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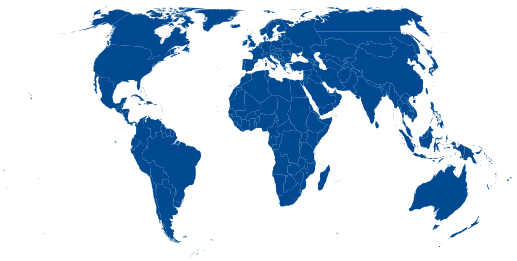

IN BRIEF...

Research for Lake Victoria

The area around Lake Victoria is rich in natural resources and has good potential for economic growth. However, present trends need to be reversed. Poverty and the unsustainable use of resources go hand in hand, reinforcing each other in a downward spiral. The Lake Victoria Initiative is a promising attempt to reverse this trend. In this context research is of vital importance.

Photo: Staffan Wiktelius

Researchers strive for increased productivity in fish breeding.

Nine countries, primarily Tanzania, Kenya and Uganda which border the Lake, and almost 40 million people, are dependent in one way or another on Lake Victoria's ecosystems. Apart from the Lake itself these encompass the surrounding land mass and all the rivers and small watercourses that flow into the Lake.

Vicious circle

Lake Victoria is in a peripheral geographic position in relation to the capital cities of the three countries bordering the lake, and economic surpluses are rarely reinvested in the region.

Rapid population growth and increasing urbanisation have resulted in shanty towns, and sewage from these towns flows directly into the Lake. Most of the existing treatment plants were built in the 1960s and 1970s and, as is the case with all infrastructure, there have been shortcomings in their maintenance and they are in poor condition. Deficiencies in the treatment of drinking water lead to diseases such as diarrhoea and typhus.

Margins are shrinking and the farmers are being forced to use unsuitable land areas, for example wetlands, for growing crops and cattle breeding. The result is loss of biological diversity. When Forests are felled soil erosion increases which results in more nutrients entering the Lake. To a certain extent artificial fertilizers and chemical insecticides contribute to the pollution. Industry also contributes by discharging its wastewater without treatment into the Lake.

Soil erosion and discharges from households and industry lead to eutrophication, which results in uncontrolled growth of weeds, particularly the water hyacinth. The spread of the water hyacinth is a serious obstacle to fishing, both fishing for household

Better breeding techniques for wetland fish

Catfish is a highly popular edible fish in the Lake Victoria region that can be bred in ponds. It grows fast and has modest demands for nutrients and space. However, the problem is that the pond catfish's pituitary gland does not produce the requisite spawning hormone. If there are to be any eggs, hormones must be extracted from wild catfish and injected into the females in the fish ponds. This is both a costly and a labour-intensive process. Within the Lake Victoria Initiative there is a project[1] that has the aim of examining the natural stimuli that are needed to encourage spawning and to find ways of mass-producing the requisite hormone. It is hoped that this will lead to more economical and efficient breeding techniques.

[1] Development of appropriate breeding technologies for wetland clarid fishes in the Lake Victoria basin

purposes and industrial fishing whose production is exported. Smaller catches lead to unsustainable methods, for example the use of poisons, illegal nets and over-fishing. The consequences are a deterioration in health and the environment and a threat to future fish stocks. The water hyacinth has a negative effect on Lake transport and on the intake of fresh water by blocking strategic places. It almost doubles the evaporation of water and offers excellent breeding places for the malaria mosquito.

Photo: Staffan Wiktelius

Researchers measure the mercury level in fresh fish from Lake Victoria.

Initiatives for change

In the mid-1990s, the presidents of Tanzania, Kenya and Uganda took the initiative to make a joint effort to break the downward spiral. The East African Community (EAC) was given the mandate to coordinate this initiative.

In the year 2000, the idea was born of creating a strategic partnership between the EAC and the international donor community. Sida joined this partnership. In the same year, Sida's undertaking was specified in a strategy for support to sustainable development in the Lake Victoria region. The point of departure of the strategy was to provide support for a long-term process (at least 20 years), in which decisions on concrete support to specific sectors and projects would be made at a later date. The process is based on East African ownership. Research, capacity development and institutional change are important cornerstones. At the national level, harmonisation of legislation and rules between the countries is required. At the regional level there is a need for coordination mechanisms and network development.

Experience gained from Sida's programmes of support to Baltic Sea cooperation has been of use in the Lake Victoria Initiative. Baltic Sea cooperation resulted, for example, in the extensive development of sewage treatment in the Baltic States and Poland. Part of the strategy for Lake Victoria is "twinning" between cities, institutions, organisations and networks in the two regions.

Sida supports the Lake Victoria Initiative through contributions in sectors such as natural resources, infrastructure, energy, social development, health and research.

The role of research

An EAC body – The Inter University Council for East Africa – is responsible for the Lake Victoria Research Initiative (VicRes). In addition to research institutes for fishing, forestry and agriculture in the three countries, VicRes also includes most of the universities, for example Makerere in Uganda, Dar es Salaam in Tanzania, and Moi and Maseno in Kenya.

VicRes gives grants of up to USD 50 000 per year to research projects. The projects are sifted out in a comprehensive selection process in which an advisory committee consisting of six experienced researchers (of whom three come from East Africa) play a central role. Sida/SAREC has observer status on the committee.

It is a case of thematic research with many aspects – physical, chemical, biological, economic and social – with the aim of developing practical methods to solve problems related to poor living conditions and degradation of the natural environment. The goal is to restore wetlands, watercourses and the land, and to maintain them in a sustainable way.

The problems associated with Lake Victoria are complex and do not stop at national borders. In order to define linkages and causal relationships, a holistic and interdisciplinary approach is required, as well as cooperation over borders. The idea is to acquire new knowledge by analysing existing and new information from new perspectives – in a regional context and by taking knowledge from other disciplines into consideration.

A great deal of research has already been done into Lake Victoria's problems (wetlands, fishing, agriculture etc), but the existing body of knowledge is dispersed in various institutions in different countries and lacks channels to reach out. Mechanisms are now being created to spread research findings to all concerned at different levels in the three countries and internationally. New research projects are being coordinated between countries and institutions.

Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.

Heavy metals in wetlands and socioeconomic consequences

The levels of heavy metals such as mercury and lead are increasing in Lake Victoria, and more information is needed on both the sources of these metals and the consequences. Within the Lake Victoria Initiative there is a project[2] that is measuring mercury levels in aquatic organisms such as fish and plants, in the water itself and in the bottom sediments. Samples are being taken at varying distances from the sewage treatments plants. The project also includes interviews with the local population on how they perceive the problem.

[2] Investigation of mercury levels, and assessment of their socio-economic impact on selected wetland ecosystems in the Lake Victoria basin

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2005-09-12 SIDA4837en