Food and Agriculture Organization of the United Nations

From the People of Japan

ENHANCING SUSTAINABLE, PRODUCTIVE AND CLIMATE-CHANGE RESILIENT AGRICULTURAL AND RURAL SYSTEMS OF URMIA LAKE BASIN

The Islamic Republic of Iran is experiencing a severe escalation of water scarcity, due to key drivers such as demographic growth, the tendency to increase food self-sufficiency, urbanization expansion, energy demand, and overall socio-economic development. This is further compounded by the negative impacts of climate change and the considerable degradation of water quality. In this context, Urmia Lake Basin (ULB), a vast hypersaline lake in the northwest of the country, has faced intense pressures over the last three decades and is in a state of ecological crisis, with major impacts on its biodiversity and socio-economic conditions. Since 2013, the Government has made an intensive and comprehensive effort to restore Urmia Lake; however, the condition of the lake was still critical and more support was required. Against this background, this project, funded by the Government of Japan, aimed to contribute to more sustainable, productive and climate-resilient agricultural and rural systems, with a positive impact on the environment and on the water balance (inflow-outflow) of Urmia Lake.

Field visit of consultative workshop 2017.

WHAT DID THE PROJECT DO?

The project developed a set of intervention measures aimed at empowering the Urmia Lake Restoration Programme (ULRP), to accelerate halting and inverting the lake's drying-up process. These included providing tools for drought management and water accounting, and building the capacity of stakeholders at different levels, from policy to farm level. Remote sensing systems were developed to monitor drought conditions and water resources consumption. The technical capacity of national experts was strengthened in various areas, including water accounting, drought mapping and impact assessment; as well as in socio-economic and livelihood planning for sustainable agricultural activities, to help achieve a codeveloped action plan of real water saving interventions. Knowledge-sharing sessions were conducted by project experts for local farmers, providing them with new farming methods and proven agricultural practices in order to increase water productivity. Land cover maps of ULB, as well as detailed crop mapping were produced. This has significantly increased the quality of evapotranspiration (ET) mapping, water accounting, and the water management of the basin. A major baseline study was also carried out at the farm and household level, resulting in an understanding of the livelihood and socio-economic conditions of farmers, and the potential interventions to improve farming, water and economic practices within ULB.

KEY FACTS

Latest Approved Budget
USD 3 833 438

Duration
June 2016-December 2022

Resource Partner
Government of Japan

Partner
Urmia Lake Restoration Programme (ULRP)

Beneficiaries
Government of the Islamic Republic of Iran; Urmia Lake Basin communities; national government institutions dealing with water and agriculture and local irrigation authorities

IMPACT

The project contributed to the development of a socio-economic livelihood programme, proposing sustainable solutions to alternative income-generating activities, while reducing significantly the water consumption of the Urmia Lake basin. It is expected that the project's focus on farmer-level technologies will lead to improved water productivity and increased yields, and to sustaining farmers' incomes.

SUSTAINABLE DEVELOPMENT GOALS

ACTIVITIES

- Hotspots with high ET and low water productivity identified within ULB, where interventions could result in maximum water saving for Urmia Lake restoration.
- Framework and scenarios for effective management of basin's water resources provided.
- New operational database that included and reflected the details of a crop-mapping land use/cover system, and processing capacity to monitor key water parameters, including water consumption, water productivity and drought indexes, developed.
- Capacity-building workshops conducted for national stakeholders to impart skills related to remote sensing, crop mapping, image processing, and methodology employed.
- Capacity of Iran Meteorological Organization built to compute and automate Combined Drought Index (CDI), Agricultural Stress Index System (ASIS), and Drought Vulnerability and Impact Assessment on a regular basis, to improve drought management in ULB.
- Agricultural drought for ULB estimated by applying FAO guidelines on ASIS.
- National expert team, as Water Accounting Plus (WA+) core team, capacitated to analyse and update WA in the basin.
- Two national experts trained on computing CDI and ASIS, and maintaining ASIS server, who will perform as focal points in Islamic Republic of Iran.
- Major baseline study at farm and household level conducted, covering over 1 400 households and knowledge transferred to the national experts.
- Integrated Watershed Management (IWM) road map developed and articulated with stakeholders, to measure how IWM could contribute to Urmia Lake restoration.
- Sharing experience sessions held for farmers on ET reduction techniques.

Rapid assessment to understand the realities of farmers.

First rapid assessment to review the feasibility of proposed activities and plan with farmers.

Sharing international experiences with farmers.

Second rapid assessment, Drought Management Round Table.

Validating detected water consumption hotspots 2021.

Project Title
Integrated Programme for Sustainable Water Resources Management in the Lake Ormia Basin

Project Code
FAO: GCP/IRA/066/JPN

Contact
FAO Representation in Iran
FAO-IR@fao.org

Partnerships and Outreach
For more information, please contact: Reporting@fao.org

Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy