

# Mazingira Bora



# TIST

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

English Version

An Environmental, Sustainable  
Development and Community Forestry  
Program.



This is how Kianjagi Cluster meeting was this day of 5th April 2019. This cluster meets every 1st Friday of every month. We are just neighboring Mt. Kenya Forest on the windward side. Pay us a visit and learn more about TIST Carbon credits under our Cluster Servant Festus. We are Honest, Transparent, Accurate, Accountable, Servants to each other and more so we are volunteers

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# How TIST Works to Achieve Sustainable Development Goals.

**T**ISTVision has always been to empower Small Groups of subsistence farmers to reverse the devastating effects of deforestation, drought, and famine. TIST farmers work together to identify local sustainable development goals that include tree planting and sustainable agriculture. TIST creates a communication and administrative structure that also addresses health (including HIV/AIDS), education, and nutrition.

Most TIST farmers feel the work they are doing is closely matching the global goals popularly known as **Sustainable Development Goals (SDGs)**.

The **Sustainable Development Goals (SDGs)**, officially known as **transforming our world: the 2030 Agenda for Sustainable Development** is a set of 17 “Global Goals” with 169 targets between them. They are spearheaded by the United Nations through a deliberative process involving its 193 Member States.

The 17 SDGs are listed below, together with TIST Contribution in italics:

## Goal 1: No Poverty

**No Poverty** - End poverty in all its forms everywhere

- Extreme poverty has been cut by more than half since 1990, however, more than 1 in 5 people live on less than \$1.25 a day.
- Poverty is more than lack of income or resources. It includes lack of basic services, such as education, hunger, social discrimination and exclusion, and lack of participation in decision-making.
- Gender inequality plays a large role in the perpetuation of poverty and its risks. They then face potentially life-threatening risks from early pregnancy, and often-lost hopes for an education and a better income.
- Age groups are affected differently when struck with poverty. Its most devastating effects are on children, to whom it poses a great threat. It affects their education, health, nutrition, and security. It also negatively affects the emotional and spiritual development of children through the environment it creates.

### *What TIST Farmers have done*

*Many TIST farmers have made their degraded land productive again. Through tree planting, Conservation Farming (CF) and Agro forestry*

*practices, thousands of hectares of small farms have gained fertility and productivity.*

- *Though rotational and servant leadership is all service and leadership points of TIST, both women and men have gained equal access to opportunities and benefits.*

## Goal 2: Zero Hunger

**Zero Hunger** - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

### *What TIST Farmers have done*

- *Many TIST farmers have practiced Conservation Farming. Majority of them have reported increased yields through CF.*
- *Today, thousands of TIST farmers who have planted fruit and nut trees are reporting good harvest of fruits and nuts thereby increasing their nutritional supply for their families.*

## Goal 3: Good Health and Well-being

**Good Health and Well-being** - Ensure healthy lives and promote well-being for all at all ages

### *What TIST Farmers have done*

*TIST farmers through seminars and Cluster trainings receive HIV and Aids, malaria, nutritional, hygiene trainings, etc. They encourage and support those in need.*

## Goal 4: Quality Education

**Quality Education** - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

### *What TIST Farmers have done*

- *In TIST, we have heard farmers sharing stories of how tree payments incentives help with school fees and or learning materials.*
- *TIST Mazingira Bora Newsletters and training at Clusters promote lifelong learning opportunities.*

## Goal 5: Gender Equality

**Gender Equality** - Achieve gender equality and empower all women and girls

**What TIST Farmers have done**

- **At the Small Groups, Cluster level, GOCC and LC level, members practice rotational leadership, thereby giving women more empowerment.**
- **In TIST, the number of women working and serving farmers is even. Women have equal opportunity for leadership training, etc.**

**Goal 6: Clean Water and Sanitation**

Clean Water and Sanitation - Ensure availability and sustainable management of water and sanitation for all.

**What TIST Farmers have done**

- **Through Riparian program that was received well by farmers whose land touch on water ways, many of them reported increased water quality and quantity.**
- **At Cluster meetings and through newsletters, farmers share a lot of ideas of how to improve hygiene and sanitation.**

**Goal 7: Affordable and Clean Energy**

Affordable and Clean Energy - Ensure access to affordable, reliable, sustainable and modern energy for all

**What TIST Farmers have done**

- **When TIST introduced clean stoves, most farmers embraced them because they were affordable and helped save wood fuel and reduced smoke in the cooking areas.**
- **Through pruning and thinning of trees, farmers are now able to get sustainable fuel source - wood, and improved ways to use**

**Goal 8: Decent Work and Economic Growth**

Decent Work and Economic Growth - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**What TIST Farmers have done**

- **TIST farmers led program has engaged more than 150 persons with flexible hours to allow continued management of primary asset - the farm.**
- **As trees matures, they continue to provide valuable income to support livelihood through sale of fruits, nuts, honey, wood products, etc...**
- **Cash income via tree payment incentives.**

**Goal 9: Industry, Innovation and Infrastructure**

Industry, Innovation and Infrastructure - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**What TIST Farmers have done**

**TIST use of innovation, Information Technology and existing transport to allow youth, women, and men to immediately access new 'industry' (carbon) and create a 'virtual cash crop', which eliminates infrastructure limitations and restores productivity of degraded lands**

**Goal 10: Reduced Inequalities**

Reduced Inequalities - Reduce income inequality within and among countries

**What TIST Farmers have done**

- **TIST farmers have shown incredible support for youth and women especially at the Cluster meetings**
- **Tree incentives are additional income to the farmers, increased income through improved yields, making degraded land productive again, etc.**

**Goal 11: Sustainable Cities and Communities**

Sustainable Cities and Communities - Make cities and human settlements inclusive, safe, resilient and sustainable

**What TIST Farmers have done**

- **TIST farmers have embraced diverse cultures working closely with different languages, communities and supporting one another.**
- **TIST values encourage inclusion, safety, and sustainability**

**Goal 12: Responsible Consumption and Production**

Responsible Consumption and Production - Ensure sustainable consumption and production patterns

**What TIST Farmers have done**

**TIST have improved land fertility through CF, compost manure, agro forestry thereby increasing production sustainably, and provide for consumption**

**Goal 13: Climate Action**

Climate Action - Take urgent action to combat climate change and its impacts by regulating



emissions and promoting developments in renewable energy

**What TIST Farmers have done**

- *Today, TIST farmers worldwide have planted 16+ Million trees, thereby improving adaptation strategies to cope with vagaries of climate change*
- *Today, out of tree planting efforts, TIST farmers have removed over three million tonnes of CO2 from the air.*

**Goal 14: Life Below Water**

Life Below Water - Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**What TIST Farmers have done**

*A significant number of farmers have planted water friendly trees in wetlands and along the waterways thereby protecting aquatic life*

**Goal 15: Life on Land**

Life on Land - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**What TIST Farmers have done**

*TIST farmers have planted millions of biodiversity enhancing trees and kept alive, bee habitats have thrived, agro forestry, degraded land put into productive use again.*

**Goal 16: Peace, Justice and Strong Institutions**

Peace, Justice and Strong Institutions - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

**What TIST Farmers have done**

*TIST works with diverse communities, promoting cohesion through Cluster meetings, TIST Values!*

**Goal 17: Partnerships for the Goals**

Partnerships for the Goals - Strengthen the means of implementation and revitalize the global partnership for sustainable development

**What TIST Farmers have done**

*TIST works with different partners including Taylors of Harrogate*

## TIST: Waste Management.

**Waste is any material that is a byproduct of human activity and that may not have immediate value, which includes:**

- Human excreta/waste
- Domestic rubbish like left over food
- Waste paper
- Scrap metals, old batteries (dry cells)
- Polythene bags
- Sewage sludge etc.

**What Causes Rubbish Problems in your Community?**

**Waste is inevitable but is made more problematic by:**

- Wasteful/inefficient use of resources
- Lack of methods for reusing waste
- Lack of waste disposal sites (Rubbish pits latrines)
- Lack of knowledge about the dangers of waste management.

**Problem caused by poor waste management:**

- Litter of fields and compounds

- Loss of beauty of the area
- Pollution of water, air and soil - disease outbreak
- Blockage of drainage channels
- Toxic poisoning and fumes from old batteries
- Children and animals may be poisoned or injured if they pickup and play with old batteries or other rubbish.

**What Can Your Small Group Do Help Solve the Problem**

- Reduce or minimize the generation of waste
- Consider using solar powered products instead of those that use disposal batteries when possible
- Reusing-use materials again where possible. (i.e., plastic bags)
- Composting -save organic waste left over food and fodder) as natural fertilizer for use in gardening
- Dig a rubbish pit in your compound
- Remember only to burn paper and cards
- Do not burn batteries as they can explode, put them into the pit latrine



# TIST: Sustainable Development.

## Global Environmental Overview

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

## Climate Change

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

## Air Pollution

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

## Water Pollution

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

## Decreasing Biodiversity

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

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

## Desertification

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

## Hazardous Waste

Toxic and poisonous waste can come from factories

using chemical or radioactive materials. The waste harms all ecosystems through disasters such as when a Union Carbide pesticide factory leaked chemicals in Bhopal, India, causing the factory to explode.

## Acid Rain

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

## Ozone Depletion

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

## Urban Problems

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

## Resource Depression

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

## Ask the Cluster participants these questions:

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

Does Kenya contribute toward or cause any of these problems?

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

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



# Preparing Compost Manure - a natural fertilizer.

**C**ompost manure is a natural fertilizer that helps your crops grow. It is better than chemical fertilizer because it is natural, free, and will not damage crops and the environment as some chemical fertilizers can. There are many ways to make compost manure, but the following method has been useful in some areas. Ask your neighbors in your Cluster what has worked well for them.

## Preparation of compost:

1. Choose an area for your compost pit measuring 4m by 4m.
2. Clean the area.
3. Dig a hole of diameter 3 - 4m and 1.5m deep.
4. Collect all the remains of the crops you have (e.g. leaves and stalks of maize, millet, beans) and cut these remains into small pieces.
5. Put these crop remains into the hole up to a depth of 0.5m.
6. Add 5 liters of ash.
7. Next add about 30cm (or as much as available) of animal dung (e.g. dung from pig, cow, goat or chicken).
8. Put another layer of crop leaves and stalks (0.5m).
9. Add another 5 liters of ash.
10. Repeat adding the leaves and stalks again until the hole is almost filled.
11. Finally add a layer of soil until the hole is filled.
12. While filling the hole with soil, put a long stick in the middle of the hole so it reaches the bottom.
13. Leave the compost pit for 90 days (3 months).
14. During this period use your dirty water to water the compost pit. For example, after cleaning your house or clothes, empty the used water over the compost pit. If you have animals, you can also pour animal urine over the pit.
15. This adds extra nitrogen to the compost.
16. Try to water the compost pit in this way every day, or whenever water is available.
17. After 90 days the manure will be ready.

Use the stick as a thermometer – when the compost is ready it should be hot and you may even see steam coming from the stick after you have removed it.

## Use of compost:

When you have dug your holes for planting maize, millet or other crops, add one handful of your compost manure to each hole. Watch for the results!

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Kimereu Version

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Ugu nibu mucemano wa clusta ya Kianjagi wakari 5/4/2019. Clusta iji icemanagia oo muthenya wa mbere wa Friday oo mweri. Twithagirwa turigenie na mwitu wa Mt. Kenya mwena wi mbura ya kwigana. Tucerere uthome nkuruki mauntu jegie wendia wa ruugo na muradi jwetu jwa Tist gukurukira ntungata yeetu Festus. Twithagirwa twi antu etikua, antu bena utheri, antu baaragia nteto jia uuma bungwa, antu bathingatagiira gioto kiongwa, antu bamenyanagira bo eene na nkuruki turi antu ba kwiritira.

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Kuthithia mboleo yaku gwengwa – fertilizer itiongeri into bia kuthithua ni muntu. Page 6



## Uria TIST iritite ngugi gukinyira mworoto jwayo jwa Gukura.

**T**IST yakurirue ni arimi ba irio biria bitumagirwa nja cietu mwanka barathithia ikundi biniini biria batetherie kuthiria kutemwa kwa miti, mpara na kiara muu. Arimi ba TIST baritanirie ngugi bari amwe kumenya njira cia gukuria micii amwe na kwaanda miti and urimi bwa gwita na mbeere. TIST niyambiritie mitaratara ya kwaraniria na ni amwe na ugima bwa mwiri amwe na HIV/AIDS, kithomo na biakuria bibiega

Mweri muthiru, nindombire kugwatira TIST kiri mucemano jwa Carbon Africa jugwati mbaru ni UNFCC, Nairobi Framework Partnership, UNDP amwe na bangi. Mucemano juju jwa thithititue Conotou, Benin naria West Africa. Nindaririe iguru ria mawega ja **Climate Action na uguni bwa SDG**. Ja kanya gakwa ga kwithuranira na kumenya antu baria betetite kwariria urimi bwa gwita na mbere, jabu **Sustainable Development Goals (SDGs)**, indathithirie unchukuni mutandaone jwa Wikipedia. Ndienda kubwaa nteto oiria ndacithomere and mburie buntethie gutaara njira iria TIST yumba gutetheria na mioroto iji na kwejana njira iria TIST igachangira mono kinya au nyumene.

Kiri mutaratara juju jwa witi na mbere jabu **Sustainable Development Goals** buria bugwitua kugarura nthiguru mworoto jwa muratara jwa gukuura mwaka jwa 2030 (**Transforming our world: the 2030 Agenda for sustainable Development**) ni gikundi ka mwioroto ikumi na mugwanja ya kinthiguru iri na mioroto igana ria mirongo itantatu na kenda (169) gatigati kayo. Itongeretue ni Ngwataniro ya Kinthiguru jayo United Nations gukurukira mutaratara jwa gwikinyiria juri na amemba ba nthiguru igana ria mirongo kenda na ithatu (193)

Mioroto iji ikumi na migwanja niyariritue aja nthiguru. Bujathome kenda bujamenya. Kiri mpongeri, nimbikirite mathuganio kuuma kiri antu bangi uria TIST yumba kwongera na maandiko jamaceke.

**Mworoto Jwa Mbere: Guti Ukia Kana Kuthina Guti Ukia** : Kuthiria Ukia kana Kuthina na njira ciabu mwanya mwanya guntu kunthe

- Ukia buria bwingi nkuruki nibuthiritue na akui nusu yabu kuuma mwaka jwa 1990 indi nkuruki ya muntu umwe kiri antu batano baturaga na rungu rwa dora imwe na ingotore mirongo iri na bitano (1.25) o ntuku.
- Ukia kana kuthina ni kwaga njira ya kureta mbeca kiri nja cietu. Niamwe na kwaga into ja kithomo, mpaara, kwonerwa na kimicii, na gutiganirua amwe na kurega kugwatanira na bangi kiri Ubangi bwa mitaratara.
- Kwithirwa guti na unganania bwa akuru na ekuru ni kwongagira mono uthini kana ukia bubu. Aka mono nibo bari atarine ya mantu ja aari kugia aana bari baniini na kwaga wirigiro bwa kithomo kana kinya njira cia kwona mbeca cia kubatethia kuthiria ukia bubu
- Nthuki kinya cio nicigatagwa ni mantu mwanya riria bagwatwa ni thina kana ukia bubu. Twaana mono nitu tugwatagwa ni mauthuku nkuruki

kumania na mantu ja uthini. nikuthukagia kithomo kiao, inya ya kimwiri, kwaga biakuria biagutethia mwiri na ukaria . niithukagia mono kinya mithuganirie yao na gukura kwao gwa moyo .

**Uria Arimi Ba TIST Bathithitie .....**

- **Arimi babaingi ba TIST nibokiritie miunda yao ikagia mboreo kairi gukurukira waandi bwa miti, kurima na njira ya kurigiria (CF) na kungania miti na imera, miunda imiingi niigite mboreo inyingi na yambiria kugia imera bibingi nkuruki.**
- **Gukurukira urimi bwa kuthiurukania mimera na utongeria bwa uriti ngugi bwa TIST akuru na ekuru nibombitie kwithirwa baari na twanya tunganene kiri kwona mawega.**

**Mworoto jwa iri: Guti Mpara**

Kuthiria Mpara: Kuthiria mpara, gukinyaniria ukaria na irio na kwongera irio bibiega na urimi bwa gwita na mbere.

**Uria Arimi ba TIST bathithitie...**

- **Arimi babaingi nibathithitie urimi bubu bwa kurigiria na babaingi na baringite riboti ati nibongerete maketha gukurukira (CF)**
- **Narua mangiri ja arimi baria baandite miti ya matunda na nkandi nibaringete riboti ati nibonete maketha jamega na niuntu bubu kwongera irio bibiega kiri micii yao.**

**Mworoto jwa ithatu: Inya ya kimwiri na Gukara bwega**

Inya ya kimwiri na Gukara bwega: Kumenyera inya ya kimwiri na gukara bwega kiri antu ba nthuki cionthe

**Uria Arimi ba TIST bathithitie...**

**Arimi ba TIST gukurukira uritani bwa micemano yetu na ya Cluster nibaritani mantu ja HIV/AIDS, rwagi (malaria), kumenyera mirire imiega na utheru. naboragua guthetheria baria bari na ubatu.**

**Mworoto jwa Inya : Jithomo Gikiega**

Kithomo gikiega: Kumenya ati kithomo ni nigigukinyira bonthe baria bari na ubatu bwakio na kumenya ati kuri na kaanya ga gutura ga gwitithia na mbere kithomo giki.

**Uria Arimi ba TIST bathithitie...**

- **Ndene ya TIST, nitwigitue arimi bakiejana ntento iguru ria uria marii ja miti jabatethetie kuria mbeca cia cukuru na kugura mauku ja kuthoma najo.**
- **Nkathiti ya Mazingira Bora na uritani buria buthithagirua micemanione ya Cluster ni kwejaga arimi kaanya ga gutura ga gwita na mbere kuthoma**

**Mworoto jwa Itano: Twanya Tung'anene**

Twanya Tung'anene: Gukinyira antu a twanya tunganene kiri ekuru na aari



**Uria Arimi ba TIST bathithitie....**

- *Kiri Ikundi Biniini, mucemano jwa Cluster, GOCC and LC, amemba bathithithagia utongereria bwa kuthuriukana na njira iji nejaga ekuru kaanya ga kugwata inya ya utongereria kinya bo.*
- *Ndene ya TIST, namba ya ekuru baria bakurita ngugi na kuritirwa ngugi ninganene. Ekuru kinya bo bari na kanya kanganene na kiri utongereria na uritani.*

**Mworoto jwa Itantantu: Ruuji rurutheru na kwebia ruko.**

Ruuji ruutheru na Kwebia ruko: Kumenya ati kuri na ruuji rwa kungana na rumenyeri na kwebia mati na njira iria yagiri

**Uria arimi ba TIST bathithitie....**

- *Gukurukira mubango jwa naria kuri na ruuji thiguru juria jwamukirwe ni arimi na njira ya nkeeru mono baria miunda yao iri akui na ruuji, babaingi bao nibongerete ruuji rurwega na rwaingia nkuruki.*
- *Kiri micemano ya Cluster na gukurukira nkatheti, arimi niberanaga mantu jamaingi iguru ria uria bakongera utheru na guta ruko uria kwangiri.*

**Mworoto jwa Mugwanja: Njira iti na goro na intheru cia gutumira mwanki**

**Njira iti na goro na intheru cia gutumira mwanki** – Kumenya kuri na njira cia mwanki jwa kuruga na ngugi ingi juti na goro, juria jugeta na mbere kwithirwa juri oo kinya nyuma ya kagita kenda jutumirwa ni antu bonthe.

**Uria Arimi ba TIST Bathithitie.....**

- *Riria TIST yaretere mariko jamatheru ja kuruga, arimi babaingi nibajwamukire niuntu jutari na goro na nijwabatetherie niuntu jatitumagira nku inyingi na kunyiyia togii naria biakuria birugagirwa.*
- *Gukurukira gwita miti cakasi na guchekeyia miti, arimi nandi nibombaga kwona nku cia kuruga na njira injega cia gutumira*

**Mworoto jwa Inana: Ngugi Injega na Gukuria biashara**

Ngugi injega na gukuria Biashara – Gukuria ngugi cionthe iria itumaga twona mbece igatwika bwega na tucikuria na njira ya kwejana ngugi cia kuria antu micaara.

**Uria Arimi ba TIST bathithitie....**

- *Arimi ba TIST batongererie mubango jwa nkuruki ya antu igana ria miringo itano (150) baria bari na mathaa jatikubainyiria beta na mbere kubangania miunda yao*
- *Miti itite na mbeere gukura, ni itaga na mbere kubaa mbece cia mpogeri iria igwataga mbaru uturo bwao na njira ya kwedia matunda, nkadi, naincu, na into bingi bithithitue na mbau.*
- *Mbece cia mpogeri kumania na marii ja miti.*

**Mworoto jwa kenda: Viwanda, Njira Injeru cia gwita ngugi na barabara**

Viwanda, Njira Injeru cia gwita ngugi na barabara - gwaka barabara injega, gukuria njira injeru cia kuthithia mantu, na viwanda biri na wirigiro bwa gutura.

**Uria arimi ba TIST bathithitie...**

*TIST nitumagira njira injeru cia kuthithia mantu, gutambia nteto na njira cia kinandi kenda twitikiria antu babethi, ekuru na akuru kaanya ga gukinyira viwanda bibieru (Carbon) na bathithia kimera gikieru gia mutambo kiria gikurukaira ithimi bia barabara na gucokia unoru bwa miunda iria miondu.*

**Mworoto jwa Ikumi: Gutaukirwa ni ung'ananu.**

Gutaukirwa ni ung'ananu: Kunyiyia twanya twa kwona mbece cia mpongeri thigurune yetu na nthiguru ingi.

**Uria arimi ba TIST bathithitie...**

- *Arimi ba TIST nibonanitie ugwati mbaru bwa antu babethi na ekuru mono mono kiri micemani ya Cluster.*
- *Mbece cia marii ja miti ni mbece mpogeri kiri arimi, mpongeri gukurukira maketha nkuruki na kwongera mboreo miunda iria miondu.*

**Mworoto jwa ikumi na jumwe:** Micii iminene iri na witi na mbere na ntura cietu Micii iminene iri na witi na mbere na ntura cietu – kuthithia micii imenene na ikaro bia antu bibiega, biri na ukaria na biri na witi na mbere.

**Uria Arimi ba TIST bathithitie...**

- *Arimi ba TIST niamukirite mikarire ya antu mwanya mwanya nani ba kurita ngugi na nthiomi mwanya, ntura mwanya na bakagwatana mbaru.*
- *Mauritani ja TIST ni amwe na Ukaria na witi na mbere.*

**Mworoto jwa Ikumi na iri: Gutumira na guciarithia na umenyeri.**

Gutumira na guciarithia na umenyeri- kumenya uciarithia na utumiri nibigutumirwa bwega.

**Uria arimi ba TIST bathithitie....**

*TIST nitethetie gukuria mboreo ya miunda gukurukira CF, mboreo ya kirinya, urimi bwa kungania miti na imera na uju kwongera iciarithia na utumiri.*

**Mworoto jwa ikumi na ithatu: Mathithio ja Kiriera**

Mathithio ja Kiriera: kujukia itagara iguru ria ugaruku bwa riera rietu na ugaruruku buria bwijaga na njira ya kunyiyia riera ririthuku na gukuria mwanki juria jugakara kara igita ririraja

**Uria arimi ba TIST Bathithitie...**

- *Narua Arimi ba TIST nthiguru yonthe nibaandite miti nkuruki ya million ikumi na*



*ithanthatu, na njira iji kwongera njira injega cia kumenyera riera na ugaruruku bwario.*

- *Narua , kuuma kiri inya ya kwaanda miti, arimi ba TIST nibaritite nkuruki ya tani million 3 na nusu cia Carbon kuuma kiri riera.*

**Mworoto jwa ikumi na Inya: Uturo bwa rungu rwa Ruuji.**

Uturo rungu rwa Ruuji – Kumenyera ba gutumira Iria, na nduui ingi bwega na njira iria igatuma uturo bwa rujiine butikathire

*Uria arimi ba TIST bathithitie...*

*Arimi babaingi nibaandite miti iri ucore na ruuji naria miundene iri na ruuji kana iri akui na ruuji na kwou kumenyera uturo bwa rungu rwa ruuji.*

**Mworoto jwa Ikumi na Ithano: Uturo nthigurune injumo**

Uturo nthigurune Injumo: Menyera na ucokanirie urimiri bwa miitu, kuthiria ndwanda na kuthiria kuthukua gwa miunda.

*Uria Arimi ba TIST bathithitie...*

*Arimi ba TIST nibaandite mamillioni ja miti ya kumenyera riera na gwika njuki iri moyo na kungania miti na imera na gucokaniria miunda iria yondere.*

**Mworoto jwa Ikumi na Itantatu: Ukiri, Ugambi, na micii iri na inya**

Ukiri, ugambi na micii iri na inya – Gukuria ukiri kiri micii yetu kenda tuumba kwithirwa na gukura,

kwejana twanya kiri twinthe twa ugambi na gwaka micii imiega kiri mantu jonthe.

*Uria arimi ba TIST bathithitie...*

*TIST iritanagiria ngugi na micii ya antu mwanya mwanya, gutetheria kugwatithania antu gukurukira micemanio ya Cluster na mauritani ja TIST.*

**Mworoto jwa ikumi na mugwanja: Ngwataniro ya mioroto**

Ngwataniro ya Mioroto – gikwira inya uriti ngugi na kugwatithania ngwataniro ya mioroto kenda gukura gutura.

*Uria arimi ba TIST bathithitie...*

*TIST iritaga ngugi na agwati mbaru babaingi amwe na Kenya Forest Service, Taylors Harrogate, Freshfiels na USAID.*

**Nandi turienda butwee maoni jenu iguru ria mantu jaria ugwe na gikundi kienu kiniini kithithitie kenda koingera kiri mioroto iji ikumi na Mugwanja (I7SDS)**

Nitukwenda kumenya mathuganio jaku iguru ria uria Arimi ba TIST kana micemanio ya uritani ya TIST yumba gutetheria guchangira kiri mioroto iji SDGs kenda tumba kwithirwa na mpumi inene nkuruki na utumiri buniini bwa mbeca.

Muriti ngugi wenu wa Cluster akethirwa na rwaria na babwi kiri mucemanio juu jungi jwenu jwa Clsuter na aandike email kiri ni uria bukauga na mpumi cia rwaria ruu.

## Kumenyera Guta Mati na ruko.

Mati ni gintu kionthe kiumanagia na ngugi iria muntu aitaga ntuku cionthe agatiga biria atikwenda na no bithirwe bitina gitumi orio. Into bibi nija

- Kioro kia Muntu.
- Into bia Nja ja irio biria bitigere.
- Maratasi.
- Maratasi ja Nylon/plastiki.
- Chuma na maiga ja tochi jamathiru.
- Sewage.

**Ni mbi iretaga thina iji**

Mati kana Ruko ruru ni gintu tutiumba kwebera na nijathukagua nkuriki ni

- Kurega gutumira into bietu bwega.
- Kwaga njira injega cia gutumira into biria kairi.
- Kwaga gintu kana into bibiega bia gutera mati na ruko ruru.
- Kwaga umenyo na uume bwa ati ruko ruru ni ruruthuku na ruthukie uturo bwetu.

**Guta mati na ruko ruru na njira iria itibui keretaa:**

- Kwagia bieni na nja cietu uthongi.

- Kuthukia riera, ruuji na muthetu jwetu.
- Kureta mirimo ya mithemba.
- Kuinga mibaibo iria itejaga ruko.
- Sumu gutamba.

Twaana na nyomoo cietu biomba kugwatwa ni sumu iji kana kuringwa beta gutindania na ruoko ruru kana nyomoo cietu ciaria nyaki iji.

**Natia Ikundi bietu bikomba gutetheria kuthiria thina iji**

- Kunyiya gutumira ruko.
- Gutumira into biria bigutumira mwanki jwa riuu jaju Solar antu agutumira biria bitumagira maiga ja guta jathira inya.
- Gutumira into bimwe kairi aria gukumbika ja maratati ja nailoni.
- Kuthithia mboleo na irio biria biatigara antu aguta.
- Kwinja kirinya gia guta mati njeku.
- Kurikana kwithia maratati aki ja ti ja nylon na ukaithia maiga ja tochi nontu jomba gutunduka. Jaja jabwiri gutewa kiorone kia nthi.



## Witi na mbele bukumbika.

### **Gutegera mazingira ndene ya nthiguru yonthe.**

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

### **Kugaruka kwa rera.**

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

### **Kuthukua kwa ruugo.**

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

### **Kuthukua kwa ruuji.**

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

### **Kunyiiya mithemba ya imera na nyomoo iria igukaraniria.**

Biodiversity ni mithemba yonthe mwanya ya imera na nyomoo.

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

### **Gutamba kwa uumo.**

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

### **Ruuko ruria rugitaragia na njira inene.**

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

### **Ngai ya acidi.**

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

### **Kuthiria nkuniki ya ozone.**

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

### **Thina cia tauni.**

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

### **Kuthirua kwa into bia gutumira.**

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

### **Aritani, urieni amemba ba cluster biuria bibi:**

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

Kenya nionagagira kana nitumaga kugia imwe cia thina iji?

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

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



## **Kuthithia mboleo yaku gwengwa – fertilizer itiongeri into bia kuthithua ni muntu.**

**M**boleo ya kuthithia na imera ni fertilizer ya kuumania na into bitina ugwati ya gutethia imera biaku bikura bwega. Ni injega nkuruki ya fertilizer cia nduka niuntu icithithitie yongwa na itina ugwati kiri imera na kiri naria kuthiurukite. Kurina njira inyingi cia kuthithia mboleo, indi njira iji ithingatite nitethetie ndene ya guntu kumwe. Uria muturi waku ndene ya cluster yaku jaria jabatethetie nkuruki.

### **Kuthithia mboleo:**

- 1) Taara antu aria ukeenja kirinya giaku kia warie bwa mita inya na uraja bwa mita inya.
- 2) Theria antu au
- 3) Inja kirinya kirina warie bwa mita ithatu gwita inya na mita imwe na nusu kwinama.
- 4) Uthurania matigari ja imera biaku jaria urinajo na ugitange tue tunini. ( mung'uanano mathangu na mati ja mpempe, miere na ming'au)
- 5) Ikira matigari jaja kirinyene mwanka gitigare nusu mita.
- 6) Ongeera lita ithano cia muju
- 7) Riu wongere centimita mirongo ithatu (kana o iria ikwoneka) cia mburi kana nguku).
- 8) Ongerera matigari ja imera nusu mita
- 9) Ikira lita ingi ithano cia muju
- 10) Ongerera matigari ja imera kairi mwanka kirinya kiende kuujura
- 11) Muthia, ikira muthetu mwanka kirinya kiujure
- 12) Ukiujuria kirinya na muthetu, tonyithia muti jumuraja gatigati ga kirinya mwanka jukinye nthiguru buru.
- 13) Tigana na kirinya giki ntuku mirongo kenda (mieri ithatu)
- 14) Igitene riri tumira ruuji rwaku rwa ruko gwikira bole. Mung'uanano, warikia kuthambia nyomba kana nguo ciaku, ituura ruuji ruru ugutumagira kirinyene. Kethira urina ndithia ituura maumago jacio iguru ria kirinya.
- 15) Untu bubu nibwongagira nitrogen kiri mboleo yaku
- 16) Geria wikagire kirinya kiu ruuji na njira iji ntuku cionthe kana oriria ruuji rurio.
- 17) Ntuku mirongo kenda ciathira, mboleo ikethira iri tayari.

Tumira muti kuthima mwanki – mboleo yayia no mwanka ithirwe irina mwanki mwanka toi yoneke ikiumaga mutine wajurita ku.

### **Utumiri bwa mboleo:**

Warikia kwinja marinya jaku ja kuanda mpempe, muya na imera bingi, ongera nkundi ya mboleo yaku kiri o kirinya. Etera wone uria gugakara!

# Mazingira Bora



# TIST

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

**Kikuyu Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



Uu niguo mucemanio wa Kianjagi Clusta wari mweri 5/4/2019. Clusta ino icemanagia oo wagatano wa mbere o mweri. Turiganitie na mutitu wa Mt. Kenya mwena wa itherero. Tucerere tukumenyithie maingi ma TIST Carbon Credits iria ikoragwo rungu rwa murutani wa Clasta Festus. Ithui turi na uigiririki, utheri, waragania na endi mundu wothe mwirutiri.

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# Uria TIST ikoretwo ikihingia matanya ma uthii wan a mbere (Sustainable Development Goals)

TIST yambiriirio ni arimi anini magithondeka tukundi tunini negetha mahoote kuhurana na thina wa guthukangia kwa mititu, riu inene na ng'aragu. Arimi a TIST marutaga wira na ngwataniro nigetha mahote gucaria ihonia na kugia na ciiko iria iri hamwe ni uhandi wa miti na urimi mugaciru. TIST niikirite mitaratara miega iria ihotithagia guthomithia andu uhoro ukonie ugima wa mwiri (hamwe na githomo kia murimu wa muingo) na mirire miega.

Mweri muthiru, nindagiire na kamweke ga kurugamiririra TIST thiini wa mucemano wa Africa Carbon Forum uria warugamiriirwo ni UNFCCC, Nairobi Framework Partnership, UNDP hamwe na honge ingi. Mucemano ucio wari bururi wa Benin, Afrika ya ithuiro, mucii wa Cotonou. Ningagiire na kamweke ga kwaririria umithio uiria wonekaga kumanagia na wira wa kuhurana na učenja wa riera ungiringithanio na Sustainable Development goals ( uthii wan a mbere mugaciiru). Hari mehariria makwa, ndina umenyo ati maundu mari makaririo ni makonie uthii wan a mbere mugaciiru, nidekire utuiria kuuma mtandao wa internet ugitwo Wikipedia. Nigwenda gukumenyithia maundu maria ndathomire na ngurie ututeithie hari ni njira iriku tungimenya wega ati wira waku wi murimi wina umithio uhiite kuhanana ta SDGs na makiria ya uguo tuthomithanie ni atia tungigaciiria.

Matanya maya ma uthii wa nambere mugaciru (**Sustainable Development Goals - SDGs**) na nomo maukaine ta Kugacirithia thii itu: agenda wa mwaka 2030 hari uthii wa na mbere (**transforming our world: the 2030 Agenda for Sustainable Development**). Matanya maya ni ikumi na mugwanja (17) mena ichunji 169 gatagati kamo. Matongoragio ni ruhonge rwa United Nation na kunyitwo mbaru ni mabururi 193.

Matanya maya 17 ndimandikite haha muhuro. Mathome wega. Hamwe nauguo, niheanite ngerekano kuuma kuri andu mwanya uria TIST ikinyaniirie matanya maya:

## Goal 1: Kunina ukia

**Kunina ukia** – Kunina ukia wa muthemba o wothe kundu guothe

- Ukia munene niukoretwo unyihite na gichunji kia nuthu kuuma mwaka wa 1990. No onakuri uguo, mundu umwe hari andu atano onoga mbeca nini makiria ya dollar 1.25 kana shilingi 125 o muthenya.
- Ukia to kagwa mbeca kana utonga. Ukia ni hamwe na kwaga githomo, gukorwo na ng'aragu, guthutukanio, kwaga kamweke ga gutua matua bururini kana maturaini.
- Kwaga uigananu wa arume na atumia

niguchangagira muno hari kuongerereka kwa ukia. Atumia nimakoragwo na ugwati riria manyita nda mari na miaka minini na makaga mieke ya githomo na wira mwega

- Marika onamo nimanyitagwo ni ukia kwa njira ngurani. Ciana ni ikoragwo ugwati-ini tondu ukia niutumaga mage guthoma, kwaga ugima wa mwiri, irio njega ona ugitiri.
- Age groups are affected differently when struck with poverty. Its most devastating

## Uria arimi a TIST mahotete gwika....

- **Arimi aangi a TIST nimahotete gučenja migunda yao iria itagiaga kindu na riu kugia na umithio. Kuhanda miti, urimi wa CF, gukuria miti ya gutwarana na irio mugunda, migunda miingi niigite na unoru wa tiri na kugia na umithio.**
- **Kuhitukira utongoria wa gučenja na utungata thiini wa TIST, atumia na athuri nimagite na mieke miigananu na uteithio**

## Goal 2: Kunina Ng'aragu

**Kunina ng'aragu** – Kunina ng'aragu, kugia na irio cia kuigana na kugacirithia urimi

## Uria arimi a TIST mahotete gwika....

- **Arimi aangi a TIST nimarimite Conservation Farming( CF). aingi aao nimaugite nimonete maciaro maingi kuhitukira CF**
- **Nginyagia riu, arimi makiri a TIST aria mahandite miti ya matunda na makandamia nimaugite nimonaga magetha mega ma matunda na ngandamia koguo makongerera irio ciao matunda.**

## Goal 3: Ugima mwega wa mwiri na muikarire mwega.

**Ugima mwega wa mwiri na muikarire mwega** – Gutigirira ugima mwega wa miiri na miikarire miega hari andu oothe.

## Uria arimi a TIST mahotete gwika....

**Arimi a kuhitukira seminars na micemano ya Clusters nimamukiraga ithomo cia murimu wa muingo, malaria, mirire miega, uthuru na maingi maingi. Arimi nimahenaga hinya kuria aria me hatikaini.**

## Goal 4: Githomo kiega

**Githomo kiega** – Gutigirira githomo kirakinyira andu oothe na gutigirira kwina mieke ya mundu guthi na mbere na guthoma muturire-ini wake.

**Uria arimi a TIST mahotete gwika....**

- **Thiinii wa TIST, arimi nimakoretwo magitwira uria marihi ma miti yao makoretwo makimateithiriria hari kuriha marihi ma cukuru na kugura mabuku na turamu.**
- **Ngathiti ya Mazingira Bora na urutani thiinii wa Clusters niuheaga andu mieke ya kugia na umenyi miturere-ini yao.**

**Goal 5: Uiganinia wa Arume kwa Atumia Uiganania wa Arume kwa Atumia –** Gutigirira ni kwagia na uigananu wa arume kwa atumia na kuhe uhoti atumia na airitu.

**Uria arimi a TIST mahotete gwika....**

- **Kuuma ikundi nini, Cluster-ini, GOCC na LC, amemba nimakoragwo na utongoria wa mithiururukano kogu ukahe atua mieke miega ya utongoria.**
- **Thiinii wa TIST, namba ya atumia aria marutaga wira nay a arume niiganaine. Atumia makoroga na mieke iganaine ya utongoria na maundu maangi.**

**Goal 6: Maai matheru na utheru wa ciooro** Maai matheru na utheru wa ciooro – Gutirira kwina maai ma kuigana na utheru wa ciooro.

**Uria arimi a TIST mahotete gwika....**

- **Kuhitukira mubango wa kuhanda miti hakuhi na njuui, arimi aria mahandite nimakoretwo makiuga ati nimonete utheru na uongereku wa maai.**
- **Kuhitukira micemanio ya Clusters na ngathiti ya Mazingira Bora, arimi nimechenjanagia uugi hari uhoro wa utheru wa micii.**

**Goal 7: Uhoti wa kugura mwaki na mwaki mutheru**

Uhoti wa kugura mwaki na mwaki mutheru – Gutigirira andu nimagia na Uhoti wa kugura mwaki na mwaki mutheru

**Uria arimi a TIST mahotete gwika....**

- **Hindi iria TIST yarehire mariko ma ngui nini na kunyihia ndogo, arimi aaingi nimamukirire mariko macio tondu mari ma mbecha nini, nimahotaga kuhonra ngu, na kunyihia ndogo kuuma riko-ini.**
- **Hindi iria arimi maguchehe miti yao kana kwahura iria itumanite, nimahotaga kugia na ngu cia kuigana.**

**Goal 8: Wira mwega na gukura ki utonga** Wira mwega na gukura ki utonga – Gutigirira andu othe nimagia na wira mwega na gukura ki utonga

**Uria arimi a TIST mahotete gwika....**

- **Program ya TIST niyandikite makiria ya andu 150 na ikamahe mathaa mega maria mamahotithagia mahote gutungata migunda yao.**
- **Riria miti irathii na mbere na gukura, noguo irarehe utonga kumanagia na wendia wa matunda, ngando, uuki, mbao, ngu.**
- **Marihi ma miti ni njira ya kuongerera utonga.**

**Goal 9: Iganda, uhumburi wa maundu na miako.**

Iganda, uhumburi wa maundu na miako – Gukuria Iganda, uhumburi wa maundu na miako.

**Uria arimi a TIST mahotete gwika....**

**TIST niuhuthagira maundu meeru ta kuhithirira njira cia computer, gutumira maundu ma kiriu kuhotithia andu ethi, atumia na athuri magie na mieke miega hari wonjorithia wa carbon.**

**Goal 10: Kunyihia kwaga waragania** Kunyihia kwaga waragania – Kinyihia kwaga waragania wa utonga thiini wa bururi na gatagati ka mabururi.

**Uria arimi a TIST mahotete gwika....**

- **Arimi a TIST nimonanitie wendi munene hari guteithia andu ethi na atumia thiinii wa Clusters**
- **Marihi ma miti nimateithagia kuongera utonga, o hamwe na wendi wa magetha ma CF.**

**Goal 11: Micii ya ma-town na nduriri** Micii ya ma-town na nduriri – Kuona micii ya ma-town na kuria andu maikaraga kwina ugitiri na miikarire miega.

**Uria arimi a TIST mahotete gwika....**

- **Arimi a TIST nimarutithanagia wira wega me nduriri na thiomi mithemba miingi.**
- **TIST values ni iteithagia andu gukorwo na urumwe na thayu.**

**Goal 12: Utumiri na uthondeki muigiririku** Utumiri na uthondeki muigiririku – Gutigirira kwina Utumiri na uthondeki muigiririku na wa gutura.

**Uria arimi a TIST mahotete gwika....**

**Arimi a TIST nimagacirithitie migunda yao kuhitukira urimi wa CF, utumiri wa mborea ya mahuti ma mugunda, gukuria miti na irio na kiguo makongerera uthondeki wa irio makiriria na kogu makigia na indo cia gutumira**

**Goal 13: Wira ukonie kuhuruna na ugaruruku wa riera (Climate Action)** Wira ukonie kuhuruna na ugaruruku wa riera (Climate Action)- Kwina bata wan a ihenya



kuhurana na ugaruruku wa riera na kunyihia ndogo ya iganda na kutheremia mwaki uteri na miruki miuru ta solar.

**Uria arimi a TIST mahotete gwika....**

- **Nginyagia riu, arimi a TIST thiinii wa thi nimahandite miti makiria ya milioni 16 iria iteithiriirie kuhurana na ugaruruku wa riera.**
- **Kumanagia na miti iyo, arimi a TIST nimatheritie tani million 3.5 cia riera ria carbon**

**Goal 14: uturo na nyamu cia maai-ini**

Uturo na nyamu cia maai-ini – Kugitira iria na icigirira cia maa-ini.

**Uria arimi a TIST mahotete gwika....**

**Arimi aaingi a TIST nimahandite miti miega na maai hakuhi na njuui iria iteithitie nyamu iria ikoragwo maai-ini.**

**Goal 15: Uturo na nyamu iria ikoragwo thi nyumu**

Uturo na nyamu iria ikoragwo thi nyumu – kugitira mititu, kuhurana na uthukia wa mititu na kugitira guthuka kwa migunda.

**Uria arimi a TIST mahotete gwika....**

**Arimi aaingi a TIST nimahandite miti ya kiunduire iria ihotithitie indo ta njuki na ingi, guthondeka migunda**

**Goal 16:Thayu, kihooto na honge nu'mu.**

Thayu, kihooto na honge nu'mu – Kugacirithia thayu, unyitaniri na gutigirira kwina kihooto kuri andu oothe.

**Uria arimi a TIST mahotete gwika....**

**Arimi a TIST nimarutithanagia wira me hamwe ona maumite nduriri ngurani kuhitukira Cluster meetings na makirumirira TIST Valuaes.**

**Goal 17: Ngwataniro hari kuhingia matanya maya**

Ngwataniro hari kuhingia matanya maya – Kunyitanira hari gutigira matanya maya nimahinga

**Uria arimi a TIST mahotete gwika....**

**TIST nikoretwo ikirutithania wira na honge ingi ta Kenya Forest Service, Taylors of Harrogate, Freshfields na USAID.**

**Riu, tukwenda kuigua woni waku uria gakundi kanini gaaku gekite ukonainie na matanya maya 17 ma SDGs**

**Ningi, nitukwenda wendekithia waku uria arimi a TIST kana ithomo cia TIST ingithondekwo wega nigetha ihotithie gukinyaniria matanya maya – nigetha tuthii na mbere kugia na umithio munene wina gharama nini.**

**Cluster servant waku niakamuteithiria mucemano-ini wa Cluster na atwandikire mawoni maaku na email.**

## Gute Giko.

**G**iko ni kindu o giothe kimanaga na mawira ma mundu na ni;

- Mai ma mundu
- Matigio ma irio
- Maratathi mahuthiku
- Cuma nguru na mahiga ma tochi makuru
- Sewage.

**Mathina ma giko marehagwo nikii micii-ini?**

Giko gitingiithemeka no githukagio muno ni;

- Uhuthiri muuru wa ino
- Kwaga njira cia kuhuthira indo nguru
- Kwaga kundu gwa gute giko
- Kwaga umenyo wa mogwati maria marehagwo ni giko.

**Mathina maria marehagwo ni giko**

- Guitanga mahuti nja na kunina uthaka wayo.

- Guthukia riera, tiiri na maai.
- Kurehe mirimu.
- Kuhinga kuria maai ma giko mageraga.
- Guthukia riera makiria na mahiga makuru ma tochi.

Ciana kana nyamu nocikorwo ugwati-ini riria ciongania mahiga maya ma tochi na giko kingi.

**Mungika atia muri gikundi guteithiria kunina thina uyu?**

- Nyihia-i uteangi wa indo.
- Huthira-i hinya wa riu handu ha mahiga ma tochi.
- Huthiraga-i indo nguru riria kwahoteka.
- Thondeka-i thumu na matigio ma irio.
- Enja irima ria giko gwaku.
- Ririkana gucina maratathi. Ndugacine mahiga ma tochi tondu nomarute mwaki, maikie kioro.





## Mogaruruku mangihoteteka.

### **Murorere wa maria maturigiciirie thi yothe.**

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

### **Ugaruruku wa riera.**

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

### **Uthukia wa riera.**

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

### **Uthukia wa maai.**

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

### **Kunyahia biodiversity.**

biodiversity nikuuga mithemba yothe ya miti na ya nyamu.

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

### **Desertification.**

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

### **Giko kiri na ugwati**

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

### **Mbua iri na acid.**

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

### **Ozone Depletion.**

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

### **Mathina ma town.**

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

### **Kunyahia kwa indo cia bata.**

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

### **Athomithania uriai ciuria ici kuri arimi a cluster.**

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

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

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



## Kuhariria thumu wa mborera – bataraita ya kimerera.

**T**humu wa mborera ni bataraita ya kimerera iria iteithagia mimera gukura wega. Bataraita ino ni njega gukira ya nduka tondu I ya kimerera, ndiri thogora, ndithukagia mimera hamwe na maria maturigiciirie ta uria bataraita imwe cia nduka ciikaga. Kuri njira ngurani uria unghota gwithondekera thumu waku wa mborera. Hari njira imwe iria tuguthomithia iria ikoretwo igitumirwo ni andu aiangi. Niwega urie arimi aria angi muri mucemanio wa cluster ni njira iria matumagira.

### Kuhariria guthondeka thumu:

1. Chagura handu haria ikwenja irima riaku ria mita inya kwa inya.
2. Theria handu hau.
3. Haririria kana uchimbe irima ria warie wa mita ithatu nginya inya na iriku wa mita imwe na nuthu.
4. Cokeria hamwe maragara maku moth eta mahuti, mabebe , maboco kana muhia na umatinangie tuchunji tunini.
5. Ikia maragara macio irima-ini riaku kwa uriku wa nuthu mita.
6. Ongerera lita ithano cia muhu.
7. Thutha ucio, ongerera thumu wa ng'ombe kana mburi kana nguku kana nguruwe kwa uriku ta fiti imwe.
8. Ongerera maragara mangi inguru ta nuthu mita.
9. Ongerera lita ithano cia muhu.
10. Ongerera maragara maku nginya irima riaku rikirie kuiyura.
11. Wa muthia, humbura na tiiri nginya iria riyyure
12. Hindi iria urahumbira na tiri, handa kamuti nginya kahutie irimariaku gitina.
13. Eterera gwa kahinda ka thiku 90 kana mieri itatu.
14. Gwa kahida gaaka korwo ugitiriria thumu waku maai maku ma giiko. Ungikorwo ni ukuhota ona mathugumo ma mahiu maku uitiririe.
15. Mathugumo ni mateithagia kuongera nitrogen.
16. Geria guitagiriria maai na muthugomo kwa mahinda makuhi.
17. Thutha wa thiku mirongo kenda, thumu waku ugakorwo uri muhiu.

Tumira kamuti karia uhandire ta githimi giaku. Hindi iria thumu waku wahia, wagiririrwo gukorwo wi muhiu na wacomora kamuti ni wagirirwo ni kurata ndogo ya urugari.

### Uhuthiri wa thumu waku wa mborera:

Warikia kuhariria marima maku ma mbembe kana muhia kana o mimera iria ingi urahanda, ikira thumu muigana wa m oko maku o hari o irima. Eterera wone maciaro!

# Mazingira Bora



# TIST

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

**Kiswahili Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



Hivi ndivyo mkutano wa Kianjagi Clusta ulikuwa tarehe 5 - 4 - 2019. Clusta hii hukutana kila Ijumaa ya kwanza ya kila mwezi. Tuko jirani na msitu wa Mlima Kenya upande wa upepo. Tutembelee tukujuze mengi kuhusu TIST Carbon Credits ilioyo chini ya Mutumishi wa Clasta Festus. Sisi ni waminifu, uwazi, sababa, watumishi kwa kila mtu na kujitolea.

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# Jinsi TIST Inavyofanya Kufanikisha Malengo ya Maendeleo Endelevu.

TIST ilianzishwa na wakulima wadogo ili kuwawezesha kuunda vikundi vidogo vinavyoweza kuwasaidia kutupilia mbali madhara mabaya ya ukataji miti, ukame na njaa. Wakulima wa TIST wanafanya kazi pamoja ili kutambua vitendo vya maendeleo endelevu vinavyojumuisha kupanda miti na kilimo endelevu. TIST inaunda miundo ya mawasiliano na utawala ambayo pia inashughulikia afya (ikiwa ni pamoja na VVU / UKIMWI), elimu na lishe.

Mwezi uliopita, nilikuwa na fursa ya kuwakilisha TIST kwenye mkutano wa Carbon Afrika Forum uliofadhiliwa na UNFCCC, Nairobi Framework Partnership na UNDP kati ya wengine. Mkutano huo ulifanyika Conotou, Benin, Afrika Magharibi. Nilizungumzia juu ya faida za matendo ya mazingira yanayolenga Mafanikio ya SDG almaarufu (**Co-benefits of Climate Action on the Achievements of SDG**). Kama sehemu ya maandalizi yangu na kujua kuwa watu wanaohudhuria wangekuwa wakijadili Malengo ya Maendeleo Endelevu (SDGs), nimefanya utafiti na kuchunguza kwenye Wikipedia. Ninataka kuwajua yale niliyojifunza, na kuomba usaidizi kutambua njia ambazo TIST inachangia kwenye Malengo hayo, na kupendekeza njia ambazo TIST inachangia hata zaidi nyakati zijazo.

Malengo ya Maendeleo Endelevu (SDGs), yanayojulikana rasmi kama **kubadilisha dunia yetu: Agenda ya 2030 ya Maendeleo Endelevu** ni mojawapo ya 'Malengo ya Kimataifa' kumi na saba (17) yenye Malengo mia moja sitini na tisa (169) kati yao. Inachangiwa pakubwa na Umoja wa Mataifa kupitia mchakato wa makusudi unaohusisha majimbo yake mia moja, tisini na tatu (193). Malengo hayo ya Maendeleo kumi na saba (17) yameorodheshwa hapa chini. Tafadhali uyatathmini. Nimeweka mawazo ya hapo awali kutoka kwa watu wengine kuhusu jinsi TIST inaweza kuchangia katika italiki (*Italics*) ili kuongezea:

## Lengo la 1: Hakuna Umaskini

**Hakuna Umasikini** – Kuondoa umaskini wa aina wowote, kila mahali.

- Umaskini uliokithiri umekatwa kwa zaidi ya nusu tangu mwaka wa 1990, hata hivyo, mmoja kati ya watu watano (5) wanaishi chini ya dola 1.25 kwa siku.
- Umaskini ni zaidi ya ukosefu wa kipato au rasilimali. Inajumuisha ukosefu wa huduma za msingi, kama elimu, njaa, ubaguzi wa kijamii na kutengwa, na ukosefu wa ushiriki katika maamuzi.
- Usawa wa kijinsia una jukumu kubwa katika kuendeleza umaskini na hatari zake. Wanawake wanakabiliwa na hatari zinazohatarisha maisha kutoka mimba za awali, na matumaini potevu ya elimu na mapato mazuri.
- Vikundi vya umri vinaathiriwa tofauti na umasikini. Madhara yake huwa makubwa zaidi

kwa watoto, ambao huwa tishio kubwa. Inathiri elimu, afya, lishe, na usalama. Pia huathiri vibaya maendeleo ya kihisia na kiroho ya watoto kupitia mazingira ambayo yanajengwa.

## Yale yaliyofanywa na wakulima wa TIST.....

- **Wakulima wengi wa TIST wamefanya ardhi yao iliyokuwa na uharibifu kuwa na uzalishaji. Kupitia upandaji wa miti, Kilimo cha Uhifadhi na mazoea ya misitu ya Agro, maelfu ya hekta za mashamba madogo yamepata uzazi na uzalishaji.**
- **Kupitia uongozi wa mzunguko na mtumishi katika sehemu zote za huduma na uongozi wa TIST, wanawake na wanaume wamepata upatikanaji sawa wa fursa na faida.**

## Lengo la 2: Kuondoa Njaa

**Kuondoa njaa** – Ondoa njaa, hakikisha usalama wa vyakula na kuboresha lishe na kukuza kilimo endelevu.

## Yale yaliyofanywa na wakulima wa TIST .....

- **Wakulima wengi wa TIST wamefanya Kilimo cha Uhifadhi. Wengi wao wameripoti mazao yaliyoongezeka kupitia Kilimo cha Uhifadhi,**
- **Leo, maelfu ya wakulima wa TIST ambao wamepanda matunda na miti ya mbegu hutoa mavuno mazuri ya matunda na karanga na hivyo kuongeza usambazaji wao wa lishe kwa familia zao.**

## Lengo la 3: Afya Bora na Ustawi

**Afya Bora na Ustawi** - Kuhakikisha maisha mazuri na kukuza ustawi kwa wote kwa miaka yote.

## Yale yaliyofanywa na wakulima wa TIST.....

**Wakulima wa TIST kupitia semina na mafunzo ya Cluster hupokea mafunzo kuhusu VVU na Ukimwi, malaria, lishe bora, mafunzo ya usafi, nk. Wanahimiza na kuwasaidia wale wanaohitaji.**

## Lengo la 4: Elimu Bora

**Elimu Bora** - Kuhakikisha elimu yenye ubora na usawa na kukuza fursa za kujifunza kwa kila mtu kwa wote.

## Yale yaliyofanywa na wakulima wa TIST.....

- **Katika TIST, tumewasikia wakulima wakiongea kuhusu jinisi malipo ya motisha ya miti yanavyowasaidia kulipa karo ya shule na vifaa vya kusoma.**
- **Majarida ya TIST Mazingira Bora na mafunzo katika Cluster hupeana fursa ya masomo ya muda mrefu.**

## Lengo la 5: Usawa wa Kijinsia



**Usawa wa Kijinsia** - Kufikia usawa wa kijinsia na kuwawezesha wanawake na wasichana wote.

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Katika vikundi vidogo, kiwango cha Cluster, kiwango cha GOCC na LC, wanachama hufanya uongozi wa mzunguko, na hivyo huwapa wanawake uwezo wa kutosha.*
- *Katika TIST, idadi ya Wanawake wanaofanya kazi na kuwahudumia wakulima ni ya wastani. Wanawake wana nafasi sawa ya mafunzo ya uongozi, nk.*

**Lengo la 6: Maji Safi na Usafi**

**Maji safi na usafi** - Kuhakikisha upatikanaji na usimamizi endelevu wa maji na usafi wa mazingira kwa wote.

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Kupitia mpango wa Riparian uliopokelewa vizuri na wakulima ambao ardhi yao inagusa juu ya njia za maji, wengi wao waliripoti kuongezeka kwa ubora wa maji na kiasi.*
- *Katika mikutano ya Cluster na kwa njia ya majarida, wakulima wanashiriki kwa kubadilisha mawazo juu ya jinsi ya kuboresha usafi na usafi wa mazingira.*

**Lengo la 7: Nishati ya bei nafuu na safi**

**Nishati ya bei nafuu na safi** - Kuhakikisha upatikanaji wa nguvu za bei nafuu, za kuaminika, za kudumu na za kisasa kwa wote

**Yale yaliyofanywa na wakulima wa TIST.....**

- *TIST ilipoanzisha pofu safi, wakulima wengi waliitumia kwa sababu zilikuwa na gharama nafuu na zilisaidia kuokoa mafuta ya kuni na kupunguza moshi katika maeneo ya kupikia.*
- *Kwa njia ya kupogoa na kuponda miti, wakulima sasa wanapata vyanzo vha mafuta endelevu - mbao, na njia bora za kutumia.*

**Lengo la 8: Kazi nzuri na ukuaji wa uchumi**

**Kazi nzuri na ukuaji wa uchumi** - Kazi nzuri na Ukuaji wa Kiuchumi - Kukuza ukuaji wa uchumi unaoendelea, jumuishi na endelevu, ajira kamili na yenye ufanisi na kazi nzuri kwa wote

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Wakulima wa TIST wakiongozwa na mpango wamewakabili watu zaidi ya mia moja hamsini (150) wenye masaa rahisi kuruhusu usimamizi wa mali ya msingi - shamba.*
- *Jinsi miti inavyokomaa, inaendelea kutoa mapato ya thamani kwa kuunga mkono maisha kupitia uuzaji wa matunda, karanga, asali, bidhaa za mbao nk*
- *Mapato ya fedha kupitia motisha ya malipo ya miti.*

**Lengo la 9: Sekta, Uvumbuzi na Miundombinu**  
Sekta, Uvumbuzi na Miundombinu - Kujenga miundombinu ya ustawi, kukuza viwanda vya umoja na endelevu na kukuza uvumbuzi.

**Yale yaliyofanywa na wakulima wa TIST.....**

*TIST ina matumizi ya uvumbuzi, Teknolojia ya Habari na usafiri wa kisasa ili kuruhusu vijana, wanawake, na wanaume kupata nafasi kwa 'sekta' mpya (kaboni) na kujenga mazao ya fedha, ambayo hupunguza mapungufu ya miundombinu na kurejesha uzalishaji wa nchi zilizoharibika.*

**Lengo la 10: Kukosekana kwa Usawa**

**Ukosefu wa usawa** - Kupunguza usawa wa mapato ndani na kati ya nchi

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Wakulima wa TIST wameonyesha msaada wa ajabu kwa vijana na wanawake hasa katika mikutano ya Cluster.*
- *Vidokezo vya miti ni mapato ya ziada kwa wakulima, kuongezeka kwa mapato kwa njia ya mazao bora, na kuzalisha ardhi yenye uharibifu, nk.*

**Lengo la 11: Miji na Mikoa endelevu**

**Miji na Mikoa Endelevu** - Kufanya miji na makazi ya watu kuwa ya kwa pamoja, salama, ustahimilivu na endelevu.

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Wakulima wa TIST wamekubali tamaduni mbalimbali kwa kufanya kazi za karibu na lugha tofauti, jamii na kusaidiana*

**Lengo la 12: Matumizi ya Ufanisi na Uzalishaji**

**Matumizi ya Ufanisini na Uzalishaji** - Ili Kuhakikisha smatumizi endelevu ya uendeshaji na mifummo ya uzalishaji.

**Yale yaliyofanywa na wakulima wa TIST.....**

*TIST imeboresha uzazi wa ardhi kupitia ukulima wa uhifadhi, mbolea ya mbolea, misitu ya kilimo na hivyo kuongeza uzalishaji kwa ustawi, na hutoa matumizi*

**Lengo la 13: Hatua ya Hali ya Hewa**

**Hatua ya Hali ya Hewa** - Kuchukua hatua ya haraka ili kupambana na mabadiliko ya hali ya hewa na athari zake kwa kusimamia uzalishaji na kukuza maendeleo katika nishati mbadala

**Yale yaliyofanywa na wakulima wa TIST.....**

- *Leo, wakulima wa TIST ulimwenguni kote wamepanda miti ya milioni kumi na sita (16), na hivyo kuboresha mikakati ya kukabilia na kukabilia na athari za mabadiliko ya hali ya hewa*
- *Leo, mbali na jitihada za kupanda miti, wakulima wa TIST wameondoa tani zaidi*



**ya milioni tatu unusu) (3.5) za CO<sub>2</sub> kutoka kwenye hewa.**

**Lengo la 14: Maisha Chini ya Maji.**

Maisha Chini ya Maji - Uhifadhi na kutumia viendelezi bahari, bahari na rasilimali za baharini kwa ajili ya maendeleo endelevu.

**Yale yaliyofanywa na wakulima wa TIST.....  
Idadi kubwa ya wakulima wamepanda miti ya kirafiki ya maji katika maeneo ya mvua na karibu na njia za maji na hivyo kulinda maisha ya majini**

**Lengo la 15: Maisha kwenye Ardhi.**

Maisha ya Ardhi - Kulinda, kurejesha na kukuza matumizi endelevu ya mikoa ya ardhi, kusimamia misitu, kupambana na vurugu, na kusimama na kuharibu uharibifu wa ardhi na kusimamisha kupoteza kwa maisha ya wanyama na mimea.

**Yale yaliyofanywa na wakulima wa TIST.....  
Wakulima wa TIST wamepanda mamilioni ya miti ya kuimarisha viumbe hai na kuendeleza uhai, mazingira ya nyuki yameongezeka, misitu ya kilimo, ardhi yenye uharibifu huwekwa katika matumizi ya uzalishaji tena**

**Lengo la 16: Amani, Haki na Taasisi Zenye Nguvu**

Amani, Haki na Taasisi Zenye Nguvu - Kukuza jamii za amani na umoja kwa ajili ya maendeleo endelevu,

kutoa fursa za haki kwa wote na kujenga taasisi za ufanisi na za umoja katika ngazi zote

**Yale yaliyofanywa na wakulima wa TIST.....  
TIST inafanya kazi na jamii mbalimbali, kukuza ushirikiano kupitia mikutano ya Cluster, TIST Values!**

**Lengo la 17: Ushirika kwa Malengo**

Ushirikiano kwa Malengo - Kuimarisha njia za utekelezaji na uimarishaji wa ushirikiano wa kimataifa kwa maendeleo endelevu

**Yale yaliyofanywa na wakulima wa TIST.....  
TIST hufanya kazi na washirika tofauti ikiwa ni pamoja na Huduma ya Misitu ya Kenya, Taylors of Harrogate, Freshfields na USAID.**

**Sasa, tunataka mapendekezo yako kuhusu mambo maalum ambayo wewe au Kikundi chako Kidogo kimefanya kuchangia kati ya SDG zozote kumi na saba (17).**

Tunataka pia kujua mawazo yako kuhusu jinsi wakulima wa TIST au jinsi mafunzo ya TIST yanaweza kuboresha michango yetu kwa SDG zilizotajwa - ili tuweze kuwa na **MATOKEO BORA** kwa Bajeti ya Chini!

Mtumishi wako wa Cluster atakuwa na majadiliano kwenye mkutano wa Cluster unaofuata, na ataandika barua pepe kwangu kuhusu mapendekezo yako na matokeo.

## Usimamizi wa taka.

**T**aka ni kitu chochote kinachotokana na mazi za binadamu na yaweza kukosa utumizi wa mara moja, na ni pamoja na:

- Choo cha binadamu.
- Uchafu wa nyumba kama mabaki ya chakula.
- Makaratasi yasiyotumika.
- Mifuko ya mpira.
- Chuma, betri zimeisha (seli kavu).
- Maji taka sludge nk.

**Ni nini husababisha shida za taka katika eneo lako?**

Taka haiwezi kuepukika lakini yafanywa kuwa shida zaidi na:

- Matumizi mbaya ya rasilimali.
- Ukosefu wa njia za kutumia tena.
- Ukosefu wa mahali pa kutupa taka (mashimo ya taka, vyoo vya kuchimba).
- Ukosefu wa ujuzi wa hatari za usimamizi mbaya wa taka.

**Usimamizi mbaya wa taka husababisha.**

- Uchafuzi wa mashamba na viwanja, kupoteza urembo wa eneo hilo.

- Uchafuzi wa maji, hewa na udongo.
- Kuenea kwa magonjwa.
- Kufungana kwa paipu za kuondoa maji taka.
- Sumu na moshi mbaya kutokana na betri nzee

Watoto na wanyama waweza kupata sumu au kuumizwa wakiokota na kucheza na mawe mazee na taka nyinginezo.

**Kikundi kidogo chako chaweza kufanya nini kutatua shida hii?**

- Kupunguza kutengeneza kwa taka.
- Fikiria kutumia vifaa vinavyotumia nishati kutokana na jua badala ya nishati inayotokana na betri inapowezekana.
- Kutumia tena – tumia vitu tena inapowezekana (mfano, mifuko ya mpira).
- Kutengeneza mbolea – weka uchafu unaozwa (mabaki ya chakula cha binadamu na cha mifugo) kama mbolea ya kutumia katika kulima.
- Chimba shimo la taka kiwanjani mwako.
- Kumbuka kuchoma makaratasi na kadi pekee. Usichome betri kwani yaweza kulipuka. Yaweke katika vyoo vya shimo.



## Maendeleo Endelevu.

### **Kuangalia mazingira ya dunia kwa ufupi.**

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

### **Madaliko ya hali ya anga ya muda mrefu.**

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

### **Uchafuzi wa hewa.**

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

### **Uchafuzi wa maji.**

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

### **Kupunguza bionuwai.**

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

### **Kuenea kwa jangwa.**

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

### **Uchafu wenye madhara.**

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

### **Mvua ya acidi.**

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

### **Kupungua kwa safu ya ozoni.**

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

### **Matatizo mijini.**

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

### **Kupungua kwa rasilimali.**

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

### **Wakufunzi, uliza wanacluster maswali haya:**

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

Je, Kenya huchangia au kusababisha yoyote ya shida hizi?

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

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



## **Kutengeneza mbolea kutokana na mimea – mbolea ya kiasili.**

**M**boleo ya majani ni mbolea ya kiasilia ya kusaidia mimea yako kukua. Ni bora zaidi ya mbolea za viwanda kwani ni ya kiasili na haina athari za kuumiza mimea na mazingira. Kuna njia nyingi za kutengeneza mbolea, lakini njia ifuatayo imekuwa saidifu katika baadhi ya maeneo. Uliza majirani zako katika cluster yako ni gani imewaonekana.

### **Preparation of compost:**

- 1) Chagua eneo lenye upana wa mita nne na urefu wa mita nne la kuchimba shimo lako la taka
- 2) Fagia sehemu hiyo
- 3) Chimba shimo la mduara lenye upana wa mita tatu au nne na mita moja na nusu kina.
- 4) Kusanya masala yote ya mimea uliyo nayo na uyakate kuwa sehemu ndogo ndogo ( kwa mfano majani na mashina ya mahindi, mtama, maharagwe)
- 5) Weka masala haya ya mimea katika shimo ilo hadi kina cha nusu mita.
- 6) Halafu ongeza lita tano za jivu
- 7) Halafu uongeze centimita thelathini (ama kiwango kilichopo) za kinyesi cha mifugo (kwa mfano kinyesi cha nguruwe, ng'ombe, mbuzi au kuku).
- 8) Ongeza safu nyingine ya majani ya mimea na mashina (nusu mita)
- 9) Ongeza lita zingine tano za jivu.

- 10) Ongeza majani na mashina tena hadi shimo likaribie kujaa.
- 11) Hatimaye, ongeza safu ya udongo hadi shimo lijae.
- 12) Unapokuwa ukiweka udongo shimoni, ingiza fimbo ndefu katikati mwa shimo hadi ifike chini ya shimo.
- 13) Liache shimo la taka kwa miezi mitatu (siku tisini).
- 14) Katika kipindi hiki tumia maji yako machafu kuweka katika shimo hili. Kwa mfano, baada ya kuosha nguo au nyumba, yamwage maji uliyotumia juu ya shimo. Ikiwa una mifugo waweza pia kumwaga mikojo ya mifugo juu ya shimo.
- 15) Jambo hili litaongeza naitrojeni kwa mboleo yako.
- 16) Jaribu kuweka maji kila siku kwa njia hii, ama wakati maji yapo.
- 17) Baada ya siku tisini mbolea itakuwa tayari.

Tumia fimbo kama kipima joto – mbolea inapokuwa tayari lazima iwe na joto na waweza kuona mvuke ukitoka kwa fimbo hiyo baada ya kuitoa.

### **Matumizi ya mbolea hii:**

Ukishachimba mashimo yako ya kupanda mahindi, mtama au mimea mingine, ongeza mboleo kiwango kinachotoshea katika kiganja chako katika kila shimo. Angalia ili kujua matokeo!



# Mazingira Bora



# TIST

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

**Kikamba Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



Hivi ndivyo mkutano wa Kianjagi Clusta ulikuwa tarehe 5 - 4 - 2019. Clusta hii hukutana kila Ijumaa ya kwanza ya kila mwezi. Tuko jirani na msitu wa Mlima Kenya upande wa upepo. Tutembelee tukujuze mengi kuhusu TIST Carbon Credits ilioyo chini ya Mutumishi wa Clasta Festus. Sisi ni waminifu, uwazi, sababa, watumishi kwa kila mtu na kujitolea.

## *Inside:*

Undu TIST ithukumaa kuvikia maendeeo ma kwikala. *Page 2*

Kwithiwa na ukumu iulu wa takataka / mavuti. *Page 4*

Maendeeo ma kwikala meanite. *Page 5*

Kuseuvia vuu wa yiima - Vuu ute na kemikoo. *Page 6*



## Undu TIST ithukumaa kuvikia maendeeo ma kwikala.

**T**ISTS yaseuviw'e ni aimi ma nima ya liu na ndithya ite ya viasala kwa nzia ya tukundi nikana matetheesye kuviundua mauthuku ala maetetwe ni miti kutemwa na kuete uvinduku wa nzeve ta mayua na Nzaa. Aimi ma TIST mathukumaa vamwe kuikiithya meko ma maendeeo kwithiwa kwa ivinda iasa ila nivamwe na kuvanda miti na nima utonyeka. TIST niseuvitye nzia sya mineenele na utongoi na kwia usyaiisyonu uima wa mwii (ila ni vamwe na uwau wa muthelo), kisomo na maliu ma kwaka mwii.

Mwai muthelu, nineethiwe na ivuso ya kuungama kilioni kya TIST nthini wa wumbano wa Carbon Africa Forum ula waiviiitwe ni UNFCC, Ilovi (Nairobi) Framework Partnershi, UNDP na angi.Conference / wumbano uu wai Conotou, Benin thini wa West Africa. Ni na neeneie mavaita wa itambya ya kwosa iulu wa uvinduku wa nzeve na kila kivikiie nundu wa kwosa itambya ya kwikia maendeeo ma kwikala (**Co-benefits of Climate Action on the Achievements of SDG**). Ta nzia imwe ya kwiyumbanisya wumbano uyu na nisi kana andu aingi ala me uvika nimatonya kwithiwa maineenea kwia woni wa Maendeeo ma kwikala, ni neekie ukunikili mbeange na nasisya thini wa Wikipedia. Ni kenda kumuia kila neemaisye na kukulya mutetheesye kumanya nzia ila TIST yiyumasya kuvikia mawalanio aya na angi maingi ivinda yukite.

Mawoni ma Maendeeo ma kwikala (**Sustainable Development Goals (SDGs)**), mesikanie kwa kuvindua nthi yitu nthini wa agenda ya 2030 ya maendeeo ma kwikala ni me thini wa set 17 "Global Goals" mena woni wa kuvikia 169 kati woo. Matongoew'e ni United Nations kwa nzia ya uneenania ila yina nthi ila ni memba 193.

17SDGs ni ii vaa ungu. Kwandai sisya. kwongeleela ni nikiite mesilya ma andu amwe ma Tist na Italics.

### Ngolu ya mbee: Vai ukya

**Vai ukya** - kumina ukya wa mithemba yothe kila vandu

- Ukya muvituku niwa olilwe ta yusu kuvikia 1990 vala andu mbee wa 1 nthini wa kila 5 utindaa kwa utumia itheo wa ndola 1.25 kwa muthenya.
- Ukya nimbee wa kukosa ikwati. Uu nivamwe na kukosa syindu sya kukwikalya ta kisomo, nzaa, kutengwa na kulea kutalika andu maia munda.
- Kulea kwinanw'a kwa aka na aume ni kusangiaa muno nthini wa ukya na mavuso mathuku. Aka nimethiwa na ivinda yumu na mathina maingi ta kukua mavu tene na kuelea kuendee na masomo kwoou maikosa mawia ma umanenga ukwati.
- Ingi ukuu nukwatawa ni ukya kivathukanio. Ala mathinikaa muno ni syana nundu nisyo ikwatawa ni mathina menene ma ukya ukatuma makosa kisomo, uima wa mwii, liu wa uima woo na usuvio. Ingi syana nikwatawa ni nthini wa mesilya na kwiana kiveva na mwikalile kwisila kwa mathina ma mawithyululuko.

### Undu Aimii ma TIST mekite.....

- **Aimi aingi ma TIST nimaseuvitye miunda yoo ila yai yaekie kuete usyao na ikambiaa uete usyao. Na ni kwa nzia ya kuvanda miti, Nima ya kusuvia (CF), kuvanda mititu, na kutuma heaka sya tumilunda tunini tusyoka kwithiwa na unou wa muthanga na kwithiwa na wumi/ngetha.**
- **Kwisila kwa nzia ya utongoi wa kithyululu na utongoi wa uthukumana wa TIST kwa aume na aka makethiwa na ivuso ya kwina kwa kutongosya na ukwata vaita wianene.**

### Ngolu ya keli. Nzaa kuthela

**Nzaa kuthela** - Kumina nzaa, kuvikia usuvio wa kwithiwa na liu mwianu, kwongela useo wa liu wa kwii na kwambatya na kukwataiia nzia sya kwailya nima.

### Undu aimi ma tist mekite.....

- **Aimi aingi ma tist nimethiitwe mayika nima ya kusuvia (Cf) aingi maitana nikwithiwa ngetha ni mbongeleku nundu wa nzia ino ya nima ya kusuvia.**
- **Umuthi makili ma aimi ma TIST ala mavandite miti ya matunda na mbindi nime utunga livoti ya ngetha nzeo ya matunda na kwoou kwailya uima wa andu ma misyi yoo kwa kumane liu ula waile.**

### Ngolu ya katatu. Uima museo wa mwii na kwikala nesa

**Uima museo wa mwii na kwikala nesa** - kuikiithya andu nimekala nesa na kwisuviana na mauwau kwa muika w'oonthe.

### Undu Aimi ma TIST mekite.....

- **Aimi ma tist kwa nzia ya semina na movundisyo ma ngwatanio ni mama manyiit'we undu wa kwisuviana na muthelo, Ndetema, utheu, maliu ma kuete uima wa mwii, movundisyo na amundu angi.**
- **Nimathuthanasya kukwata mbau na kumatethye ala osu na mena mavata.**

### Ngolu ya kana: Kisomo kithianu

**Kisomo kithianu** - Kuikiithya kana kisomo nichavikia kila umwe na ukwata mbau ivuso iasa ya kusoma kwa oothe.

### Undu aimi ma TIST mekite...

- **Nthini wa TIST, nitwiv'ite aimi maineenania undu ndivi sya miti syithiitwe syi utethyo woo kwa kumatonyethya kuiva viisi wa sukulu wa syana na kuithooca mavuku,**
- **Ithangu ya TIST ya Mazingira Bora na movundisyo ala mekawa nthini wa ngwatanio ni ivuso iseo ya kwimanyisya ivinda iasa yila mundu wi thayu.**

### Ngolu ya katano: Kianana kwa aka na aume



**Kwianana kwa aka na aume** - Kuvikia kiwango kii na kumekia vinya aka na eitu

**Undu aimi ma TIST mekite.....**

- **Tukundi, ngwatania, GOCC na Kanzu na LC na memba nimekaa utongoi wa kithyululu kwoou kunenga aka ivuso ya kwiyikia vinya nthini wa utongoi.**
- **Nthini wa TIST namba ya aka ala me uthukuma na kutumikia aimi niyanenen na ya aume. Kwoou aka mena ivuso yianene na ya aume ya kwivundisya iulu wa utongoi.**

**Ngolu ya thathatu: Kiw'u kitheu na utheu**  
**Kiw'u kitheu na utheu** - kuikiitya kana kiw'u kitheu nikiyakwatikana nii kusuviwa na utheu kwa onthe.

**Undu aimi ma TIST mekite.....**

- **Kwa nzia ya kuvanda miti nguomoni sya mbusi ila yoosiwe nesa ni aimi ala me mikaoni na nguomoni sya mbusi ni kwatungie livoti kana nikutetheesy kwongela utheu wa kiw'u na wingi wakyo.**
- **Nthini wa mbumbano sya ngwatania na kwisila ithangu ya mazingira bora na aimi kutethania kwa ndeto undu wa kwailya utheu na kwikalya utheu.**

**Ngolu ya muonza: Mwaki mutheu na utena ngalama**

**Mwaki mutheu na ute na ngalama** - Kuikiithya vena nzia ya kuvikia mwaki wa kiumunthi ula wivo, na utena ngalama nene, na uteuvoa mana na utonya kwikalala kwa onthe.

**Undu aimi ma TIST mekite.....**

- **Yila TIST yaetie maiko matheu aimi aingi nimendeiwe na moosa itambya ya kumaua nundu mayai na ngalama yi iulu na nimasuviaa ngu na kuola syuki vala vekuuiwa.**
- **Kwisila kuseani na kuola miti aimi nimethiawa na ngu vate kwaiwa na kwailya nzia sya utumia ngu.**

**Ngolu ya nyaanya: Wia museo na kwiana kwa ikonomi.**

**Wia museo na kwiana kwa ikonomi** - nikukilasya na kukwatiia, na kuete vambe kwiana kwa ikonomi na kuete mawia ma andu kuandikwa na wia mwailu kwa onthe.

**Undu aimi ma TIST mekite.....**

- **Walanio utongoew'e ni aimi ma TIST ni utongoesye andu mbee wa 150 kwithiwa na masaa meleketye kutuma methiwa na ivinda na kuungamia na kusuvia miunda**
- **Ingi undu miti yianite niw'o iendee na kumanenge vaita na kumatethya kwiyiungamia mikalileni kwa kuta matuna, mbindi, uki wa nzuki, na usyao ungi wa miti.**
- **Ukwati kuma miti ila iivawa ta ndivi ya nzeve itavisaa (carbon credits)**

**Ngolu ya kenda: Kambuni, kwambiia na myako**

**Kambuni, kwambiia na myako** - kwaka myako ya kwikala, kukwata mbau na kwikalya industri na wambiliilyo wa undu.

**Undu aimi ma TIST mekite.....**

**TIST itumia wambiliilya, utuika wa kompyuta na malelu ala mekw'o kunenga muka, iveti na aume ndia nzau sya umanya na uvikia industry ya carbon na kusevya nima ya viasala ila ivetaa mathina ma malelu mathuku na kwilya wumi na uthukumi wa miundani.**

**Ngolu ya ikumi: Kuola kulea kwianana**

**Kuola kulea kwianana** - nikwasya kana nitwaile kuola kulea kwianana kwa ukwati katikati wa nthi na nthini wa nthi.

**Undu aimi ma TIST mikite.....**

- **Aimi ma TIST nimonanite kukwata mbau muika na iveti munamuno nthini wa mbumbano sya ngwatania sya kila mwai.**
- **Ndivi ya uthuthio kuma mitini ni vaita mwonge kwa muimi, wongeleku kuam ukwati wa ngetha mbongeleku, na wailu wa muthanga na miunda kwithiwa na wumi.**

**Ngolu ya ikumi nemwe - matoni ma kwikala na mbai**

**Mataoni ma kwikala na mbai** - kusevya mataoni na mawikalo ma mundu ala maile ithiwa na muuo, usuvio na matonya umakwatiia.

**Undu aimi a TIST mekite....**

- **Aimi ma TIST nimetikilanite na mituo ya mbai kivathukania na kuthukuma vamwe na andu mena ithyomo kivathunano na kukatana mbau kwa vamwe umwe kwa ula ungi maitwiikana.**
- **Mawalania ma TIST nimathuthitye uumwe, usuvio na kwikala**

**Ngolu ya ikumi na ili: Utumiku na usevya italika**

**Utumiku na usevya wa syindu utalika** - ni kuikiithya usevya was syindu na utumiku ni syaendania kwa vamwe.

**Undu aimi ma TIST mekite....**

**TIST niyongelelee unou wa muthanga kwa nzia ya nima ya kusuvia, kuima na kuvanda miti kwa vamwe na kuende undu liu isu, miti itonya utumuka na ni kwa ivinda yiendee vate kutilika.**

**Ngolu ikumi na itatu: Itambya ya uvinduku wa nzeve**

**Itambya ya uvinduku wa nzeve** - Kwosa itambya ya mituki kuola uvinduku wa nzeve na manthina ala maetawe ni nzeve ila yumaw'a ni maendeeo thni wa vinya ula utumikaa uitungililwa.

**Undu aimi ma TIST mekite....**

- **Umuthi , aimi ma TIST nthi yoonthe nimavandite miti mingi mbee wa milioni 16, kwoou makailya na makaola uvindu wa nzeve.**
- **Umunthi kumana na uvandi wa miti, aimi ma tist nimaotele nzeve ta tani milioni 3.5 sya nzeve itavisaa kuma mawithyululukoni.**

**Ngolu ya ikumi na inya: Thayu ungu wa kiw'u Thayu ungu wa kiw'u** - Suvia na kwikalya ukanga, maia na kula kiw'u kithiawa kwa maendeeo makwiana na kwikala.

**Undu aimi ma TIST mekite....**

**Aimi amwe nimavandite miti ila isunga na kusuvia kiw'u nziani sya kiw'u na nguumoni sya mbusi kusuvia mathayu ala mekalaa kiw'uni.**

**Ngolu ya ikumi na itano:Thayu muthangani Thayu mutangani** - Nzuvia, tungiia na sumbiliila mathayu ala mekalaa muthangani. Ikalya mititu na uiola mangalata na uii/wheu na kutungiiia kula muthanga mwanangiku na kuola ukui wa muthanga na kwailya kula kwanangiku muthangani.

**Undu aimi ma TIST mekite....**

**Aimi ma tist nimavanditi mamilioni ma miti kivathukanio na kumia thayu ta nzia imwe ya kusuvia mawikalo ma yamu, nzuki na kutusia muthanga na kutuma withiwa munou na utonya kuete usyao museo ingi.**

**Ngolu ya ikuni na thanthatu: Muuo, sila wa kati na mauvisi malumu.**

**Muu, sila wa kati na mauvisi malumi** - kwenda na kukwata mbau muuo na kwikia vamwe maendeeo ma kwikala na kwithiwa na sila wa kati

na ulungalu utalika kwa kila mauvisi na ngaliko syothe sya mwikalile.

**Undu aimi ma TIST mekite.....**

**TIST nithukumaa na mbai kivatghukanio, na kwoou kwa nzia ya mbumbano sya ngwatanio sya kila mwai iyikiithya kukwatania na kwikalania kwa vamwe kwa mbai kivathukanio na muuo na kuatia mawalanio ma TIST!**

**Ngolu ya ikumi na muonza:** Kukwatana na kuvikia ngolu Kukwatana na kuvikia ngolu - Vinya umaniasya kwikia na kuthukania kwa nthi yonthe kwikiana vinya kwa maendeeo me kwikala.

**Undu aimi ma TIST mekite....**

**Tist ithukumaa na ngwatanio kivathukanio ta Kenya Forest Service, Taylors of Harrogate, Freshfields an USAID mateusakua nikana kwikiana vinya.**

**Yu twienda kumya woni wa ati sisya ni ata kakundi kenyu kana we undu wikite kati wa maundu aa ma maendeeo ma kwikala ikumi na muonza (17 SDGs.)**

**Ingi nitukwenda umanya ni woni mwau winaw'o utonya kwailangya aimi ma Tist kana momanyisyo ta utethyo umwe waku wa kutetheesya nthini wa 17SDGs. - Ni kana tuvikie ukwati munene kwa utumiku munini!**

**Muthukumi wa ngwatanio yaku akamutongoesya mwithiwe na uneenania iulu wa maundu aya yila mukwithiwa na umbano wa kila mwai na aiandika na kutuma email ya mawoni, moelelyo menyu na kila muukwata.**

## **Kwithiwa na ukumu iulu wa takataka / mavuti.**

Takataka ni kyoothe kila kyumanaa ta utialo wa mawiko ma mundu na kitena vaita kwake, na ithi nita:-

- Mai ma mundu.
- Kiko kuma ikoni ta matialyo ma liu.
- Mathangu.
- Mathangu ma nailoni.
- Syuma nguu, mavia ma tosi.
- Kiko kuma kambunini.

**Nikyau kietae nthina wa mavuti nthini wa mbai yenyu?**

Takataka no muvaka no utwikaa nthina:-

- Ethiwa vai nzia nzeo ya kutumia syindu.
- Ethiwa vai nzia nzeo ya kuutumia ingi.
- Ethiwa vaina vandu va kwikya ta maima, syoo.
- Ethiwa andu maina umanyi iulu wa mathina ala maetawe ni kiko/takata/mavuti.

**Mathina ala maumanaa na nzia nthuku sya kuvea takataka**

- Kuthokoany'a iwanza na kuveta wanake wasyo.
- Kuthokoany'a kiw'u, nzeve na muthanga.

- Kuete uwau.
- Kulinda nzia sya kuveta kiw'u.
- Kutwika muisyo kwa kumya sumu ta kuma maviani ma tosi makuu.

Syana na indo nitonya kukwata ni sumu uyu kana kuumia ethiwa ikathauka na mavia ma tosi makuu kana mavuti/takataka ungi.

**Nata kakundi kenyu katonya kwika kuola nthina uyu?**

- Kuola nzia ila ietae takataka/mavuti kwa kutumia syindu nesa.
- Kutumia syindu ila iutumia mwaki wa sua vandu va mavia ma tosi ethiwa nivatonyeka.
- Kutumia ingi kila kitanangikaa kwa mituki ta mathangu ma nailoni.
- Kwinza maima ma kwikia kiko/mavuti ta liu ula watiala na mavuti kuma muundani na kusevya vuu.
- Inza yiima ya kiko kwaku na kyoo.
- Lilikana kuvivya mathangu na ti mavia ma tosi nundu no mavulike. Mavia mekie kyooni kya iima.



## Maendeeo ma kwikala meanite.

### **Undu Nthi yonthe isiasya na kwona mawithyululuko.**

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

### **Movinduku ma Nzeve.**

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

### **Kuthokoanwa kwa nzeve**

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

### **Kiw'u kuthokoanwa.**

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

### **Kuoleka kwa mithemba kivathukanyo.**

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

### **Kutwika weu/Ing'alata.**

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

### **Kiko kina sumu.**

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

### **Mbua ya Asiti.**

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

Miti, Makuyu na myako niw'o kietae wanangiko.

### **Itu yila yivwikite wingi wa sua kuendee na kwanangika.**

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

### **Mathina ma misyi minene ya mataoni**

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

### **Monou manthi kunyiva.**

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

### **Amathisya ma TIST nimakulasya ala mekw'o kwoondu wa ngwatanio syoo makulyo aya:**

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

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

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

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



## Kusevya vuu wa yiima -Vuu ute na kemikoo.

**V**uu wa yiima ni vuu usevitw'e vate ndawa na mimea kuma muundani na nutumaa mimea yiana nesa. Ni museo kwi vuu wa kuuu ula wina kemikoo nundu niwakuma mniemani na niwamana ti wakuu na nwanangaa liu kana mawithyululuko ta vuu /vatalisa wa kuuu. Ve nzia mbingi sya usevya vuu uyu, lakini ve nzia imwe nzeango kwi syothe isioni imwe. Kulya mutui waku wa ngwatanio yenyu kila kithukumite nesa kwoo.

### usevya vuu wa yiima.

- 1) Kusakua kisio kya matambya 4 x 4m na kwisa yiima.
- 2) Enga kisio.
- 3) Inza yiima uthathau wa 3 - 4m na 1.5uliku.
- 4) Kolany'a matialyo ma mavemba, muvya, mavoso na uutilanga tulungu tuniini.
- 5) Ikia yiimani itumie uliku wa 0.5m.
- 6) Ikia muu wa lita itano.
- 7) Ongela kyaa kya indo ethiwa kivo kya uliku wa 30cm ethiwa vaii oundu kiana (uyu ni vuu wa nguluwe, ng'ombe, mbui kana nguku).
- 8) Ongela matu na makusa uliku ungi wa 0.5m.
- 9) Ikia muu ungi wa lita itano.
- 10) Ongela matu na makusa withie yiima notayausua.
- 11) Ususya yiima na muthanga.
- 12) Uyususya yiima ikia muti muasa kati withie utinite yiimani ungu.
- 13) Eka yiima yiu yiyiue vandu va myai itatu kana mithenya miongo kenda.
- 14) Ivindani yii yonthe osaa kiw'u kila kina kiko uketa vo ngelekany'o kila wavua nakyo kana kuthambya miio. Ethiwa wina maumao ma indo no wite vo.
- 15) Kii nikyongelaanzeve ya Nitrogen nthini wa vuu.
- 16) Tata navinya ungithye yima yii kila muthenya kwa nzia ila utonya.
- 17) Itina wa mithenya miongo keenda vuu wiithiwa wi tayali.

Tumia muti uyu wikati ta kithimi kya uvyuvu. Vuu wasuva ukeethiwa wimuvyu na nowone muti uuyu waumya uitoa.

### Utumii wa Vuu wa yiima.

wenza maima ma uvanda mbemba, muvya kana o mimea ingi ikia ngundi imwe ya vuu kila yiimani. Syaiisya wone kila ukwata kuma vo!

# Mazingira Bora



# TIST

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

**Kipsigis Version**

An Environmental, Sustainable  
Development and Community Forestry  
Program.



Hivi ndivyo mkutano wa Kianjagi Clusta ulikuwa tarehe 5 - 4 - 2019. Clusta hii hukutana kila Ijumaa ya kwanza ya kila mwezi. Tuko jirani na msitu wa Mlima Kenya upande wa upepo. Tutembelee tukujuze mengi kuhusu TIST Carbon Credits ilioyo chini ya Mutumishi wa Clasta Festus. Sisi ni waminifu, uwazi, sababa, watumishi kwa kila mtu na kujitolea.

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# Ole imuchi TIST koboisiyoto konyor Bandab tai ne Tononot.

**T**IST ko kitou temik che kitonochi koto kurubisiek che mengechen che kiborchigei kotononsi musugetab Timwek, Kemeut a Rubet. Kiboisaanyun Temik en kibagenge en kerenyuan ak kotete bandabtai ku minetab ketik ak koletab minutik. Kitoo TIST ortinuwek ak koborunoik che kimuchi kengalalen agobo tililindo (kou HIV/AIDS) konetisiet ak omituwogik.

En arawet ne kosirto ko kiyamuch oiti tuiyetab Tist nebo Carbon Africa Forum ne kitoreti UNFCCC, Nairobi Framework Partnership, UNDP ak alak chechang. Tuyosiek chon ko kigiyoen Conotou, Benin in West Africa. Kiya ngalalen agobo **Co-benefits of climate Action on the Achievement of SDG**. En yoton ko kiyongen ole biik che kimiten yoton komuche kongalalen agobo kobwate ne tononot nebo bandabtai, Kiyonyorunen naet ye kinonyon ogetigei. Osome ole kigochingei wolutik chuton bo kabwatet anan keret nebo TIST en betusiek che bwonei

**Keretab Tononetab Bandabtai**, ne naat kole imutech keteche Nguwondoni komiten chuton ko Agenda chebo Tononetab bandabtai ko kinyor kerutik 17 che imutech kot koit kenytat 2030. Ako tinye tokinet ab ge en kwenunywany. Tononjin united Nationen komoswekab ngwony komiten emotinwek 193.

Kerutik choton ko 17 ago miten kouni:

## **Keretab. I.** Motimiten bananda.

- Kigebos bananda ago agenge en oeng kongeten 1990, kou I en biik 5 konyoru che miten ngwony en \$1.25 an betut.
- Kiit neibu bananda koye monyor kii ne chuton anan ole kisigen. Yon monyor chii kou somanet, rubet, ngalalet, ngalalet en biik ak en kabwatet en kii ne imoche.
- En kobokorisiek ko nyumnyum kobe komonunet kou somanet ak imuchi kotoretyon koik chi ne nyigis.
- Ye nyor ibinda age bananda komuche koyesta en komoswek chechang. Missing kobutyin kebebtab lagok. Amun tinyei en kou; somanet, tililind, omitwogik ak komonyoru

ribset. Moityin konyor mogutik chebo kimugul met en sobenyin tugul.

## **Nee kiit ne kiyai temik en TIST...**

- **Chechang en temikab tist ko kikoyai imbarenikwak konyorunen tukuk chemongerin kou (CF), minetab ketik ak rurutik, chechang en imbarenik ko kikonyor okwoindo nebo ngungunyek**
- **waletab kandoinatet ak konunetage en TIST, en murenik ak kobokorisiek ko kinyor borotet ak boroinde nebo boisiet.**

## **Keretab 2. Momiten rubet.**

Momiten rubet ye kinyoru omitwogik che imuchi koribech ago che tinyei kimnotet komuche kogochi kimnotet agobo kolset.

## **Nee kiit ne kiyai temik en TIST...**

- **Chechang en temik chuton ko kigo-omta agobo(CF),ko mwoe icheget kole nyorunen borotet neo missing.**
- **En betusiechu ko kigomin logoek biik en chongindo niton kogochin konyor omitwogik che kororonen ago chegimen.**

## **Keretab 3. Tililindo ak ribet na kararan**

En niton konyor ibinda age tugul tililindo ago itin konyor yamet en tuguk che kororonen.

## **Nee kiit ne kiyai temik en TIST,..**

**En seminaisiek ak konetisiosiek en kilastaisiek koityin konetisiet kou; HIV, AIDS, malaria, omitwogik, tililindo ko nyoru chi ne mogingen.**

## **Keretab 4: Somanet nebo barak**

Igochin chitugul en ole miten konyor somanet ak kogiletagei ak boroinde.

## **Nee kit ne kiyai temik en TIST...**

- **En ngalaletab biik chechang komwoe kole kigotoret ichek rabisiek chebo ketik en lagokwak en somanet ak konetisiet ne kikonyor chechang.**
- **Kinyorunen alak kelchin en Mazingira bora.**



**Keretab 5: Kogimitetab kwonyik.**

Kinyor kwonyik ak tibiik kimnotet ak boisionik en koyometabgei.

**Nee kiit ne kiyai temik en TIST...**

- *En kurubisiek, kilastaisiek, GOCC ak LC ko enchuton tugul komiten waletab kandoindet en biik tugul konyor kimnotet.*
- *Tinye kwonyik boroindo koboisiechi biik en utugul en boisiet.*

**Keretab 6: Beek chetililen ak tugul che kiboisien.**

Ribetab beek ak ole kiboisioto en kasarta age tugul.

**Nee kiit ne kiyai temik en TIST...**

*Chechang en Temik che kiit imbarenikwak onosiek ko kigonyor ribset imbarenik ak konyor beek che kororon ak kotesak beek en onosiekwak. Tinye temik koyometab ngalek ak biik alak.*

**Keretab 7: Boisietab kwenik ak tuguk che kiboisien.**

Miten maisiek che keboisien ago che kororonen che konu kenyorunen tililindo en abogora.

**Nee kiit ne kiyai temik en TIST...**

- *Ye kingoit Tist jikosiek che kiboisien, kocham temik amun momiten barak missing oliyet. Ago toreti en kwenik amun boisien che ngerin.*
- *En amun tinye temik ketik koitin kochor temenik ak koboisien.*

**Keretab 8: Boisiet ak kelunoik che kinyor.**

En nito kogochin tononet, ak kobarait kelunoik en biik ak konyor biik boroindo en tuguk alak.

**Nee kiit ne kiyai temik en TIST...**

- *Tinye temik kiboitinik 150 cheboisiechin en imbarenikwak.*
- *Tinye ketik chebo logoek chenyorunen melekwek, segemik, kwenik.*
- *Tinye kora rabisiek che nyoru en ketikwak.*

**Keretab 9: Musoknotet, Tounik ak Tesosiek.**

Miten anyyun teksosiek ak kogimitetab tuguk che kigetoo ak ngalalet nebo musoknotet ne miten barak missing.

**Nee kiit ne kiyai temik en TIST...**

*Keitigei en ngalalet ko nyumnyum en murenik ak kwonyik kobo neranik. Kigetoo kaumetab koristo (Carbon) miten kora minutik che konu rabisiek ak en let konyor imbarenik ribet ne kararan.*

**Keretab 10: Boisietab koyometabge.**

Bose melekwek che chutu en echek ak en emotiinuek alak.

**Nee kiit ne kiyai temik en TIST...**

- *Tinye neranik ak kuwonyik toretet koyob temik noton kotogunen en tuyosiekab kilasta.*
- *Melekwekab ketik kotoreti temik ye nyoru rurutik chechang ye ribe imbarenikwak.*

**Keretab 11: Tononetab to-onisiek ak Bororosiek.**

Kigochi to-onisiek ak kimugulmet mengot, ribset ak magutik chemiach.

**Nee kiit ne kiyai temik en TIST...**

- *Itinge temik ak biikab boror en toretosiek.*
- *Igimite tolochigab tist chi tugul.*

**Keretab 12: Ribetab amituwokik ak ole kisigen.**

Nyolu komiten ribet ne kararan ak kosibet agobo niton.

**Nee kiit ne kiyai temik en TIST...**

*Tinye temiik imbarenik okwoen en toretetab (CF) boisien keturek, minetab minutikak ketik konyorunen omituwogik.*

**Keretab 13: Waletab Emet.**

Ibi boroindo neo missing en tetetab watetab emet amun miten korusuwek che ngeme emet, ak koboisien tuguk che mongeme.

**Nee kiit ne kiyai temik en TIST...**

- *En inguni kotinye temik tugul en tist ketik chesire 16+ million che toreti en waletab emet.*
- *En ketik che miten kotinye konoruwetab tannisiek 3.5M che bo koristo ne yaa.*

**Keretab 14: Sobet ne miten Beek**

Ribet ak koboisien kou nyochosiek, onosiek che



echen ak tuguk chegonu mogornotosiek chebo bandabtai.

**Nee kiit ne kiyai temik en TIST...**

**En temik che chang ko kigomin ketik che nomege ak beek ngegusiek ak ole bune beek.**

**Keretab 15: Sobet en Koret.**

Nyolchin kerib kegonorchi, kerib timwek, kerib melewet komatesak ak kerib mengotosiek chebo tiony ak ketik.

**Nee kiit ne kiyai temik en TIST...**

**Kigomin temiik che chang chebo ketik chetoreti mengotosiekab segemik, timwek ak kowech imbarenik che kigage musuch koboisien konyor omituwokik.**

**Keretab 16: Kaliet, imanda ak ole somonen kipsomaninik.**

Kigimit kalyet ak keribchi biik imandanyuan asi konyor bandabtai ak konyor chi tugul naenyin kou ole kaimuch.

**Nee kiit ne kiyai temik en TIST...**

**Boisie temik ak bororiosiek che chang kogimitetab tolochigab TIST.**

**Keretab 17: Koyometab kibagengeisiek en keroniton.**

Kogimitetabge en tuguk che kimoginge en bandabtai.

**Temik en TIST...**

**Boisie tist ak toretik kou, Kenya Forest Service, Taylors of Harrogate, Freshfields ak USAID.**

**En anyun kenutichuton kainyori, kemoche igonech kabuwatengung ne noton kit ne giya kurubit ago monyuru en chu 17.**

**Kimoche kora igonech naengu ole imuchi kotoretito temik anan ko konetisiet ne momiten en chuton asi kimuch kenyorunen melekwek che miten barak.**

**Ongalalen en tuiyetab kilasta as komuch koyok kiboitiyot nebo kilasta.**

## Ribet ab waste (Saratik)

**W**aste anan ko siratik ko ki age tugul ne mamagat yon kagobek kasit agetugul ne koyoe kimugulmet ago imuche komotinye manufaa en saaitnoton:

- Excreta/waste chebo binadamu.
- Omitwogik che kong'et anan ko tuguk che chafu en korigchok.
- Karatasishek che kigeboishen.
- Polythene bags.
- Chumoinik che Scrap, Koig che kigobek (dry cells).
- Sludge en Sewage etc.

**Ne ne ibu rubbish en korotinwekchok ?**

Saratik ko mogimuche kimwestoenge lakini tesokse yon:

- Mogiboishen resources komye.
- Yon momiten oratinwek che kimuche keitoen saratik, kochong'oegitun.
- Yon mogitinye (rubbish pits latrines,) ole kiwirchini saratik.
- Yon momiten naaet agobo amune asikoyoche kibose saratik en emet.

**Ubaya Nebo Waste Management neya.**

- Bete kororonindab emet, yon kachang'a

saratik.

- Wechet 'ab bek, koristo, ak ng'ung'unyek.
- Chong'oegitun mionwogik.
- Imuche kogerak pipushek 'ab sewage.
- Wechet ab koristo kochanga sumu , chebunu koig che kigoyachegitun.

Sumu chemmiten koig che kigoyachegitun, anan ko siratik alaktugul, komuche koig sumu en tyong'ikchok anan ko lokog .

**Ne ne imuche koyai groupishek chemeng'echen asi koter kiiton.**

- Kobos kocherunet 'ab waste.
- Koyom koboishen koig chebo solar, angamun mosib kowechokse.
- Yon imugogse iboishen tuguk kora matkewirta kou(ie. plastic bags).
- Koig mbolea – Konor waste che organic kou (omitwogik chekong'et anan ko fodder) koig mbolea en imbarenikchok.
- Tech ole kindo siratik en imbareng'ung.
- Ibwat ile imuche ipel kartasishek ichegen.Matipel koig angamun imuche kotyolso. Inde toilet(pit latrine).



## **Keri b bandabtai.**

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

### **Waletab emet.**

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

### **Air pollution.**

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

### **Beek chenobirotin.**

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

### **Ichuchuchi minutik ak tiongik.**

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

### **Kaumanikab beek cheyachen**

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

### **Robta netinye acid.**

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

### **Istoetab burang'etitab nguong.**

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

### **Nyoru koimutik mengotosiekab barak.**

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

### **Rorunetab kelunoikab emet.**

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

### **Konetikab cluster oteben biik tebutichu.**

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



## **Ketoo keturrek chebo minutik.**

**K**eturek ko toreti mising minutik kochok en ngungunyek. Ago kororonon amun motinye ngemet en rurutik ago nyumnyum kenyor ago motiye oliyet neo mising, motiye ngemet en agobo Itondab emet.

Miten anyun orinuwek chechang che kimuchi ketounen keturek en koborunet ne isibu ko kigoyomnda biik chechang temik. Otebenge en Kilasta ole kiboisio to biik alak.

### **Tounet ketoo kechob keturek.**

1. Lewen ole imuchi ichoben keturek (4m by 4m).
2. Itilil yoton.
3. Bal keringet netinye kokwoutik 3m - 4m - 1.5m kochut orit.
4. Iyum anyun ngetunanikab imbar tugul ak itonaton komengegitun ak itorchik keringet chon ko kou (sogegab ketik mobekkab bandek, ngendek) ak alakau.
5. Torchi keringt koit 0.5m.
6. Tesin beekab 5ls chebo orek.
7. Tesin sorowekab tuga, neng, lgogenik kot koit 30cm.

8. Tesin ngetunanaik kot koit 0.5m.
9. Tesin beek 5ls chebo orek.
10. Testai itesi ngetunanik got konyi keringet.
11. Tesin baragut ngungunyek.
12. Ye itestai icheng bitoiyot ne koi ak ilumchi kwenutab keringet kot kotiny kwony.
13. Igomuny keringet kotar betusiek 90(orowek somok).
14. En kasariton tugul itestai itumchi beek chon kiunen tuguk en kaa. Ingot itinye tuga imuchi iyum sogororek asi itesi keringet.
15. Niton kotesin nitrogen.
16. Yai kouniton en betusiek tugul.
17. Ye kagobata orowek 3 ko koruriyo keturek.

Togunen burgeyet ne mi keringet.

### **Boisietab keturek:**

Ye kagoit ichob imbaret inam ibal keringonik kosibgei ak minutik cheimoche igol. Keringet angenge koibe keturekab rubeito, rib anyun wolutik che bitunen imbarengu.