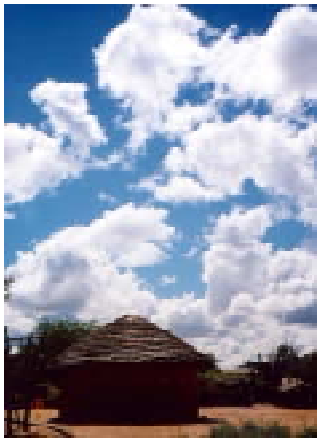
<<No.23>> June 1, 2001

# AAINews

*APPROPRIATE AGRICULTURE INTERNATIONAL CO., LTD*
1-2-3-403 Haramachida, Machida, Tokyo, 194-0013 JAPAN.
TEL/FAX:+81-42-725-6250 Email: aai@koushu.co.jp

## Under the Bluest Sky of Zimbabwe



That endless, inviting blue sky was still there; the sky of Zimbabwe, which never fails to clear my mind. The source of the Zimbabwean's bottomless and timeless cheer must be this blue sky.

Last February I was given an opportunity to visit Zimbabwe for about two months, after an interval of one year away. This time I spent more than half of my visit going around the area surrounding the small asbestos mining town of Zvishavane, some seven hours travel by bus from the capital Harare.

Zvishavane, which belongs to the Natural Region IV-V, is a semi-arid zone with annual rainfalls of 400-500mm, which makes it one of the driest areas in Zimbabwe. Most of the people living in this area are engaged in cereal production and cattle farming, and they seldom get sufficient harvests as their agricultural activities are totally dependent on natural rainfalls. However, there are some people who have devised their own ways of securing and utilizing the scarce rainfall. Such diligent agriculturists, called 'Farmer Innovators' in the Zvishavane area, are managing their farming life in their own unique ways. Some of them have been doing so for decades. The scarcity of rainfall naturally means that there are various restrictions to their rainwater farming activities. But if the little rainwater can still be collected, reserved and utilized efficiently, it makes a significant difference in their agricultural productivity. It also frees women from the hard labor of carrying drinking water from wells several kilometers away. Although the term 'water harvest' is foreign to them, the Farmer Innovators are practicing it on their farms. Even the slightest rainfall upon their roofs is collected and stored in water tanks. Rainfall upon the ground is led into their fields through slopes or ditches. Creating shallow wells or small ground dams surrounded by mounds for rainwater storage keeps the ground moist at the same time. Such dams can also serve for fish farming, or for providing drinking water for cattle. With the water and moisture secured, it is possible to grow various plants and keep livestock, and to conduct organic farming without using chemical fertilizers. By storing and utilizing rainwater this way, the variety and productivity of the farmers' lives and natural environment can be enriched.

Some of the Farmer Innovators gained their agricultural techniques from what the Westerners had left behind, but there was nobody to instruct them or no textbooks to consult. Answering my question "Where have you got that idea from?" one farmer said to me, "It came from my need, my hunger and sense of crisis that I must feed my family." People living in harsh climates or environments desperately seek ways for survival, and their needs may be the very source of their wisdom. The Farmer Innovators never hoard their own ideas, but have confidently been trying to spread their techniques, hoping that as many people can put their ideas into practice as possible. The only worrying thing is that most of these Farmer Innovators are elderly people while the number of young people is small.

**A 'Farmer Innovator' with his handmade water pump**

Any way, the blue sky of Zimbabwe still finds children underneath, with their white teeth flashing in their full smiles.

(By Fuyuki KOJIMA, in Zimbabwe, June 1999)

# Co-existence of Nature and Humans: Towards the 21st Century (5)

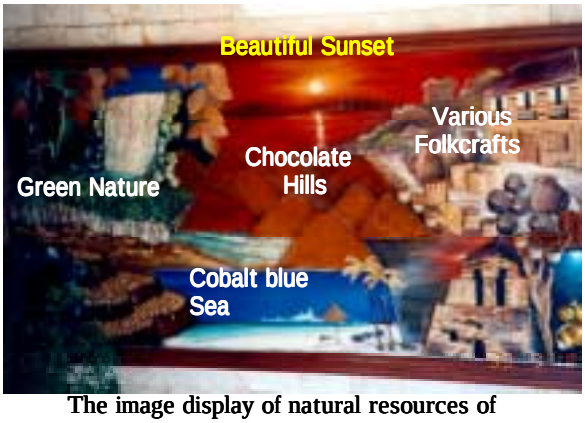
## Part 5: Ecotourism on Bohol Island, the Philippines

Bohol is an island of some 4,100km2 (the tenth largest in the Philippines) with a population of one million, located to the east of the popular tourist destination Cebu. The main industry of Bohol is agriculture, which is mainly conducted for domestic consumption on Bohol, and the island hosts no other active industries. According to some surveys, the average annual income of the farmers of Bohol is 30,000-40,000 pesos (about 100,000 yen) per household. Half (or up to 70%) of their income is spent on food, making their Engel's co-efficient rating very high. Until February 1999 there was a direct flight connection from Manila to Bohol, but at present this route is closed due to some problems relating to lease contracts of aircraft. Now the island can be reached only by a high-speed ferry from Cebu Island (approx. 1.5 hours distant).

The capital of the state of Bohol is Tagbilaran with a population of 60,000-70,000, and there are two big supermarkets, which sell various goods including foodstuffs, clothes, toys and other everyday items. The invitation to participate in a mass-consumption society can be felt even here. The main means of public transport are minibuses converted from light trucks, jeepneys, tricycles (a type of motorbike taxi with a sort of sidecar attached to carry passengers), but recently the number of cars has increased and there are now some normal car taxis with air-conditioning.

Also found on the island of Bohol are the wonders of nature; the beautiful sea in which one can enjoy scuba diving, appreciating corals and tropical fish; magnificent scenery consisting of rows of over 1,000 cone-shaped peaks called the Chocolate Hills; the Tarsier which is the smallest primate in the world; and stalactite caves etc. Recently there has been a movement to develop ecotourism on this island by using such rich natural resources as tourist attractions. As described above, farming is the only cash income source for Bohol, and ecotourism is drawing attention as a potentially new source of income. At the same time, seeing the island's nature as an important resource, some people have started environment conservation activities in order to utilize the resources in a sustainable manner. Even if gaining potential alternative income sources may be their direct motive, it is praiseworthy that such a natural resource conservation movement has started within the local community. However, at present their 'ecotourism' consists simply of showing existing natural tourism resources to tourists. For further development of ecotourism it is necessary to train instructors who can guide the tourists in meaningful ways.

The neighboring island of Cebu is crowded, with a number of expensive hotels and golf courses for tourists. Outside Cebu City are mostly poor farm villages. On the island of Bohol there seems to be a sort of sense of competition with Cebu Island, and thus Bohol may have a good basis to develop its own tourism, while learning and stressing its distinction from its neighbor's 'destructive tourism development'.




**The image display of natural resources of Bohol as tourist attractions**

**The rare primate species: the Tarsier**

# Agriculture and Forestry in Pakistan (5)

## Part 5: Forestry in Punjab

As an agriculture and environment specialist, I participated in the Rehabilitation Project of Taunsa Barrage Irrigation System, and, as part of its environmental impact assessment, I had a chance to learn about the reality of the forestry industry of the area.

A huge quantity of forest resources are consumed.

In the area surrounding the Taunsa Barrage, a huge quantity of forest resources are consumed as an energy source or as other raw materials for the local small- to medium-scale industries such as brick factories. This is in addition to all the wood that is consumed as household fuel in the local communities. Therefore, conservation of the existing forests and plantation activities in this area play an important role in supplying raw wood resources for the region. The Forestry Bureau classifies the local forests into five types: pastureland plantations, irrigation plantations, roadside plantations, watercourse-side plantations, and riverbank forests. In terms of acreage the pastureland plantations account for over 50% of the total area. They are found mainly in the Suleiman mountain range. This type of forest is comprised mainly of bushes planted for the purpose of soil conservation and for utilization in livestock farming. In the area along the River Indus, Obhan (Populas euphratica), Farash (Tamarix spp.), Kikar (Acacia nilotica) etc. are the major components of the natural vegetation. In the irrigation plantation area along roads and watercourses, Shisham (Dalbergia sisso) and Kikar (Acacia nilotica) are planted. These are used as construction materials and fuels. Most parts of the riverine forests are made up of the natural vegetation of Obhan (Populas euphratica). Regular flooding is necessary for this species to grow. However, such flooding has come under control in recent years, which has caused depletion of the riverine forests, and today much of these forests are designated as protected forest area. Also, Siris (Albissia lebbek) is often planted in farmlands as it is used as cattle forage.

The Forest Bureau has carried out various activities such as maintenance of existing forests, marketing of forestry products and promotion of plantation activities. However, in addition to the depletion of riverine forests due to flood control, demand for fuel wood is far exceeding its supply, and if no measures were taken, it would be difficult to carry on using the forest resources in a sustainable manner. In particular, immediate actions should be taken to increase the amount of forest resources by forestation and to decrease the amount of fuel wood use. For this purpose it is necessary to promote plantations in farmlands by introducing agroforestry. It is also necessary to introduce agroforestry in areas that are unsuitable for agriculture due to waterlogged conditions or salt accumulation in the soil. Furthermore, efforts should be made to lower the wood consumption level while using forest resources more efficiently, as well as to introduce alternative fuels.

Irrigation plantation (Shisham)

Watercourse-side plantation (Kikar)

Riverine forest (Obhan)

# Mini-Series: Natural Environments of Wetlands (1)

## Part 1: Tana Delta, Kenya

Most of AAI's activities have been concerned with agricultural development and environmental conservation of arid or semi-arid areas ranging from West Asia to the Middle East and Africa. However, on a limited number of occasions we have also been involved in activities related to the natural environment of wetlands rather than dry lands. In this new Mini-Series we would like to introduce topics related to such wetlands.

As already mentioned in AAINews Vol.19, in the lower basin of Kenya's largest river, the Tana, there is a wetland called the Tana Delta. The delta discovered by forests, which are nurtured by regular flooding. Although biological diversity might be less when compared to that of rain forests, such riverine forests consist of very unique plant species. However, due to flood control in the development process of the Tana River basin and the exploitation of forest resources by local communities, today the riverine forests of this area are being depleted continuously. Therefore the survival of wild animals living in these forests is also being threatened. Particularly affected are rare tree-top dwelling primates such as the Tana River Red Colobus and the Crested Mangabey, both of which are listed in the IUCN Red Data Book as endangered species. The wetland ecosystem plays an important role not only for such primates but also for other large mammals, birds and aquatic animals. In other words the wetland provides a very precious environment for the conservation of biodiversity in the area. Rich fisheries resources from rivers and lakes serve the local communities as valuable sources of protein. Also, the riverine forests provide various resources for the life of local people, in the form of construction materials, fuel wood, foodstuffs or medicinal plants. For smoking fish, local people use branches of some special trees also taken from these forests. Apart from such direct uses as providing consumptive resources, the wetland has other important functions such as controlling floods and soil erosion and recharging ground water resources.

The wetland ecosystem around the riverine forests plays a key role in the survival of the wildlife and provides the local communities with various economic benefits. If the wetland resources were depleted, or the wetlands' ecological functions were damaged, it would bring about a significant economic loss or necessitate a huge economic burden in order to compensate for the lost benefits from the wetland. In fact, loss or damage of wetlands as a result of development activities is now perceived as a serious environmental problem all over the world, and in environmental guidelines of development project assessment, wetlands are described as ecosystems to be treated with special care. In developing countries where many people live in direct contact with, and are dependent on, wetlands, there are particularly strong economic relationships between local communities and their local wetlands. Today, environmental problems are placed high on the global agenda, but in order to grasp the special relationships between local communities and their surrounding natural environments, which vary from place to place, we hope to improve our methods of environmental assessment.

The Tana River and riverine forests

A great variety of bird species

Tana River Red Colobus living in the tree-tops

Grazing Waterbuck

Rich fisheries resources from lakes and rivers