Barbets Duet

Barbets are tropical birds related to woodpeckers & toucans.
Some Afrotropical barbets sing in duet, creating the sound of one voice.

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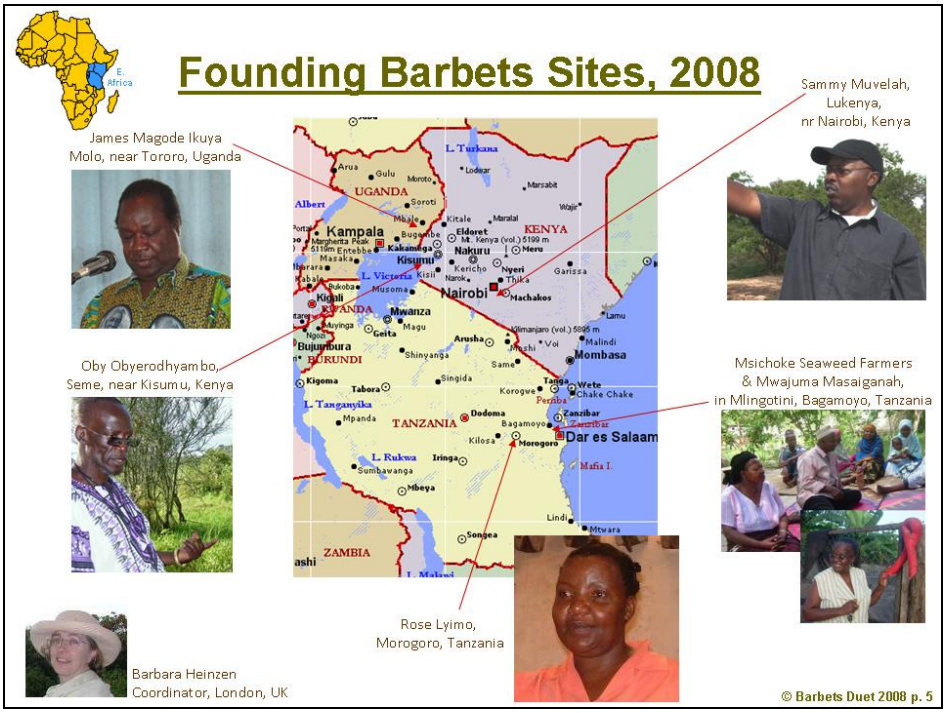
A mature oak tree can support 284 species of insect, provide food and nests for birds, acorns for mice and squirrels, and habitat for fungi. Its 'life' value is very high; its economic value is only realised once it is dead. Today's environmental crisis is the consequence of this paradox.

The Barbets Duet will create new economic systems that reward the abundance of life.

DETAILS OF BARBET LEARNING SITES

The Barbets Duet is a 20-year experiment to invent environmental markets and their supporting rules and institutions. This experiment is organised around Barbet Learning Sites and coordinated by Barbara Heinzen in London. Each site is a centre of learning, open to others, where people are actively, experimentally engaged in new ways of managing the land and/or creating environmental markets. Land managers, businesses, financial institutions, government departments or research institutes can all be Barbet Learning Sites. These sites are places where learning is not abstract, but tested in daily management and decision-making.

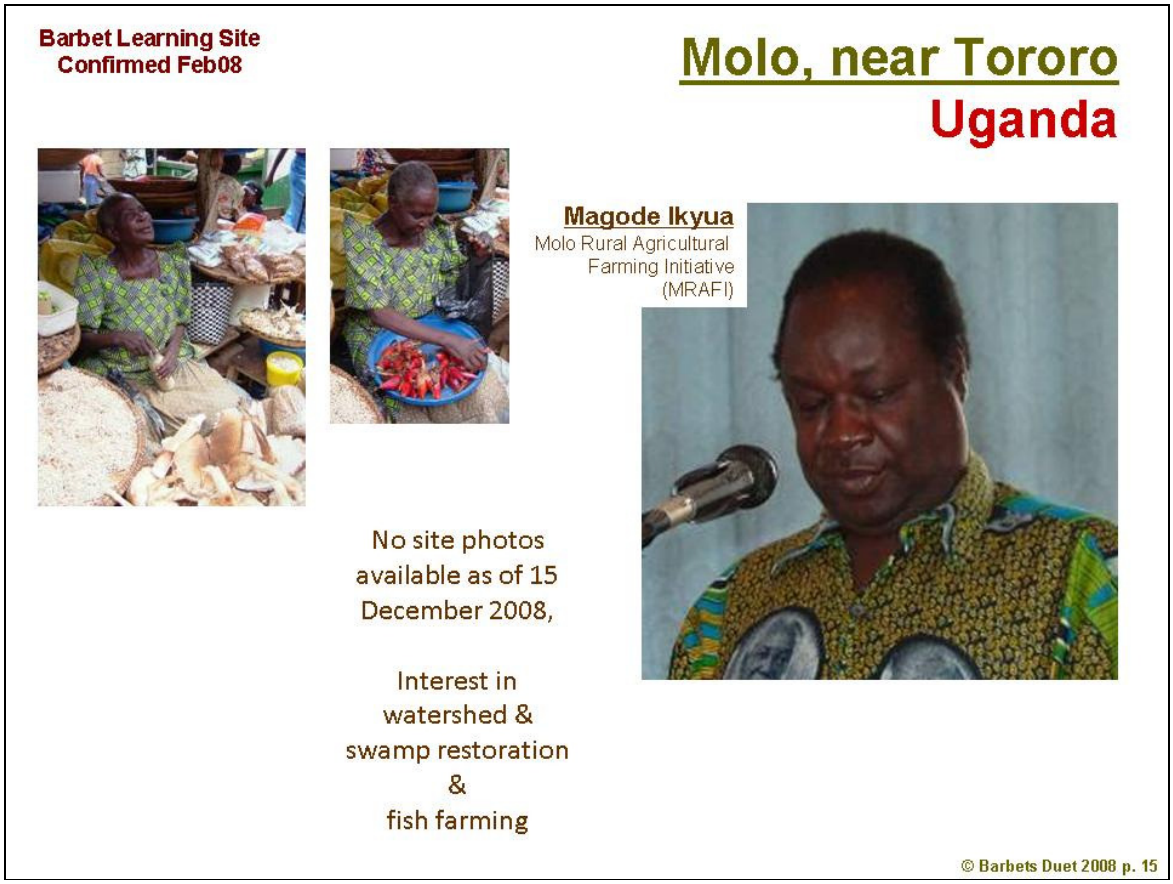


The five Founding Barbet Learning Sites are all land or marine-based sites. They represent different cultures, land tenure arrangements, ecosystems and environmental products or services. All five Learning Sites have all been started by individuals and local groups working with their own resources. Each site is described in more detail below.

UGANDA

Watershed restoration, Kanginima stream, Mount Elgon to Lake Kioga

Molo, Uganda
James Magode Ikuya
Molo Rural Agricultural Farming Initiative (MRAFI)
Email: c/o James Magode Ikuya megawa@hotmail.com



Kanginima stream at Molo in Tororo District, eastern Uganda, (called Nangirima by the Bagisu people who are up-stream at the mountain slopes) runs from Mt. Elgon draining into Lake Kioga in the centre of Uganda through which the great Nile flows from Lake Victoria on its majestic way to Egypt.

Over the centuries, it has been supporting varied life forms, its swamps being a suitable ecosystem of grazing land for the people, habitat for numerous birds, plants and reptiles while the banks of the stream were shrouded by valuable shrubs and trees serving the community with their firewood, timber, traditional medicine, wild fruits and roots as well as being recreational grounds for local games.

Human settlement used to exist only on the higher grounds. Activities at the stream used to be restricted to wild life and watering of domestic animals enabling flourishing of wild growth. The stream water was clear blue, teeming with fish species and other marine kind. It was also fed with many rivulets from spring waters along the way which kept Kangirima flowing in all seasons of the year.

With pressure of increased population and the changed activities along the stream bank, the environmental landscape has drastically been debased. Human settlement has spread to the very

reaches of the stream, filling it with pollutants and human dirt. The stream which was once alive with many species of fish and life now only has occasional frogs and famished crabs. It has been denuded of all plant life. Places which were once wetlands are scorched dry. Running rain water has infested the stream with silt, mud and human waste. The stream waters have receded and become seasonal. Only in a few spots is rice growing tried to sustain rural economic activities, but, even then, it is done with such abandonment that it only adds to the degradation.

Even spring wells have dried up due to climatic change. Agricultural harvest is more and more miserable. Peasant poverty is characteristically the embedded norm of existence, creating a vicious circle of helplessness, hopelessness, environmental degradation and misery.

Proposal:

The Molo Rural Agricultural Farming Initiative is aimed at rousing community response to regenerate the environment along the stream. It is starting with a nucleus of twelve families who own land by the stream. They are to engage in activities which are consistent with restoring the stream to support the rural economy while also protecting environmental concerns.

The households have availed pieces of land by the stream to start fish farming. The project is to undertake excavation of the ponds and stock them with fries of tilapia, mud fish and carp. There is immense market for fish in the country as the available fish from Lake Victoria is mostly exported by the large scale processing investors, leaving mere bones for the local people.

Around the fish farms is also to be developed poultry keeping of local birds to feed the fish with their droppings while augmenting the income of the households. The ponds are to be surrounded with variety of local tree cover to give shade and wind-breakers to the area. The stream banks are to be restored with planted trees shrubs and grasses, including the protection of wild growths. This will prevent the running off of rain water and the erosion of the soils. In turn, other animal and bird species will find sanctuary in these growths.

It is intended that the same approach will be replicated downstream to cover three sub-counties across which Kanginima flows on its journey to join Tirinyi River before it finally enters Lake Kioga. The effect of the changes and controlled human activity will also raise the water table of the higher grounds and reduce land devastation. Additional steps can then be taken to re-plant trees and adopt better practices in agricultural management on the higher grounds. With the raised water table, the old water wells can then spring to life, enabling being tapped into piped water to supply the community as a whole with cheap, domestic water. In addition to all this, new attitudes towards environmental questions will also have been cultivated, permitting elimination of pollutants and the exercise of hygienic waste management on improved soil fertility.

Currently, the government enacts laws regarding environmental issues which are not put into any effect for lack of structures and the obvious unwillingness of the rural community to comply with onerous regulations which have no immediate economic bearing to their lives.

KENYA

Low rainfall, dry and marshy land near Lake Victoria

Seme,
near Kisumu, Kenya
Oby & Hilda Obyerodhyambo
Email: Oby Obyerodhyambo oby.obyerodhyambo@gmail.com
Email: Hilda Adiambo adhiambohilda@gmail.com

Seme: Lies 27Kms from Kisumu in Nyanza Province. It falls within what was Kisumu District, but is now Kisumu Town West District.

There are three potential sites in Seme; one is occupied with a Tissue Culture Bananas/Napier Grass/Eucalyptus Tree plantation. The second is approximately 10 acres and lies about 1.5 kilometres from the Lake Victoria and lastly there is a 2 acre over-grazed piece.

The Banana plantation is already being used for experimentation with TC bananas that have not been typically grown in the region. The bananas are already being harvested for market and domestic consumption. At the bottom of this piece is a clump of Eucalyptus trees that were planted to deal with a marsh-like water clogged area grow where we intend to set up an apiary and maybe a fish-pond. Modern bee-keeping is novel to the area and is seen as a model that will lead to greater adoption by the locals. It will be interesting to note any changes in the pollination pattern that bees will bring. This piece of land measures approximately three acres also has Napier grass and indigenous grass that is used for zero-grazing. The unploughed part of the farm is very rich in bio-diversity (including sightings

of snakes!!!!!). It needs fencing to secure it better from the occasional breach by grazers and also banana thieves. The bananas are already being harvested and a great variety of multi-cropping is happening on that piece. We have put in traditional vegetables - osuga, amaranthus etc.

The Lake Victoria piece has two distinct segments; there is a portion that has in the past been under the plough and planted with millet and maize, but is currently lying fallow. It has been used as grazing land though in a limited manner. It has plenty of Aloe species that are indigenous to the region as well as other plants. Commercial Aloe farming has not been tried in the region and could be a possibility.

The Aloe is indigenous to this region and is used medicinally as well as for decorating houses. The lower part of the farm that touches a stream has not been ploughed in several years, or maybe not at all and is very bushy and harbours some monkeys and plenty of birds. It has different types of grasses and papyrus reeds as well as some indigenous trees. Since it is adjacent to a stream it is very lush and has a lot of diversity in growth. It also has plenty of animal life. This is the place with the best potential for an undisturbed ecosystem site. It has the potential of creating conflict with neighbouring farmers who would see a forest as sanctuary for monkeys who interfere with crops. Once fenced off it can be subjected to a biodiversity study, including the experimental development of a 'biodiversity index' that tracks the biological wealth of the site and could also serve as a tradeable financial instrument. This land has a large bird population and could easily be a breeding site for several of them. We intend to use the formerly ploughed parts to establish a tree plantation or maybe grow cassava. The decision on what trees is yet to be made and some level of interaction with the forestry department will be sought. There have been suggestion for planting *Jaytropha* or other drought resistant species, but the introduction of an exotic tree is still subject to discussion. There is also the suggestion of indigenous Olea or mango and guava trees all indigenous to the region. Studies could be conducted on what trees that were in the region since the land is relatively undisturbed. This is the most high potential site.

The third site has been over-grazed and mainly provides a study site for experimentation with bio-diversity recovery after protection from over-grazing. It would be part of the study to conduct a bio-diversity index before and after and see how recovery takes place and even to note the pace at which that happens. Currently it has shrubs and an invasive flower locally called - *obinju* - that is common in the region and that tends to survive because it is not foraged by goats or sheep.

KENYA

Dryland hillside near Nairobi

Lukenya,
near Nairobi, Kenya
Sammy Muvelah
Email: Sammy Muvelah sammym@zimele.net

This site is about 50 acres of land on a rocky hillside in an area of drying grazing land. Traditionally the area was used by herders and wildlife and is today surrounded by two large private game ranches. In the past, the land had been converted to group ranches which failed. The area was then shared out as family farming plots which are also failing as the rainfall is insufficient to support maize cropping.

A variety of experiments has already begun on this site, the most important of which is water harvesting. One large and another small dam have been built below a large flat rock which collects rainwater. Work has also begun on a community dam. These dams will be used to support tree nurseries, local vegetable growing for use and sale, and household water consumption. The area that had been cropped has been left to recover and will eventually be planted in a variety of trees suitable to the local ecology. These are being tended in a tree nursery on site. Elsewhere, castor and *jaytropha* have been planted as experiments in biofuels, both for their oil and potentially as charcoal based on crushing the seedcases into briquets. If successful, these fuels will protect indigenous acacias which are otherwise cut down for firewood and charcoal. Where the land on site is relatively undisturbed, a great variety of shrubs and plants, including medicinal plants, can be found. In these areas, two small pans will be created to increase local humidity and attract wild life.

The area is rich in bird and plant life, with several different types of antelope seen on a regular basis. An inventory of the plants and trees is needed to know what is growing and can be grown here as well as identifying how to support the variety of plants and animals indigenous to the area.

The work on the site is done in collaboration with the local community, who have particular interest in the water harvesting techniques and the new crops.

TANZANIA

Coastal seaweed farming

Mlingotini,
Bagamoyo, Tanzania

Msichoke Seaweed Farmers Cooperative & Mwajuma Masaiganah
Email: c/o Mwajuma Masaiganah mwinoki@yahoo.com

Msichoke Seaweed Farmers is a Community Based Organisation that is based in Mlingotini village, 17 kilometres away from the historical district of Bagamoyo. Mlingotini is a sanctuary for various activities like boat building and also a zone for tourists, with many hotels coming up. This poses a threat to the environment due to human activity if proper management structures are not put in place.

With its members' strength, commitment and the need to search for markets, Msichoke has grown into becoming a registered Cooperative Society. The CBO was started in 1996 by the awareness created by the late Rifai, a villager who brought the idea to the community after learning about the economic importance and viability of seaweed. There are 57 members, and among these ten are in the Management Committee headed by the chairperson, Vice Chairperson, the Secretary, the Treasurer and Assistant Treasurer. Seaweed is grown under water and during low water tides and is harvested during same times, after every two months.

Seaweed and its economic importance

There are two types of seaweed grown by the group namely: - *Cottonii spp*. and *Spinnposam spp*. The best *cottonii spp*. is sold at TShs. 280 per kilo (the lowest price). The group used to get the ropes (that

they call tie-tie) from middlemen who bought the seaweed at TShs. 400. This is higher than the lowest price, but the group felt that they were being exploited and refused to receive tie-tie from them and dictated the price to be TShs.600 by the group buying them and distributing them to its members who pay back when they have sold the product. This is a result of the seaweed growers' understanding that they are investing a lot of energy and time into production and earning very little. Seaweed, after harvesting it is dried, stored and then sold to these middlemen who export it for use in pharmaceutical productions, used in cuisines, etc.

Work structure in the group

Apart from providing employment to community members, it has contributed to the group to become more dynamic, committed, created trust in/and support each other. They have divided themselves into three working groups:

- High farmers: these have up to 300 ropes of seaweed (youths and men with long term experience)
- Middle farmers: they farm between 100 to 150 ropes (usually these are women)
- Low farmers: have between 30 to 70 ropes (these are usually old people).

Production has increased yearly, for example in 2006 production was 13,000 kilogrammes and in 2008 the estimated production is at 21,000 kilogrammes.

Seaweed farming and environmental conservation

In every area where there is seaweed farming, there is an increase in biodiversity (in Swahili *huongezeka bioanuai*). This is because there is an increase of phytoplankton and thus fish increase as the area is not disturbed by other human activities like fishing. The seaweed farms also act as a habitat as fish breeding areas. Thus seaweed farming supports in improving and increasing fish stocks and other sea creatures like mussels. Mussel collection is done at beach areas when it is low tide. It is boiled, removed from shells, fried and sold, (a palm sells at TShs.500).

Msichoke also cooperate with the government in environment protection e.g. prevention of illegal fishing methods and preservation of mangrove.

Group capacity

Action Aid has capacitated the group by giving them training, providing them with a computer and printer (some group members are computer literate through a trainer provided to them by Mwasama School), and they do write their reports now using computer. They receive different groups including academicians e.g. students from Nyegezi University and Sokoine University visited Msichoke to learn about seaweed farming. They learn also from exchange visits with groups in Zanzibar where seaweed farming was first introduced.

Our Way forward

- The group intends to look for export markets in order to eliminate middlemen.
- The group wants to expand the production capacity three-fold in five years time.
- Msichoke will continue collaborating with fishermen and the government in creating awareness in environmental conservation in order to increase the fish stocks.
- It will also continue to campaign against illegal fishing methods that are destructive to the environment especially dynamite fishing that is done in nearby waters and in other coastal areas.

TANZANIA

Forest land near Morogoro

Rose Lyimo
Email: iseaart@yahoo.com

To come