July 2013 Newsletter

Not for sale

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

www.tist.org

English Version

An Environmental, Sustainable Development and Community Forestry Program.

Itugururu Cluster members during their Cluster meeting last month.

Inside:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

TIST: Best Practices in Practicing Agroforestry.

Agro forestry refers to growing trees and shrubs together with agricultural crops or livestock. The overall aim of agro forestry is to increase the productivity of the land through the use of trees. Trees have many benefits for the farmer:

- Building material
- Fuel wood
- Fruits and other food
- Fodder
- Soil stabilization
- Soil fertility
- Moisture retention
- Wind shelter
- Erosion control, especially by rivers
- Medicines
- Shade

Agroforestry practices:

There are many different techniques and new methods are being discovered all the time. Some techniques are successful in one place while not so useful in other areas. The following are some common methods of agro-forestry:

1. **Hedges**:

This involves selecting a tree species which can be placed in a line and which have benefits for the land. Hedges require little space, control erosion, and can produce leaves for fodder or mulch. An example of hedging is to plant a row of trees around the field boundary. Recommended spacing is around 2m – 3m. The best design includes a mixture of tall and short trees.

2. **Alley cropping**:

This involves establishing trees at varied spacing 2m and above in rows along fields. There may be a tree row, then two or three rows of crops, then another tree row, then crops etc.

An example of this is planting alternating rows of maize with leucaena, or coffee and bananas.

The most suitable trees are leguminous ones (ones that fix nitrogen for the soil). Spacing between rows of trees should be at least 5m. The tree rows need to be weeded and pruned regularly. The trees cannot grow too tall otherwise they will compete with the crops for soil nutrients and light. The pruned leaves can be added to the soil to improve the soil fertility.

Trees that are pruned to be shrub-like will not be suitable for TIST payments since they won't sequester much carbon, but they will improve the agricultural land and provide many other benefits to the farmer. In drier areas, this may not be a good approach or more space between trees and crops may be needed so that they do not compete too much for nutrients and water.

3. **Windbreak**:

This is planting wide strips of trees to provide a windbreak, which protects crops from the oncoming wind. You begin by planting large trees in the center, smaller trees for the next two rows and low shrubs, then bushes and grasses on the outside. The advantage of windbreaks is that the farmer does not have to sacrifice an entire plot of land for trees. It only takes a strip of land, and the benefits can improve yields by 30% in some areas. Note that poorly planned windbreaks can damage crops more because it can channel the wind through gaps.

Find someone experienced in this to help you design your windbreak.

4. **Fallow cropping**:

This is where farmers stop growing crops on a piece of land and let trees take over to help restore soil fertility.

5. **Inter-cropping**:

This involves wide and even spacing of trees among food crops. Good trees are those that have light canopies and fix nitrogen.

6. **Grazing improvement**:

You accomplish this by managing trees on grazing land to help provide wood and fodder.

7. **Woodlots**:

Small woodlots can be grown on unused or unproductive land, e.g. woodlots planted on stony outcrops or in gullies. Woodlots can also be planted on cropland to serve as a windbreak, or they can be planted on fallow land. Please note that TIST trees have to be correctly spaced in order to grow fully and remain in the ground long-term. Some of the above agro-forestry methods are best practices for agriculture, but may not qualify for TIST tree payments.

Nutrition for long time patients.

In some families, where the loved ones have been sick, caregiving becomes very important. Illnesses such as diabetes, cancer, HIV/AIDS, and tuberculosis (TB) are chronic illnesses, meaning they re-occur or last a long time. Patients suffering from such diseases need to be fed the right, nutritious food to make them as strong as possible and help fight other infections.

Good nutrition includes foods which:

- **Provide energy to the body** through sources of carbohydrates like Ugali (stiff porridge made from maize) and thinner porridge made out of maize, sorghum, millet, finger millet or cassava. Rice, sweet potatoes and Irish potatoes are good sources as well. Note that oils and fats, in moderation, provide energy as well as adding taste to the food.
- **Provide for bodybuilding** (Proteins) with meat (chicken, beef, goat, mutton, duck, and guinea fowl. Eggs, milk, legumes (beans, cowpeas and Green Grams) along with groundnuts are good sources of protein.
- **Provide sources ofVitamins** - such asVitamin A is especially important for keeping people living with HIV/AIDS and are available in enough quantities from:
  - Green vegetables (cowpea leaves, okra, cassava leaves).
  - Orange fleshed vegetables (orange fleshed sweet potato)
  - Plantain (matoke)
  - Fruits, especially those with a yellow color (oranges, paw paws, mangoes, ripe bananas, guavas)
- **Drinking adequate fluids** - Sick people need to drink a lot of water. Drinking water should be boiled for at least 10 minutes, cooled and stored in a clean, covered container. Clean water is important for all members of the family, but is especially critical to those with a chronic illness, since they cannot fight other diseases as well as someone who is strong. If the patient has chronic diarrhea you can make a simple rehydration drink by dissolving six teaspoons of sugar and half a teaspoon of sale in one liter of clean water to help replace the fluids the patient has lost. You can also add fruit juice to make it taste better.
- **Basic hygiene principles.** If you are preparing food for someone who is ill, make a special effort to ensure your hands are cleaned with soap and water, food is washed and cooked properly, and that eating utensils are thoroughly cleaned and dried.

In the photo below is Kawiru M.C.K. Cluster members in a meeting.

The members are grateful as they receive their payment vouchers. Eight Small Groups received vouchers during the June 7.6.13 meeting.

This farmer from Kiengu Cluster is shown spraying his Green Gram plants on a farm. Spraying for pest control is recommended for good yields in Green Gram.

If you want your Cluster to participate in TIST Green gram program, please contact Jeniffer Kithure 0726319539

What is an Environment?

The word environment means what surrounds an organism. The organisms may be a human being, a lizard, a bird, a plant or an insect.

What are the components of environment?
The environment of a living thing consists of all living and non-living things. The living things found in the environment are referred to as *biological factors*. These include the plants and animals in the environment. Non-living things that surround living ones are referred to as *physical factors*. These include water, air, climate, (temperature, wind, humidity, rainfall, soil and mineral salts).

The biological and physical factors directly or indirectly affect the organism in the environment. For example, living things need air, water and food to survive. All of these are found in the environment.

Human beings are the most innovative of all living things. They try to make life in the environment comfortable. However, some human activities are harmful to both humans and other organisms.

Pollution.
Pollution means spreading harmful substances in the environment (air, water, ground etc.). The harmful substances that pollute the environment are referred to as pollutants. When pollutants are spread into the environment, the lives of living things are endangered. Human activities cause pollutants in the environment.

Air Pollution.
Air is a mixture of gases that consist of:

21% Oxygen
78% Nitrogen
0.003% Carbon dioxide
0.97 Others.

Pure air does not exist. Other substances are found in it, which include water, vapor, dust and smoke. The amount of smoke and dust in the air is determined by the activities of human beings in the environment.

Causes of air pollution:
The major air pollutants include poisonous gases, smoke, dust and noise.

Big factories emit smoke and poisonous gases into the air. Some of these gases are carbon monoxide and sulphur dioxide, which are very poisonous and can kill when inhaled in large amounts.

Humans breathe in oxygen and breathe out carbon dioxide. Plants, through photosynthesis, take in carbon dioxide and release oxygen. What a wonderful gift! Plants produce oxygen for human beings!

Many animals live within the plant cover, which protect them from their enemies. Trees are known to attract rain and areas with many trees receive more rain than those without trees. Plants provide shade which reduces heat from the sun, thus lowering the temperature.

We use plants as firewood and can also prepare charcoal from them. Firewood and charcoal are used as fuel for cooking or heating. It is important when trees are cut down for the production of charcoal to be replaced immediately. For one tree cut, you should plant five others.

We use plants for various kinds of construction like building houses, furniture making from timber, baskets, mats and brooms. Farmers get many benefits from trees as well as carbon credits.

Roots of plants hold soil together thus preventing soil erosion by checking the speed of wind and running water.

TIST - Let's conserve trees and plant more on our farms for great benefits to ourselves and the environment.

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 the 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, the El Nino floods of 1998 that ravaged most of the country and the long drought that followed, and the strong hurricane of 2004 were likely intensified by global warming. Other notable illustrations are the gradual wearing off the glaciers at the peak of Mt. Kenya, unpredictable weather patterns that have resulted to 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 may 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. Many of the world's leading climate scientists think that things people do are helping to make 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, sulphur 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 dangers of Global Warming?

- Severe water stress in the arid and semiarid land areas. This would result in more areas becoming desert.
- Increased spread of diseases like malaria. As areas become warmer, more become suitable breeding grounds for mosquitoes, 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 severally 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?

Plant and care for trees!

As mentioned above, carbon dioxide is one of the gases that cause 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 the carbon they had stored back to the air.

Did you know each tree can create a micro climate?

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?

In 1997, a number of countries signed a UN agreement which said that all signing countries would work together to reduce how much they pollute, particularly limiting greenhouse gas pollution. This agreement was called the Kyoto Protocol, named after the Japanese city of Kyoto where the agreement was signed.

Under the Kyoto Protocol many industrialized nations have agreed to reduce the levels of carbon dioxide they produce. One way to do this is by taking carbon dioxide out of the atmosphere and storing it in the ground or in trees. 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.

For instance, 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 product 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 is done in New York, Chicago, London, and other cities globally. At these markets, carbon offsets are bought, traded, and sold in large volumes for money. We have to meet the market 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 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 shamba and the longer they stay alive, the longer the period of receiving payments. So, the farmer keeps the trees and the fruits and the nuts. The money that TIST makes selling carbon offsets is then shred with TIST Small Groups and used to support the costs of TIST, including training, Quantification, and management.

Through carbon markets, planting trees can provide a new source of income because they absorb and store carbon that can be measured, reported, and sold as carbon credits. Trees also provide many other environmental, material and medicinal benefits.

Do all trees absorb the same amount of carbon?

No. Tree that have wider circumference (more biomass) store more carbon that 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.

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). Here are some of the major markets and types of offsets:

1) Certified Emission Reductions (CERs) for the Clean Development Mechanism (CDM) represents the market created under the Kyoto Protocol. These carbon credits must be verified and certified under the CDM process for use by the industrial countries that have made GhG reductions commitments under the Kyoto Protocol to help them comply with agreements. This is a compliance market. Verification and Certification is done by independent Designated Operational Entities (DOEs) and approved by the Executive Board of CDM. Currently, this market does not work very well for many forestry projects, including TIST.
2) Another market that requires verified emission reductions are the non-Kyoto compliance markets. In the US, which is not a signatory to Kyoto, some of the individual states are requiring GhG reductions. Australia has similar requirements. While the approval process will require that the emission reductions be verifiable, and verified by an independent party, it is a separate and different process than the CDM procedures. These markets have a lot of potential, but are not currently open to TIST.
3) Voluntary markets are where TIST has sold offsets from tree planting by TIST farmers. There are two types of voluntary market buyers. The first is a small market 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 of voluntary market buyer is a much larger potential market made up of companies in the US and other non-Kyoto 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.

   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 offsets. Currently, two leaders that TIST has been verified under are the Verified Carbon Standard and the Climate, Community, and Biodiversity Alliance Standards.

July 2013 Newsletter *Not for sale*

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

w w w . t i s t . o r g

Kikuyu Version

An Environmental, Sustainable Development and Community Forestry Program.

Amemba a Itugururu Cluster mucemanio wao wa Cluster mweri - ini ucio urathirire.

Thiini:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

TIST: Mitaratara miega ya kugeria kuhanda miti hamwe na irio cia mugunda.

Agroforestry yuugite kuhanda irio cia mugunda hamwe na miti na kuriithia mahiu. Gitumi kinene kia rimi uyu ni kwongerera maciaro ma mugunda kuhitukira huthiri wa miti. Miti niikoragwo na mawega ta maya kuri murimi:

- indo cia gwaka.
- Ngu.
- Matunda na irio ingi.
- Irio cia mahiu
- kwagirithia tiiri.
- Kunoria tiiri
- kuiga ugunyu wa tiiri.
- Kunyihia ruhuho.
- Kugitira tiiri kumana na gukuuo ni maai.
- Dawa.
- Kiiruru

Mitaratara ya urimi uyu: nikuri njira nyingi na ingi njeru nicirahondekwo mahinda mothe. Njira ingi nicikoragwo cihotekete kundu kumwe na cikarema kundu kungi. Ici ni imwe cia njira iria cihuthikaga makiria kuri agro-forestry:

1. **Hedges:** njira ino niya guthuura mithemba ya miti iria ingihandwi na muhari na iteithie mgunda. Hedges ibataraga mugunda munini, kugitira tiiri na nourute mahuti ma kurio ni mahiu kana kwara mugunda-ini. Kionereria kiega kia hedging ni kuhanda muhari wa miti muhaka-ini. Utaganu uria witikirikite ni wa 2m-3m. Mubango uria mwega niwa kuhanda utukanitie miti mukuri na miraihu.

2. **Alley cropping:** ino ni njira ya kuhanda miti thiini wa mugunda na mihari utukanitie na irio. Muhiano mwega ni kuhanda muhari wa mbembe na leucaena kana kahuwa na marigu. Miti ria miga muno niiria yongagirira nitrogen tiiri-ini. Utaganu wa mihari ya miti na irio cia mugunda yagiriirwo gukworwo iri 5m. Mihari ya miti niyagiriirwo ni kurimirwo wega na kwa mahinda. Miti ndingikura wega na iri miraihu tondu niigucindanira unoru wa tiiri na utheri. Mahuti maria macehwo nomarekio tiiri-ini niguo mongerere unoru.

Miti iria icehetwo ikahana githaka ndingitarwo ni tisT tondu ndiragucia carbongi no niiguteithia mugunda na njira ingi nyingi. Kuria gukoragwo kuri kumu, ino noikorwo itari njira njega ya kurora uhoro uyu kana handu hanene gaagati ka miti na irio nikagiriirwo gukorwo kari kanene niguo citigacindanire unoru na utheri.

3. **Windbreaks:** nio ni njira ya kuhanda miti mihari-ini niguo inyihie ruhuho na kugitira mimera kumana na ruhuho runene. Wanjagia nakuhanda miti minene gatagati, minini mihari-ini ingi iiri na gathaka kanini, ithaka na nyeki nja. Mawega ma njira ino niati murimi ndabataraga kuuthira mugunda wothe kuhanda miti. Ibataraga o muhari wa mugunda na mawega nomakorwo mongererekete na muigana wa gicunji kia 30% kundu kungi. Ririkana ati ungiaga kubanga wega njira ino nouthukie irio riria ruhuho rwaigirira gatagati-ini.

Caria mudu uri na umenyo muiganu niguo akubangithie.

4. **Fallow cropping:** ino ni njira iria murimi atigaga kuhanda irio mugunda-ini na akarekereria miti ikure na akanoria mugunda.

5. **Inter-cropping:** uu ni gutagania miti irio-ini. Miti iria miega ni iria miraihu na irutaga nitrogen.

6. **Grazing improvement:** noukinyanirie njira ino riria wakuria miti kuria urariithia mahiu niguo guteithiriria kwona ngu na irio cia mahiu.

7. **Woodlots:** tumiti tunini notukurio kuria gutarimagwo kana kuria kuhinju, muhiano, tumiti tutu nituhandagwo kuria kuri na mahiga kana mitaro ya maai. Tumiti tutu notuhandwo ona mugunda turi twa kunyihia ruhuho. Ririkana ati miti ya TIST nomuhaka itaganio wega niguo ikure na iikare gwa kahinda kanene, no ti miti yothe itikirikaga hari marihi ma TIST.

Irio cia hinya kuri arwaru a kahinda kanene.

Miciini ingi, kuria aria twendete makoretwo mari arwaru, kumahe uteithio nigukoragwo kuri na bata munne. Mirimu ta cukari, cancer, HIV/AIDS, na TB niirwaragwo gwa kahinda kanene na uu nikuga ati niicokaga gwa kahinda kanene. Arwaru aria marwarite mirimu ino nimabataraga kuheo irio njega na irio ciri na hinya niguo magie na hinya wa kuhurana na mirimu ino.

Irio njega ciri na hinya ni hmwe na;
Iria cirekira miiri hinya kuhitukira kuria indo ta carbohydrates ta ngima (ucuru mumata wa mbembe) na ucuru mumata kumana na mbembe na muhia, were mugimbi kana mianga. Mucere, ngwaci na waru ni njega. Ririkana ati magura na indo cia maguta cingihuthirwo wega nocikorwo na hinya.

Iria ciakaga miiri; (proteins) ta nyama(nguku, ng'ombe, mburi, ngurwe, mbata, ngware, matumbi, iria. Mboco, njugu, ndengu) nicikorgwo ciri njega.

Iria ciheanaga vitamins; ta vitamins A niikoragow ciri cia bata kuiga mundu uri na HIV/AIDS wega.

- Mboga(mahuti ma cowpea, okra, mianga).
- Mbogo na waru
- Marigu
- matunda, makiria maria mari na rangi wa yellow(macungwa, mababai, maembe, marigu meru, mbera)

Kunyua maai maita maingi; andu aria arwaru magiriirwo nikunyua maai maingi, riria wanyua maai maingi maria macamukitio nfagika 10, makahehio an makaigwo mari matheru na mari makunike. Maai matheru nimari bata kuri andu othe no kuri aria arwaru na mari namirimu ya kahinda kanene tondu nimakoragwo makirua na mirimu ingi miingi. Angikorwo murwaru ari na murimu wa kahinda kanene, nouthondeke maai ma kwongerera mwiri maai na njira ya gutukania cukari iciko nini 6 na nuthu ya giciko kinini kia cumbi na mmai 1lt nigu murwaru acokie maai mwiri-ini. Nowikire maai ma matunda niguo icame wega.

Utheru; angikorwo niurehariria guthondeka irio cia murwaru, tigirira moko maku nimatheru na thabuni na uthambie irio na uruge wega na indo cia kurira cikorwo ciri theru nacikaniarithio.

Mbica ino iri haha thi ni amemba a Kawiru M.C.K. Cluster mari mucemanio-ini wao.

Amemba mena gikeno makiamukira marihi mao. Ngurubu inyanya niciramukirire marihi mao ma mweri wa gatandatu mucemanio-ini wao wa mweri 7.6.13

Murimi uyu wa Kiengu Cluster akihuhira ndawa mimera ya Green Gram mugunda-ini. Kuhuhira ndawa cia tutambi ni wega nigetha murimi akagia na magetha mega ma Green Gram.

If you want your Cluster to participate in TIST Green gram program, please contact Jeniffer Kithure 0726319539

Maria maturigiciirie nikii?

Maria maturigiciirie ni indo iria ciri muoyo na iria citari muoyo. Indo iria ciri muoyo iri thiini wa maria maturigiciirie ciitagwo biological factors. Ici nita mimera na nyamu thiini wa maria maturigiciirie. Indo iria citari muoyo cirigiciirie iria ciri muoyo ciitagwo physical factors. Ici nita maai, riera(urugari, ruhuho, ugunyu, mbura, tiiri na cumbi).

Maundu maya nimahuagia indo iria ciri thiini wa maria maturigiciirie. Kwa muhiano, indo iria ciri muoyo nicibataraga riera, maai na irio niguo cikare muoyo. Indo ici ciothe cikoragwo kuri maria maturigiciirie. Andu nimakoragwo na ugi muingi, nimahotaga guthondeka muikarire mwega thiini wa maria maturigiciirie. Ona kuri o uguo, maundu mangi maumanaga na mawira maandu nimakoragwo na ugwati kuri nyamu na indo ingi.

Pollution.

Kuguka kwa riera ni gukorwo na indo njuru riera-ini, maai-ini na thi. Indo ici iria cithukagia riera ciitagwo pollutants. Riria pollutants ciathii riera-ini, miturire ya indo iria ciri muoyo niikoragwo na ugwati. Mawira mamundu nomarehe pollutants thiini wa maria maturigiciirie.

Air Pollution.

Riera ni mutukanio wa;

- 21% Ooxygen
- 78% Nitrogen
- 0,003% Carbon Dioxide
- 0.97 indo mingi.

Riera itheri ritikoragwo kuo. Indo ingi nicionekaga thiini, na nit maai, mihumu, rukungu na ndogo. Muigana wa ndogo na rukungu thiini wa riera uringanaga na maundu maria mekagwo ni mundu tiini wa maria maturigiciirie.

Itumi cia pollution:

gitumi kinene kia pollution ni miruki miuru, ndogo, rukungu na inegene.

Iganda nene nicirutaga ndogo thuku thiini wa riera. Miruki imwe ya ino nita carbon monoxide na sulphur dioxide iria cikoragwo na ugwati munene muno na nociurage mundu cingiingira mwriri-ini na njira nene. Andu magucagia oxygen thiini na makaruta carbon. Mimera kuhitukira photosynthesis, igucagia carbon na ikaruta oxygen. Ni kiheo kinene atia! Mimera irutaga oxygen kuri andu!

Nyamu nyingi cihumbagirwo ni miti, iria icigitagira kumana na thu. Miti niyuikaine kugucia mbura. Kuria kuri na miti miingi nikwamukagira mbura nyingi gukira kuria gutari. Miti niikoragwo na kiiruru kiria inyihagia urugari kumana na riua.

Nituhuthagira miti niundu wa ngu na makara. Ngu na makara cihuthikaga na kuruga na gwota mwaki. Ni undu wa bata riria miti yatemwo niundu wa makara yahandwo ingi. Riria watema muti umwe, handa ingi itano.

Nituhuthagira miti niundu wa maundu mangi ta miako ya manyumba, guthondeka indo cia mbau, ikabu, na ihato. Arimi nimakoragwo na mawega kumana na miti niundu wa carbon credits.

Miri ya miti niinyitagirira tiiri na kugiriririria maai kuukua hamwe na kunyihia ruhuho na maai guteng'era.

TIST – rekei tumenyerere miti na tuhande ingi miingi migunda-ini iitu niguo tugie na umithio munene kuri ithui na kuri maria maturigiciirie.

Arimi ba TIST nibakurua na kuruutira kwa nthi na kugaruka kwa rera.

Arimi ba TIST nibajukiritie itagaria kiriro kia nthi yonthe gia kurua na kuruutira kwa nthi na kugaruka kwa rera. Arimi babaingi nibacuite kwerewa gukurukira semina na moritani ja TIST na kinya micemanio ya cluster kumenya na kwerewa nkuruki kwegie kuruutira kwa nthi, uria kuruutira guku kugaruraga rera na matagaria jaria jomba kujukua nikenda tukabana na untu bubu. Nituonaga mantu jamaingi jaria jaumaniitie na kugaruka kwa rera narua. Kuejana minguanano imikai ya mantu jaja ni kurutira na kunyenyea gwa nkamia iria ituuraga iguru ria murima Kenya, rera itikumba kubangirwa niuntu ikaraga ikigarukaga na kwou igatuma imera bikathuka guntu kuria kwingi, kunyara kwa ithima na biumo biaa nduuji na mantu jangi jamaingi.

Gazeti ya mweri juju ikagaana natwi mantu kuumania na uritani bwa semina nikenda twinthe tuumba kumenya kuruutira kwa nthi na kugaruka kwa rera nimbi.

Tukaambiria na kumenya o riitwa niakwa riugaga na kumenya nkuruki kuriegie na riu tuthome kwegie uria miti yaku itethagia kunyiyia mantu jaria jaumanagia na kuruutira kwa nthiguru.

Kuruutira kwa nthi nimbi?

Kurutira kwa nthi ni kwingia kwa murutira jwa nthiguru, buria butumaga rera ikagaruka. Nthiguru irina kiruutira nkuruki no itume gukagia na kugaruka kwa uria mbura iijaga, iburutani birina inya nkuruki, gwitia kwa iria, kuthuka kwa imera na mantu jangi jamaingi kiri imera, nyomoo na antu. Riria athomi baariria kugaruka kwa rera, bethagirwa bategete mono kurutira kuria kuretagwa ni mantu jaria jathithagua ni muntu na kugaruka nainya kwa rera kuria kuretagwa ni bubu.

Nthiguru nikurutira nkuruki?

Ii! Nthiguru nirutirite na 1°C ndene ya miaka igana iria ithiri. Athomi baria baingi nthigurune nibakuthugania ati mantu jaria antu bathithagia nijagutethia gutuma nthiguru igia na kiruutira nkuruki ta kuithia makara, maguta ja ngari, na gasi na kugiita miitu na kuremwa kumenyeera miunda bwega.

Greenhouse Effect nimbi?

Greenhouse effect ni kwongereka kwa muruutira kwa nthiguru niuntu bwa icunci bimwe bia ruugo, bigwitwa greebhouse gases, ta ruugo rwa kaboni, rwa nitrous, rwa sulphur na methane ruria rujukagia murutira kuumania na riua. Kaboni yuumaga mono kuumania na: ugiti miti, ruugo kuumania na kambuni, kuumania na ngari, kuumania na gwakiria nkuu, makara na miitu.

Mantu jamathuku jaria jaumanagia na kuruutira kwa nthiguru ni jariku?

- Thina ya ruuji ndene ya ntuura injumu. Bubu butumaga guntu gukwingi gukooma nkuruki.
- Gutamba gwa mpwi kwa rwagi. O uria ntuura ikugia murutira, nou gukabua gwa guciarirwa kwa rwagi na kwou kwingia kwa mbajua cia rwagi. Nja na cibitari inyingi nocikinyirwe, maisha jagakuia na aana babaingi bagakua.
- Kunyia gwa irio bia munda ndene ya nthiguru iria ciri na murutira na ngai, mono ndene ya East Africa. Niuntu bwa kunyia kwa ngai na kwingia kwa guciarana kwa tunyomoo niuntu bwa kwingia kwa muruutira, irio kuuma miundene no binyie na bubu bugatuma gukagia ukia na mpara ndene ya nja na ntuura.
- Uguri bubunene nkuruki bwa irio ndene ya nthiguru. O uria amemba babaingi baguketha bibikai nou irio bikaura, uguri bunenee niuntu babaingi nibakubienda na nibibikai bikwoneka.
- Kugaruka gukunene kiri uciari na gukaranira kwa imera na nyomoo ndene ya mwitu kuria kurina bata mono. Naria ruuji rugwatagua ibarine na miitune gukenderea kuuma. Bubu bugatuma antu baremwe kuanda into bia ruuji na na kunyiyie ruuji ruria ruri miurone untu buria bugatuma biria biaki bia kugwatia ruui birega gukinyirwa niru. Bubu bukanyiyia stima iria ikuthithua. Kambuni cietu, cibitari na biuthurani bingi biria bitumagira stima na wingi bikaremwa gwita na mbele uria bibati. Ruuji ruria rwitaga tauni na ntuurene imwe na paipu kinyaru rukanyia.
- Antu milioni kumi ya ikumi bakarugurirwa thiina cia kuigara kwa ruuji na kugua kwa nthi, niuntu bwa kwingia kwa mbura na ndene ya ntuura iria ciri iriene, ruuji rwa iria rugaitia.

Niatia mpumba gutigithia kuruutira kwa nthiguru?

Aanda na umenyeera miti!

Ja uria twauga au iguru, ruugo rwa carbon ni rumwe rwa ruugo ruria rutumaga nthiguru iruutira. Miti nijukagia ruugo ruru kuuma kiri ruugo rungi igitene ria kuthithia irio na kuruika mutine, mirine na muthetune ja kaboni iguitwa cellulose. Indiri, riria miti yagiitwa na yaithua, niiritaga kaboni iji na kumicokia kairi ruugone.

Niwiji ati o muti no juthithie rera inini??

Miti na irundu biayo nibikunikagira nthi igakara irina mpio. Thikira uthongi bwa kirundu kia muti. Tega woone ati muthetu juria juri rungu jurina ruuji nkuruki ya juria juri rungu ria riua gutina kirundu. Riria nthiguru ikaraga irina mpio, nthi niikaraga na ruuji igita riraja nkuruki. Guku ni kuuga miti ndene ya muunda jwaku igagutethia kuingiyia

ruuji ndene ya muthetu jwaku, na nitethagia kuruika igita riraja nkuruki. Bubu bugatethia imera biaku na kinya butethie atumiri ruuji ndene ya ntuura yaku.

Credit cia Kaboni nimbi??

Mwakene jwa 1997, nthiguru ingana unna niciasainire cigitikanagiria ati nthiguru iria cionthe ciasainire cigaitaniria ngugi kunyiyia uria bathukagia naria gututhiurukite, mono kunyiyia kuthukia kwa ruugo na ruugo rwa greenhouse. Baruga iji ya gwitikaniria yetirwe Kyoto Protocol, kuumania na tauni ndene ya Japan igwitwa Kyoto naria yasainirwe.

Ndene ya Kyoto Protocol, nthiguru inyingi iria cirina kambuni ikuri niciitikaniritie kunyiyia ruugo ruruthuku rwa kaboni ruria cithithagia. Njira imwe ya kuthithia uju ni kujukia ruugo ruru rwa kaboni oome ya ruugo ruria tukucagia na kuruika nthiguru kana mitine. Miti nijukagia ruugo rwa carbon kuuma ruugone igitene ria kuthithia irio na kuruika mutine, mirine na muthetune. Ruugo rwa kaboni ruria rujukagua ruugone na rugekwa no ruthimwe na gutarwa, na riu rugategwa kethira ni rwa mma, ruugo ruru ruthuku rukucagua ni miti no rwendue thokone ya nthiguru ja credit cia kaboni. Aguri no bagure credit iji antune a kaboni iria bathithagia.

Munguanano, TIST niumbaga kwendia kaboni iria itonyaga mitine ja uria athithia bendagia sukari na iria. Indi na kaboni, utiikagia kiria ukwendia thokone. Antu a gwikia, goro ni kuumania na ati kaboni nijukagua ruugone, igekwa mutene ndene ya muunda kana mwitu jwaku, ikathimwa na ripoti igatumwa. Kwendia gwa kaboni nikuthithagua New York, Chicago, London, na taunine ingi ndene ya nthiguru. Ndene ya thoko iji, kaboni iria iriti ruugone niciguragwa, ikeendua mbeca inyingi.

No mwanka tukinyire jaria jendekaga thokone, tutiumba kugiita miti kana miitu nikenda tuanda miti niuntu guku gutibui kiri naria gututhiurukite. Nitubati gwitikiria gwika miti igikuraga igita ririraja, miaka mirongo ithatu nankuruki. No mwanka turipoti jaria jario jongwa. Riria miti yaandwa, ithimi na gutarwa nikuthithagua kuthima ni kaboni ingana miti ya arimi ba TIST ikuciitie. Kairi rikana, miti itikagua thokone. Ikaraga muundene na o uria igita riria yakara muundene rikuingia nou igita ria kuriwa rikuingia. Kwou, murimi neekaga miti, matunda na nkandi. Mbeca iria TIST yoonaga kuumania na kwendia kaboni riu niiganagwa gatigati ka ikundi bibinini bia TIST na kurita ngugi cia TIST, amwe na moritani, utari miti na urungamiri.

Gukurukira thoko cia kaboni, kuanda miti nikuejanaga njira injeru ya kwona mbeca niuntu nijukagia na gwika ruugo rwa kaboni ruria ruumba kuthimwa, ripoti gutumwa na kwendua ja credit cia kaboni. Miti niejanaga kinya baita ingi cia kinaria gututhiurukite, kiinto na kindawa.

Miti yonthe nikucagia ruugo rwa kaboni runganene?

Ari. Miti iria yarami nkurki niyo iikaga kaboni nkuruki ya miti imiceke. Miti imiraja kinyayo nikucagia kaboni nkuruki ya miti imikui. Kwou, miti iria imati niyo ikareta mbeca inyingi nkuruki kuumania na credit cia kaboni. Kou ni kuuga miti iria iandi itarenie bwega niyo yumba kumata na kurea na kureta mbeca inyingi nkuruki. Itishindanagira irio kana ruuji ja miti iria ithagirwa ikuianiritie.

Kwou, nikenda twona mbeca injega kuumania na miti yetu, kurina bata kumianda itaranitie bwega nikenda yumba kugia inya, kurea na kwarama.

Inaa/nibau baguraga credit cia kaboni?

Igitne riri, credit cia kaboni ciendagua thokone cia kwiritira na ndene ya thoko iria igwitia mantu manna. Niikurukithagua na njira mwanya, oja uria kurina mithemba mwanya ya into bingi biria uguraga na kwendia (ta kauwa,na kauwa kathithitue na gwitwa riitwa mwanya)kaboni. Aja ni imwe cia thoko iria nene na mithemba ya :

1) Certified Emission Reductions (CERs) ya Clean Development Mechanism (CDM) nirungamagira thoko iria yathithirue ni Kyoto Protocol. Credit iji cia kaboni no mwanka itegwe na ikurukithue thiguru ya CDM nikenda itumirwa ni nthiguru iria ikuri iria ciikite wirane kiri Kyoto Protocol gutetheria kuthingatira wirane bubu. Iji ni thoko igwitia mantu manna. Utegi ngugi na gukurukithua nikuthithagua ni independent Designated Operational Entities (DOEs) na gugetikirua ni utongeria bwa CDM. Igitene ria nandi, thoko iji ti injega mono kiri miradi ya miitu, amwe na TIST.
2) Thoko ingi iria ciendaga kunyiua kwa kaboni gutari ni thoko iria ciitagia mantu manna citi cia Kyoto. Ndene ya Amerika, nthiguru imwe nicikwenda kunyia kwa GhG. Australia niitagia mantu oja jau. Kinya kethira gukurukithua gukenda kaboni itari na yategwa ni kiama kiri gyonka, ni untu bwa mwanya na njira cia CDM. Thoko iji ni injega mono indi thaa iji citiruguri kiri TIST.
3) Thokone cia kwiritira ninoo TIST yeendagia credit cia kaboni kuumania na uandi miti bwa arimi ba TIST. Kurina aguri bairi ndene ya thoko cia kwiritira. Wa mbele ni thoko inini iria irina antu baria bairitirite kuejana mbeca gwikira antu motisha ya kuanda miti. Minguanano ni kuria miradi ya uandi miti kuthiria ruugo ruruthuku kuumania na muranu kana mucemanio jwa semina. Muthemba jwa iiri jwa aguri ba kwiritira ni inene nkuruki na ni ya kambuni ndene ya Amerika na nthiguru ingi iria ikuri na iria itisainite Kyoto niuntu ni akiki babega ba naria gututhiurukite kana nibakubangira mantu jaria jakendekanaga thokone ntuku ciijite.

Kurina mantu mwanya mwanya ndene ya thoko iji jaria jendekaga gukinyirwa na sheria ikugaruka o igita o igita cia uandi miti, kumimenyera na kuripoti iria tubati gukinyira nikenda tuumba kwendia ruugo. Igitene riri, TIST nikurukithitue ni Verified Carbon Standard na Climate, Community, and Biodiversity Alliance Standards.

July 2013 Newsletter

Not for sale

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

w w w . t i s t . o r g

Kimeru Version

An Environmental, Sustainable Development and Community Forestry Program.

Itugururu Cluster members during their Cluster meeting last month.

Inside:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

TIST: Mitire iria miega buru riria ukuandaniria imera na miti na kinya gwika ndithia.

Agroforestry ni uandaniri miti na ithaka amwe na imera bia irio kana ndithia. kuungania guku kwendagwa nikenda maciara ja muunda jaingia gukurukira utumiri bwa miti. miti iria baita inyingi kiri murimi:

- Mpao cia guaka
- Nkuu
- Matunda na irio bingi
- Irio bia ndithia
- Kurikia muthetu
- Kunoria muthetu
- Gwika ruuji muthetune
- Gukunikira imera kuumania na ruugo
- Kunyiyia gukamatwa kwa muthetu, mono ni nduuji
- Ndawa
- Kirundu

Mitire iria miega buru riria ukuungania miti, ithaka, ndithia na imera: Kurina njira inyingi mwanya na njira injeru iria ikumenyekana igita rionthe. njira imwe ni injega nturene imwe indi cititumirika nturene ingi. Aja ni mitire imwe iria itumikaga mono:

1. Ndwego: Bubu ni gutaara muthemba jwa muti juria juumba kuandwa na laini na juria jukoongera muunda baita. ndwego nicitumagira kanya kanini, ikanyiyia ukamati bwa muthetu na nojuthithie mabura ja kuriwa ni ndithia kana gukunikira muthetu. Miti niendekaga gutaranua na mita ijiri gwita ithatu. njira iria njega buru ni kuungania miti iminene na iminini.

2. Kuandaniria miti igitenie na iankene na imera: Aja miti iandagwa itarenie mita ijiri kana nkuruki na milaini igitenie muunda. no kwithirwe kurina laini imwe ya miti , riu laini ijiri kana ithatu cia imera, riu laini ingi ya miti, riu imera, o ou.

mung'uanano jwa bubu ni kuanda milaini ya mpempe iankene na ya muti jugwitwa leucaena kana kauwa na marigu.

Miti iria miega buru ni iria ikagira nitrogen muthetune.Milaini ya miti itaranie na mita ithano. milaini ya miti nibati kurimirwa na kugitwa mathangu o nhyuma ya o igita. miti itibati kunenea mono nontu igacindanira irio na weru na imera. mathangu jaria jagitwaa no jongerwe muthetune kujunoria.

miti iria igitagwa biang'i na mathangu igakara ta kithaka itibua kuriwa ni TIST niuntu itijukia ruugo ruruthuku rurwingi, indi ikathongomia muunda jwa imera na ie murimi baita ingi inyingi. Ndene ya ntuura injumu, iji ti njira injega kana gutarania gukunene nkuruki gukendeka nikenda itacindanire irio na ruuji mono.

3. Kunyiyia ruugo: Guku ni kuanda miti imingi na laini nikenda inyiyia ruugo, untu buria burigagiria imera kuumania na ruugo. uambagia kuanda miti iminene gati gati na iminini milaini iu ithingatite iiri na miti imikui, riu ithaka na nyaki oome buru. wega bwa miti iji ya kunyiyia ruugo ni ati murimi atianda muunda junthe miti. miti ijukagia kamunda kanini na baita ciomba kwongera maciara na gicunci mirongo ithatu kiri igana ndene ya ntuura imwe. Menya ati miti ya kunyiyia ruugo itibangi bwega no ithukie imera nkuruki niuntu no itongerie ruugo gukurukira bianya. Cuaa muntu uandite kairi agutethie kubangira miti yaku ya kunyiyia ruugo.

4. Kuanda miti icokia unoru bwa muunda:Aja ni aria arimi batigaga kuanda imera muundene na bakareka miti ikajujukia junthe nikenda itetheria gucokia unoru bwa muunda.

5. Kuandaniria: aja miti itarenie nainya na umwe iandagwa amwe na imera bia irio. miti imiega ni iria iti mathangu jamaingi na iria yongagira nitrogen muthetune.

6. Kuthongomia urithi: uthithagia uju na njira ya kubangania miti ndene ya muunda jwa kurithia nikenda yoongera mpao na irio bia ndithia.

7. Kuanda miti imingi amwe: Milaini ya miti no iandwe ndene ya muunda jutigutumirwa mung'uanano milaini ya miti iandi antu kurina maiga kana migurune. miti no iandwe kinya miundene ya irio nikenda inyiyia ruugo kana ikaandwa muundene kenda iujura ku icokia umoru bwa muthetu. Itu menya ati miti ya TIST no mwaka itaranie uria ibati nikenda ikura buru na ikara muthetune igita riraja. Njira imwe cia kungania urimi na miti ni mitire imiega nkuruki kiri urimi, indi miti iji itiumba kuriwa ni TIST.

Uria ajii ba igita riraja babati kuria.

Ndene ya nja imwe, naria endwa bajiitue, kubamenyeera nikuejaga kwa bata mono. mirimo ta diabetes, cancer, mukingo na TB ni mirimo ya igita riraja, ni kuuga nioraga igicokaga kana igakara igita riraja. ajii ba mirimo iji nibetagia kuria bwega, irio biria bibatiri nikenda bagia inya uria kuumbika na bibatethia kurua na mirimo ya kwijira.

Irio biria biendekaga mwirini ni:

Biria biikagira inya mwirine kuumania na biumo bia carbohydrate ja nkima (Ucuru bubumatu bwa mpempe) na ucuru bubuceke buthithitue na mpempe, mwere, ugimbi, muya kana muanga. Mucere, mikuo na ikwaci bia gicunku ni biumo bibiega kinya bio. Menya ati maguta, jamakai, kinya jo nijaejanaga inya na jakathongomia irio.

Biria biakaga mwiri (Proteni) na nyama (nguku, ng'ombe, mburi, ng'ondu, mbata, na guinea fowl. Nkara, iria, ming'ao (mung'ao, nono na ndengu) amwe na karanga ni biumo bibiega bia proteni.

Biria biejanaga vitamini - ja Vitamin A irina bata mono kiri gwika antu baria bajitue ni mukingo na vitamini nionekaga ing'ani kuumania na:

- Mathangu ja imera (mathangu ja nono, okra, mathangu ja muanga).
- Irio birina rangi ya orange (mikuo ya orange)
- Marigu
- Matunda, mono jaria jarina rangi ya yellow (machungwa, mababai, maembe,marigu jamagundu, mbera)

Kunyua into bibingi bia ruuji - Ajii nibendaga ruuji rurwingi. Ruuji rwa kunyua nirubati guchamukua dagika nkuruki ya ikumi, rukoora na rugekwa mukebene jumutheru jukuniki. ruuji rurutheru rurina bata kiri amemba bonthe ba nja, indi rurina bata nkuruki kiri baria barina mirrimo ya igita riraja, niuntu batiumba kurua na mirimo ingi ja muntu urina inya. kethira mwajie nakumatuka mono no umuthithirie ruuji na njira ya gwikira iciko bibinini bia cukari na nucu giciko kia cuumbi ndene ya litre imwe ya ruuji rurutheru nikenda umutethia gucokia ruuji ruria rukuura. Kinya no uongere ruuji rwa gitunda nikenda ruthonoma nkuruki.

Mantu ja utheru jaria jari mbele. Kethira nukuthuranira irio bia mwajii, jukia itagaria ria kumenyeera ati njara ciaku nicithambitue na sabuni na ruuji, irio ibithambi na biarugwa bwega na into bia kurira nibithambitue bwega na kunyaara.

Ndene ya mbicha iji ni amemba ba cluster ya Kawiru M.C.K.

Amemba baba nibagucokia nkatho niuntu bwa gukinyirwa ni vocha cia mbeca ciao. Ikundi bibinini binana nibiakinyirwe ni vocha mucemanione jou jwa tariki mugwanja mweri jwa itantatu, 2013.

Murimi uju kuuma cluster ya Kiengu niakwonanaua akiugagira ndengu ndene ya muunda jwawe. Kuugira niuntu bwa kunyiyia tunyomoo ni gukwega nikenda woona iciara ririega ria ndengu.

If you want your Cluster to participate in TIST Green gram program, please contact Jeniffer Kithure 0726319539

Naria gututhiurukite nimbi?

Riitwa environment riugaga biria bithiurukite gintu kiri moyo. Gintu kiu kiri moyo no kithirwe kiri muntu, mururu, nyoni, kimera kana kanyomoo.

Ni into bibii bitaragwa biri environment?

Biria bithiurukite gintu kiri moyo ni biria bionthe biri moyo na kinya biria biti moyo. Biria biri moyo na bithiurukite gintu biitagwa *biological factors*. Bibi ni amwe na imera na nyomoo iria ciri naria kuthiurukite. Into biria biti moyo biri bithiurukite gintu kiri moyo biitagwa *physical factors*. Bibi ni amwe na ruuji, ruugo, rera, (mwanki, ruugo, ruuji, mbura, muthetu na cumbi cia muthetu)

Into bibi biri moyo na biria biti moyo nibitongaga gintu kiu kithiuruki na njira ikwoneka kana na njira itikwoneka. Mung'uanano, biria biri moyo nibiitagia ruugo, ruuji na irio. bibi bionthe biri naria gukithiurukite.

Antu ni biria biambagia mantu nkuruki ya biria bionthe biri moyo. Nibageragia kuthongomia miturire ndene ya aria kubathiurukite. Indi-ri, mantu jamwe ja muntu ni jamathuku kiri antu na kiri bingi biria biri moyo.

Kuthukia.

Kuthukia ni gutambia into bitibui naria gututhiurukite (ruugo, ruuji, muthetu na nkuruki.). Into bibi bithuku bithukagia naria gututhiurukite biitagwa "pollutants" Riria bibi bitambagua naria gututhiurukite, utuuro bwa bingi biria biri moyo nibugitaragua. Mantu ja antu nijo jaretaga into bibi bia kuthukia naria gututhiurukite.

Kuthukua kwa ruugo

Ruugo ni muunganio jwa :

- 21% Oxygen
- 78% Nitrogen
- 0.003% Carbon dioxide
- 0.97 Ruungi

Ruugo rurutheru rutio. Into bingi ni biithagirwa biriku, amwe na ruuji, nduume, ruuko na toi. Toi na ruuko ruria ruri rugone nirumenyekaga kuringana na mantu ja antu jaria jagwita na mbele naria kuthiurukite.

Kuthua kwa ruugo kuthithikaga niuntu bwa mantu jaja:

Biria bithukagia ruugo mono ni ruugo ruruthuku rwa sumu, toi, tiri na gituma.

Factory inene niciritaga toi na ruugo rurina sumu ruugone. ruugo rumwe rwa ruru ni carbon monoxide na sulphur dioxide, ruria ruri sumu mono na ruumba kuuraga rwakucua rurwingi.

Antu nibakucagia Oxygen na gwita Carbon dioxide. Imera, gukurukira kuthithia irio, nibijukagia Carbon dioxide na bikarita Oxygen. Ni Kiewa gikinene atia giki! Imera nibithithagiria antu ruugo!

Nyomoo inyingi nicikaraga imerene, biria biirigagiria kuumania na antu. miti nikucagia mbura na ntuura iria cirina miti imingi nicikinyagirwa ni mbura inyingi nkuruki ya iria itina miti. Imera nibiejanaga kirundu kiria kinyiagia mwanki kuumania na riua, kwou gikanyiyia mwanki.

Nitutumagira imera ja nkuu na tukathithia makara kuumania na bio. Nkuu na makara nijatumagirwa kuruuga kana kuejana mwanki. Burina bata riria miti yagitwa nikenda makara jathithua ingi iandwe o rio. Wagita muti jumwe, nubati kuanda ingi itano.

Nitutumagira imera guaka into bibingi ja nyomba, into bia gutumira nyomba kuumania na mpao, itheti, migeka na biegeri. Arimi niboonaga baita inyingi kuumania na miti amwe na mbeca cia kwendia ruugo.

Miri ya imera nigwataga muthetu na kwou ikajweberia kuumania na gukamatwa ni ruugo na ruuji.

TIST - Twikeni miti na tuande ingi ndene ya miunda yetu nikenda twona baita inene kiri twi na kiri biria bituthiurukite.

Arimi a TIST kuhurana na ugaruruku wa riera.

Arimi a Tist nimaiyukitie ritana ria kuhurana na ugaruruku wa riera thiini wa thi. Arimi aingi nimataukiirwo ni uhoro wa ugaruruku uyu o hamwe na mathuna maria ungirehe thiini wa semina o hamwe na micemanio ya cluster. Nitwonete mathina maingi ma ugaruruku uyu umuthi. Kugweta maundu mamwe nita El Nino ya 1998 iria yatumire bururi ugie na nga'aragu nene, muiyuro wa maai wa 2004 onaguo ni thina warehirwo ni muiyuro uyu wa maai. Maundu mangi nita guthira kwa barafu ya kirima kia Mt. Kenya ohamwe na ugaruruku wa imera undu uria utumite irio ciage gukura wega miena ino, njuui kuhua na kung'ara.

Ngathiti ya mweri uyu niikuheana githomo kuma semina niguo tutaukwo ithuothe matgina maya.

Nitukwambiriria na kumenya uria miti iteithagiriria hari kunyihia mathina maya.

Ugaruruku wa riera ni kii?

Ugaruruku wa riera ni wongerereku wa urugari thiini wa thi, uria utumaga riera ricenjie. Thi iri na urugari muingi gukira githimi niutumaga imera cia mbura cicenjie, kugie na huho, maai ma iria mambatire na irio ciage gukura wega. Nyamu cia githaka nicihutagio ni mathina maya ohamwe na andu. Riria athomi a science maria maundu maya, meciria mao ni ugaruruku wa riera uria urehagwo ni maundu maria tureka turi andu.

Ati thi ni iragia na urugari muno.

Nima! Thi niyongereire urugari na muigana wa 1C gwa kahinda ka miaka 100 mihituku. Athomi marauga ati maundu mamwe ma maria twikaga nimaratuma thi yongerere urugari ta; gucina makara, petrol na gutema miti ohamwe na kwaga kumenyerera migunda iitu wega.

Mathina ma Greenhouse nimariku?

Mathina ma greenhouse ni wongerereku wa riera uria thi yonaga tondu hari riera ritagwo greenhouse ta carbon dioxide, nitrous oxide, sulphur dioxide na methane nicigiragiriria hinya wa riua gukinya thi. Carbo yumaga maundu-ini maya: gutema miti, ndogo kuma iganda-ini, ndogo kuma ngari-ini ohamwe na ya ucini wa makara.

Mogwati ma ugaruruku wa riera?

- Kwaga maai kuria kwaraga na nogutwike runyanjara.
- Gutambio kwa mirimu ta Malaria. O uria kundu kwagia na urugari muingi, noguo rwagi rwonaga handu ha guciaranira na ugwati wa malaria ukongerereka. Micii miingi na thibitari nicigiaga na thina uyu na andu magakua.
- Kunyiha kwa urimi mabururi-ini maingi na makiria maria makoragwo East Africa. Na nitondu wa wongerereku wa riera na rwagi na tutambi guciarana, nikugiaga na ngaragu na ukia ukongerereka mici-ini iitu.
- Thogora wa irio ugathii iguru tondu irio ti nyingi na nicirabatarwo ni andu aingi nimaracibatara.
- Ugaruruku munene wa uciarithania wa maundu ma riera na muno thiini wa mutitu. Ihumo cia maai cikahua na mititu ikoma. Njira ino niigutuma urimi wa maai na njuui iria nini cikahua. Uruti wa thitima maai-ini niukunyiha. Iganada ciitu ohamwe na mathibitari na kundu kungi kwa bata kuria gukoragwo kwihokete thitima nicikuhitio ni thina uyu. Maai ma miberethi kwaga miciini na thiini wa town.
- Andu 10M mari ugwati-ini wa miiyuro ya maai ohamwe na ituika maundu maria marehagwo ni mbura nene na maai kwambatira iria-ini.

Tungigitira mathina maya atia?

Handa na umenyerere miti!

Ta uria twauga, carbon dioxide ni riera rimwe riria ritumaga kugie na ugaruruku wa riera. Miti niigucagia carbon ioxide kuma rieraini riria miti irakura na ikamiga thiini wa muti, miri na tiiri-ini iri ta cellulose carbon. On kuri o uguo, riria miti yatemwo na yacinwo niirekagiriria carbon ino igathii riera-ini.

Uri wa menya o muti nouthondeke riera riaguo?

Miti na mahuti maguo niuhumbagira thi. Kiiruru kia muti ni kiega. Riria tiiri uhumbiritwo niukoragwo na ugunyu na uu nikuga ati miti niiguteithia kwongerera maai tiiri-ini na ugateithia kuiga maai maya gwa kahinda karaihu. Irio nicigukura wega ohamwe na maai kuingiha.

Carbon credits nikii?

Kuri mwaka wa 1997 mabururi maingi nimekirire

uiguano wa UN uria waugaga at mabururi maya nimakurutithania wira hamwe kunyihia uthukangia wa riera na muno kunyihia uthukia wa greenhouse gas. Uiguano uyu wetiryo Kyoto Protocol na wetanirio na mucii uri thiini wa Japan kuria uiguano uyu wetikaniirio.

Rungu rwa Kyoto Protocol, mabururi maingi maria makoragwo na iganda nimetikaniirie kunyihia muigana wa carbon dioxide iria marutaga. Njira imwe ya gwika uguo ni ni kweheria carbon dioxide riera-ini na kumiiga thiini wa miti. Miti niigucagia carbon dioxide kuma riera-ini riria muti urakura na ukamiiga mutiini na tiiriini. Muigana wa carbon iria igucagio kuma riera-ini na ikaigwo miti-ini no uthimike na utarike. Carbon ino niyendagio thiini wa thoko ya carbon iri ta carbon credits. Aguri nimaguraga niguo manyihie carbon riera-ini. Kwa muhiano, TIST niri na uhoti wa kwendia carbon iria igucitio ni miti ota uria arimi mendagia iria na cukari. Thiini wa carbon, onagutuika ndutwaraga kindu thoko. Uthiaga na muigana wa carbon iria igucitio na ikaigwo miti-ni. Thoko ya carbon ikoragwo New York, Chicago na Lodon hamwe na micii ingi thiini wa thi. Thiini wa thoko ino carbon niyendagio na gikiro kinene na mbeca cikoneka.

No muhaka tukinyanirie ikiro niguo tuingire thoko. Tutingitheria mititu niguo tuhande miti tondu tiwega kuri maria maturigiciirie. No muhaka twitikire gutigirira miti niyaikara kahinda ka miaka 30 na makiria. No muhaka tuheane uhoro mukinyaniru. Riria miti yahandwo, ithimi na mathabu ma carbon iria arimi a TIST magucitie. Ririkana ringi, miti nditwaragwo thoko, iikaraga migunda-ini na o uria yaikara muno noguo ukugia na mbeca nyingi. Kwa uguo, murimi niatigagwo na maciaro ma muti. Mbeca iria ithondekagwo ni TIST thutha wa kwendia carbon credits cigayanagio kuri ikundi cia TIST na cikahuthika mahuthiro-ini ta githomo, utari wa miti, na menyereri wa mitaratara ya TIST. Kuhitukira thoko ya carbon, uhandi wa miti niurehaga njira ya guthukuma tondu miti niiigaga carbon iria ingithimika na yendio. Miti niikoragwo na dawa namawega mangi maingi mega.

Miti yothe igucagia carbon iiganaine?

Aca. Miti iria mitungu iigaga carbon nyingi gukira iria miceke. Miti miraihu niigucagia carbon nyingi gukira iria mikuhi. Kwa uguo niti iria mitungu niikurehe mbeca nyingi kumana na carbon credits. Uu nikuga ati miti iria ihanditwo na umenyereri munene na utaganu muiganu niikuraga wega na ikarehe mbeca nyingi.

Kwa uguo niguo twamukire marihi maingi kumana na miti iitu, ni undu wa bata tuhande miti miingi na utaganu muiganu niguo ikure wega iri na hinya na iri miraihu wega na mitungu.

Niku na nuu uguraga carbon credits?

Gwa kahinda gaka, carbon credits yenagio n akwiyendera na gukinyanira thoko-ini. Noitikirike na njira ngurani, ota uria gukoragwo na mithemba miingi ya indo na ukinyaniru kuri indo iria ingi ciendagio thoko-ini. Haha ni mithemba imwe yayo;

1. Certified Emission Reductions (CERs) ya Clean Development Mechanism (CDM) irugamagirira thoko iria ithindeketwo ni Kyto Protocol. Carbon credits ici nomuhaka cikorwo cikinyaniire na cikahitukio rungu rwa CDM kuhuthika ni mabururi maria manyihitie GhG na magetikaniria thiini wa uiguano uyu wa Kyoto Protocol. Ino ni thoko ya gukinyanira. Gukinyanira na gwitikirika gwikagwo ni Designated Operational Entities (DOEs) na igekirwo kirore ni bord nene ya CDM. Gwa kahinda gaka thoko ndirutaga wira wega na mitaratara ya mititu miingi hamwe na TIST.

2. Thoko ingi citabataraga gukinyanira na ciri nja ya uiguithanio wa Kyoto Protocol. Thiini wa USA, iria ndikirite uiguano wa Kyoto kirore, states imwe nicirekirira unyia wa GhG. Australia iri na ikiro ota icio. Na tondu ukinyaniru urenda unyihia mwitikiriku, ni njira ngurani na iria ya CDM. Thoko ici ciri na mieke miingi no citiitikirite TIST.

3. Thoko cia kwiyendera ni iria TIST yendetie carbon credits kumana na arimi a TIST. Kuri nithemba iiri ya thoko cia kwiyendera, ya mbere ni thoko nini ya aria merutiire kuruta mbeca niguo kwagirithia riera. Muhiano nita kuhanda miti niguo kwagirithia riera. Ya keeri ni kwirutira gwa company cia America na aria matari thiini wa Kyoto protocol na nimaterutira kunyihia GhG.

Nikuri na ukinyaniru na uigananu thiini wa thoko ici na ni ngurani, gwa kahinda gaaka, TIST niitikirikite na ikahitukio rungu rwa Verified Carbon Standard and the Climate, Community, and Biodiversity Alliance Standards.

July 2013 Newsletter *Not for sale*

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

w w w . t i s t . o r g

Kiswahili Version

An Environmental, Sustainable Development and Community Forestry Program.

Wanachama wa Itugururu Cluster wakiwa kwa mkutano wao wa Cluster mwezi uliopita.

Ndani:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

TIST: Njia bora zaidi katika kilimo mseto.

Kilimo mseto ni kupanda miti mikubwa na mifupi pamoja na mimea na mifugo. Mchanganyiko huu unahitajika ili kuongeza uzalishaji kupitia matumizi ya miti. Miti ina faida nyingi kwa mkulima:

- Vifaa vya ujenzi
- Kuni
- Matunda na chakula kinginecho
- Lishe kwa mifugo
- Kushikilia udongo
- Kurutubisha udongo
- Kuweka maji udongoni kwa muda mrefu
- Kupunguza upepo
- Kupunguza mmomonyoko wa udongo, sana kwa maji
- Dawa
- Kivuli

Mazoezi katika kilimo mseto: Kuna mbinu nyingi tofauti na njia mpya zinazogunduliwa kila wakati. Mbinu zingine zinafanikia mahali pamoja lakini hazitumiki mahali penginepo. Zifuatazo ni baadhi ya njia zinazotumika sanasana katika kilimo mseto :

1. Uzio: Hili linajumuisha kuchagua aina ya mti itakayopandwa kwa mstari na ulio na faida katika shamba hilo. uzio unahitaji nafasi kidogo, unazuia mmomonyoko wa udongo na unatengeneza majani ya lishe ya mifugo au ya kufunika mchanga. Mfano wa uzio ni kupanda miti kwa mstari ikizunguka shamba. nafasi inayohitajika kati ya miti ni mita mbili au tatu. Njia bora ni kupanda miti mirefu pamoja na mifupi.

2. Upanzi wa mseto: Hili linajumuisha kupanda miti kwa nafasi ya mita mbili au zaidi kwa mistari ikipita shambani. kwaweza kuwa na mstari wa miti, halafu mistari miwili au mitatu ya mimea, halafu mstari wa miti, halafu mimea na kadhalika.

Mfano wa ukulima huu ni kupanda mistari ya mahindi ikipakana na ya Leucaena ama kahawa na ndizi.

miti inayofaa zaidi ni miti ya kunde (inayoweka naitrojeni kwenye udongo). nafasi kati ya mistari iwe zaidi ya mita tano. mistari ya miti yafaa kupaliliwa na majani kupunguzwa kila baada ya wakati. Miti isiwe mikubwa ili isishindane kupata lishe na mwangaza na mimea. Majani yaliyopunguzwa yaweza kuongezwa udogoni ili kurutubisha udongo.

Miti iliyopunguzwa majani na kuwa kama miti ya kichaka haitalipwa na TIST kwa sababu haitaweza kuondoa kaboni , lakini itaboresha shamba la kulima na impe mkulima faida zingine nyingi. katika maeneo kame zaidi, njia hii si nzuri ama nafasi zaidi kati ya miti na mimea itatakikana ili isishindane sana kwa sababu ya lishe na maji.

3. Kuzuia upepo: Hii ni kupanda miti mingi kwa mistari ili kupunguza upepo, jambo ambalo linalinda mimea kutokana na upepo unaokuja. unaanza kwa kupanda miti mikubwa kati kati, midogo zaidi kwa mistari miwili inayofuata na miti mifupi zaidi , halafu vichaka na nyasi nje. Faida ya miti hii ni kuwa mkulima hatoi shamba lote lipandwe miti. Kunachukua shamba kidogo na faida zaweza kuongeza mazao kwa asilimia thelathini katika maeneo mengine. Jua kuwa miti iliyopangwa vibaya yaweza kuharibu mimea zaidi kwa sababu inaelekeza upepo kupitia katika mapengo.

Find someone experienced in this to help you design your windbreak. Tafuta aliye na ujuzi akusaidie kupanga miti yako ya kuzuia upepo.

4. Kupumzisha shamba: Hapa mkulima anaacha kulima mimea shambani na kuacha miti ikue ili kusaidi kurudisha rutuba ya udongo.

5. Kupanda zaidi ya mmea mmoja: Hili linahusisha kupanda miti iliyo kwa umbali mmoja pamoja na vyakula. miti mizuri ni ile isiyo na matawi mengi na inayoweka naitrojeni udongoni.

6. Kuboresha ulishaji wa mifugo: Unafikia hili kwa kupanda miti katika shamba la kulisha mifugo ili kusaidia kupata mbao na chakula cha mifugo.

7. Kupanda miti mingi: Miti michache ilipandwa pamoja yaweza kukuzwa katika mashamba yasiyotumika kwa mfano katika maeneo yaliyo na mawe juu au mitaroni. miti hii yaweza pia kupandwa katika mashamba yenye mimea kuzuia upepo, ama ipandwe katika mashamba yaliyopumzishwa. Tafaddhali jua kuwa miti ya TIST lazima iwe na nafasi iliyoelekezwa ili kukua hadi inavyofaa na kukaa udongoni kwa muda mrefu. Baadhi ya njia zilizo hapo juu za kilimo mseto ni njia bora zaidi katika ukulima, lakini hazitaweza kulipwa na TIST.

Lishe kwa wagonjwa wa muda mrefu.

Katika familia zingine, ambapo wapendwa wamekuwa wagonjwa, kuwatunza kunakuwa na umuhimu. Magonjwa kama kisukari, saratani, HIV / UKIMWI, na kifua kikuu (TB) ni magonjwa sugu, kumaanisha yanaweza rudi au kukaa kwa muda mrefu. Lishe bora ni pamoja na chakula ambacho:

– **Kinaupa mwili nguvu au nishati** kupitia vyakula kama Ugali na uji uliotengezwa na mahindi, mtama, uwele, mtama kidole au mihogo. Mchele, viazi vitamu na viazi ni vyanzo vizuri pia. Jua kuwa mafuta ya mimea na wanyama, kwa kipimo, yanaupa mwili nguvu pamoja na kuboresha chakula.

– **Kinaujenga mwili** (protini) na nyama (kuku, nyama ya ng'ombe, mbuzi, kondoo, bata, na Guinea). Mayai, maziwa, jamii ya kunde (maharagwe, kunde na ndengu) pamoja na njugu ni vyanzo vizuri vya protini.

- **Kinaupa mwili vyanzo vya vitamini-** kama Vitamini A iliyomuhimu sana sana kwa kuwaweka wanaoishi na ukimwi na zipo tosha katika:
  - Mboga (majani ya kunde , bamia, majani ya mihogo).
  - Mboga zenye rangi ya machungwa (Viazi vitamu vyenye rangi ya machungwa)
  - Ndizi
  - Matunda, sanasana yenye rangi ya kijivu (machungwa, makucha nyayo, maembe, ndizi mbivu, mapera)

- **Kunya vinywaji tosha** - wagonjwa wafaa kunywa maji mengi. Maji ya kunywa yafaa kuchemshwa kwa muda zaidi ya dakika kumi, yaachwe kupoa na kuwekwa kwa mkebe safi na uliofunikwa. maji safi ni muhimu kwa familia yote, lakini sanasana kwa walio na magonjwa sugu, kwa sababu hawataweza kupigana na magonjwa mengine vizuri kama walio na nguvu. Kama mgonjwa ana ugonjwa wa kuhara ulio sugu, waweza tengeneza kinyuaji kwa urahisi kwa kuweka sukari vijiko vidogo sita na kijiko kidogo nusu cha chumvi kwa maji lita moja ili kurudisha maji mgonjwa aliyopoteza. Unaweza kuongeza maji ya matunda ili kuongeza ladha.

- **Mambo ya kijumla ya kufuatilia katika usafi.** Kama unatayarisha chakula cha mtu aliye mgonjwa, jaribu zaidi kuhakikisha kuwa umeisafisha mikono kwa ssabuni na maji, chakula kioshwe na kupikwa vizuri, na vyombo vya kulia vimeoshwa kabisa na kukaushwa.

Katika picha hii wanacluster ya Kawiru MCK katika mkutano.

Wana cluster wana shukrani kubwa kwa kupata vocha za pesa za miti yao.Vikundi vidogo nane vilipata vocha katika mkutano huu wa tarehe saba, mwezi wa Juni, 2013.

Mkulima huyu wa cluster ya Kiengu anaonyeshwa akinyunyuzia mimea ya ndengu katika shamba lake. Kunyunyizia ili kupunguza wadudu kunahimizwa ili kupata mazao mazuri ya ndengu.

Kama unataka Cluster yako ihudhulie mpango wa TIST Green gram, tafathali mpigie Jeniffer Kithure 0726319539

Mazingira ni nini?

Jina mazingira humaanisha vinavyozingira kiumbe hai. Viumbe hai vyaweza kuwa binadamu, mjusi, ndege, mmea au mdudu.

Ni vipi vinavyojumuisha mazingira ?
Mazingira ya kiumbe hai ni pamoja na vilivyo na visivyo hai.Vilivyo hai katika mazingira huitwa vya kibayolojia. Hivi ni pamoja na mimea na wanyama katika mazingira. Visivyo hai vinavyozunguka vilivyo hai huitwa vya kimwili. Hivi ni pamoja na maji, hewa, hali ya anga, (joto, upepo, unyevu, mvua, udongo na chumvi ya kidini)

Vitu vya kibayolojia na vya kimwili huathiri kiumbe hai katika mazingira. Kwa mfano, viumbe hai huitaji hewa, maji na chakula kuishi. Hivi vyote hupatikana katika mazingira.

Binadamu ni kiumbe bunifu zaidi ya vyote vilivyo hai. Binadamu hujaribu kufanya maisha katika mazingira kuwa yenye starehe. Hata hivyo, shughuli zingine za binadamu huwa zenye madhara kwa binadamu na hata kwa viumbe vingine.

Uchafuzi
Uchafuzi ni kueneza vitu vilivyo na madhara kwa mazingira (hewa, maji, ardhi na kadhalika. Vitu vinavochafua mazingira vinaitwa vichafuzi. Vishafuzi vinapoenezwa katika mazingira, maisha ya viumbe hai yanahatarika. Shughuli za binadamu huleta vichafuzi katika mazingira.

Uchafuzi wa hewa
Hewa ni mchanganyiko wa gesi ambazo ni:

21% Oxygen
78% Nitrogen
0.003% Carbon dioxide
0.97 na zinginezo

Hewa safi haipo.Vitu vingine hupatikana kwa hewa, pamoja na maji, mvuke, vumbi na moshi. kiasi cha moshi na vumbi katika hewa ni kulingana na shughuli za binadamu katika mazingira.

Uchafuzi husababishwa na:
Vichafuzi vya hewa vilivyo vingi zaidi ni pamoja na gesi zenye sumu, moshi, vumbi na kelele.

Viwanda vikubwa huachilia moshi na gesi zenye sumu hewani. Baadhi ya gesi hizi ni zinazoitwa carbon monoxide na sulphur dioxide, ambazo zina sumu kali na zaweza kuua zikivutwa kwa kiasi kikubwa,

Binadamu huvuta Oxygeni na kutoa kaboni dioksidi. Mimea, kupitia kutengeneza chakula, huvuta kaboni dioksidi na kutoa Oksijeni. Ni zawadi kubwa jinsi gani! Mimea hutengeneza Oksijeni kwa ajili ya binadamu!

Wanyama wengi huishi katika mimea, ambayo huilinda kutokana na maadui. Miti inajulikana kuvuita mvua na maeneo yenye miti mingi hupata mvua zaidi ya maeneo yasiyo na miti. Mimea hutupa kivuli kinachopunguza joto kutokana na jua, kwa hivyo kushusha joto la anga.

Tunatumia mimea kama kuni na pia kutengeneza makaa kutokana nayo. Kuni na makaa hutumika kama ngataa ya kupika na kuleta joto. Ni muhimu miti inapokatwa ili kutengeza makaa mingine ipandwe mara moja. Mti mmoja unapokatwa, miti mingine mitano yapaswa kupandwa.

Tunatumia mimea kwa kazi mbalimbali za ujenzi, kama ujenzi wa nyumba, kutengeneza vitu vya nyumba kutokana na mbao, vikapu, mikeka na vifagio.Wakulima hupata faida nyingi pamoja na kupata pesa kutokana na kuuza hewa chafu.

Mizizi ya mimea hushikilia udongo na kupunguza mmomonyoko wa udongo kupitia kupunguza mwendo wa upepo na maji.

TIST - Tuitunzeni miti na mimea katika mashamba yetu zaidi ili kupata faida kubwa kwetu na kwa mazingira.

Wakulima katika TIST wapigana na mabadiliko ya hali ya hewa.

TIST wakulima waliitikia wito wa kimataifa wa kupambana na ongezeko la joto duniani na mabadiliko ya hali ya hewa. Wakulima wengi walitaka kuelewa kupitia semina TIST / mafunzo na katika nguzo mikutano ya kujifunza na kuelewa zaidi kuhusu ongezeko la joto duniani, athari zake kwa hali ya hewa, na kukabiliana na mbinu. Tunaona wengi athari za mabadiliko ya hali ya hewa leo. Tu kuelezea matukio kadhaa ya athari, El Nino mafuriko ya 1998 kwamba uliharibu mengi ya nchi na ukame wa muda mrefu kwamba ikifuatiwa na upepo wa nguvu ya 2004 walikuwa uwezekano ulizidi kwa joto duniani. Nyengine vielelezo mashuhuri ni taratibu amevaa mbali barafu katika kilele cha Mlima. Kenya, hali ya hewa haitabiriki ambayo ilisababisha na kushindwa kwa mazao katika maeneo mengi, kukausha ya chemchem na maji ya vyanzo vya maji maeneo, miongoni mwa wengine wengi.

Jarida la mwezi huu kushiriki maelezo ya mafunzo na semina ili sote tuweze kuelewa joto duniani na mabadiliko ya hali ya hewa bora.

Tutaanza na kufafanua kila mrefu na kulielezea zaidi na kisha kujifunza jinsi ya miti yako na jukumu muhimu katika kuondokana na madhara ya ongezeko la joto duniani.

Je, nini joto duniani?

Joto duniani inahusu ongezeko la wastani katika joto ya dunia, ambayo kwa upande husababisha mabadiliko katika hali ya hewa. Joto duniani inaweza kusababisha mabadiliko katika mwelekeo wa mvua, nguvu ya dhoruba, kupanda kwa bahari ngazi, kushindwa mazao, na mbalimbali ya athari juu ya mimea, wanyama pori, na binadamu. Wakati wanasayansi majadiliano kuhusu suala la mabadiliko ya hali ya hewa, wasiwasi wao ni kuhusu ongezeko la joto duniani husababishwa na shughuli za binadamu na mabadiliko ya hali ya hewa tofauti na hali ya hewa hii huleta juu.

Ni kweli dunia inapata joto?

Ndiyo! Dunia inaogeza joto kwa C kuhusu 1° zaidi ya miaka 100 iliyopita. Wengi wa wanasayansi duniani kuongoza hali ya hewa kufikiri kwamba mambo ya watu kufanya ni kusaidia kufanya dunia joto, kama vile kuchoma mabaki ya mafuta ikiwa ni pamoja na makaa ya mawe, petroli, na gesi asilia, na kukata misitu na kusimamia ardhi hafifu.

Je, ni madhara ya hewa taka?

Ni athari chafu ya kuongezeka kwa joto duniani kwa sababu ya kuwepo kwa baadhi ya gesi katika anga, gesi za viwandani, kama dioksidi kaboni, oksidi nitrojeni, dioksidi sulfuri, na methane ambayo hutega nishati kutoka kwa jua. Vyanzo vikuu vya kaboni ni: ukataji wa miti, gesi inayozalishwa kutoka kwenye viwanda, gesi inayozalishwa kutoka magari, gesi inayozalishwa kutoka kuchoma ya kuni au mkaa na uchomaji wa misitu.

Je, ni nini hatari ya joto duniani?

- Kufungua kwa maji katika maeneo kame na semiarid nchi.
- Hii inaweza kusababisha maeneo zaidi kuwa jangwa. kuongezeka kuenea kwa magonjwa kama vile malaria.
- Kama maeneo yenye joto zaidi huwa yanafaa kuzaliana kwa misingi ya mbu, na hivyo kuongeza hatari ya maambukizi ya malaria. Familia nyingi na taasisi za afya zinaweza kuathiliwa na vifo vya watoto wachanga viwango kupanda. kupungua kwa uzalishaji wa kilimo katika nchi nyingi za hari, hasa katika nchi za Afrika Mashariki.
- Kutokana na mvua kupungua na kuongezeka kuzaliana kwa wadudu kutokana na kupata joto kuongezeka, uzalishaji wa mazao ya chakula unaweza kupungua na matokeo yake ni umaskini na njaa miongoni mwa familia nyingi na jamii. Bei ghali ya bei ya vyakula duniani
- Kama zaidi wakulima kupata mavuno kidogo na chakula kuwa adimu, bei kuongeza kwa sababu mahitaji ni ya juu na ugavi ni ya chini. mabadiliko makubwa katika tija na muundo wa mifumo muhimu ya kiikolojia hasa ya misitu.
- Maji katika vyanzo vya milima na misitu kuendelea kukauka. Hii itaathiri uwezo wa kumwagilia mazao na kupunguza mtiririko muhimu kushika mabwawa na vyombo vingine vya kushikilia maji. Hii itapunguzauzalishaji wa nguvu za kawi .Viwanda vyetu, hospitali na taasisi nyingine ambazo sana hutegemea umeme vitaadhirika sana. usambazaji wa maji ya bomba katika maeneo ya mijini kama vile maeneo na vijijini pia huathirika.
- Makumi ya mamilioni ya watu wamo katika hatari kutokana na mafuriko na maporomoko ya ardhi, inaendeshwa na ongezeko la makadirio ya kiwango cha mvua na, katika maeneo ya pwani, kupanda viwango vya bahari.

Nawezaje kuzuia joto duniani?

Panda na utuze miti?

Kama ilivyoelezwa hapo juu, dioksidi kaboni ni moja ya gesi ambayo kusababisha ongezeko la joto duniani. Miti kunyonya dioksidi kaboni kutoka hewa .. Hata hivyo, wakati miti inakatwa na kuchomwa moto, hiyo huachilia kaboni ambayo imehifadhiwa kwenye mizizi na kuirudisha kwa hewa tena .

Je, unajua kila mti mmoja unaweza kujenga hali ya hewa micro?

Miti na bima zao huifanya dunia kuwa baridi . faraja ya kivuli cha mti. Ona kwamba udongo chini ni ya miti una unyevunyevu . Hii ina maana kwamba miti kwenye ardhi yako itasaidia kuboresha kiasi cha maji katika udongo wako, na kusaidia kuhifadhi maji kwa muda mrefu. Hii itasaidia mazao yako na pia hata kuwasaidia watumiaji wa maji katika eneo lako.

Je, ni nini upungufu wa karboni?
Katika 1997, nchi kadhaa zili saini mkataba wa Umoja wa Mataifa ambao ulisema kuwa nchi zote ambazo zimesiani zingefanya kazi kwa pamoja ili kupunguza kiasicha uharibifu wao katika mazingira gani mazingira,. Mkataba huu uliitwa Itifaki ya Kyoto, jina lake baada ya mji Japan la Kyoto ambapo mkataba ulisainiwa.

Chini ya Itifaki ya Kyoto mengi ya mataifa yenye viwanda vingi wamekubali kupunguza viwango vya kaboni wao huzalisha. Njia moja ya kufanya hili ni kwa kuchukua dioksidi kaboni nje ya anga na kuhifadhi katika ardhi au katika miti. Miti kunyonya dioksidi kaboni kutoka hewa wakati photosynthesis inatukia na kuhifadhi katika mizizi, na udongo. kiasi cha kaboni kuchukuliwa kutoka hewa na kuhifadhiwa inaweza kupimwa na mahesabu, na kisha, wakati kuhakikiwa kama sahihi, ngozi hii ya dioksidi kaboni inaweza kuuzwa katika soko la dunia kama mikopo ya kaboni. Wanunuzi wanaweza kununua kadi hizi kukabiliana carbon dioxide yao.

Kwa mfano, TIST ni uwezo wa kuuza kaboni fyonzwa katika miti tu kama wazalishaji huuza sukari na maziwa. Lakini kaboni haiwezi kupelekwa sokoni. Badala yake, thamani ni kutoka dioksidi kuchukuliwa nje ya hewa, katika mti kwenye shamba lako au misitu, kipimo na taarifa. biashara ya mikopo ya kaboni ni kufanyika katika New York, Chicago, London, na miji mingine ya kimataifa. Katika masoko haya, , biashara, na kuuzwa kwa kiasi kikubwa kwa ajili ya fedha. Tuna kukidhi mahitaji ya soko. Hatuwezi wazi msitu au kukata miti kwa kupanda miti tangu hii ni mbaya kwa mazingira. Tuna kujitoa kwa kushika miti kukua kwa muda mrefu miaka, 30 au zaidi. Tuna kuripoti data usahihi. Mara miti ya kupandwa, baadhi ya vipimo na mahesabu yaliyotolewa kupima kiasi cha kaboni Miti ya TIST wakulima kufyonzwa. Kumbuka tena, miti kweli kamwe kuchukuliwa kwa masoko. Wao kubaki katika shamba na tena wao kukaa hai, tena kipindi ya kupokea malipo. Hivyo, mkulima anayeshika miti na matunda na karanga. fedha kwamba TIST inafanya kuuza offsets kaboni kisha kupasua na Vikundi TIST na kutumika kusaidia gharama ya TIST, ikiwa ni pamoja na mafunzo, Ukaguzi, na usimamizi.

Kupitia soko la kaboni, upandaji miti, Unaweza kutoa chanzo kipya cha mapato kwa sababu wao kunyonya na kuhifadhi kaboni kwamba unaweza kuwa kipimo, taarifa, na kuuzwa kama mikopo ya kaboni, Miti pia hutoa nyingine nyingi kimazingira, nyenzo na faida ya dawa.

Je, miti hunyonya kiasi gani cha kaboni?
Miti ambayo ina mduara mpana (zaidi majani) kuhifadhi zaidi kaboni kuliko miti ambayo ni nyembamba. Miti mirefu pia kunyonya karboni zaidi kuliko miti mifupi. Kwa hiyo, miti ambayo ni minene huleta mapato zaidi kutoka kwa kadi za kaboni. Hii ina maana kuwa miti iliyopandwa kwa nafasi zuri huwa na nafasi ya kukua na kuwa mirefu na kulipiwa zaidi kwa kuwa hiyo hunyonya karboni zaidi. Haishidanii rutuba ya udongo na maji kama vile miti ambayo ni imepandwa karibu.

Kwa hiyo, ili kupokea malipo mazuri nje ya miti yetu, ni muhimu kwa kupanda katika nafasi nzuri ya kutosha ambayo kuwaruhusu kukua kwa afya na hivo kuwa mirefu na kubwa.

Ambapo / ambao ni wanunuzi wa mikopo ya kaboni?
Hivi sasa, mikopo ya kaboni huuzwa katika masoko ya hiari. Karboni inaweza kuwa imethibitishwa kwa njia tofauti, kama vile ambavyo kuna bidhaa tofauti ,bidhaa nyingine ya kununua na kuuza (kama kahawa na kahawa asiri chini ya maandiko mbalimbali). Hapa ni baadhi ya masoko makubwa na aina :

1) Soko liloruhusiwa kwa ajili ya Mfumo wa Maendeleo Safi inawakilisha soko umba chini ya Itifaki ya Kyoto. Mikopo kaboni ithibitishwe na kuthibitishwa chini ya mchakato kwa ajili ya matumizi ya nchi zilizoendelea kwamba wamefanya kupunguza ahadi chini ya Itifaki ya Kyoto ya kuwasaidia kuzingatia mikataba. Hii ni soko kufuata. Ukaguzi na vyeti ni kufanyika kwa Enheter huru teule ya Utendaji (Je) na kupitishwa na Halmashauri Kuu ya CDM. Kwa sasa, soko hii haina kazi vizuri sana kwa miradi mingi ya misitu, ikiwa ni pamoja na TIST.
2) Mwingine soko kwamba inahitaji kupunguza uzalishaji kuhakikiwa ni non-Kyoto kufuata masoko. Nchini Marekani, ambayo siyo mtiaji saini wa Kyoto, baadhi ya majimbo ya mtu binafsi ni wanaohitaji kupunguza GhG. Australia ina mahitaji sawa. Wakati mchakato wa kupitishwa itahitaji kwamba kupunguza uzalishaji lithibitishwe, na kuthibitishwa na chama huru, ni mchakato tofauti na tofauti ya taratibu CDM. Haya masoko mengi ya uwezo, lakini si sasa kufungua kwa TIST.
3) Masoko ya Hiari ni ambapo TIST ina kuuzwa offsets kutoka upandaji miti na wakulima wa TIST. Kuna aina mbili ya wanunuzi wa hiari soko. kwanza ni soko dogo linaloundwa na watu tayari kutoa fedha kuhamasisha watu kupanda miti. Mifano ni pamoja na kulipa kwa ajili ya miradi ya kupanda miti ya kufanya harusi au carbon mkutano neutral. Aina ya pili ya mnunuzi hiari soko ni kubwa sana uwezo wa soko linaloundwa ya makampuni katika Marekani na mengine yasiyo ya Kyoto nchi za viwanda kuwa ni kufanya ahadi ya hiari ya kupunguza uzalishaji wa GhG yao aidha kwa sababu wao ni mawakili wema wa mazingira au wao ni kuandaa kwa ajili ya baadaye mahitaji ya udhibiti.

Kuna wengi viwango tofauti katika masoko haya kwa sheria tofauti na yanayobadilika juu ya upandaji miti, ufuatiliaji na utoaji taarifa kwamba sisi lazima kukutana kuuza offsets. Hivi sasa, viongozi wawili kuwa TIST umethibitishwa chini ni Thibitishwa Carbon darasa na Hali ya Hewa, Jamii, na Viwango Biodiversity Alliance.

July 2013 Newsletter *Not for sale*

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

w w w . t i s t . o r g

Kikamba Version

An Environmental, Sustainable Development and Community Forestry Program.

Itugururu Cluster members during their Cluster meeting last month.

Nthini:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

Uthukumi museo wa tist kwa kuendeesya uvandi wa miti vamwe na liu na kuithya indo.

Uimi uyu wa kuvanda miti, ikuthu, kuithya na kuvanda liu in uetae wongeleku wa w'umi wa kisio kya muunda kwisila kutumia miti.

Miti yi vaita mwingi kwa muimi:

- Miti ya kwaka
- Ngu
- Matunda na liu
- Uithyo/Liu wa indo
- Kulumya muthanga
- Kuete unou wa muthanga
- Kusiia kimeu kukuwa
- Kusiia nzeve
- Kusiia kukuwa kwa muthanga nguumoni sya mbusi
- Ndawa
- Muunyi

Nzia sya kuvanda miti vamwe na liu na ndithya
Kwi nzia mbingi sya kuvanda miti vamwe na liu na ndithya, vala nzia imwe ni nzeo kwa isio imwe indi ti kwa ingi. Vaa ve imwe kati wa nzia sya uimi uyu.

1. Nima ya Wiio.

Ino ni nzia imwe ila mundu usakuaa muthemba wa miti ila ukuvanda ta wiio iatianie lainini umwe na ila yithiawa na vaita kwa muthanga. Wiio wendaa mwanya muni na nusiia kukuwa kwa muthanga, matu ma wiio niutumiwa ta liu wa indo kana kwikia muunyi ungu wa liu. Kwa ng'elekany'o mundu ni uvanda muti muthemba muna ta wiio muvakani. Utaaniu ula waile kwa miti ya wiio ni matambya eli kana atatu. Wanake museo niula uvulanitye miti imwe minene na ingi minini.

2. Nima ya kuvokany'a.

Ino Ni nzia imwe vala miti ivandawa iatianie lainini indi iyikiwa liu katikati . kwa ngelekany'o wavanda laini umwe wa miti uyikia laini itatu kana inya sya liu (mimea ta mbemba). Ngelekany'o nzeo ni leucaena na mbemba, Kaawa na Maiu. Miti miseo kaingi ya uvandaniw'a na liu ni ila inengae muthanga nzeve kana unou wa nitrogen. Utaaniu wa miti yi katikati wa liu waile ithiwa unyiva matambya atano (5m). Myanya ila yi katikati wa miti ino nikwaile ikala kwi kuime na kukathea kila ivinda na miti ino kusewa. Miti ta ino ndyaile kuekwa ikaasava muno nundu ya neneva muno niyambiia kuminia mimea/liu unou wa muthanga na kumivwika kyeni kya sua. Matu ala masewa kuma mitini ino nomatumike kwa kuete unou kisioni kiiu.

Kaingi miti ya uvandaniw'a na liu ndithiawa na vaita kwa uimi wa TIST nundu ndiekawa ikaasava muno yithiawa ta ikuthu na kwoou nditonya utalika ivinda ya kuta nzeve itavisaa onakau nimiseo kwa muimi nundu ninoasya muthanga na kutuma ethiwa na usyao mwingi. Ingi isioni ila nyumu miti ino niyendaa utaaniw'a munango nikana ndi kathaane kiw'u na liu kuma muthangani na mimea/liu.

3. Kusiia Nzeve.

Miti ino ivandawa uteeni ngaliko ila nzeve yisilaa na ivandawa mbee miti ila minene yi katikati , ikakaatiwa ni miti mininangi laini ili ila iatiie, ikuthu na indi nyeki. Vaita wa kusiia nzeve ni kana mundu ndendaa kisio kinene indi no kasio kanini ka kitheka na nitonya kuete wongeleku wa ngetha wa kilungu kya 30% isioni imwe. Manya kana miti ya kusiia nzeve yavandwa nai nietae wasyo ethiwa nzeve yeekw'angali imwe. Mantha mundu wina utuika wa kuvanda miti ino ya kusiia nzeve.

4. Kueka kuima kisio na kukivanda miti.

Vaa ni vala muimi uekaa kuvanda liu kisioni kina na kueka miti imee nikana atunge unou wa muthanga.

5. Nima ya Kuvulanya maliu na miti.

Iino yithiawa na myanya yianene ya miti na liu. Miti miseo ni ila yithiawa itena muunyi munene na yongelaa muthanga nitrogen.

6. Nima ya miti na ndithya vamwe.

Nzia ino ivikiawa kwa kusuvia na kuvanda mitii kisioni kila indo iuya kutethya kukwata ngu na liu wa indo.

7. Miti ya kuvandwa vamwe ta kamutitu.

Kamutitu kanini nikatonya uvandwa kundu kula itheka itena w'umi nesa kwa ngelekany'o kula kwi mavia na matw'iku. Tumititu no tuvandwe ta miti ya kusiia nzeve kana kuvandwa kithekani kithiitwe kiteutumika. Kwandaia lilikana miti ya Tist nonginya ivandwe na utaaniu ula waile na kwikala vo kwa ivinda iasa nikana iete unzeo ula uvaniiwe.

Lilikana nzia imwe sya umi wa miti ninzeo kwa nima indi ititonya kuvitukithwa ivindani ya ndivi kwa TIST.

Liu kwa awau ma ivinda iasa.

Nthini wa misyi imwe kula kwithiitwe na endwa moo me awau kumasuvia ni kwa vata muno. Ma uwau ta sukali, cancer, muthelo (HIV/Aids) na kukooa kwa ivinda iasa (TB) ni mauwau mathuku na nimatumaa mundu ekala akiwaanga na amwe malea kuiitwa nesa nimasyokeaa mundu. Awau ma mowau aya nimaile kuya liu ula waile wakutuma methiwa na vinya wa kukitana na mowau mooka.

Liu museo kwa awau ni vamwe na:-
Liu ula unengae mwii vinya: Maliu ta carbohydrate ala ni Ngima/Kiteke, Usuu kuma mbembani, muvya, mwee, uimbikana manga, ve musele, makwasi, maluu ala methiawa matonya unenge mwii vinya. lilikana kana mauta ni manenganae vinya na kutuma liu withiwa na musamo matumiwa kiasi kila kyaile.

Maiu ma kwaka mwii (proteins) ala ni mbaa nyama ta nyama sya nguku, ng'ombe, mbui, malondu, makuyu na mavata ingi kuma liuni ta mboso, nthooko, na ndengu na nzuu kalanga nisyakaa mwii.

Maliu ala manenganae "Vitamins" Maliu mena vitamin A nimethiawa ma vata muno kwa andu ala mena uwau wa muthelo na nimatonya ukwatikana nthini wa

- Nyunyi sya ngilini ta Nthooko, matu ma manga na Okra.
- Matuni ma masungwa na ma ukwasi
- Maiuni ma Kuua (Matoke)
- Matundani, kaingi matunda ala methiawa na langi wa yellow ta Masungwa, Mavavai, Maembe, maiu meu, na mavela.

Kunywa kiw'u kianu: Andu awau kaingi nimendaa unywa kiw'u kwa wingi. Kw'u kya unywa kya awau nikyaile utheukwa iyiiva vandu va ndatika ta ikumi na kiyiekwa kivoa, kiyikiwa vandu vatheu na kiikunikwa. Kiw'u kitheu nikya vata kwa kila umwe, Naingi munamuno kwa ala awau nundu mii yoo ndithiawa na vinya wa kukita mauau ta mundu utena uwau. Ethiwa muwau nukwituua muno noumuseuvisye kiwu kina tusiko tunini thatatu twa sukali na nyusu kasiko ka munyu kwa kila lita wa kiwu kumutetheesya kutunga kiw'u kila waitye kwa kwituua. Ingi no uvulany'e na kiw'u kya masungwa kisame nesa.

Mawalany'o ma Utheu. Ethiwa wiseuvya liu wa muwau, mbee ikiithya niwathamba moko na kiw'u kitheu na savuni, ingi thambya liu na uyiua uvye na miio ya kuiia uthambya itheete na uinyasya.

Vaa nthi vena visa wa ngwatanio ya Kawiru MCK Cluster yila maina.

Wumbano na mena utanu nundu aingi moo nimakwatie mathangu ma ndivi (payment vouchers) vala tukundi nyaanya twakwatie mathangu mat'o matuku 07.06.2013 yila moombanite.

Muimi uyu kuma ngwatanioni ya Kiengu Cluster niwonanitw'e aivuva ndawa muundani wake wa ndengu. Kuvuva ndawa kusiia iinyu na tusamu tula twanangaa liu nikwavata kwa usyao museo wa ndengu.

If you want your Cluster to participate in TIST Green gram program, please contact Jeniffer Kithure 0726319539

Mawithyululuko nikyao?

Mawithyululuko mamaniasya kila kithyululuki kila kithau. Kila kithau ni kyau ni andu, Mang'ala, nyunyi, miti na tusamu tula tutambikaa.

Nikyau kiseuvasya mawithyululuko?
Mawithyululuko ma kila kithayu methiawa mena syindu ingi syi thayu naingi itena thayu. Syindu ila syi thayu syithiawa mawithyululukoni syitawa "biological factors". Ithi nita miti na nyamu. Syindu ila ite thayu nasyo tusyitaa "Physical Factors" ila nita kiw'u, nzeve, movinduku ma nzeve ta uvyuvu, kiseve, mbua, muthanga, na munyu.

Kwianana na syindu ii syele ila ni biological kana physical ni syikalanasya vamwe kila kimwe kwa useo wa kila kingi thini wa mawithyululuko. Ngelekany'o Syindu syi thau nisyendaa nzeve ya kuveva, Kiw'u na liu kwikala. Ithi syoonthe nisyithiawa nthini wa mawithyululuko.

Andu nimome woni munene kwa syindu syothe syi thau. Nimatataa kuseuvya thayu woo withiwe wiwa laa/ utena minoo kuma kwa mawithyululuko. Onakau mawiko amwe ma andu nima muisyo kwa andu ene na isamu ila ingi syi thayu.

Kuthukya /kuthokoanya.
Kuthukya nzeve kwithiawa kwa nzia mbingi ta kuthokoanya/ kwikia sumu mawithyululuko ala matunenga kiw'u, Nzeve ya uveva, muthanga na ingi mbingi. Yila twaananga mawithyululuko na sumu twithiawa twauthokoany'a kana kuthukya mawithyululuko na kila kithau kisioni kiu kithiawa muisyoni. Mawiko ma mundu nimathukasya na kuthokoanya mawithyululuko.

Kuthokoanya Nzeve.
Nzeve iseuvitwe ni mithemba mbingi ila ni

21% Oxygen
78% Nitrogen
0.003% Carbon dioxide
0.97 Others.

Nzeve ntheu itavulanite ndithiawa vo. Syindu ingi syithiawa nthini wa nzeve ni Kiw'u, kitoo, syuki, muki na mivevo. Kilio kya syuki na kitoo kila kithiawa nthini wa nzeve kiamuawa ni mawiko ma mundu nthini wa mawithyululuko.

Kila kithokoanasya nzeve:
Nzeve yina sumu, Syuki, Kitoo na Kelel

Kampunini nene (factories) nisumasya syuki na nzeve yina sumu. Imwe kati wa nzeve isu ni Carbon Monoxide na Sulphur dioxide ila syithiawa na sumu mwingi na syavevwa syuaa.

Mundu avevaa Oxygen ilikite na nthini na ayumya nzeve itavisaa "Carbon Dioxide" kwanzia ya miti kwiseuvisya liu (photosynthesis) no yosaa nzeve itavisaa na kuya nzeve ila yakanaa Oxygen. Ni muthinzio wa usengy'o, miti kumya nzeve ya utumiwa ni andu na andu kumya nzeve ya utumiwa ni miti.

Nyamu mbingi nisyikalaa ungu wa miti kusuviwa kuma kwi amaitha masyo. Miti niyisikie kwa kuthengeesya mbua nundu ona kaingi kula kwi miti nikukwataa mbua kwi kundu kua kutai. Miti nitunengae muunyi na kuola uvyuvu wa sua kwoo kuthithya nzeve.

Ni tutumiaa miti kwa ngu na kuseuvya makaa. Ngu na makaa nitumikaa kuua liu na kuete uvyuvu. Ni useo yila twatema miti tuiseuvya makaa kuvanda miti ingi vandu va isu twatema. yila watema muti umwe ikiithya niwavanda miti itano vandu va usu umwe.

nitutumiaa miti kwa kwaka, kuseuvya syindu sya nyumba ta mesa, ituti, syondo na kwoou miti ni yavata. Aimi nimakwataa vaita kuma miti yila mata Carbon credits.

Mii ya miti nikwatanasya mutathanga ukaluma ukaeka utuuka na kukuwa ni kiseve na kiw'u.

TIST. Tusuvie miti muno muno miundani kwitu kwoondu wa vaita witu ene na mawithyululuko.

Aimi ma TIST kukitana na uvinduku wa nzeve na uvyuvu wa nthi yonthe.

Aimi ma tist nimeew'ie witano wa kukitana na ualyuku wa nzeve vamwe na uvyuvu. Aimi aingi nimandee kwenda kumanya kwa nzia ya movundisyo na semina sya TIST na yila mena mbumbano sya ngwatanio syoo iulu wa uvyuvu na uvinduku wa nzeve nthi yonthe, mauvindu ma uvyuvu na mothuku maw'o nthini wa nzeve na undu tutonya kwika kuete uvinduku munini. Nitukwona movinduku manene nthini wa nzeve umunthi. kwa ngelekany'o El-nino sya mwaka wa 1998 ila syaetie wanangiko munene nthini wa nthi yitu Kenya na yaatiiwa nimunyao munene, kinzeve kinene kya hurricane kya mwaka wa 2004 ithi syothe ietetwe ni uvinduku wa uvyuvu wa nthi. Kingi ni kwina ia ya kiima kya mt. Kenya kwoneka yiendee na kuoleka, na ivinda ya mbua kana thano itekueleeka nokithia mundu ndatonya umanya ni indii ukuvanda na aiketha, mbusi na nthongo mbingi sya kiw'u kung'ala na maundu angi maingi.

Mwai uyu ithangu yielesya iulu wa semona nikana tuelewe iulu wa uvyuvu wa nthi na uvinduku w nzeve nesa.

Twiambiia kwa kuelesya ndeto na na kwimanyisya undu miti ithukumaa kilio kinene kukitana na uvyuvu uyu wa nthi.

Nikyau kitawa uvyuvu wa nthi (GlobalWarming)

Uvyuvu wa nthi withiawa uyonany'a wongeleku wa uvyuvu nthini wa nzeve ula uetae uvinduku nthini wa nzeve ukethia niya vyuva kwiundu itwie. Nthi mbyu ni ietae uvinduku wa undu mbua ikua, iuutani syina vinya, ukanga kwambata, mimea kulea usyaa, miti kuma, na movindu maingi kwa nyamu na andu. Yila andu ma science me kuneenea iulu wa uvinduku wa nzeve , kimako kyoo kinene ni uvyuvu ula uetetwe ni meko ma mundu na undu mena uthuku mwingi kwa kila kindu.

Kwa w'o nthi ni yiendee na uvyuva?

ii! niw'o nthi niyongelekete uvyuvu wa kwa ndikilii imwe (10c) nthini wa myaka iana yimwe (100yrs). Aingi ma ala matongoety'e kw autaalamu na utuika wa nzeve nimekwisilya kana maundu ala andu mekwika nimatumite nthi iendeea na uvyuva kwa ngelekany'o Kuvivya mauta, mavia ma Coal, ngasi ya kuma nthi, kutemanga mititu na kulea unzuvia muthanga.

Nyumba sya ngilini (Greenhouse) syinthiawa na uthuku mwau?

Uthuku wa greenhouse ni kwithiniwa uvyuvu wa nthini utuma ngasi imwe ila syitawa greenhouse gases ta Carbon dioxide, Nitrous oxide, Sulphur dioxide na methene nikwataa vinya kuma suani. Nzeve itavisaa (carbon) ni kuma kwa miti ila yatemwa, ngasi kuma kambunini, ngalini na ngasi ya miti yavivya kana kuvivya makaa kana mititu.

Ni muisyo mwau uetawe ni uvyuvu wa nthi?

- Manthina ma kiw'u kaingi kundu kula kumu na kwi mang'alata nakuituma kutwika weu.
- Kwongeleka kwa uyaaiku wa uwau ta malaria. Yila kundu kwa vyuva kutukaa kundu kuseo kwa umuu kusyaia na kuituma uwau wa malaria wongeleka. kwoou iyiete uvindu kwa misyi na masivitali ona uyivu wa andu kwikala thayu na ikw'u sya syana iyongeleka.
- Kuoleka kwa liu kuma miundani ta isioni imwe sya Africa ya wumiloni wa sua. Nundu wa mbua kunyiva na kusyaia kwa kutamu kwingiva mimea ya liu iieka kwika nesa na unyivu wa liu uiete ungya na nzaa nthini w amisyi mingi na mbai mbingi.
- Liu kwambata vei. Oundu aimi aingi maendee na ukwata liu munini kuma miundani now'o uendeeaa na kwinthiwa wimunini sokoni na nundu andu naingi ala meuwenda nthooa naw'o uyambata.
- Uvinduku munene nthini wa usyao na kila kyonthe kyumea kithekani na mitituni. Mbumo sya mbusi nta iima na mititu niendee ma kuma. Kii kikaete ualyuku nthini wa kungithya miunda, kususya nasukasya silanga na tulusi kwikala tuvititye kiw'u. Ingi kiw'u kyanyiva onakwo kuseuvya sitima kwa nzia ya kiw'u kuiyiva na kwoou uvindu uyu masivitali, industry, na kungi kula sitima utumikaa muno uyithia nakw'o nikwavikiwa nimauvinduku aya. Ingi kiw'u kiinyiva ola kula kitwaitwe na mivaivo ta mataoni na misyi imwe kiilea uvika kana kiivika kinini.
- Andu aingi vyu mine nthina wa kwithiwa matonya uvikiwa ni mavuliko, kutheewa ni muthanga na kungi ta utee wa ukanga kiw'u kwambata iulu wa vala kitwie.

Nata ndonya usiiia nthi kuvyuva?

Vanda miti na uimisuvia

Tondu tuwetete vaa iulu, nzeve itavisaa ni imwe kati wa ila ietae uvyuvu wa nthi. Miti ninyusaa nzeve itavisaa ila ikuseuvya liu wayo na kumia mithambani, miini na muthangani ta cellulose carbon. Onavala miti yatwemwa na kuvivya niyumasya nzeve isu itavisa na iilika ingi nzeveni.

Niwisi kana kila muti no uete uvinduku wa nzeve?

Miti na uthui wayo nivyikaa na kunthithya nthi. Niwiw'aa mimwianie ulyi muuthini wa muti. Syisya wone kana ungu wa muti vala vena miinyi kiw'u kyavo kivakuvi kwi vala vena sua. Yi la muthanga wekala wi muthithu now'o ukwatiia kimeu kwa ivinda iasa. Kii kimaanisya kana miti ila yi kithekani kwaku nikutetheesya kwikalya kiw'u muthangani kwa ivinda iasanga kute kula kutemiti. Kii niutetheesya mimea ya muundani kwika nesa na kutethya ala matumiaa kiw'u kisioi kyaku.

Carbon Credits ni kyau?

Mwakani wa 1997 nthi imwe nisyeekiie saii wiw'ano woo na UN kana nikuthukuma vamwe kuola kuthokoanw'a Iwa nzeve na kuola utumiku wa greenhouse. Wiw'ano uyu weetawa Kyoto Protocol ula weetiwe uu kuatiania na isyitwa ya musyo umwe wa Japanese witawa Kyoto vala saii syeekiiawa.

Ungu wa Kyoto protocol nthi mbingi ila syina industries nimeetikilanile kuola kiasi kila mekumya nzeve itavisaa. Nzia imwe ya kwika uu yai kwosa nzeve itavisaa (Carbon dioxide) na kumia nthini wa miti kana muthanga. Miti niyosaa nzeve itavisaa na kumitumia kuseuvya liu ula yiaa mithambani, miini na muthangani. Nzeve itavisaa ila yosetwe kuma mawithyululukoni nitonya kwiwa na uthimwa vamwe na kutalwa na indi isiw'a kana niyaw'o, nzeve ino noitewe kwa soko wa nthi yonthe ta carbon credits. Aui nimatonya kuua credits kuola nzeve itavisaa ila ikumya.

Kwa ngelekany'o TIST intonya uta nzeve itavisaa yi mitini ota undu sukali na yiia itesawa. Kwa carbon, onakau, ndutumaa na meli kila uuta indi lato wa kuma kwa carbon ila yumitw'e mawithyululukoni na nzeveni na kwia mitini kana muthangani yi thime na ikalivotiwa. Utandithya wa carbon credit ukunawa nthini wa musyi wa New York, chicago, London na misyi ingi nthi yonthe. Nthini wa soko inthi carbon niuawa, kutandithw'a na kutewa kwa wingi mbesa. Nonginya tuvikie mawendi ma soko ino. Tuitonya ututa miti kana kwenga mititu tuvande miti nundu uu ni uthuku kwa mawithyululuko. Nonginya twiyumye kuikiithya nitwavanda miti na taendeea na kumivanda tukiea ila ingi kwa ivinda iasa ta ya myaka miongo itatu kana mingaingi. Nonginya tutunge livoti yaw'o. Miniyamina uvandwa ithimo na utalo nonginya ukekwa kuthima ni carbon yiana ata imeletw'e ni miti ila ivanditwe ni aimi ma TIST. Lilikana miti nditwaawa sokoni uyu wa carbon, miti yikalaa vala yavandwa na undu yekala ivinda yiasa now'o ivinda ya kuendeea na kuivwa yithiawa yi iasa. Kwoou muimi niwikalaa na miti na usyao wayo. Mbesa ila TISt iseuvasya kuma kutani kwa nzeve itavisaa ni iaanaw'a na kutumika tukundini tunini kukwata mbau uthukumi watw'o vamwe na kuiva amanyisya, quantification na uungamii wa ngwatanio ino.

Kwisila kwa soko sya nzeve itavisaa, kuvanda miti nikutonya kwithiwa kwi na ueti nundu miti niinyusaa carbon na kumia na nitonya uthimwa na kwineka undu yiana, kunenganwe livoti na kutewa ta carbon credits. Miti nietae moseo angi kwa mawithyululuko ta kwithiwa ni muiito na ninenganae moseo angi ta ngu, mbau sya mwako na moseo angi maingi.

Miti yoonthe inyusa carbon undu umwe?

Any'ee. Miti ila yina uthanthau munene (more biomass) niyiaa carbon mbingi kwi miti mitheke. Miti miasa ingi ninyusaa carbon mbingi kwi miti mikuvi. Kwoou, miti ila mithathau ni yithiawa na ueti mwingaingi kuma kwa carbon credits. Kii kionany'a kana miti yavandwa yina myanya ila yaile yina ivuso iseo ya kuasava na kwiana yi mithathau na kuete ukwati munene kuma kwa carbon income. Nundu iyiuthaania unou ula wimuthangani kana kiw'o ta miti ila ivanditwe ithengeanie.

Kwoou, nikana ukwate ndivi nzeo kuma mitini no muvaka wikie maanani kumitaanisya uivanda nikana yiane nesa yina unou ula waile na uasa.

Niva kana nuu uuaa Carbon credits?

Umunthi, carbon credits itesawa masokoni ma kwiyumya na sokoni ila syinakila kyavitukithiw'e kya soko isu. Soko ithi nivitukithaw'a kwa nzia kivathukany'o, otondu kwi brand mbingi ivitukithaw'a na kutewa na kuuwa(ngelekany'o kaawa na kaawa organic ungu wa label kivathukany'o). Vaa ve imwe kati wa soko na mithemba ya kwambiia:-

1) Cerfified Emission Reductions (CERs) kwa Clean Development Mechanism (CDM) ila iungamiaa soko kuseuvya uiungu wa walany'o wa Kyoto. Carbon credits ithi nonginya ivitukithw'e na kusyaaisya ungu wa nzia ya CDM kwa kutumiwa ni nthi ila syina Industries ala maseuvitye GhG kwiyumya kuola ungu wa walany'o wa Kyoto kumatetheesya kuatiia wiw'ano uyu. ino nisoko ya witikilana. Verification na Certification nisyikawa ni ngwatanio yiyoka yitawa Designated Operational Entities (DOEs) and kuvitukithya ni aungami kana board ya CDM. umuthi, soko ino ndithukumaa nesa na project mbingi sya mititu, yivo TIST.
2) Soko ingi ila yendaa kuvitukithya kwa uoleku wa kumya nzeve itavisaa ni soko ya Non-kyoto compliance. Nthini wa US, ila nimwe kati wa nthi ila syeekiie saii wiw'ano wa Kyoto, imwe sya state syayo nisyendaa kuolwa kwa Ghg. Australia niyithiawa na wendi usu. yila kuvitukithwa kwa walany'o uyu kuyenda kuolwa kwa umya wa nzeve itavisaa nikana uverifiawe ni ngwatanio kivathukanyo, ni undu umwe kivathukany'o na wina walany'o kivathukany'o na Cdm. Soko ino yina wikwatw'o onakau umuthi ti mbingue kwa TIST.
3) Soko sya kwiyumya nivo TIST itesaa nzeve yoo kuma kwa miti ila ivanditwe ni aimi ma Tist. Vaa ve soko ili sya aui ma kwiyumya. Imwe ni soko yina andu anini vyu ala meyumitye kumwa mbesa na kunenge andu kumathuthya kuvanda miti. Ngelekany'o ni andu kuiva miti ivandwe kuseuvya vandu va utwaania kana kuseuvya conference Carbon neutral. Muthemba wakeli wa soko ino ni athooi makwiyumya ila ni soko yivo na itonya kwika nesa ila iseuvitw'e ni kambuni sya US na angi ala ni non-Kyoto industrial countries ila meyumitye kuola kumya nzeve itavisas GhG nundu wa kwithiwa ni athukumi aseo ma mawithyululuko kana meeta kwiyumbanisya ivinda yukite na kila kikendeka.

Kwina ilasi kivathukany'o nthini wa soko ithi na syikalaa na miao yikalaa isesya ivinda kwa yingi iulu wa uvandi wa miti, usyaiisya na kutunga livoti nikana tutonye uta sokoni ithi. Umunthi atongoi eli ala TIST ithukumaa wungu wamo ni Verified Carbon Standard na Climate, Community and Biodiversity Aliance Standards.

July 2013 Newsletter

Not for sale

Mazingira Bora

TIST

The International Small Group & Tree Planting Program

www.tist.org

Kipsigis Version

An Environmental, Sustainable Development and Community Forestry Program.

Itugururu Cluster members during their Cluster meeting last month.

Inside:

Published by TIST-Kenya. Web: www.tist.org Email: martinweru@tist.org Tel: 0722 – 846 501

TIST: Practise ne kararannebo Agroforestry.

Agroforestryko mine tab ketik ak osnoshekak minutik alak che kiome anan ko chebo tuga . Maana nebo agroforestry ko ketes ruret ab imbarenik kobune minet 'ab ketik . Ketik kotinye manufaa chechang' en temindet:

- Tuguk 'ab tegset.
- Kwenik
- Logoek ak omitwogik alak
- Omitwogik 'ab tuga
- Toret 'ng'ung'unyek.
- Toldolindab ng'ungunyek.
- Ribe bek chemiten koristo.
- Tre koriswek.
- Ribe ng'ung'unyek komoib bek sanasana oinoshek.
- Kerichek.
- Urwek.

Practices neboAgroforestry: Kogochang'a oratinwek chekimuche keyaen agroforestry ago teseta kobitu chechang' kila en kila. Oratinwek alak komuche kobore en komoswek alak ago mobore en komoswek alak . Che isubu ko otratinwek che nootin:

1. Hedges: Inoni ko oret ne kimine ketik en lainit asi kotoret imbaret. Hedgeskomoche space ne kiten , tere erosion , ago icheru sogek chekiboishen koig omitwogik 'ab tuga .Koborunet nebo niton ko kemin ketik en tobonwek 'ab imbarenik .Lochindo nekimogching'e ko 2m – 3m. Style nekararan ko kemin nebo circles.

2. Alley cropping: Inoniton komoche kemin ketik en spacing nebo 2m ak en rowishek . imuche komiten rowit 'ab ketik asikosubu minutik en rowishek oeng' anan ko somok ,agityo kosibge kounoton.

Koborunet 'ab niton ko minet 'ab bandek aka leucaena, anan ko coffee ak indizinik.

Ketik che kororonon ko che leguminous(Cho icheru nitrogen koba ng'ungunyek). Spacing en ketik ko yoche ko 5m.Rowshik choton bo ketik koyoche keistechin timdo en kila kenyit. Moyoche korut ketik koyechegitun angamun sindochinge ak minutik omitwogik ak asista. Yon kogibrunen sogek kimuche kabach en ng'ung'unyek asi koig mbolea.

Ketik che kiiburyo kou timin ko momogotin en TIST payments ang'amun mogonu carbon chematin ,Alakini toreti imbaret agokon manufaa alak chechang'. En komoswek cheyomyotin ,komoimuche kogararan oraniton anan ketese lochindab ketik ak minutik alak asikoma borchin omitwogik chemiten en ng'ung'unyek ak asista.

3. Windbreak: Inoni ko minet 'ab ketik chtinye strips chechang' asikoter koriswek, che tere komowech koriswek minutik koriswek che yach. Inome imine ketik che yechen en kwenet,ketik chemengechen kosubu en rowishek oeng' agityo kosub shrubs, agityo kosub bushes ak suswek.Kororonindab windbreakers ko moyoche komin temeindet ketik en imbaret tugul lakini en komosto ne kiten .Moche imbaret ne kiten , ago manufaa kotese rurutik en 30% en komoswek alak . Ibwat ile windbreakers chemagimin komye koweche minutik ang'amun pune koristo konyik.

Imuche icheng' chi netinye naet en komositon kotoretin .

4. Fallow cropping: En oraniton koyoche kobagach imbaret temindet komagimin asi korut ichegen ketik agowek toltolindab imbaret.

5. Inter-cropping(minet ak minutik alak):En orani koyoche kogochi spacing ketik temindet en kwenititab minutik. Ketik che kororon kochon tinye canopies ago icheru nitrogen.

6. Grazing improvement: Imuche temindet kochomchi tuga koaam ole miten ketik ago koribe komowech ketik.

7. Woodlots:Woodlots che meng'echen kimuche kemin en imbarenik chetomo keboishen , kou. woodlotschekimuche kemin en ole miten koig anan ko olemiten gullies.Woodlots kimuche kora kemin koig windbreak, anan kemin en fallowland. Ibwat ile ketik ab TIST koyoche kigochi space negararn akoyechegitun komye ak en let kong'et en ngweny kogage. Alak en oratinwechubo agroforestryko oratinwek chekororon en minset, lakini imuch komoitchi lipanet neboo TIST.

Omitwogik che itchinotin en pik che miondos.

En korig alak, olemiten pik chemiondos , kobunchin maana kerib pichuton. Mionwogik cheu diabetes, cancer, HIV/AIDS, ak tuberculosis (TB) ko mionwogik cheyachen , kobor kole ketchinge.Pik che miondos koyoche keribe ak kigochin omitwogik che kororonen asi koter mionwogik alak. Good nutrition koomitwogik :

- kogochi borto kimnotet ;kobunu tuguk cheu bandek chekonu carbohydrates kou kimyet (kongorik che nyigisena ak che terteren) chebunu bandek, pegg,mosonik , anan ko cassava.Muchelek , robwonik ak viazinik kogonu carbohydrates kora. Ibwat ile fats ak oils, en moderation , kogonu kimnotet ak kootes anyinindab omiitwogik.
- Teche borwek(Proteins)banyek chebunu (ingogenik , tuga ,nego , mutton, duck, ak guinea fowl. Mayainik , cheko , legumes (ng'endek, njorogek ak Grams che nyolililen) ak kotesta njuguk ko cheggonu protein.
- Kogonech Vitamins–cheu Vitamin A kobo maana sana en pik chetinye miondab HIV/AIDSago kimuche kenyorunen :
- Ingwek chon nyolilen(cowpea leaves, okra,cassava leaves).
- Ingwek che Orange (orange fleshedsweet potato)
- Plantain (matoke)
- Logoek , sanasana chon kigonyolilegitun(oranges, pawpaws, mangoes, indizinik cheruryotin,guavas)
- Yeetab bek chetililen- Pik chemiondos koyoche koyee bek chechang'.Bek chekiyee koyoche kiyoe en dakikaishek taman, agityo kekonor en ole tilil,ak ketuch ak kit ne tilil. Bek che tililen kobo maana en chitugul en got, Lakini kobo maana saidi en bik chetinye mionwogik, angamun moimuche borwekchwag kobarge ak mionwogik.Angot kotinye diarrheaimuche ingochi bek chechulotin ak teaspoons lo chebosugaruk ak chumpik ak nusu nebo teaspoon chebo sale en literit angeng'e chebo bek asigitoret kotes bek en bortab chichoton . imuche kora iteste juice chebo logoek en bechoton.
- Basic hygiene principles. Ang'ot ichobchini chito nemioni omitwogik ,iyom iger ile tilileneuneguk kotomo ichob omitwogik, kogiun omiwogik komye kotomo kechob,ago kogitilil tuguk chekiomishen.

En pichait ne isubu ko membaek ab KawirumckCluster en tuyet.

Boiboi membaechuton konyor lipanetnywai bo arawanikonyet. Kogilipan gropishek sisit.

Temindet nebunu Kiengu Cluster inoton kosprayeni minutik en imbaretnyin . Nyolu kepit Green Gram asikomoyachegitun.

If you want your Cluster to participate in TIST Green gram program, please contact Jeniffer Kithure 0726319539

Environment (emet) ko ne?

Environment nebo ng'wony ko ki angetul ne sungugonech en ng'weny chekibore organisms. Organisms ichuton komuche koigbik, tyongik , toritik , minutik anan ko insects.

Ne cheketinye en environment?

Environment nebo tuguk organisms kotinye tuguk chesobtos ak chemosobtos . tuguk chesobtos keguren *biological factors*. Ichochu kocheu minutik ak bik . tuguk chemosobtin chesungugoni chesobotin keguren *physical factors*. Ichochu kocheu bek , koristo, climate, (temperature, koriswek, humidity, robwek, ng'ing'unyek ak mineral salts).

biological ak physical factors kotinye organisms en environment en oret angeng'e anan ko age. kou, tuguk che sobtos komogchinge koriswek, bek ak omitwogik asi kotesta kosobcho . Ichochuton tugul komiten en emet.

Kimugulmetit kochechobe tuguk en ng'weny. Yome kimugulmeit kochob environment kogararanit kila en kila. alakini, koumizoni bik ak organisms alak.

Pollution(wechet'ab emet).

Pollution komaanishonin wechet 'ab (koriswek , bek , ak ng'ung'unyek etc.). Tuguchuton yachen en environment keguren pollutants. Yon kagochut environment tuguchuton yachen , kogonu hatari en tuguk che sobtos. Tuguk cheyoe bik chegonu pollutants.

Pollution nebo koristo.

Koristo ko mixture nebo gases chetinye:

21% Oxygen
78% Nitrogen
0.003% Carbon dioxide
0.97 alak.

Momiten koristo ne tilil kabisa . Ruguk alak chemiten en koristo ko cheu , cheu bek , vapor, buiywet ak iyet .Chong'indab iyet ak buiwet en koristo koamuoni tuguk che yoe bik en environment.

Ne tuguk cheibu pollution en koristo :

Ne indoe en pollutants chebo koristo ko gases chee sumu ,iyet , buiwet ak bolet.

Factories cheyechen kocheru koriswek cheyachen koba barak . Alak en koriswekchuton kocheu carbon monoxide ak sulphur dioxide, che sumu ago imuche kobar bik yon kogibus koba borto.

Bik kobuse oxygen ago kocher carbon dioxide. Minutik , kobune photosynthesis, kogule carbon dioxide agityo kocher oxygen. Konunet newo! icherwech minutik oxygen!

Tyong'ik chechang' komenye oritit 'ab minutik , che ribe icheget . Ketik kolibu robwek so ing'unon komoswek chetinye ketik chechang' kotinye robwek chechang' kosir chon motinye. Ketik kogonech urwek , so kobose maat en emet.

Kiboishen ketik koig kwenik agokimuche kechoben makaa. Kwenik ak makaa keboishen koig fuel chebo chobet 'ab omitwogik. Bo maana yon kagitil ketig kemin alak en saainoton . En ketit ageng'e ne kagitil koyoche kemin alak mut.

Kiboishen ketik ak minutik kobunchi tuguk chechang' kou en tegset , chobet 'ab furniture bogoinik , kishet, mats ak tuguk chegibuchen biuut. Temik konyoru manufaa chechang kotestage carbon credits.

Tigitik 'ab ketik kotere ng'ung'unyek en soil erosion angamun tere koriswek ak bek chon rwoe saidi.

TIST –Ong'erib ketik ak kemin alk en imbarenikchok en manufaa nenyonet ak en environment nenyonet.

Temik ab' TIST kokoker ng'alek ab Global Warming ak wallet nebo Climate.

Temik 'ab TIST konaam koker ng'alek 'ab gobal warming ak climate change. Temik che chang' kokocheng' konetutik en seminars chebo TIST ak en tuyoshek chebo cluster konai che chang' agobo gobal warming(burgeyet nebo ng'wondut),ole kokowalda ngwandet ,ak ole kimuche keistoito. Raaini kekere wolutik che kikoib climate change. En koborutyet kou, El Nino floods nekibo kenyit 'ab 1998 nekiwech emet nenyon ak kemeut ne kiisubu ,ak hurricane nikikim ochei en kenyit 2004 kokiibu ngalek 'ab global warming. Alak che imuche kobor kole kokoet global warming ko istoet 'ab glaciers en mt. kenya,wallet 'ab weather nebo emet , inoniton kokobos rurutik en minutik en Kenya,yamet 'ab oinoshek ak taboitishek ,ak alak che chang'.

En newsletter nebo arawaniton keyome keker kele kakinetishe agobo ngalek 'ab global warming ak ole kikoorondoi climate nebo emet nyon.

Kinomen keororu maana chebo ngalek ak koborutik kwai ak ole toretito ketik guk kobos global warming en emet.

Globol warming ko ne?

Global warming komaanishoni kole teset 'ab burgeyet en ng'wandet , ne en let koyoe climate en emet kowalak. Yon burgei emet kotese robta en emet ,storms che kimen ,teset 'ab ke en sea level ,kokoyomso minutik , ak tuguk alak che kikowech minutik , tyong'ik , ak kimugul met. Yon kangalal kipsomaninik agobo climate change , ko orogenet nywai akobo global warming ko angamun en tuguk che yoe kimugul-met ak tuguk che yachen che ibu global warming ak wallet 'ab ole tebto emet.

Tesok sei burgeyet en ng'wondut?

Wou noton! Kogoyet burgeyet en ng'wondut en 1°c en kenyishek 100 che kokobata . Che cheng' en kipsomanik chebo science en ng'wondut koite kole tuguk che yoe bik ko choton che kokotes burgeyet en ng'owondut, kou belet 'ab fossils cheu coal, mwanik, ak koriswek che kilolen maat , ak tilet 'ab ketik ak osnoshek ak ole-kiboishoitoen imbarenik chok.

Ne Greenhouse Effect ?

Greenhouse effect ko teset 'ab burgeyet en ngwony angamun en koriswek che miten en angani, chekibore greenhouse gases, cheu carbon dioxide, nitrous oxide, sulphur dioxide, ak methane trap energy chebunu asita . tuguk che ibu carbon kou : tilet 'ab osnshek , koriswek chebunu factories ,koriswek chebunu karishek , koriswek chebunu kwenik yon kakibel anan ko makaa ak belset 'ab osnoshek.

Ne hatari chebo global warming?

- Tesoksei betet 'ab bek en emet ak kotese imbarenik che yomyotin .
- Tesoksei mionwokik en emet, cheu malaria. Yon katesta emet koburgeit ,koigu ole menye mosquitoes , aka en let kotes mionwokik chebo malaria . Familia che chang' ak institutions che chang' komuche ko affectenak, kora kobosoksei kenyishek che kipkosobei, ak kotesak mionwokik en logok .
- Boset 'ab rurutik en komoswek 'ab tropical ak subtropical countries , sanasana ko en emotinwek che miten en east Africa . angamun en robta ne koktesak ak tyongik che ibu mionwikik che kokochang'a, komuche kobosok omitwokik en emet ak en let kotesak pananda ak rubetnen families ak kokwotinwek.
- Teset 'ab ke en beishek 'ab omitwokik . Angoteseta kobosoksei rurutik en imbarenik ak kotutukinegitun omitwokik,kotesoksie beit 'ab omitwokik en ngwondut ko mugul.
- Wolutik che yechen en productivity ak composition nebo ecological systems sanasana en osnoshek . Komoswek che ilibu bek sanasana osnoshek ak tulonok kotese ta koyomdos . Inoniton kobose bek che katakiboishen en irrigation ak che katokiboishen en dams ak reservoirs. Inoniton kobose hydroelectric power en emet. Industries che choket , sipitalishek ak institutions alak che boishen sitimet koigu affected saidi . Bek kora che kiibe ak pipushek koba townishek ak resob kobosoksei.
- Bik Millionishek komiten en hatai nebo flooding ak landslides, ne ibu robwek chechang', en coastal areas, ak teset 'ab levelit 'ab sea.

Otertoi ona global warming'?

Min ak irib ketik!

Kou ye kakemwa en barak yu, carbon dioxide ko agenge en koriswek che sababishoni global warming. Ketik kogule carbon dioxide yon yoe photosynthesis ak kokonor en tigitik , temenoik ak ng'ung'unyek ko cellulose carbon. Lakini yon kakibel ketik koisto carbon ichukaniton koba hewani kora.

Kiingen ile imuche ketit kochob micro climate?

Ketik ak sokekwai kotere ngwony asi' kokaititit. Koibu uronok . Kora uronok'chuton kotere bek che miten en ng'weny komala asista. Yon kakaititit ng'weny kotere bek komaistoge en ngweny'. Inoniton komaanishani kole ketik che miten en koreng'ung kotese bek che miten en ng'ungunyek ,ak kotoret kotagobur bechoton en ngungunyek .

Ne carbon credits?

En 1997, kokisignen emotinwek alak agreement nebo UN nekimwoe kole emotinwek che sirotin en agreement inoton kobose pollution chebo carbon en emotinwek kwai , sanasan ko en greenhouse gas pollution. Agreement initon kokikuren Kyoto Protocol.

En Kyoto Protocol ko kikoyan emotinwek che kikoik industrialized kobos carbon dioxide che kicheru en emotinwek kwai. Oret neta ko kicher carbon dioxide en atmosphere ak kekonor en ketik anan ko en ngweny'.Ketik koibe carbon dioxide en hewani yon teseta photosynthesis akityo kokonor en tikitik ,. Kiasi chebo carbon chekokicher en hewani kimuche kibiman , ak kityo ,yon kakeverrifyen kele iman , kimuche kealda absorbtion initon ko carbon credits en world market .Olik komuche koal credits ichuton asikobosen carbon dioxide emissions.

Kou ingunon, TIST komuche koalda carbon credits kou yon aldo factories chogo anan ko sukaruk . Lakini en carbon komokiloe koba pitonin . Bei nenyinet kotiyenke carbon chekokicher en hewani , akityo kekonor en ketik che miten en imbarenik anan ko osnoshek ,kokebima. Trading / Adaet 'ab carbon credits keyoe en New York, Chicago, London, ak cities alak en ngweny. En markets/ndonyo ichuuton, carbon offsets ke-ole , traded, ak kealda kokakochang'a en robinik chechang'.

Yoche kiitchin mogutik chemiten en market . Mokimuche ketill ketik anan ko asnoshek , angamun niton ko makararan en emetnyon. Yoche kekonunge kechomchin ketik korut en kosorwek chechang , ogo akoi kenyishek ,30. Yoche kikoiten ororutik che imanit . Yon kagemin ketik , keyoe measurements ak calculations kebiman chang'indab carbon TIST en ketik 'ab temik . Ketichuton kong'etu en imbarenik ak koten kotagosobtos, iteseta inyoru chepkondok . Temik kong'etu ak logoek, ketichuton . Rabinik chesiche TIST en carbon offsets keboishen en , kasishek cheu training, Quantification, ak management.

En carbon markets, minet 'ab ketik komuche koik olekinyorunen robinik angamun gule ak kokonor carbon che kimuche kebiman , ak kereborten, aka kealda en carbon credits. Ketik kora kokonunmaana chebo environment ,ak bogoinik ak kerichek.

Imuche kogul ketik carbon che kerke?

Achicha . Ketik che tinye circumference ne'wo koribe carbon chechang' kosir che tinye circumference che meng'echen. Ketik che koen kora kogule carbon che chang' kosir chenwogen. Ingunon ketik che neyotin koibu robinik che chang'. Niton konetech kole yoche kekochini ketik spacing ne kararan, asimorebenge omitwogik ak bek kou yon kakimin korubg'e.

Ano anan ngo' olik 'ab carbon credits?

En inguni , carbon credits keoldo en voluntary markets ak en compliance markets. Kimuche kecertifyen en oratinwek cheterter , Ichochu koexambles chebo carbon markets ak offsets:

1) Certified Emission Reductions (CERs) chebo Clean Development Mechanism (CDM) korepresenteni market nekikichob en Kyoto Protocol. Carbon credits ichuton koyoche keverifiyen ak ke-certifiyen en CDM process asikoboishen emotinwek che industrialized chekikochob GhG reductions commitments en Kyoto Protocol asikotoret cheek comply akoo kaasyinet . Inoniton ko compliyance nebo markets. Verification ak Certification koyoe independent Designated Operational Entities (DOEs) ak koapproven Executive Board nebo CDM. En.iguni komoboishe ak TIST ak forestry.
2) Market age nemokinge keverifien emission reductions ko non-Kyoto compliance markets. En US, nemo agenge en Kyoto, en states alak komogchinge GhG reductions. Australia kora komogchinge requirements ichuton. Markets ichuton kotinye kamuget newoo, lakini komayatat en TIST.
3) Voluntary markets ko ole kikoldaen TIST offsets chebo ketik chemine temik 'ab TIST. Olik 'ab voluntary market komiten mara mbili . Neta ko market ne kiten netinye bik che konuge kogon rabinik asikoendelesan minset 'ab ketik . Kou ipanaet ab projects chebo minset 'ab ketik wedding anan ko conference carbon neutral. Olik 'ab voluntary market chebo oeng' kotinye potential market newon nitinye compunishek chemiten US ak non-Kyoto industrial countries chechobe voluntary commitments kobos GhG emissions chechwaget. Angamun chome emet anan ko angamun chobching'e mogotik chebo besho chebo emet .

Miten standards chechang' cheterterchin en market initon che tinye magutik cheteterchin ak rules ch waloksei kila agobo minet 'ab ketik, rebet nywai ,ak ole kireportento che yoe offsets koaldaak . En inguni , kandoik oeng' che kikeverifyen en TIST ko Verified Carbon Standard ak the Climate, Community, and Biodiversity Alliance Standards.