



Increasing Resilience to Water Risks

USAID Sustainable Water Partnership
Annual Report 2018 - 2019

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LIST OF ACRONYMS

AOR	Agreement Officer Representative
CFR	Community Fish Refuges
CLA	Collaboration Learning and Adaptation
DSI	Department of Science and Innovation
FWUC	Farmer Water User Committee
GTI	Green Towns Initiative
IUCN	International Union for Conservation of Nature
IWMA	Integrated Water Management Activity
JMC	Join Management Committee
LWA	Leader with Associates
LVBWB	Lake Victoria Basin Water Board
MBI	Maasai Beekeeping Initiative
MRB	Mara River Basin
MoU	Memorandum of Understanding
MUS	Multiple-Use Water System
RDM	Robust Decision Making
RFF	Rice Field Fisheries
RISE	Resilience in the Sahel Enhanced
SADC-GMI	Groundwater Management Institute of the Southern African Development Community
SAP	Strategic Action Plan
SEI	Stockholm Environment Institute
SWM	Sustainable Water for Mara Activity
SWP	Sustainable Water Partnership
USAID	United States Agency for International Development
USGS	United States Geological Survey
WAP	Water Allocation Planning
WASH	Water, Sanitation, and Hygiene
WEAP	Water Evaluation and Planning
WG	Working Group
WRC	Water Research Commission of South Africa
WSI	Water Security Improvement
ZOI	Zone of Influence

CHAPTER 1: THE USAID SUSTAINABLE WATER PARTNERSHIP

Message from the project director


In May of 2019, I joined SWP as the new project director and immediately embarked on a tour of SWP's water security improvement activities around the world. While the water security, socio-economic, geographic and political contexts often varied widely in our activities across Tanzania, Kenya, South Africa, Burkina Faso, Niger, Nepal, and Cambodia, I discovered shared themes for the successful implementation of water security interventions. These themes included 1) the importance of engaging stakeholders at all levels, from the national to the provincial and local governments and beneficiaries, and 2) the need for good data collection and analytics for evidence-based decision-making.

Water governance relies on stakeholder engagement and good data collection and analytics to inform decisions about water management, particularly in areas where basin-scale water management is fundamental for the sustainability of WASH systems. Achieving equitable water allocation and water quality protection for economic uses fundamentally depends on stakeholder engagement at all levels of government and the inclusive participation of all beneficiary stakeholders. Basin-scale water management also requires data analytics which can help planners locate hotspots of dangerous pollutants, understand how far away structures can be built from a flood plain, how to allocate water among diverse stakeholders in a water-scarce area, or understand potential scenarios due to changes in climate, demographics, and land-use.

For example, the Sustainable Water for the Mara (SWM), an SWP field-pilot activity, encapsulates the importance of stakeholder engagement and data analytics for water allocation planning (WAP) for the country of Tanzania. A key success in the development of the Tanzania WAP has been the development of a framework that applies a principle of public participation in development of policies, plans, and processes for the management of water resources. Data collection and analytics on water abstractions, water balances, water demands, and stakeholder-driven modeling of future scenarios for water, have also been instrumental in informing the WAP.

The following annual report describes our achievements and the lessons we have learned through the implementation of SWP. Our experiences applying the [SWP Water Security Improvement process](#) continue to inform our work to increase resilience to water risks and improve the livelihoods of communities around the world.

Rodolfo Camacho,
SWP Project Director



"Our vision is a water secure world, where people have sustainable supplies of water of sufficient quantity and quality to meet human, economic, and ecosystem needs while managing risks from floods and droughts."

100,068

Number of people benefiting from the adoption and implementation of measures to improve water resources management as a result of USG assistance

\$3,346,265

Value of new funding mobilized to the water and sanitation sectors as a result of USG assistance

291

Number of people educated on tools, approaches, and/or methods for water security, integrated water resource management and/or water source protection as a result of USG assistance

250

Number of people trained in climate change adaptation supported by USG assistance

1

Number of policies, laws, agreements, regulations, or investment agreements (public or private) that promote access to improved water supply and sanitation

79,885

Page views at SWPwater.org since its launch in 2017





CHAPTER 2: WHAT SWP DOES

Over the past three years, SWP has carried out USAID Mission support activities (like capacity-building and strategic assessments to help prioritize water security investments), implemented field-based pilot activities, created partnerships for leveraging resources to implement action plans, and managed and shared knowledge around best practices and lessons learned. This chapter summarizes current and completed SWP activities under each of these objectives.

Support to USAID Missions

SWP continued to provide support to USAID/Southern Africa under the leader award and under two associate award activities with USAID/Nepal and USAID's Sahel Regional Technical Office. Support to USAID included capacity-building and technical assistance on assessing, planning, implementing, monitoring and evaluating activities to increase resilience to water security risks. SWP's Mission Support activities are described in further detail below.

NEPAL

Since its launch in February 2018, SWP's Integrated Watershed Management Activity (IWMA) associate award has been working to integrate water-related USAID/Nepal Activities in Western Nepal's Rangun Khola and Lower Karnali watersheds, with the goal of improving water security. IWMA has engaged ten Implementing Partners: Promoting Agriculture, Health, and Alternative Livelihoods (PAHAL); Program for Aquatic Natural Resources Improvement (Paani); Digo Jal Bikas (DBJ); "Good Nutrition" (SUA AHARA II); SAFE WASH II; SWACHCHHATA; Knowledge-Based Integrated Sustainable Agriculture in Nepal (KISAN II); Nepal Seed and Fertilizer (NSAF); SERVIR-Hindu Kush Himalaya; and Hariyo Ban (HB) II.

IWMA'S close relationships with USAID/Nepal's Social, Environmental and Economic Development (SEED) Office and USAID/Nepal Activities, along with a shared understanding of the benefits gained by working collaboratively in water security issues, have allowed IWMA to clearly identify shared water risks, develop

new integration activities and troubleshoot solutions for on-going activities. The following are some of the integration activities implemented with IWMA's support:

1. HB and PAHAL worked together with the local government to provide an irrigation system and complementary capacity-building to community members in the Milan Debari Village.
2. PAHAL and SUAACHARA II are collaborating on construction of a soil cement tank, which will increase water storage capacity in the Hamtad community for irrigation.
3. With the support of PAHAL, Tedi Agrovet, a private sector agricultural inputs (including extension services) business located in the Rangun Khola watershed, received a grant from KISAN II in March to support local farmers, including forming 33 Farmer Working Groups. Capitalizing on work under this grant, IWMA has negotiated with KISAN II to have Tedi Agrovet include four Village Model Farmers from SUAACHARA II and four farmer groups from PAHAL in their capacity-building trainings.

In these ways, IWMA is integrating the various USAID Nepal programs addressing distinct uses of water (i.e. for health, livelihood, and environment). This integration leads implementing partners and beneficiaries of the different programs to work together toward the common goal of improving water security in the Rangun Khola and Lower Karnali watersheds with a more holistic approach. Together, the partners have carried out demonstration of agriculture techniques like permagardening, nursery construction and management, bioengineering, greenhouse drip irrigation, and mineral block preparations for goats. Implementing Partners are bringing their complementary skills and strengths together to support the same community, which is fostering substantial change in the community.



SOUTHERN AFRICA

SWP has been coordinating the Big Data Analytics and Transboundary Water Collaboration for Southern Africa ("the Collaboration") since the first quarter of 2018. USAID has partnered with the Government of South Africa's Department of Science and Innovation (DSI), the Groundwater Management Institute of the Southern African Development Community (SADC-GMI), the IBM Africa Research Lab, and the U.S. Geological Survey to engage in discussions and learning exchanges through the financial and technical support of four research projects. The Collaboration research projects aim to address how big data analytics and transboundary data-sharing can be used to enhance transboundary water management in alignment with USAID's regional focus on natural resources and water management. Leveraging IBM Research Africa's interest in the application of big data analytics to water management, the research projects seek to enhance current understanding of shared groundwater resources; improve transboundary groundwater management and collaboration; and provide big data skills development, capacity-building and networking opportunities for Southern African researchers and their students.

All four research projects focus on the Ramotswa, a shared sub-basin that spans Botswana and South Africa and is a subsidiary of the wider Limpopo River Basin. One of the projects also focuses on the Shire River Basin shared by Malawi and Mozambique. The projects each follow a key thematic area and are led by research teams

comprised of experts from local universities, international consultants, and multinational organizations that are based in South Africa, Botswana, the Netherlands, and Germany. The intended outcomes of the research projects are: 1) a validated sustainability framework and supply strategy for groundwater management in transboundary aquifers; 2) a master dataset suitable for big data analytics; 3) a suite of analytics tools for integrated decision-making; and 4) tools for localized governance approaches. These will be useful for both the Limpopo River Basin Commission and the related government departments in the two countries of reference. Furthermore, with one project testing its analytic tool in a dolomitic aquifer in South Africa, neighboring the Ramotswa, there is a potential for application to other aquifers with similar geology and land uses.

As the partnership's coordinator, SWP facilitates decision-making and consensus-building on critical issues that influence timely, consistent, and effective implementation of the Collaboration activities. Through this process, SWP has been able to help broaden the scope of the Collaboration and create an inclusive process for regional partnerships. SWP has also provided planning support for the organization of joint events; fostered the creation and continued engagement of a Community of Practice in Southern Africa on transboundary water management and big data; and contributed to the technical reviews of the four research projects. In addition, SWP and USGS undertook a rapid training needs assessment with the partners and research teams, the results of which were shared with all the partners and used to prepare a set of training series in support of the project activities. USGS identified and secured panelists within its organization to present on tools, methodologies, and approaches to big data collection for water resources management. SWP has managed logistics, facilitated group discussions, and provided follow-up with participants by editing the recordings and sharing them on the SWP and Collaboration YouTube channels. [Eight USGS webinars](#) were held in the reporting period and the remaining two will be completed in Year 4.

NIGER/BURKINA FASO

In February 2019, USAID's Sahel Regional Office awarded the Water Security and Resilience (later re-named TerresEauVie) activity to Winrock as an associate award under SWP. TerresEauVie is part of the USAID Resilience in the Sahel Enhanced (RISE) II program. As a five-year activity, TerresEauVie is the primary implementing mechanism dedicated to achieving RISE II's first objective to "Enhance social and ecological risk management systems" through three components: 1) improved water security; 2) enhanced sustainable productive land use; and 3) improved management of shocks, risks and stresses. The activity covers 25 communes in Niger (Maradi, Tillaberi, and Zinder regions) and 15 communes in Burkina Faso (Centre Nord, Est, and Sahel regions). SWP partner Tetra Tech plays a key role on TerresEauVie, overseeing the second component.

During the reporting period, TerresEauVie was in its "Refine and Implement" period working toward a revised life of project design aligned with other activities present in the zone of influence (ZOI). Key efforts included baseline data collection, consultations with commune leadership to understand current state and priorities for near-term interventions, and formative research across all three components including a series of water desk assessments covering groundwater management, water governance, WASH, and Multiple Use Water Systems (MUS). TerresEauVie also hosted a roundtable discussion on Shock Responsive Programming in September in Burkina Faso, which brought together 56 representatives from donor-funded projects in order to coordinate actions on "Crisis Modifier" mechanisms in the face of shocks emerging from an influx of internally displaced persons to the ZOI.





Water Security Improvement Pilots

SWP's pilot activities are testing innovative methods for improving water security in the Stung Chinit Watershed in Cambodia and in the Mara River Basin in Kenya and Tanzania. These pilot activities apply SWP's Water Security Improvement (WSI) process to assessments that link data collection and analytics to inform evidence-based water resources management; stakeholder engagement for water security planning; implementation of interventions needed to achieve tangible outcomes to improve water security and increase resilience to water security risks; and documenting lessons learned.

STUNG CHINIT WATERSHED (CAMBODIA)

The Stung Chinit River, located primarily in Cambodia's Kampong Thom Province, is a major tributary of the Tonle Sap Lake, the country's largest and most important lake both in terms of economy and water supply. The river itself is around 260 kilometers long, merging downstream with the Tonle Sap River. Its watershed is approximately 8,000 square kilometers in size.

Water security is essential for the people living in this area of central Cambodia. At least 75 percent of households in the Stung Chinit report having access to improved water sources, which is higher than the provincial average of 63 percent. Groundwater is widely used for domestic water supply and is increasingly being used for small-scale irrigation. Domestic water sources and usage vary according to the season and convenience.

The area's population is growing by two percent per year, placing increasing stress on the landscape and its water resources. The watershed lost 30 percent of its forests between 2000 and 2015 due to land use changes, with most of those forests converted into cropland or plantations. Ninety percent of agricultural land in the watershed is devoted to rice farming, and a dozen irrigation schemes operate along the Stung Chinit River. Ten years ago, a reservoir was built to enable dry season rice farming over about 2,000 hectares. Climate change could significantly alter the Stung Chinit Watershed's hydrological regime through expected





changes in seasonal distribution of rainfall, increased evapotranspiration, and increased frequency and intensity of extreme events. In 2018, SWP undertook a water security assessment of the Stung Chinit Watershed and found that there is high risk of over-abstraction from the agriculture sector at current rates of water use. Surface water is also susceptible to the effects of deforestation, lack of soil management, riverbank erosion and contamination from widespread misuse of agrochemicals and mismanagement of human excreta.

To address these issues, SWP is implementing a stakeholder-driven water security improvement process that has so far:

- Provided technical support to stakeholders to establish a River Basin Management Committee that will provide a more sustainable, transparent platform for water resources management at watershed level. The Cambodian government conferred legal status on the Committee in April 2019. The Committee has since been meeting to work on an action plan to address water security in the watershed. SWP is providing Committee members with training on integrated water resource management and water security, as well as data and assessments to inform the Committee's ongoing work.
- In close collaboration with stakeholders and partners, SWP Cambodia developed a Stung Chinit Strategic Framework, which outlines the priority water security risks and crosscutting themes in the Stung Chinit watershed.
- Worked with the Stockholm Environmental Institute (SEI) to develop a basin hydrological model using the Water Evaluation and Planning (WEAP) decision support tool. The model, which has been developed in conjunction with river basin stakeholders, will help stakeholders to better understand the future impact of water abstractions for agriculture on downstream livelihoods and living resources.

- The Provincial Department of Rural Development asked SWP Cambodia and the WASH Working Group (WG) to organize six water security and WASH awareness-raising and clean-up events. The events reached a total of 1,029 people, including 519 women (See Chapter 3).
- Completed small-scale interventions including the “We Love Stung Chinit” community campaign led by the Stung Chinit Farmer Water User Committee (FWUC) and a WASH project at a primary school. Together with the help from the WASH WG and two local artists, eight WASH/Water Security Educational Billboards were developed and installed in the midstream and downstream of the Stung Chinit watershed to remind water users of their effects on their downstream neighbors. The Pourong Primary School Small-Scale Intervention project included a WASH behavior-change training to 228 children from kindergarten to sixth grade, including 105 girls.

MARA RIVER BASIN (KENYA/TANZANIA)

Originating from the Mau Escarpment in Kenya’s Great Rift Valley, the transboundary Mara River Basin (MRB) covers approximately 13,750 square kilometers (of which 65 percent is in Kenya and 35 percent is in Tanzania). The MRB holds global conservation significance and economic importance at local, national, and regional levels, providing critical water and ecosystem services for people, livelihoods, and livestock, and it is home to wildlife in Maasai Mara in Kenya and Serengeti in Tanzania. Growing risks are affecting water availability and quality in the MRB and, in turn, threatening development and conservation gains. Human population in the MRB is growing at an annual rate of more than three percent, and the river is the primary domestic water



source for rapidly growing towns and settlements. Land use change, due to growing agricultural land use, is affecting the basic hydrology and ecosystem functions and potential of the MRB, impacting both seasonal availability of water and water quality. Water pollution caused by unregulated wastewater discharge and lack of solid waste management from urban centers, mining, and agricultural activities is contaminating surface and groundwater supplies, potentially hampering access to WASH services, negatively impacting health, livelihoods, and overall development outcomes.

SWP's three-year activity in the MRB is implementing strategic interventions at the transboundary, national, and sub-catchment levels to address these critical risks and improve water security. SWP's activity strategically builds on past and current USAID investments in the MRB (in particular, USAID/Kenya and East Africa's PREPARED Program) to directly support the Memorandum of Understanding (MOU) for Joint Water Resources Management in the Mara Basin. Throughout our activities, we are working with key governance institutions in the MRB, including the Lake Victoria Basin Commission, Ministries of Water in Kenya and Tanzania, Kenya's Water Resource Authority and the Lake Victoria Basin Water Board (LVBWB) in Tanzania, Kenyan water resource user associations and Tanzanian water user associations, and service delivery providers.

SWP's activity in the Mara this year has:

- Facilitated the drafting of a water allocation plan (WAP) and review process for the Mara River Basin in Tanzania. The WAP provides guidance on the water flows that need to be reserved for environmental and basic human needs, and guiding water allocations for other water uses related to socio-economic development.
- In collaboration with institutional partners IHE Delft and mWater, SWP produced abstraction, water availability, and water demand assessments. The water abstraction survey completed with mWater helped the Lake Victoria Basin Water board identify 499 abstraction points and was critical for the development of the water allocation plan as it provides information on water uses by different sectors in each sub-basin of the lower Mara River Basin.
- Facilitated approval for water allocation plan guidelines in Tanzania.
- Continued development of a basin hydrological model using WEAP and trained 23 people in WEAP modeling and robust decision-making (RDM). RDM is a process by which stakeholders can consider a broad range of future conditions (climate, demographics, land use, infrastructure) in order to bracket possible outcomes, and explore the implications of specific decisions across the spectrum of possible future scenarios.
- Trained 13 people from water service providers in Quality Service Improvement Plans for service audits, establishing visions for improved service delivery, customer feedback surveys, and implementation of strategies for departmental operational improvements.
- Introduced water security-linked alternative livelihoods with water resource user associations and water user associations. This includes training 68 people in beekeeping.
- Conducted strategic planning for protection of springs that are under threat and also are critical sources of water for domestic use and livestock watering .

Partnerships for Leverage and Sustainability

SWP developed and formalized partnerships with public, private, and civil society organizations, which are expanding the results and improving the sustainability of our water security activities in the MRB and Cambodia.

MARA RIVER BASIN

SWP is working with and through the Lake Victoria Basin Commission (LVBC) and Mara River Basin Joint Management Committee (JMC) to operationalize the MOU between the governments of Kenya and Tanzania.

Specifically, SWP is providing targeted support to these institutions to define and agree upon their specific roles and responsibilities for implementing the MOU, while also clarifying inter-institutional coordination mechanisms between the transboundary, national, and sub-catchment levels. SWP's relationship with the LVBC has been important for the activity's ability to convene transboundary dialogue around water security issues in the MRB.

SWP has also partnered with the World Wildlife Fund (WWF) on several key activities. WWF has contributed over \$250,000 to support technical activities, including planning efforts to relaunch the Transboundary Water Users Association Forum and water allocation planning workshops with key stakeholders in Tanzania. To support the development of the WAP in the MRB, GIZ also contributed approximately \$750,000 to support reserve and environmental flows analyses for wetlands and riverine ecosystems.

Close collaboration with local organizations is also key to SWP's success in the MRB. In the last year, SWP has delivered joint trainings on beekeeping with the Maasai Beekeeping Initiative (MBI), which is one of the leading organizations in the MRB with respect to apiary science, honey production, and wholesale of honey. SWP is in the process of formalizing this collaboration with MBI with the intent of strengthening linkages between MBI and local water user associations involved in beekeeping. Similarly, SWP has been working extensively with Green Towns Initiative (GTI) in Kenya, a community-based organization that supports communities with tree planting, education, and awareness on the environment, and river conservation. SWP and GTI have specifically collaborated on community mobilization, advocacy, and awareness on environmental conditions in the MRB.

CAMBODIA

At the national level, SWP is supporting the Tonle Sap Authority, the Ministry of Water Resources and Meteorology, and the Ministry of Environment to strategically plan water resources development and management. Locally, SWP is working in partnership with Farmer Water User Committees (FWUCs). SWP is also establishing new participatory organizations, such as a River Basin Management Committee for the Stung Chinit Watershed.

In late October 2018, SWP and Water.org signed an agreement to help 37,100 Cambodians gain improved access to water and sanitation through 8,600 WaterCredit loans by the end of the grant period and mobilize \$3.9 million in capital for water and sanitation improvements. This agreement concluded in September 2019 with Water.org reporting that its partner microfinance institutes, LOLC and Chamroeun, had collectively reached 27,500 people with water and/or sanitation access by distributing \$3.2 million USD through 6,700 loans.

This year, SWP Cambodia also collaborated with the USAID-funded Rice Field Fisheries (RFF) Phase II Project, implemented by WorldFish. To address the serious water security risk to downstream freshwater biodiversity, SWP Cambodia organized and facilitated an exposure visit for 12 SWP local leaders to the Community Fish Refuge (CFR) in Stong district, Kampong Thom province, which is in the neighboring Stung Sen watershed. The participants were selected from SWP Cambodia's Environmental Degradation Working Group, interested members of the Stung Chinit River Basin Management Committee, and commune leaders with potential sites for CFRs. Participants met with WorldFish representatives and learned about the organization's ongoing work to improve management of CFRs, replicate, and scale up best practices for CFR management, including efficient water use and integration with food crops. As a result of this visit, the commune council leaders developed and submitted to SWP three small-scale project proposals on establishing CFRs in their respective communes.

Communications and Knowledge Management

Over the past three years, SWP has developed and refined water security tools and methodologies; tested innovative approaches; and initiated a program of knowledge management, collaborative learning, and communication on best practices, lessons learned, tools and other resources to support water security programming and implementation.

To ensure widespread access to these resources and lessons learned, SWP has developed a platform at SWPwater.org, where SWP's audience can find a variety of resources. In 2018-2019, SWP published the following pieces of content to this platform and others:

- 12 SWP newsletters
- 15 success stories on topics such as the [formation](#) of new governance bodies to address water security.
- 7 stories from the field, such as [a series](#) about Cambodian women who are leading the effort to enhance water security
- 14 blogs/partner crossposts about topics such as training local representatives to [use data tools for water resource forecasting](#).
- 3 event recaps
- SWP curated a [water security-themed issue](#) of Global Water's Water Currents bimonthly newsletter and contributed on the [transboundary water-themed issue](#).
- Additionally, an article about the collaboration of the SWP Cambodia Activity and Water.org was published in the Jan/Feb issue of World Water magazine.

Since its launch in 2017, SWPwater.org has been accessed over 13,000 times, with over 79,000 pageviews. SWP has further disseminated its content through its newsletter and social media channels. In the last year, the program has attracted more than 2,400 followers across Facebook, Twitter, and LinkedIn, and gained 759 newsletter subscribers.





EVENTS

In collaboration with the Wilson Center, SWP organized a water security thought leadership series that started in the first quarter of Year 3 and featured three panel discussions with leading experts on water security issues. The first event in the series, [“Feeding a Thirsty World: Harnessing the Connections Between Food and Water Security”](#) featured SWP’s former Project Director, Eric Viala. The second, titled [“Water as a Tool for Resilience in Times of Crisis,”](#) featured SWP’s AOR as the panel moderator and SWP Deputy Director Basil Mahayni as one of the panelists. SWP also organized a closed-door workshop on water security and fragility with USAID staff; Wilson Center staff and panelists; technical experts; and Winrock staff. The final event was held September 30 at the Wilson Center and entitled, [“Hidden Forces: The Role of Water in Economic Prosperity.”](#) SWM Team Leader Gordon Mumbo was a panelist. Summaries of each event were published to both the New Security Beat and SWP websites immediately and links are available to the video recording of the event.



In addition, SWP experts participated in six high-visibility conferences and other events in the fiscal year. SWP Deputy Director Dr. Basil Mahayni was a panelist at the April Adaptation Community Meeting hosted by US-AID’s Adaptation Thought Leadership and Assessments (ATLAS) project. He also published a blog about the event that was featured on the SWP and Climate Links websites. SWP Director Dr. Rodolfo Camacho was also a featured panelist on a panel discussion about water resources management at a day-long conference titled “Fair Water: Tackling Global Water Challenges”.

CHAPTER 3. WHAT WE’VE LEARNED

Implementing in the field is an opportunity for SWP to learn and to encourage all partners (from government officials to local leaders, businesses, and fellow implementers) to consider water security improvement as a collaborative, iterative, and learning process.

LESSONS FROM STUNG CHINIT (CAMBODIA):

The importance of women's involvement in water security decision-making

Women in Cambodia are the primary collectors, users and managers of water. In addition to overseeing household water use, women comprise a significant portion of the roughly two-thirds of Cambodians who work in smallholder farming, and who thus depend on water for their livelihoods. At the same time, social norms in Cambodia often deprive women of participation in decisions about water security.

Engaging women and other marginalized groups is an important element of SWP's [Water Security Improvement process](#) in the Stung Chinit Watershed, which builds the capacity of stakeholders to address the impacts of climate change, deforestation and agrochemical pollution, and lack of access to WASH services. Guided by a stakeholder analysis and subsequent stakeholder engagement process outlined by SWP in 2018, SWP identified 17 local female leaders and 13 male leaders within the Stung Chinit Watershed to participate in trainings on leadership capacity-building. Through this training, SWP sought to strengthen participants' communication, negotiation, financial management, collaborative decision-making, facilitation, and conflict resolution skills.

Many of the women who received training are also participating in SWP-led water-risk working groups and the [Stung Chinit River Basin Management Committee](#). Formed in 2019 with support from SWP, this committee brings together representatives from the government, civil society, private sector, and community groups to develop a Strategic Action Plan (SAP) to improve water security in the watershed. The SAP will consist of well-designed, coordinated water security actions that a) address one or more of the priority water security issues and cross-cutting themes, b) outline the roles and responsibilities of all actors involved in the actions, c) define multiple potential sources of funding for the partial or complete financing of the actions, and d) establish a schedule for completing the actions. It will address water security risks such as climate and land-use change, water pollution, and ineffective water resources management practices.

Through their participation in the WSI process, and more recently in the Committee, these women have been able to share their unique perspectives about how vulnerable groups experience water security threats in the watershed. Engaging early and often with female stakeholders has been key to maintaining their buy-in to the process and fundamental to expanding participation to other marginalized peoples. Having been historically overlooked as participants or local leaders, women are keenly aware of whose voice is missing from negotiations or which social group is not receiving enough time to share their experiences. What started as



an initiative to have more gender equity in the WSI process has quickly grown to encompass social inclusion. Throughout the water security assessment step, SWP Cambodia has emphasized the importance of diverse inputs. Its stakeholders and members of the Committee have seen how much more comprehensive a strategic framework can be when everyone affected by a problem is consulted. Building off this, as SWP Cambodia operationalizes the Committee, we are working to institutionalize what we have learned from stakeholder engagement over the past two years by regularly evaluating the membership, especially by asking stakeholders, members, and watershed residents alike, “What perspective is missing?”

Bridging Water Security and WASH through community learning and communal action

Over the reporting period, the SWP Cambodia Activity organized 20 water security and WASH “awareness-raising and clean-up” events at the commune level in the Stung Chinit Watershed. These events involved two activities to engage stakeholders:

Training – stakeholders were trained on the concepts of Water Sanitation and Hygiene (WASH) and water security, and how these two elements complement each other in the context of the target commune. Trainers, commune officials, and SWP Cambodia’s Stakeholder Engagement Specialist facilitated discussions on behaviors and daily activities in the context of WASH and water security. Participants also brainstormed tangible actions that individuals and groups can take to improve their access to safe water, sanitation, and hygiene services, and better manage local water security risks.

Hands-on Activity – stakeholders participated in a clean-up event of the local waterways and water sources. The goal was to mobilize participants immediately to take action and to consider how their actions affect their water resources. This approach has been successful because it has been replicated without SWP involvement and organized at the initiative of the community and district.

LESSONS FROM MARA RIVER BASIN (KENYA/TANZANIA):

Strengthen Existing Institutions and Governance Structures

The Mara River Basin is an important ecological and economic zone that has experienced increased efforts to improve water security locally, in addition to efforts to improve transboundary governance between the governments of Kenya and Tanzania, under the Lake Victoria Basin Commission’s interim leadership of the Joint Management Committee.

Over the last year of implementation, SWP has gleaned valuable insights into improving water security in Kenya and Tanzania at the local and transboundary levels. First, water allocation planning can be an effective tool to improve water governance within sub-basins and at the basin level. SWP is supporting the Lake Victoria Basin Water Board in Tanzania to develop a comprehensive, evidence-based water allocation plan (WAP) to inform water abstraction and management efforts in Tanzania. Once this WAP is complete, SWP will seek to foster transboundary negotiations over water-sharing principles and subsequent development of a transboundary WAP. One of the lessons learned is that effective water allocation planning requires good data to inform evidence-based decision-making and stakeholder participation and engagement from the inception to the conclusion of the planning process. SWP supported the creation of a framework and steering committee to help guide, review, and validate all phases of the water allocation planning process in Tanzania.

Second, water security interventions need to be designed with considerations of scale and replication and that the interventions need to be considered within the geographic, social, and environmental context. For example, one of the main sources of catchment degradation in Kenya and Tanzania is livelihood practices associated with planting and harvesting water-intensive eucalyptus trees in Kenya and papyrus in the Mara



Wetlands in Tanzania. The water user associations, on the other hand, often lack the resources to fulfill their mandate of catchment protection and conservation.

To address widespread degradation within the Mara River Basin, SWP, in coordination with the Maasai Beekeeping Initiative, has provided capacity-building and technical assistance to the local water user associations so that they can generate funds for catchment conservation through beekeeping and support local communities with adoption of environmentally-friendly alternative livelihoods. SWP has facilitated trainings in apiculture science, establishment of demonstration beehives for community awareness and education, and in the coming year will support the water user associations to launch the artisanal manufacturing of beehives that can be sold to local communities at low prices. In coordination with the Lake Victoria Basin Water Board in Tanzania and the Water Resources Authority in Kenya, SWP will work with the water user associations in Kenya and Tanzania to confirm their commitment to allocate a portion of revenues generated from beekeeping activities to fund catchment conservation activities in the Mara River Basin. This will help ensure the financial sustainability of the water user associations and create a sustainable source of funds for long-term investment in catchment conservation. The lesson learned from this activity is that it is important to understand the root causes of environmental degradation, create a framework through which catchment conservation can be financially sustained, and support mechanisms for accountability between key stakeholders beyond the life of the activity.

Third, water resources management and individual water security, particularly for WASH, are inherently inter-related in rural communities that rely on community or shared water sources for multiple uses, such as drinking, domestic activities, and agricultural activities. Individuals using water from a spring for drinking purposes can be exposed to pollution when the water sources are unprotected or are contaminated from other uses, such as washing and livestock watering. SWP conducted a transect mapping exercise in Kenya and Tanzania in collaboration with local water user associations to prioritize specific locations that featured mixed use (domestic and agricultural/livestock) for protection or rehabilitation activities. SWP is designing source water protection schematics using a combination of green infrastructure for protecting the water resource and gray infrastructure for facilitating and separating access for different types of water uses. In addition, WASH behavior change communication programs will supplement the protection or rehabilitation of source water resources, ensuring the long-term health of these communities and sustainability of the source water resources upon which they rely.

LESSONS FROM SOUTHERN AFRICA:

A new paradigm for donor engagement and programming

The Big Data Analytics and Transboundary Water Collaboration (“the Collaboration”) was born out of the direct interest of people within government agencies and the private sector to test new tools and approaches to data management to improve the management of the region’s groundwater resources. The Collaboration has a specific transboundary focus because critical surface groundwater systems in the region require collaborative and integrated decision-making a necessity for water security and overall sustainability.

SWP has increased its initial engagement to suit the organic evolution of the program and activities planned by the original partners over the past 18 months. One observation from SWP is that the Collaboration is paving the way for co-funding mechanisms to be put in place to address specific issues, with local government agencies, private sector and regional institutions being willing and able to contribute to the activity either with direct financing going into a common fund managed by a trusted entity. In this case, the managing partner is also a local agency as opposed to an international non-government organization.

LESSONS FROM NEPAL IWMA:

Integration can succeed when there are clear opportunities to leverage project expertise and financial support

Several lessons learned were gathered from IWMA’s experience implementing this water security integration program with USAID Nepal and the Implementing Partners. Integration can succeed when there are clear opportunities to leverage project expertise and financial support. Also important to successful integration is stakeholder buy-in and, in some cases, direct contribution to the activities. For example, the Milan Debari irrigation system was made possible with the technical and financial support from the Implementing Partners and the municipality’s commitment to jointly finance the activity. This helps ensure long-term ownership, sustainability, and ability to scale the benefits.

The success of IWMA and its water security focused field-level integration activities largely depended on the perceived value added of that specific activity by participating USAID implementing partners. IWMA identified and applied three types of incentives for USAID partners to participate in an integration activity: 1) It contributes to the project’s indicators, 2) It meets existing technical or financial gaps, and 3) It broadens the project’s depth, impact, or coverage. Accordingly, this ‘perceived value-added’ should be a central criterion going forward in identifying and selecting future water security activities for implementation.

CHAPTER 4.

WHAT'S NEXT

Improving water security is a gradual process that requires clear and measurable indicators and targets to monitor progress and concrete evidence on successful approaches.

In Year Four, SWP will apply an integrated strategy to develop thought leadership products and disseminate lessons learned.

SWP will focus on key learning priorities for deeper engagement that will be validated with USAID based on value-add for other USAID and donor-funded water security projects, and opportunities to strengthen USAID Mission engagement. Engagement with these learning priorities will involve distillation of lessons learned, best practices, and programmatic recommendations through comprehensive learning briefs and associated case studies. SWP will also review and update SWP's Water Security Improvement process toolkits based on lessons learned, incorporate illustrations from the field, and develop relevant annexes as needed. These learning briefs and lessons learned will be disseminated through external presentations at conferences and events, published on the SWP website and newsletter, and discussed on webinars.

In addition, SWP will focus on the following activities in Year Four:

1. Mission support and the development of country water security profiles for countries designated by USAID as high-priority countries for water sector programming.
2. Advance the WAP process in the Mara River Basin by finalizing the WAP for Tanzania and development guidelines for a transboundary WAP for the Mara River Basin.
3. Implement pilot water security interventions in the basins with considerations of capacity building and replicability at scale.
4. Support strengthening and operation of the Stung Chinit River Basin Management Committee in Cambodia.
5. Continue to coordinate partner activities in Southern Africa and drive for more integration with other USAID programs in the WASH sector, as well as other regional government actors, institutions, and donors.





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