

LOCATION(S): Battambang, Siem Reap, Preah Vihear, Kampong Thom and Kandal Province

DONOR: Agence Francaise de Developpement and European Union

CLIENT: General Directorate of Agriculture/ Ministry of Agriculture, Forestry and Fisheries

TECH ASS. VALUE: 2.6 million

DURATION: Feb 2020 – June 2024

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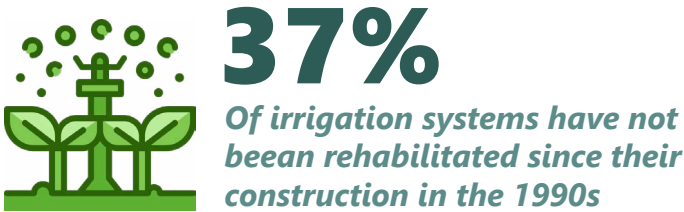
SDG: #1, #2, #5, #8, #13, #15

Modernising Cambodia’s hydraulic and irrigation systems and practices

The four-year WAT4CAM project is helping upgrade outdated infrastructure and taking the opportunity to support innovative, climate-friendly farming.

More than 70% of Cambodia’s 13.5 million inhabitants are engaged in agriculture, with the vast majority being smallholders farming rice. To support this enormous agricultural population, substantial water infrastructure has been constructed over decades dedicated to mitigating the impact of flooding and ensuring water availability to more than 3 million hectares of irrigated land across the country. Yet many of these hydraulic and irrigation systems have not been maintained or upgraded since they were built during the 1990s – and some have not even been rehabilitated since their construction in the 1970s under the Khmer Rouge.

France’s Development Agency, AFD, and a €11 million grant from the EU, is rehabilitating up to 13 medium-sized irrigation schemes and up to 40 preks (small irrigation systems mostly built during the French Protectorate) in five provinces in the north of the country. Seizing on the opportunity afforded by hydro-agricultural infrastructure investments, WAT4CAM goes beyond construction to realise an overall transformation of the whole value chain of water resource management, water service and agricultural production. The end goal is to reduce poverty by building a sustainable and resilient agriculture sector that supports growth and inclusiveness in Cambodia.



Meeting this challenge requires investment in the upgrading and rehabilitation of key infrastructure. The Water Resources Management and Agro-ecological Transition for Cambodia (WAT4CAM) programme, comprising a €55 million loan from

The WAT4CAM programme has four components that seek to deliver long-term poverty reduction, develop the economy, and reduce the vulnerability of rural populations to climate change:

1. Increase cultivated areas by rehabilitating and completing irrigation and drainage infrastructures;
2. Improve irrigation management;
3. Strengthen MoWRAM’s support to national stakeholders in water resources monitoring and management; and
4. Support innovative farming practices and support to the rice value chain.



The many benefits of innovation

WAT4CAM has been supporting the Ministry of Water Resources and Meteorology (MoWRAM) through capacity-building activities in terms of

(i) Irrigation and social water management as a way to encourage sustainable local appropriation and

(ii) Integrated water resource management (IWRM), including use of satellite-based hydrometeorological technologies.

The project has also worked with the Ministry of Agriculture, Forestry and Fishery (MAFF) to define and implement the Cambodian Government's commitment to sustainable agriculture intensification and diversification. This has involved the modernisation of irrigation infrastructures to disseminate agro-ecology practices as a way to increase fertility, yields and quality, encourage value-chain structuration and agro-diversification, and improve carbon capture and storage.

Identifying and implementing the most effective and realistic ways to affect an 'agro-ecological transition' in Cambodia would enhance productivity, prevent pollution, and improve the quality and nutritional value of the food being produced.

NIRAS is responsible for the implementation of Component 4 in WAT4CAM (see box), which aims to improve performance and resilience of agricultural production in the programme area through the promotion of sustainable agricultural intensification. Our work in these areas is divided into four parts:

1. Institutional support to MAFF in the formulation of an agro-ecological transition strategy as well as the technical working group for agriculture and water, development of a rice policy, and contract farming execution;
2. An agro-ecology experiment conducted by our consortium partner CIRAD;

3. Agroecological extension support to farmers in five large provinces (around 3,000 ha) on cover crop planting, crop diversification, and other agro-ecology practices such as land levelling and chiselling and the use of bio-char and -fertilizer;

4. Supporting farmers who practice agro-ecology in selling their agri-products at premium prices through contract farming and new market channels.

Progress to date

In its third year of operation, with less than a year to go, WATCAM has delivered some key successes. Our consortium team working to deliver the goals of component four has provided innovative support and a creative approach. In the area of institutional support, an **irrigated agro-ecology agriculture strategy** has been examined with MAFF and a **revised rice policy** has been discussed to find the gaps where to improve to support rice trade policy of the Royal Government of Cambodia. Developed under supervision from the Cambodia Rice Federation, the team has delivered the **Paddy Trading Platform**, a mobile application to buy and sell quality paddy rice. An official **Contract Farming Manual** has been discussed to finalize and adopted and support given to the **certification** of quality rice seeds and seeds of cover/relay crops. The team has also continue providing supports for the institutionalisation of various tools such as credit guaranty mechanisms for the Agricultural Cooperative, Union of Agricultural Cooperative and the Cambodia Rice Sector Economic Observatory, which is a **monitoring mechanism** used by stakeholders and policymakers to analyse Cambodia's rice sector.

Working with 18 agricultural cooperatives (ACs) and four AC unions, WAT4CAM has delivered **agricultural extension services and improved crop diversification** in the irrigated schemes and preks. Agribusinesses have been supported in cover crop seed production and the development of **organic rice farming** and the **Sustainable Rice Platform (SRP)** initiative. SRP is a global multi-stakeholder alliance working to transform the global rice sector by improving smallholder livelihoods, reducing the social, environmental and climate footprint of rice production, and by offering the global rice market an assured supply of sustainably produced rice. The extension services training and capacity building focuses on food safety and quality control, SRP/organic and agro-ecology best practice, and the development of business plans in order to access financial support and





110

AC agents trained as professional extension officers



3000

Hectares targeted for support

Through these efforts, WAT4CAM has been able to promote sustainable agriculture practices in the target areas. By encouraging farmers to plant cover crops and diversify their crops during the dry season, WAT4CAM has helped to improve soil health and reduce the need for chemical fertilizers. This has not only benefited the environment but also improved the livelihoods of farmers in these areas. Additionally, WAT4CAM has provided training and support to help farmers effectively implement these practices, ensuring that they are able to reap the full benefits of sustainable agriculture. With 1,429 households and a total area of 1,421 ha, cover crop planting and other agro-ecology practices currently account for 15% of command areas (Battambang: 833ha (436 farmers), Siem Reap: 312.80ha (404 farmers), Preah Vihear: 182ha (366 farmers), Kampong Thom: 86.46ha (57 farmers), and Kandal: 6.40 ha (26 farmers). With the crop diversification on the dry-season rice fields, we have reached a total of 560.58ha with 531 farmers, which is equal to 5.6% of the command area (Battambang: 377ha (224 farmers), Siem Reap: 116.38ha (165 farmers), Preah Vihear: 40.60ha (79 farmers), Kampong Thom: 26ha (57 farmers), and Kandal: 0.25 ha (6 farmers). By working closely with local farmers and providing them with the resources they need to succeed, the project has been able to create a thriving agricultural community that is both economically and environmentally sustainable. As the project continues to grow and expand, it will undoubtedly continue to have a positive impact on the lives of farmers and their families throughout Cambodia.

The WAT4CAM team continues to work with various stakeholders to strengthen the rice value chain and horticulture value chain and particular support is given to such as ACs and their unions such as in Siem Reap Meanchey, Battambang and Kandal Province in developing their services and progressively improving their autonomy. Efforts are focused on improving commercialisation prospects via engagement with the private sector, contract farming and promotion of niche rice markets. The team is also assessing the possibility of developing a rice geographical indication (GI) and branding of agricultural products.

WAT4CAM is envisioned to be a multi-phase programme, and currently we are only in the first phase. While the foundation of the project is the construction and rehabilitation of water infrastructure to provide reliable access to water for irrigation and agriculture, WAT4CAM takes a holistic approach and seeks to improve the ways that the water is used in agriculture. By undertaking an agricultural transition in this first phase, smallholder farmers will diversify what they cultivate, increasing incomes, improving food security, and leading to more ecologically and climate-friendly agriculture in Cambodia.

