

Lessons Learned from Mangrove Ecosystems

Part 2: Importance of Mangrove Ecosystems in Asia, Middle East and East Africa

It is impossible to discuss Oman's history without mentioning the Indian Ocean trade activities that extend all the way from India to East Africa. This extensive trading network uses the northeastern monsoon of winter to sail from India to East Africa, and the southwestern monsoon of summer to return in the opposite direction. Trade activities reached as far as Zanzibar. Agricultural produce of Oman (crops, fruits and dates) and frankincense, as well as fabrics, copper ware and glass wear imported from India and China were traded for gold, ivory, fur, ebony, hard charcoal and teak. At one time, Omanis had a complete monopoly over trading activities in this area. Omanis not only had a wealth of information regarding sea routes and had a high-level of navigation technology, but also excelled in ship building. The sailor Sinbad in the Arabian Nights is said to have come from the port of Sur. Given that the old name of Sur meant two mangrove trees, mangroves must have been abundant in the area in those days.

The relationship between the trading activities and mangroves is not clear. However it is possible that mangroves were used as a material to make dhows, to create tannin to strengthen ropes and sails, and to make coating materials to protect the hull. Most of the mangroves occurring in Oman are *Avicennia marina*. There is a record of boiled branches and leaves being used as medicine. This medicine might have helped the sailors to stay healthy. In 2001, a team of Italian archeologists uncovered a fossilized boat. Apparently, the framework of the boat was made of *Avicennia marina*. At present, existing mangrove forests are utilized as nature reserves and coastal recreation areas. In Salalah, until recently, mangrove leaves were used as fodder for camels and seeds are given to camels and mountain goats to produce high quality milk. Mangrove crabs and mangrove oysters fetch high prices at markets and therefore are often illegally caught. On Mahut island, fishermen move to coastal areas from the inland during the fishing season and erect temporary shelters made with the straighter boughs of *Avicennia marina*.

On Zanzibar Island in East Africa, *Avicennia marina*, *Rhizophora* and *Lumnitzera racemosa* are seen. *Avicennia marina* is mainly used for building canoes, supporting materials for boats, handles of farming tools and for fuel. *Rhizophora* has high utilization value as material for pillars as straight lengths of wood can be obtained from the plants. Aerial roots are used for making fish traps. As it is, mangroves have been used for many purposes since long ago in the area extending from India to East Africa. Mangrove habitats are within the ecotone between the sea and land. The ecotone is affected both positively and negatively from the sea and land and is an ecosystem that exists on a fine balance. This means that the ecotone is vulnerable to development activities and therefore designated as a particularly important ecosystem to consider in environmental impact assessment processes. We can also understand the importance of mangroves in production activities, given that mangrove ecosystems play a highly important role in nurturing fishery resources, and that mangroves have been used as an important source of fodder for livestock in coastal areas. Furthermore, in recent years, there has been an increased interest in developing beach resorts for recreational fishing and scuba diving. Restoration of natural sceneries by means of mangrove plantation in coastal areas can play a role in resort development. It is expected that the economic value of mangrove ecosystems will increase as years go by. It is necessary to evaluate the values accurately in each locale for development and to formulate future plans based on a sound environmental evaluation.



Use of mangrove by camels in Salalah



Temporary shelter on Mahut Island