



[\*\*CLICK TO KNOW MORE\*\*](#)



# **Transfer of Knowledge and Technology from the Flood Simulation System for the People of Tha Wang Pha District, Nan Province**



**13-16 May 2024**

**Postillion WTC Rotterdam, The Netherlands**

---

## **Defense & Intelligence Summit**

**15-16 May 2024**

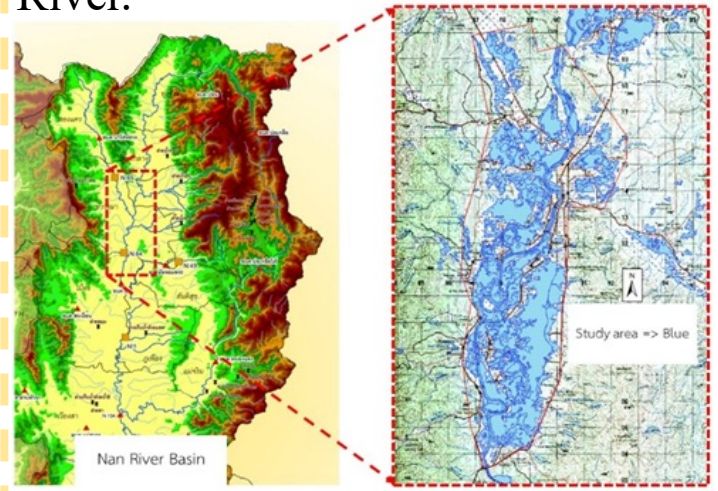
**Enabling a Robust GeoIntelligence Infrastructure for Growth  
and Security**

**Gp Capt Chamnan Kumsap (PhD)  
Director of Knowledge Management and Publication,  
Defence Technology Institute, Thailand**



# Recurring problems, effected people and GeoIntelligence for situational awareness

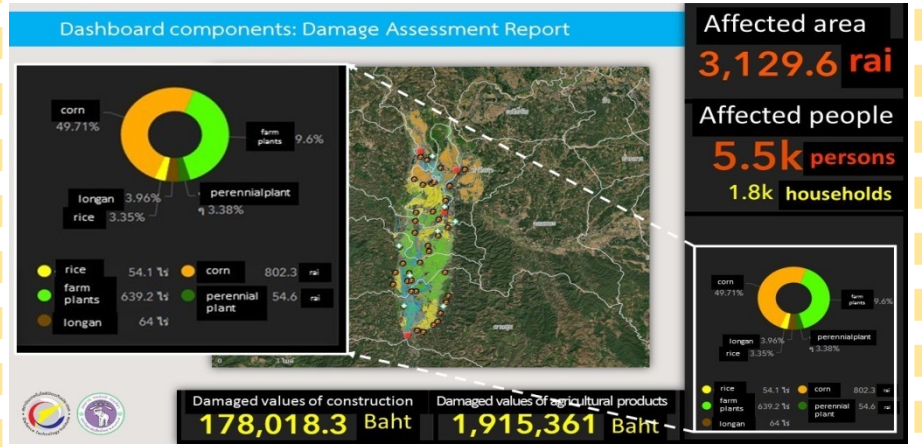
**Tha Wang Pha District, Nan Province**, is a basin with recurring flood problems in the north of Nan Province where Nan River flows downwards and into the Chao Phraya River.



Tha Wang Pha District frequently suffers recurring floods affecting **50,519 people**,



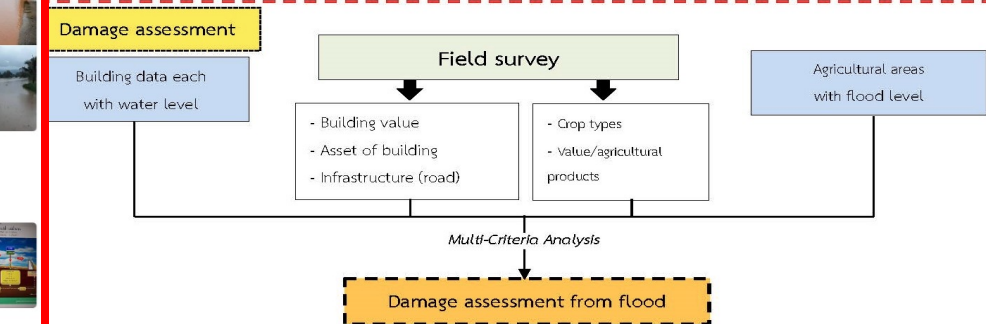
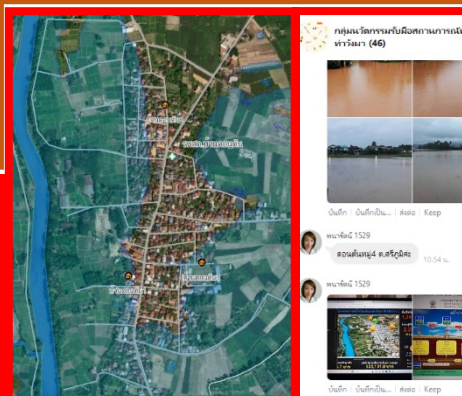
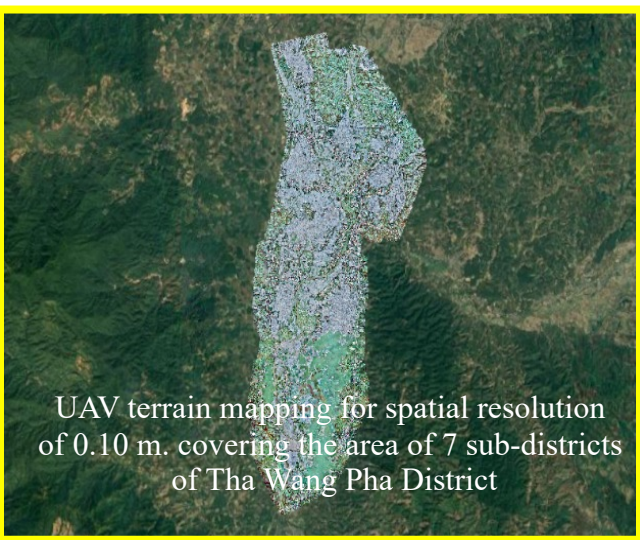
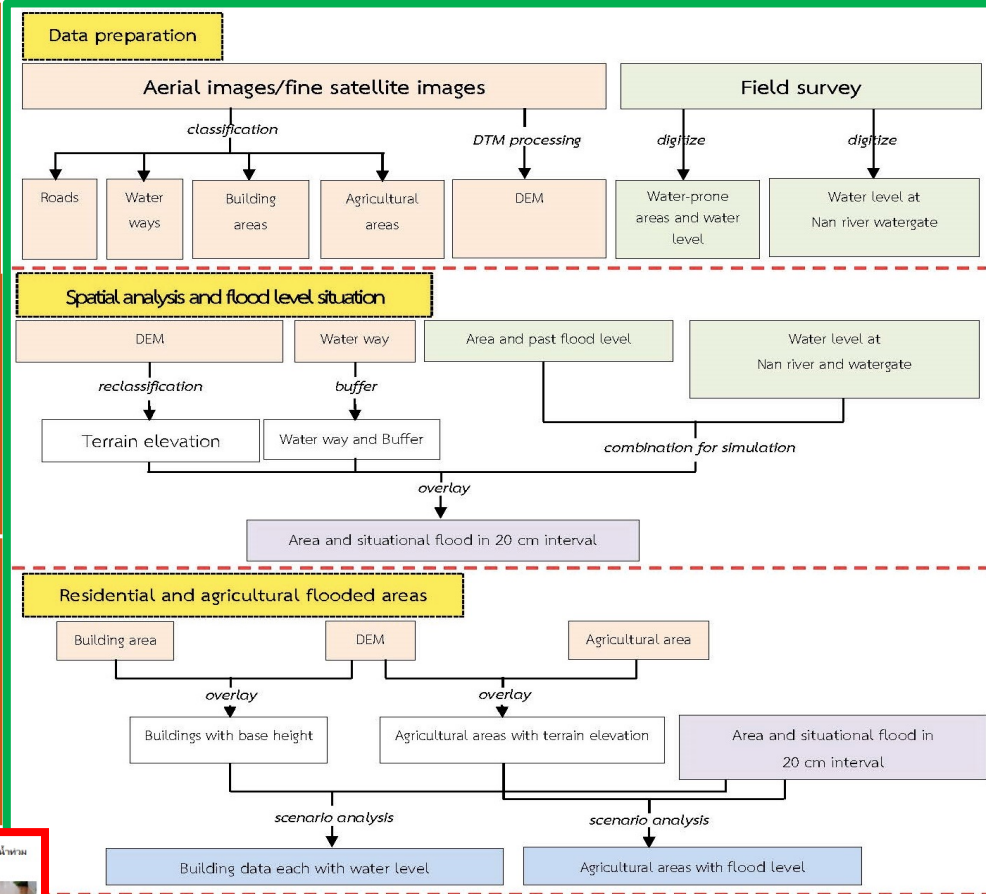
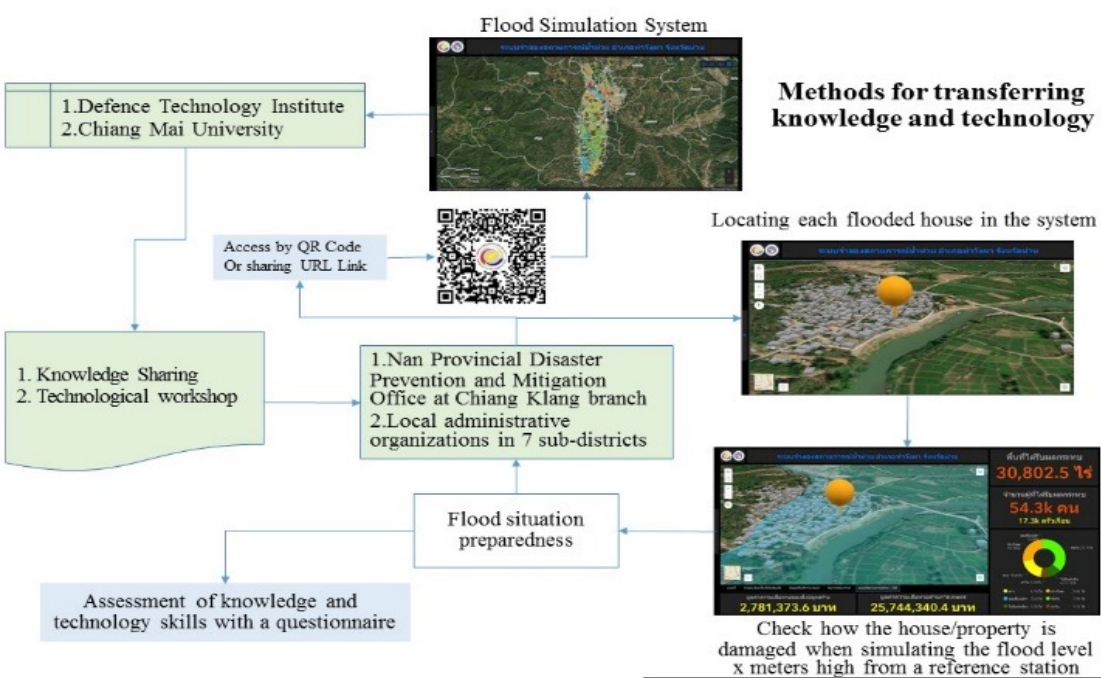
**Transfer of Knowledge and Technology** from the Flood Simulation System for the People of Tha Wang Pha District, Nan Province



The Flood Simulation System is a combination of geospatial data, real-time analytics, and advanced mapping to provide a precise and comprehensive understanding of flooding situations



# Combining geospatial data, real-time analytics(?), and advanced mapping system for a precise and comprehensive understanding of emergency situations





# Harnessing GeoIntelligence for Swift and Informed Emergency Response



As the actual flood situation occurred in Don Tan Village, Village No. 4, Sri Phum Subdistrict, Tha Wang Pha District, Nan Province on August 9, 2023, the research team worked as a mentor to help local administrative organization officials and village head assistant to use the flood simulation. The assistant village headman of Don Tan Village also sent real photos of the incident via line app.



The transfer of knowledge and technology is to provide a source of **GeoIntelligence** for people of Tha Wang Pha District to have the **Swift and Informed** awareness of flooding situations and prepare for **Emergency Response**.



# GeoIntelligence provide a precise and comprehensive understanding of emergency situations



Affected villagers visited by government officials



Banner on DDPM web site linking to the flood simulation system

## Transfer activities



Research team



The flood simulation system



Flood Situation Awareness



Reality Simulation

1. Transferring knowledge in field survey, UAV terrain modeling, geospatial database creation, and damage assessment from flood situations and creating a dashboard
2. Workshop to add values to the flood simulation system with the head of government agencies in Tha Wang Pha District

80 Chiang Klang Branch officers and village heads and leaders from 7 local sub-district administrative organizations on 14 June 2023

10 teachers and 50 students attended the knowledge sharing and technology transfer on 14 July 2023

36 head of government agencies attended the knowledge sharing and technology transfer on 1 February 2024

User acceptance

80 percent or more of 80 participants being able to acquire the knowledge and to use the system in flood situation preparedness

100 percent of 50 participants being able to acquire the knowledge and to use the system in flood situation preparedness

1. Able to build confidence and cooperation in managing the situation.
2. Able to communicate and coordinate between agencies in managing situations.
3. Able to manage water in an area, to reduce the impact of floods or droughts in an efficient way.
4. Able to simulate many situations related to flooding and different disaster situations.





# This video clip is to instruct users how to use the flood simulation system

of Tha Wang Pha district, Nan province

by inputting a water level at the station N 64.



granted and supported by



**วช.**  
**NRCT**



QR code to the flood simulation system

Gp Capt Chamnan Kumsap (PhD)  
Director of Knowledge Management  
and Publication  
Defence Technology Institute  
Email: [chamnan.k@dti.or.th](mailto:chamnan.k@dti.or.th)  
Organization Website: [www.dti.or.th](http://www.dti.or.th)