



Basic PES Project Design **ECOTRUST**



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Identifying Ecosystem Service Prospects

- What Ecosystem Service(s) exist?
- Where is the ES?
- Can the ES be measured?
- Is it possible to put a price?



Identifying Ecosystem Service Prospects-cont'd

- What is the ownership like?
- Is the ES sustainable?
- Who benefits from the ES?
- How will the desired ecological outcome be attained?



What Ecosystem Service(s) exist and Where?

- Watershed protection



- Carbon storage



- Biodiversity conservation



Can the ES be measured?

e.g. Carbon storage



- Biomass inventories
- Modeling
- Technical specifications
- Remote sensing techniques

Carbon storage measurement cont'd

Parameters:

- DBH
- Total tree Height
- Crown size
- Bole height
- *N.B: Need to know wood density values of @ tree*

To quantify baseline carbon stocks:

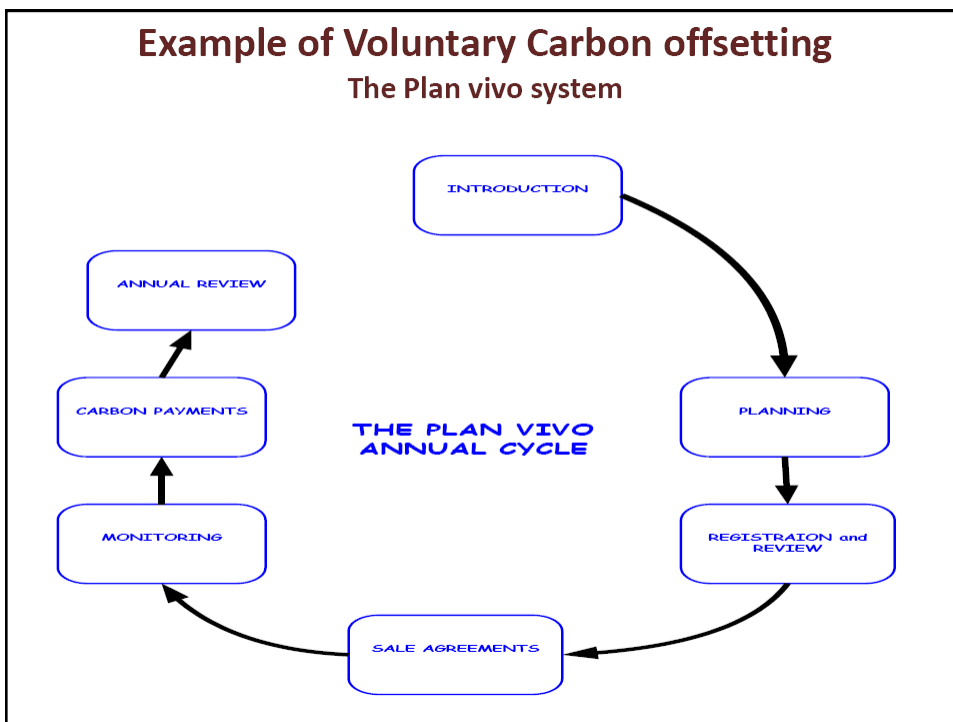
- Define project boundary & stratify project area.** Use maps, GPS, local features, satellite imagery, aerial photo etc.
- Determine carbon pools to be measured e.g. above ground biomass=** non-tree vegetation, leaf litter, dead wood **& Below ground biomass** e.g. roots, soil organic matter
- Carry out baseline survey: Sampling/nested plots-**
r=5.64m, 0.01ha, trees of 5-20cm dbh; r=12.62m, 0.05ha; trees of 20-50cm dbh; r=17.84, 0.1ha, trees >50cm dbh
- Calculate the baseline for each stratum**

Market and Prices of ES






- | | |
|--|---|
| <ul style="list-style-type: none"> • Markets are either Voluntary or compliance • Price of ES is determined by what buyer is Willing to pay & seller willing to accept. • In the voluntary market the price is negotiated. • In compliance markets, its mandated | <p>Factors determining price</p> <ul style="list-style-type: none"> • competition-in supply and demand • Buyer tend to go for lower prices • Buyers may look for co-benefits as well e.g. restoration of habitat, poverty alleviation etc |
|--|---|

Example of Voluntary Carbon offsetting

The Plan vivo system



Performance based Payments

| Time (Years) | Milestone | Means of measurement | Payment |
|--------------|--|--|---|
| 0 | At least 50% of expected No. of trees planted | Physical counting of all trees planted by farmer | 30%  |
| 1 | At least 100% of expected No. of trees planted | Physical counting of all trees planted by farmer | 20%  |
| 3 | At least 85% of planted trees surviving | Physical counting of all surviving trees | 10%  |
| 5 | An average DBH of at least 10cm | Stratified random sampling, using plots, and targeting atleast 10% of planted trees by the farmer; dbh & tree height measurements. | 20%  |
| 10 | An average DBH of at least 20cm | Same as above | 20%  |

Identifying Potential Buyers

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Questions to ask your self

- **Who are the potential buyers?**
- **What is the interest of the buyer or What motivates buyer(s) to go for the intended PES deal?**

Who are the potential buyers?

- **Private companies**
- **Individuals**
- **Non Governmental organizations**
- **Donor/Funders**
- **Government**
- **Etc.**

Motivation of buyers

Potential buyer

- Private companies
- Can be a single co. e.g. Tetrapak, Camco, Nedbank, etc.
- Can be a group of co. e.g. ecotourism operators etc

Motivation of private companies

- Public Image/branding
- Reducing carbon footprint
- Investing in good relationship with stakeholders e.g. communities, NGO's and regulators
- creasing investor confidence – become responsible to environment
- Reducing a companies operational and or maintenance costs e.g. NWSC costs of sedimentation is high and initiating a PWS may reduce costs through cleaning/purifying the water

Interest of the buyer cont'd

Potential buyer

- Individuals
- NGO's
- Donor

Motivation

- Individual can act on their environmental and social concerns e.g. Reducing their carbon foot print
- Reducing organisations carbon foot print-becoming "carbon neutral"
- Part of strategy to achieve the organisations goal
- Increase revenue for conservation activities
- Can part of the donor mission

Interest of the buyer cont'd

Governments

- Are signatories to international conventions-for compliance
- May be a way to reducing costs e.g. cost related to siltation, chemical effluents in the water
- Reducing environmental calamities e.g. flooding, landslides etc
- Implementing the PES policies
- Peoples demand

Can a seller(s) meet the demand of buyers?

•Sellers can be as individuals-owning land or organised groups (the community members have individual rights)

•Whether dealing with individuals or groups its important to know the following

- who implements the agreement
- Who carries out the monitoring to ensure the contract implemeter is abiding by the contract
- Who receives the payment
- How are the benefits distributed

•Aggregating of multiple sellers can help to meet buyers demand. The TGB is a good case-many producers come together to generate credits that are sold to the prospective buyer.

Assessing Institutional & Technical Capacity

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Questions

- What is the legal, policy context in relation to PES?
- What are the regulations to trading in the ES?
- What institutions and structures are in place for an enabling environment?

Legal and Policy context

- A range of laws and policies that support the operationalisation of PES exist.
- There may be no laws or policies to establish PWS schemes, but the schemes are developed to fit in particular contexts by working with existing legislations

International legal & Policy Frameworks

International legislations

N.B: Taking Carbon as a case

- **The United Nations Framework Convention on Climate Change (UNFCCC)**- Uganda became a party to the UNFCCC (signed the convention on June 13, 1992 and ratified it on September 8, 1993), thus binding itself to its terms. Article 4 part 2 sub section (a) of the Convention Commits member states to participate in the mitigation of climate change
- **The Kyoto Protocol**-The Kyoto protocol provides operational guidelines (Article 10) on how to implement the Convention

National legal, Policy & Institutional Frameworks

National-level environmental legislation

- **The National Environmental Management Policies** e.g. The National Environmental Management Policy (1994) is a landmark output of the National Environment Action Plan (NEAP) process which was developed in 1995-The policy accommodates the Government of Uganda's strategic development plans which include the Poverty Eradication Plan (PEAP), Vision 2025, and the Plan for Modernisation of Agriculture (PMA). Vision 2025 constitutes a strategic framework for Uganda's national long term development

Key Environmental and other Sectoral policies.

- **The National Environmental Management Policy, 1994**

Goal

- Sustainable social economic development which maintains or enhances environmental quality and resource productivity on a long term basis that meets the needs of the present generation without compromising the ability of future generations to meet their own needs

Policies cont'd

- **The Uganda Forestry Policy, (2001)**
- An integrated forestry sector that achieves sustainable increases in the economic, social and environmental benefits from forests and trees by all the people of Uganda, especially the poor and the vulnerable

Legal and Regulatory Framework

National Environment Statute, 1995

Key strategy

- Provides for a comprehensive framework for environment management in Uganda

The National Forestry and Tree Planting Act, 2003

- Provides for the establishment of private forest plantations and declares that all forest produce on such a private plantation forest belongs to the owner of the plantation

Institutional framework in Uganda

- The Ministry of Water, Lands and Environment
- National Environmental Management Authority (NEMA)
- The Meteorology Department, Ministry of Water, Lands and Environment. For carbon the roles are performed by the climate change unit
- Uganda Investment Authority
- National Forestry Authority (NFA)

What are the regulations to trading in the ES?

- Rules depend on the type of market e.g. regulatory or voluntary
- Rules may refer to regulations of cap and Trade market or to guidelines of public payment.
- Rules may refer to terms set by private buyers and sellers in specific transactions
- The rules and regulations exist for markets and trading with various degrees of complexity and formalities therefore, there is need to establish which ones are defined before beginning to structure the PES deal.

Institutional & technical capacity

Several institutions provide scientific and technical expertise through:

- Institutions are available to support or reduce transactions or connect buyers and sellers
- The institutions ensure compliance with the standard e.g. validation and verification processes, monitoring
- Have expertise in community organization
- Mediation between buyers and sellers
- Enable aggregation of credits

Institutions can either have or source for technical assistance

- To measure the ES
- Will document existence and status of the ES that sellers provide
- Ensure compliance of standards and sellers attaining their proposed land management plans.

Institutional & technical capacity Cont'd

- **Have negotiation skills and ability to go into contract (between buyer and seller)**
- **Are able to implement , carry out monitoring and verification expertise-which also involve third party verifiers**
- **Records management/ Database**

