The International Small Group & Tree Planting Program

www.tist.org

Kipsigis Version

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



Mkutano wa kila mwezi wa Nguzo ya TIST ya Limoro uliofanyika tarehe 7 Oktoba 2022

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Susan Kabirithu: TIST ko ne yote konyekab Temik che chang’.

Atindoniot ne yobu Alice Nkirote, Kiboityotab Isasametab TIST.

Kainenyun ko Susan Kabirithu koyob Meru County, Kenya. Kiachute TIST en kenyitab 2005. Kenyinton ko ye kiinome kosire TIST katuiyosiek che mengechen en Kenya ko kikiakotoo en Tanzania en arawetab Roptui (Sisi) en 2004. Kou noton, ko anne ak membaek alak chebo Kayumosiek alak Che Mengechen ko kichetaa en Tetutietab TIST. Kayumenyun ne Ming’in nebo TIST ke kugureem Thabaria C, TIST number 2005KEI 163.

Kin kiinaam TIST en komoswekiok, ko kimakotian konetisietab ketik che terter. Kiinaam temindet agetugul komiin ketit agetugul ne konyoor inendet kityo. Kbateen kin ketestaa ak konetisiet en tuiyosiek ko kikiboiboiendi boroteetab ketik che terterchin. Kikinai kora yoityetab ketit age tugul en itondab emet.

Konetisioni ko kikoonon ayai tetutik chebo komonutiet akobo ketik anchon che amuche amiin en mbarenyun. Kiobegechi ketikab logoek, chebo ndenderek, che omitwokikab kiyagik ak chebo kipгаа. Ang’amda kikaramiin ketikab emotinweek alak che boto chepkogutgee, ko kiatestaa a\oriib choton amun en mung’aretab koristo.

Amunee asi abakach chepkogutgee ko amun mi komosto ne mbarenyun ne ne kikoyait missing ne temisiet. Ketikab chepkogutgee icheegen che imuche korut komie en yoton. Kimakomuche minutik che kiame krout en yototn. So ko kiatil abakach chepkogutgee ne yoton asi komuch koteer ng’ung’unek amala beek.

Kina amiin ketikab macadamia en taunetab tetutietab TIST, ko ingune anyorchinigee melekweek che chang’. Enkenyisiechu ko anyorchinigee lipanosiekab taa chebo koristo. Anganda tutigin lipanosiechoton, ko kitoretan ariip ketikyuk ak amuche aalen amitwokik kora.

Anganda uu noton, ko anyorchinigee kesutik che yeechen! Macadamia che chuk ko ketik che

yechen en raini ako koonon logoek. Akese kiloosiek cheite 1500 en kenyit age tugul. Oloon mie indonyo amuche aalda kiloit ageneg en Sh 90. Tabala ndenderekab macadami, aaldai kora logoek. Kit ne iboiboite muguleldanyun ko ageere ale oloon anyorchinigee logoek ak ndenderek en ketik, anyorchinigee kora melekweek en aldaetab koristo. En kenyini, ko koanyorchigee che sire Sh. 30,000!

Kikobunchi kelcjoonik mbarenyun. Anne akase kou yon atinye mushahara chebo katugul. Akoi ra ko kiamiin ketik 725 en mbarenyun. Kou yon kakaamwa en taa, alak en ketikyuk k obo kiyagik. Kikoyai inonu boisienyun nebo baetab tuga konyumnyumiit. Abae teta ne agee litaisiek 20 en betut. Inoni ko oret age nebunu rapsiek.

En kenyisiek che chang’, ko kigere temik che chang’ kou kibononook. Kikowal TIST konwotutichu. Mbarenikiok nguni ko che sire biik en boisiet en komosto neo! Konyekiok ko yototiin en nguni!



Susan Kabirithu en Timtanyin nebo ketik.



TIST koristab mugaret.

Yenkimin ketik konyoru koboisien koristo noton yaa (CO2) korisiton ko agenge en chekiguren (greenhouse gases), en niton kotere burgeyeta nguwo tut en soet asi konyor burgeyet neo ng'uwotut, mwoe ng'omutik kole kigoet burgeyet en emet ako magararan weche emet en niton koweche emet, eniton koweche emet amun emotinwek alak komuche koet robta mising, bitu kameusiek anan ko melewet, bitu koristo neyaa yon koboisien karisiek mwanik, kou makaa (nesek) amun ketik koboisien koristo kobose chongitab korisuwek chemi soet, moche anyun seregali ak emotinuwek cheboisein (industries) kobos koristo neyaa asi nguwo tut borgeiyet neyomegei.

En koitikab ketik chebo tist koiti ak kobimoni toltolitab ketik asi komuch konai kole tiana koristo negobosien ketit, kobunisie ak seregali kwole koristo neya ak koliban ketik ak kobos korisoton.

Nyolche ko kibo imanit ak chelitit en koitetab ketik asi kimuch kiyanten, ye ka konyoru rabisiek komuche kurubit koboisien komnye ak konam koyai tuguk alak che komagotinye, kurubisie kelibochin \$20 chebo ketik 1000 en kenyit (kogerger ak 1.80 ksh.) En ketit ne sobe, nyorunen kelchil temik kosir olik amun chechuak ketik.

Membaekab karaba kilasta en laikipia county komiten tuiyet en arawanik 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 kibun 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 walletab emet komie. Kitinye ororunetab chuton tugul asi iguiye ile tos imuch kotoret.

Ne anyun burgeiyetab emet?

Burgeiyab emet kogochin nguwendet koet missing burgeiyet, niton kogochin emet

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

Tos tesosei mat en emet?

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

Tos titye 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 burgeyetab 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 tulong, 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 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 boroinde en ole imoche. Amun tinye boroinde olik ak oldoik (kou kawek kotinye keruti).

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

TIST kotinye olik oeng:

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

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