

## TECHNICAL ASSISTANCE COMPLETION REPORT

Division: EAER

<b>TA No., Country and Name:</b> TA 4813-PRC: Strengthening Flood Management Sustainability in Hunan Province			<b>Amount Approved:</b> US\$500,000 <b>Revised Amount:</b> US\$560,000	
<b>Executing Agency:</b> Hunan provincial government	<b>Source of Funding</b> The Spain Cooperation Fund for Technical Assistance (\$500,000) and the Netherlands Trust Fund for the Water Financing Partnership Facility (\$60,000) <sup>1</sup>		<b>Amount Undisbursed:</b> \$51,912.93	<b>Amount Utilized:</b> \$508,087.07
<b>TA Approval Date:</b> 29 June 2006	<b>TA Signing Date:</b> 22 August 2006	<b>Fielding of First Consultant:</b> 1 November 2006	<b>TA Completion Date Original:</b> 30 September 2012	<b>Actual:</b> 30 September 2013
			<b>Account Closing Date Original:</b> 30 September 2012	<b>Actual:</b> 9 October 2013

### Description

Many cities and industrial centers in the People's Republic of China (PRC) are adjacent to major rivers, resulting in a high proportion of their economic activities being at risk from periodic floods. Major floods and poor drainage are the most frequent and severe natural hazards in the PRC. Floods are also a recurrent natural hazard in Hunan Province. They are localized in the four main rivers and their tributaries which drain a total area of 179,000 square kilometers (84% of the provincial area) and are home to 56.4 million people (84% of the provincial population). Since 2000, the PRC government has been changing its policy and strategy from a flood-control approach to an integrated flood management approach. To support the PRC government's policy and Hunan provincial government's (HPG's) integrated flood-control program under the Hunan Provincial 11<sup>th</sup> Five-Year Plan (2006–2010), Asian Development Bank (ADB) is providing the HPG with the Hunan Flood Management Sector Project (HFMSPP).<sup>2</sup>

An advisory technical assistance (TA) associated with the HFMSPP was provided to support sustainable flood management by assisting the HPG, particularly Hunan Provincial Water Resources Department (PWRD), to plan and assess nonstructural aspects of flood management and strengthen capacity in plan implementation.

### Expected Impact, Outcome, and Outputs

The expected outcome of the TA was to strengthen the capacity of the PWRD's strategic and annual planning and management systems to support integrated and sustainable flood management. The expected key outputs of the TA included: (i) a review and analysis of the Hunan's existing flood warning system to optimize hydrometeorological data collection and flood preparedness; (ii) a feasibility assessment of providing flood insurance to rural and urban people in Hunan; and (iii) further development and capacity building for the HFMSPP.

### Delivery of Inputs and Conduct of Activities

The TA was carried out by a team of consultants engaged through a firm and an individual consultant. During TA implementation, the following minor changes in scope were made: (i) improving coordination between the provincial project management office (PPMO), local project management offices (LPMOs), and other agencies for the HFMSPP, particularly for resettlement, by increasing inputs of the team leader and international resettlement specialist of the consultant team, and engaging an additional national social safeguards implementation coordinator on individual basis; and (ii) writing up findings of the second component of the TA (a feasibility assessment of providing flood insurance to rural and urban people in Hunan) for publication, by increasing input of the international flood insurance specialist of the consultant team. To support these new activities, the TA amount was increased by US\$60,000, financed by the Netherlands Trust Fund for the Water Financing Partnership Facility. Accordingly, the TA completion date was extended from 30 September 2012 to 30 September 2013.

Originally, the TA was designed to provide 49.0 person-months (pm) of consulting services (15.0 pm of international and 34.0 pm of national consultants). At implementation, 50.6 pm of consulting services were provided comprising 16.6 pm of international and 34.0 pm of national consultants, and 4.0 pm was provided by the national social safeguards implementation coordinator additionally engaged on an individual basis.

The team of consultants produced the required outputs and their performance was considered satisfactory. With regard to the national social safeguard implementation coordinator additionally engaged on individual basis, the original input to be provided was 6.5 pm, but the contract was terminated after provision of 4.0 pm of consulting services due to consultant's serious injury in a traffic accident.

<sup>1</sup> Contributors: the governments of Australia, Austria, Norway, and Spain. Administered by the Asian Development Bank.

<sup>2</sup> ADB. 2006. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance to the People's Republic of China for the Hunan Flood Management Sector Project*. Manila.

For both the HFMSp and TA, the HPG, the executing agency, set up an inter-agency project leading group and the PPMO. The PPMO ensured interdepartmental coordination and the consultants' access to necessary reports and data. The HPG's performance was satisfactory. ADB provided guidance, fielded timely missions for the TA inception, midterm, and final reviews. The performance of ADB was assessed as satisfactory.

#### **Evaluation of Outputs and Achievement of Outcome**

The team of consultants produced all the outputs required by the original and revised scope. The final report covered (i) proposals for flood warning and management system and flood emergency management; (ii) findings of flood insurance feasibility study conducted in a pilot city; (iii) review of the annual planning and management systems to support integrated and sustainable flood management, and (iv) activities conducted for capacity building to support the implementation of the HFMSp.

Although the contract with the national social safeguards implementation coordinator was terminated after provision of 4.0 pm out of the originally planned 6.5 pm, the coordinator conducted several field visits, reviewed resettlement implementation under the HFMSp in detail, successfully improved coordination between the PPMO, LPMOs, and other agencies for resettlement for the HFMSp, and submitted three detailed reports to ADB.

Based on the proposals made by the team of consultants, the HPG and implementing agencies improved their flood warning and management system under the HFMSp. The speed and accuracy of flood forecasting was significantly improved. Findings of the flood insurance feasibility study were written up for publication.<sup>3</sup> The team of consultants and additionally engaged national social safeguards implementation coordinator assisted the PWRD in implementing the HFMSp, by strengthening their capacity for integrated and sustainable flood management, and improving coordination between the PPMO, LPMOs, and other relevant agencies. The outcome of the TA was achieved successfully.

#### **Overall Assessment and Rating**

The TA is rated as successful. All activities planned for the team of consultants were effectively completed with their satisfactory performance. The national social safeguards implementation coordinator conducted detailed review of resettlement implementation under the HFMSp and improved the coordination between relevant agencies for resettlement. The HPG actively participated in TA activities and was satisfied with the TA findings. The HPG adopted the TA's recommendations and considered them useful to its implementation of integrated and sustainable flood management. The findings of the flood insurance feasibility study was disseminated through an ADB publication (Footnote 3).

#### **Major Lessons**

Except for inundation of flood detention areas, flood insurance can cover damages from any type of inland flooding, whether indemnity based or parametric. The following conditions need to be met to ensure the feasibility of a flood insurance scheme: (i) flood insurance is most feasible if supported by detailed mapping of the flood risk and reliable data on building floor level elevations relative to flood risk levels; (ii) normal indemnity flood insurance is likely to be more feasible for property in lower risk areas, while, for property in higher risk areas, normal indemnity flood insurance might need to be accompanied by significant co-insurance by the property owner and government subsidies of the premiums to make it feasible; and (iii) parametric insurance is more suited for flood than other hazards, but the government may still consider the necessity of providing additional premium contributions for property in higher risk areas to ensure a reasonable level of insurance cover.

To derive maximum benefits from a flood warning and management system that has distributed responsibilities across levels of government, physical, technical, and financial coordination and cooperation are required between agencies involved in the system.

#### **Recommendations and Follow-Up Actions**

It is recommended that the following be reviewed and followed up under the ongoing HFMSp: (i) technical training for flood forecasting and management be provided to relevant provincial and local government staff, and community awareness of the new flood warning and risk conditions be developed; (ii) findings of the flood insurance feasibility study be used by flood plain managers and insurance companies to guide the integration of flood insurance with other nonstructural measures; and (iii) management system for the HFMSp need to be monitored and adjusted for timely completion of the HFMSp and within the budget.

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<sup>3</sup> G. Walker et al. 2009. Is Flood Insurance Feasible?: Experience from the People's Republic of China. *ADB Sustainable Development Working Paper Series*. No. 5. Manila: Asian Development Bank.