



MARCH 2010

REPORT



BOTSWANA Eco Initiative

Entry Phase Workshops
Integrated Vermiculture and Organic Vegetable Production Courses

INTRODUCTION

As the entry phase to the Botswana Eco-Initiative, two Entry Phase Workshops were held between 12 and 24 January 2010 at the following sites :

1. Abu Camp - 12 to 18 January
2. Tsutsubechga Farm & Neighbouring Village - Maun West - 19 to 24 January

The entry phase workshop programme will be re-inforced and expanded through a second phase programme to be undertaken between 7 - 19 April

Entry Phase Workshop Programme



Workshop 1- Abu Camp – 12 to 17 January

Workshop Goal

- ✦ The aim of this workshop was to start establishing a Conservation Outreach Centre at Abu Camp. This Outreach Centre would be used to promote the Africa Eco-Initiative, and demonstrate to the camp staff, Eco-Village models available for their homes.
- ✦ The first phase of developing the Outreach centre was setting up the Abu Camp Waste to Resource Worm Unit. This is an open worm conservancy that uses worms to recycle all the elephant dung (from the elephant boma) and camp kitchen organic waste. The end product is vermicompost - an organic fertilizer. This fertilizer will be used for producing indigenous tree seedlings, and will hopefully also be made available to villagers and staff.
- ✦ When completed the Conservation Outreach Centre will incorporate the following :
 - Waste to Resource Worm Unit
 - Forestry/indigenous tree seedling nursery
 - Household composting/worm beds
 - Household composting/tree or vegetable garden beds
 - Eco-Village sanitation systems
 - Eco-Village water conservation systems
 - Eco-Village lighting systems
 - Eco-Village energy saving systems
- ✦ The Outreach site selected was adjacent to the elephant boma. Set in a wooded area, on-site developments undertaken will preserve the aesthetics of the site.
- ✦ This choice of site was due to the following factors :
 - The trees on site provide good shade under which to house the open worm conservancy
 - The distance in moving the elephant dung is minimal
 - For show casing purposes this site location is excellent :
 - » Set adjoining the elephant picket line, it is easily accessible for guest tours.

- » For staff and camp personnel it is easily accessible and visual, located in close proximity to the elephant handlers living quarters, and on the route between the elephant boma and camp.

Workshop Modus Operandi

1. During the workshop period, a 3-man CSA team laid the foundation work for the open worm conservancy. The CSA team was assisted by the 4-man Abu team responsible for removing all the elephant dung from the boma. In addition, when time permitted, Collet (one of the lead elephant trainers) and Adi Dandridge (EBS Environmental Officer/Guide) also helped out.
2. During the worm conservancy foundation building stage, camp staff had the opportunity to visit the site as and when their duties allowed. Here staff members were introduced to the Eco-Initiative, and given the opportunity to register as Eco-Initiative participants.

Registration

Abu Camp was closed for renovations at the time of the workshop, so participants registration was limited to staff involved in the elephant training and housekeepers for the camp. In addition a number of staff members from Seba Camp also registered.

A total of 23 staff members registered as Eco-Initiative participants.

- ➔ ADRIAN DANDRIDGE
- ➔ COLLET MLIZANE
- ➔ KENNETH RAMAGOTHO
- ➔ SHAYA MAKUSHE
- ➔ LAZARUS KAMASENA
- ➔ WITNESS KEEME
- ➔ FRANK SHAMUKUNI
- ➔ THOKOMELO LEMPHORWANA
- ➔ MPOLOKANG SAOBORO
- ➔ BILLIARD ASSAM
- ➔ ONKABETSE MUSUPUKWA
- ➔ SETHWANTSHO MOKGOTHANE
- ➔ OGOLOTSE MOGOTSI
- ➔ THAPELO SEBETELA
- ➔ GEORGE MOLATHIWA
- ➔ FISH BOYOSI
- ➔ THOMAS MOKOYA
- ➔ MESHO BATSHOLELATA
- ➔ DIVEDENDE DINGUNDA

- ↔ MPHONG OFITHILE
- ↔ THATAYAONE BAPATI
- ↔ BATAKI TLOTLETO
- ↔ MATAMO MATE

Registered participants were all issued with workshop print-outs containing the following course material

- ↔ Overview of the Africa Eco-Initiative Process
- ↔ Introduction to Eco-Farming
- ↔ Worm Farming
- ↔ Growing and Breeding Worms
- ↔ Worm Vegetable Gardens
- ↔ Eco-Farming Principles
- ↔ Organic Growing & Organic Fertilizers
- ↔ Community Conservation Businesses
- ↔ How are the Community Conservation Businesses Set up?
- ↔ REDD Project Principles & Carbon Credits

Workshop Output

- ↔ For holding the worm stock prior to their release into the open worm conservancy, 2 worm/cocoon tent incubators were set up inside the boma shed. A worm housing/composting mix that consisted of top soil, humus, leaves and elephant dung was placed in these tents, and the worms then added. 20,000 newly hatched worms were released into tent 1, and 19000 worms into tent 2.
- ↔ Open Worm Conservancy Construction
 - Work commenced on the constructing the Waste to Resource Worm Unit - the open worm conservancy.
 - The open worm conservancy area was marked out to house 6 worm beds and 23 composting beds.
 - These 29 beds were built up above ground using a mixture of top soil, humus, leaf litter and anthill.
 - According to a daily schedule, dung from the elephant boma was collected and carted by tractor and trailer to the conservancy site. Here the dung was unloaded on one allocated bed.
 - With a total of 29 beds, a 29 day cycle was started with each bed receiving one load of elephant dung every 29 days.
 - Arrangements were made for this cycle to continue until the next CSA visit in April, when the worms would be introduced into the conservancy, and the waste to resource recycling process

would start.

→ Prior to CSAs departure, a daily unloading schedule and management plan was given to Abu Camp Management to assist with the worm conservancy development.

↔ Worms & Equipment Supplied

→ 39,000 worms

→ 14 crates

→ 2 worm/cocoon tent incubators

Workshop 2 – Tsutsubechga Farm & Villages (Maun West District) - 19 to 24 January

The workshop site selected was on Mr. Adrian Dandridge's Tsutsubechga Farm. Adrian, as an EBS employee (Professional Guide/Environmental Officer) is assisting on the Botswana Eco-Initiative in a community outreach role.

The purpose of this workshop was :

1. To start establishing a Community Conservation Outreach Centre on Tsutsubechga Farm
2. To introduce the villagers living in the Maun area to the Botswana Eco-Initiative
3. To assist Adrian Dandridge as an EBS employee in his endeavours to practice conservation farming

This Community Conservation Outreach Centre will be used to promote the Botswana Eco-Initiative, and assist local villagers to develop conservation farming practices and Eco-Village systems.

Registration

16 participants registered for the workshop held at Tsutsubechga Farm.

- ↔ ADRIAN DANDRIDGE
- ↔ KGOSI BADISA
- ↔ MOKA BADISA
- ↔ MPHUYAMODIMO MAREWA
- ↔ OHENTSE THOROMO
- ↔ ISHMAEL SAMAKATA
- ↔ MOGODI GAOLATHE
- ↔ LESEDI TSHWENYEGO

- ↔ KOMBO DITSHEKO
- ↔ KAPANGO DINYANDO
- ↔ EZEKIEL ROBERT
- ↔ KWATHAENG SAMATAKA
- ↔ KEMMONYE MAKUSHI
- ↔ PHOLOSO LERAMANG
- ↔ TLHABOLOGANG MAITSHOKO
- ↔ MOANAMISI MAITSHOKO



During the workshop the following work was undertaken :

1. Installing a Gendarme flush toilet

Installing this sanitation unit on-site was the entry phase to Eco-Village development.

- The Gendarme flush toilet is a cost-effective and self-contained unit that is environmentally friendly, safe and conserves water :
 - » The only water requirements are the initial 500 litres of water necessary to fill the 500 litre toilet tank on installation. Thereafter this 500 litres of water is constantly recycled with no further water requirements.
 - » Functioning as an anaerobic bio-digester, human waste entering the system is broken down and the end product is water. This excess water is discharged into the 200 litre overflow tank. For every 500 grams of human waste put into the 500 litre tank, 500 mls. of water is discharged into the overflow tank. (500 grams per day is the estimated waste per person per day)
 - » Once the 200 litre overflow tank is full, “safe to use” excess water is discharged through an overflow pipe.
 - » The discharged water contains various soluble substances such as nitrates, phosphates, and ammoniates. This water is ideal to use for agricultural and vermiculture purposes.
 - » Gendarme toilets are used in Botswana having met all the requirements laid down by the Government of Botswana’s Health, Sanitation and Environmental authorities.
 - This flush toilet unit has a daily handling capacity to accommodate 10 persons.
 - This toilet comes in kit form, and the only installation work necessary is digging 2 holes into which the 500 litre holding tank and the 200 litre overflow tank are placed in.
 - The unit is simple to move, so can be used either as a permanent or portable toilet system.
2. One Forestry/Vegetable Garden Nursery unit with completed beds was made up
3. One household composting/worm bed was made up. This unit was housed under a “gazebo” cover, and enclosed with 20% white shade-cloth walls. In the centre of this unit, 2 worm crates were stacked together and 4000 worms were introduced into the crates

4. Eight household composting/vegetable garden beds were marked out in a configuration that surrounded the household composting/worm bed.
5. One worm/cocoon tent incubator was set up, and 12,000 worms were introduced into the tent after it had been filled with a composting/worm housing mix.

Unfortunately, after workshop registration, participant attendance was poor. As a result :

- ✦ The time available for the planned short lecture/discussion groups interspersed between building work and practical demonstrations was limited. As a result the lecture/discussion groups could not be undertaken.
- ✦ No sowing of seed in the Forestry/Vegetable Garden Nursery took place (as had been planned).
- ✦ No building or sowing to vegetable seed of the 8 household composting/vegetable beds took place (as had been planned).

Remedial Action

- ✦ A CSA Extension Officer remained on-site for an additional 7 days after the workshop tour was completed. This was to assist those willing participants to complete the work planned so the expected outcomes of bed building, establishing a vegetable crop and undertake all the planned lecture/discussion groups could be achieved.
- ✦ A satellite workshop for 4 villagers from the closest neighbouring village (Satellite Village 1) was undertaken. Here four very keen villagers requested assistance to start their own initiative at one of their teams homesteads. As a result the 4 villagers listed below were registered as Eco-Initiative participants.

- ✦ MOTSWANAGENG KETLOEGILE;
- ✦ ENELE MOROKOTSO;
- ✦ GAEEME MOKGWATHI;
- ✦ ITSHEPHENG S

In registering as Eco-Initiative participants this satellite group were assisted as follows :

- ✦ The CSA team marked out one household composting/worm bed, and eight surrounding composting/vegetable garden beds
- ✦ They were provided with a “gazebo” unit with shade-cloth walls to house the household composting/worm bed
- ✦ They would receive worm seed stock, worm crates and vegetable seed

from the Community Conservation Outreach Centre when they had completed their building work, and could access water.

Worms & Equipment Supplied

Community Conservation Outreach Centre

- 16,000 Worms
- 14 Worm crates
- 1 Wheelbarrow
- 1 Rake
- 1 Spade
- 1 Fork
- 1 Pick
- 1 Watering Can
- 1 Gazebo Unit
- 12 metres shade-cloth (White - 20%)
- Vegetable seed

Satellite Village 1

- 1 Shade House
- 12 metres shade-cloth (White - 20%)

The Botswana entry phase workshop programme will be assessed, re-inforced and expanded through a second phase programme to be undertaken between 7 - 19 April.









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