



DISASTER RISK REDUCTION IN TOURISM

Disaster Reduction through Awareness, Preparedness and Prevention Mechanisms
in Coastal Settlements in Asia – Demonstration in Tourism Destinations

ACTIVITY A.4 LOCAL DISASTER PREPAREDNESS

AoNang Subdistrict
Administrative Organization
Krabi, Thailand





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INTRODUCTION

Assessment of local disaster preparedness is aimed at assessing local capabilities in responding to potential disasters in seven areas; 1) risk identification and assessment, 2) legal authority, 3) organizational structure, 4) early warning systems, 5) communication, 6) resources and emergency planning, and 7) Tourism related issues. In addition, the findings of this assessment will be used as the baseline information about the existing local disaster management capabilities and emergency coordination which will support the action planning activities and the area-specific capacity building development.

This assessment was conducted by using on-site research in the three main stakeholders involved in local disaster management activities (local authorities, tourism sector and people organizations), together with in-depth interview with the key players in disaster prevention and mitigation.

The findings of the report will be discussed and presented into three parts which are Part One: Background Information of AoNang Sub-district Administrative Organization, Part Two: its current disaster preparedness, and Part Three: summary and suggestions

1. Background Information of AoNang Sub-district Administrative Organization

Ao Nang Sub-District Administration Organization (ANSAO), Muang District, Krabi Province has been established in 1995 according to the Declaration of Minister of Interior dated March 2, 1995 and has its own areas 126 square kilometers (mainland 50 square kilometers, and water area 76 square kilometers). The 5 kilometers length of seashore is the most popular tourist attraction viz; Ao Nang Beach, Nopparat Tara Beach, Rai Rey Beach, Koh Kai, Poda Island and Phi Phi Island. Tourism industry is the main source of revenue, ANSAO is divided into 8 villages. Phi Phi Island is one of the most popular Islands and located far away from mainland and has been under ANSAO administration.



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Weather and Climates

ANSAO is normally been affected by southeast monsoon and northeast climates which caused a lot of rainfalls most of the year. The temperature is not different from ANSAO mainland and Phi Phi Island varies from 16.9-37.3 Celsius. The average amount of rainfall all the year is 2,538.5 millimeters. There are 2 seasons in the southern part of Thailand; **rainy season** (2 periods; 1st period starts from May to October, which has been affected by monsoon and has caused the downpour, while the 2th period starts from November to December which has less rainfall of the northeast monsoon effects) and **hot season** starts from February until April under the effects of equator line.

Risk assessment has been identified and surveyed for disaster management in order to monitor and evaluate the capacity of risk characteristics, risk vulnerabilities, personnel capabilities and local awareness in the community, the researcher has summarized all the mentioned criteria as the follows ;

2. ANSAO Current Disaster Preparedness

2.1 Risk Identification and Assessment

After tsunami on December 26, 2004, disaster management organizations in Thailand had recognized and realized that it is necessary for knowledge dissemination and providing training courses to local people at risk prone areas. Asian Disaster Preparedness Center (ADPC) with the cooperation of Department of Disaster Prevention and Mitigation (DDPM), Ministry of Interior Thailand had collaborated and conducted the training curriculum, Community Based Disaster Risk Management (CBDRM) training course, to local residents within Ao Nang Sub-district Organization (in land) and Phi Phi Island and UNDP and DDPM had supported the budget.

Data Collection and Dissemination

The historical data on past disaster incidents have been gathered from CBDRM brainstorming workshops after tsunami on Dec 26, 2004 and have prepared the risk hazard map among concerned agencies such as Department of Mineral Resources, Department of Public Works and Town & Country Planning, Department of Local



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Administration and etc. As a result, transportation system, residential areas, commercial areas, evacuation zones and evacuation routes, information dissemination have been collected as the references. ANSAO has implemented evacuation plan in tsunami risk areas and had scenario evacuation drills during disaster.

Objectives of Evacuation Master Plan

1. To reduce loss of tourists and local residents' lives and properties
2. To create the understanding among people during evacuation to the safer places systematically and orderly
3. To ensure the confidences among local residents and tourists

Operation Units

It is composed of Provincial Civil Defence Operation Center, Krabi coordinates with Krabi district Police station, ANSAO, other related government organization, NGOs, Private Charity Foundations and other agencies responsible as logistic operational units and have requested by government organization to conform victim assistances.

Risk Zones in ANSAO Mainland

ANSAO has divided risk areas into 4 zones as the follows;

- Zone 1** Nopparat Tara Beach is able to handle 500 residents and tourists evacuees to the shelter place (distance 1,100 meters) at Klong Hang School
- Zone 2** Nopparat Tara Beach is also accommodate 500 residents and tourists to migrate along the evacuation route (distance 600 meters) to Success Beach Hotel and evacuation route (distance 700 meters) to Out Let Mall
- Zone 3** Ao Nang Beach is able to manage for 1,000 residents and tourists to evacuation route to safer place (distance 500 meters) to Out Let Mall
- Zone 4** Ao Nang Beach is able to handle 1,000 residents and tourists to evacuation route to safer place (distance 500 meters) to Mc Donald Restaurant



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All related government organizations have agreed to specify risk zones in mainland while in the Phi Phi Island it has not yet been designated risk zones. In the future, ANSAO will include Phi Phi Island in the disaster preparedness master plan.

Risk Assessment

ANSAO has implemented the disaster risk assessment for natural and man-made disaster including risk areas, types of disaster, disaster period, its severity to lives and properties, local capacity or local people awareness and disaster preparedness, using risk assessment questionnaires according to UNEP with ANSAO officials and Phi Phi Island residents. Their response have shown that fire accident is considered the most concerned disaster in Phi Phi Island due to the crowded hotels and resorts and building constructed without planning permission, boat accident is the second cause because tourists and local residents traveling between mainland to Island and tsunami and windy storms are the third disaster cause and drought is the last disaster concerned due to a lot of foreign and local tourists visit Phi Phi Island and use up water for their consumption.

2.2 Legal Authority

According to Thailand disaster management system, Civil Defence Act 1979 is considered as the major law at national level and it is composed of 4 missions as the follows;

1. To designate master plan and policy
2. To implement the plan to be operated
3. To operate according to the policy and regulations
4. To support disaster management activity

Local Administration organization is normally recognized as the smallest Administration organization unit, various local government organizations viz; municipality, Sub district Administration Organization, Bangkok Metropolitan, Pattaya and etc. Central Government at the national level has handed down roles and responsibilities to local government to comply with Civil Defence Act and Decentralized Act. In addition central government has also provided them their authority regarding disaster management



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Law Enforcement

During normal situation, local organizations have to prepare the risk reduction in advance for its efficiency and effectiveness implementation. Local governments have their own disaster preparedness master plan and such plans have to be revised annually and drills and simultaneous exercises included.

2.3 Organizational structure

ANSAO structure has handed down the disaster management and preparedness responsibilities to the assigned officials within their communities. As ANSAO is the small government organization, it is equipped with necessary small tools and equipments for firefighting such as 1 fire extinguisher truck (2,000 liters water loaded), 1 fire extinguisher truck (200 liters foam loaded), 1 fire extinguisher truck (6,000 liters water loaded), 1 portable fire extinguisher (out of order), 40 chemical containers and 40 fire extinguisher balls. Whenever disaster occurs in the community, other concerned government organizations such as hospital, police station as well as private sectors such as hotel entrepreneurs will collaborate and coordinate to manage the situation.

Operation Procedure

ANSAO will assign officials their roles and responsibilities conform with the civil Defence master plan. Moreover, the local government has conducted drill exercises for emergency response with the coordination among related organizations during disaster. For example, Fire Incident Command System is under the supervision of Chief of Disaster Prevention and Mitigation, ANSAO clerk office. It is composed of 5 officials in the response team; truck driver is in charge as a team leader for incident command and work together with 4 firefighters.

Designated Officials

The command system is orderly conform to the decentralized Act and Civil Defence Act, however, some training courses have been provided to the local residents, they still do not have enough knowledge and skills for handling the large scale disaster. ANSAO Chief Executive will in charge as the incident commander.



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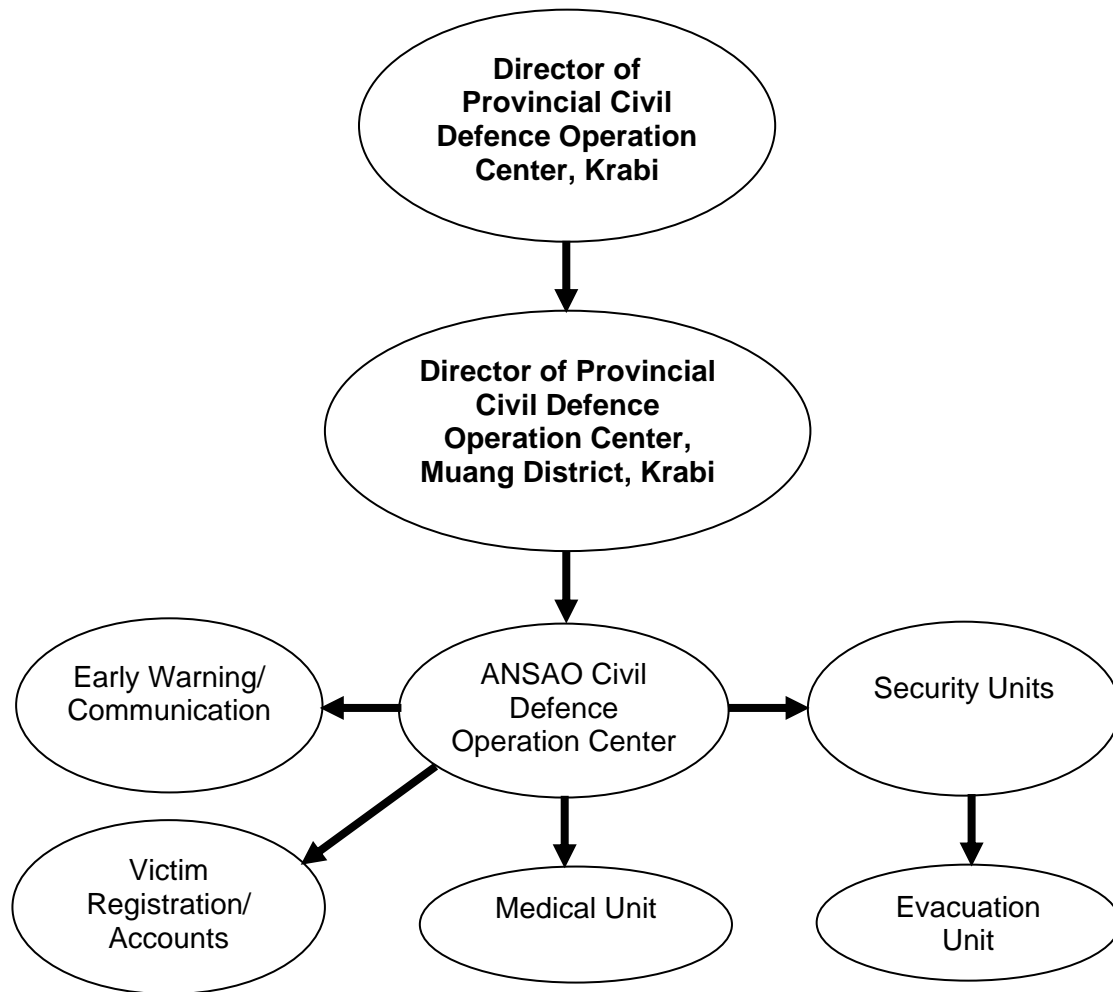


Fig 1: Flow chart of Provincial Incident Command System, Krabi

Remarks

Due to Phi Phi Island is located very far away from ANSAO main land, 2 hours traveling by boat, therefore, ANSAO has not assigned the responsible officials to perform disaster management task in Phi Phi Island yet. At present, private sectors such as hotel entrepreneurs, restaurant owners and civil defence volunteers, health promotion volunteers and NGOs have mutually supported for disaster management in this Island, ANSAO has the future plan to transfer the assigned officials to be tasked in disaster management in Phi Phi Island and they will collaborate and work closely with mentioned private sectors and volunteers.



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2.4 Early Warning Systems

Early Warning System

ANSAO is able to disseminate the early warning to the public by keep close watch to the disaster situation from Department of Meteorology, whenever disaster occurs, ANSAO will broadcast to the local radio stations and community radio towers. By the way, regarding tsunami warning, National Disaster Warning Center will release the tsunami warning direct to ANSAO via satellite to 5 warning towers in ANSAO mainland (Ao Nang Beach, Rai Rey, Poda Island, Nopparat Tara Beach and across Nopparat Tara National Park) and 3 warning towers in Phi Phi Island (Bann Rim Na, Ao Tonsai, and Ao Lobakao). Then the siren will be released to tourists and local residents into 5 languages; English, German, Chinese, Japanese and Thai. Besides, evacuation drills to safety places had been conducted at least twice a year and evacuation routes and maps have been provided along the evacuation routes along the beach.

Remarks

The purpose of warning towers installation in Phi Phi Island is to disseminate for tsunami warning from earthquake only, the problems that need to be solved at present is concerning with low noises and siren releases to short distance (1 kilometer) so they are not covering all the community areas. Furthermore, government has provided limited budget for conduct the exercise drills than target and also has performed incomplete management system. Therefore, it is necessary to have more back up systems or to increase the early warning system to resorts, hotels and local residential areas in the same network system between the whole Island and mainland to update disaster situation on time.

2.5 Communication

Information Exchange and Dissemination:

The communication system in ANSAO responsible areas (main land) has the formal network with other concerned government agencies. Furtherly, they also coordinate among themselves to prepare local level disaster preparedness plan and jointly conduct the exercise drills. Regarding the community activities public relations, 8



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community radio towers in 8 villages (4 high towers and 4 speakers fixed with electricity poles) will broadcast all activities and local member meeting will convene and notify local residents information so they are very useful tools for tourists and residents. In addition, the assigned officials are responsible for the disaster vigilant in their community and radio system is operated under VHF/FM system for communicate for disaster activity. Nowadays, ANSAO does not provide the emergency line or backup system within community.

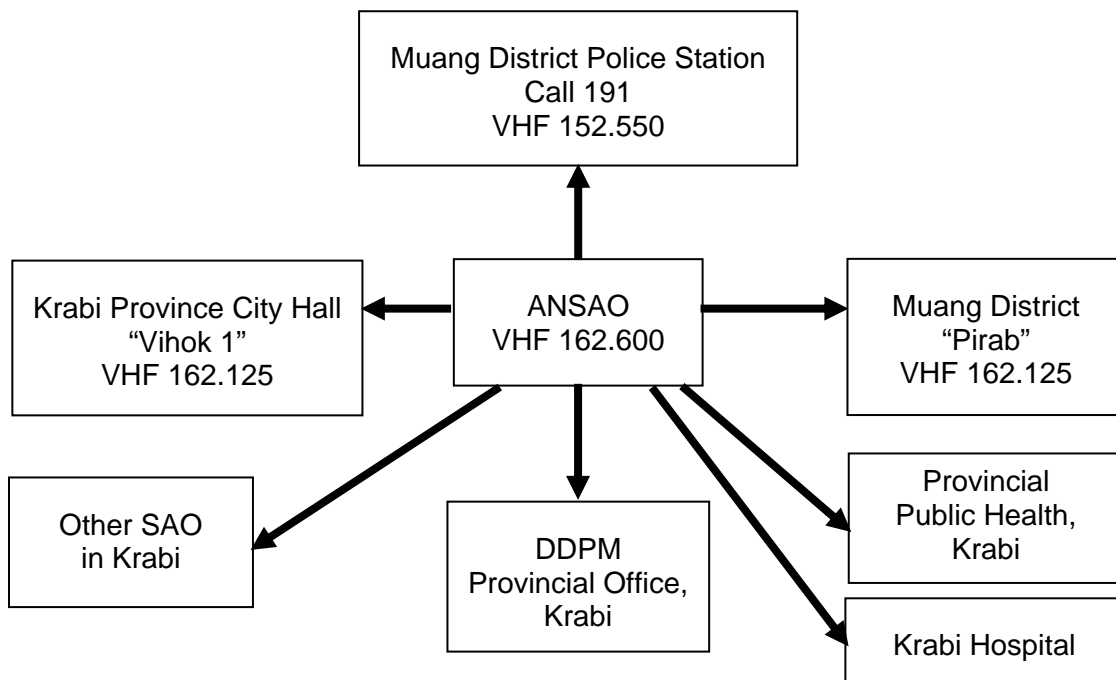


Fig 2: Flow chart of early warning system and tsunami victim evacuation by ANSAO (Nopparat Tara Beach and Ao Nang Beach)

Information Sources and Data Base Sharing:

The information and database system development in ANSAO has not completed, however, at the national level and provincial level all information are gathered and collected systematically and orderly.

Notification Procedures:

At the national level and provincial level organizations have released disaster relevant information and news by distributing leaflets, brochures, VCD and other materials.



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While at the local level, radio towers, community meeting, training and exercise drills are the main sources for local people notification.

2.6 Resources and Emergency Planning

ANSAO has prepared master plan for supporting disaster incident according to National Civil Master Plan for example tsunami master plan has been prepared which are including implementation procedures, responsible agencies, operation system, command incident system, tools and equipments, communication system, simulation exercises and drills, emergency responses, evacuation and victims assistance. The drill has been performed in ANSAO mainland and Phi Phi Island once under the supervision of Provincial Civil Defence Operation Center, Muang District, and Provincial DDPM office, Krabi, ANSAO and National Warning Center headquarter in Bangkok by simulated situation to the earlier mentioned areas.

Personnel:

ANSAO has assigned the officials to handle the disaster management tasks in mainland only; however, the availability of technical expertise data have not been gathered due to ANSAO is a small local government unit and have a few officials. All information details such as expertise name, address and contact number have not been collected to use as the reference resources, besides its lacks of disaster management experts in the local areas.

Training:

ANSAO has only the operation response team, while the training courses for capacity building are providing by provincial organization and Department of Disaster Prevention and Mitigation, Ministry of Interior. DDPM has provided and supported the curriculum for fire accident, victim search and rescue to ANSAO.

Equipment:

ANSAO has enough the fundamental equipment as the researcher has mentioned earlier in organization structure (sector 3), emergency response command for fire accident and the maintenance and equipment control system are available for emergency responses.



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Facilities:

ANSAO, related government agencies and NGOs such as Thai Red Cross have cited and designated safety places and evacuation routes for evacuees regarding 4 risk zone areas; 2 zones in Nopparat Tara Beach and 2 Zones in Ao Nang Beach (mentioned earlier in zoning). Safety places have been informed to local residents and tourists but in these places still there are insufficient facilities while evacuation people. The order of evacuees is prioritized by disabilities, children, woman, older people, local residents and tourists respectively.

2.7 Tourism related issues

The most difficult problem that ANSAO, in particular in Phi Phi Island has been encountered nowadays is caused by the tourism industry increased dramatically, private entrepreneurs are able to operate tourism industry freely like the beach activities, boat taxi, fishing, traveling along the Islands, diving, climbing and Thai boxing. Tourists have their own choices to choose their preferable activities while they are staying in Phi Phi. Many buildings were constructed without planning, during the tourist high season; Phi Phi is crowded with tourists and risk to fire accident. Most local governments are not able to look after or manage and monitor throughout the Islands and could not keep up with the increasing of tourism industry.

3. Conclusion

The researcher has summarized risk assessment from questionnaires which are divided into 7 topics; risk identification and assessment, Legal authority, organizational structure, early warning systems, communication, resources and emergency planning and tourism related issues for ANSAO including its limitation and obstacles concerning disaster management and tourism industry. Due to the ANSAO is newly establishment organization so it has limited disaster management resources, ANSAO office is located far away from Phi Phi Island. Therefore, disaster management is prepared and implemented in mainland only and at present it is able to be implemented in Phi Phi Island. Nowadays, emergency response system in Phi Phi is functioned by the willingness among private entrepreneurs such as hotel



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and restaurant owners collaborate with volunteers within the Islands. ANSAO also has the future plan to designate the officials to work with them in the future.

In conclusion, the APELL approach workshop will be applied and implemented for raising public awareness, emergency response system and assigning roles and responsibility of incident command system from local residents participation especially tourism entrepreneurs in Phi Phi Island under the supervision and planning of ANSAO, residents and tourists. In addition, it is necessary to have refreshment courses, simulation drills and exercises to be conducted continually and systematically to ensure the tourists' confidences, support and promote the tourism industry sustainability.