



Lake Balaton Integrated Vulnerability Assessment

The project seeks to contribute to a better understanding of Lake Balaton's ecological and socio-economic system vulnerability and resilience, and build capacity for more effective policy-making and adaptation measures in response.

Background

The condition of Lake Balaton, also known as the 'Sea of Hungary', is a high-priority issue for Hungarians, the Government of Hungary and the millions of foreign tourists visiting its unique habitat, shorelines and upland protected areas. Following many years of water quality problems, a negative water balance induced a water shortage starting in 2000 and lasting for four years. This raised and continues to raise serious sustainability concerns in the Lake Balaton area, Hungary and the region. Because of these trends, the sensitivity of Lake Balaton to climate change and its impacts came to the fore both for policy and scientific reasons. Besides Balaton, there are also many other shallow lakes and reservoirs of significant economic and ecological importance in Hungary, and other regions facing similar vulnerability and adaptation problems, where lessons from this project can later be applied.

Lake Balaton's uniquely vulnerable situation is the combined result mainly of its very shallow profile, and the fact that through heavy reliance on tourism as a primary source of livelihoods, the socio-economic consequences

of ecological deterioration can be severe and immediate. If the frequency of years with negative water balance indeed increases in the future, as indicated by applicable climate change scenarios, Lake Balaton and the coupled socio-economic system are expected to emerge as a highly sensitive and internationally-unique indicator of vulnerability to global change. On a more positive side, it could also serve as a high-profile example of adaptation measures consistent with sustainable development.

Considering this potential, UNEP's Division of Early Warning and Assessment, the Lake Balaton Development Council (LBDC) and the International Institute for Sustainable Development (IISD) launched in 2005 the “**Lake Balaton Integrated Vulnerability Assessment, Early Warning and Adaptation Strategies**” project.

Objectives/Results

The overall purpose of the project is to contribute to a better understanding of the Lake Balaton ecological and socio-economic system's vulnerability and resilience.

and to build capacity for more effective policy-making and adaptation measures in response.

The conceptual framework of vulnerability and adaptation that is used for this project is based on an integrated assessment model. In the model, the goal is to predict water quality and quantity as a function of possible scenarios of climate, land use and demographic changes. Business-as-usual scenarios describe the relationship between climate change, vulnerability and resilience. The predictions are made on medium- and long-term time horizons and provide a mechanism for early warning and development of alternative scenarios. Alternative scenarios explore possible adaptations and mitigating effects. Participatory (online) modelling complements this approach and makes it more accessible to the public.



Lake Balaton Partners

The project is funded by the United Nations Development Program/Global Environment Facility (UNDP/GEF).

Major partners are:

- > IISD: International Institute for Sustainable Development
- > LBDCA: Lake Balaton Development Coordination Agency

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Upcoming Activities

The project aims to build capacity and understanding around adaptability, resilience and vulnerability by formulating and implementing adaptive strategies that are compatible with the tenets of sustainable development. This includes training programs aimed at strengthening local infrastructure, management and governance.

The goal is to strengthen decision-making to achieve better alignment between national policies and local adaptation needs. This includes identifying policy barriers, conducting dialogue on vulnerability and adaptation, facilitating dialogue between stakeholders, identifying key policy and planning tools that integrate adaptation measures, and communicating the results of these through local to international communication plans.

In 2007 the main activities included:

- > Development of Environmental Models for: Land use scenarios; Regional climate scenarios; Demographic scenarios; Watershed Analysis;
- > Development of an indicators management and query interface inspired by the UNEP GEO project.

In 2008 the main activities will include:

- > Integrated Assessment Model development;
- > Reporting.

About GRID-Europe

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