

INCREASING CARBON FINANCING: A STRATEGY FOR CLIMATE CHANGE MITIGATION IN UGANDA

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Introduction

The carbon markets are a prominent part of the response to climate change, and have been largely driven by two specific international regulations:

In accordance with the principle of common but differentiated responsibilities, requires industrialized countries to collectively reduce GHGs by an average of 5.2% as compared to 1990 levels between 2008-2014 the Kyoto Protocol, which was adopted in 1997 pursuant to the UN Framework Convention on Climate Change (UNFCCC)

The European Union (EU) Emissions Trading Scheme (EU ETS), which is a main pillar of the EU's effort to meet emission reduction commitments under the Kyoto Protocol, and which allows large emitters of carbon dioxide within Europe to trade in allowances issued by national governments, in decreasing amounts as compared to a business as usual scenario.

The EU ETS allows the use of Certified Emission Reductions (CERs) from the Kyoto Protocol's Clean Development Mechanisms. The Kyoto Protocol adopted three market based mechanisms: the Clean Development Mechanism(CDM), Joint Implementation (JI) and International Emissions Trading (IET) pursuant to Article 17 of the Kyoto Protocol. Of these, JI and IET have yet to be fully operationalized, as Emission Reduction Units (ERUs) and Assigned Amount Units (AAUs) can only be issued at the beginning of the first commitment period.

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Distribution by Region and Sector

The East Asia and Pacific region held the largest percentage of the carbon finance portfolio in 2010 by value (77 percent).

Due to the variety of challenges to implementing projects in Africa, particularly in low-income countries, the percentage of the carbon finance portfolio in the Africa region is a mere 2 percent by value; however, when measured by the number of Project Design Documents (PDDs), 12 percent of projects are in the Africa region.

As in past years, the destruction represented the largest share of the carbon finance portfolio by value (61 percent), though accounted for by only two projects. The value additions in 2010 were largest in the household energy efficiency and energy distribution sectors, and in the Europe and Central Asia and the East Asia and Pacific region

(Carbon finance and sustainable development, World Bank 2010)

Green House Gas (GHG) Emissions

- The impacts of climate change are already being felt around the world. According to the latest Intergovernmental Panel on Climate Change (IPCC) report, the average global temperature has increased by 0.76°C and sea level has risen by 17 cm since the 19th century (IPCC 2012).
- Under the Kyoto Protocol developing countries are not obliged to reduce Green house Gas (GHG) emissions whereas industrialized have to countries fulfill specified targets
- Reducing GHG emissions in their own country, implement projects to reduce emissions in other countries or by trading.
- This means that countries that have satisfied their Kyoto obligations can sell their excess carbon credits to countries that find it more expensive to meet their targets (UNFCCC 2010)
- The Clean Development Mechanism (CDM) has proven successful in generating emission reduction projects in many developing countries. As of end-2007, proceeds from the sale of emission credits from CDM projects amounted to about \$7.4 billion, a 50% increase in value over 2006, and triple the value in 2005. The overall carbon market has risen sharply over the past few years, reaching \$60 billion in 2010 or six times its value in 2005. **However, Africa's share of CDM transactions is still relatively low with 5% in 2013**

Uganda's situation

Industrial companies in developed countries are supporting Uganda's environmentally-friendly projects in promoting project-based trading of Certified Emission Reductions (CERs) under Clean Development Mechanism(CDM)

They are as well as pre-financing receivables from carbon credits which are earned and traded, there by contributing to reductions in carbon emissions and abating consequential climate change.

However, Uganda is faced by the crisis of enormous demand for high quality timber production yet it has to increase its carbon financing demands for carbon credit through afforestation.

Uganda's situation

- National Forestry Authority (2010), Uganda lost 86,000 ha of forest per year between 1990 to 2005, falling from 4,924,000 hectares to 3,627,000 hectares.
- That is 1,297,000 total ha, equal to over 25% loss. It was estimated that 46.4 million m³ of wood products which was equal to 29.8% of the country's growing stock.
- The specific programme areas under study are part of this environment. The lands are owned and used by the rural residents and are subject to constant pressure to provide timber, fuel wood, food and livelihood for these subsistence-level farmers

Case Study: TIST Uganda

The International Small Group and Tree Planting Program (TIST) is one of the projects trying realize GhG sequestration through tree planting, creating a potential long-term income stream, and developing sustainable environments and livelihoods

It has empowered Small Groups of subsistence farmers in India, Kenya, Tanzania, and Uganda to combat the devastating effects of deforestation, poverty and drought. Combining sustainable development with carbon sequestration, TIST already supports the reforestation and biodiversity efforts of over 65,000 subsistence farmers

TIST has been supported by some form of grant funding or institutional support Clean Air Action Corporation (CAAC) to cover the project's preparation costs, usually the Project Idea Note (PIN) and Project Design Document (PDD) preparation.

TIST Approach

- Organized in Groups of farmers between 6-12 members. With at least 500 trees per group.
- Groups make up strong clusters. Composed of 20- 50 group.
- Cluster leadership of three people the Cluster leader, Cluster co-leader and the Accountant
- General Council of Clusters (GOCC) every year
- Regular meetings with the Groups, Clusters and the Leadership Council
- Volunteer Trainers as mobilisers for group identification, applications, registration and GHG agreement signing for 30 years business contract
- Baselines are drawn up by Quantifiers and Auditors for tree counting of the carbon business
- Regular meetings and reporting on the Website to update the data collected.

TIST Carbon business

- Replication of TIST in Uganda began in 2003, and has grown to over 5,200 TIST participants in over 800 Small Groups
- TIST utilizes a high-tech approach to quantify the benefits and report the results in a method transparent to the whole world, which includes palm computers, GPS, and a dynamic “real time” Internet based database
- Project Design Document (PDD) a document developed for the validation process has been checked by various institutions. At this stage, one is able to identify the potential buyers of the carbon credits willing to finance the PDD development. This takes place every year to check a successfully carbon reduction emissions
- Implementation, on going monitoring and verification: TIST is registered and has received 4 implementation periodic verifications. The verification adjustments are made depending on the amount of credit received and which can be issued.
- Independent Validation of the Certified Credit Emission Reductions(CER) for sale, PDD, the baseline and the monitoring plan are checked and approved by the an independent verifier so called the Designated Operations Entity (DEO).

Challenge?

Carbon companies and projects in Uganda are discouraged by the farmers' rush for quick returns after signing agreements and being paid huge amounts of carbon credits, which has created misunderstanding between the farmers and those in carbon financing business.

Most of the commercial tree plantations meant for carbon credit are sold as timber in search for quick returns not waiting for long term rewards.

What is very worrying is that Uganda also has a very poor timber plantation resource, with less number of hectares of mature plantations remaining countrywide and not more than 25,000ha of timber plantations in total. This scenario is a serious concern to Ugandans (SPGS, 2007)

Escalating demand for timber in Uganda, these carbon financed forests/trees are exposed acute degradation which is threatening the carbon trade, therefore this study investigated the need for increase carbon financing to substitute the temptation to cut down the already Certified Emission Reduction (CER) paid trees or devise other mechanism to mitigate climate change in Uganda.



Main Objective

The paper examined the potential for increasing carbon financing as the International endorsement for Carbon sink trade for climate change mitigation in Uganda

Specific Objectives of the study

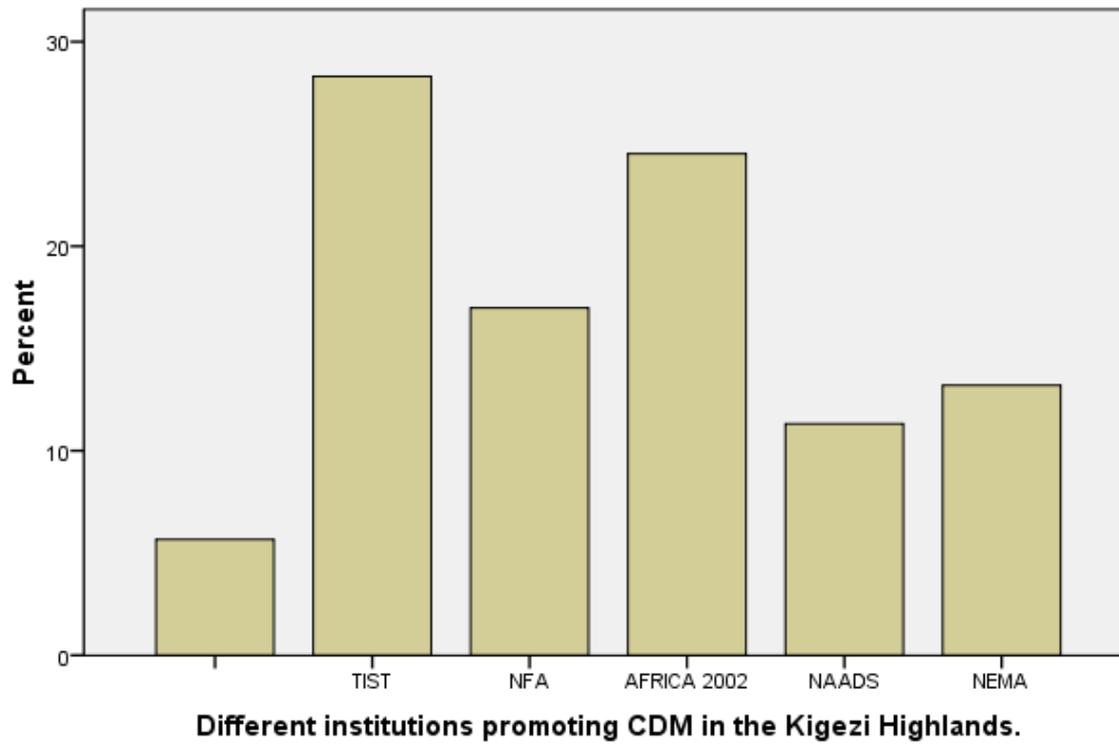
- Establish the Clean Development Mechanism Approaches adopted in Uganda
- Examine the disbursement of carbon funds in comparison with timber production sales
- Assess farmers' perceptions on the challenges facing this carbon financing approach
- Investigate the policy interventions or alternative mechanisms of mitigating climate change through Clean Development Mechanisms

Methodology

- The study covered the following sites Muko sub county, Bukinda Sub county and Kabale Municipality in the Kigezi Highlands, Uganda.
- Three sub-counties were selected purposively because of accessibility and the number of years the farmers have been involved in the programme
- Farmers are purposively selected basing on the number of trees and duration spent in the programme
- Farmers with less than 1,000 trees (benefiting less) were selected, those with more than 10,000 trees (benefiting more) and are more than 10 years in the programme
- Interviews were administered TIST Officials, farmers, quantifiers, auditors, volunteer trainers and the leadership council.

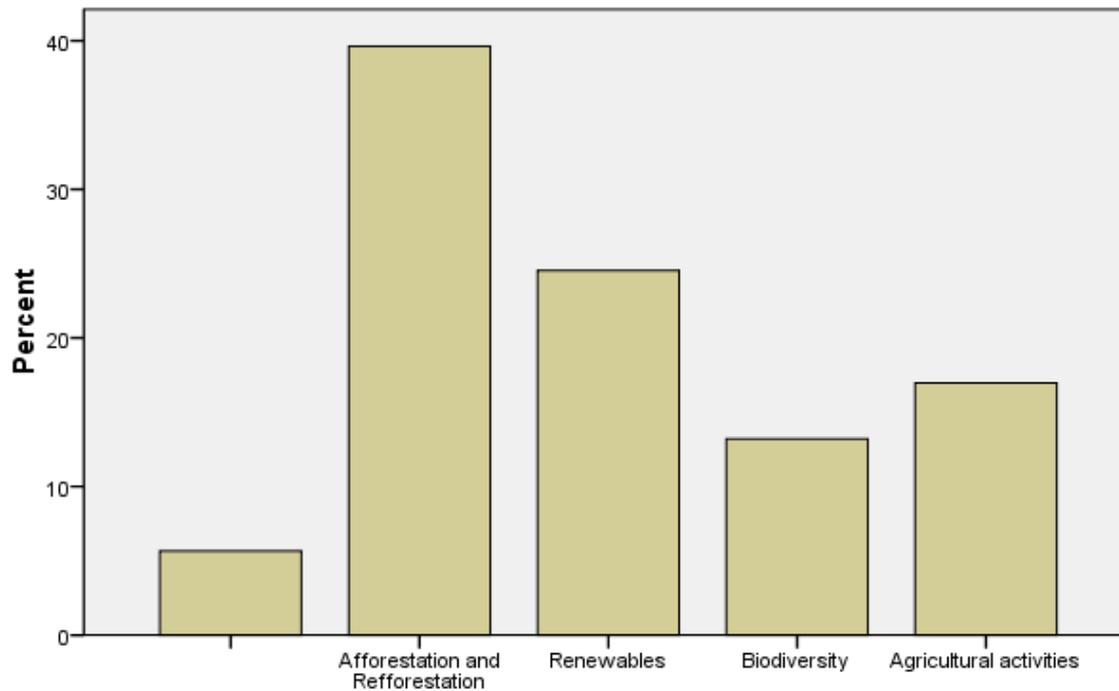
Carbon Funding Agencies

Different institutions promoting CDM in the Kigezi Highlands.



Clean Development Mechanism Strategies adopted in Uganda

Forms of carbon financing are in Kigezi Highlands.



Forms of carbon financing are in Kigezi Highlands.

Disbursement of carbon funds in comparison with timber production sales

Carbon Financing	Timber Production
Long- term strategy (Slow growing)	Short-term strategy (Quick growing)
Earns less in long time	Earns more in short time
30 years agreement	15-20 years harvest
Handouts: Planting tools, seeds and seedlings to Farmers	Hand out: Advisory Services, Funding is offers to Nursery Operators
Less money and many installments	Large sums of money are got in one installment
Amount after 30 years. Payment for carbon 20 years X 1,000 trees X 37 UG shillings 10years,70% of the total payment Total UG Shillings1,110,000/= US\$ = 36 per year	Timber harvesting after 20 years Timber Production 1000 trees X (average 100,000UG shillings per timber piece) Total UG shillings10,000,000/= US\$= 334 one payment

Farmers perceptions on the challenges facing carbon financing approaches

Seventy one percent (72%) of the TIST farmers presented the issue of not being satisfied with the amount of money paid , (22%) said that they are satisfied with the funds, the remaining (6%) was invalid

“The money paid to TIST farmers is very little so, the farmers see no point keeping the trees when is a lot of money from timber production. A big percentage of the community because of poverty end up selling the plantations”, TIST farmers

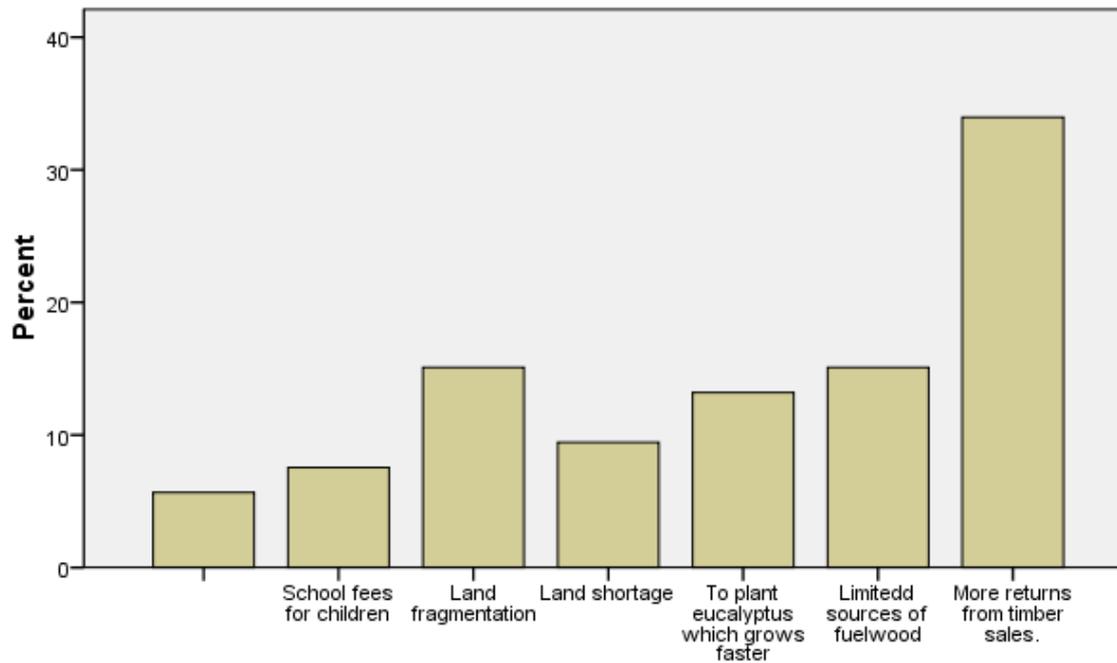
“One who plants Eucalyptus tree species earns more than the one for the pine species and indigenous tree species although they are being promoted by TIST, they are also slow growing. Therefore some farmers who have resorted and decided to plant Eucalyptus after harvesting the Pine plantations giving up on the funding”, Mr Sam Ndaba, TIST group leader

“The recommended tree indigenous tree species and fruit trees with the limited space available, take long to be harvested, we would rather plant timber trees for quick incomes” low income earning farmer.

“Carbon trees are so much exposed to fire out breaks most especially Pine plantations. These fires are set by the livestock grazers in the dry seasons in search of fresh grasses and in the end there is a big loss which is irreversible and so big to be measured and replaced”, narrated by MzeNdyabahi a TIST farmer.

Why cut carbon tree?

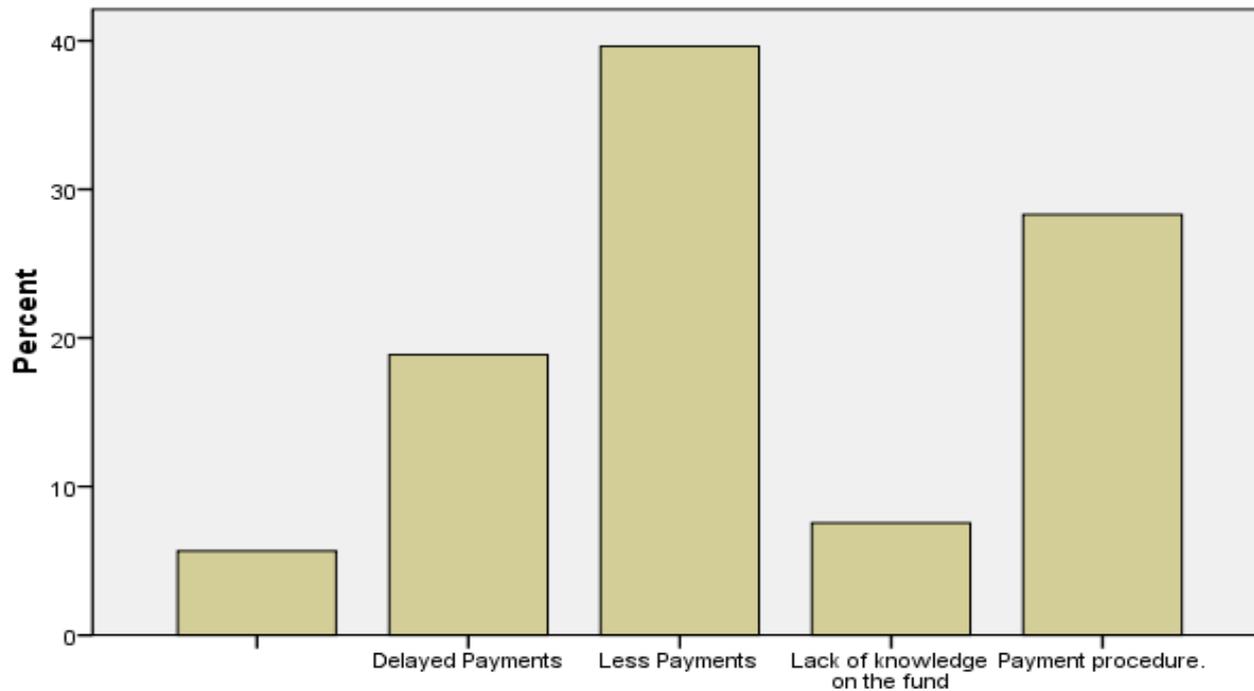
Reasons why farmers have resorted to cutting trees meant for carbon sequestration.



Reasons why farmers have resorted to cutting trees meant for carbon sequestration.

Carbon financing payment system

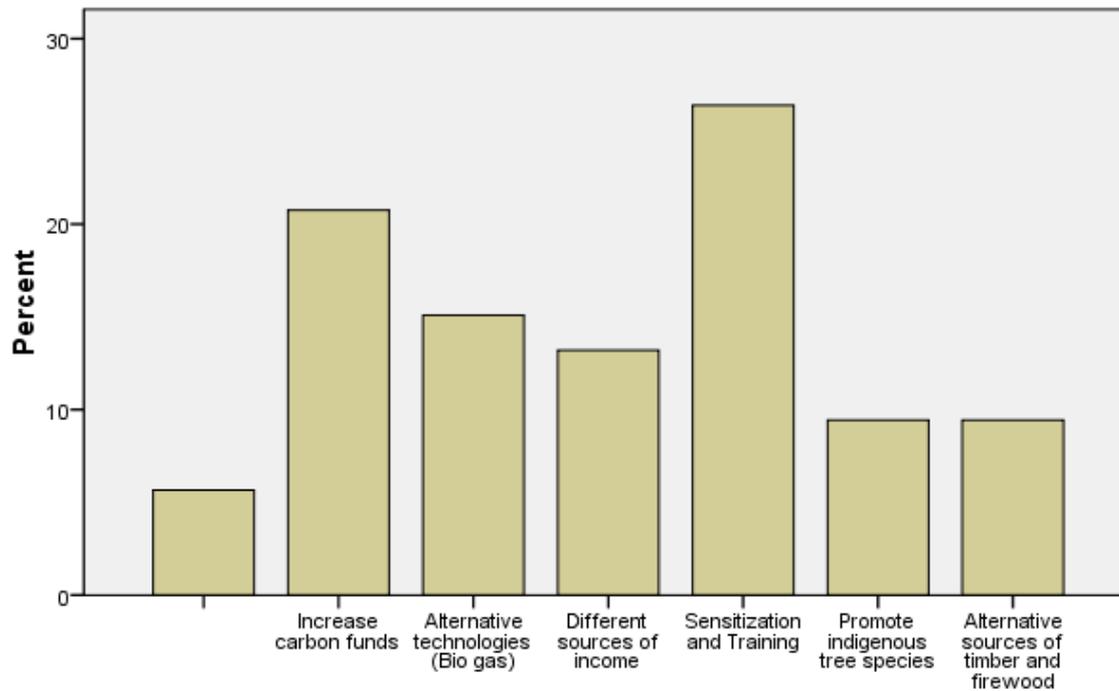
Problems faced in the Carbon Financing payment system.



Problems faced in the Carbon Financing payment system.

Approaches to Increasing Carbon Financing

Assess the approach that can be used to increasing Carbon Financing.



Assess the approach that can be used to increasing Carbon Financing.

- Environmental Conservation Trust (ECOTRUST 2010) elaborates on how it does not give any farmers initial money to plant. Only those who have demonstrated commitment receive a payment in the first planting year, after planting.
- Sustainable forest management can avoid the destruction of forests and the release of Carbon dioxide activities such afforestation, reforestation, agroforestry as afforestation and reforestation, sustainable forest management, agroforestry avoiding deforestation.
- Tackling climate change is widely acknowledged as one of the biggest challenges of this century and its negative effects will disproportionately affect poor countries, which make it even more urgent to act (Disch 2010).
- Monitoring, compliance and enforcement as market arrangements for ecosystems services, carbon payment schemes often have measurement, verification and monitoring plans

Policy Implications

- Boost international source of funding from donors and organizations
- Develop human capital (resource and expertise) to respond to project-specific needs
- Design policies to strengthen the risk mitigation concerns of the private investors
- Strengthening the roles of the Designated National Authority (the bodies that oversee the approval and registration of CDM projects to promote regulation , promotion and coordination

Recommendations

Strong Carbon financing structures and strategy for projects are needed to monitor funds disbursed

Facilitation and awareness creation is essential in carbon financing. Facilitating the quantifiers ensures effective and efficiency at the work place when sensitizing the farmers about carbon trade and devise hence proper ways to disseminate information to farmers on financing through facilitation and advisory services

Capacity building on issues to do with funds for government official, private sector and the beneficiaries from the incentives on procedures and mechanisms used to promote Emission Reductions

Provision of sufficient incentives or increased carbon payment for carbon sequestration to avoid the challenges pushing famers cutting trees for quick returns hence promotion of Emission Reductions

Biodiversity in the Agricultural, Forestry and Land Use hence promoting the indigenous tree species as alternatives for increased percentage of carbon accumulation putting into considerations timber availability and accessibility. This is through Reduced Emissions from Deforestation and Degradation

Group Dynamics Sensitization and awareness creation of farmers on carbon credits though working as groups since its TIST's way of approach so as to avoid penalties from those who cut the tree, in relation to payments made to group.

Scaling up carbon financing through renewable energy financing the alternative energy sources support programme ensuring sustainable energy at household level thus reducing the dependence of the population on woody biomass. These calls for the establishing agro-forestry systems which can help meet fuel wood needs as well as improving soil structure.

Conclusion

- Africa has got the privilege of acting as a very strong global storage for carbon. This should be used as an opportunity and a tool for sustainable development by incorporating Clean Development Mechanisms. This is particularly in key sectors, such as forestry, agriculture, energy and waste management. Nonetheless, challenges for carbon finance across the region remain significant because of the unpredictable investment climate present in many African countries and lack of capacity in some African private and public sector institutions.
- Although Africa contributes very little by way of GHG emissions, most African countries are directly affected by climate change. Through climate_adaptation and mitigation_of climate change it can devise means as already researched in this paper to increase the finances so as to meet CDM procedures and incentives to assess, reduce, and monitor GHG mitigation initiatives.
- Carbon finance is not a means to fund projects fully, it is typically a component in a larger investment strategy to provide sufficient resources and technical expertise to implement these Clean Development Mechanisms

- **THANK YOU!**