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PROGRAM NAME: SUSTAINABLE, JUST AND PRODUCTIVE WATER RESOURCES DEVELOPMENT IN WESTERN NEPAL (DIGO JAL BIKAS)

Year 3 Progress Report - MAIN REPORT

Reporting Period: April 1, 2018 – September 30, 2018

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EXECUTIVE SUMMARY

The "Sustainable, Just and Productive Water Resources Development in Western Nepal" project (hereafter "Digo Jal Bikas" or "DJB") started in April 2016. The overall goal of the project is to promote sustainable water resources development in Western Nepal by balancing economic growth, social justice, and healthy, resilient ecosystems. The project contributes directly to IR2.3 of the USAID Nepal Country Development Cooperation Strategy (2014-18), focusing on means of increasing the resilience of targeted natural resources and consequently improving the livelihoods that are dependent on them.

Six core and two supporting Work Packages (WPs) were designed to address the project goal. The activities in Year 1 (April 2016 – March 2017) and Year 2 (April 2017 – March 2018) were implemented as per the work plan approved at the beginning of each respective year. This report provides an update on the progress and status of Year 3 activities. The project is on track to complete all planned deliverables by the end of March 2019. The WP-specific summaries for this reporting period (April – September 2018) are provided hereunder.

WP1 – Basin Characterization: This WP aims at bio-physical, socio-economic, and policy-institutional characterization. The bio-physical characterization included setting up distributed hydrological models to calculate water availability/ water balances in the whole basin. Regional climate model projections were also used to run the models to calculate future water availability/water balances. The model runs and climate change analysis has been completed. National level institutional and governance studies were also carried out. Similarly, a basin-wide survey was also carried out to characterize livelihood status and challenges in the basin. Four outputs were envisioned in the Year 3 work plan. They include submission of five manuscripts, and updating the project's database on the project's shared drive. One manuscript is already published, four manuscripts are under review and two additional manuscripts are under preparation. Furthermore, the database is continuously updated on the project's internal database system.

WP2– Environmental Flow Assessment and Tool Development: The WP2 aims at developing a desktop tool for Environmental Flows (E-flows). The Year 3 work plan envisioned seven outputs under this WP. They include draft/final reports related to E-flows assessment in the project area, 3 manuscripts, and development/application of improved tool for ecological assessment. Until September, a draft report of ecological assessment is prepared, two manuscripts are under review and development of desktop tool is progressing smoothly, with an aim of completing it by the end of this year. Final report will be prepared in early 2019.

WP3 – Basin-scale Development Scenarios: WP3 aims at identifying and evaluating future water development pathways and tradeoffs using hydro-economic models. The Year 3 work plan envisions four outputs under this WP. They include a report on hydro-economic modelling, proceedings of stakeholders workshops/meetings, and manuscript on hydro-economic modelling. As of this writing, one manuscript is under review and a second one is under preparation. Three

stakeholders' workshops were conducted and feedback was incorporated in the hydro-economic model. The final report from the hydro-economic modelling will be produced in early 2019.

WP4 – Local Water Governance and Management: WP 4 at Year 3 aims at implementing context specific techno-social interventions for improved water management at the farm scale and evaluating their effectiveness by monitoring various aspects of the interventions. At three sites, interventions were implemented around April and monitoring of various data is underway. The evaluation report is expected to be developed in early 2019. Two scientific papers, in addition to the evaluation report, will be produced as outputs. One paper is almost done and another is under preparation. Final report will be prepared around February 2019.

WP5 – Gender: This WP in Year 3 aims at developing scientific papers as well as enhancing awareness and capacity of key stakeholders in the water sector to consider and address unequal capabilities to benefit from and influence water resources planning and management across gender and various social groups. As of September, one radio program on gender and one dialogue in masculinity have already been conducted. Attempts are made to ensure adequate representation of women in all events. Three manuscripts are developed and currently under review.

WP6/WP7/WP8 – Integrated Policy and Practice Guidelines, Knowledge Management/Dissemination, and Project Management: The project is developing a knowledgebase that provides a basis for the PAANI project to develop integrated policy and practice guidelines. In addition, we are participating in all the meetings that are organized by USAID and partners. We are continuously providing inputs to IWMA project activities. Two scientific papers, two conference papers, and three blogs have been published as of September 2018 and more are in the pipeline for the second half of Year 3. After feedback from USAID, efforts are being made to demonstrate the relevance of the project's outputs to relevant stakeholders.

ABBREVIATIONS AND ACRONYMS

CSO	Community Support Organization
DHM	Department of Hydrology and Meteorology
DJB	Digo Jal Bikas
DOED	Department of Electricity Development
DoI	Department of Irrigation
DOLIDAR	Department of Local Infrastructure Development and Agriculture Roads
DSCWM	Department of Soil Conservation and Watershed Management
DWIDM	Department of Water-Induced Disaster Prevention Management
E-Flows	Environmental Flows
FGD	Focal Group Discussion
GESI	Gender Equity and Social Inclusion
HEM	Hydro-Economic Modeling
GO	Government Organization
IMD	Indian Meteorological Department
I/NGO	International/Non-Governmental Organization
IWMA	Integrated Watershed Management Activity
IWMI	International Water Management Institute
KCAP	Knowledge, Capacity, Attitude and Practice
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MoFSC	Ministry of Forest and Soil Conservation
MOSTE	Ministry of Science, Technology and Environment
NFEJ	Nepal Federation of Environmental Journalists
NPC	National Planning Commission
NWCF	Nepal Water Conservation Foundation
PAANI	Program for Natural Aquatic Resources Improvement
RCM	Regional Circulation Model

SWAT	Soil and Water Assessment Tool
TAC	Technical Advisory Committee
USAID	United States Agency for International Development
WECS	Water and Energy Commission Secretariat
WP	Work Package

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1. PROGRAM OVERVIEW/SUMMARY

Program Name:	Sustainable, Just and Productive Water Resources Development in Western Nepal ("Digo Jal Bikas")
Activity Start Date and End Date:	April 1, 2016 – March 31, 2019
Name of Prime Implementing Partner:	International Water Management Institute (IWMI)
[Contract/Agreement] Number:	AID -367-IO-16-00002
Name of Subcontractors/Sub-awardees:	Duke University Kathmandu University Nepal Water Conservation Foundation (NWCF)
Major Counterpart Organizations	Department of Irrigation(DoI) Water and Energy Commission Secretariat (WECS) National Planning Commission (NPC)
Geographic Coverage (landscape, province(s) and countries)	Karnali, Mahakali and Mohana Basins
Reporting Period:	April 1 – September 30, 2018

The overall goal of the "Sustainable, Just and Productive Water Resources Development in Western Nepal" (hereafter, Digo Jal Bikas or DJB) project, led by the International Water Management Institute (IWMI), is to promote sustainable water resources development and management in Western Nepal through balancing economic growth, social justice and healthy, resilient ecosystems. The project contributes directly to IR2.3 of the USAID Nepal Country Development Cooperation Strategy (2014-18), focusing on means to increasing the resilience of targeted natural resources and consequently improving the livelihoods that are dependent on them.

The geographic focus of this project are be the basins and sub-basins in the Mid-Western and Far-Western Development Regions of Nepal, with a particular focus on the Karnali River Basin, including the Mohana sub-basin in the Terai, and the Mahakali River Basin (Fig.1).

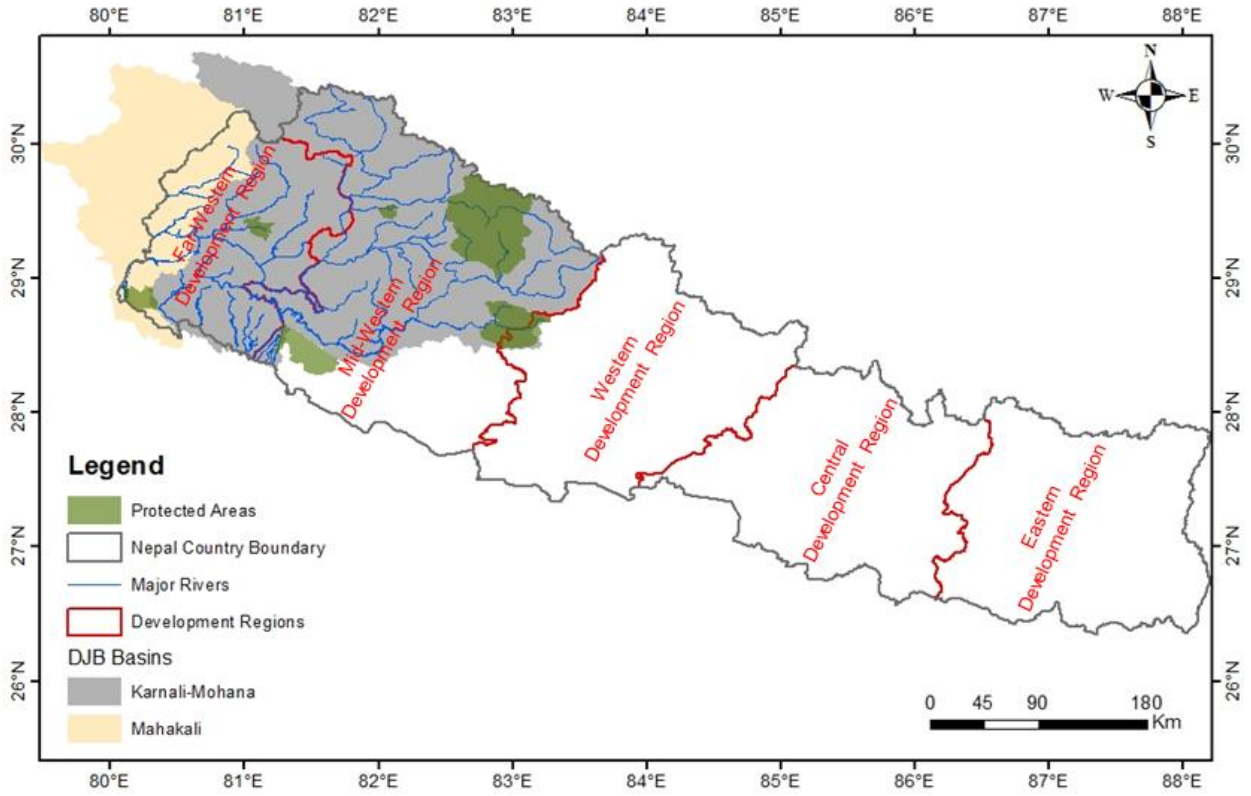

Figure 1. The study region - Karnali and Mahakali river basins. The Mohana sub-basin is a part of the Karnali River Basin. DJB is "Digo Jal Bikas".

DJB project has three objectives to achieve this larger goal:

1. Construction of a sound knowledgebase on the current state of water resources and impacts of climate change as well as other drivers of future change in Western Nepal to identify key information and knowledge gaps. This includes a comprehensive database that captures the socio-economic, biophysical, and hydro-climatic (current and future) characteristics of the three basins; and mapping of all water-related infrastructures. This objective will help establish key knowledge and information gaps and provide datasets that will be useable for future analyses and planning purposes.

2. Development and application of tools, models and approaches (including opportunities and risks) for sustainable water resources development under current state and future scenarios at the basin and local community scales. In particular, tools will be developed to simulate hydrology and

environmental flows (E-flows) necessary to maintain the integrity of ecosystems and their services. This information will then be used for hydro-economical modelling at basin scale to explore water allocation under future scenarios, including climate change, of different water resources development options and the resulting trade-offs. The multi-scale approach (i.e., basin, sub-basin, and local community) for improved water management and water governance will be explored.

3. Support for the development of integrated policy and practice guidelines on options and technologies for sustainable water infrastructure development for government and local communities. These guidelines will be designed to promote best practice in water-related infrastructure development (e.g. hydropower, irrigation, water storage) at different scales, which supports local communities and protects the resilience of ecosystems and their services. The aforementioned knowledgebase, tools, models and approaches will underpin these guidelines, which will be developed with input from government and community stakeholders, as well as donors and investors. The policy and practice guidelines will be formulated in collaboration with the PAANI program.

To address the project objectives, and guided by the above research questions, six core Work Packages (WP) and two supporting WPs have been developed (Table 1)

Table 1: Work packages (WPs)

Core work packages	
WP1	Basin characterization
WP2	Environmental flow assessment and tool development
WP3	Basin-scale development scenarios
WP4	Watershed/village water governance and management
WP5	Gender
WP6	Integrated policy and practice guidelines
Supporting work packages	
WP7	Knowledge management and dissemination
WP8	Project management

The following stakeholders are important groups to engage with during this project. They represent both next and end users of the project's products, tools and knowledge.

- Public and private sector agencies and multilateral investors who evaluate, design and implement water resources development projects and investment programs.
- National, provincial, and local level water and energy management agencies, e.g. Ministry/Department of Irrigation, Ministry/Department of Agriculture, dam/barrage operation agencies, Ministry of Energy, Ministry of Forests and Soil Conservation, Water and Energy Commission Secretariat and the Department of Soil Conservation and Watershed Management Ministry of Science Technology and Environment (MOSTE), Ministry of Federal Affairs and Local Development and Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), Department of Water Induced Disasters and Prevention (DWIDP), District Development Committees (DDCs) and Village Development Committees (VDCs).
- Conservation groups that want to establish environmentally sustainable water resources planning and management.
- Women and men in farmer and fisher communities that will be affected by climate change and water management decisions in the basin.

2. REVIEW OF M&E TARGETS

A review of achievements against targeted M&E indicators is provided in Table 2.

Table 2: Target against achievement (as of September 30, 2018) as per the M&E plan

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
Outcomes		FY18/19		
1. A sound knowledge base on the current state of ecosystems and their services in West Nepal evidentially used by relevant parties	C. Changes in ecosystems knowledge and practice by key stakeholders (% of stakeholders)	70%	70% Achievement -KCAP (Knowledge, Capacity, Attitude, Practice) baseline survey carried out in Year 1. The KCAP survey will be repeated in early 2019. -The hydrological models developed in the project for the Karnali and Mohana basins have been used in the National Irrigation Master Plan developed by DOI -The project team has contributed to the water resources policy document and highlighted several issues	On track
2. Environmental flow allocations are integral part of river management practice informing future	D. EFs integrated into water resource planning and development	Updated results of KCAP survey	KCAP baseline survey carried out in Year 1. The KCAP survey will be repeated in early 2019. EFs will be assimilated in the National Irrigation Master Plans developed by DOI	On track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
water resource planning and development				
3. Increased and improved knowledge of tradeoffs in water resource development opportunities resulting from the application of hydro-economic models	E. Governments and other key stakeholders demonstrate knowledge of model strengths and limitations and capacity	Updated results of KCAP survey	KCAP baseline survey carried out in Year 1. The KCAP survey will be repeated in early 2019.	On track
	I. Number of institutions with improved capacity to assess or address climate change risks supported by USG assistance (USAID CC Adaptation Indicator EG11.2)	10 (DOI, DoED, NEA, NPC, WECS, water-related ministries, etc.)	45 institutions, including DoI, DoED, and WECS have participated in the DJB events (e.g. 3 sessions of Hydro-Economic Modelling workshops; Masculinity workshop; and Town hall meeting) organized during Apr-Sep 2018 aimed at enhancing knowledgebase and therefore capacity in the mentioned areas	Overachievement: The target was set with the aim of including selected government institutions from central level. However, given the increased level of collaborative works with PAANI/ NEFEJ as well as more number of consultative workshops that planned originally (3 compared to 1 planned), more organizations could be engaged at both

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				national and local levels and from government as well as non-governmental organizations.
4.Local communities in the project study area adopt practical technologies and land/water management approaches that improve water productivity, protect ecosystems and achieve more equitable water governance, which enable them to cope with and adapt to future climatic and socioeconomic pressures	F. Adoption levels of key technologies (% or number of people adopting new technologies)	Follow-up survey of impact assessment	Techno-social interventions aimed at improving water management at three pilot locations are already implemented. Data collection is underway and evaluation of the interventions is aimed around Feb/Mar, 2019	On track
	G. Number of people using climate information or implementing risk-reducing actions to improve resilience to climate change as supported by USG assistance (USAID CC Adaptation Indicator EG11.6)	100	175 (based on participants attending following DJB events – hydro-economic modelling workshops (3 episodes), town hall meeting on "gender and irrigation", and masculinities workshop)	Overachieved: The target was set with the assumption of lower number of participants in farmers group as well as the events. However, members in the farming groups increased to 63 (original plan was 45), number of DJB events increased and number of participants also increased due to collaboration with PAANI and NEFEJ for

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				Town Hall meeting in Kailali. This led to increase in number of participants.
5. Greater awareness and capacity of key stakeholders in the water sector to consider and address unequal capabilities to benefit from and influence water resources planning and management across gender, caste, class and ethnicity at local and basin levels.	H. Evidence of gender and equity targeting in key policies, plans and implementation strategies	Updated results of KCAP survey	KCAP baseline survey carried out in Year 1, will be repeated in year 3 Gender specific input has been provided in the National Water Resources Policy under preparation by WECS	On track
6. Improve the knowledgebase to develop integrated policy and management guidelines	I. Number of institutions with improved capacity to assess or address climate change risks supported by USG assistance (USAID CC Adaptation Indicator EG11.2)	13 (WECS; DoED; DoA; DDC/VDC; TU; KU)	45 institutions, including DoI, DoED, and WECS have participated in the DJB events (e.g. 3 sessions of Hydro-Economic Modelling workshops; Masculinity workshop; and Town hall meeting) organized during Apr-Sep 2018 aimed at enhancing knowledgebase and therefore capacity in the mentioned areas	Overachievement: The target was set with the aim of including selected government institutions from central level. However, given the increased level of collaborative works with PAANI/ NEFEJ as well as more number of consultative

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				workshops that planned originally (3 compared to 1 planned), more organizations could be engaged at both national and local levels and from government as well as non-governmental organizations.
Key Outputs				
1.1. Updated database collating all relevant spatial and temporal data on freshwater ecosystems in the study basins, including both natural characteristics and artificial structures and practices, to feed into online system	1.1.1 Database developed 1.1.2 Number and type of users of database	Database developed (in Year 1) Review of usage	Database is developed and being updated continuously The database is not yet available publicly. Due to budget cut, plan to develop a dedicated information system for the project basins was cancelled.	On-track
1.2. Fully calibrated and validated hydrological model of the 3-basins (Karnali, Mohana, Mahakali)	1.2.1 Calibrated and validated hydrological model	Calibrated and validated models	Fully calibrated and validated models for Karnali-Mohana and Mahakali rivers are developed. It has been adopted by DoI for developing river basin master plans. One paper has been published and two are under review.	Overachievement- The models are adopted by the Department of Water Resources and Irrigation

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				(DoWRI) for the Irrigation Master Plan, which are expected to be finalized before the end of 2018. This outcome/ impact was not planned in the project deliverables.
1.3. Report on hydrological model set-up, model performance, and current and future status of water resources	1.3.1 Report completed	Model reports, submission of papers for journals	Report on modeling is completed. One journal paper related to Mahakali is already published and another related to Karnali-Mohana is under review.	Completed
1.4. Final report on policy review and institutional analysis at the basin	1.4.1 Report comprised of systematic policy clusters and institutional analysis	Report produced	The report was produced in Year 1 and a journal article based on the review has been published.	Completed
1.5. Final report on power-relation mapping	1.5.1 Report prepared	Report produced	A manuscript titled "Putting Power and Politics Central in Nepal Water Governance" is prepared and currently under review.	Completed
1.6. Nepal hydropower development discourse	1.6.1 Report prepared	Report produced	A manuscript titled "Spatial Politics and Local Alliances Shaping Nepal Hydropower" is prepared and is currently under review.	Completed

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
1.7. Report with policy recommendations for improved basin governance based on political economy analysis, governance and institutional reviews focusing on the intersection of land-water-energy-environment, and incorporating gender issues	1.7.1 Report prepared / Inclusiveness of policy recommendations 1.7.2 Effectiveness of policy recommendations	Report produced Review of application of report	This will be completed in early 2019 by synthesizing findings from all the reports and journal papers.	On track
2.1. A report with an inventory of livelihood, cultural/religious benefits from the river inhabitants of the basin as well as recommendation for incorporating various needs in water allocation planning	2.1.1 Report / supportive database produced	Report/data produced	Draft report was prepared in Year 2. A manuscript titled "Whose river is it: An assessment of livelihood and cultural water flow requirements for the Karnali" is drafted and is under review (internally).	On track
2.2. An Inventory of the bio-indicator invertebrate taxa to serve as control for different conditions	2.2.1 Inventory with relevant recommendations 2.2.2 Biotic index tool functional	Report produced Review of usage of tool	Samples are collected, analyzed, and interpreted. Report preparation is under way. The process for developing the tool is underway. It is expected to be completed by the end of 2018.	On track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
	and evidence of use			
2.3. A desktop tool to calculate E-flows in Nepal and illustration of its application in west Nepal which will include relationships between water flows and river typologies, indicator species and assemblages, and cultural and livelihood metrics.	2.3.1 Desktop tool functional and evidence of use 2.3.2 Utility of tool in its application in West Nepal	Desktop tool produced Review of usage of tool	The process for developing the tool is underway. It is expected to be completed by the end of 2018.	On track
2.4. Workshop(s) focused on E-flow tool, their application in Nepalese context, and appropriate institutional set-up to implement E-flow allocations in Nepal	2.4.1 Workshop carried out successfully 2.4.2 Institution set-up established	Workshop report	Workshop was held on 22nd August, 2017.The report was prepared, and shared with all the stakeholders/ participants.	Completed
2.5. Recommendations for incorporating environmental water allocations into national water resources planning and on institutional	2.5.1 Report with relevant recommendations	Report produced	Final report with all the recommendations will be produced in early 2019.	On track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
arrangements for implementation				
3.1. Database of development plans	3.1.1. Database developed	-	The option database was developed in Year 1.	Completed
3.2. Trend database (including constraints/limits to those trends) and report	3.2.1. Trend database produced	-	The trend database was developed in Year 1.	Completed
3.3. Scenario database	3.3.1. Scenario database prepared with 3-4 detailed scenarios outlined	-	The scenarios report with a set of scenarios was produced after tradeoff arena workshop held on 1st August, 2017. A manuscript titled "Visions for Western Nepal" is prepared and is under review.	On track
3.4. Working paper on hydro-economic modelling framework; Hydro-economic model database	3.4.1. Working paper on framework developed 3.4.2. Hydro-economic database developed	- Complete database	The draft paper was developed in Year 1 and updated and processed for publishing as IWMI working paper in Year 2. Database is developed and available in the project's internally shared drive.	On track
3.5. Proceedings/Report of the workshop	3.5.1. Workshop effectively carried-out	Workshop report	Tradeoff arena workshop was held on 1st August, 2017, report was produced and shared with stakeholders. Furthermore, follow-up workshop to get feedback on hydro-economic model results was held in June 2018 (3-	Completed

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
			episodes) and the report is available as annex of the model.	
3.6. Hydrology and infrastructure scenario analysis for predicting economic impacts (including distributional) on sectors and households in an options database.	3.7.1 Options paper prepared 3.7.2 Quality/veracity of scenarios	Options paper produced Scenarios are verified	The options paper is under development. The scenarios were verified/modified after the tradeoff arena workshop.	On track
3.7 Development of hydro-economic models (HEMs) to explore resource development options.	3.8.1 Models developed 3.8.2 Relevance and quality of models	Model is developed Model quality is verified	The model development is progressing well, and is expected to be completed by the end of 2018. We shared the preliminary results to stakeholders in June 2018 and got feedback to improve the model results further.	On track
4.1. Comprehensive report on the facilitating as well as constraining factors on access/use of different water resources within the community	4.1.1. Report on the biophysical, social and cultural challenges to water access within the study sites	-	Final report is produced.	Completed
4.2. A report on political economy analysis at local level	4.2.1. Report produced	-	Draft report was prepared in March 2018 and included as Annex of Year-end report submitted in April 2018. More synthesized version of local political economy analysis is included in Output 1.5.	Completed
4.3. A status report on right systems within a wider	4.3.1. Report assessing the different rights	-	A draft report is prepared and currently under internal review.	On-track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
context of agrarian structure	systems in relation to decision making system/processes in WR management			
4.4. A report with mapping of existing institutional (formal/informal) arrangements and their power relationship at different scales	4.4.1. Comprehensive assessment of (water) governance structure and processes at local government level	-	It is included as a part of Output 4.3.	On track
4.5. Situation analysis / baseline report of three case study villages	4.5.1. Report of baseline in three target villages produced	-	Pilot sites were selected in Year 1 and baseline analysis report produced in Year 2.	Completed
4.6. Feasibility analyses of local level pilots: new efficient pumping technologies; farmer cooperatives who jointly invest in irrigation equipment; drip and sprinkler systems to reduce water use per season	4.6.1. Effectiveness of pilots	Effectiveness of interventions evaluated	A set of interventions as designed and implemented in Year 2; monitoring of impact is continuing; final report will be produced in early 2019.	On track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
5.1. An analytical framework to analyze and integrate gender across scales in the water sector	5.1.1. Analytical framework produced	-	GESI plan and analysis framework developed in Year 1.	Completed
5.2. Other WP consider inequalities by gender, caste, ethnicity and class in roles, responsibilities, impacts and trade-offs for women and men in water access and water resource planning and development processes	5.2.1. Number of project outputs with clear gender analysis	All project outputs have clear analysis of gender	GESI analyses are incorporated in other WP outputs.	On track
5.3. Increased participation of women in the multi-stakeholder participatory process for exploring WR development pathways and trade-offs	5.5.1. Percentage of female participants in activities/event	25%	Female participation in the DJB events organized in Year 3 (Hydro-economic modeling workshops; masculinity workshop; town hall meeting on "gender and irrigation", and formation of 5 farmers' groups) is 57.7% on an average.	Overachieved: We were able to convince more women-farmers to be a part of collectives, which resulted women participation in five farmers group to 63.5% (40/63 persons). Furthermore, the town-hall meeting which was not envisioned to that

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				size also showed up participation of 73.6% of women participation due to effective collaboration with PAANI & NEFEJ.
5.4. Radio programmes with a specific session on gender	5.4.1. Radio program report	Report produced	This activity was conducted in the form of Town Hall meeting in Kailali in April 2018 in collaboration with PAANI & NEFEJ. The activity report has been produced.	Completed
5.5. Dialogues on masculinities in the water sector organized in Kathmandu	5.6.1. Documentation of dialogues	Report/Blog produced	The workshop titled "Unpacking Masculinity" was conducted in the first half of May, 2018. A blog based on that was produced (https://wle.cgiar.org/thrive/2018/06/26/why-we-need-discuss-masculinity-water-sector).	Completed
5.6. Gender-specific recommendations for sustainable water resource development planning in Nepal under current and future conditions.	5.3.1. Set of policy recommendations	Report with gender-specific recommendations produced	A report titled "Gendered characteristics of water governance decision-making structures and processes" ws prepared in January 2018. A draft of the policy-brief is also prepared.	Overachievement: Provided gender related recommendations to the National Water Resources Policy drafted by WECS, which is one of the major impacts
5.7. Mainstreaming gender in the integrated policy and practice guidelines (WP6)	5.8.1. Evidence of mainstreaming	-	It is to be done in collaboration with PAANI. Our outputs are expected to be used by PAANI in developing policy documents. We are providing inputs as and when required.	On track

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
5.8. Research report and peer-reviewed paper	5.9.1. Report on a selected topic on gender	Report(s)/Paper (s) produced	The research is ongoing. Report and peer-reviewed paper will be produced by the end of 2018.	On track
6.1 Publically available website hosted by a government department and database consisting of datasets and maps, e-flow calculator, analysis reports, and other outputs from each of the work packages	6.1.1 Website is online and being used regularly	Visitors to website increased by 60%	50%Project website (http://djb.iwmi.org/) was developed in Year 1 and is regularly updated.	This target was modified and downsized due to the budget cut in year 1. We therefore decided to only focus on developing a project website, where the outputs of the project would be posted. Plans for developing a larger database and linking it to an official website was canceled during the first year. The project database is online and most of the reports and papers have been uploaded. The project data will be uploaded once the project team has had a chance to assess

Narrative Summary	*Indicators*	Year 3 Targets	*Status (as of September, 2018)*	Deviation narrative for under/over achievement of each indicator's target
				the data and publish papers.
6.2 Presentation of scientific information in popular forms for targeted dissemination: community-based materials, videos, training materials, sourcebooks.	6.2.1 Number of different forms of popular presentation of scientific information	3 (for Year 3 only) and 10 in total (year 1 to 3)	Published three (3) blogs/newspaper articles and delivered 10 presentations at national/ international conferences/workshops in Year 3 only (Apr-Sep 2018). In total 10 blogs/newspaper articles have been published and 20 presentations made.	Overachievement: Due to international events organized in Nepal itself (e.g. 8the regional conference on irrigation and drainage), more researchers engaged with DJB project could present their research to a wide range of audience. It was also due to availability of communication personnel pooled from other resources and support from IWMI's communications team from HQ.

3. IMPLEMENTATION STATUS/PROGRESS

The project activities for Year 3 (April 2018 – March 2019) were defined in the Year 3 work plan submitted to USAID in April 2018. The following sub-section summarizes implementation status (as of September 2018) of each of the outputs specified in the Year 3 work plan.

3.1 Work Package 1: Basin Characterization

Bio-physical, socio-economic, hydro-climatic, and policy-institutional characterization of the Karnali-Mohana and Mahakali river basins are the aims of this work package. As per the Year 3 work plan, four outputs were envisioned under this work package. The implementation progress of each outputs are summarized in Table 3 below.

Table 3: Progress against target outputs for WP1

Output	**1.1**	**Two manuscripts for peer-reviewed journals**
Indicator	1.1.1	Manuscript submitted to journal(s)
Progress		• A manuscript titled "Climate futures for Western Nepal based on Regional Climate Models in the CORDEX-SA" (Annex-1) has been submitted to a scientific journal. • A manuscript titled "Spatio-temporal distribution of water availability in Karnali-Mohana basin in Western Nepal under current and future climates" (Annex-2) is ready for submission to Journal of Hydrology. . • A manuscript titled "Hydrological response to Chamelia watershed under climate change in Mahakali Basin, Western Nepal" is published in Science of the Total Environment Journal (https://www.sciencedirect.com/science/article/pii/S0048969718334892). • We are also considering to prepare one more manuscript focusing on "Unpacking climate change."
Implement-ation challenges		• N/A
Stakeholder involvement in delivery		• We are planning a training session on hydrological modeling and climate change analysis for government staff and other interested stakeholders

Output	**1.2**	**A manuscript related to climate-shocks and adaptation from basin-wide survey for peer-reviewed journal**
Indicator	1.2.1	Manuscript submitted to journal
Progress		• Development of this manuscript has not yet started. It's expected to start in December 2018 or January 2019.
Implement-ation challenges		• Contents/scope of the manuscript will be guided by quality and spatial coverage of responses for the relevant questionnaire in the basin-wide survey.
Stakeholder involvement in delivery		• More than 3,600 household surveys were conducted as part of basin-wide survey. The manuscript will be prepared based on the response from the respondents as well as backed by analysis of biophysical data (e.g., trends in rainfall, temperature, etc.).
Output	**1.3**	**Updated database (biophysical/socio-economic/ climatic, water infrastructures, etc.) to feed into online system**
Indicator	1.3.1	Database updated and functional
Progress		• The database developed during Years 1 and 2 have been updated with simulated discharge, water balance, and climate projection data. The data are still in internal share-drive.
Implement-ation challenges		• Due to budget cuts, we could not prepare an online project database. The project data is being continually uploaded into the IWMI water data portal (http://waterdata.iwmi.org/). Currently, only project members have access. At the end of the project, the database will be accessible to wider audience.
Stakeholder involvement in delivery		• Department of Hydrology and Meteorology (DHM, Government of Nepal) – for hydro-meteorological data • Indian Meteorological Department (IMD) – for meteorological data of Indian side of the Mahakali Basin • Local communities at three pilot sites (Kuti, Mellek and Punebata) – for socio-economic data • Key Informants, participants of focal group discussion (FGD) and respondents of household survey questionnaire – for socio-economic characteristics of the basin obtained from basin-wide survey • Department of Electricity Development (DoED) – their web-based database for location and details of hydropower projects

		• Department of Irrigation (DoI) – their website as well as officers (e.g., Dr. Rajan Bhattarai, Mr. Bashu Dev Lohanee, etc.) for details of irrigation projects • CORDEX South Asia – for future climate data
Output	**1.4**	**Two manuscripts related to power mapping analysis and hydropower discourse for peer-reviewed Journal(s)**
Indicator	1.4.1	Manuscripts submitted to journal(s)
Progress		• A manuscript titled "Spatial Politics and Local Alliances Shaping Nepal Hydropower" (Annex-3) is ready for submission to World Development. • A manuscript titled "Putting Power and Politics Central in Nepal Water Governance" (Annex-4) is ready for submission to Water/Water Alternatives Journal.
Implement-ation challenges		• Due to national and local elections, and unavailability of identified peoples for interview, the activity was shifted from Year 2 to Year 3.
Stakeholder involvement in delivery		• We conducted key informant interviews with government staff, leaders from political parties, academics, NGOs, international donors, thus capturing their view and insights on water governance in Nepal in general and with regard to hydropower development in particular.
Cross-Cutting Issues		
Linkages		• Data from localized dynamics in hydropower development are linked with earlier data collected during the basin-wide survey, which Emma Karki has presented at ESP conference in India in October.
Challenges and Lessons		• N/A
Gender		• Effort was put into interviewing both male and female stakeholders
Sustainability		• Publications in international journals and blogs will ensure that the research results are accessible to the global public. • All the data generated from the project will be saved and maintained in IWMI's open access database.

	• Engagement with key decision-makers in the water sector through personal interactions and workshops/conferences will ensure capacity building and influence. • Key findings will be incorporated into national level policy documents and guidelines, e.g. Irrigation Master Plan for Nepal.
Environmental Compliance	• N/A
Policy and Governance Support	• Water Resources Policy (WECS), National Irrigation Master Plan (DOI)
Local Capacity Development	
Public Private Partnerships or Global Development Alliance (GDA) partnerships and impacts	• N/A
Science, Technology and Innovation issues and impacts	• Spatially distributed hydrological models of the Karnali-Mohana and Mahakali basins have been developed for the first time in Nepal. Climate futures for Western Nepal are developed. Three manuscripts were developed based on the results from the modeling studies.

3.2 Work Package 2: Environmental Flow Assessment and Tool Development

This work package (WP) aims to develop a desktop tool for Environmental Flows (E-flows). As per the Year 3 work plan, seven outputs were envisioned under this WP. The implementation progress of each outputs are summarized in Table 4 below.

Table 4: Progress against target outputs for WP2

Output	**2.1**	**A report with an inventory of biological indicators and river health of Karnali River**
Indicator	2.1.1	Report/Supportive database produced

Progress		• A draft report on river health of Karnali, Mahakali and Mohana basins is prepared (Annex-5) and under review internally. The report consists of determination of river quality class of study sites for each season. Seasonal variation in macro-invertebrates composition is also presented in the report.
Implement-ation challenges/ Risks/Oppor tunities		• Since the biotic index and protocols are designed to assess the impact of organic pollution on aquatic biodiversity, particularly, benthic macroinvertebrates, river quality classes did not change much across the seasons in study sites although significant amount of water abstraction occurred at some sites. Opportunities could be modification of the protocol for appropriately assessing the impact of altered hydrological regimes on river health.
Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Output	**2.2**	**A manuscript for peer-reviewed journal**
Indicator	2.2.1	Manuscript submitted to a journal
Progress		• A manuscript titled "Water diversion induced changes in aquatic biodiversity in monsoon-dominated rivers of Western Himalaya, Nepal" (Annex-6) was submitted to Ecological Indicators Journal.
Implement-ation challenges/ Risks/Oppor tunities		• Since the biotic index and protocols are designed to assess the impact of organic pollution on aquatic biodiversity, particularly, benthic macroinvertebrates, river quality classes did not change much across the seasons in study sites although significant amount of water abstraction occurred at some sites. Opportunities could be modification of the protocol for appropriately assessing the impact of altered hydrological regimes on river health.
Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Output	**2.3**	**A report on invertebrate biodiversity in relation to various flow regimes in western Nepal**
Indicator	2.3.1	Report / supportive database (a list of indicator taxa that are sensitive to altered hydrological regimes) produced
Progress		• Determination of macroinvertebrates has been completed. Data were prepared. Analysis is being carried out to establish relationship between benthic macroinvertebrate community assemblages and flow regimes.

Implement-ation challenges		• N/A
Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Output	**2.4**	**Application and improve biotic index to assess the ecological status of flow altered streams and rivers**
Indicator	2.4.1	Inventory with relevant recommendations
	2.4.2	Biotic index tool functional and evidence of use
Progress		• Identification of macroinvertebrates have been completed and data are entered in software • Analysis of the data and revise existing RSA protocol for assessing the ecological status of rivers affected by hydro-morphological disturbances will continue in this year.
Implement-ation challenges		• Lack of testing of revised method would challenge its effective in river assessment. • Suitability of index depends on inclusion of biota from a region. Since the data were collected only from western region, its application in other river systems or eastern/central Nepal could be less appropriate. Collection of data at wider geographical scales and increase number of data set could overcome its limitation.
Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Output	**2.5**	**Research publication in relation to E-flows for the rivers of Western Nepal**
Indicator	2.5.1	Research publication produced
Progress		• Themes for the publication are conceptualized. Developing content will start in a few months. • A draft manuscript will be shared among co-authors by the end of February 2019. • Targeted submission to the journal would be by the end of March 2019.
Implement-ation challenges		• N/A

Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Output	**2.6**	**A Final Draft Report: River ecology and relevance to e-flow in Karnali River Basin**
Indicator	2.6.1	Draft report submitted
Progress		• Work is under progress. The report is expected to be completed around February 2019.
Implement-ation challenges		• Not relevant at this stage
Stakeholder involvement in delivery		• N/A
Output	**2.7**	**Report and/or paper on social requirements of E-Flow based on focal group discussions and surveys**
Indicator	2.7.1	Report or paper submitted
Progress		• Field data has been collected, analyzed and drafted into a field report and related paper. • The manuscript for submission in a journal is under internal review by authors. • A blog titled "Balancing people and energy in the Karnali Basin" was published on 20th August 2018 in The Thirdpole (https://www.thethirdpole.net/en/2018/08/20/balancing-people-and-power-in-the-karnali-basin/).
Implement-ation challenges		• We were only able to collect depth data, nothing on flow, which might have been an asset to strengthen our analysis. • The data collection points did not include the upper Himalayan Region and the main stem of the Karnali, which would have made the analysis more thorough for the Karnali Basin.
Stakeholder involvement in delivery		• A workshop on E-Flows was conducted and stakeholder feedback was incorporated into the study methodology
Cross-Cutting Issues		
Linkages		• The information generated can be of use for water utility associated to livelihood, basin characterization WP1.

	• Information will also be used in the development of the hydro-economic model that assesses synergies and tradeoffs in water use and development
Challenges and Lessons	• Post analysis field trip for the test of improved method would help to revise the methods suited to the river systems addressing altered flow regimes.
Gender	• The social survey has included both male and female interviewees
Sustainability	• Stakeholders have been trained and knowledge disseminated regarding this method.
Environmental Compliance	• No issues
Policy and Governance Support	• Would be of use to set environmental flow requirements for preservation and conservation of aquatic biodiversity
Local Capacity Development	• N/A
Public Private Partnerships or Global Development Alliance (GDA) partnerships and impacts	• N/A
Science, Technology and Innovation issues and impacts	• Biotic index advancement • First ever development of environmental flow assessment in the Karnali Basin

3.3 Work Package 3: Basin Scale Development Scenarios

This work package (WP) aims identifying and evaluating future water development pathways using hydro-economic models. The Year 3 work plan envisions four outputs under this WP. The implementation progress of each outputs are summarized in Table 5 below.

Table 5: Progress against target outputs for WP3

Output	**3.1**	**Hydro-economic modeling (HEM) report with initial findings from collected data regarding water resource use trade-offs**
Indicator	3.1.1	• Report/supportive database produced
Progress	3.1.1	• A short update report regarding progress on the HEM with a work plan for completion of the modeling and reporting was prepared in April 2018. • This report provided the basis for developing a HEM preliminary results presentation, which was shared with stakeholders during the reporting period to elicit feedback on the process and reporting. • This initial work will be used in developing the journal article (**Output 3.3**) and stakeholder report (**Output 3.4**) regarding the HEM.
Implement-ation challenges		• The Karnali and Mahakali River Basins are the first application of this HEM. Accordingly, there has been a lot of trouble-shooting to get the model running, especially when changes need to be made per stakeholder feedback. This has led to delays in the modeling process, however, many of these challenges have been resolved during this reporting period.
Stakeholder involvement in delivery		• The initial HEM results (in presentation form) were shared with three groups of stakeholders. These stakeholders represented different institutional levels (national and local government or interests) and a variety of sectors (hydropower, irrigation, environment, municipal). Stakeholders participated in a half day, interactive meeting during which they heard presentations on the HEM (by a WP3 member who was in Nepal at the time) and preliminary results, had the opportunity to ask questions on the work, and provided individual and group feedback through written surveys and small group discussions facilitated by DJB team members. • A summary report from this meeting was prepared and shared with stakeholder (Annex-7).
Output	**3.2**	**Stakeholder meetings and/or workshop to discuss modelling results**
Indicator	3.2.1	Workshop proceedings/report
Progress	3.2.1	• The meetings were held on June 7, 8, and 11, 2018. • The first two meetings were held in Kathmandu, Nepal, and stakeholders representing national interests were in attendance. • The third meeting was held in Dhangadhi, Nepal, and stakeholders representing local interests were in attendance. • The meetings held in Kathmandu were half day events; the meeting in Dhangadhi was a full day event (as more English-Nepali translation was necessary for this meeting). • A WP3 member was in Kathmandu and Dhangadhi during the meetings to give presentations, facilitate question and answer sessions, and interact with stakeholders.

		• On June 13, 2018, workshop proceedings summarizing the workshops and stakeholder feedback regarding the HEM development scenarios, data, and results dissemination was submitted (Annex-7). This workshop report also outlines the work plan for the HEM moving forward as well as provides names and affiliations of workshop attendees. • Based on the visioning exercises and stakeholder consultation a vision paper for Western Nepal was developed (Annex-8). • This output is complete; however, feedback from stakeholders is being incorporated in the HEM work that will be reported in outputs 3.3 and 3.4.
Implement-ation challenges		• The stakeholder workshops were held slightly earlier than WP3 intended due to availability of the DJB staff as well as concerns about the monsoon and travel. This challenge did not impede progress towards the output; preliminary results presentations were shared with stakeholders as planned and the intended feedback from stakeholders was elicited from the meetings.
Stakeholder involvement in delivery		• Forty stakeholders (26 representing national interests and 14 representing local interests) participated in the stakeholder meetings held in Kathmandu and Dhangadhi in June 2018. • Many of these stakeholders had also attended the trade-off arena workshop held in Kathmandu in August 2017, so these stakeholders had the opportunity to see the progress that had been made in the HEM work. • Stakeholders provided valuable feedback to HEM team, particularly with regard to the development scenarios and data used in the HEM as well as how results should be disseminated.
Output	**3.3**	**HEM results and trade-off analysis paper that includes updated analysis based on stakeholder input**
Indicator	3.3.1	Report/relevant database produced
Progress	3.3.1	• Initial results were compiled in a short update report (see output 3.1) and in a presentation to stakeholders (see output 3.2) given at stakeholder meetings in June 2018. • Feedback from stakeholders to adjust HEM process or incorporate additional data was collected and summarized after the June 2018 stakeholder meetings. Many of these changes, such as incorporating different demand scenarios for energy including increased domestic demand as well as increased electricity export to India, extending the time frame of analysis, and updating the environmental constraints, have been added to the model. • An outline for the HEM paper has been developed, and a draft of the paper is underway. The draft will be submitted to a special issue of the International Journal of Water Resources Development on hydropower-based collaboration in South Asia in mid-October. An

		extended abstract of the HEM paper has been accepted for this special issue, indicating that we can submit our completed draft for consideration.
Implement-ation challenges		• There have been time delays in the HEM (see output 3.1) because of needs to adapt the model to a new application and determining the best ways to deal with missing or incomplete data. As a result, there have been some delays to the writing of the HEM paper, which is currently in outline/draft stages.
Stakeholder involvement in delivery		• Stakeholder input from meetings held in June 2018 (see output 3.2) have been incorporated in HEM process. Furthermore, stakeholder feedback regarding results dissemination will be incorporated into the results reporting in this paper.
Output	**3.4**	**User-friendly modelling results and trade-off analysis report**
Indicator	3.4.1	Final report/relevant data on HEM modeling & tradeoff analysis
Indicator	3.4.2	Model developed
Progress	3.4.1 & 3.4.2	• Appropriate progress has been made by WP3 that will allow this report to be completed by the end of the project, as anticipated. • The HEM model (written in GAMS) is functioning with all modules (energy, agriculture, municipal, and environmental) activated. • This report will be disseminated to stakeholders at the end of the project. It will be disseminated to stakeholders who attend the final DJB meetings at the close of the project. • For stakeholders involved in the project and unable to attend these meetings, it will be disseminated electronically.
Implement-ation challenges		• While the HEM model is functioning and generating results, as we work through analysis of results and incorporating stakeholder feedback, the model is continually updated and adjusted. These updates take time.
Stakeholder involvement in delivery		• Stakeholders provided feedback regarding the HEM process at meetings held in June 2018 (see output 3.2). This is being incorporated into the model and will appear in the final report.
Cross-Cutting Issues		
Linkages		• WP3 has worked with members of WP1 on a paper outlining development visions for the Karnali and Mahakali River Basins entitled "The Role of Hydropower in Visions of Water Resources Development for the Rivers of Western Nepal". This paper will be submitted to a special issue of the International Journal of Water Resources Development on hydropower-based collaboration in South Asia in mid-October. An extended abstract of the visions paper

	has been accepted for this special issue, indicating that we can submit our completed draft for consideration. • WP3 has also worked with members of WP5 on a paper examining the relationships between migration (primarily male) and gender roles and empowerment in the Karnali and Mahakali River Basins. This paper incorporates quantitative data from the basin-wide survey implemented by DJB in June-July 2017 and qualitative data from focus group discussions and key informant interviews. This paper will be submitted to a special issue of Gender and Development on migrants in a global economy at the end of September. • WP3 has also provided input to a paper on e-flows that account for livelihoods aspects of ecosystem services. • Finally, WP3 continues to be the reference point for use of basin-wide survey data by other work packages. WP3 has provided quantitative support through both data cleaning and analysis.
Challenges and Lessons	• WP3 has extended its scope to be heavily involved in the basin-wide survey. WP3 members played a role in developing questionnaire, training the enumerators, cleaning the data, and analyzing the data (for both WP3 objectives and other DJB work packages). That was a great learning. • Additionally, WP3 has worked with other WPs on journal articles that use basin-wide survey data (visions paper with WP1 and gender/migration paper with WP5). These activities have been fruitful, but they have also required WP3 time. Additionally, given structural changes in DJB funding earlier in the project, WP3 has not been able to pursue some of the model dissemination activities planned at the project's inception. • As WP3 puts together HEM results for journal articles and stakeholder reports, we will consider new and innovative ways to share our work with policymakers.
Gender	• WP3 is working with WP5 (Gender) on a paper that uses qualitative and quantitative methods to examine relationships between gender and migration in the study area. • Additionally, throughout WP3's activities during this reporting period, efforts were made to involve women and men. While there were more men at stakeholder meetings, at least a third of all meeting invitees were female.

Sustainability	• Development scenarios consider environmental costs as part of the objective function. Finally, as a planning tool, the HEM endeavors to provide policy makers with information regarding sustainable resource management as well as sustainable infrastructure development.
Environmental Compliance	• Environmental considerations are included in all HEM development scenarios, informed by the work especially of WP2. Trade-offs between environmental conservation and infrastructure development, where appropriate, are analyzed as part of the HEM work to provide policy makers with insights regarding environmental concerns.
Policy and Governance Support	• The HEM is intended to be used as a policy tool. The HEM results provide policy makers with information regarding the efficient use of water resources within the study area; however, they are intended as an informative tool, and not a prescription of infrastructure operations. By incorporating stakeholders throughout the HEM process, WP3 (and the rest of DJB) has worked hard to communicate how the HEM results can be responsibly used by policy makers for planning purposes.
Local Capacity Development	• Local stakeholders have been involved in stakeholder meetings (see output 3.3) to provide insight into local water demands. These demands have been incorporated into the HEM as appropriate so that local concerns will be included in this planning tool.
Public Private Partnerships or Global Development Alliance (GDA) partnerships and impacts	• Not applicable
Science, Technology and Innovation issues and impacts	• The HEM used in this project has not been used in previous applications. It provides an innovative way of capturing multi-sector water resource demands.

3.4 Work Package 4: Watershed / Village Water Governance and Management

The WP4 in Year 3 aims to implement the techno-social interventions and evaluate their effectiveness by monitoring various aspects of the interventions. The Year 3 work plan envisions four outputs under this WP. The implementation progress of each outputs are summarized in Table 6 below.

Table 6: Progress against target outputs for WP4

Output	**4.1**	**Evaluation report with a clear model of improved land/water governance for upscaling and its dissemination**
Indicator	4.1.1	Evaluation report produced
Progress		• Implementation of physical interventions such as installation of rain gauge/evaporation pan, rehabilitation of pond, and application of micro irrigation technologies are completed at all the three sites. • Farmers have started growing vegetables using those tools and infrastructure. • Farmers already decided what to grow in next season in close consultation with IWMI technicians. After completing next season crop cycle, evaluation report will be produced.
Implement-ation challenges		• Evaluation report will be produced at the end of the project.
Stakeholder involvement in delivery		• Technician from agricultural service center nearby the intervention villages and agriculturist from agro-vet were involved for planning of cropping system and identifying suitable cropping pattern based on farmers' interest and climate. • In addition, farmers were trained on remedial measures for possible diseases and insect attack for crops.
Output	**4.2**	**Scientific papers [1 blog, 2 journal papers, 1 conference paper]**
Indicator	4.2.1	Scientific papers produced
Progress		• Out of two journal papers, one (1) is in draft form (Annex-9) and another in preparation phase. • Blog and conference paper will start once journal papers are completed.

Implement-ation challenges		• The activities and outputs are almost on track. Journal paper can be submitted on time but cannot ensure its publication will be timely given uncertain time for review process.
Stakeholder involvement in delivery		• The interventions were discussed and finalized together with farmers
Output	**4.3**	**Case studies/photo stories on best practices**
Indicator	4.3.1	Case studies/photo stories published
Progress		• One (1) case study was prepared and presented at the gender summit (Annex-10) organized by USAID on 2nd October, 2018. • Photo stories are in preparation.
Implement-ation challenges		• Constraints and success will be reported after two seasons. Implementation challenges are being documented and will be reported in the final progress report.
Stakeholder involvement in delivery		• Progressive farmers
Output	**4.4**	**Updated feasibility analysis report of identified interventions for improving water productivity**
Indicator	4.4.1	Report produced
Progress		• Feasibility analysis report already submitted to USAID in earlier reporting period. Since there were no feedback, it was considered as approved.
Implement-ation challenges		• Due to very small intervention activities at field level, motivation to participate in such activities is always in risk.
Stakeholder involvement in delivery		• Local government representatives, farmers
Cross-Cutting Issues		
Linkages		• WP5 provided inputs to assess potential interventions from a gender and social inclusion (GESI) perspective.

Challenges and Lessons	• No major challenges but farmers are motivated to grow vegetable with access to water.
Gender	• Both men and women are participating in intervention activities (renovating the ponds, training, installation of shallow tube wells, preparation of plots, planning, and execution process)
Sustainability	• Planning to hand those interventions to community user's group. • The rain gauges, evaporation pan, and temperature logger will be handedover to local government authorities.
Environmental Compliance	• No issues so far.
Policy and Governance Support	• Documentation on the hurdles and successes will be useful for local level planning organizations.
Local Capacity Development	• Local field assistant and local farmers were trained on vegetable farming.
Public Private Partnerships or Global Development Alliance (GDA) partnerships and impacts	• Not applicable yet
Science, Technology and Innovation issues and impacts	• Intervention activities just completed. Challenges, hurdles as well as successes are being documented, which will provide recommendations for future interventions.

3.5 Work Package 5: Gender

The WP5 in Year 3 aims to develop scientific papers as well as enhance awareness and capacity of key stakeholders in the water sector to consider and address unequal capabilities to benefit from and influence to water resources planning and management across gender, caste, class, and

ethnicity at local and basin levels. The Year 3 work plan envisions five outputs under this WP. The implementation progress of each outputs are summarized in Table 7 below.

Table 7: Progress against target outputs for WP5

Output	**5.1**	**Specific sessions on gender in workshop dialogues and radio programs in WP4**
Indicator	5.1.1	Radio program report
Progress		• Town hall meeting on 'gender and irrigation' in collaboration with PAANI was organized on 27th April 2018 in Bhajani Municipality in Kailali. • Discussions revolved around how the access to irrigation water is unequal for men and women farmers, why women are less involved in irrigation user committees despite national reservation of 33% in the user committees, and the way forward ensuring equal access to irrigation water for both men and women farmers. • The program was broadcasted in Radio Sagarmatha. • A report on the dialogue was submitted to DJB team (Annex-11).
Implement-ation challenges		• OPPORTUNITY: This town hall meeting provided an opportunity for the local government representatives, and members from non-governmental organizations, civil society and media. Both men and women farmers were engage in discussion about the complex gender issues underpinning the access to irrigation water. • CHALLENGE: Difficult to ensure equal participation of male and female participants. Men were reluctant to participate in workshops related to Gender.
Stakeholder involvement in delivery		• 51 female, and 10 male from different sectors (government, non-governmental organizations, civil society organizations, media, and farmers) engaged in dialogue.
Output	**5.2**	**A dialogue on masculinity**
Indicator	5.2.1	Documentation on dialogue
Progress		• One-day workshop on "Unpacking Masculinity" was organized on 11TH May, 2018 in Kathmandu. The goal of the workshop was to initiate critical reflection among water stakeholders on gender issues within organizations. • Water engineers, gender experts, and water sector development actors from government and non-government sectors in Nepal were invited to join the event.

		• A report/blog (Annex-12) outlines the proceedings as well as outcome of the workshop.
Implement-ation challenges		• OPPORTUNITY: It was the first dialogue on masculinity in Nepal which through a day long interactive sessions paved way to further discussion on how a masculine organizational culture impact attitudes and practices within water sector and how this in turn impacts the goal of gender equity and social justice.
Stakeholder involvement in delivery		• 11 men and 11 women working in water sector from GO, NGO, INGO, Donor organizations, Academia participated in the workshop.
Output	**5.3**	**Increased participation (at least 30%) of women in the multi-stakeholder participatory process for exploring water resources development pathways and trade-offs**
Indicator	5.3.1	Percentage of female participants in the activities/events
Progress		• There were five events that involved multiple stakeholders. – Stakeholder Workshop on Hydro-Economic Modelling of Karnali-Mahakali River Basins held on 7 june 2018 in Kathmandu: - 3 female, 7 male – Stakeholder Workshop on Hydro-Economic modelling of Karnali-Mahakali River Basins held on 8 june, 2018 in Kathmandu: 2 females, 15 male – Stakeholder Workshop on Hydro Economic Modelling of Karnali -Mahakali River Basins held on 11 june 2018 in Kailali: 4 females, 10 male – Masculinity workshop held on 11 may 2018 in Kathmandu: 11 females, 11 males – Town hall meeting/Radio Dialouge held on 27 Apr, 2018 in Kailali: 51 female, 10 male.
Implement-ation challenges		• CHALLENGE: Difficult to ensure equal participation of male and female participants. Men reluctant to participate in workshops related to Gender.
Stakeholder involvement in delivery		• Stakeholders from GO/NGO/INGO/CSO/Donor organizations, farmers from different gender and caste were part of these programs.
Output	**5.4**	**Inputs on mainstreaming gender in the integrated policy and practice guidelines to be developed by PAANI**
Indicator	5.4.1	Evidence of gender mainstreaming

Progress		• There is no progress to report as the gender-related inputs depend on the development of the guidelines, which have not been drafted yet.
Implement-ation challenges		• N/A
Stakeholder involvement in delivery		• N/A
Output	**5.5**	**Peer reviewed papers (2)**
Indicator	5.5.1	Report/paper on selected topics submitted
Progress		• Abstract for a manuscript titled "Impact of migration on women's agency in far-west Nepal" was selected for Gender and Development journal. Full manuscript is almost ready to submit to the journal (Annex-13). • Second manuscript titled "Unravelling gendered practices in the public water sector in Nepal" is also almost ready for submission (Annex-14). • Third manuscript titled "Gender, Social Capital and Collective commons" is under preparation. Translation and transcription is finished and analysis is pending.
Implement-ation challenges		• N/A
Stakeholder involvement in delivery		• Interviews and focus group discussions with 54 male and 107 female farmers of different age and from different caste across the three pilot sites • Basin wide survey of 3,660 households
Cross-Cutting Issues		
Linkages		• Provided inputs in E-Flow Checklist; • Participated in Social E-Flow Survey and conducted FGD, KII, and household surveys in three districts in the far west Nepal; • Supervised enumerators on Social E-Flow Survey and contributed to Social E-Flow journal article;

	• Ensured women participation in DJB workshops and Dialogues;
Changes and Lessons	• A qualitative research into why women are reluctant to join technical workshops and men reluctant to participate in gender workshops and dialogues is assumed to help improve strategies to achieve gender balance participation in planning and dialogues in water sector.
Gender	• WP5 is all about gender
Sustainability	• N/A
Environmental Compliance	• Nothing to report specifically on this as our WP consists of primary data collection that does not affect the sustainability of the studied social-ecological systems.
Policy and Governance Support	• Several outputs under Output-5.5, will contribute to support policy and governance by providing policy recommendations
Local Capacity Development	• Masculinity dialogues at central level contributed to increased awareness of gendered roles and responsibilities, and of gender as a social construct. It was the first dialogue on masculinity in Nepal which through a day long interactive sessions paved way to further discussion on how a masculine organizational culture impact attitudes and practices within water sector and how this in turn impacts the goal of gender equity and social justice. • Town hall meeting at the district level provided an opportunity for the local government representatives, members from non-governmental organizations, civil society members, media representatives and men and women farmers to engage in discussion about the complex gender issues underpinning the access to irrigation water
Public Private Partnerships or Global Development Alliance (GDA) partnerships and impacts	• N/A
Science, Technology and Innovation issues and impacts	• N/A

3.6 Work Package 6: Integrated Policy and Practice Guidelines

This project's results/findings will be inputs to the integrated policy and practice guidelines that PAANI is expected to develop.

3.7 Work Package 7: Knowledge Management and Dissemination

This WP aims at managing knowledge products and measuring impacts. It ensures websites are updated regularly, and knowledge products are produced and disseminated properly. The impact is measured by comparing response to KCAP survey questionnaire against the similar survey carried out at the start of the project. The Year 3 work plan envisions three outputs under this WP. The implementation progress of each outputs are summarized in Table 8 below.

Table 8: Progress against target outputs for WP7

Output	**7.1**	**Status of KCAP of the key research users at the end of the project**
Indicator	7.1.1	KCAP survey report
Progress		• The survey is expected to start around February 2018, at the time of dissemination workshop
Implement-ation challenges		• N/A
Output	**7.2**	**Well updated and maintained website**
Indicator	7.2.1	Updated website
Progress		• The website (http://djb.iwmi.org/) was prepared in the Year 1 of the project and has been updated regularly since then.
Implement-ation challenges		• N/A
Output	**7.3**	**Project-related news, photo-stories, blogs, articles, etc.**
Indicator	7.3.1	The news/photo-stories/blogs/articles are submitted/published

Progress		• They are being published regularly and the process is continuing. Details of publication and disseminations are provided in the sub-sections under 3.7.
Implement-ation challenges		• Publications sometimes takes longer than expected

3.7.1 Publications

Here is a list of publications related to DJB work in Year 3.

Peer-Reviewed Journal Articles

Dhaubanjar S., Pandey V.P., Bharati L (2018). Climate Futures for Western Nepal based on Regional Climate Models in the CORDEX-SA. (Manuscript under review)

Pakhtigian, E.L. and Jeuland, M. (2018). Valuing the environmental costs of local development: Evidence from households in Western Nepal. Submitted and under review

Pakhtigian, E.L., Jeuland, M., Bharati, L., and Pandey, V.P. (2018). The Role of Hydropower in Visions for Water Resources Development for the Rivers of Western Nepal. To submit October 15, currently under review

Pakhtigian, E.L. and Jeuland, M. (2018). Implications of water use trade-offs for development planning: Hydro-economic modeling in Western Nepal. To submit by end of October

Pandey V.P., Dhaubanjar S., Bharati L., Thapa B.R. (2018). Hydrologic response of Chamelia Watershed in Mahakali Basin to climate change. Science of the Total Environment, 650 (Part 1): 365-383. (https://www.sciencedirect.com/science/article/pii/S0048969718334892).

Pandey V.P., Dhaubanjar S., Bharati L., Thapa B.R. (2018). Spatio-temporal distribution of water availability in Karnali-Mohana basin to current and future climates. For Journal of Hydrology; Currently under review

Sharma, A., Karki, E., Eriyagama, N., Shrestha, G., Jeuland, M., Bharati, L. and Clement, F. (2018) Whose river is it: An assessment of livelihood and cultural water flow requirements for the Karnali. Draft is Under Review (Internally).

Shrestha, G., Pakhtigian, E.L., and Jeuland, M. (2018). Women who do not migrate: Social interactions and participation in Western Nepal. (Under Review with a Journal)

Shrestha, G. and Clement, F. 2018. Unravelling gendered practices in Nepal water Bureaucracies. First Draft Ready for the journal 'water policy'.

Suhardiman D., Bastakoti R., Karki E., Bharati L. (2018). The politics of river basin planning and state transformation processes in Nepal. Geoforum, 96: 70-76.

Suhardiman, D., Karki, E., Bastakoti, R. (2018) Putting power and politics central in Nepal's water governance. (Ready for Submission)

Suhardiman, D. and Karki, E. (2018) Spatial Politics and Local Alliances Shaping Nepal Hydropower (Submitted)

Conference Papers/Posters

Pandey V.P., Dhaubanjar S., Bharati L., Thapa B.R. (2018) Climate Change and Water Availability in Western Nepal. In: Proceedings of National Seminar on Nature for Water. 28 Mar 2018. Nepal Academy of Science and Technology (NAST), Mahendranagar, Nepal. pp xx-xx.

Shrestha G., Clement F. (2018). Gender differences in water security and capabilities in Far-West Nepal. In: Proceedings of 8th Regional Conference of International Commission on Irrigation and Drainage (8ARC), 2-4 May, 2018, Kathmandu, Nepal. pp. 83-99.

Tachamo Shah R.D., Sharma S., Mullner K., Bharati L. (2018). River health assessment for sustainable water resources management in Western Nepal. In: Proceedings of 8th Regional Conference of International Commission on Irrigation and Drainage (8ARC), 2-4 May, 2018, Kathmandu, Nepal. pp. 571-578.

Blogs/Op-Eds/Articles in Newspapers, etc.

Drown P., Shrestha G. (2018). Why we need to discuss masculinity in the water sector. Thrive, CGIAR, 26TH June, 2018. Available online at: https://wle.cgiar.org/thrive/2018/06/26/why-we-need-discuss-masculinity-water-sector

Karki E., Suhardiman D., Drown P., Swingle C. (2018). The importance of local voices in Nepal's hydropower projects. The Thirdpole, Wednesday, 8TH August, 2018. Available online at: https://www.thethirdpole.net/en/2018/08/08/the-importance-of-local-voices-in-nepals-hypropower-projects/

Sharma A., Claire S. (2018). Balancing people and energy in the Karnali Basin. The Thirdpole, 20TH August, 2018. Available online at: https://www.thethirdpole.net/en/2018/08/20/balancing-people-and-power-in-the-karnali-basin/

3.7.2 Dissemination

A summary of dissemination of DJB activities/results through presentation as well as participation in various meetings are listed below:

SN	Event	Date (Venue)	Presentation Title	Presenters/Attendee
	Stockholm Water Week	August 29, 2018	Future Water Risks and	Luna Bharati

			Climate Change in the Himalayas.	
1	Hydro-economic modeling: Stakeholders' Consultation at local level	June 11, 2018 (Dhangadi, Nepal)	Prospective water demand/use, availability, and trade-offs in Western Nepal	Bhesh Raj Thapa
2	Unpacking Masculinity organized by WP5, DJB, IWMI	May 11, 2018, (Kathmandu, Nepal)	Unravelling gendered practices in Nepal water public organizations	Gitta Shrestha
3	Gender, conflicts and cooperation in the context of climate action, Joint CCMC Gender Workshop	May 3-4, 2018, (Kathmandu, Nepal)	Men, Masculinities and Hydropower in Sikkim, India	Gitta Shrestha
4	8th Asian Regional Conference (8ARC) on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	Digo Jal Bikas	Luna Bharati
	8th Asian Regional Conference (8ARC) on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	Sustainable Irrigation	Luna Bharati
5	8ARC on Irrigation and Drainage	May 2- 4, 2018 (Kathmandu, Nepal)	Assessing spatio-temporal variation in water resources availability in Karnali-Mohana River Basin, Nepal	Vishnu Prasad Pandey
6	8ARC on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	Projected future climate for Western Nepal	Sanita Dhaubanjar

7	8ARC on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	Gender Differences in water security and well-being in Far West Nepal	Gitta Shrestha
8	8ARC on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	River health assessment for sustainable water resources management in Western Nepal	Ram Devi Tachamo Shah
9	8ARC on Irrigation and Drainage	May 2-4, 2018 (Kathmandu, Nepal)	Comparative assessment of various water application methods for improving water productivity during dry season agriculture	Bhesh Raj Thapa
10	Town Hall Meeting on Gender and Irrigation organized by PAANI, NEFEJ, and IWMI	April 21, 2018 (Kailali, Nepal)	Gender Differences in water security and well-being in Far West Nepal	Gitta Shrestha
11	European Geosciences Union (EGU) General Assembly 2018	Apr 10-13, 2018 (Vienna, Austria)	Climate Futures for Western Nepal	Sanita Dhaubanjar, Luna Bharati
12	One day workshop on Sexual Harassment by IWMI Nepal	April 3, 2018 (Kathmandu, Nepal)		Organizer/Coordinator – Gitta Shrestha
13				

3.7.3 Project Organized Workshops/Meetings

During the first half of the third year (Apr – Sep, 2018) of the project, Digo Jal Bikas (DJB) project organized following workshops with the aim of sharing intermediate results and collecting feedback from the stakeholder.

A) Hydro-economic modeling workshops: Two workshops were held with national-level stakeholders in Kathmandu on June 7 and 8, 2018. The first of these workshops involved stakeholders from the central government departments and ministries, including energy, agriculture, soil conservation, and other relevant sectors. The second of these workshops involved primarily non-governmental national-level stakeholders, many of whom represented environmental or conservation sectors. The third workshop was held with local and regional stakeholders in Dhangadhi on June 11, 2018. The meetings in Kathmandu were conducted in English; the meeting in Dhangadhi in Nepali. In total, 40 stakeholders attended the workshops—the complete listing of participants is available at the end of this document.

B) Workshop on sexual harassment: It was conducted on 3rd April, 2018 to all staffs at IWMI-Nepal. Facilitated by Srijana Chettri, a GESI Manager at Pact, members of the Nepal office participated in discussions on the state of work place sexual harassment in Nepal, how to improve IWMI's sexual harassment policy, and how to be proactive bystanders. The training was organized by IWMI's HR team with the support of USAID and Pact.

C) Town-hall meeting on gender and irrigation: The DJB project co-organized a town hall meeting on gender and irrigation on 21st April, 2018 in Kailali together with PAANI and NEFEJ. Gitta Shrestha from IWMI participated and presented on the subject matter. The workshop was very much useful to raise awareness on various issues related to gender and irrigation. The discussions revolved around the how access to irrigation water is unequal for men and women farmers, why women are less involved in irrigation user committees despite national reservation of 33% in the user committees, and the way forward ensuring equal access to irrigation water for both men and women farmers. This town hall meeting provided an opportunity for the local government representatives, members from non-governmental organizations, civil society members, media representatives and men and women farmers to engage in discussion about the complex gender issues underpinning the access to irrigation water.

D) 8TH Asian Regional Conference on Irrigation and Drainage (8ARC): IWMI and Digo Jal Bikas project contributed significantly in organizing the 8ARC, which was co-organized by USAID. The event was held during May 2-4, 2018. IWMI, particularly, those engaged in DJB, such as Luna Bharati, Vishnu Prasad Pandey, and Ram C Bastakoti contributed to the conference as member of the Technical Advisory Committee (TAC).

Luna Bharati was also involved in organizing a plenary symposium, together with colleagues from ICIMOD. The symposium had the title of "Sustainable Irrigation" and covered uncertainty and future risks as well as innovative solutions for irrigation development in Asia.

Vishnu Prasad Pandey provided significant technical contributions on behalf of DJB project (funded by USAID) for drafting the Call for Papers; Designing format of abstracts and full papers; Reviewing abstracts/full papers; and supervising the process of developing proceedings and technical program of the conference. He also contributed in developing full paper proceedings of the Conference. The Asian Regional Conference received 105 abstracts from 22 countries from a wide range of disciplines including academicians, practitioners, policy makers and research scholars. More than 520 participants from 22 countries in Asia and beyond attended the Conference.

Following seven (7) papers related to Digo Jal Bikas (DJB) project were presented in the conference.

SN	Title	Presenter	Date/Time
1	Dealing with variations in access to water: An assessment of challenges and coping strategies in Far-western Nepal	Ram C. Bastakoti	2nd May/ 13:30-13:45
2	Gender differences in water security and capabilities in Far-West Nepal	Gitta Shrestha	2nd May/ 16:30-16:45
3	Digo Jal Bikas	Luna Bharati	2nd May/ 15:30-15:45
4	Projected future climate for Western Nepal	Sanita Dhaubanjar	2nd May/ 15:45-16:00
5	Assessing spatio-temporal variation in water resources availability in Karnali-Mohana River Basin, Nepal	Vishnu Pd. Pandey	2nd May/ 16:15-16:30
6	Comparative assessment of various water application methods for dry season agriculture in the Eastern Gangetic Plain	Bhesh Raj Thapa	3rd May/ 10:00-10:15
7	River health assessment for sustainable water resources management in Western Nepal	Ram Devi Tachamo	3rd May/Morning Session
8	Sustainable Irrigation (Session Facilitation)	Luna Bharati	3rd May Plenary-4 Symposium

E) A workshop on "Unpacking Masculinity": As part of the Digo Jal Bikas project, the IWMI Nepal office organized the one-day workshop "Unpacking Masculinity" on 11th May, 2018 in Kathmandu. The goal of the workshop was to initiate critical reflection among water stakeholders on gender issues within organizations. Water engineers, gender experts, and water sector development actors from government and non-government sectors in Nepal were invited to join the event. It was the first dialogue on masculinity in Nepal which through a series of interactive sessions paved the way for further discussion on how a masculine organizational culture impacts attitudes and practices within the water sector and how this in turn impacts the goal of gender equity and social justice. The workshop was organized by Work Package 5 on Gender under DJB project. The workshop was facilitated by Dr. Deepa Joshi from Coventry University in the United Kingdom.

3.8 Work Package 8: Project Management

This work package is focused in project management. The implementation status of four outputs envisioned under this work package are summarized in Table 9 below.

Table 9: Progress against target outputs for WP8

Output	**8.1**	**Annual progress report of Year 2 (Apr, 2018)**
Indicator	8.1.1	Report submitted/approved
Progress		• An electronic copy of the annual progress report was submitted to USAID on 30th April 2018. • Revised version of electronic copy as well as two hard copies were submitted to USAID after incorporating feedback/inputs on 20th August, 2018.
Implement-ation challenges		• N/A
Output	**8.2**	**Semi-annual progress report (October, 2018)**
Indicator	8.2.1	Report submitted/approved
Progress		• This document is the progress report due in October 2018. It is being submitted on time.
Implement-ation challenges		• N/A
Output	**8.3**	**Project final report (March, 2019)**
Indicator	8.3.1	Final report submitted
Progress		• Currently developing outline of the final report. All the team members will start to prepare contents as per outline right from now, so that there will be no time pressure to synthesize at the end of the project period.
Implement-ation challenges		• N/A
Output	**8.4**	**Proceedings of the dissemination workshop (February, 2019)**
Indicator	8.4.1	A report on dissemination workshop developed

Annual Progress		• It will be prepared after completion of the dissemination workshop planned for the second half of February.
Implement-ation challenges		• N/A

3.8.1. Regular Project Meetings

We have conducted regular project meetings to review progress and devise strategies. Four such meetings were held during this reporting period. Since the project staff are spread over various countries, some join the meeting in-person at IWMI-Nepal Office and some join via Skype. Here are details on the regular project meetings. Minutes/Discussion notes of each minutes are also available, and regularly provided to USAID following the meetings.

Date	Attendee
April 11, 2018	• Akriti Sharma (IWMI – Nepal) • Bhesh Raj Thapa (WP4, IWMI – Nepal) • David A. Wiberg (WP3, IWMI – Headquarter) • Diana Suhardiman (WP1/WP4, IWMI – Laos) [on Skype] • Emily Pakhtigian (WP3, Duke University - USA) [on Skype] • Emma Karki (WP1-4, IWMI-Nepal) • Gitta Shrestha (WP5, IWMI – Nepal) • Luna Bharati (Project Leader, IWMI – Nepal) [on Skype] • Netra Sharma (USAID) • Om Acharya (IWMI – Nepal) • Patrick Drown (IWMI – Nepal) • Ram Bastakoti (WP1/WP4, IWMI – Nepal) • Vishnu Prasad Pandey (Project Coordinator, IWMI – Nepal)
May 7, 2018	• Alan Nicol (IWMI-Ethiopia) • Bhesh Raj Thapa (WP4, IWMI – Nepal) • Diana Suhardiman (WP1/WP4, IWMI – Laos) • Emma Karki (WP1-4, IWMI-Nepal) • Gitta Shrestha (WP5, IWMI – Nepal) • Luna Bharati (Project Leader, IWMI – Nepal) • Vishnu Prasad Pandey (Project Coordinator, IWMI – Nepal)
June 6, 2018	• Akriti Sharma (IWMI – Nepal) • Bhesh Raj Thapa (WP4, IWMI – Nepal) [on Skype] • David A. Wiberg (WP3, IWMI – Headquarter) [on Skype] • Emily Pakhtigian (WP3, Duke University - USA)

	• Emma Karki (WP1-4, IWMI-Nepal) • Gitta Shrestha (WP5, IWMI – Nepal) • Luna Bharati (Project Leader, IWMI – Nepal) [on Skype] • Nishadi Eriyagama (WP2, IWMI – Headquarter) [on Skype] • Patrick Drown (IWMI – Nepal) • Ram Devi (Kathmandu University) [on Skype] • Sanita Dhaubanjar (WP1/WP3, IWMI – Nepal) • Vishnu Prasad Pandey (Project Coordinator, IWMI – Nepal)
Sep 5, 2018	• Akriti Sharma (IWMI – Nepal) • Claire Swingle (IWMI – Nepal) • Diana Suhardiman (WP1/WP4, IWMI – Laos) [on Skype] • Emily Pakhtigian (WP3, Duke University - USA) [on Skype] • Emma Karki (WP1-4, IWMI-Nepal) • Gitta Shrestha (WP5, IWMI – Nepal) • Kashmira Kakati (USAID) • Luna Bharati (Project Leader, IWMI – Germany) [on Skype] • Netra Sharma (USAID) • Nishadi Eriyagama (WP2, IWMI – Headquarter) [on Skype] • Om Acharya (IWMI – Nepal) • Ram Devi Tachamo (WP2, Kathmandu University) [on Skype] • Vishnu Prasad Pandey (Project Coordinator, IWMI – Nepal)

3.8.2 Participation in USAID or Partners-Organized Meetings

Following table provide a list of USAID-organized meetings in which IWMI participated.

SN	Event Name	Date, Venue	Participants from DJB
1	Sustainable Hydropower Workshop organized by PAANI & IFC	Sep 28, 2018, Hotel Yak & Yeti	Vishnu Prasad Pandey (Panelist)
2	M&E Meeting	Sep 26, 2018, MEL Office, Baluwatar	Vishnu Prasad Pandey
3	SEED Partners Meeting	Sep 25, Amarpali Banquet	Vishnu Prasad Pandey, Bhesh Raj Thapa
4	IWMA Project Workshop	Aug 28, 2018, Hotel Summit	Vishnu Prasad Pandey
5	PAANI meeting – stakeholders consultation workshop to finalize Advanced Hydrology Course syllabus	August 7, 2018	Vishnu Prasad Pandey
6	MEL Workshop/ Training – Developing Theory of Change	July 10-11, 2018, MEL office, Baluwatar	Vishnu Prasad Pandey

7	PAANI organized meeting – providing feedback on Advanced Hydrology Course structure	June 26, 2018, IWMI-Nepal Office	Vishnu Prasad Pandey
8	IWMA Stakeholders Consultation Workshop	June 20, 2018, Winrock Office	Emma Karki
9	IWMA Stakeholders Consultation Workshop	June 15, 2018, Winrock Office	Vishnu Prasad Pandey
10	Security briefing to USAID implementing partners	May 30, 2018, USAID Office	Vishnu Prasad Pandey
11	Joint Implementing Partners Meeting on Resilience	May 29, 2018, Hotel Radisson	Vishnu Prasad Pandey; Bhesh Raj Thapa
12	USAID partners' meeting on sexual misconduct	April 16, 2018, Kathmandu, Nepal	Vishnu Prasad Pandey, Gitta Shrestha

ANNEX

Annex-1: Climate futures for Western Nepal based on Regional Climate Models in the CORDEX-SA

Annex-2: Spatio-temporal distribution of water availability in Karnali-Mohana basin, Western Nepal, under current and future climates

Annex-3: Spatial Politics and Local Alliances Shaping Nepal Hydropower

Annex-4: Putting Power and Politics Central in Nepal Water Governance

Annex-5: Report on river health of Karnali, Mahakali and Mohana basins (Draft)

Annex-6: Water diversion induced changes in aquatic biodiversity in monsoon-dominated rivers of Western Himalaya, Nepal (submitted to Ecological Indicators Journal)

Annex-7: Proceedings of Hydro-economic modeling workshops

Annex-8: The role of hydropower in visions of water resources development for the rivers of Western Nepal

Annex-9: Dealing with variations in access to water – An assessment of challenges and coping strategies in Far-Western Nepal [DRAFT]

Annex-10: Exploring sustainable farming opportunities: A case of a marginal female farmer (Case study prepared for USAID Gender Summit).

Annex-11: Proceedings of "Town Hall Meeting – Stakeholders and Community Dialogues on Gender and Irrigation"

Annex-12: Report on the masculinity workshop

Annex-13: Women who do not migrate – Social interactions and participation in Western Nepal [Manuscript for Journal

Annex-14: Unravelling gendered practices in the public water sector in Nepal