

INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.:

Date ISDS Prepared/Updated: 04-Oct-2011

I. BASIC INFORMATION

A. Basic Project Data

Country:	Nepal	Project ID:	P127508
Project Name:	Building Resilience to Climate Related Hazards (P127508)		
Task Team Leader:	Claudia W. Sadoff		
Estimated Appraisal Date:	00-undefined-0000	Estimated Board Date:	12-Apr-2012
Managing Unit:	SASDI	Lending Instrument:	Specific Investment Loan
Sector:	General water, sanitation and flood protection sector (70%), General agriculture, fishing and forestry sector (30%)		
Theme:	Climate change (34%), Water resource management (33%), Natural disaster management (33%)		
Financing (In USD Million)			
Financing Source			Amount
Borrower			0.00
Strategic Climate Fund			25.00
Total			25.00
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

B. Project Objectives

Proposed Development Objective(s): The main objective of the proposed project is to diminish the impacts of extreme climate-related events, protect lives and assets, and support agricultural livelihoods by establishing multi-hazard information and early warning systems, upgrading the existing hydromet and agricultural information management systems, and improving the accuracy and timeliness of weather and flood forecasts and warning. Activities funded through the project would help improve decision-making and planning in key climate vulnerable and water resources dependent sectors, particularly agriculture, and contribute to building resilience for communities and sectors at risk.

C. Project Description

The project is likely to consist of the following components:

Component A: Institutional Strengthening, Capacity Building and Financial Sustainability of DHM (preliminary estimate US\$ 4 million)

The main objective of this component is to ensure the institutional, staffing and financial sustainability of the DHM to deliver weather, water and climate services that meet the needs of Nepal. This component will also support the development of detailed project design and project implementation and monitoring.

In view of the proposed significant upgrading and modernization of the DHM infrastructure, it is anticipated that the skills and staffing profile of DHM will change. The following areas were identified as priority needs:

- # Detailed design of the DHM systems and project management support;
- # Institutional development and system restructuring options recognizing the needs of users and limitations of financing operations costs;
- # Development of a legal and regulatory framework concerning specialized hydrometeorological services;
- # Developing and implementing a DHM capacity building and training program, possibly:

Using the Voluntary Cooperation Program of the WMO or regional training opportunities such as the Bay of Bengal Severe Weather Forecasting Demonstration Project;

Implementing training activities (workshops, round tables, etc.) for major users (agriculture, water resources, energy, health, civil aviation), including those dealing with the use of the hydrometeorological information to ensure timely response actions;

- # Enhancing and expanding the existing public private partnership scheme.
- # Project management, monitoring and evaluation of components A, B and C (managed by DHM)
- # Coordination with the #Mainstreaming Climate Change Risk Management in Development Project# of the Nepal SPCR for dissemination of SPCR lessons learnt and best practices (for all Components, A, B, C and D of this project).

Component B: Modernization of the Hydro-meteorological and Environmental Observation Networks (preliminary estimate US\$ 13 million)

The objective of this component is to upgrade and expand the meteorological and hydrological observation networks to ensure the efficient and timely collection, transmission, processing and dissemination of information that is essential for the management of disaster risks, agriculture, water resources, hydropower, etc.

Collection of high-quality data is the foundation for producing reliable weather forecasts and providing timely warnings. This information will help build climate resilience in key sectors and also fulfill Nepal's international and bilateral obligations to provide information on hydro-meteorological conditions within the country. Specific activities might include:

Installing up to 100 automated weather stations capable of measuring meteorological parameters to the standards recommended by WMO. Up to 20% of these stations could be equipped for agro-meteorological purposes, including soil moisture. Fifteen of these sites are currently designated as synoptic stations (those designed according to WMO standards for use in large scale and global weather forecasts) and could be refurbished accordingly. Three stations could provide representative climate information for three major climatic regions of Nepal (high mountains, hills and terai) and comply with the standards set by the Global Climate Observing System (GCOS). Some of the stations could also be equipped for air quality sampling to measure PM10, black carbon, UV, and ozone. The feasibility of including at least three high altitude stations linked to the hydrological network should also be considered.

Installing up to 100 automated hydrological stations with the capacity to monitor stages, rainfall, and discharge. A subset of the network, up to 20%, could be designed to measure basic water quality parameters (conductivity, BOD, dissolved oxygen, nutrients) and sedimentation. An additional ten stations could be located in the upper reaches of the watersheds where current coverage is low.

Building capabilities to measure snow depth and density needed to forecast seasonal flows.

Installing up to two upper air stations measuring profiles of temperature, humidity, wind speed and direction to provide representative daily or twice daily samples of the atmosphere. These data would improve weather forecasts for Nepal and local capacity to forecast extreme weather events.

Installing up to two weather radar with the option to include other nowcasting systems, such as a lightening network to improve the real-time monitoring of dangerous weather events that result in flash floods and landslides, livestock losses due to hail, and hazards to aviation.

Installing calibration facilities for the routine calibration of meteorological and hydrological equipment. This may include a combination of fixed and mobile facilities.

Refurbishing DHM facilities

Component C: Enhancement of the Service Delivery System of DHM (preliminary estimate US\$ 3 million)

The objective of this component is to improve weather, water and climate services, i.e., for extreme weather warnings and decision support systems.

Currently Nepal does not issue any formal warnings for weather or weather extremes. Improving the forms and methods of providing weather forecasts for government authorities and the public, as well as specialized weather, water and climate forecasts for specific user groups, is one of the most important opportunities of this project. Specific activities could include:

Introducing modern communication facilities and technologies for receiving and processing data, to enable higher quality forecast and warnings and increase warning lead times;

Implementing multi-purpose meteorological communication facilities and a system of hydro-meteorological data processing, archiving, modeling and visualization;

Transitioning experimental numerical weather prediction systems into operations;

Establishing a Public Weather Service in accordance with WMO guidelines for the communication of weather forecasts and warnings to the public. This could include climate and hydrological services. It could also form the kernel of a Multi-Hazard Early Warning System (MHEWS), which could support weather and climate related disaster reduction strategies across many sectors;

Developing and implementing information systems for various stakeholders, especially water management, transport, energy, and tourism.

Component D: Creation of an Agriculture Management Information System (preliminary estimate US\$ 5 million)

The objective of this component is to meet the information needs of the agriculture sector to better manage and mitigate climate-related production risks.

Providing a value-added agriculture management information system would require strong intra-governmental cooperation. Specific components of the system might include:

One-stop-shopping for agricultural data (e.g., crop, livestock, etc.)

Agriculture, weather and climate outlook advisory systems (e.g., crop planting advisory, pesticide application advisory, fertilizer application advisory, and soil moisture management etc.);

Provision of data required for developing an agriculture insurance scheme(s);

Capacity building, involving youth and university students, in raising climate resilient agriculture science and practices and applications of agriculture management information system;

Research and development, in particular the development of drought and flood resistant crops.

Information technology infrastructure for Ministry of Agriculture and Cooperatives, in order to stream data from DHM, archive data and house agriculture management information system.

Capacity building, project management, and monitoring and evaluation (Component D managed by MoAC)

Dissemination of lessons learnt and best practices in coordination with the Mainstreaming Climate Change Risk Management in Development Project of the Nepal PPCR.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project will support the establishment of new or upgrading of existing meteorological, hydrological, climate, agro-meteorological and other monitoring sites and associated networks. In addition, it will also support refurbishing or upgrading of DHM and MoAC facilities mostly in already existing sites. At present, it is envisaged that the installation of new monitoring equipment may include minor construction works involving refurbishment or construction of DHM offices, rehabilitation of computer rooms and other offices in already existing DHM sites. The areas involved and the possible nature of the civil works are also expected to be rather minimal. As a result, the safeguard impacts are also expected to be small and limited. Since this is a national project, the specific project locations are not known at this stage. Therefore, the Project is expected to be Category B.

Safeguards policies that are likely to be triggered include: OP/BP 4.01, Environmental Assessment, OP/BP 4.12, Involuntary Resettlement, OP/BP 7.50 International Waters, and OP/BP 4.10 Indigenous People. OP/BP 4.12 is triggered as a precautionary measure in connection with possible need for additional land and resettlement during the establishment or upgrading of monitoring sites, radars, and other observation instrumentation, as well as additional offices. OP/BP 4.10 is triggered to ensure that any adverse effects of the project are avoided or minimized, and that IPs receive culturally appropriate social and economic benefits. Similarly, OP/BP 7.50 is triggered since the proposed work is going to take place on an international waterway, but the physical work is expected to be minor and have little impact. The precise locations of the specific meteorological and hydrological stations and associated networks are not known at this stage: it is possible that some may be located in forests or protected areas. This will be further explored during preparation if OP/BP 4.04 Natural Habitat and OP/BP 4.36 Forests are triggered.

As part of project preparation, the DHM will assess key social and environmental risks, potential impacts, and accordingly develop an Environmental and Social Management Framework (ESMF) to mitigate these risks and impacts. More specifically, the ESMF will seek to provide guidance and procedures to identify, screen, and evaluate key social and environmental risks. Based on the nature of risks identified, an Environmental and Social Management Plan (ESMP) and a monitoring plan will accordingly be developed for each site/facility.

E. Borrowers Institutional Capacity for Safeguard Policies

The main implementing agency for the project is the Department of Hydrology and Meteorology (DHM) which is under the Ministry of Environment (MOE). DHM does not have an environmental safeguard unit or staff, but MoE is Nepal's main regulatory agency with regard to environmental assessment and the leading authority in Nepal on environmental issues. MOE has adequate experience in the development, review and clearance of Environmental Assessments (EA) as per Nepal's environmental requirements, but less experience in terms of monitoring and enforcement of Environmental Management Plans (EMPs). Standard government practice is to include concerns regarding land acquisition and resettlement under EIAs. As a result, the MOE is also experienced with resettlement issues. However, they may not have much implementing experiences at the operational level in addressing social safeguard impacts. Furthermore, MOE and DHM do not have prior experience working with World Bank safeguard requirements. Measures will therefore be designed and included in the ESMF to strengthen MOE's and DHM's existing capacity to plan and implement safeguard measures. These may include recruiting safeguard consultant experts from the market.

F. Environmental and Social Safeguards Specialists on the Team

Drona Raj Ghimire (SASDI)

Bandita Sijapati (SASDS)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies Triggered	Yes	No	TBD	Explanation
Environmental Assessment OP/BP 4.01	X			As part of the preparation, the DHM will assess key social and environmental risks and potential impacts and develop an environmental and social management framework to mitigate these risks and potential impacts.
Natural Habitats OP/BP 4.04			X	Locations of weather and hydrological stations, radar and related networks are not known at this stage. Some of these may be located in the forests or in the protected areas.
Forests OP/BP 4.36			X	As above.
Pest Management OP 4.09		X		
Physical Cultural Resources OP/BP 4.11		X		
Indigenous Peoples OP/BP 4.10	X			Indigenous Peoples is triggered to ensure that any adverse effects of the project are avoided or minimized, and that IPs receive culturally appropriate social and economic benefits.
Involuntary Resettlement OP/BP 4.12	X			Involuntary Resettlement is triggered as a precautionary measure in connection with possible construction of radar or other observation instrumentation.
Safety of Dams OP/BP 4.37		X		
Projects on International Waters OP/BP 7.50			X	This policy is triggered since the proposed work relates to the hydrology and possible installation of minor works on international waters. The impact, however, is expected to be minor.
Projects in Disputed Areas OP/BP 7.60		X		

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 30-Apr-2012

B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

The timeframe will be decided during the upcoming preparation mission (October 12 - 21, 2011) in close consultation with the Government.

IV. APPROVALS

<i>Signed and submitted by:</i>		
Task Team Leader:	Name: Claudia W. Sadoff	Date: 05-Oct-2011
<i>Approved By:</i>		
Regional Safeguards Coordinator:	Name: Sanjay Srivastava (RSA)	Date: 06-Oct-2011
Comments: cleared		
Sector Manager:	Name: Sanjay Pahuja (SM)	Date: 10-Oct-2011
Comments:		

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.