

# Cooperation of China and Switzerland: water resources and risk management under changing climate

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## BACKGROUND

China and its growing population and emerging economy are severely affected by changing climate patterns. The water management sector is traditionally of highest importance for the Chinese society and economy - and at the same time heavily struck by severe floods and droughts.

Since 2010, the Swiss Agency for Development and Cooperation (SDC) jointly with the Federal Office for the Environment (FOEN) have carried out three projects under the framework of this MoU, namely Integrated Flood Risk Management (IFRM), Glacier Lake Outburst Floods (GLOF) and the Dam Safety Enhancement Project (DaSEP).

## INTEGRATED FLOOD RISK MANAGEMENT IN THE HANJIANG BASIN

The process specified by IFRM has been applied to the lower area of the Hanjiang basin (a tributary of the Changjiang (Yangtze) river). In order to support this process, RiskPlan (<http://www.riskplan.admin.ch>, elaborated by Swiss federal authorities and Swiss risk experts) has been used as a planning tool. RiskPlan allows for an easier implementation of the integrative risk management approach in a participatory process, because missing data is collected during workshops with stakeholders and local experts. Furthermore, it is able to ascertain the effectiveness of protection measures and evaluate the cost-effectiveness of such measures in a systematic, visual and scientific way. As part of the project in the Hanjiang catchment, IFRM and RiskPlan have been introduced by Swiss experts to the Changjiang Water Resources Commission (CWRC) in Wuhan. During three workshops, Swiss and Chinese experts jointly elaborated a valuable basis for decision making in a pilot application. The collaboration between Chinese and Swiss experts as well as between the public and private sectors in this project represent a successful case of international and cross-sectoral achievements.

The project faced various challenges including data access and confidentiality, different understanding of disciplines and distinct way of thinking, different institutional setup, etc.

The success factors and lessons learned can be summarized as: 1) on-site collaboration with intensive conversation is crucial; 2) exchange of best practice on study tours in both countries enhances trust and reliability; 3) the development of common understanding takes time; 4) participatory process with all stakeholders is the key for acceptance of achieved results.

## FURTHER COOPERATION IN THE JINSHA RIVER BASIN

After taking stock of the experience gained from those three projects, a follow-up project has been prepared by Swiss and Chinese partners. Focusing on the Jinsha River Basin, the upper reach of the Yangtze River (see Figure 1), the objectives of the first 3-year project phase 2015 - 2017 are the investigation of the current water characteristics, the development of methods and models to enhance the water management practices for the Jinsha River Basin, and the design of adaptation strategies and measures for coping with climate and socio-economic changes. The methods and models will be tested and demonstrated by application to different study areas. Several technical groups comprising of Swiss and Chinese experts will collaborate in workshops, on field trips and study tours, organise Sino-Swiss and international conferences, and communicate and exchange documents on a web-based project platform. The collaboration is co-beneficial and offers opportunities to both sides, China and Switzerland. On the one hand, it will enhance the water management practice of Chinese authorities; on the other hand, a joint Sino-Swiss contribution to the global community on integrated water resources and risk management under changing climate and socio-economic development will be produced.

