Affirmative Investigation -
Nepal - Upper Karnali Hydropower Project

Site visit: April 2016

Report prepared by: LJohnston, USAID/E3

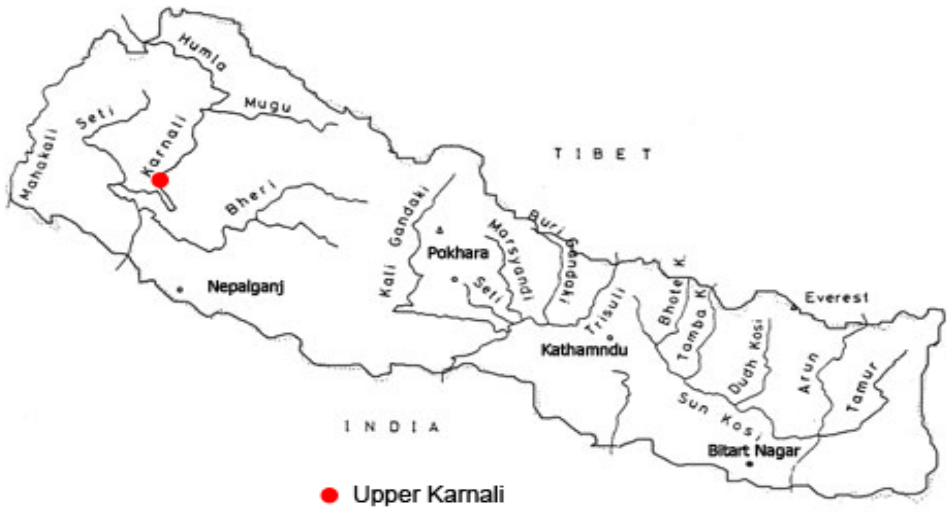
Project: Upper Karnali Hydropower Project

Safeguard Category: A

Projected Cost: est. $1.15 billion

Proposed Board Date: To Be Determined

Current Status: The Upper Karnali hydropower project is in its early stages of development by a subsidiary of GMR Energy, GMR Upper Karnali Hydropower Ltd., the majority shareholder with International Finance Corporation (IFC) InfraVentures as one of the project developers. The project is being developed under the auspices of the Investment Board of the Government of Nepal (IBN). The Project Development Agreement with the Ministry of Energy was signed on September 19, 2014. In April 2016, a consortium of lenders (including the IFC, Asian Development Bank, Japan International Cooperation Agency (JICA), European Investment Bank) visited the project site and issued a letter of intent to invest $1.1 billion in the project. In May 2016, GMR requested an additional year to secure financing. The draft Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) are in the process of being finalized for public disclosure.



Executive Summary

The International Financial Institutions Act (IFIA), Title XIII, Section 1303(a)(1), requires the United States Agency for International Development (USAID) to review multilateral development bank (MDB) project proposals to determine whether the proposals will contribute to the country's sustainable development. Proposals that are particularly likely to have substantial adverse environmental and social impacts are candidates for an affirmative investigation under Section 1303(a)(3) of the IFIA. Projects subject to an affirmative investigation are identified based on reviews that look for potential impacts on the environment, natural resources, public health and indigenous peoples. USAID's Bureau for Economic Growth, Education, and Environment (USAID/E3) leads the affirmative investigation process in consultation with the Department of the Treasury, the Department of State, and other relevant federal agencies. USAID's intent is to conduct these site visits early in the process of project preparation to provide recommendations aimed at improving the environmental and social aspects of the project prior to presentation and vote at the respective MDB Executive Board of Directors meetings. USAID discusses its observations and proposed recommendations with the U.S. interagency and the MDB supporting the project. If not classified, the information collected during the affirmative investigation is made available to the public.

This affirmative investigation focused on the Upper Karnali hydropower project in which the IFC has an equity investment and is working with the project developer, GMR[1], to assist in developing the financial package. The objective of the affirmative investigation is to provide project-specific recommendations for Upper Karnali hydropower project to address potentially significant environmental and social impacts, including mitigation measures or project alternatives.

At the time of USAID's visit (April 2016), neither the Terms of Reference (TOR) for the ESIA nor the environmental and social documents for the project were available for review. When available, these documents will be reviewed and, as warranted, recommendations contained in this report will be revised and an updated report issued.

Summary of Findings

1. **Strong political and community support exists for hydropower development on the Karnali River as a means for providing development opportunities to the districts and communities.** There is widespread political and community support for the sustainable development of hydropower projects on the Karnali River due, in part, to the absence of economic development and social services in the project area. Both the Government of Nepal (GoN) and local communities are waiting for the project to provide employment, economic opportunities and social services. However, many of the project's benefits will likely be years in the future, given that compensation and associated

[1] http://www.gmrgroup.in/energy-upper-karnali-project.aspx

development activities cannot commence until the project reaches financial closure. Project-affected districts will not begin to receive additional support through royalties until after the project begins operations and the royalties are not specifically targeted to the project-affected communities. This delay broadly restricts investment, development programs and economic growth while communities and local government wait in limbo for the benefits of the hydropower project to materialize.

2. **Historical political sensitivities between Nepal and India influence support for the 900 MW Upper Karnali hydropower project and create increased concerns over project delays.** The major political parties support the project whereas some of the smaller ones do not. In discussions with communities and local leaders, positions ranged from complete support with a request for immediate construction to uncertainty and questions that harken back to the historic political sensitivities between Nepal and India. Additionally, continuing delays in the project start date have created high levels of stakeholder anxiety and suspicion of the GoN, IBN, and GMR.
3. **Lack of adequate information and effective communication between IBN, GMR, and project-affected communities.** GMR has held more than 500 meetings with local communities and leaders since they signed the project Memorandum of Understanding (MOU) with the GoN in 2008. Most of the meetings appear to have been aimed at gaining information for the RAP and the ESIA. Regardless, there appears to be a lack of effective communication about the project as a whole, which has resulted in unrealistic expectations about the project timeline. This is reflected in stakeholders' concerns over project delays and a general lack of understanding about the steps necessary before GMR will obtain financing for construction and implementation of local community development activities under the Project Development Agreement (PDA).[2] In all of the discussions, there was an undercurrent of lack of transparency by either IBN or GMR concerning the project.
4. **There is concern over the scope of the project's ESIA and mitigation measures.** International and local consultants have been contracted to undertake the ESIA for the project. In several meetings, stakeholders stated that they were more comfortable talking about social issues than "technical" environmental issues. Nevertheless, concerns were raised about gaps in the ESIA and the ability or commitment of the project sponsor or GoN to implement the mitigation measures.
5. **Communities want to be compensated appropriately, but lack understanding of the extent of the benefits and the role of the Project Development Agreement.** Discussions highlighted continued uncertainty over local benefits (which range from health

[2] The Project Development Agreement is designed to serve as the definitive document that sets out all obligations by the government and the developer to ensure that the interests of both parties are protected and well served for the duration of the 30 - 35 year concession period. In the agreement, the government assures investors that it will avert any possible social, economic, or policy-level uncertainties during the construction phase. http://ibn.gov.np/uploads/files/Working%20Classification/PDA/Upper%20Karnali%20HEP%20PDA%20(GoN-GMR%20ITD).pdf

clinics to schools to hydropower project shares) and a lack of understanding of the role of the PDA.

Summary of Recommendations

Based on the project area site visits, stakeholder discussions, and available documentation, USAID proposes the following environmental and social recommendations for the Upper Karnali Hydropower Project. In some cases, recommendations are directed to a specific stakeholder(s).

1. **Institute an interim development program for project-affected communities as soon as feasible.** Due to the long lag time between project planning, construction and operation, project-affected communities are in a state of limbo since they are not receiving benefits from the project and only limited basic services from the GoN. The AI team recommends working with the affected communities to develop an interim development program that would more immediately enhance livelihoods. Depending on communities' priorities, the program could: support the education system (including adult education); provide health services and electricity (via solar or micro-hydro); and improve market access through transportation improvements (Annex I). The interim development program would be implemented as soon as feasible and, at the latest, within one-year of signing the MOU between the GoN and project sponsor.
2. **Improve communication and provide realistic information to stakeholders on the timeline for project development.** Despite the outreach that GMR has done to date, there are still significant gaps in communication with communities. The questions raised during discussions highlight the critical importance for communities to understand the complexities of developing a hydropower project of this size, including the role of the PDA. Communications need to be improved, and it is recommended that an IBN information officer be stationed in the project area to assist in providing timely information.
3. **Analyze the differential impacts of when and how project-affected communities acquire project shares.** Research has suggested that the economic value of project share offerings in the hydropower project has the potential to warp local incentives, water resource governance, and the due process of stakeholder engagement. Project sponsors – GMR, IFC and IBN – need to fully assess when and how project shares will be offered to project-affected communities and to understand the associated risks so they are better positioned to educate project-affected communities.
4. **Provide information and training sessions on financial management and project shares.** Project-affected communities will be provided with both financial compensation and the option to acquire project shares as a form of benefit sharing. Given the potential for change in livelihoods and loss of land, the communities will need to strengthen their abilities to manage their finances for the long-term. Project shares can be a means for both cost-sharing and risk-sharing of the project development by communities depending on how and when shares are acquired in relation to the project development stage. Information and training on financial/risk management would help to ensure economic incentives do not eclipse the process of stakeholder engagement and negotiations.
5. **Include a provision for increases in compensation due to delayed project activities.** Given the delay in starting project construction, compensation, when finally

agreed, should be adjusted for inflation and include penalties to reflect delays. This is relevant for assets like land but should be equally applicable to any "lost livelihood" amounts.

6. **Ensure downstream impacts are robustly assessed and avoidance/mitigation measures proposed in the ESIA and Cumulative Impact Assessment (CIA).**[3] Major businesses (e.g., rafting and adventure tourism) and local livelihoods dependent on Bardia National Park, Terai grasslands, ecotourism, fisheries, and irrigation systems will be impacted. These impacts need to be accurately identified, and appropriate data needs to be collected and analyzed in the alternatives analysis in the ESIA and CIA. Other proposed developments, including: the West Seti Hydropower Storage Project[4] on a major tributary of the Karnali River (Annex II); and hydropower development[5] on the Karnali River in the Tibetan Autonomous Region (China) will need to be included in the CIA. Examples of additional information to inform the ESIA and CIA include: a) baseline data addressing the information gaps for critical resource receptors[6], such as mahseer (*Tor* spp.)[7] and long distance migratory freshwater eel (*Anguilla* spp.) migration patterns, including identification of associated critical habitat; b) data on the prey base and habitat of Nepal's population of Ganges River Dolphin (*Platanista gangetica);* c) hydrological data and analysis taking into account other hydropower projects; d) data on sedimentation and nutrients; and e) data on ecosystem services.
7. **Coordinate with river basin planning process**. The project sponsor should coordinate with the World Bank-supported Power Sector Reform and Sustainable Hydropower Development Program's plans to conduct a basin-wide planning process for the Karnali Basin. This would include conducting and integrating a Strategic Environmental Assessment into the decision making process to help prioritize key areas and processes in the river system that need to be protected and maintained.

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[3] IFC's Good Practice Handbook "Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets" states that private developers need to take into consideration other projects and external factors that may affect key resource receptors and by not doing so "may place the developer's own efforts at risk and also negatively affect its reputation." (page 10)

[4] The West Seti Hydropower Storage Project is a 750 MW, 195-metre (640 ft) high concrete-face rock-fill dam. The dam's catchment area covers the upper 4,022 square kilometres (1,553 sq mi) of the Seti River Basin. The power station will be located approximately 63 kilometres (39 mi) upstream of the Seti River confluence with the Karnali River, with the dam site located a further 19.2 kilometres (11.9 mi) upstream. Similar to Upper Karnali, IBN is responsible for facilitating the development of this project. http://www.nepalenergyforum.com/nea-china-three-gorges-close-to-signing-jv-deal/; https://thehimalayantimes.com/business/joint-agreement-west-seti-project-likely-signed-month/

[5] The Pulan Hydropower Project is reported to be planned just north of the Nepal border on the Karnali River in Tibet Autonomous Region (China). http://stsfor.org/content/hydro-power-projects-yarlung-tsangpo-and-concerns-india

[6] Critical resource receptors include: 1) physical features, habitats, wildlife populations (e.g., biodiversity), 2) ecosystem services, 3) natural processes (e.g., water and nutrient cycles, microclimate), 4) social conditions (e.g., health, economics), or 5) cultural aspects (e.g., traditional spiritual ceremonies).

[7] Annex IV provides examples of the type of methodology that could be used.

Purpose of the Affirmative Investigation

The International Financial Institutions Act (IFIA), Title XIII, Section 1303(a)(1), requires USAID to review multilateral development bank (MDB) project proposals to determine whether the proposals will contribute to the country's sustainable development. Proposals that are particularly likely to have substantial adverse environmental and social impacts are candidates for an affirmative investigation under Section 1303(a)(3) of the IFIA. Projects subject to an affirmative investigation are identified based on reviews that look for potential impacts on the environment, natural resources, public health and indigenous peoples. USAID/E3 leads the affirmative investigation process in consultation with the Department of the Treasury, the Department of State, and other relevant federal agencies. USAID's intent is to conduct these site visits early in the process of project preparation to provide recommendations aimed at improving the environmental and social aspects of the project prior to presentation and vote at the respective MDB Executive Board of Directors meetings. USAID discusses its observations and proposed recommendations with the U.S. interagency and the MDB supporting the project. If not classified, the information collected during the affirmative investigation is made available to the public.

The objective of this affirmative investigation is intended to provide project-specific recommendations for the Upper Karnali hydropower project for addressing potentially significant environmental and social impacts, including mitigation measures or project alternatives.

Methodology

The methodology for affirmative investigations is a three-step process involving information collection, analysis, and development of recommendations**.** Typically, USAID/E3 gathers information based on available literature, observations made during a site visit to various project areas, and semi-structured interviews with stakeholders and projected-affected communities.

As part of this affirmative investigation, USAID/E3 staff, accompanied by U.S. Forest Service staff and USAID/Nepal staff ("the AI team"), conducted visits to the proposed Upper Karnali dam site, including areas upstream and downstream. The AI team was in the field for six days. The AI team met with GMR Energy Limited, (the project developer), Investment Board of Nepal (IBN), World Bank Group (WBG), Asian Development Bank (ADB), civil society organizations, researchers, local political leaders and project-affected stakeholders.

Meetings were held with political leaders and communities in the three project-affected districts. The Chief District Officer in Surkhet, Dailekh, and Mangalsen (Achham District); the Village Development Committee[8] in Tallo Dungeshwar and Bhairabsthan; and the President of the Concern Committee at Dab organized the meetings in each district. With the exception of

[8]The Village Development Committee is the lower administrative part of the Ministry of Federal Affairs and Local Development.

two meetings, the meetings were attended solely by men. The AI team and their official translator translated the discussions from Nepali to English.

Meetings followed a semi-structured format, after the AI team introduced its purpose and members of the team. The semi-structured format allows the team follow on inquiry during the meeting, and also offers flexibility based on the expertise of the people in the meeting.

The comments in this report reflect the views of those interviewed. USAID has not substantiated these views. In all cases, the name and affiliation of stakeholders is withheld. Recommendations are a synthesis of site visit observations, discussions and available environmental and social documentation available at the time of the site visit. When additional information becomes available, USAID will review and revise recommendations, as warranted, and issue an updated report.

USAID conducted an affirmative investigation of three hydropower projects in 2014 (Upper Trishuli 1, Upper Marsyangdi 2 and Upper Arun). General recommendations that were provided in that review are salient for Upper Karnali and provided should be considered as project development moves forward. These recommendations are in Annex III.

General Background

Given Nepal's extensive water resources,[9] hydropower development is perceived by the GoN as key to alleviating poverty and promoting social and economic development through increased domestic electricity supply and through generation of revenue by exporting power. Nepal routinely faces chronic power shortages, particularly during the dry season, as a result of insufficient domestic generation. Therefore, part of the strategy is the development of a power exchange relationship with India to provide electricity to Nepal during the dry season.

The peak power demand of the Integrated Nepal Power System in Fiscal Year 2014-2015 was estimated to be 1,291.80 MW, with 585 MW load shedding.[10] Of the power supplied: 375.68 MW was supplied from NEA hydropower, 124.71 MW by Independent Power Producers with hydropower, and 224.41 MW was imported from India (NEA, 2015).[11]

Political instability has been a defining feature of Nepal during the last two decades. Since the introduction of democracy in 1990, Nepal has had more than 20 governments. Following the April 2015 earthquake,[12] Nepal's parliament passed a new constitution in September 2015,

[9] With about 6,000 rivers and a drainage area of 191,000 km^2, there are four main river systems in Nepal running from east to west: Koshi, Gandaki, Karnali and Mahakali, all originating from glacial and snow-fed lakes (WECS, 2011).

[10] Load shedding is the deliberate shutdown of electric power in a part or parts of a power-distribution system, generally to prevent the failure of the entire system when the demand strains the capacity of the system.

[11] http://www.nea.org.np/images/supportive_docs/year-review-2014-15.pdf

[12] Nepal is still recovering from the April 2015 earthquake which killed almost 9,000 people, injuring 22,000, and damaging or destroying nearly 800,000 homes. A year later, very little reconstruction has taken place and more than 600,000 Nepalese still live in temporary or unsafe housing.

replacing the interim constitution that had governed the country since 2007. The absence of the constitution was widely blamed for the delay in mobilizing rescue efforts after the earthquake, prompting the country's three leading political stakeholders — the formerly anti-government Maoists, the main communist party UML and the Nepali Congress — to draft and pass the constitution.[13]

Although Nepal now has a constitution, the country continues to experience political instability and governance failures at both the national and local levels. There has been no elected local government since 2002[14] and no local elections since 1997. This contributes to governance failures and a lack of government accountability at the local level. Under these circumstances, development and provision of basic services has been sparse in remote watersheds. Consequently, the hydropower sector is seen by government and local communities as the means by which development and basic services (e.g., education, health services, economic opportunities) can be provided in these remote areas.[15]

Upper Karnali Hydropower Project

The Karnali River is a transboundary river, originating on the Tibetan Plateau near Lake Mansarovar and is a major tributary of the Ganges in India. Since the mid-1980s, hydropower development on the Karnali has been proposed with donor (WB, JICA) supported pre-feasibility and feasibility studies. Projects proposed have ranged from 240 MW to 4,180 MW.

The current proposed 900 MW hydropower project is in its early stages of development by GMR Upper Karnali Hydropower Ltd., the majority shareholder.[16] The project is an IFC Infraventures[17] investment with IFC as one of the project developers.[18] It is being developed under the auspices of the Investment Board of Nepal (IBN).[19]

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[13] http://time.com/4037788/nepal-constitution-sushil-koirala-protests-madhesi-tharu/; http://time.com/3837805/nepal-earthquake-government-resources/; http://time.com/4305225/nepal-earthquake-anniversary-disaster/

[14] The year former King Gyanendra prohibited new local elections during the Maoist conflict.

[15] For additional research and discussion, please see Lord (2016). Citizens of a hydropower nation: Territory and agency at the frontiers of hydropower development in Nepal. Economic Anthropology (3) 125-160.

[16] GMR Upper Karnali Hydropower Ltd., is a subsidiary of GMR Energy Limited (India based) which is also developing Upper Marsyangdi 2 Hydropower Project.

[17] 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 financial closure.

[18] IFC Infraventures will hold 10 percent equity in the project following financial closure.

[19] Established in November 2011 and entrusted with the responsibility of facilitating the development of large infrastructure projects including hydropower projects above 500 MW. The Board provides one-window access (provides all services under one window) for large, national priority projects and is hoping to attract more than $6 billion in investments into such projects. In addition to UKHP, IBN is currently responsible for four other large foreign-investor financed hydropower projects – Arun III, Tamakoshi III, Upper Marsyangdi and West Seti – with a combined 3,800 MW of potential peak generating capacity that would serve both the domestic market and the export market to India.

In 2008, GoN and GMR signed a MOU to initiate project development. The project received environmental clearance from the GoN in April 2013. The PDA with the Ministry of Energy was signed on September 19, 2014. The Directorate General of Foreign Trade of the Government of India granted a long-term license to GMR, which is valid for 30 years for the import of electricity from this project. In April 2016, a consortium of lenders (including the IFC, Asian Development Bank, Japan International Cooperation Agency, European Investment Bank) visited the project site and issued a letter of intent to invest $1.1 billion in the project. In May 2016, GMR requested an additional year to secure project financing. As of June 2016, GMR's request was still under consideration by IBN.

GMR owns 63 percent of the shares in the project, with 27 percent free equity shares going to the GoN. Additionally, Nepal will receive 12 percent of the electricity free of charge from the project. Nepal will receive revenue from taxes and royalties with 50 percent of the royalties going into the national budget, 38 percent to the affected regions, and 12 percent to the three affected districts – Surkhet, Achham and Dailekh.[20] Additionally, there are plans for a 2 MW hydropower station, located at the toe of the dam to provide project-affected communities with electricity.

The project consists of a concrete gravity[21] dam 64 meter high (from the foundation bed), with headrace tunnel of approximately 2,332 meters. It is expected that the project will acquire 48.85 hectares of private land and 207.75 hectares of government-owned land and directly impact an estimated 239 households. It is estimated that 53 km of the Karnali River will be subjected to reduced river flows due to the headrace tunnel diversion.

Following the signing of the MOU, GMR initiated an engagement process with the project-affected communities through CSR activities. These activities include technical training in India for six people and constructing the trail bridge across the Karnali River at Asraghat providing access to the Achham district. After the PDA was signed, GMR started engaging the communities on a more regular basis through the Resettlement Action Plan (RAP) process. In the course of developing the RAP, more than 500 consultations were undertaken with greater than 95 percent coverage of the project-affected communities. The draft RAP, with an executive summary in Nepali, was released for consultations. More than 500 people attended the community-level disclosure meetings. IBN reportedly participated in all of the meetings.

A project grievance management unit has been established in each of the three Village Development Committees (VDCs) with field offices. There are plans to expand the grievance management units to all 12 VDCs. GMR staff stated that few people are using the grievance mechanism, most likely because they are not aware that it is available. Fifteen grievances, related to land issues, have been received and reported to be successfully resolved.

[20] There is no specific provision for project-affected communities to get a percentage of the royalties.
[21] A gravity dam is a dam constructed from concrete or stone masonry and designed to hold back water by primarily utilizing the weight of the material alone to resist the horizontal pressure of water pushing against it.

Figure 1. Karnali River and tributary, downstream of dam site.

Figure 2. Karnali River Upstream of dam site.

Summary of Findings

1. **Strong political and community support exists for hydropower development on the Karnali River as the means for providing development opportunities to the districts and communities.**

   There is widespread political and community support for the sustainable development of hydropower projects on the Karnali River. Community members believe the hydropower project will bring positive development benefits to their communities through: potential work opportunities; skill development; improved educational services for their children; increased vegetable production using irrigation schemes powered by electricity produced from the project; livestock production; and tourism.

   Due to the lack of development and employment opportunities in the area, it is common for at least one, if not more, male members of a family to travel abroad (to either India or the Persian Gulf states) for income generation. This out-migration has the potential to erode the social safety net of the family, puts an additional burden on female family members, and consequently is a disadvantage during project negotiations. During several conversations, community members indicated that this has been a difficult year. At least one community indicated that it was food insecure due to the drought. As a result of the drought, many more men have left communities in search of jobs.

   Although hydropower is seen as a path for community development and community members stressed that they are not against the project, they raised concerns over the type of development that the project will bring. Some community members raised concern that the hydropower project will negatively affect their lives and that their ability to maintain their livelihoods and culture will need to be protected. For example, communities currently have access to free natural resources (non-timber forest products) and several communities have productive community forests that will be significantly impacted. Community members fish the Karnali and its tributaries, with one indigenous peoples group (Badi) highly dependent on fisheries for their livelihoods. Communities also use the Karnali for cremation rituals. As a consequence of the project, the cost and value of their land is increasing and communities realize that they are not likely to find replacement land comparable to what they already possess. One community discussed how the project is creating anxiety because

they will need to explain why they lost their ancestral homes and lands to future generations.

Project-affected communities have no idea how their environment will change and how this will affect their livelihoods. Community members have proposed to GMR and IBN that the VDC/Concerned Committee visit other hydropower projects that are under construction and in operation to get a better understanding of what communities can expect. As of April 2016, GMR and IBN had not responded to their request. All stakeholders want the project to be developed in a sustainable manner, which some defined as quality of construction, maintenance of standards, employment of people, and obtaining resources from the area.

2. **Historical political sensitivities between Nepal and India influence support for the GMR 900 MW Upper Karnali hydropower project and create increased concerns over project delays.** The major political parties support the project whereas as some of the smaller ones do not. India's involvement in this project is complex, reflecting Nepal's dependence on India and the domination of Indian interests and influences at both national and local levels. Until there is change at the national and local levels, there will be continued voices against India and its involvement in the project.

   Some stakeholders believe that this is a historical moment for Nepal and the resolution of many of these issues reside at a higher political level and need to be resolved at the national, not the local level. National leaders are sending out mixed messages, as one group stated that at least one Deputy Prime Minister was speaking out against the project. Others expressed the opinion that since this project was of national importance it should be subject to a constitutional vote.

   In discussions with communities and local leaders, positions ranged from complete support for the project with a request for immediate construction to uncertainty and questions that harken back to the historical political sensitivities between Nepal and India. Finally, questions continue to be raised over the size of the project, since in early pre-feasibility studies there was discussion of a 4,180 MW storage project which many stakeholders view as more beneficial to Nepal's interests than the current 900 MW proposal. Some stakeholders perceive the project as against Nepal's national interest by exporting electricity to India. A storage project would enable Nepal to control the water. Other stakeholders believe that Nepal has the capacity to finance the project and consequently, IBN was referred to as a broker for the project.

   The trade blockade[22] that occurred between India and Nepal for about five months in 2015-16, was cited as an example where India's actions are not supportive of Nepal's interests. The optics of project shares (GMR - 63 percent vs GoN - 27 percent) was cited as another example.

[22] https://www.stratfor.com/image/blockade-lifted-india-can-influence-nepal

Additionally, continued delays in the project start date have created high levels of local stakeholder anxiety and suspicion of the GoN, IBN, and GMR, feeding into the historical sensitivities between Nepal and India. GoN, IBN, and GMR are project proponents rather than stakeholders. Some local stakeholders highlighted the fact that GMR is an Indian company whereas others said it didn't matter. However, a number of local stakeholders believe that the Indian Government is delaying the GMR project and that in reality India wants the water, not the electricity. Because of the delays, there is concern that GMR is holding onto the hydropower license indefinitely so other hydropower development in the area cannot take place. This concern is supported by the view that the 900 MW project will make the 4,180 MW project technically not possible, combined with the perception that India is not making progress on two other large storage projects in Nepal. One of these storage projects is the Pancheshwar multipurpose dam.

The 5,600-MW Pancheshwar multipurpose dam project was consistently raised in discussions regarding India's intentions. The project, proposed in 1995, is a joint venture between India and Nepal. Until recently, Nepal and India had been unable to reach a decision on the project, in part because of political challenges in both Nepal and India. The project became a priority again following the visit of India's Prime Minister Modi to Kathmandu in 2014. However, since that time, very little progress appears to have been made, which feeds into local suspicions about the intentions of GMR and the Government of India.

Several stakeholders highlighted differences in escalating project costs between Upper Karnali and Arun 3 hydropower projects. Reportedly, project costs for Upper Karnali have significantly increased over those of Arun 3, contributing to an underlying distrust of the project sponsors and GoN.

The slow progress in preparing the Resettlement Action Plan was cited as another example of 'lingering' delays, along with the fact that the compensation negotiations have yet to be finalized. Another example of 'delay' is that GMR has not constructed the bridge near the dam as they said they would. One community stated that they were promised a health clinic and schools, but nothing has happened.

3. **There is a lack of adequate information and effective communication between IBN, GMR, and project-affected communities.** GMR has held more than 500 meetings with local communities and leaders since they signed the MOU with the GoN. It appears that the majority of those meetings were aimed at gaining information for the RAP and ESIA. However, despite this extensive number of meetings, there appears to be a lack of effective communication on the project as a whole, which has resulted in unrealistic expectations about the project's timeline. This is reflected in stakeholders concerns over project delays and lack of understanding of the steps necessary before GMR obtains the financing for construction and implementation of local development activities as identified in the PDA. One example provided was that, in the spring of 2016, community members believed that the GMR/IBN negotiations were almost at the final stage. Since then, community members have seen no progress on the negotiations and have received no response from the GMR on their queries. Stakeholders raised the concern that in meetings conducted by GMR and IBN, neither GMR nor IBN answered questions or addressed

concerns to the stakeholders' satisfaction. This is reflected in a number of questions raised during the AI team's visit concerning the financing of the project, proposed size of the project, and electricity destination.

4. **There is concern over the scope of the project's ESIA and mitigation measures.** International and national consultants are undertaking studies for the project ESIA. It was reported that the national consultant held consultations with small groups of community members and also hosted one large meeting where they shared findings of the types of environmental, economic and social impacts of the project. One community stated they provided feedback during one of the meetings and are looking forward to their demands being fulfilled. Several stakeholders stated that they were more comfortable talking about social issues than "technical" environmental issues. However, concerns were raised about gaps in the ESIA and ability of the project sponsor or GoN to fulfill the mitigation measures.

   Gaps identified in the ESIA range from the exclusion of about 20 households that could be potentially impacted by the headrace tunnel to uncertainty over the extent of impacts to other areas, including Bardia National Park and irrigation projects in the Terai.

   Concerns for fulfilling mitigation measures included the 56 trees that were cut in preparation for bridge construction. To date, replacement trees have not been planted. Another concern was the WB-financed Karnali road where community members stated that some people still have not received compensation and the title for the private land that was used for the road was still in their name. Thus, they have to continue to pay taxes on land which is no longer theirs. In this context, stakeholders asked, "If an agreement is made, what guarantee do we have that it will be fulfilled? Is there a monitoring mechanism?"

5. **Communities want to be compensated appropriately, but lack understanding of the extent of the benefits and the role of the Project Development Agreement (PDA).** Discussions highlighted continued uncertainty over local benefits (which range from health clinics to schools to hydropower project shares) and lack of understanding of the role of the PDA. One group of stakeholders raised the concern that the PDA does not mention the benefits the 12 VDCs will receive and since the benefits are not included in the PDA, the community members are concerned that they will not receive benefits. In one discussion, there was confusion as to how project shares would be allocated which resulted in families selling land to both relatives and outsiders with the understanding that this would enable families to acquire more project shares. However, this example was highlighted as positive since land was being sold to female children which is not a common practice in Nepal.

   GMR held a two-day workshop to educate project-affected communities on financial management. One political leader proposed that GMR conduct more training to educate those compensated for their land to help them to sustainably manage the money and ensure that, without their land, they will still be able to support themselves and their families.

   One community, very supportive of the project, said they thought they were being fair with their demands with GMR. The community members did not want their demands to drive

GMR away. They stated that if GMR thinks the community has asked for too much in compensation, the company should come back and negotiate with the community.

6. **The perceived lack of transparency on the part of IBN and GMR.** In all discussions with community members, there was an undercurrent of lack of transparency by either IBN or GMR concerning the project. Community members provided the following examples to highlight what they perceived as a lack of transparency.

    - *Recruitment process.* Several examples were provided where it was unclear to communities how GMR was advertising and selecting candidates for positions. Communities lacked knowledge of the skills needed, the training required, and information on how/when and if the jobs would come to fruition. Community members were aware that GMR sent six people to India for training, but when the trainees returned they did not get a job. Reportedly, GMR said that with the skills they now have, they could get jobs anywhere - not just with GMR. It was felt that if GMR has trained six people, it should be able to train more.

    - *Coordinating and engaging with GMR.* A coordinator was appointed by all 12 VDCs. However, while the coordinator is now acting as a chair of all 12 VDCs, he seems to be providing special benefits to people in his VDC. Reportedly, the chair was previously opposed to the project, but is now supporting it, leading to questions among the community members. This further supports local perception that there is no transparency regarding project activities, and consequently some project-affected communities do not want to send only the chair of the 12 VDCs to meet with GMR.

    - *The PDA was not shared with affected VDCs before signing.* Community members believe important points of the PDA have still not been disclosed to the public. The PDA is only accessible to people who can read. There needs to be an improved system of communication of information to everyone so that stakeholders can consider and discuss impacts and how the negative impacts will be mitigated.

Recommendations

Based on the project area site visits, stakeholder discussions, and available documentation, USAID proposes the following environmental and social recommendations for the Upper Karnali Hydropower Project. In some cases, recommendations are directed to a specific stakeholder(s).

1. **Institute an interim development program for project-affected communities as soon as feasible.** Due to the long lag time between project planning, construction and operation, project-affected communities are in a state of limbo since they are not receiving benefits from the project and only limited basic services from the GoN. The AI team recommends working with the affected communities to develop an interim development program that would more immediately enhance livelihoods. Depending on communities' priorities, the program could: support the education system (including adult education); provide health services and electricity (via solar or micro-hydro); and improve market

access through transportation improvements (Annex I). The interim development program would be implemented as soon as feasible and, at the latest, within one-year of signing the MOU between the GoN and project sponsor.

2. **Improve communication and provide realistic information to stakeholders on the timeline for project development.** Despite extensive outreach by GMR to date, there are still significant gaps in communication with communities. To avoid continued anxiety and mistrust, it is critically important for these communities to understand the complexities associated of developing a hydropower project of this size, including the role of the PDA. Actions need to be taken to improve communications and it is recommended that an IBN information officer be stationed in the project area to answer questions and provide updates and continuity with the GoN.

3. **Analyze the differential impacts of when and how project-affected communities acquire project shares.** Research has suggested that the economic value of project share offerings has the potential to warp local incentives, water resource governance, the due process of stakeholder engagement and local politics.[23] Project sponsors – GMR, IFC and IBN – need to fully assess when and how project shares will be offered to project-affected communities and to understand associated risks so they are better positioned to inform project-affected communities.

4. **Provide information and training sessions on financial management and project shares.** Project-affected communities will be provided with both financial compensation and the option to acquire project shares as a form of benefit sharing. Given the potential for change in livelihoods and loss of land, the communities will need to be prepared to manage their finances for the long-term. However, project shares can be a means for both cost-sharing and risk-sharing depending on how and when shares are acquired. Project-affected communities need to be informed of both the risks and benefits. In addition, measures such as information and training on financial/risk management need to be taken to ensure economic incentives do not eclipse the process of stakeholder engagement and negotiations.

5. **Include a provision for increases in compensation due to delayed project activities.** Given the delay in starting project construction, compensation, when finally agreed, should be "real," in the sense that it should be adjusted for inflation and include penalties, if delayed. This is relevant for assets like land but should be equally applicable to any "lost livelihood" amounts.

[23] Lord (2016). Citizens of a hydropower nation: Territory and agency at the frontiers of hydropower development in Nepal. Economic Anthropology (3) 125-160; Lord (2015). Narrating the Hydropower Future: Financialization, equity, and risk at the Upper Tamakoshi Hydropower Project. (draft)

6. **Ensure downstream impacts are robustly assessed and avoidance/mitigation measures proposed in the ESIA and Cumulative Impact Assessment (CIA).**[24] Major businesses (e.g., rafting and adventure tourism) and local livelihoods dependent on Bardia National Park, Terai grasslands, ecotourism, fisheries, and irrigation systems will be impacted. These impacts need to be accurately identified, and appropriate data needs to be collected and analyzed in the alternative analysis in the ESIA and CIA. Other proposed developments, including: the West Seti Hydropower Storage Project[25]on a major tributary of the Karnali river (Annex II); and hydropower development[26] on the Karnali River in the Tibetan Autonomous Region (China) will need to be included in the CIA. Examples of additional information to inform the ESIA and CIA include: a) baseline data addressing the information gaps for critical resource receptors[27], such as mahseer (*Tor* spp.*)* [28] and long distance migratory freshwater eel (*Anguilla* spp.) migration patterns, including identification of associated critical habitat; b) data on the prey base and habitat of Nepal's population of Ganges River Dolphin (*Platanista gangetica);* c) hydrological data and analysis taking into account other hydropower projects; d) data on sedimentation and nutrients; and e) data on ecosystem services.

7. **Coordinate with river basin planning process.** The project sponsor should coordinate with the World Bank-supported Power Sector Reform and Sustainable Hydropower Development Program's plans to conduct a basin-wide planning process for the Karnali Basin. This would include conducting and integrating a Strategic Environmental Assessment into the decision making process to help prioritize the key areas and processes in the river system that need to be protected and maintained.

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[24] IFC's Good Practice Handbook "Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets" states that private developers need to take into consideration other projects and external factors that may affect key resource receptors and by not doing so "may place the developer's own efforts at risk and also negatively affect its reputation." (page 10)

[25] The West Seti Hydropower Storage Project is a 750 MW, 195-metre (640 ft) high concrete-face rock-fill dam. The dam's catchment area covers the upper 4,022 square kilometres (1,553 sq mi) of the Seti River Basin The power station will be located approximately 63 kilometres (39 mi) upstream of the Seti River confluence with the Karnali River, with the dam site located a further 19.2 kilometres (11.9 mi) upstream. Similar to Upper Karnali, IBN is responsible for facilitating the development of this project. http://www.nepalenergyforum.com/nea-china-three-gorges-close-to-signing-jv-deal/; https://thehimalayantimes.com/business/joint-agreement-west-seti-project-likely-signed-month/

[26] The Pulan Hydropower Project is reported to be planned just north of the Nepal border on the Karnali River in Tibet Autonomous Region (China). http://stsfor.org/content/hydro-power-projects-yarlung-tsangpo-and-concerns-india

[27] Critical resource receptors include: 1) physical features, habitats, wildlife populations (e.g., biodiversity), 2) ecosystem services, 3) natural processes (e.g., water and nutrient cycles, microclimate), 4) social conditions (e.g., health, economics), or 5) cultural aspects (e.g., traditional spiritual ceremonies).

[28] Annex IV provides examples of the type of methodology that could be used.

ANNEX I

Institute an interim development program for project-affected communities as soon as feasible. Due to the long lag time between project planning, construction and operation, project-affected communities are in a state of limbo since they are not receiving benefits from the project and only limited basic services from the GoN. The AI team recommends working with the affected communities to develop an interim development program that would more immediately enhance livelihoods. Depending on communities' priorities, the program could: support the education system (including adult education); provide health services and electricity (via solar or micro-hydro); and improve market access through transportation improvements. The interim development program would be implemented as soon as feasible and, at the latest, within one-year of signing the Memorandum of Understanding between the GoN and project sponsor.

This recommendation is based on the recognition of the complexities of developing hydropower projects. It is not uncommon for years to lapse between the announcement of a proposed project and the commissioning of the project. For example, hydropower projects on the Karnali River have been discussed since the mid-1980s, the Memorandum of Understanding between GoN and the project sponsor to initiate project development for the Upper Karnali hydropower project was signed in 2008 and as of 2016, the project has not reached financial closure. Due to a variety of reasons during this period of time, communities are faced with the uncertainty of when and how a project will impact their lives. Government and Civil Society Organizations are inclined not to provide basic services and development opportunities during this period of time, instead relying on the project to eventually bring development opportunities to the communities.

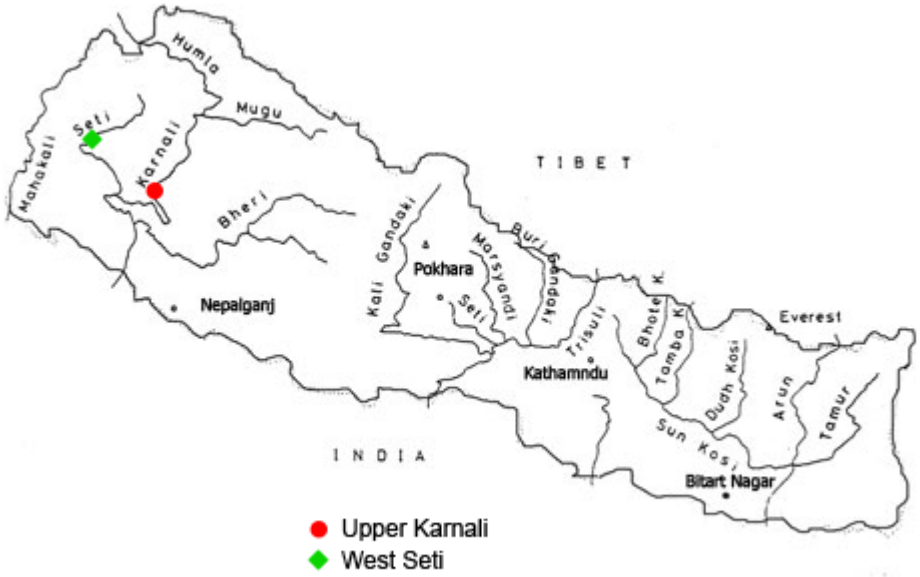
The WBG has recognized the negative consequences of project delays on communities as a development concern and has, in some infrastructure projects, provided 'community support grants'. Although the details of an 'interim development program' for Upper Karnali would need to be developed in consultation with the GoN, VDC, and the affected communities, a broad governance framework is already in place to manage and implement 'community support grants' in combination with the annual allocation of VDC funds. In the absence of elected local bodies, it will be critical to ensure that VDC councils and ward committees are balanced facilitators and that an independent oversight entity is appointed for participatory identification and implementation of priority investment projects.

Components of an 'interim development program" could include:

- Grants provided directly to communities to fund priority investment projects for their own social and economic development. The grant amount would be based on the number of families in a community with a pre-determined cap per Ward.
- Third-party support for VDC councils and ward committees to ensure community participation in the identification and implementation of priority investment projects. This support could be provided by the donor-supported Local Governance & Community Development Programme.

ANNEX II

General location of Upper Karnali Hydropower and West Seti Hydropower Projects



ANNEX III

USAID Recommendations for Hydropower Development in Nepal (2014):

- Develop a National Strategic Energy and Electricity Plan incorporating a robust analysis of other renewables (solar, wind) and integrating climate change scenarios to diversify Nepal's energy and technology sector. This would include integration of both grid and off-grid (rural electrification) power planning, with these being set within, and framed by, the broader needs of integrated water resources management plans at the basin level.
- Establish a timeframe and plan for reducing the high percentage of technical and commercial losses in the Nepal Electric Authority's transmission and distribution systems.
- Establish an Independent Dam Safety Regulator.
- Climate Change: Ensure projects are informed by a forward-looking approach that considers qualitative climate change projections. Analyze and model how future predicted changes in the pattern of land use, water demand, and water availability will impact water resources and hydropower design.
- River Basin Planning/SEAs: Support the development of River Basin Watershed Management Authorities and River Basin Plans for all major watersheds to coordinate watershed development activities. Perform and incorporate SEAs into the decision making process to help prioritize the key areas and processes in the river system that need to be protected and maintained.
- Geology/Water-induced Disasters: Protect infrastructure and communities from GLOFs[29] through monitoring, improved design, establishment of an early warning system, development of cooperative relationships with upstream neighbors, and provide guidelines and capacity building
- Environmental Flows: Consider the potential impact of hydropower projects and climate change on the seasonal distribution of river flows and consider the possibility of adaptive management
- Biodiversity (Terrestrial and Aquatic): Protect biodiversity by developing corridor systems, deterring illegal trafficking of wildlife, identifying critical habitat, and assessing species status and habitat connectivity to ensure that important species and habitats are protected.
- Headrace Tunnels: Incorporate the use of the Drawdown Hazard Index[30] to help verify and predict the impacts of headrace tunnels as part of the ESIA.
- Environmental and Social Impact Assessments: Conduct early engagement and appropriate scoping of the proposed project to establish the foundation for an effective ESIA and cumulative impact assessment process. This will determine the geographical and temporal extent of the project, the communities likely to be affected, and the baseline data that needs to be collected (using internationally recognized methodology) to assess potential alternatives, impacts of associated facilities, and cumulative impact assessment. Data

[29] Glacial Lake Outburst Floods

[30] Thuro et al., 2001. http://www.geo.tum.de/people/thuro/pubs/2001_uef_davos.pdf and Torri, R, Dematteis, D, Delle Piane, L. 2007. Drawdown hazard of springs and wells in tunneling: predictive model and verification. Available online at: http://seaconsult.eu/dmdocuments/Torri_et_al_2007_XXXV_IAH.pdf.

collected will inform assessment of ecosystem services, hydrological studies and environmental flow assessments, and identify avoidance and/or mitigation measures. The ESIA should include all components of the project's life from construction to operations and maintenance to decommissioning.

ANNEX IV

Given the conservation status of the mahseer (*Tor spp.*) and knowledge gaps, it will be important for the ESIA to provide information concerning migration patterns and critical habitat. Given the size of the Karnali River, radio or satellite tagging/tracking may not be a viable approach. However, there are two potential methods for collecting baseline data for mahseer that should be considered. These are geochemical tracers and population genetics.

1. Geochemical tracers: Otoliths (ear bones) grow continuously in concentric rings, and the rings deposited earlier in life reflect the geochemical signature of the part of the river where the fish were living at that time. By using geochemical tracers, the otoliths can become a "time capsule" to recreate which parts of the river system the fishes inhabited during different life stages. An example of this technique can be found at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0018351

2. Population genetics: Using genetic markers, population of fishes in different sections of the river can be analyzed to see if they belong to separate populations or are connected through reproduction. For example, if fish from distant sections of the same river are all closely related, that provides strong evidence that they belong to only one population, and could be seriously affected by any activities that fragment the population. This information would then be included in the ESIA.

Similar studies and assessments need to be conducted for the long distance migratory freshwater eel (*Anguilla spp.*).