

Value Chain Analysis for the MRTF & Proposal for Mangrove Restoration Manual

In order to understand the value chain of the mangrove products in the MRTF area, interviews with the different stakeholders (cutters, transports, sellers, and users), key informants (local authorities) and community members can be conducted to get the following information:

- General information of the community,
- Exploration of mangrove ecosystem,
- Transport of mangrove ecosystem products,
- Trading of mangrove ecosystem products, and
- Awareness level on the needs of conservation of mangroves.

Economic and Value Chain Analysis for Mangrove Forests of Mozambique

The mangrove resources of the WIO region are abundant in ecosystem goods and services and are of great importance to the socio-economic well-being of the countries in the region. Their importance derives both from the direct products from the forest such as timber, and from the ecosystem services provided by mangroves from within and beyond its boundaries. The main socio-economic impacts of the loss and modification of mangroves are, therefore:

- loss of livelihood options provided by this habitat,
- shortage of mangrove wood products (provisioning services, i.e. construction, boat building etc.),
- decrease in revenue from forestry and fishery activities,
- increased coastal erosion,
- increased conflict due to diminishing mangrove goods,
- increased poverty, and
- loss of cultural heritage.

The study area is around Mozambican mangroves forests, including Zambezi Delta, Quelimane, Chiveve river (Beira), Limpopo and Incomati river estuary.

Depending on the location, importance of the mangrove for the community and the forest dynamic, the benefits that they obtain from the forest can vary.

The mangroves products value chain

The Zambezi delta and Quelimane represents the location where the mangrove marketing is much notable, where depending upon the route followed by mangrove products from users to consumer, various actors are involved, including transporters, wholesalers, retailers and sometimes middlemen.

Several different routes followed by mangrove products were noted. The first route was from users (harvesters) to consumers, whereby users take the mangrove products directly to the consumer. The second route was from users to primary buyer to secondary buyer to consumer in which there are both wholesaler and retailer markets. The third route was from users to wholesaler to retail seller to consumer. This is the more complex option in which sometimes middlemen link the users to the wholesaler and the later to the retailer.

The mangrove products exploitation in the Zambezi delta is sustainable once the quantities and the number of people involved are not too significant. In Quelimane (Zambezi river sensum latum, i.e., larger delta) the issue of exploitation of mangrove products is much bigger, where are visible mangrove products markets where volumes of mangrove poles, charcoal and fisheries are sold.

In the Chiveve river the scenario is completely different, where the directs benefits of the mangrove products are not seen, over there the mangroves are important indirectly for protection against the climate events (floods), green infrastructure within the city that provides good air and temperature, apart from the landscape beauty that it provides.

In the south of Mozambique at Limpopo and Incomati river mangrove products marketing do not have the same visibility as Quelimane, although is common to the community going to cut mangroves poles for their domestic uses. The Limpopo suffered a big flood in 2000 what caused a big loss in the mangrove area and the community learned a lot from this experience and they are engaging in restoration programs. In the Incomati river the mangroves products marketing was very common in the past, but in the present not that much what could be because of the awareness conducted in the area and the existence of alternative means of income generation.

Main mangrove ecosystem products used

Both men and women are involved in mangrove products use. However, the main products used vary according to gender. Because women are responsible for feeding the family, they are mostly involved in the collection of subsistence products such as firewood and small crustaceans. Men are more involved in the collection of products that will provide some cash income such as wood, poles with a larger diameter, poles with a smaller diameter commonly referred to as *laca-laca* (used in building construction), fish,

prawns and honey. Charcoal production is the only activity in which women and men are both involved with the same share amongst the interviewed groups.

Economic analysis of the mangrove products value chain

The price of mangrove products varies significantly along the value chain and also depends on the market where the product is sold. E.g. the price of poles received by harvesters varies between 10 MZN to 30 MZN if it is sold in the local market or external market respectively. Similarly, the price of small poles (*laca-laca*) varies between 5 MZN and 10 MZN. The highest prices were received at wholesaler and retailer level.

The price of fish and shrimp vary on the site and depends on the storage and transportation means. If it is dried can be sold in various levels and can be taken for long distances, then if it is fresh lack of electric power and storage places is a constrain.

The marketing of mangrove products

The commercialization of mangrove products plays a major role in local economies. Building materials such as large poles and *laca-laca*, charcoal, fish and prawns are mostly commercialized and the men are mostly involved.

Constraints associated with the marketing of mangrove ecosystem products

Some limiting factors to increasing the volume of business for harvesters were noted from the FGDs, as follows:

- Inadequate access roads
- Weak transport system
- Available means of transport but lacking the capacity to carry large amounts of products
- Lack of energy for the conservation of seafood
- Lack of capital to buy the desired quantities to resell