



INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR ADAPTATION TO CLIMATE CHANGE AND FOREST FIRE MANAGEMENT IN THE MEKONG REGION

 2023- 2026

 1,059,031 USD

 Cambodia, Viet Nam

The project is a showcase of technological innovation in the use of Information and Communication Technology (ICT) in fire prevention, detection, monitoring, and management in Cambodia and Viet Nam. The ICT system will utilize a GIS-based platform to simulate and predict fire-vulnerable areas for timely preventive interventions, and use of the control measures by means of real-time and/or early forest fire detection, foot, and drone patrol, real-time reporting, and deployment of response

The implementation of the project will build on the smart data-driven forest fire management technological innovation of the Republic of Korea which will be adjusted as a pioneering initiative in both countries taking into account the peculiarities and conditions onsite. In-country awareness campaigns, collaborative arrangements, and capacity-building will be administered to enable the government and the public to work together and address the forest fire problem using the ICT-based FFM protocol from the project.

The lessons from the implementation will be documented and shared with the other Mekong and AFoCO member countries in the light of expanding the cooperation to promote innovative solutions to the forest fire problem.

The project was conceptualized in response to the growing threats of forest fires in the Great Mekong sub-region. Climate change-induced temperature increases combined with human unsustainable land use practices infer a higher susceptibility or vulnerability to forest fire occurrences which can undermine the capacity of each member country to deploy effective response. The project will use ICT-based solutions to raise or improve the capacity of governments and the public to address this problem.

As it will be set up primarily to protect the forest in the pilot sites, the gains of the project are relevant to the ICT and environment sectors. The project can help improve overall forest protection and biodiversity conservation, and reduce carbon emissions. Recognizing that forest fire is a transboundary issue, the use of ICT can also facilitate the sharing of real-time information and regional coordination among countries in the GMS. Along this line, the experiences and lessons from the project, combined with the established knowledge on the same by the Republic of Korea will be documented and shared with GMS and MKCF member countries for stronger cooperation in promoting fire resiliency in the region.

In a broader view, the objectives of the project are:

- To showcase an ICT-based forest fire management (FFM) system in Cambodia and Viet Nam.
- To enhance the in-country capability of government and stakeholders in using the ICT-based FFM system and develop a rollout plan.
- To develop or enhance international cooperation on forest fire and related threats for the Mekong region.

Project Components

Component 1. Vulnerability Assessment (VA) related to forest disasters, piloting in Cambodia and Viet Nam.

The VA result informs the selection of sites and determines the overall susceptibility of the area to forest fire hazards. The VA will be conducted alongside the assessment of other forest threats such as landslides, pests and diseases, illegal cutting, land conversions, and those that trigger forest fires. Prior consultation and collaboration with government agencies, field appraisal, and data gathering and analysis, and GIS mapping and simulation supported by satellite images and UAV will be done.

Component 2. Development of an application to monitor forest fires and other forest-related disasters as input to policy and planning/implementation.

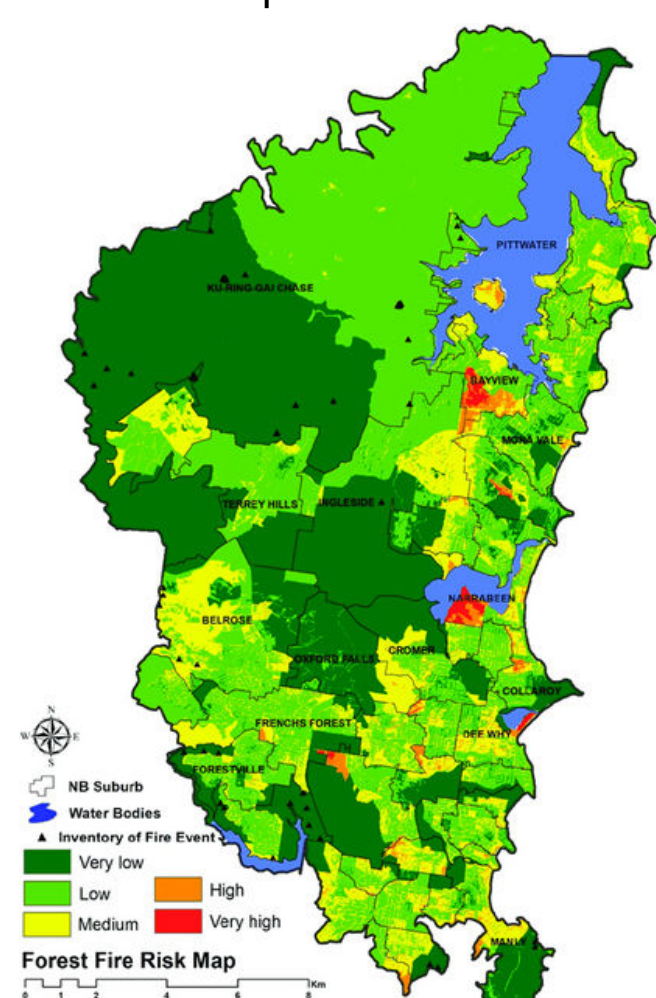
Adapting from the ICT FFM system of Korea, this includes the development and enhancement of the ICT protocols using the parameters applicable to Cambodia and Vietnam. It includes training and preparation of plans for the government and forest communities. Specific training in data gathering using mobile phones, and other readily available reporting platforms will be done. Info and data will be consolidated in the computer-driven reporting terminals and analyzed to inform the development of policies and protocols for forest fire management.

Component 3 Capacity building of major actors from government, private sector, and communities. In promoting a collaborative fire response, the project will carry out stakeholders' awareness campaigns, promote inter-forest villagers' cooperation, and train government technicians in cooperation with AFoCO Regional Education and Training Center (RETC). The issuance of government FFM policies for rollout is expected to facilitate institutionalization.

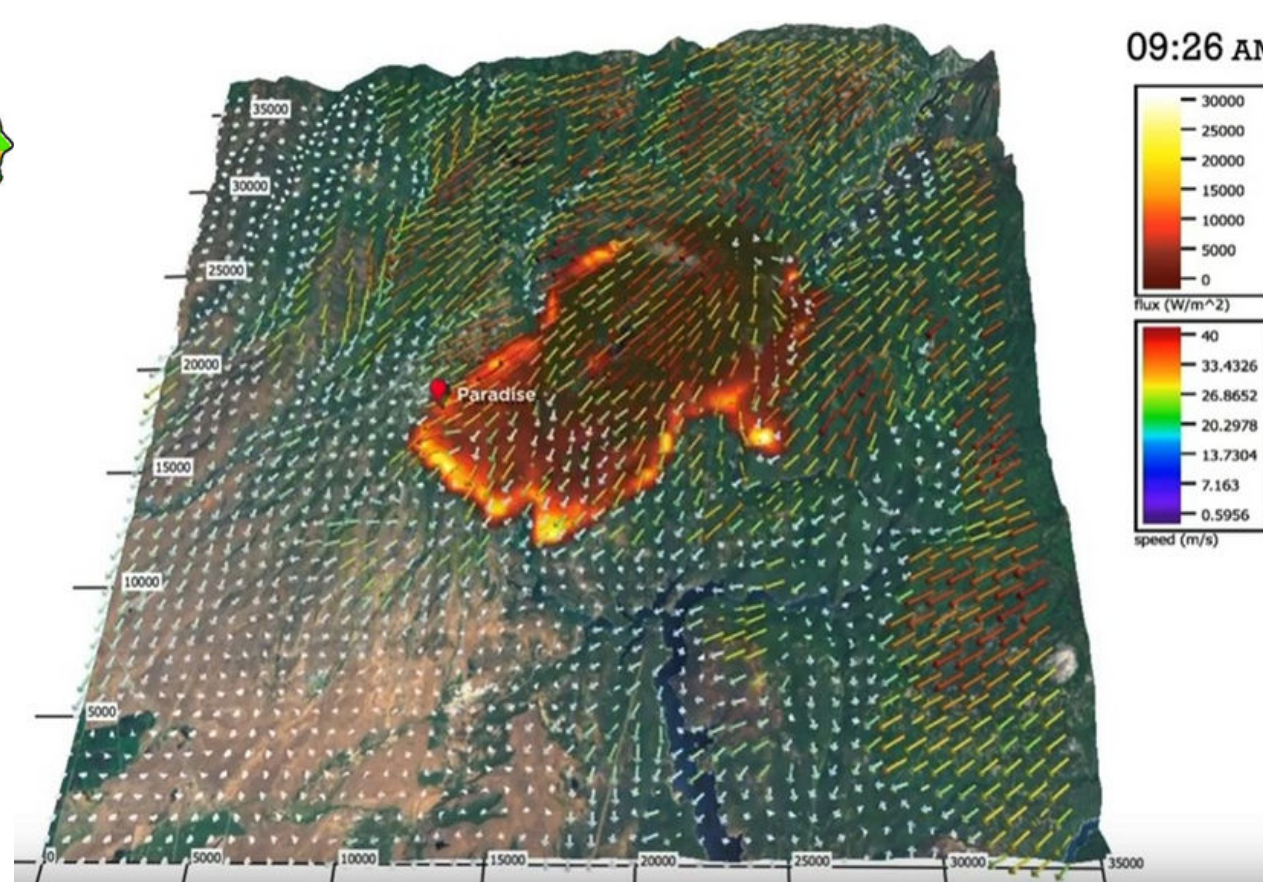
Component 4. Knowledge-sharing across the Mekong. Envisioned for rollout in the Mekong Region, the project will facilitate stocktaking of the lessons from the ICT FFM piloting in Cambodia and Viet Nam, formulate the guidelines and knowledge products, and share it among GMS and AFoCO member countries. ICT-based FFM protocols may also be developed or enhanced to strengthen cooperation in promoting forest fire resilience in the region. Knowledge sharing will be facilitated by the RETC team of AFoCO.

Project Outputs and Outcomes

- Report with GIS maps of forest fire vulnerability and other threat assessments.
- ICT application combined with readily available and user-friendly gadgets (e.g., smartphones).
- Plans prepared for communities and the government integrating ICT approaches in addressing forest fire problems and other threats.
- Modules and IEC materials for training and awareness campaigns.
- Documented experiences and lessons and knowledge products developed.
- Improved capacity of government and stakeholders in using ICT platform for speedy and timely detection, monitoring, reporting, and deployment of response.
- Policies/protocols for the in-country roll-out of ICT use for FFM



Forest Fire Danger Rate Map



Forest Fire Spreading Prediction Model



Forest Fire Prevention Campaign