

## WETLANDS

### Definition

1 . A wetland is defined as any territory whose biotope and distribution of living beings are characterized primarily by the presence of water, whatever its salinity or persistence during the year. The United Nations Convention on Wetlands of International Importance ( Ramsar Convention ) defines wetlands as " areas of marsh , fen, peatland or water whether natural or artificial , permanent or temporary with water that is stagnant or flowing, fresh, brackish or salt comprising areas of marine water the depth of which at low tide does not exceed six meters ". Among the most important wetlands, we must mention the salt and freshwater marshes, fens and bogs, wooded or covered swamps with vegetation, mangroves, lagoons, floodplains, deltas and estuaries.

### Assets

2. Wetlands are natural areas of great importance from economic and ecological point of view. The most important roles they play are:

- Production of environmental benefits: Wetlands stimulate local rainfall and can purify water in an efficient and low cost way (wetland vegetation), constitute areas of pleasure (hunting, fishing, and boating), protect against floods and prevent coastal erosion (mangroves).
- The conservation of biological diversity. Salt marshes and freshwater as well as lagoons and estuaries are areas of vital importance for many species of shrimp, fish and aquatic birds that breed there , or that constitutes staging

areas during migration . All types of wetlands are may harbour unique plant and animal species.

- production of resources. Wetlands are among the most productive ecosystems in the world. Estuaries and tidal lagoons, particularly mangroves, are important nursery areas for many species of fish and shrimp, which are later caught offshore. Shallow waters are, in general, places rich in fishing resources, floodplains, areas of valuable pasture, and swamp forests, sources of valuable timber.
- social and cultural functions . By their high landscape quality, wetlands are places of relaxation, discovery and recreation.

It should be noted that they also play a key role in the institutional point of view. Fish, for example, do not respect national borders or travel long distances during migration periods. This means that the destruction or degradation of wetlands in a country can directly affect the biological resources of another country.

3. Yet, despite their importance, wetlands are everywhere threatened by the conversion to intensive agriculture or aquaculture, and by industrial development and hydrological changes caused by degradation or due to overuse.

Relevance to BOAD's investment

4 . The issue of the conservation of wetlands concerns a variety of projects, such as :

- projects that alter the hydrology of a wetland (roads or high dams, fight against floods, lowering of groundwater and irrigation and water systems;

- the conversion of wetlands for agricultural purposes , for port facilities, navigation projects and aquaculture ( mangroves that are intended to shrimp farming ) ;
- projects that do not directly affect wetlands but which disrupt its ecological conditions, by emitting pollutants, for example , introducing alien species ( aquaculture project) , by introducing human activities that will disrupt their physical condition , excluding projects that contribute to the formation of precipitation or sea rising level ;
- The watershed management company for other projects of an ecological nature.

#### Bank experience

5. BOAD experience in wetlands conservation and management was formed through the funding of a number of projects related to wetlands and where questions of management have played a key role.

#### BOAD principles, procedures and guidelines

5. BOAD procedures are supported by international measures such as the Ramsar Convention encouraging member countries including those of West Africa, to designate significant wetlands within their borders for a worldwide of areas valued for their biological characteristics or their scientific interest. However it is essential to remember that most wetlands perform essential functions, those "classified" or larger are not the only ones to consider when developing a project.

#### Guidelines for environmental impacts assessment

6 . When a project is likely to affect a wetland, it will be necessary to ask the following questions:

- Is the wetland part of the Ramsar list ? (a list you can get from BOAD Department for Environment ) .
- Will the hydrology of the wetland be affected by changes?
- Will the project be a source of pollution, increase the level of nutrients or create physical disturbance of the wetland?
- Are there plans to convert all or a portion of the wetland?
- What is the socio -economic value of the wetland as it is currently? What could be the sustainable yield if better managed? What would be the replacement cost of the benefits and free resources that provides the wetland, in case it disappears?
- What existing institutions are or would be able to manage or protect wetlands and what are their capabilities and limitations?
- Are local people willing and able to adapt their traditional exploitation systems to changes that the project could lead to?

7. It will be appropriate, whether there are plans to convert wetlands for agricultural purposes, to incorporate into the economic analysis the opportunity costs that would represent their sustainable exploitation. Nevertheless, many of them consist of soils with acid is low and, therefore, not suitable for agricultural activities. Land drainage and exposure to air exacerbate the acidity, especially in the case of mangroves.

8 . It will be necessary to modify the design of a project that may have a significant impact on wetlands to avoid, curb or compensate the unavoidable impacts. The project may include one or the following options:

- choose other locations to avoid impacts to wetlands ;

- develop ways to not change the flow and hydrological regimes essential to the conservation of the wetland (eg, flow control structures, road crossings built on pilings or trestles rather than fill. )
- improve or protect other wetlands elsewhere in poor condition to compensate for losses to the project site;
- create artificial wetlands to replace those lost (if experience shows that this is possible for the type of wetland in question);
- strengthen the institutions responsible for the management and protection of wetlands;
- involve local NGOs in establishing institutional arrangements applying to the conservation of wetlands;
- encourage incentives and strategies for wetland management at the national level ;
- require that the issue of wetlands to be considered in national and local planning and decision-making processes in the legislation and its implementation;
- develop environmental sensitization programs that would disseminate knowledge showing the importance of wetlands.

BOAD Guidelines on natural sites contains further guidance for project managers.