

Microloans to expand water access in Cambodia

Water.org and Winrock's Sustainable Water Partnership (SWP) launch a US\$4-million microloan financing program to bring water and sanitation to Cambodian households. Liz Kendall of Winrock International SWP explains current water challenges and how affordable microloans can help to expand water access.

In November 2018, the international nonprofit Water.org and the United States Agency for International Development (USAID) Sustainable Water Partnership (SWP), implemented by Winrock International, agreed to mobilize US\$4 million in microloans within 1 year to improve access to drinking water and sanitation in Cambodia for 37,000 people. The end goal is to accelerate access to improved water and sanitation for people living at the base of the economic pyramid (BOP) in Cambodia.

Water.org is addressing the most significant barrier to this crisis – the financial gap between the need for water and sanitation services and the ability to purchase those services. Through Water.org's proven WaterCredit model, BOP families will be able to redirect their limited resources to pay for quality, household water and sanitation resources. The sustainable solution puts health, time, and savings back into the lives of the world's most vulnerable.

In 2019, Water.org will work with two of its most successful microfinance partners to scale its WaterCredit portfolios and bring water and sanitation services to more households. It will also visit households to raise awareness of water access, sanitation, and hygiene (WASH) and to promote WaterCredit loans.

Water challenges

Fundamental changes in Cambodia's population growth, land use, and climate are challenging the status quo in water policy and practices. Many in the nation's older generations who survived the Khmer Rouge in the 1970s were taken from the capital to the countryside to excavate huge canals that now make up extensive irrigation systems. For younger generations, water is an annual reason for celebration – Bon Om Touk, the Cambodian Water Festival, which is usually celebrated in November and marks the reversal of the flow of the Tonle Sap River, a waterbody that connects the Tonle Sap Lake with the Mekong River.

The Stung Chinit River, located in Kampong Thom Province in central Cambodia, is a major tributary of the Tonle Sap Lake, the largest freshwater lake in Southeast Asia – and by far the most important lake in Cambodia in terms of livelihood and water supply. The 264-kilometer (km)-long Stung Chinit River is located in a watershed approximately 8,236 km² in size.

Rice is the primary crop grown in the Stung Chinit watershed, where more than 95 percent of rainfall occurs in the wet season, making flood irrigation popular; however, the opposite is true in the dry season, when water is scarce.



Water is used to irrigate 90 percent of agricultural land in the area, where irrigation schemes are primarily created by damming the river and its tributaries. This practice impedes the migration of fish populations and endangers the main source of protein in the average Cambodian's diet.

In Cambodia, the population is growing more than 2 percent each year, increasing demands on the nation's water supply resources. Climate change effects are compounding the pressure on available water. National historical data shows a rising temperature of 0.8°C since 1950 and decreasing rainfall of 0.2 percent per year (Thoeun 2015). Between 2000 and 2015, 31 percent of the forest area in the Stung Chinit watershed was lost, amounting to approximately 1,591 km² of forests converted to cropland, plantations, or other anthropogenic land uses. This research was carried out using Winrock's Watershed Ecosystem Service Tool (WESTool) to assess key ecosystem services in Cambodia.

The WESTool estimates land use change, carbon stocks, greenhouse gas emissions, sediment and nutrient loss, changes in river water quality, impacts on biodiversity, population, access to market, and general agricultural production data at the national and local levels in

Cambodia. These estimates were produced by integrating current land use information with historical land use change maps with a hydrological model – Soil & Water Assessment Tool (SWAT).

In addition to adjusting to a growing population and intensifying agriculture, the Stung Chinit watershed must also contend with what these changes have wrought. Land use changes and forest losses have changed the water balance, creating more floods and erosion while reducing natural water purification. Without the important ecosystem services provided by forests, the Stung Chinit watershed's population is more susceptible to climate change. According to climate models, the watershed will see a rise in temperatures and more erratic rainfall patterns, with more intense storms in the wet season and less rainfall in the dry season.

Water security solutions

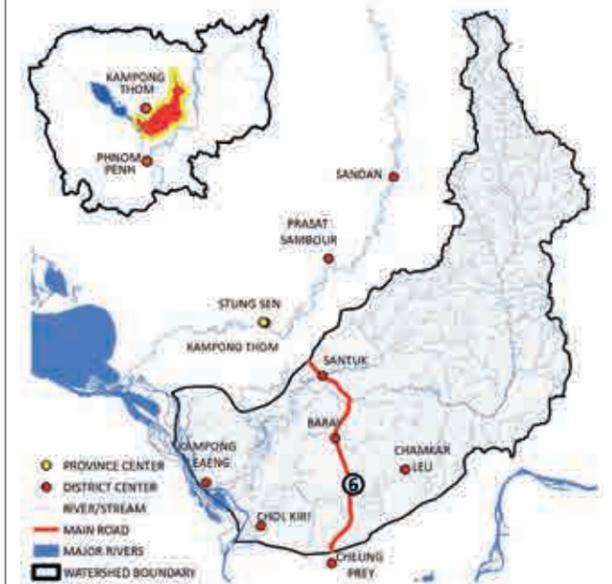
Initiated in 2017, the Sustainable Water Partnership's (SWP) Cambodia Water Security Improvement Activity began mobilizing communes, districts, nongovernmental organizations (NGOs), farmer water user committees, community forestry, community fisheries, and water user associations from across the Stung Chinit watershed to engage in the Water Security Improvement



The Stung Chinit River is a major tributary of the Tonle Sap Lake and the largest freshwater lake in Southeast Asia.

Top: Man casting fishing net. Photo by: Phyoum Chourn
Above: School kids show off their recently repaired handpump. Photo by: Liz Kendall

(WSI) process to promote improved behaviors and adapt more active water security stewardship. The 4-year process will identify and support the implementation of key actions that build resilience to growing water security risks. Four working groups of water user representatives were established, one to address each stakeholder-identified water risk, including environmental impacts from upstream land management; agricultural pollution; irrigation operation and maintenance; and lack of access to drinking water, sanitation, and hygiene (WASH) services. Having identified insufficient access to water supply and sanitation in the Stung Chinit watershed, SWP Cambodia



approached established WASH NGOs working in and around the target area to join them in the WSI process.

Water.org launches WaterCredit

One of the NGOs that SWP Cambodia partnered with was Water.org, which had already identified Cambodia as a target country for its WaterCredit solution that provides loans for the construction of piped water connections and latrines. Today, of the more than 15.6 million people who live in Cambodia:

- 12.6 million lack access to piped water and rely on manual hand pumps. Of those, 3.9 million (25 percent of the population) lack access to improved water sources entirely.
- 6.3 million are without toilets and practice open defecation.
- 3.4 million people live on less than the equivalent of \$3.10 per day.

Water.org identified a unique financial service need that was unmet in the Cambodian market and began laying the foundation for its Cambodia work in 2014. The organization launched the first WaterCredit program in 2015 and is now engaging five microfinance institutions to meet the demand of low-income families with its WaterCredit approach. Greatly exceeding its initial goals, Water.org continues to provide households access to affordable financing for water and sanitation, therein removing this barrier for families who need safe water and sanitation in Cambodia.

The partnership between SWP and Water.org springs from the

organizations' similar approaches to capacity building, awareness raising, sustainability, and local partner skill development. SWP brings a strong field presence, local knowledge, and its WASH Working Group to the partnership while Water.org provides the technical guidance, financial oversight, and local microfinance institute partners.

In December 2018, the WASH Working Group received training on the WaterCredit program and began collaborating with Water.org representatives to develop new ways to teach watershed residents about WASH financial services and promote this mechanism to water users, especially those located in remote areas. Water.org will use this information to better promote its services in the area; meanwhile, the working group will use what it learned about financing WASH construction from Water.org to complete the planning of its first small-scale intervention and begin implementation soon. Together, younger and older generations residing in the Stung Chinit watershed are working together to take the important first steps toward water security.

Author's Note

Program Associate Liz Kendall at Winrock International is based in Arlington, Virginia, United States. Winrock manages more than 100 agricultural, environment, and social development projects in more than 40 countries.

Reference

Chan Thoeun, Heng & Sivakumar, M & Pauline Dube, Opha. (February 7, 2015). Observed and projected changes in temperature and rainfall in Cambodia. *Weather and Climate Extremes*, Elsevier BV, 7, pages 61-71