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# Integrated Watershed Management Activity (IWMA): Enabling Collaboration to Improve Water Security

A WATER SECURITY CASE STUDY



## Challenge: Coordinating Action on Water Security Among USAID Implementing Partners in Nepal

Water is one of the most important natural resources underpinning Nepal's economic growth and is one of the priorities for USAID Nepal. USAID Nepal addresses water security issues through a range of technical assistance programs in public health, Multiple-Use Water Systems, biodiversity, and disaster risk management, and was considering ways to integrate their portfolio of projects to leverage water security benefits.

## Intervention: Facilitating a Water Security Integration Process

USAID Nepal recognized an opportunity to integrate water security activities across programs. USAID Nepal's Social, Environmental, and Economic Development (SEED) Office developed an Integrated Watershed Management Framework and partnered with the USAID-funded Sustainable Water Partnership (SWP) to pilot implementation of the framework through the Integrated Watershed Management Activity (IWMA). During this two-year activity (2018 – 2020), IWMA strengthened coordination and collaboration among USAID Nepal's implementing partners (IPs), and improved water security for beneficiaries in two watersheds through six pilot integration activities. Through IWMA, USAID Nepal was able to holistically address the development needs of targeted populations, significantly improve health and livelihood outcomes, and efficiently leverage USAID resources to achieve sustainable development impacts at scale.

**SWP definition of water security:** the availability of, access to, and safe use of an adequate, reliable and resilient quantity and quality of water for health, livelihoods, ecosystems and economies.

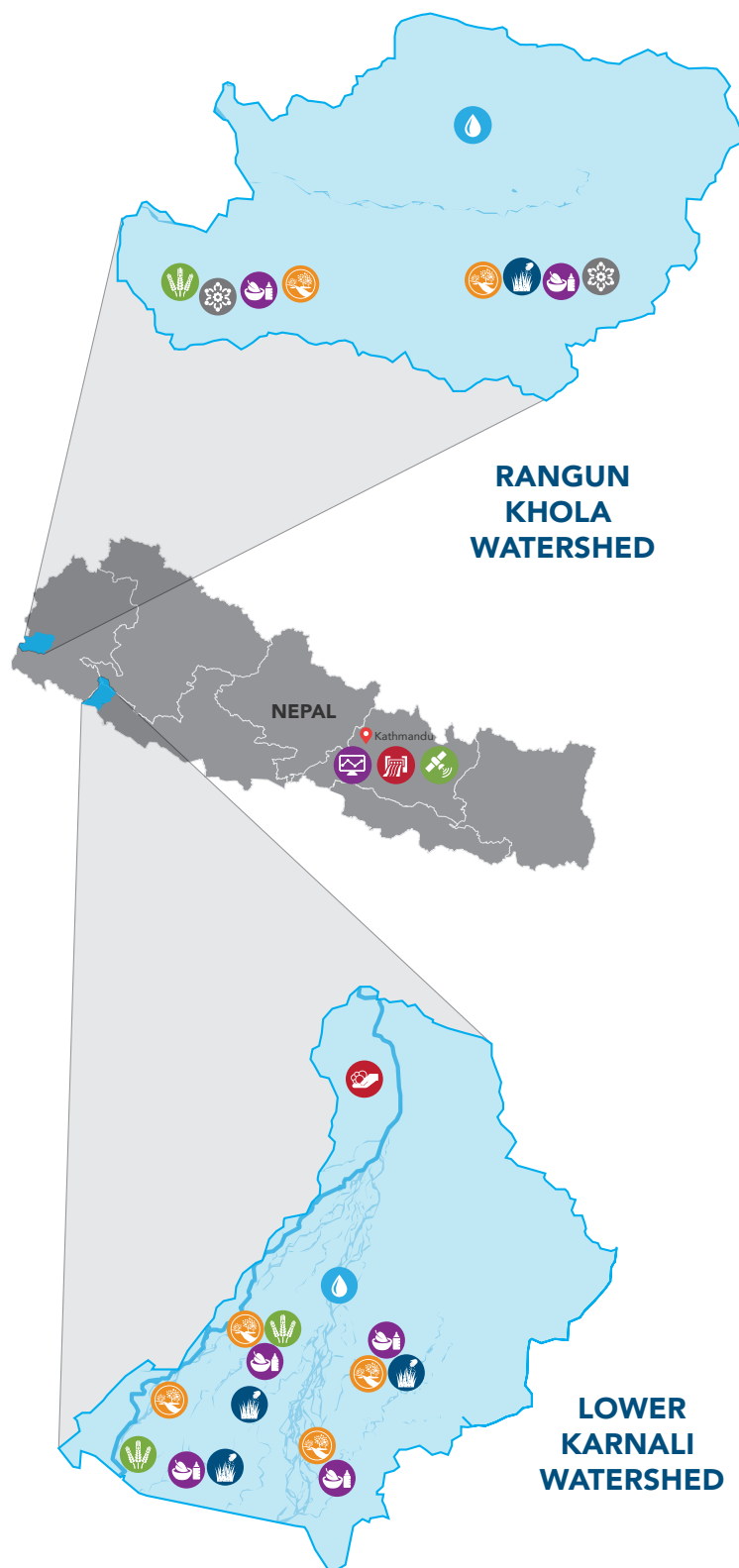
**SWP definition of water security integration:** the collaborative planning, design, implementation and monitoring of activities across a geographic area to ensure the efficient and effective delivery of water security benefits.

IWMA collaborated with ten USAID Nepal IPs (Figure 1) implementing water security-related projects in the Rangun Khola and Lower Karnali watersheds of the Karnali and Mahakali River Basins in western Nepal, one of USAID Nepal's priority geographies. Both watersheds have widely dispersed rural populations that depend on small-scale agriculture. The Lower Karnali watershed, straddling Provinces 5, 6 and 7 (Figure 2), has high agricultural productivity and the largest farmer-managed irrigation system in Nepal, but experiences landslides, riverbank erosion, sedimentation, and flooding. The Rangun Khola watershed in Province 7 is highly vulnerable to droughts and has significant water availability issues due to its topography and remoteness.

**FIGURE 1: USAID WATER SECURITY-RELATED PROJECTS PARTICIPATING IN IWMA**

- 
**DIGO JAL BIKAS:**  
 Improving water resource management in western Nepal
- 
**HARIYO BAN II:**  
 Increasing ecological and community resilience in biodiverse landscapes of Nepal
- 
**KNOWLEDGE-BASED INTEGRATED SUSTAINABLE AGRICULTURE AND NUTRITION (KISAN II):**  
 Improving agricultural market systems and enabling vulnerable communities to participate
- 
**NEPAL SEED AND FERTILIZER PROJECT (NSAF):**  
 Increasing Nepal's national crop productivity and food security
- 
**NEPAL HYDROPOWER DEVELOPMENT PROJECT:**  
 Expanding access to high-quality hydropower services
- 
**PAANI PROGRAM:**  
 Enhancing Nepal's ability to manage water resources for multiple uses
- 
**PROMOTING AGRICULTURAL, HEALTH, AND ALTERNATIVE LIVELIHOODS (PAHAL):**  
 Strengthening livelihoods, improving nutritional status, and increasing resilience of vulnerable rural households
- 
**SAFE WASH II:**  
 Improving sanitation, promoting hygiene behavior, and increasing access to safe drinking water in rural communities
- 
**SERVIR HINDU KUSH-HIMALAYA:**  
 Earth observation information and geospatial technologies for environmental management
- 
**SUAAHARA II:**  
 Improving the nutritional status of women and children in Nepal

**FIGURE 2: RANGUN KHOLA AND LOWER KARNALI WATERSHEDS**

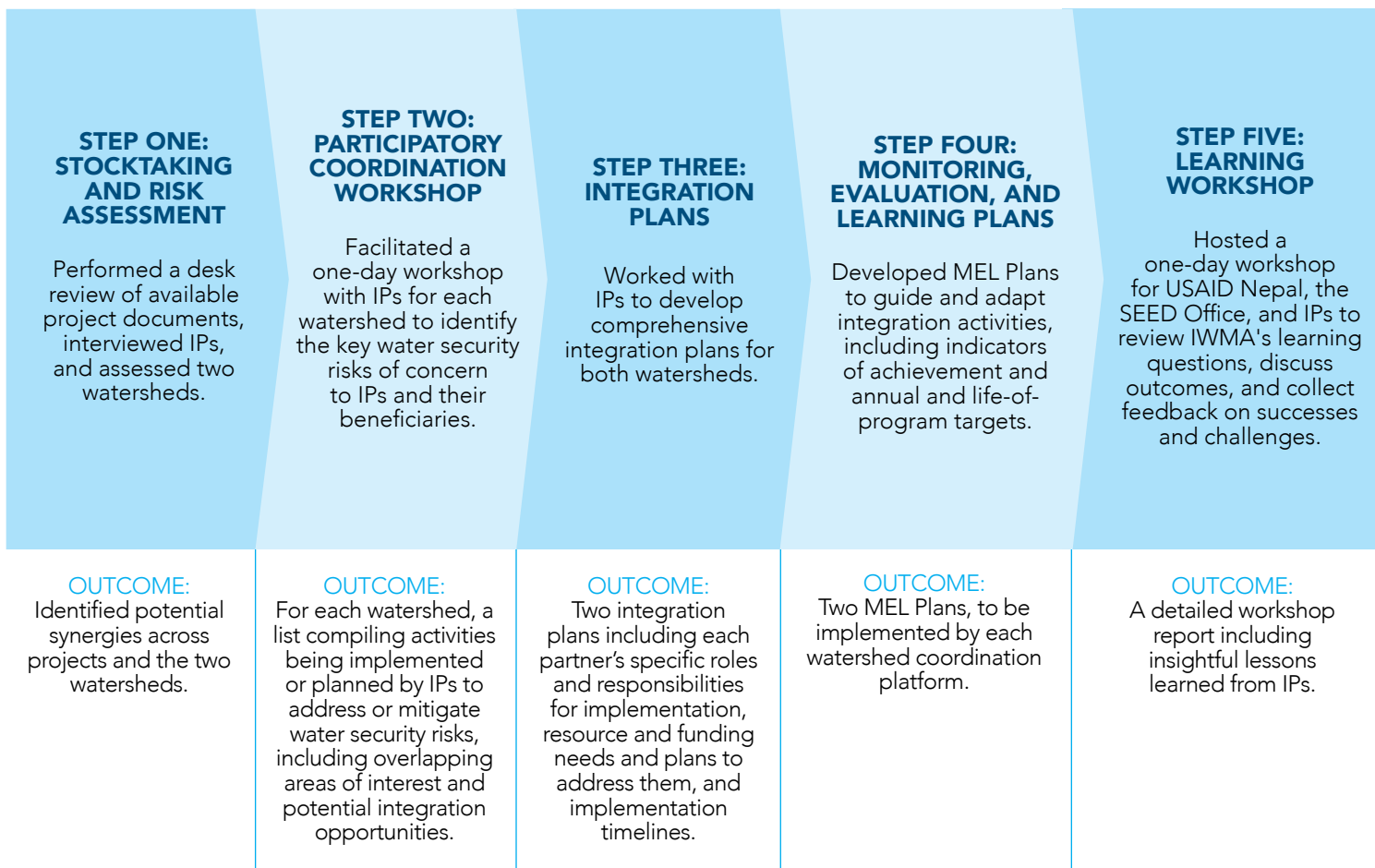




Erosion prevention infrastructure, called fascines, constructed by PAHAL for a community demonstration in Milan Debari village, Province 7.

IWMA created a customized five-step water security integration process (Figure 3) based on the [Water Security Improvement Process](#) developed by SWP and USAID Nepal SEED's Integrated Watershed Management Framework. Through this process, IWMA assisted USAID IPs to identify water security integration opportunities in each watershed, develop integration activities, monitor progress, and document lessons learned. IWMA facilitated five workshops with USAID Nepal and the IPs to collaboratively produce Integration and Monitoring, Evaluation and Learning (MEL) plans, which outlined water security risks and opportunities for integration in each watershed. The IPs implemented these plans using a two-tier coordination platform involving a Central Water Security Integration Committee in Kathmandu and watershed-level working groups in the field. IWMA held regular check-ins with the IPs to discuss progress, challenges, and adjustments needed, and organized a final closeout workshop to collect lessons learned.

**FIGURE 3: IWMA'S FIVE-STEP WATER SECURITY INTEGRATION PROCESS**



# Results

Over the course of two years, a total of 25 convening or collaborative events were held among USAID Partners, resulting in six jointly-implemented field-level water security interventions (Figure 4).

**FIGURE 4: FIELD-LEVEL WATER SECURITY INTEGRATION ACTIVITIES IMPLEMENTED UNDER IWMA**

## 1. Improving water access and management for agriculture in the Milan Debari Village

☞ Hariyo Ban II, 🌐 PAHAL, 🌱 KISAN II

Hariyo Ban II worked with the local government to develop an integrated sub-watershed management plan which recognized that the biodiversity goals could be enhanced through improved irrigation capacity and regional food security in the Milan Debari Village. PAHAL provided funding and technical expertise in agriculture and livelihoods development. PAHAL matched funds from the ward and community, constructed an irrigation tank and system to increase irrigation capacity, demonstrated bioengineering techniques, and built governance capacity with trainings. The IPs also imparted trainings on sustainable forest management and firefighting.

### RESULTS:

- \$13,500 secured to provide irrigation to 13 acres of land farmed by 30 households.
- 50 USAID beneficiaries received natural resources management and governance trainings.

## 2. Expansion of agricultural inputs and supply networks to more remote areas

🌱 KISAN II, 🌐 PAHAL, 🌱 SUA AHARA II

KISAN II needed a local partner to help extend agricultural input and supply networks to more remote areas. PAHAL and SUA AHARA II recommended a local agrovet, which both IPs had independently trained. KISAN II awarded a grant to the local agrovet, which was able to reach more farmers faster by including SUA AHARA II and PAHAL beneficiaries, along with other local farmers, into Farmer Groups to receive agricultural inputs and extension services.

### RESULTS:

- A small agrovet used its training and experience from USAID Nepal activities to build the capacity of 800 local farmers. Following the agrovet trainings, vegetable and rice yields increased by 25 and 30 percent, respectively.
- 100 households formerly supported by PAHAL received agricultural inputs and extension services.

## 3. Improving water access and management for agriculture in Hamtad Village

🌐 PAHAL, 🌱 SUA AHARA II

Recognizing that local nutrition challenges were linked to limited capacity for agricultural production, SUA AHARA II requested financial and technical assistance from PAHAL. PAHAL matched funds from the ward and community to construct a soil cement tank with six offtakes to run micro-irrigation sprinklers and provided capacity building on climate-smart agricultural techniques and micro-irrigation technology management.

### RESULTS:

- \$2,597 secured to increase irrigation capacity on 2.26 acres of land in Hamtad village.
- Increased number of USAID beneficiaries received training on promoting water saving technology and permacardening.

## 4. Mitigating the risks of failure of newly constructed small-scale water infrastructure for communities

🌱 KISAN II, 🌐 PAHAL

PAHAL worked to connect Water User Groups (WUG) and local government with insurance companies, increase regional demand for insurance, and streamline the insurance application process for WUGs. Recognizing the positive impact that small water infrastructure insurance could have on its stakeholders, KISAN II integrated the educational materials developed by PAHAL into its irrigation scheme trainings.

### RESULTS:

- Increased awareness of small-scale water infrastructure insurance products and experiences across IPs.
- 1,878 farmers received training on how to apply for small-scale water infrastructure insurance.

## 5. Sustainably sourcing tree saplings for two riverbank reforestation activities

Paani, PAHAL

Paani identified the need to carry out reforestation at two sites along the Rangun Khola River. Paani and PAHAL coordinated to source seedlings from a local nursery run by a PAHAL Lead Farmer.

### RESULTS:

- Paani used 3,990 locally-sourced native species seedlings to create a productive green space for nearby communities that also prevented erosion.

## 6. Increasing awareness in two municipalities of a Flood Early Warning System (FEWS)

Paani, Hariyo Ban II

During development of a municipal master plan, Hariyo Ban II requested Paani to develop an inexpensive FEWS and install it on the nearby Aurahi Khola river that had flooded in 2015 and 2018, adversely affecting the local communities. Paani completed the request but lacked the funds to conduct capacity building for the flood-impacted communities the system was intended to help. Hariyo Ban II stepped in to support training events in the two communities with technical expertise and funding. The two IPs thus combined their resources to make the communities more flood-resilient.

### RESULTS:

- \$4,100 leveraged from Paani to install a Flood Early Warning System serving 1,000 households and covering 5,189 acres of land vulnerable to flooding from the Aurahi Khola River.
- 82 beneficiaries from vulnerable communities received training on climate change adaptation, disaster risk management, and FEWS, with sessions dedicated to the cross-sector issues of Gender Equality and Social Inclusion (GESI) and governance.



A SUAHAARA II beneficiary (in red) shows her permagarden (a climate-smart agriculture technique), irrigated through infrastructure constructed by PAHAL in Hamtat village, Province 7.



IWMA watershed walk-around visit to Alital rural municipality, Province 7.

## Lessons Learned

IWMA demonstrated that facilitating the integration of USAID activities is a viable and impactful approach to improving water security. Following are the key lessons learned from IWMA's experience.

### **The participatory WSI process, driven by USAID and facilitated by SWP, allowed IPs to take ownership of joint activities and carry on water security integration even after IWMA ended.**

IWMA was supported by champions within USAID Nepal and the SEED office who empowered the IWMA team to convene and facilitate the IPs directly. This strong support from USAID helped ensure consistent participation of IPs and their commitment to implementing the Integration and MEL Plans. As a neutral facilitator, IWMA provided a clear structure and expectations for IPs which enabled participants to efficiently prioritize activities and define outcome targets. This process encouraged participants to continue implementing integrated water security activities after IWMA ended in February 2020.

### **Water security integration enabled USAID Nepal and IPs to understand water security risks at the watershed level.**

Before IWMA, most IPs focused their interventions around specific municipalities. During IWMA, USAID Nepal and IPs began conducting "watershed walks," visiting field sites around the watershed and meeting with local government officials. This approach allowed IPs to understand water security risks at the watershed level and see how different field sites were linked hydrologically.

### **Water security integration built on synergies among USAID IPs.**

Water security integration requires a clear understanding of potential synergies among partners to identify opportunities to expand impacts. IWMA helped USAID IPs explore shared needs, capabilities, and data to identify opportunities to jointly scale their impacts. The process often resulted in IPs discovering that they shared relationships with some of the same field-based beneficiaries, communities, and local partners, and that they could build on those relationships to increase their impact.

### **USAID IPs were motivated when water security integration added value to their projects.**

IWMA found that IPs were motivated to pursue water security integration activities when the activities contributed to their project's activity indicators and overall project goals; helped fill technical or financial gaps; presented opportunities for cross-sectoral linkages by leveraging the technical expertise of other IPs; or sustainably expanded the project's impacts, such as the geographic reach and/or the number of people benefiting from USAID assistance.



Irrigation water storage tank under construction in Milan Debari village, Province 7.

## Next Steps

USAID Nepal is taking steps to build on IWMA's accomplishments. The SEED Office is applying lessons learned and best practices identified by IWMA to improve water security integration within USAID Nepal by:

Establishing integration working groups at the mission;

Incorporating the water security integration agenda into the new Country Development and Cooperation Strategy;

Using watersheds as the unit of geographic focus for future water-related projects, and continuing the practice of "watershed walks" with IPs to highlight water security risks;

Prioritizing collaboration with local governments to build their capacity;

Developing and incorporating integration/collaboration language to be included in future awards; and

Sharing a record of collaboration activities among partners to facilitate the design of future integration activities.



### ABOUT THIS SERIES

This case study is part of a series of products of approaches under the Water Security Improvement (WSI) process. This series is produced by USAID's Sustainable Water Partnership (SWP) activity and can be found here: [www.swpwater.org](http://www.swpwater.org).

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