

WETLAND PRODUCTS



Photo: WWF/Martin Harvey

BESIDES PERFORMING THE MANY VITAL FUNCTIONS AND ROLES described in earlier pages, wetlands provide a variety of other benefits to humans in the form of products that can be exploited for human use. The range is enormous: fruit, fish, shellfish, deer, crocodile and other meats, resins, timber for building, fuelwood, reeds for thatching and weaving, fodder for animals, etc.

Exploitation is carried out at all levels – subsistence level, cottage industry, and the larger commercial scale – in all parts of the world.

Arguably the most important product on a global scale, fish form the primary source of protein for nearly 1 billion people and constitute a significant part of the diet for many, many more. The

majority are marine species, which supply 20% of all animal protein consumed globally. Two thirds of all fish consumed are dependent on coastal wetlands at some stage in their life cycle, a globally important function that far surpasses the actual area covered by these wetlands. Similarly, coral reefs, although covering only a small area of the Earth, are critical sources of fish in developing countries.

Productivity levels in wetlands are high. It has been estimated that well managed reefs can produce 15 tonnes of fish and other seafood per square kilometre per year. Annual protein production in swamps and marshes has been estimated at an average of 9 tonnes per square kilometre, and estuaries are thought to be twice as productive. This productivity drives offshore fisheries: in the USA landings of crab, salmon and shrimp were valued at US\$ 13 million in 1991, and these species are dependent on coastal wetlands for at least part of their life cycle. Similarly, the mangroves of Moreton Bay in Australia were valued in 1988 at US\$ 4,850 per hectare from the catch of marketable fish.

In Brief

- ✓ **The list of products from wetlands exploited by humans is immense. Exploitation is carried out at all levels from a commercial scale to cottage industries to subsistence levels.**
- ◆ **One billion people eat fish as their primary source of protein. The majority are marine fish, two thirds of which rely on coastal wetlands at some stage in their life cycle.**
- ◆ **Well managed coral reefs can produce 15 tonnes of fish and other seafood per km².**
- ◆ **Mangroves in Moreton Bay, Australia, were valued at US\$ 4,850 per hectare from the catch of marketable fish.**
- ◆ **Rice, a wetland plant, is the staple diet of 3 billion people; the sago palm is the principal carbohydrate source for some Asian countries.**
- ◆ **In the USA, landings of crab, shrimp and salmon were valued at US\$ 13 million in 1991; these species are dependent on wetlands for at least part of their life cycles.**
- ◆ **The international trade in crocodilian skins is worth US\$ 500 million per year.**
- ◆ **In Brazil, the 1 million hectare Mamirauá Reserve is the source of wetland products worth US\$ 4.4 million per year.**

WETLAND PRODUCTS...

The staple diet of 3 billion people, half the world's population, is rice; it grows in wetlands in many parts of the world. The sago palm in Asia provides some communities with their principal source of carbohydrate or is an alternative to rice at certain times of the year, while palms in Africa's wetlands provide essential oils for cooking. Certain plant species provide a whole range of products, such as the Nipa palm in Asia, providing fodder, alcohol, vinegar and sugar. It is estimated that this palm can produce 3 tonnes of sugar per hectare.

The mangrove is an amazingly versatile plant from a human perspective. Growing all over the world in tropical areas, the range of mangrove products used by humans includes thatch for roofing, fibres for textile and paper-making, timber for construction, fuelwood, medicines from bark, leaves and fruits, as well as dyes and tannins used to treat leather. In the Bangladesh portion of the Sundarbans, a 650,000-hectare mangrove forest spanning the border between India and Bangladesh, exploitation of the wetlands involves a 20-year mangrove cycle producing 45% of all the timber from state-owned forests and the sole source of newspaper print in the country. It employs 45,000 people during the peak harvesting season, and a further 10,000 fisherman live in the forest for 3-4 months each year exploiting the abundant fish.

Crocodylians (including crocodiles, alligators, caimans and gharials) are dependent on wetland habitats, and most species demand large areas of undisturbed wetlands to maintain populations. They are valuable to people both for meat and skins. The international trade in skins is now worth US\$ 500 million annually. Many countries, such as Papua New Guinea, Zimbabwe, Venezuela, Australia and the USA, now operate exploitation programmes that encourage the sustainable use of crocodiles through a mixture of controlled hunting of crocodiles, ranching (which involves bringing eggs or hatchlings from the wild and raising them in captivity) or captive breeding. These practices have not only ensured sustainable utilisation of crocodiles but also justified the maintenance of wetland habitat for the species.

In Europe, reed-growing for building materials was an activity associated with an earlier era. Today it is undergoing a revival in some countries as people realise the full potential of reeds as a roofing material: aesthetically pleasing, thatched roofs are superior insulators to conventional tile roofs, and they have a lifespan of 25-40 years. It is a growing industry in the Netherlands, with currently over 300 thatching companies using home-grown reeds as well as reeds imported from Hungary, Austria, Poland, Romania, and Turkey.

While this is an impressive list of wetland products and productivity, it is important to realise that many wetlands provide a whole range of products that are exploited at different levels of intensity. Fish are exploited at all levels, subsistence, commercial and recreational, in the Okavango river and Delta wetlands in Botswana. Of a total of 82 species of fish in these wetlands, 19 are commercially important for human consumption, 25 species have value as aquarium species and 16 are exploited by sport fishermen. Additionally, these Okavango wetlands provide other products. The Marimauá Ramsar site in the Brazilian Amazon, a one million hectare flooded forest area, provides resources worth US\$ 4.4 million annually, including fish, timber, manioc and caiman meat, with fish production accounting for 78% of the total value. The US\$ 4.4 million is split almost equally between commercial and subsistence production. ◆



CONVENTION ON WETLANDS
CONVENCIÓN SUR LES ZONES HUMIDES
CONVENCIÓN SOBRE LOS HUMEDALES
(Ramsar, Iran, 1971)

Wetland Values and Functions

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