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MULTILATERAL DEVELOPMENT BANK ASSISTANCE PROPOSALS

Likely to Have Adverse Impacts on the Environment, Natural Resources, Public Health, and Indigenous Peoples

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Contents

USAID Review of Multilateral Development Banks Assistance Proposals Likely to Have Adverse Impacts on the Environment

Introduction

The U.S. Agency for International Development (USAID) submits this report in compliance with Title XIII of the International Financial Institutions (IFI) Act. These provisions instruct USAID to report to Congress on multilateral development bank (MDB) assistance proposals likely to have substantial adverse impacts.

This report covers a five-month period (April 2014 through August 2014) and provides information regarding USAID's performance of its tasks as assigned by Title XIII of the IFI Act to the Committee on Appropriations, the Financial Services Committee, and the Committee on Foreign Affairs of the U.S. House of Representatives, as well as the Committee on Appropriations and the Committee on Foreign Relations of the U.S. Senate.

MDB Project Review

MDB projects with the potential for substantial adverse impacts are initially identified by USAID/Washington and field missions, the U.S. Environmental Protection Agency, the Department of State, the Department of the Treasury and other U.S. Government agencies, the Offices of the U.S. Executive Director at the MDBs (OUSEDs), and/or nongovernmental organizations (NGOs) and researchers. The criteria for selecting identified MDB projects for USAID Title XIII review include consideration of the potential adverse direct, indirect and cumulative impacts on the environment, natural resources, public health, and/or indigenous peoples.

The MDB projects selected by USAID, in consultation with other U.S. Government agencies, for review during the period covered in this report are either: (1) candidates for financing as defined in Title XIII that have been reviewed in accordance with Title XIII, Section 1303(a)(3); or (2) future projects that have the potential for substantial adverse impacts. Projects reviewed in this report fall into one of the following categories:

1. MDB Proposals with Potential for Adverse Effects: This section includes those MDB proposals reviewed prior to Board[1] vote. This section includes the following project:

- Laos – Nam Ngiep 1 Hydropower Project

2. Projects Subject to USAID Affirmative Investigations: This section includes brief descriptions of affirmative investigations that USAID has conducted during the five-month period prior to the date of this report:

- Nepal – Upper Marsyangdi 2 Hydropower Project
- Nepal – Upper Trishuli 1 Hydropower Project

[1] The Board of Executive Directors (the Board) is made up of appointed or elected representatives of the Bank's member countries.

- Nepal – Upper Arun Hydropower Project

3. **Future MDB Proposals with Potential Environmental and Social Impacts:** An affirmative investigation is most likely to influence a project when the MDB and project sponsor are engaged early in the proposal development process. For this reason, USAID and Treasury each maintain "upstream" project lists. Proposals that are chosen for these lists and have the potential for adverse impacts may be: (1) technical assistance or feasibility studies that have the potential to lead to project development with the potential for substantial adverse impacts; and/or (2) projects under discussion with various MDBs, for which management decisions have not been made on whether to bring these projects into the MDB formal appraisal process; and/or (3) projects that have not initiated the Environmental Impact Assessment/Environmental and Social Impact Assessment (EIA/ESIA), but which do have a pending Board vote. New projects on this list include:
   - Bhutan – Green Power Development II (includes the Nikachhu Hydropower Project)
   - Indonesia – Scaling Up Hydropower Development TA
   - Burma – Ayeyarwady Integrated River Management
   - Samoa – Port Master Plan and Submarine Cable (Fiji)
   - Vietnam – Second GMS Southern Coastal Corridor Project

To increase the effectiveness of the Title XIII process, USAID engages in the MDB project proposal process as early as possible, including through site visits and interviews with local, regional and international stakeholders. USAID continues this interaction with relevant stakeholders during the later stages of the project proposal process when all of the environmental and social documentation is available.

Section 1
MDB Proposals with Potential for Adverse Effects

USAID's technical review identifies proposals with potential environmental and social impacts (including potential impacts on the environment, natural resources, public health, and indigenous peoples (Section 1303)), and assesses project Environmental and Social Impact Assessments (ESIAs). Following each completed review, USAID develops recommendations regarding potential mitigation measures in an attempt to avoid and mitigate potential environmental and social impacts. USAID provides an assessment of the ESIA and recommendations that might be used during ESIA development and project implementation to the U.S. Department of the Treasury for its consideration.

- **Laos - Nam Ngiep 1 Hydropower Project**

The Nam Ngiep I Hydropower Project (NNI) is located on the Nam Ngiep River at the confluence with the Mekong River, about 7 km upstream of Pakxan (Bolikhamxay province) and approximately 145 km from Vientiane. The Build-Operate-Transfer (BOT) project will sell electricity to both the Electricity Generating Authority of Thailand (EGAT) and EDL (Electricite du Laos) under a concession agreement provided by the Government of Laos (GoL) and a Power Purchase Agreement with EGAT and EDL. The NN1 Power Co. Ltd. was created by the GoL and consortium to develop the project and sign loan agreements with lenders. This consortium consists of Kansai Electric Power Co. (Japan), EGAT International (Thailand), and Lao Holding State Enterprise (LHSE, Lao PDR).

The main dam will produce 272 MW for export with the re-regulating dam producing 18 MW for domestic use. The reservoir will be approximately 70 km in length and 148 m in height. The project will connect to the Nabong substation and share the transmission line with Nam Ngum 3 (a nearby hydropower project). EDL will install one transmission line to connect to the grid in Pakxan. Construction is due to begin in 2014 with production of electricity scheduled to start at the beginning of 2019. [2]

It is estimated that the project will directly affect approximately 4,000 villagers[3] and indirectly affect potentially 32,000 villagers upstream and downstream of the dam site[4]. The number of villagers that will be directly/indirectly impacted by the transmission line will be assessed after the final alignment. Four Hmong villages will need to be resettled from the reservoir area to the Houaysoup relocation site.

Under a public-private partnership arrangement, the Asian Development Bank (ADB) is providing an assistance package consisting of a $50 million direct loan, a 3.04 billion baht ($94 million) loan,

[2] http://www.namngiep1.com/
[3] http://namngiep1.com/
[4] http://www.internationalrivers.org/files/attached-files/intl_rivers_power_surge.pdf

and a third loan of $77 million funded by the Bank of Tokyo-Mitsubishi UFJ Ltd., Sumitomo Mitsui Banking Corp. and Mizuho Bank Ltd. with ADB acting as lender of record. Japan Bank for International Cooperation and four Thai banks will also finance the project. [5]

USAID/Washington and Embassy/Vientiane staff conducted a site visit to the Nam Ngiep 1 Hydropower Project in 2012 to gain a better understanding of the environmental and social aspects of the project. This site visit was carried out as part of USAID's due diligence responsibilities under the International Financial Institutions Act, Title XIII, Section 1303(a)(3), which requires USAID to review MDB projects with potential adverse environmental and social impacts. The findings of the site visit were reported in USAID's October 2012 MDB Report to Congress.

Prior to the Board vote on August 14, 2014, USAID reviewed the updated environmental documentation. Based on the technical review, issues raised to Treasury included:[6]

- Alternatives analysis – The "no project" analysis is based on the premise that not doing the project would "not comply with: (i) the Greater Mekong Sub region's strategy for the energy sector; (ii) the Lao national development priorities: (iii) the GOL's plans and policies for the power sector; (iv) the MOU signed between GOL and the Government of Thailand; and (v) the MOU signed between GOL and the developer." Consequently, the analysis does not provide a systematic evaluation of alternatives to ensure that environmental and social impacts are taken into account during the decision-making process and that reasonable alternatives are evaluated that would address the need and purpose/objective of the project.

- Baseline data – Baseline data on species included in the International Union for Conservation of Nature (IUCN) Red List and Laos wildlife law consisted of a "presence or absence" analysis, originally collected in 2007 and updated in 2013. Information was obtained primarily through villager surveys, although some limited field surveys were undertaken in March and July 2013 to collect data representative of wet and dry season biodiversity conditions. The probability of detecting threatened species is intrinsically linked to the survey effort which, in this case, was not comprehensive.

- Cumulative Impact Assessment (CIA) – The temporal scope for the assessment was established at 15 years for the analysis (70 months of construction and 9-10 years of operation) which does not cover the life of the project operation or the life of the concession agreement of 30 years. The scope of the CIA does not encompass the geographic and temporal extent of impacts (from other past, present, and predictable future developments) that influence resource receptor conditions throughout the area of influence of the project. In addition to the above constraints, the ESIA does not provide adequate biodiversity baseline data to allow for a proper cumulative impact assessment.

[5] http://www.hydroworld.com/articles/2014/08/asian-bank-funds-290-mw-nam-ngiep-1-hydro-project-in-laos.html
[6] Issues identified were based on the Affirmative Investigation of Nam Ngiep I, (reported in October 2012 MDB Report to Congress) and in emails to Treasury over several months in 2014 prior to ADB Board Vote.

- Associated facilities – Although the ESIA for the transmission line was completed and posted in 2012, ADB staff worked with Nam Ngiep I Power Company to have them re-route the transmission lines to avoid an ecologically sensitive area. This required the ESIA to be updated, which was not completed in time for the Board review (or to meet the Pelosi disclosure requirement).[7]

- Biodiversity offsets – The project sponsors propose to develop a biodiversity offset in response to the ADB's environmental safeguard. The NNP1 biodiversity offset plan and activities will be positioned in the Nam Ngiep River watershed management plan and informed through consultations with local stakeholders. USAID's view is that the ability to produce meaningful, tangible and sustainable ecological and social benefits through biodiversity offsets is difficult even in the best of conditions. In developing countries, the challenges of offsets are compounded by the need for an enabling policy environment, which requires strong governance, the rule of law, transparency and an accountable government.

  USAID staff has concerns on the adequacy of the proposed NNP1 offsets because past biodiversity offsets have not been effective. For example, when the ADB financed another hydropower project in Laos, the Nam Leuk, the project was designed to provide long-term support for the effective protection and management of the Phou Khao Khouay National Protected Area (PKK-NPA), since the hydropower project is located within the protected area. In 2005, an ADB Operations Evaluation Mission (OEM) did not find that long-term support for the effective protection and management of PKK-NBCA was being achieved and stated that unless PKK park management was strengthened, its long-term sustainability was not assured. While ADB did respond to these concerns by establishing the the Nam Leuk Hydropower Project's 1% Fund, funds that are intended to be used for the protection and management of the PKK, that there were subsequent disagreements between the GoL and the PKK managers on the use of the funds.

- The Nakai-Nam Theun National Protected Area in the Nam Theun 2 is another example of a designated biodiversity offset under the ADB and WB financing for that NT2 hydropower project (funded in 2005). A Prime Minister's Decree in 2005 established the Watershed Management and Protection Authority (WMPA) to manage this biodiversity offset. As part of the project oversight, an independent Panel of Experts has been reviewing the environmental and social elements of the NT2 project over an extended period of time. The latest monitoring report from May 2014 stated "It should determine what the basic functions of the WMPA should now be, given its manifest failure in its present form to carry out the fundamental task of protecting the watershed's biodiversity."[8]

[7] Pelosi Amendment (Section 1307) of the International Financial Institutions Act

[8] http://www.worldbank.org/content/dam/Worldbank/document/EAP/laopdr/1405_LA%20NT2_POE%20Report%20%2322%20and%20LOM.pdf

The United States abstained on the project in August 2014 because of lack of consistency with the Pelosi Amendment, and concerns over the extent to which the project complied with the international best practices on hydropower development.

Section 2
USAID Affirmative Investigations

This section includes brief descriptions of affirmative investigations that USAID has conducted during April 2014 through August 2014. Affirmative investigations are carried out as part of USAID's due diligence responsibilities under the International Financial Institutions Act, Title XIII, Section 1303(a)(3), which requires USAID to review MDB projects with potential adverse environmental and social impacts. Reports for each affirmative investigation, along with environmental and social recommendations based on the site visits, stakeholder discussions and available documentation, are made publically available when finalized.

- **Nepal – Upper Marsyangdi 2 Hydropower Project**

Upper Marsyangdi 2 (UM2) hydropower project is a 600 MW, 32 m-high, run-of-river/river diversion (RoR/RD) dam project located on the Marsyangdi River. The purpose of the project is primarily to provide electricity for export to India as part of Nepal's hydropower policy and proposed power exchange with India, in which India and Nepal will import or export power from each other depending on the season.[9] The project will provide revenue to the Government of Nepal (GoN) and a percentage of the electricity generated is expected to go to the domestic grid.
The project sponsor is GMR Energy Limited (India based) which is the majority shareholder. The project is also an IFC Infraventures[10] investment with IFC as one of the project developers. The project ESIA has been finalized and approved by the GoN. However, based on a gap analysis, a series of complementary assessment studies are being undertaken by both GMR and IFC to bring the ESIA up to international standards prior to WB Board approval. The project sponsor is in negotiations to finalize and sign the Power Purchase Agreement with Nepal Electricity Authority and the Project Development Agreement with the Ministry of Energy.

The project consists of the intake site and dam located near Siran Tal village[11] and the powerhouse is located near Syange village (the population of each village is approximately 50 to 150 people). The dam site (elevation approximately 1670 m msl[12]) and powerhouse are located at the bottom of the Marsyangdi gorge. The section of the river that will be dewatered is within the Ghermu Village Development Committee (VDC). The headrace tunnel is 9.2 km resulting in an approximately 13 km stretch of the Marsyangdi River from Siran Tal to Syange, which will have reduced river flow.

In addition to the transmission line, associated components of the project include: access roads for

[9] http://www.sify.com/news/gmr-ifc-to-develop-hydro-power-project-in-nepal-news-international-nmutaxhejdc.html
[10] The IFC Global Infrastructure Project Development Fund helps develop public-private partnerships and private projects for infrastructure in developing countries. It provides early-stage risk capital and actively participates in the project development phase to create private infrastructure projects that are commercially viable and able to more rapidly achieve financing close.
[11] Two significant mass movements occurred recently in Tal, (just downstream from Thulagi Lake) one of which buried some structures in the village in June 2012. Leonard et al 2014 Geophysical Research Abstracts Vol. 16, EGU2014-16670, 2014 EGU General Assembly 2014 Compounding Hazards Facing Nepalese Villages due to Glacial Lake
[12] Mean Sea Level

adit[13] construction, project structures and facilities, and seven spoil/muck disposal areas. There are seven proposed projects, including UM2, to be sited on the Marsyangdi River. Two of the projects are in operation (Lower Marsyangdi – 69 MW and Middle Marsyangdi – 72 MW) and located below the UM2 project site. An estimated total of 3251.8 MW is expected to be generated by the RoR/RD type projects in the Marsyangdi River.[14] UM2 is the third HPP from the top of the HPP development cascade.

Marsyangdi basin consists of 22 glacial lakes consisting of 5.158 sq. km.[15] Thulagi Lake[16] is located at the end of the Thulagi Glacier to the southwest of Mount Manaslu in the headwaters of the Dona Khola, a tributary of the Marsyangdi river, approximately 14 km upstream from the dam site. Thulagi Lake has attracted attention because several hydropower projects are planned downstream on the main Marsyangdi reach. Recent research has indicated that the risk of a serious Glacial Lake Outburst Flood (GLOF) exceeds that of another lake being closely monitored (Imja Lake) due to Thulagi Lake's large hydrographic head and the shape of its downstream end, which could funnel and amplify a potential tsunami generated by a large mass movement into the lake. A lateral moraine collapse into the lake would not necessarily generate a GLOF; however, a GLOF is possible.[17,18] Project sponsors have indicated that they have taken potential glacial melt into account during project design, though it is yet unclear whether that planning has anticipated an event such as a GLOF.

The project area lies in the southeastern border of the Annapurna Conservation Area (ACA). The ACA encompasses a large landscape including high altitude mountains and pastures, trans-Himalayan valleys, forests, lakes, glaciers, rivers, and cultivated lands. There are more than 100 mammal species that occur in the ACA including the snow leopard, 478 species of birds including 38 species of birds at risk in Nepal, 41 species of reptiles and 23 species of amphibians. Twenty-seven species of mammals found in the ACA are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) appendices while 13 species of mammals and three bird species are protected under Appendix I of the National Parks and Wildlife Conservation Act of 1973. Components of the project are located along sections of the Annapurna Historic Trekking Trail. The three major ethnic/caste groups – Janajati (mostly Gurung), Brahmin/Chhetri and Dalit – live in the project area. Livelihoods of inhabitants of villages located in proximity to the Annapurna Historic Trekking Trail are based on the tourism sector, particularly lodging, restaurants and guides/porters. These sectors have already seen substantial revenue

[13] An adit is a horizontal tunnel leading into the main headrace tunnel for the purposes of access during construction.
[14] Hydro Nepal: Journal of Water, Energy and Environment ISSN 1998-5452 R. Jha, 2011
[15] ICIMOD (2011)
[16] at 28°29' N latitude and 84°29' E longitude at an altitude of 4,044 masl
[17] Modeling results of a GLOF indicate that Dharapani, Tal, and Nayabasti villages located at 13.5, 19.2, and 94.1 km from Thulagi Lake outlet, can expect flood arrival times of 0.99, 1.17, and 5.40 hours, respectively. Flood routing for Thulagi Lake had a systematically decreasing trend in the peak flow with a gradual decrease as it proceeded downstream (Figure 8.4b). Dharapani, Tal, Sattle, Lampata, Dadabagar, Belghari, Naubise, Botgaun, and Nayabasti would receive a flood height of more than 10 m. Tal village located a few metres above the river would be seriously affected as the flood depth above the normal flow depth would be over 7m and all the settlements and land would be damaged. An estimated 1132.8 ha would be exposed to a GLOF from Thulagi Lake: about 73% (821.3 ha) would be flooded along the course of the river; 28% would be agricultural land (188.7 ha), forests (73.9 ha), grassland (33.3 ha), and barren land (15.6 ha). And
[18] Leonard et al 2014 Geophysical Research Abstracts Vol. 16, EGU2014-16670, 2014 EGU General Assembly 2014 Compounding Hazards Facing Nepalese Villages due to Glacial Lake

declines due to the construction of access roads and other activity from the projects already in construction or operation. Tourism Class 4 and 5 kayaking[19] is available on the river. USAID completed an affirmative investigation of the proposed project in June 2014.

USAID/Washington staff was accompanied by U.S. Treasury and USAID/Nepal staff. The trip included a visit to the proposed site of the UM2 HPP and surrounding areas. The team met with stakeholders affected by the project and representatives of the project sponsor, the Government of Nepal, World Bank, Asian Development Bank, civil society organizations, and researchers.

Environmental and social information obtained from the site visit and documentation will be used primarily to provide recommendations to the WB/IFC, project sponsor, and the GoN.

- **Nepal – Upper Trishuli 1 Hydropower Project**

Upper Trishuli 1 hydropower project (UT-1) is a 216 MW, 30 m-high, run-of-river/river diversion dam project on the Trishuli River. The purpose of the project is to provide electricity to Nepal's domestic grid. [20]

The project sponsor is Korea South East Power Corporation (NWEDC), the majority shareholder with Jade Power as the local developer. The project is an IFC Infraventures[21] investment with the IFC as one of the project developers. The project ESIA has been finalized and approved by the GoN. However, based on a gap analysis, a series of complementary assessment studies are being undertaken by both NWEDC and IFC to bring the ESIA up to international standards prior to WB Board approval. The project sponsor is in negotiations to finalize and sign the Power Purchase Agreement with Nepal Electricity Authority and the Project Development Agreement with the Ministry of Energy.

The hydropower facility is designed to work at a constant water level of 1,255 m requiring storage capacity in the reservoir to compensate for low flows, although it is expected that the operation mode will be run-of-river most of the time. The diversion reach[22] between the intake site and the tailrace extends for 10.7 km. The catchment area of the Trishuli watershed at the UT-1's intake site is 4350 km^2, and 71 percent of this surface is located in the Tibet Autonomous Region in Chinese territory.

The project's associated facilities – including the intake structure, the headrace tunnel, the 19-km access road, and the underground power station – are located in the right bank of the Trishuli River

[19] International scale of difficulty in white water rafting based on 6 classes. Class 4: Whitewater, medium waves, maybe rocks, maybe a considerable drop, sharp maneuvers may be needed. Class 5: Whitewater, large waves, large volume, possibility of large rocks and hazards, possibility of a large drop, requires precise maneuvering.
[20] http://www.sify.com/news/gmr-ifc-to-develop-hydro-power-project-in-nepal-news-international-nmutaxhejdc.html
21 The IFC Global Infrastructure Project Development Fund helps develop public-private partnerships and private projects for infrastructure in developing countries. It provides early-stage risk capital and actively participates in the project development phase to create private infrastructure projects that are commercially viable and able to more rapidly achieve financing close.
22 Diversion reach is the section of river between the dam and the powerhouse that water has been diverted from.

in the community and private forest of Haku VDC. The left side of the weir[23] falls on the buffer zone of the National Park. Routing of the transmission line is not available. At this stage, the project has begun construction, and earthworks are being carried out in the powerhouse area. It is expected that the project will be completed in five years. Following construction, the road will become part of the national strategic road (Galchi–Trisuli–Dhunche–Syaphrubesi- –Rasuwagadhi) going to the Chinese border.

The Trishuli River has the highest concentration of hydropower development of Nepal's river systems to date. There are currently five hydropower projects in operation and nine under construction, including the UT-1 Project. Another 19 have survey licenses.[24] All of these projects are operating or will operate as run-of-river/river diversion facilities with generation capacities ranging between 1 and 216 MW. Once finished, the UT-1 will be the facility with the highest generation capacity (216 MW) in the watershed. Hydropower projects are also located on at least one tributary – the Chlime River that enters the Trishuli above UT-1.

The left bank of the Trishuli is in the core zone of Langtang National Park.[25] The Langtang National Park was established in 1976. The LNP's buffer zone was declared in 1998. Langtang National Park is the nearest national park to Kathmandu. The National Park represents a meeting point between Indo-Malayan and Palearctic realms, resulting in rich biodiversity.[26] The area is characterized by sub-tropical Sal (*Shorea robusta*) forest in the southern section of the park, which is gradually replaced by hill forest. The temperate zone is covered mainly by oak forest and old growth forest of silver fir, hemlock, and larch in the lower sub-alpine zone. However, reportedly there are degraded areas along the Trishuli River.[27] The National Park is known for its populations of red panda[28], Himalayan black bear, snow leopard, wild dog, ghoral, serow and more than 250 species of birds. The Trishuli-Bhote Koshi River forms an important route for birds on spring and autumn migrations between India and Tibet.

In addition to wildlife, 20 species of high-valued medicinal plants, 40 percent of the valuable medicinal plants in Nepal, were identified in Lantang National Park.[29] Four of these species are under special protection by the GoN, seven species are on the IUCN Red List and one species is included in CITES Appendix II. All of these species have a high trade demand for domestic sale and export and are traded both legally and illegally. Medicinal plants are crucial to the Tamang who inhabit that area as they rely on traditional herbal medicines to meet their primary health care needs. Construction of the hydropower plant and associated facilities is not expected to take place on the left bank where Langtang National Park is located, but the opening of the area from the construction of access roads may increase trafficking risks.

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23 A weir is a barrier designed to alter the flow of a river, generally smaller than a conventional dam.
24 DOED November 2013 http://www.doed.gov.np/issued_licenses.php
25 WWF Nepal
26 http://www.dnpwc.gov.np
27 IFC meeting 23 April 2014
28 Nepal is home to approximately 1.9% of the total global population of the red panda, which is estimated on the basis of habitat suitability index model. Langtang National Park (LNP) shares 24.33% of Nepal's total red panda population.
29 Shrestha and Shrestha. Vulnerability assessment of high-valued medicinal plants in Langtang National Park, Central Nepal. Tropical Conservancy (2012)

The project area has experienced major landslides – Ramche,[30] Thade, Hakubeshi and Sarghang.[31] The Hakubeshi landslide is visible above the village of Hakubeshi where the headrace tunnel is expected to be located. Similar to Ramche, this landslide has not stabilized. The Trishuli basin consists of 50 glacial lakes for a total of 1.678 km^2.[32] In 1964, the Longda Glacial Lake burst, washing out a huge amount of sediment which created a debris blockage 800 m long, 200 m wide and 5 m deep along the Gyirongzangbo River – the source of the Trishuli River.[33]

In addition to the majority Tamang, the region is home to several other ethnic groups. The Tamang are traditionally farmers and raise cattle. The project will have a benefit-sharing component for the local communities, the details of which have not been defined. A number of villagers within the affected area of the proposed UT-1 are aware of the Chilime HPP upstream, which is the first project in Nepal to introduce benefit sharing to project-affected villages and the district where UT-1 is located. The Chilime HPP has helped people improve their social status through share distribution and payments, and persons in the affected area of that project have purchased shares of project profits for benefit sharing. Some beneficiaries of the Chilime HPP benefit sharing have purchased homes in Kathmandu. Villagers have the same expectations with UT-1 as they have either personally experienced or heard about with Chilime.

USAID completed an affirmative investigation of the proposed project in June 2014. USAID/Washington staff was accompanied by U.S. Treasury and USAID/Nepal staff. The trip included a visit to the proposed site of the UT-1 HPP and surrounding areas. The team met with stakeholders affected by the project and representatives of the project sponsor, the Government of Nepal, World Bank, Asian Development Bank, civil society organizations, and researchers.

Environmental and social information obtained from the site visit and documentation will be used primarily to provide recommendations to the WBG/IFC, project sponsor and the GoN.

- **Nepal – Upper Arun Hydropower Project**

The proposed Upper Arun HPP (UAHP) project is expected to be a 335 MW run-of-river/river diversion HPP, located on the Arun River. The site was first identified by the Master Plan Study of Koshi River Water Resources Development by JICA in 1985. The World Bank is advising on the proposed studies as part of its ongoing engagement with, and support to, the Government of Nepal in strategic planning and detailed project preparation for priority projects in the hydropower sector. While decisions related to the future financing of the project have not yet been taken, the proposed studies will be carried out in accordance with World Bank Operational Policies, including Safeguard Policies and Environmental, Health and Safety (EHS) Guidelines, in addition to applicable national legislation. The World Bank is developing a technical assistance proposal for the Upper Arun hydropower project, which is expected to come to the World Bank Board before

[30] http://www.nepjol.info/index.php/JNGS/article/view/787
[31] This landslide is near the proposed Adit 1.
[32] ICIMOD (2011)
[33] Bajracharya et al. The impact of global warming on the glaciers of the Himalaya.

December 2014.

The Project Development Department of the Nepal Electricity Authority (NEA) has initiated preparatory work for the detailed engineering design. NEA has been given permission by the Cabinet of the Nepal Government to implement the Upper Arun HPP under the ownership of the GoN. NEA held a public consultation on the ESIA Terms of Reference in April 2014.[34] The Terms of Reference is still in draft and NEA is assembling separate environmental and technical teams to be hired under the Terms of Reference. NEA is planning to undertake a cumulative impact assessment for the entire basin, with the support of the World Bank, with the earliest possible start date of September 2014.[35] It is expected that a different consultant group will be hired for monitoring project implementation.

The project is located in the Sankhuwasabha District of eastern Nepal, about 15 km south of the international border with Tibet. The Arun River is part of the Sapta Koshi River Basin in eastern Nepal, which consists of a network of seven major rivers. The Arun River is one of four rivers in the system which originates from a glacier on the northern slope of Mt. Xixabangma Feng on the Tibetan Plateau. The Arun sub-basin consists of 91 glaciers with a drainage area of 482.2 km^2.[36] The Arun River sub-basin has experienced glacial lake outburst floods (GLOF) from four lakes, of which three originate in Tibet. A recent visit by researchers to the West Barun Glacial Lake revealed a growing lake and the potential for a glacial lake outburst flood which could directly threaten development on the Arun River below Barun Bazaar.[37]

The Arun River borders the Makalu Barun National Park, the eastern extension of the Sagarmatha National Park. Makalu Barun National Park and Buffer Zone area was established in 1992. Makalu-Barun is included in the Sacred Himalayan Landscape which extends across the Arun River into the Kanchenjunga Conservation Area in Nepal and extends into India and Bhutan. The Makalu Barun National Park is recognized for its tremendous diversity of plants: the area is composed of high diversity of forest types that are characteristic of the Eastern Himalayas, ranging from near-tropical dipterocarp[38] monsoon forest to subalpine conifer stands; 3,128 species of flowering plants, including 25 species of rhododendron, 47 types of orchids, 56 rare plants and 67 economically valuable aromatic and medicinal plants have been recorded.[39] There are 78 species of fish which inhabit the many ponds, lakes and rivers,[40] as well as 440 recorded bird species,

[34] Website for documents

[35] On September 25, 2015, the World Bank Executive Board of Directors approved a credit of $20 million for the Government of Nepal to implement the Power Sector Reform and Sustainable Hydropower Development Project. The first project component will support the preparation of the Upper Arun Hydropower Project and the Ikhuwa Khola Hydropower Project. On March 27, 2016, the tender closed for selection of consulting services to conduct the Environmental and Social Impact Assessment, the Cumulative Impact Assessment and related Social Planning Studies.

[36] Mool et al., 2001

[37] Byers, forthcoming: Final Report, Contemporary Human, Cattle, and Climate Change Impacts on the Barun Valley, Makalu-Barun National Park and Buffer Zone, Nepal. National Geographic Society Conservation Trust Grant #C259. Photo courtesy of A. C. Byers.

[38] A forest of tall hardwood tropical trees chiefly of southeastern Asia.

[39] Shrestha, T. B., Sakya R., Nepali, H. S. (1990). Scientific Report on field survey of 1989: General and Phyto-ecology Working paper No. 8, Makalu-Barun Conservation Project, Kathmandu, Nepal.

[40] Jha, S. G. (2003). Linkages between biological and cultural diversity for participatory management: Nepal's experiences with Makalu-Barun National Park and buffer zone. Journal of the National Science Foundation of Sri Lanka 31 (1&2): 41–56.

ranging from eagles and other raptors to white-necked storks and brilliantly colored sunbirds.[41] The 88 species of mammals include snow leopard, leopard, clouded leopard, jungle cat, leopard cat, jackal, Himalayan Wolf, red fox, red panda, black bear, Hanuman langur, Assam macaque, Himalayan tahr, and Himalayan goral.[42]

There are a number of ethnic groups living in the area – including Tamang, Gurung, Rai, Bahun and Chetri. The ratio of each ethnic group varies within villages. Livelihoods are primarily based on agriculture (rice, maize, millet, potato) and livestock. The land is very productive, with a high percentage of rice paddies. Villagers also grow fruits, grains and vegetables. There is also a growing cardamom industry which is providing villagers with income. The Arun River tributaries are used for fishing, primarily by men and boys, whereas the main artery of the river is too rough for fishing near most villages.

The road through the Arun River Basin is one of Nepal's six strategic roads connecting India and China. The GoN strategic road will provide access to the powerhouse area at Barun Bazaar. The powerhouse may be located 2 km downstream of the Barun River confluence with the Arun River. Based on stakeholder interviews, many in the local communities expect that they will receive a 10 percent share investment in the HPP. However, because NEA is financing Upper Arun, it will not be possible to provide shares for this project. Therefore, NEA will develop the 30 MW Ikhulua Khola HPP for the local communities to invest in. The model for this project is Chilime HPP, which is considered a success story and which provides benefit-sharing opportunities for the local communities.

USAID completed an affirmative investigation of the proposed project in June 2014. USAID/Washington staff was accompanied by U.S. Department of State staff. The trip included a visit to the proposed site of the UAHP power house and along the stretch of the Arun River that will be subject to reduced water flows. The team met with stakeholders affected by the project and the Government of Nepal, World Bank, Asian Development Bank, civil society organizations, and researchers.

Environmental and social information obtained from the site visit and documentation will be used primarily to provide recommendations to the WB/IFC and the GoN.

[41] Bhuju, U. R., Shakya, P. R., Basnet, T. B., Shrestha, S. (2007). Nepal Biodiversity Resource Book. Protected Areas, Ramsar Sites, and World Heritage Sites. International Centre for Integrated Mountain Development, Ministry of Environment, Science and Technology, in cooperation with United Nations Environment Programme, Regional Office for Asia and the Pacific. Kathmandu, Nepal.

[42] Jha, S. G. (2003). Linkages between biological and cultural diversity for participatory management: Nepal's experiences with Makalu-Barun National Park and buffer zone. Journal of the National Science Foundation of Sri Lanka 31 (1&2): 41–56.

Section 3
Future MDB Proposals with Potential Environmental and Social Impacts

USAID monitors the status of some projects in the project proposal process. These projects may not yet be in the MDB pipelines, may not have initiated the ESIA and/or may not be scheduled for a board vote. USAID will monitor the status of these proposals, which may be considered for future affirmative investigations; updated information will be provided when available. Criteria used for including selected projects on the monitoring list include potential impacts on biodiversity, environment/natural resources, indigenous peoples, public health and potential adverse cumulative environmental and social impacts. This list in not inclusive of all projects that should be monitored, but it provides an overview of some of the projects that are being monitored.

Projects recently added to USAID's monitoring list:

- **Indonesia – Scaling Up Hydropower Development Project Preparatory TA (ADB proposed financing)**
  Feasibility studies for three hydropower projects were originally included in this proposal, of which the Warsamson project (46.5 MW run-of-river; Cat A for environment, involuntary resettlement and indigenous peoples) located on West Papua is being monitored. Warsamson HPP will require 3,240 ha of land, of which 2,440 ha of forestry land is occupied by customary communities (indigenous peoples), 175 ha of cacao plantation land, 600 ha of agricultural land and 600 ha of river basin areas. There are several customary groups living in the project area that will potentially lose their land, trees/crops, and access to natural resources as a source of livelihood. Additionally, 96 households may need to be physically resettled. As of August 2014, project due-diligence on Warsamson has been suspended contingent on further discussions between the Perusahaan Listrik Negara (State Electricity Company) and the local government on managing local people's expectations about project impacts and resettlement issues.

- **Vietnam – Second Greater Mekong Subregion (GMS) Southern Coastal Corridor Project (ADB proposed additional financing)**
  The project will require new road alignment and disturb primarily agricultural land. The project is located in the coastal area, prone to floods, and crosses a number of rivers and canals. This project complements the first section of the GMS road corridor project approved in 2007 and will construct the missing sections of the GMS road corridor in Kien Giang province. The GMS Southern Coastal Corridor goes through part of ADB's Biodiversity Corridor in Cambodia – the Cardamon and Elephant Mountains.

- **Samoa – Port Master Plan and Submarine Cable to Fiji (ADB proposed financing)**
  There is no documentation available on either of these projects. USAID understands that the Port Master Plan will lay the foundation for subsequent projects in late 2015/2016 that could be financed by the ADB. Samoa is particularly

vulnerable to the adverse effects of global climate change, as well as very poorly equipped to respond. The region is home to major fisheries, coral reefs, and important tropical forests.

- **Burma – Ayeyarwady Integrated River Management (WB proposed financing)** The Ayeyarwady is Burma's largest river basin and accounts for more than 60 percent of Burma's landmass, accommodates 70 percent of its population, and transports 40 percent of its commerce. The objective of the program (a series of projects) will be to strengthen integrated, climate resilient management and development of the Ayeyarwady River Basin. The objective of the first phase is to develop the institutions and tools needed to implement integrated river basin management, and deliver related livelihoods benefits from enhanced navigation and hydromet[43] warning and advisory services. Hydropower development, however, remains a significant interest. The Ayeyarwady River alone is believed to have 38,000 MW of potential installed capacity.

Projects discussed in earlier MDB Reports to Congress that continue to be followed:

- *Botswana – BCL Coal Plant (AfDB has indicated that it will not be funding)*
- *Cameroon – Nachtigal Hydropower Project (potential IFC)*
- *Colombia – Ituango Hydropower Project (potential IDB financing)*
- *Guatemala – Land Administration Project II (WB approved 2006, potential for additional financing and expansion of the project)*
- *Indo-Nepal Transmission Line (potential IFC financing)*
- *Indonesia – Regional Road Development II Project (potential ADB financing)*
- *Kenya – Lamu Port, Southern Sudan-Ethiopia Transport (AfDB-financed road study, potential additional AfDB financing)*
- *Laos – Nam Theun 2 Hydropower Expansion (MDBs just monitoring but no active preparation)*
- *Laos – Vietnam Power Interconnection Project (potential ADB financing)*
- *Liberia – Dugbe Gold Project ($8.8 million IFC equity investment for feasibility studies, potential subsequent IFC investments)*
- *Malawi - Kholombidzo Hydropower Project (potential AfDB financing)*
- *Mongolia – Orkhon River Diversion Project (potential WB financing)*
- *Mozambique – Mphanda Nkuwa Hydropower Project*
- *Multinational: Study on the Ouesso-Bangui-N'djamena Road and Inland Navigation on the Congo, Oubangui and Sangha Rivers (AfDB – Technical assistance was approved in 2012, potential for financing part of the construction activities)*
- *Nepal – Bridges Improvement and Maintenance Program (WB financing approved in 2012)*
- *Nepal – Energy Access and Efficiency Improvement Project III (potential ADB financing)*
- *Regional – North-South Corridor: DRC, Zambia, South Africa (potential AfDB, WB financing)*

[43] A system of data collection platforms that gathers hydrometeorological data.

- *Regional Isaka – Kigali railway: Burundi, Tanzana, Rwanda (potential AfDB financing)*

Should information become available that indicates that these projects may have significant adverse impacts, USAID will consider an affirmative investigation.