

White Paper

An Overview of Management of Inland Fisheries

By BJ van Zyl, BW Oelofsen & CJ Hay

The Namibian Constitution in Article 95 states that "The State shall actively promote and maintain the welfare of the people by adopting inter alia policies aimed at the following:

- (f) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future".

This provision of the Namibian Constitution is echoed in the Rio Convention on Biological Diversity, which states: "Many indigenous and local communities with traditional lifestyles have a close and traditional dependence on biological resources and need to share equitably in the benefits arising from biodiversity. Governments have sovereignty over their biodiversity and states are responsible for conserving their biodiversity and using their biological resources in a sustainable manner."

Because of the more amicable climate and the availability of water along the northern rivers, about 50 per cent of Namibia's total population of 1,4 million live near these rivers. In spite of the bleak picture of a dry interior, at least 100 000 people derive part of their food, income and informal employment from the inland fish resource. Inland fisheries are practised mainly on a subsistence basis. It is typically labour intensive, with a low catch per unit of effort. The fishers, their immediate families, extended families and their communities mainly consume catches. Freshwater fish forms an important factor in the daily lives of many people. To maintain this, the interests of subsistence fishers need to be protected against uncontrolled commercialisation.

The freshwater fish fauna of Namibia is diversified and merits conservation, especially the species that have already been identified as indigenous and endangered. Efforts should be made to preserve the genetic diversity of the fish and fauna and to prevent genetic pollution. To reach the goals of responsible management, utilisation and conservation of the Namibian freshwater fish resource, the Namibian government intends to create a cost-effective management regime, involving traditional, regional and central authorities, and to ensure the optimal benefit from the resource to present and future generations of Namibians. These potential benefits could come from catches, tourism, aquaculture, fish trade, fish products and the development and sale of aquarium species. In all exploitation the utmost care should be taken to ensure that the benefits accrue to as wide a spectrum of Namibians as possible.

Policies and strategies

Management strategies proposed in the White Paper on Inland Fisheries Policy in Namibia have taken cognisance of local traditions and the role of traditional and local leaders in

regulating fishing in different areas against the backdrop of the Namibian Constitution. The Minister of Fisheries and Marine Resources held a series of meetings with local authorities, traditional leaders and interest groups, especially in communal areas, to present the first draft of the White Paper and to invite comments and recommendations. The final draft of this paper and the draft inland fisheries bill have likewise been presented and discussed at several workshops held with community leaders in the Caprivi, Hardap, Karas, Kunene, Ohangwena, Okavango, Omusati, Oshana, and Oshikoto Regions before tabling the documents before Cabinet and the National Assembly.

The management measures developed, especially for the rural areas, are largely the result of the inputs, suggestions and comments of rural riparian communities. The enforcement of measures is seen as a partnership between central government, regional governments and traditional authorities through a system of delegated powers to be defined in the new Freshwater Fisheries Act. This act is to replace present legislation on freshwater fish, previously administered by the Ministry of Environment and Tourism.

An inland fisheries advisory board chaired by the regional governor will be established in each region. The members shall include officials from the Ministries of Fisheries and Marine Resources and Environment and Tourism, representatives from the regional, local and traditional authorities and interested people. The advisory boards will advise the Minister of Fisheries and Marine Resources on licensing fees for gill nets, rod and reel and boats, closed areas, seasons and other matters related to the management of the freshwater fish resource. Funds generated from the resource will accrue to a communal trust fund.

Control and law enforcement is to be carried out by police officers and law enforcement personnel already employed by other Ministries with the assistance of traditional communities and the traditional authorities. A limited number of fisheries extension or liaison and law enforcement officers will represent the Ministry of Fisheries and Marine Resources in rural communal areas.

To allow the exploitation of inland fish resources on a sustainable basis and at an optimal level, resources will be managed to ensure long-term food security to the riparian populations. The people will be involved in the management, control and sharing of benefits from the resources. The policy on inland fishery aims at preventing harmful impacts of uncontrolled commercialisation or through uncontrolled exploitation of the resources for tourism on traditional fishers dependent on inland fish resources for food security.

Patterns of exploitation will be tailored to protect endangered or vulnerable species as well as the eggs, fry and breeding areas of such species. This will be done by imple-

menting gear restrictions, for example stipulating minimum mesh sizes, setting bag limits, closing certain areas and declaring closed seasons, outlawing the use of fish poisons, the use of artificial light and certain types of destructive modern gear. In the evaluation of gear types preference will be given to non-destructive passive gear in contrast to non-selective destructive modern gear. The policy aims to protect the resource from activities other than fishing that may have a negative impact on the sustainability and biological integrity of the resource. Whenever actions are planned that may have an impact on inland fish, the Minister will have to be consulted. Environmental impact studies are to be undertaken to the satisfaction of the Minister before any commercial exploitation will be allowed.

Mechanisms will be set up to liaise with neighbouring countries on uniform management policies to ensure the proper management of shared river systems with catchments in neighbouring countries.

Principles for Sustainable Management

The Namibian government's policy on the responsible management of the inland fish resources is based on the following principles:

- (a) An approach to allow sustainable use of resources and to protect the biodiversity of the Namibian inland fish fauna;
- (b) In consideration of the diverse nature of the various systems, different management approaches are devised to deal with the circumstances particular to each river system;
- (c) The protection of the interests of subsistence households in terms of the availability of fish from the rivers as a supplement to diets and the need to control the commercialisation of the resources;
- (d) Restriction of fishing gear to control fishing and to protect the resources. Passive gear will have preference over active gear and traditional gear over modern nets;
- (e) The Namibian Police will be responsible for control and law enforcement together with personnel already employed by other ministries or to be employed by the Ministry of Fisheries and Marine Resources with the assistance of traditional communities and traditional authorities.
- (f) People living in communal areas should share in the income generated by the commercialisation or use of communal resources;
- (g) Recognition of the need to devise policies for future research on inland fish and the founding of a multidisciplinary research station to eventually serve the regions;
- (h) An emphasis on the need for regional cooperation on inland waters and related matters between states in the Southern African Development Community that share rivers.

Information Management in the Fisheries Sector

By David Evans

Beginning with an analysis of the need and potential for an integrated fisheries information management system in late 1993, the Ministry of Fisheries and Marine Resources embarked on an extensive programme to develop an information management system that would satisfy its needs well into the 20th century.

The development and implementation of the Fisheries Information Management System (FIMS) was funded mainly by the government of Namibia, with management assistance from the Department of International Development (formerly the Overseas Development Administration) of the United Kingdom and GTZ (Germany's technical cooperation agency).

This system will process information on the allocation of fisheries quotas, issuing of licences, payment of fees and monitoring of landings. An extensive process of analysis and definition of information requirements, redefinition of business practices and training ensures that user needs are realised.

A core concept was introduced around which other functions and modules would be constructed. This core system processes all the information needed to administer commercial fisheries as required under the Sea Fisheries Act. Subsequently, further modules will be developed for the complex requirements of research and enforcement. Above all, the system needed to be accurate and adaptable, efficient and simple, as well as transparent and secure.

System implementation

The system has been developed with advanced software, hardware and network management. The software is mainly from Microsoft and the hardware is the latest personal computer servers and workstations. The communications equipment is of international standards to connect the local area networks at four sites, namely Windhoek, Walvis Bay, Swakopmund and Lüderitz, via a wide area network, with adequate hardware and data security provisions on the network and controlled rights of access. User groups are defined with access permissions managed by the systems manager after this has been granted by the Information Systems Committee. The Ministry managed the design of the specialised software, which was developed by Q-Data.

The system was implemented as an application through Windows for Workgroups and Windows 95. Data entry screens mirror data collection forms and double punching, with 'blind' (red) error highlights, are standard. Data entry is monitored through audit trails for each user, enabling user performance assessment and error recovery. Online help offers a comprehensive and detailed system search and review facility. Detailed user training has been conducted,