

**EQUITABLE PAYMENTS FOR WATERSHED SERVICES (EPWS):
PHASE I**

A Joint

**CARE-WWF-IIED
Programme**

Financed by

**DGIS: Government of the Netherlands
DANIDA: Government of Denmark**

**EPWS PROGRESS IN TANZANIA:
A BRIEF NOTE**

Prepared by

**Dosteus M. Lopa
Project Technical officer
3rd October 2007**



1. Introduction and background of EPWS

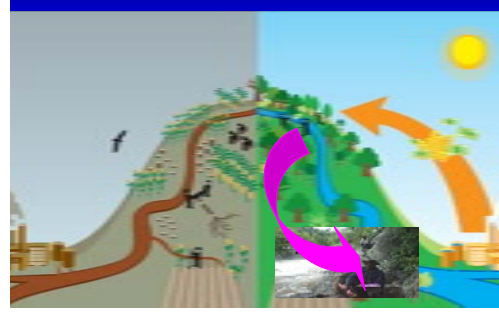
Equitable Payments for Watershed Services (EPWS) is a global programme managed by an international Consortium formed by CARE, WWF and IIED and, financed by the Governments of The Netherlands (DGIS) and Denmark (DANIDA). EPWS is part of a broader concept of Payments for Ecosystem Services (PES) the underlying principle of which is that the beneficiaries of ecosystem services should compensate those who provide such services. The Programme operates in five countries located in 3 continents across the world; notably Asia, Latin America and Africa into two phases. Tanzania is the only African country included in the Programme. EPWS is closing Phase I of the programme having completed the base line studies on hydrology, communities' livelihoods, legal-institutional frameworks and cost-benefit analysis. This Phase ends up with the signing of a cooperation agreement (MoU) between watershed upland service providers and downstream service users. Phase II is the implementation of the terms of the agreement for an estimated period of 4 years starting January 2008. While Phase I has been fully financed by the donors, phase two will be co-financed by the development partners, the upstream communities (sellers) who will contribute through land use changes and labour, and local service users. In Tanzania, CARE Tanzania and WWF Tanzania Programme Office are spearheading the programme in collaboration with the Poverty Reduction and Environmental Management (PREM) programme. Since the concept is in line with the National Water Policy and also the National Strategy for Growth and Reduction of Poverty (MKUKUTA), it is hoped that the role of government will be to facilitate the process as it unrolls and is gradually absorbed over time.

The implementation of phase I (2006-2007) focuses on knowledge building and preparing for phase II. The phase I is being implemented in the Uluguru Mountains for the Ruvu River addressing the growing problem of watershed degradation and its consequences for urban dwellers (in Dar es Salaam for example) agriculture, industry and, trade. Studies conducted by EPWS' experts during Phase One have identified and located specific areas within the watershed which contribute the most to the water problem. These studies also indicate where and how land use changes must be introduced so as to reduce and eventually eradicate the sources of such problem. While providing clean water services downstream, the mechanism also seeks to address poverty among the stewards of the watershed (i.e. communities around Uluguru Mountains).

Basically, the idea with EPWS is that those who "provide" watershed services by conserving or restoring watersheds (natural ecosystems) are compensated/rewarded by the beneficiaries or "users" of the service-freshwater (figure 1).

Figure 1: Win-win situation when conserving watershed and vice versa (adopted from Curtis & Hanna, 2006)

Graphically the principle.....



2. The overall goal of EPWS project

The overall goal of EPWS project is to deliver sustainable natural resource management (modifying land use to conserve and improve "watersheds" for reliable flow and quality of water) and improved livelihoods of the rural poor with social justice and equity.

Specific Objectives of the EPWS project in Tanzania:

- To establish long term financial investment (FI) in modifying land use to conserve and improve “watersheds” for reliable flow and quality of water.
- To establish compensation mechanism that recognizes the needs and priorities of the marginalised and poor people to improve their quality of life hence contributing to poverty reduction

3. What has been done so far

Having completed base line studies on hydrology, communities’ livelihoods, legal-institutional frameworks and cost-benefit analysis and established business cases, EPWS in Tanzania is now moving into its second phase (Phase II), with the successful completion of knowledge building, and as a way of setting the scene for phase II. Phase I ends up with the signing of a cooperation agreement (MoU) between watershed upland service providers and downstream service users. Phase II constitutes the implementation of these terms of the agreement for an estimated period of 4 years starting January 2008, and is therefore crucially dependent upon a signed MoU between buyers and sellers. Indeed, while phase I has been fully financed by the donors, phase II will be co-financed by the development partners, the upstream communities (sellers) who will contribute through land use changes and labour, and local service users (the private sectors).

As emphasized in the above, the focal point of phase I interventions has been the Uluguru Mountains, with the objective of addressing the growing problem of watershed degradation and its consequences for urban dwellers (in Dar es Salaam for example), agriculture, industry and, trade. The baseline studies conducted by EPWS’ experts during Phase I have identified core problems and located specific areas within the Uluguru watershed, which contribute the most to the water problem. These studies also indicate where and how land use changes must be introduced so as to reduce and eventually eradicate the sources of such problem. While providing clean water services downstream is the main long term intention, the mechanism also seeks to address poverty among the stewards of the watershed (i.e. communities around Uluguru Mountains).

In the feasibility assessment phase CARE and WWF thus carried out studies in four basic areas; hydrology, livelihoods, legal-institutional and cost-benefit analysis in selected areas of the Uluguru Mountains. These studies have generated valuable information. For example, hydrological analysis undertaken over an 11 year period (1992-2002) indicates that water turbidity in Ruvu River increased at an average of 5 Nephelometric Turbidity Units (NTUs) per year, reflecting a dramatic increase in sediment loading into the river. This is wholly attributed to land-use change causing greater surface run-off and an associated increase in topsoil erosion leading to this increased siltation.

In addition to that, the trends analysis on annual volume flows of the Ruvu indicates considerable variance in flows as influenced by the contributions from its sub-catchments and the seasonality of rains. This problem is largely attributed to reduced storage capacity and increased runoff in the catchment as a result of unsustainable land use resulting in significant decrease in land/vegetation cover. Since the 1970s, forested areas in the Ulugurus have decreased in size by approximately 25%. Since as recently as 1995, land under cultivation in the Ulugurus has doubled. In the Kibungo sub-catchment, the extent of cultivated land has increased by 300% since 1995.

Based on the findings from the various studies, the programme has developed and presented business cases to major water users and potential buyers, notably DAWASCO and Coca Cola Kwanza Limited. In June 2007, DAWASCO signed a “letter of intent” (LoI) indicating their keen interest and readiness to sign a Memorandum of Understanding (MoU) with communities for implementing the EPWS mechanism. At the time of writing, Coca Cola have already signed an MoU with the Kibungo Communities.

On the basis of the progress that has been made in Tanzania, the development partners have therefore committed between US\$ 700,000-1,000,000 for an eventual phase II. Tanzania is already becoming a pioneer in PES in Africa as our progress is being monitored by Kenya, Uganda and Mozambique who have shown interest in replicating this initiative in their own watersheds.

4. Why do we need to establish EPWS in Ulugurus?

For a long time conventional conservation approaches have been applied in conserving ecosystems in Tanzania and world over, but with such approaches it was quite difficult putting economic value on environmental services and hence establishing viable business cases for potential buyers and sellers. Proponents of Payments for Ecosystem Services (PES) argue that this has caused a failure for society to ‘compensate’ land managers for these services, which have then contributed to forest landscape degradation which is now seen throughout the world. The new PES/PWS approach has enormous potential to not only reverse this trend but also to advance a new conservation revolution based upon a compensation mechanism encouraging and financing conservation efforts as well as crucially improving the livelihoods of the rural poor farmers.

To realise this dual potential, CARE and WWF have been trying to operationalize an Equitable Payments for Watershed Services (EPWS) mechanism – i.e. a mechanism that provide substantial benefits for the rural poor (with payments being made in a transparent and equitable way) to implementing the proposed interventions for improving land use practices. In so doing, EPWS will simultaneously ensure a reliable quality of water supply for downstream users, in this case Dar es Salaam, and nearby towns such as Kibaha, Bagamoyo and Mlandizi.

The findings of a legal framework analysis, conducted during phase I, revealed that PWS is recognised in Tanzania as a financial instrument for managing natural resources including water. The concept of PWS is likewise reflected both in the National Environment Policy and the National Strategy Growth for Growth and Poverty Reduction-MKUKUTA and the National Water Policy (NAWAPO). Experience from other countries and cities, such as New York in the USA, shows that by involving the private sector in the programme it can significantly contribute to the success of PWS scheme, which is growing quite rapidly to constitute a global approach for enhancing the sustainable water resources governance in the near future.

5. Who are we working with

In implementing this programme, many actors and stakeholders are involved in various ways. We are working with the communities around the Uluguru Mountains (the **stewards of the watersheds** in the Kibungo Juu Ward), who will “sell” the improvements in watershed services which they bring about through land-use change. We are also working with major users of water in Dar es Salaam notably DAWASCO, DAWASA, Coca Cola Kwanza Limited, Tanzania Breweries Ltd and Bakharessa. Above all, we work closely

with the Ministry of Water (MoW) through the Directorate of Water Resources and so far we have received technical cooperation and advice that has helped significantly towards successful implementation of the Programme. We also work with the Wami-Ruvu Basin Water Office, in Morogoro.

6. The Memorandum of Understanding

The smooth and efficient implementation of the business case necessitates a signed Memorandum of Understanding (MoU) between sellers and buyers of the watershed services. The non-legally binding MoU will specify how the programme is implemented including the actions to be carried out by the Programme's participants. Also, the MoU will state who will do what and determine their contribution for the implementation of the business cases.

Phase II will be trialed over a period of 4 years in a limited area of the catchment, the Kibungo sub-catchment, while being scaled up in a subsequent phase to cover the entire catchment (Ulugurus).

7. Expected Benefits

a) To the communities as reward to their stewardship

- Direct payments to communities
- Community-level benefits such as hospitals, roads, pipe water supply and schools improvement
- Introduction and enhancement of Alternative Income Generating Activities that are friendly to the catchment
- Indirect benefits such as community empowerment and land tenure security.
- Formulation of Water User Associations (WUAs)
- Restored Ecosystems (Forest and freshwater)

b) To Government

- A means to implementing a portion of own policies and strategic plans
- Support for in Water Resources Management
- Additional resources for the management of the watersheds
- Capacity building, knowledge development and sharing with the government experts
- Strengthened bilateral ties with the Dutch government

c) To Downstream Water Users

- Improved water quality and quantity
- Improved reliability in water supply and quality
- Good Public-private relationship established
- Significant financial gains

8. Challenges

- It is a new mechanism- it will take time for people to grasp, yet there are all signs that it is achievable
- With our success progress, there is a challenge of creating awareness from the grassroots to high levels of decision making or vice versa.