This case study features the Cambodian Red Cross (CRC) experience in implementing water, sanitation and hygiene (WASH) through community-driven approaches in three provinces with distinctly different challenges that are among the most vulnerable regions of Cambodia. It highlights some impacts of the interventions and analyses different approaches and innovations applied. This study aims to share learning and retrospective insights from this five-year WASH project.

Cambodia in brief

As one of the fastest growing economies in the last decade, Cambodia has transitioned to a lower middle-income country and improved its poverty rate from 48% in 2007 to 14% in 2014. Over 77% of its population live in rural areas\(^1\). They account for 90% of the country’s poor, with agriculture as the main source of income. Only 17% of people living in rural Cambodia have access to drinking water from improved water sources located on premises, available when needed and free from faecal and chemical contamination. Despite significant progress since 2000, open defecation is still practiced by 41% of its rural population\(^2\). Diarrhoeal disease is one of the leading causes of death among children under five years, while poor water, sanitation and hygiene contribute to child undernutrition - a significant obstacle to human development.\(^3\)

Cartier Philanthropy and the IFRC

Under continuing focus on access to basic services in Cambodia and Myanmar, Cartier Philanthropy (CP) supported this project in partnership with the International Federation of Red Cross and Red Crescent Societies (IFRC) to increase access to clean drinking water, basic sanitation and hygiene practices. With the overall goal to reduce water-borne diseases, the project is implemented by CRC in the provinces of Banteay Meanchey, Kratie and Svay Rieng.

**APPROACH**

**Rural areas targeted**

This project specifically targeted rural areas that fall well below the national average for coverage of sanitation (60%) and water (40%).

**Integrated Water Resources Management**

Protect water sources.

Ensure sustainability and good governance of water service providers and local government.

Ensure multiple user services approach.

**Based on local context**

The choice of technical intervention was selected based on local context, water availability and adaptative capacity. The project aimed to meet users’ preference, ability and willingness to contribute and participate.
Sustainable access to water and sanitation facilities & positive behaviour change in Cambodia

Banteay Meanchey
1 commune, 7 villages
25,857 people reached
Context: one of the most heavily land-mined provinces where unexploded ordnances pose a danger especially after heavy rains; border issues with Thailand; floods and drought; cross border migration for work.

Kratie
1 commune, 6 villages
8,205 people reached
Context: mostly covered in dense forest; heavy flooding from the Mekong's overflow; prevailing poverty and health issues (dengue, malaria, diarrhoea, high infant and child mortality); cross border migration for work.

Svay Rieng
3 communes, 10 villages
17,759 people reached
Context: prolonged drought; scarcity of clean water; experiences sour water and environmental threats from use of chemical pesticides and fertiliser; cross border migration for work.

PROJECT OBJECTIVES


1. Enable vulnerable individuals and communities in targeted rural areas to address water, sanitation and hygiene needs.

2. Engage and coordinate with government and other stakeholders at national, district and commune levels in water resources management; Develop capacity of CRC and its volunteers at branch and headquarters to effectively implement WASH.

3. Create awareness and coordination with ministries and departments related to integrated water resources management (IWRM).

Interventions aligned with national policy and practice, aimed at 100% coverage through community-led total sanitation.

PHASE 2 (2018-2019)

1. Strengthen utilization of goods and services through continuous support to establish community structures tasked with operation and maintenance.

2. Sustain behaviour change among target communities, building on hygiene practices promoted.

Communities empowered with knowledge and awareness for decision-making, with skills and capacity to self-manage issues and solutions.
Phase 1

- The project successfully developed, rehabilitated or improved infrastructures to address water and sanitation needs for a total of 51,821 people in 23 targeted communities;
- 23 community water sources developed with water management committees established
- 11 water access points for schools
- 3 rainwater harvesting systems supported to benefit 9 schools
- 2,221 household sanitation
- 1,650 households supported with technical advice to construct latrines
- 18 school sanitation units (latrines accompanied with hand-washing facilities) in 8 schools

- Participatory structures are established, together with communities' capacities;

- The project coordinated cooperation with the Ministry of Education and the Ministry of Rural Development as well as strong collaboration at local level with respective Provincial Department of Rural Development (PDRD) for training, joint monitoring and follow up to ensure sustainability.

Phase 2

- The project resulted in sustained behaviour change to reduce water-borne diseases through effective hygiene practices and community empowerment. Up to 256 Red Cross Volunteers (RCV) were trained in WASH and in the participatory hygiene and sanitation transformation (PHAST) approach that builds on people's innate ability to address and resolve their own problems. PHAST aims to empower communities to manage their water and control sanitation-related diseases by promoting health awareness and understanding, which in turn lead to environmental and behaviour improvements. Hygiene promotion community outreach covered topics such as water treatment and storage, disease transmission, menstrual hygiene, and handwashing techniques.
- 655 hygiene promotion sessions in communities and schools
- 312 PHAST community sessions

- Successful behaviour change is well-evidenced with quantitative and qualitative monitoring. During monthly monitoring visits in target communities, RCVs ask villagers questions to determine five main behaviours i.e. whether they wash their hands with soap before eating; whether they wash their hands with soap after defecation; whether they drink boiled/filtered water; whether they defecate using latrines; and whether they keep their compound clean. Monitoring results have concluded increases in percentage of households practising these behaviours, and complement the analysis of an end-line survey against baselines at the close of Phase 1. The survey findings indicated marked decrease of open defecation, upsurge of latrine usage and increased understanding on the causes of diarrhoea.
  - Using surface water for drinking declined from 75% to 35%
  - Using protected pump wells for drinking water increased from 8% to 21%
Sustainable access to water and sanitation facilities & positive behaviour change in Cambodia

IMPACT | Making a difference for PEOPLE

Two comprehensive school water schemes were established in Svay Rieng province. In Chantrea Primary School, Chantrea commune and in Koh Reusey Primary School, Tuol Sdey commune, water sourced from a borehole is kept in two large storage tanks. The scheme provides water for three pour-flush latrines, a hand-washing station and a filtration unit for clean drinking water. These integrated components are located in close proximity and feature a ramp to the latrines for easier access by disabled persons.

Happy, healthy children in schools

The children of Primary Schools of Chantrea and Koh Reusey learn about good hygiene practices taught during health education lessons in school. They wash their hands at least three times a day in school, especially after using the toilet, pointing to the three pour-flush latrines with bright blue doors. At home, they share what they have learned with their family members. They know about diarrhoea but say they do not experience it.

Hand-washing sessions in school is a group activity the children look forward to. They stand on two raised platforms to face each other, take their time to wash their hands properly using soap and observe each other to see who can do it better. The hand-washing stations are built to hold at least ten children at a time so that sessions can be conducted within a minimal amount of time as an integrated activity in the daily school schedule. The stations are designed using guidelines of children’s hygiene and sanitation training (CHAST) that foster inclusion, interaction and participation. CHAST is an approach for promoting personal hygiene among children based on the well-established PHAST approach. It uses a range of exercises and educational games to teach children aged between five and 12 about the links between personal hygiene and health.

Decrease in disease

Ms. Chea Chanvy and Mr. Mot Mol are teachers in Chantrea Primary School. As part of the school curriculum, they teach 40 minutes of health education once every three weeks. They organize the lessons based on content provided by the Ministry of Education and the Red Cross hygiene promotion programme. According to Mr. Prak Kong, Deputy Director of Chantrea Primary School, more and more households in the village have built latrines in the last five years. He observed that absence from school due to diarrhoea has significantly decreased. The Head of Commune in Chantrea, Mr. Soksi Tha, agreed and added that the frequency of disease has reduced in the community. He feels this is because people have experienced the benefits of health education and awareness.

The development of water and sanitation infrastructure provided water sources and sanitation solutions for the most vulnerable people living in target communities. These, together with hygiene awareness gained from community outreach sessions, have contributed to improving their living conditions.

Access to water and healthy living

Sok Ma is a resident of Po village in Boh Leav commune, Kratie province. She described her experience before the project had installed a community pump-well.

“I needed to travel far from my home to take water from a well, and walk along muddy paths. It was difficult for me to fetch water as that well did not have a hand pump, and the water was dirty because the well was exposed.”

Mrs Ma is much happier now. She is able to get clean water for household use and safe water for drinking. She is able to spend more time on productive activities. She grows vegetables that contribute to a healthy diet as that is encouraged by the RCVs who provide awareness and health monitoring using the community-based health and first aid (CBHFA) approach.

Safety for sanitation

Mr. Heang Savuth is a person living with a disability in Tuol Prasat village, Poipet district, Banteay Meanchey province. This northernmost region of Cambodia experience occasional border restiveness, but its people are in perpetual fear of unexploded ordnance. Without proper sanitation facilities, people risk their lives to answer nature’s call in the covering of the forest.

“Since I live here, whenever I needed to defecate, I have to carry a hoe or run into the forest”, says Mr. Savuth. With the availability of a latrine supported by the project, he is able to avoid the forest and practice not only safer but hygienic sanitation.
IMPACT | Making a difference for COMMUNITIES

Latrines and more latrines!

In aligning with the government’s contribution policy for 100% sanitation coverage, most vulnerable households were selected for support to build latrines. They agreed to put up labour for digging and setting up the latrine superstructure while the project provided latrine materials (for the pit and the slab) and guidance. Their own investment of resources, effort and time instilled ownership and motivation to use the latrines properly for the sake of their families’ health and well-being. But latrines alone will not influence behaviour change. This is attributed to knowledge and awareness of hygienic practices for the individual, the household and the community.

Building better

In 2015, Mr & Mrs Chhoeur Somaly of Chantrea village received guidance and material to build a latrine valued at USD 97 – four rings, two ceramic slabs and PVC pipes. From hygiene awareness sessions, they understood the importance of good sanitation practice for disease prevention. They wanted to ensure that their family of five will use the latrine well and have a secure place to bathe. With their own resources of USD 500 they built a concrete structure to house the latrine, a shower, water storage and drilled water source.

Making improvements

In Kouk Taek village, Kong Savoeurn’s family received guidance and materials valued at USD 90 to build a latrine in 2017. With what they could afford then, they built a simple structure with corrugated iron sheets and bamboo stilts. In early 2019, they were able to upgrade the latrine housing with an impressive concrete structure of twin units that included a place to shower and for water storage.

Motivated to self-build

The Savoeurns’ motivation to ensure a good sanitation facility inspired their neighbour, Ros Sakhal, to build his own latrine. Although he had an old latrine with a makeshift covering, Mr Sakhal – a rice farmer with two children - wanted a better sanitation structure that his wife and daughter could use safely, especially at night. In March 2020 when this photograph was taken, construction of his new latrine was almost complete.

Structures & systems for dry communities

With the prevailing drought, rural communities in Svay Rieng province critically need water especially access to safe water. In Kouk Taek village, Chantrea commune, the water scheme built in December 2016 provides the people living here with clean water supply. Water from a borehole constructed 297 meters deep is pumped into two storage tanks using solar power. Villagers come every two days to collect enough water for household use and drinking, using motorised carts laden with containers. A similar water scheme was built in Tybaram Pagoda, Tuol Sdey commune, providing much needed water to families who live here, as well as for community and religious gatherings in the Pagoda.

In parallel with water and sanitation facilities, community RCVs trained in PHAST, guide villagers with knowledge and practice in a participatory manner for safe water treatment and storage, on personal hygiene, environmental sanitation and safe excreta disposal.

National Open Defecation Free campaign

CRC joins with other actors to align with the Ministry of Rural Development in eliminating the practice of open defecation. Although significant progress has been made since 2000, 41% of Cambodia’s rural population still practice open defecation. In Kratie province, four out of the six communes under this project have been assessed for Open Defecation Free (ODF) certification by the Ministry. The Kratie Red Cross Branch is closely following up with the PDRD on the announcement of ODF certification by the Ministry.
MAKING IT WORK

Community champions

A major driving force of the project’s success is the commitment of community volunteers. These RCVs support community outreach and hygiene promotion, and make regular home visits to monitor hygiene behaviour and facilities in households. In the process of constructing infrastructure for this project, RCVs mobilized community participation for clearing grounds, digging pipelines and pits, as well as contribution of labour, local materials, and donation of land for facilities. Like everyone else, RCVs have families and livelihoods, but have chosen to dedicate their time and resources for the greater good of their communities.

Mr Prum Koeng is a community RCV in Kouk Taek village. He collects water and sends them to people who live farther away from the water schemes.

These four women are RCVs from various communes in Tuol Sdey district. They understand the needs of women and girls for health and safety. They ensure that issues are appropriately presented for the commune committee to address. Before latrines were available in these communities, women and girls go into the bush fearful of insects and snakes. They feel vulnerable, especially after hearing of rape in another commune. Menstruation was particularly difficult and embarrassing - women had to get each other’s help for assistance. The introduction of latrines provided much needed privacy and space. Menstrual Hygiene Management (MHM) is integrated in hygiene promotion training for RCVs and is also taught to girls in secondary schools. Specific MHM education was provided only once but they would like to receive more knowledge and training in this area.

Empowering communities

Water and Sanitation Committees have been integrated into existing commune committees to manage, maintain and repair infrastructure established and to coordinate hygiene promotion. RCVs operate under a clear channel of communication upward from the community to the Red Cross Branch through Red Cross team leader and Red Cross sub-Branch. Quarterly meetings with the Red Cross Branch on project progress gave RCV team leaders the opportunity to raise issues, and for branch staff to guide and recommend solutions. RCVs receive training to strengthen community capacity to sustain water and sanitation facilities and hygiene promotion. They then train the community to operate and maintain water and sanitation facilities established, in trainings jointly facilitated with the PDRD.

Engaging stakeholders

The IWRM workshops approach was integrated during World Water Day, clean-up campaign in collaboration with the PDRD. Increasing awareness on integrated management has contributed to better coordination between community leaders and local authorities. The coverage of four additional villages with connection to a main water supply line subsidized by the provincial government was attributed to positive advocacy efforts.

Aligning the project with the National Strategic Plan on Rural Water Supply, Sanitation and Hygiene allowed the CRC to foster cooperation with the Ministry of Rural Development and with other national and international actors. In Samrong commune, out of 900 households, the project supported 100 households with latrines. With the efforts of the government and other organizations, the commune achieved 100% household latrine coverage while IDE Cambodia provided hygiene dissemination. Joint field monitoring with the PDRD facilitated certification of project outputs (hardware) for continued maintenance beyond the project. This includes water testing by PDRD laboratories to determine water quality and safety. The PDRD is also engaged in training the community to operate and maintain water and sanitation facilities. These efforts have increased cooperation and transparency with stakeholders.
INNOVATIVE PROGRAMMING

Innovation
The use of solar energy to operate the pumps for two water schemes in Svay Rieng province was an encouraging experience for the Red Cross Branch. It is environment friendly, relatively low cost, and present potential partnership opportunities with solar power operators. The solar powered water schemes have been running well as community volunteers are trained to operate the system and handle minor maintenance. With completion of the project, discussions are underway for the community to take over the maintenance contract with the operators and consideration for spare parts. This will likely involve a system for community members to contribute a small monthly fee for maintenance.

Technology
The project implemented a web-based data management system using an offline mobile data collection application. These efforts resulted in a comprehensive inventory of every physical project output. Records include name of household owner, household size, selection criteria, cost price, date of handover, GPS coordinates and photo evidence of facility. Using the Viewworld application, a unified data management system in two project provinces was established and has proven very useful for reference and monitoring during the construction of facilities. In November 2019 the Lessons Learned Workshop that preceded the completion of this project made a recommendation for all WASH facilities established under this project to be registered in the PDRD database management system. The continued use of the application license is being addressed as well. The Viewworld database has complemented good monitoring efforts of the project and will greatly facilitate handover to the PDRD.

Recycle
There are glorious green patches of morning glory in the school grounds of Chantrea Primary School. Water drained from the hand-washing station is collected and reused to start a vegetable garden. School children get to participate in this activity that could be expanded to generate minor funds for maintaining the school water scheme.

Meanwhile, in Koh Reusey Primary School, used water from the hand-washing station is channeled to a garden-recycling project set up in the school by another organization. An attractive recycling resource hub was built next to the hand-washing station, where the combined practices of recycling and gardening are used during lessons on the environment.

This integrated activity is an opportunity to instill respect for natural resources and the need for conservation. The idea was shared by the Banteay Meanchey Provincial Team where used water is recycled by the community for cottage agriculture. Water is not wasted on the resilience-minded communities in Banteay Meanchey. In addition to growing vegetables for their own consumption, they also grow income-generating crops to supplement their livelihoods.
UNEXPECTED IMPACTS & LESSONS LEARNED

Safer and Healthier

Due to the presence of landmines in Banteay Meanchey province, CRC’s Banteay Meanchey Branch implemented the Safer Rural Communities (SRC) Programme to support affected people. Since 2001, the SRC programme combines mine education with micro-credit for livelihood development to build community safety and resilience. However, Health and WASH were not evident in these interventions. When the first phase of the CP-supported WASH project rolled out, the Branch struggled with the lack of technical support for Health and WASH. Late transfer of funds from CRC Headquarters caused further difficulties as the Branch did not have budget flexibility to advance allocations. Despite the challenges, WASH interventions were successfully integrated into existing safety and livelihoods objectives of the SRC programme, reaching the highest number of people with WASH services including the construction of deep boreholes. More importantly, SRC target populations greatly increased their resilience through health awareness, improved hygiene practices and access to clean water and sanitation. Capacity to manage resources has further empowered the communities for more control of their environment and circumstances. This experience demonstrated the value of integrated programming for multiple results, not only for the communities but also in strengthening Branch capacity in Health and WASH. The SRC programme is now planning to integrate WASH in a new phase of programming starting in Pursat province, modelled after this project.

Community-based Health and First Aid approach

CRC’s Kratie Branch has a strong base in community health and volunteers trained in CBHFA. The CBHFA approach empowers volunteers and communities to take charge of their own health. Using simple tools adapted to local contexts, communities are mobilized to address and prioritize their health needs, covering communicable and non-communicable diseases. The Kratie Branch made good use of prior experience in merging WASH methodologies with the CBHFA approach to achieve successful behaviour change in the CP-supported WASH project. The Provincial Project Team optimised and adapted eCBHFA tools enhanced with behavioural change elements, such as the Volunteer Record Book. RCVs used the ‘Yellow Book’ to maintain monitoring as part of the health surveillance system, recording information of their activities, vector control, human and domestic animal disease outbreak. The approach combined community clean up activities (for dengue) and design of facilities with ramp for disabled access. During the project, RCV surveillance had resulted in an early avian flu alert to the authorities. The WASH project in Kratie successfully established sustainable WASH facilities and positive behaviour change with a strong community-based health approach. This experience confirms that capacity of Red Cross Branches in specific programme areas greatly facilitate implementation and amplify results of the project.

One size does not fit all

Water ponds had been constructed as one of the solutions to provide target communities with access to water. However, in Svay Rieng, particularly in Teng Mao village, the water pond had dried up in unusually hot weather and could not serve the 15 households targeted. Owing to recent economic improvement for some families in the village, five households managed to construct their own water source and pump well. A woman who lives near the dehydrated pond cannot afford to do this, and depends on the good graces of her neighbours to provide her with water. The decision to install a pond for this area was because the cost to construct a 300m borehole was too expensive. It appears the pond is not functional during dry season and there is no indication of access to safe water. Overall the project had more positive experiences of water schemes from boreholes with water drawn from about 300 metres below ground. Although more expensive to install, water from deep boreholes were found to be superior in terms of quality, quantity and continued supply of water during dry season. This could be the better option for many areas in Cambodia, especially provinces affected by drought.
OPPORTUNITIES TO IMPROVE

CRC was able to take advantage of the multi-stakeholder nature of this project to seek feedback. Some retrospective considerations for future programming:

Design
- Devise a stronger role for the community to manage water and sanitation systems, where committee members are appointed with clear responsibilities, awareness of implications and means to maintain and operate these systems after the project has ended.
- Consider developing pilot activities on a small scale, in partnership with academic institutions or the private sector to gain research and technical inputs on climate change adaptation, environmental and green initiatives, waste-water management and reuse. Such partnerships could also explore ways of increasing community participation and ownership through cooperatives, enterprise opportunities or cash programming.

National Societies Capacity
- Define clear indicators for developing National Society’s technical capacity in WASH (including capacity for feasibility analysis) with clear link to WASH in emergencies at headquarters level. At branch level, have WASH objectives planned, funded and implemented with core funding under Branch master development plans.
- Define and clarify roles and responsibilities at National Society headquarters, branch and community levels, with accountability and harmonized reporting.

Planning
- A Debriefing and Lessons Learned Workshop was held in November 2019. Having this workshop proved to be a valuable activity for learning and identifying recommendations. Plan and budget for participatory learning event or evaluation at the start of the project.
- Develop a clear and accountable exit strategy in advance under the project design to ensure sustainability of interventions. Consider a transition period between project completion and handover.

CONCLUSION

Power to the People | After implementation of infrastructure and services in Phase 1, the communities needed participatory structures and capacities to self-manage water and sanitation issues. They also needed health education and awareness. CRC sought to bring the focus back to the community, by empowering communities with knowledge, skills and capacity.

Community is capital | The most significant project feature is the motivation of volunteers as the backbone for mobilizing community capacity and ownership. Their willingness to contribute is matched with opportunities for participatory learning and development. They will continue leading the community in transformative change beyond the project.

Reaping richer returns | Investing in hygiene promotion has clearly resulted in lasting behaviour change and health benefits in the communities. The returns of outreach brought understanding and awareness for people to make their own decisions and this may well be the more influential factor. Without a doubt, hygiene promotion must accompany if not precede any infrastructure development for water and sanitation.

Getting the balance right | The project had set out to meet users’ preference, ability and willingness to participate. The various infrastructure deployed indicates that choices were still largely driven by working with familiar and available resources, as well as the need to align with national practice and policy. There is room for more advocacy to integrate further innovation in future programming.

Sustainable Access to Water and Sanitation Facilities and Positive Behaviour Change in three targeted provinces of Cambodia has successfully concluded with established services and interpreted results. The lessons learned and how they are applied will determine real and lasting change values; whether the communities will continue to be served, or accompanied, or both, by the Cambodian Red Cross.

Notes
1 World Bank Data: Rural population of Cambodia in 2018 (accessed on 25.03.2020).
4 The International Federation software tools for long-term water and sanitation programming. IFRC, 2007.
5 Sustainable Sanitation and Water Management Toolbox factsheet on CHAST (refer: https://sswm.info)
6 https://viewworld.net/
7 Cambodian Red Cross case study of a project in 48 villages between 2011-2013, “A harmonized approach to health in Kratie province.”
The Cambodian Red Cross is the largest humanitarian organization in Cambodia. Established on 18 February 1955, it is officially recognized by the Royal Government as auxiliary to the public authorities in humanitarian services to relieve the suffering of the most vulnerable. Following acknowledgement by the International Committee of the Red Cross as its 85th member on 7 October 1960, Cambodian Red Cross was admitted as a Member of the International Federation of Red Cross and Red Crescent Societies on 8 October 1960.