

# Seven Days in Phang-nga: The Role of Military in the 2004 Sumatra-Andaman Earthquake in the Indian Ocean Disaster Relief Operation\*\*

Panita Chaisorn\*

## Abstract

The 2004 Sumatra-Andaman earthquake in the Indian Ocean was one of the deadliest natural disasters in the world recorded history which caused massive impacts on 14 countries including 6 provinces in the southern part of Thailand. It was Phang-nga province which experienced the highest death toll and sustained the most damage. For the relief operation, military personnel were the key providers of aids. All forces of Thai Armed Forces dispatched their personnel to the affected areas. The article shows military-military and civil-military cooperation in disaster relief operation in Phang-nga during the first-week operation.

The findings show both strengths and limitations of the operation. The former includes (1) speedy and timely arrival of military personnel in the affected areas and air units from Bangkok; (2) personal connection providing the good impact to unity of effort, trust and respect, and happiness of personnel; (3) clear line of command, uncomplicated and flexible chain of commands, the independence of incident commander; (4) mutual trust throughout civil-military coordination; and (5) international supports. The latter includes (1) no pre-strategic planning; (2) poor needs assessment and analysis; (3) inadequate personnel and equipment; (4) the delay arrival of many military units from Bangkok; and (5) poor information gathering.

**Keywords:** *military operation other than war, disaster relief operation, civil-military cooperation, 2004 Sumatra-Andaman earthquake in the Indian Ocean*

\*Ph.D. Candidate, Graduate School of International Relations, Ritsumeikan University, 56-1 Toji-in Kitamachi, Kita-ku, Kyoto 603-8577 Japan. Email:panita41@gmail.com

\*\*Received May 27, 2016; Accepted December 19, 2016

# 7 วันในพังงา: บทบาททหารในปฏิบัติการ บรรเทาภัยพิบัติต่อเหตุการณ์แผ่นดินไหว ในมหาสมุทรอินเดีย พ.ศ. 2547\*\*

ผู้นิพนธ์ ไซยศร\*

## บทคัดย่อ

เหตุการณ์แผ่นดินไหวและคลื่นสึนามิในมหาสมุทรอินเดีย เมื่อปี พ.ศ. 2547 เป็นภัยพิบัติทางธรรมชาติครั้งใหญ่ที่สุดครั้งหนึ่งในประวัติศาสตร์โลก สร้างความสูญเสียแก่ชีวิตและทรัพย์สินของผู้ประสบภัยใน 14 ประเทศ รวมทั้ง 6 จังหวัดผู้ประสบภัยพิบัติ กำลังทหารจากทุกเหล่าทัพเป็นกำลังหลักในการให้ความช่วยเหลือ บทความนี้ชี้ให้เห็นถึงการทำงานของทหารไทย รวมถึงความร่วมมือระหว่างทหารไทยกับทหารมิตรประเทศ และหน่วยงานฝ่ายพลเรือนในเขตจังหวัดพังงาในสัปดาห์แรกของปฏิบัติการบรรเทาภัยพิบัติ

ผลการศึกษาชี้ให้เห็นถึงจุดแข็งและจุดอ่อนของปฏิบัติการบรรเทาภัยพิบัติ โดยจุดแข็งหมายรวมถึง (1) การเข้าถึงพื้นที่อย่างทันการของหน่วยทหารในพื้นที่และหน่วยบินจากกรุงเทพ (2) สายสัมพันธ์ส่วนตัวซึ่งส่งผลดีต่อความมุ่งมั่น ความไว้ใจ และความสุขในการปฏิบัติงาน (3) สายบังคับบัญชาที่ชัดเจนและไม่ซับซ้อน รวมถึงอิสระภาพของผู้บังคับบัญชา (4) ความเชื่อมั่นและไว้ใจระหว่างภาคทหารและพลเรือน และ (5) ความช่วยเหลือจากต่างชาติ ส่วนจุดอ่อนหมายรวมถึง (1) การขาดแคลนยุทธศาสตร์ (2) การประเมินและวิเคราะห์ความต้องการที่อ่อนด้อย (3) ความไม่เพียงพอในด้านบุคลากรและยุทโธปกรณ์ (4) การเข้าถึงพื้นที่ล่าช้าของหลายหน่วยจากกรุงเทพ และ (5) การรับรวมข้อมูลที่ไม่เป็นระบบ

**คำสำคัญ:** ปฏิบัติการทางการทหารออกหนีอสังหาริมทรัพย์, ปฏิบัติการบรรเทาภัยพิบัติ, ความร่วมมือระหว่างทหารและพลเรือน, เหตุการณ์แผ่นดินไหวในมหาสมุทรอินเดีย พ.ศ. 2547

\*นักศึกษาและตับปริญญาเอก สำนักวิชาความสัมพันธ์ระหว่างประเทศ, มหาวิทยาลัยริชาร์ดมิลล์, 56-1 โถงจี-อิน คิตามะจิ, คิตะ-คุ, เกียวโต 603-8577 ญี่ปุ่น อีเมล panita41@gmail.com

\*\*ได้รับบทความ 27 พฤษภาคม 2559; อนุมัติให้จัดพิมพ์ 19 ธันวาคม 2559

## 1. Introduction

The emergence of non-traditional threats, including the increasing number of disasters, has affected the military operations in the post-Cold War period. The range of military operations has been widening from the combat operations in both war and conflict environment to those in non-combat one, so-called military operation other than war (MOOTW), in both conflict and peacetime environment. Disaster relief is MOOTW in the peacetime environment which many countries and international organizations have placed an importance on. Military capacities in the Asia-Pacific countries are often the first capabilities offered and make a valuable contribution in responding to regional natural disaster emergencies. The importance of fostering strong civil-military and military-military collaboration is a growing recognition among regional countries (The Joint Chiefs of Staff 1995, viii; Headquarters Department of the Army 1993, 2-1).

However, the role of military in humanitarian assistance-a traditionally civilian domain is still a controversial issue. Some studies pointed out the certain unique capabilities of militaries as the most readily available, well-resourced capable, and large organized units which can directly contribute assistance and reduce the 'gap of pain' of the victims (Cottee and Bikin-Kita 2006; Diskett and Randall 2001; Heaslip and Barber 2014) Due to the more regularized military

responses to natural disasters, for some, the armed forces have been seen as the 'forces for good' or 'humanitarian warriors' and this makes some scholars introduce the concept of disaster militarism, the concept stating that military should be the primary responder to large-scale disasters (Cottee and Bikin-Kita 2006; Fukushima 2014).

Not only the role of foreign militaries in international disaster relief operations, but also the role of national militaries in domestic one has been given priority. National militaries will remain important in natural disaster responses (Cottee and Bikin-Kita 2006). HA/DR has become a common part of military life. Military's contribution is highly appreciated by experts as well as by the general public and this reflected in high credibility the armed forces have (Bartko 2012). To Thailand, the military has participated in the rescue operation in time of natural disasters and accidents. The Thai military, similarly to the military organizations in many developing countries, has the manpower, equipment, command system and communication equipment to deal with such crisis (Piti Kumpoongpong).

Even though the humanitarian community is more inclined to accept military actors during a natural disaster and is willing to make use of military expertise when it is available (Diskett and Randall 2001; Heaslip and Barber 2014), many concerns are arisen.

For some, to rely on the military as part of the standard framework of disaster prevention is incompatible with the traditions and objectives of the Red Cross (Anderson 1994). Moreover, several concerns involve in humanitarian principles and related operational issues, namely a last resort principle, civil-military cooperation and the differing priorities and cultures among them, appropriateness of equipment, approaches (listening and responding versus command and control), timeframes (short-term missions versus long-term needs), neutrality, impartiality, independence, accountability and transparency, and cost-effectiveness (Cottee and Bikin-Kita 2006; Diskett and Randall 2001). To many NGOs it appeared that the military contingents engaged in HA were there for political rather than humanitarian reasons (Diskett and Randall 2001). Finally, the question of the leadership of the operation arises (Anderson 1994).

The role of the military in the delivery of humanitarian relief is still relatively under-researched. Some scholars stated that research was required into the establishment of an acceptable and effective relationship between the military and the key civil authorities (Anderson 1994; Diskett and Randall 2001). Thus, this study aims to examine the role of military in The 2004 Sumatra-Andaman Earthquake in the Indian Ocean disaster relief operation in Phang-nga province, Thailand. How did Thai military, the major actor in the operation, together with foreign military and other civilian units cooperate in the operation? The

researcher hopes that the findings of the study will enhance the opportunity to improve the role of military in current disaster relief operation architecture to be more effective one.

### ***1.1 The 2004 Sumatra-Andaman Earthquake in the Indian Ocean: Loss and Damages***

The 2004 Sumatra-Andaman Earthquake in the Indian Ocean was one of the deadliest natural disasters in recorded history. It took the lives of 230,000 people in 14 countries. Indonesia, Sri Lanka, India, and Thailand suffered the worst devastation with the death toll of 204,799 persons, 42,022 persons, 23,685 persons, and 11,325 persons, respectively. Undeniably, the disaster caused a big impact on economy (especially tourism, coastal fishing communities), environment, and also on mental and physical health of the victims.

The relief operation was the biggest multilateral disaster relief operation of all time. Approximately, 35 countries provided more than 30,000 military personnel for emergency assistance. The 2004 Tsunami disaster relief operation has marked the importance of military role in humanitarian assistance and disaster relief (HA/DR) since military played very crucial role in the operation.

For Thailand, it was 9:31 a.m. of December 26, 2004 when a tsunami wave first hit 6 provinces along Andaman Coast, namely Krabi,

Phang-nga, Phuket, Ranong, Satun, and Trang. Phang-nga Province experienced the highest death toll and suffered the most damages in Thailand. In Phang-nga Province, the 7-meter high tsunami wave hit Baan Nam Khem village in Takua Pa District at 9:40 a.m. for about 2-3 minutes. Three minutes later, the second wave of 6-7-meter high hit several areas along Andaman Coast. Then, at 10:03 a.m., the highest wave, more than 10 meters high, destroyed Baan Khao Lak Village, Phang-nga. The seawater at Baan Nam Khem and Baan Khao Lak of Takua Pa returned to regular tide range around 11:00 a.m. and 12:00 p.m. respectively (*National Archives of Thailand 2005*).

Loss and damages found recorded are shown in Table 1.

Table 1: Loss and Damages

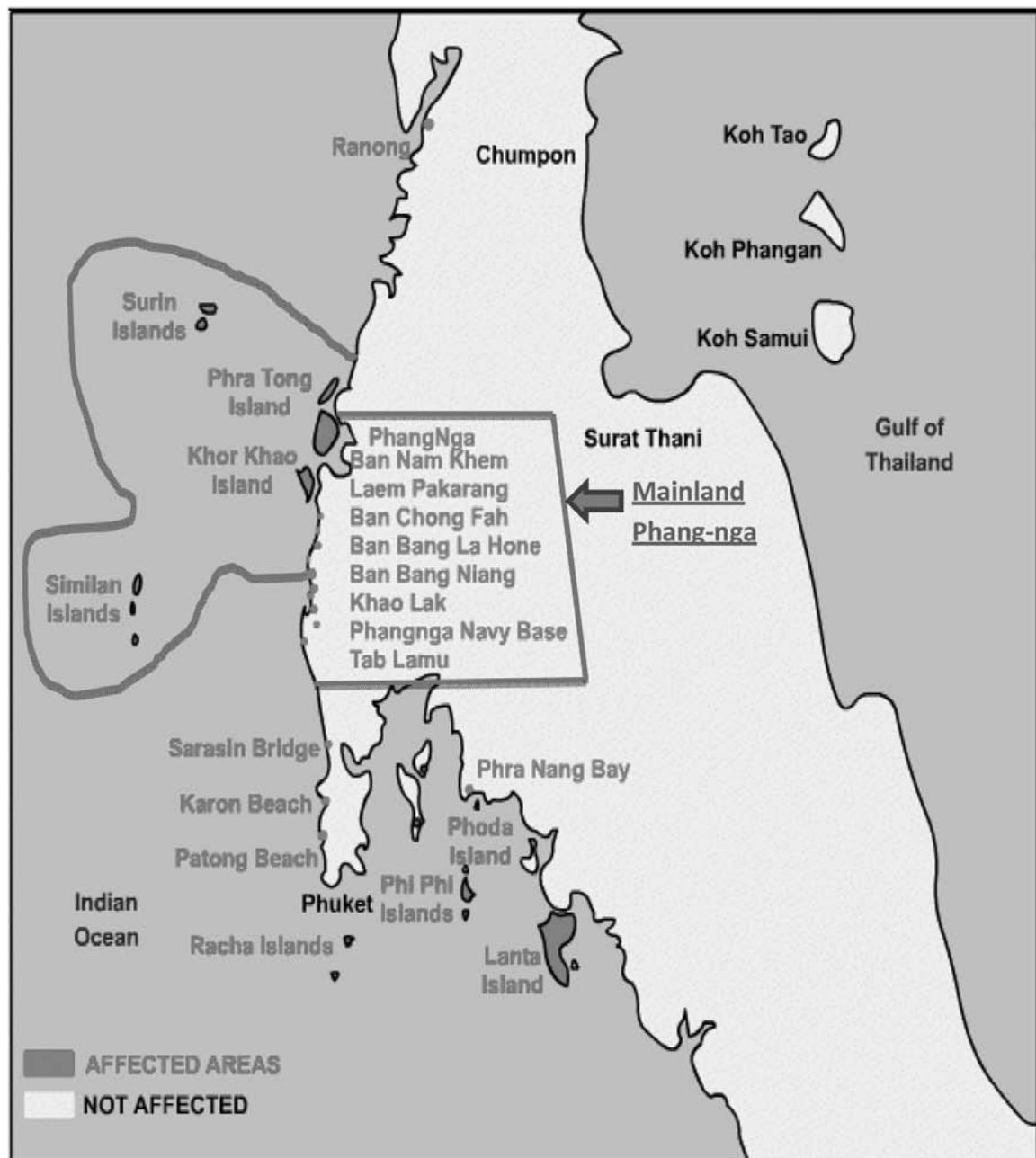
Areas	Loss & Damages
	7,595 dead [Thais 2,751/ For. 2,467/ Unidentified 692/missing 1,685]
	5,597 injured victims
Phang-nga [239,165 people] [74,526 households] [4,170.88 sq.km.]	58,550 displaced people
	747 orphans
	12,480 households
	2,696 damaged houses
	69 villages
	93 hotels

Source: *Weber (2005); Department of Provincial Administration, Ministry of Interior*

## 1.2 The Scope of Study

This study covered the military operation in Phang-nga Province, i.e. Thai Mueang District, Takua Pa District, and surrounding islands. Military ground operations, maritime operations, and air

operations were examined. In terms of period of time, this paper examined the military operation in the first week period which was the emergency period. Military-military cooperation together with civil-military cooperation will be analyzed.



Picture 1: Selected Areas of Study

### 1.3 Research Conceptual Framework

Data were analyzed using the two frameworks related to military operations in disaster relief operations (DRO), namely the Joint

Doctrine for MOOTW (Joint Pub 3-07) and Asia-Pacific Regional Guidelines for the Use of Foreign Military Assets in Natural Disaster Response Operations (APC-MADRO). The two frameworks

set forth the action checklist for three phases: the preparedness phase, the assistance operation phase and the post-operation phase. This study applied the checklist to analyze the strength and limitations of the operations in three perspectives:

1) military operations; 2) civil-military cooperation (interagency); and 3) international assistance.

For each perspective, the following aspects or indicators derived from the frameworks were examined.

1) Military Operations: Aspects or indicators

1.1	Needs assessment	(preparedness phase)
1.2	Strategic planning	(preparedness phase)
1.3	Resource mobilization	(operation phase)
1.4	Professional, skilled, and disciplined military personnel	(operation phase)
1.5	Objective	(operation phase)
1.6	Restraint [apply appropriate military capability prudently]	(operation phase)
1.7	Unity of Effort	(operation phase)
1.8	Unit Integrity	(operation phase)
1.9	Command and Control (C2)	(operation phase)
1.10	Intelligence and Information Gathering	(operation phase)
1.11	Strategic review	(post-operation phase)

2) Civil-Military Cooperation (Interagency): Aspects or indicators

2.1	Effective liaison with the lead agency	(operation phase)
2.2	Establishing clear lines of communication	(operation phase)
2.3	Establishing Civil-Military Operation Center	(operation phase)
2.4	Mutual trust through civil-military coordination	(operation phase)
2.5	Strategic review	(post-operation phase)

3) International Assistance: Aspects or indicators

3.1	Facilitate operations conducted by assisting militaries	(operation phase)
-----	---	-------------------

## **2. Military Contributions**

### **2.1 Domestic Contribution**

Military assistance can be divided into domestic and international contributions. For domestic contribution, The Ministry of Defense (MOD) provided inclusively at least 31,122 personnel and 106 aircrafts from all of its military forces i.e. Royal Thai Army (RTA), Royal Thai Navy (RTN), and Royal Thai Air Forces (RTAF). Besides, 12 RTN warships were assigned to be on duty. 28 trips via RTAF buses transported the personnel to the affected areas between December 26, 2004 and January 16, 2005. Considering the air operation in particular, the military aircraft can be categorized into 3 groups. Group 1 consisted of at least 30 RTAF aircraft. Group 2 comprised 69 aircraft from RTN, RTA, RTAF. Group 3 was made up of 7 aircraft from RTAF to be used at its Forward Detachment, Phuket International Airport.

On Day 2, 12,832 military personnel (41.23%) and 76 aircrafts (71.69%) arrived the affected areas. The 10 warships at Phang-nga Naval Base started providing aids right after the disaster struck even though the base itself was

ruined by the tsunami. Some warships had to be urgently repaired before the dispatch for the needed assistance. The two main warships, H.T.M.S. Chakri Naruebet and H.T.M.S. Naresuan from Chonburi, a province on Thailand's east coast, arrived in Phuket on Day 4. After that, both warships became the mobile headquarters in the Andaman Sea. All warships conducted the relief operation until the end of January, which was about 35 days. The Royal Thai Navy was assigned to be the major responsible unit of HA/DR (Matichon 2004) and responsible for the naval operations. The Royal Thai Army was responsible for the ground areas, except Ranong province. The personnel from RTA, especially those in the engineering units, provided the longest assistance to the victims [more than 1 year]. Finally, the Royal Thai Air Force was responsible for the air operations and Ranong province. Due to its rapid and high capacity together with the high operational cost of the force, RTAF provided emergency assistance in a relatively short period of time, from December 26, 2004 to January 16, 2005 [21 days]. The details of Thai military contribution, which conveyed domestic assistance, are illustrated in Table 2 below.

Table 2: Domestic Contribution during the first week

Day / Type	Personnel	Warships	Aircrafts
Total	At least 31,122 personnel	12	At least 106
Day 1	6,133 in the region	10 from Phang-nga Naval base	G1 > 30
Day 2 [Establishment of forward detachments]	1,000 from NAC3	-	G2 > 69 from RTN, RTA, RTAF
	4,000 from engineering units		G3 = 7 @ RTAF Forward Detachment
	7,832 personnel from RTA, RTN, RTAF, AFDC Forward Detachments		
Day 3 [Establishment of MOD rescue center]	3,000 at the rescue center	-	-
	1,000 RTN team from Bangkok		
Day 4	1,000 RTA Team	H.T.M.S. Chakri Naruebet and H.T.M.S. Naresuan from Chonburi	-
	600 medical team from RTA Med. Dept. at Yan Yao Temple		
Day 5	5,707 more in the areas	H.T.M.S. Chakri Naruebet and H.T.M.S. Naresuan at Phi Phi Islands	-
	578 at Phi Phi Islands		
	47 more at Phang-nga Naval Base		
Day 6	25 more from RTN at Baan Nam Khem	-	-
Day 7	200 from RTA Engineering Department at Phang-nga Naval Base	-	-

Source: *Tsunami, December 26, 2004 Archives, Royal Thai Navy (2004); Matichon (December 27, 2004); Thairath (December 27, 2004); Khao Sod (December 28, 2004); Matichon (December 28, 2004); Dailynews (December 28, 2004); Thairath (December 28, 2004); Thairath (December 29, 2004); Dailynews (December 29, 2004); (Pramote Imwattana, 2016); Amnuay Jayarat, 2016); Thairath (December 30, 2004); Dailynews (December 30, 2004); Khao Sod (December 30, 2004); Thairath (December 31, 2004); Dailynews (December 31, 2004); Khao Sod (January 1, 2005); Thairath (January 1, 2005); Thairath (January 2, 2005); Dailynews (January 2, 2005); Royal Thai Air Forces, Directorate of Civil Affairs (2005); Royal Thai Army, Directorate of Civil Affairs (2005).*

## **2.2 International Contribution**

Besides the contributions from the Ministry of Defense, Thailand also received the international military support from five countries: France, Singapore, Malaysia, Japan, and the United States. However, due to the smaller scale of loss and perception of foreign countries that Thailand could achieve self-reliance somehow, the greatest amount of international support could be observed at Aceh, Indonesia, the worst affected area from the disaster. Thus, despite the fact that the United States established the Joint Task Forces as the international cooperation hub at U-Tapao airport in Chonburi province, Thailand, the international assistance was mainly for those in Aceh, Indonesia.

For contribution to Thailand, at least **600 foreign military personnel**, with 590 from Japan's Self Defense Forces (JSDF) joined the relief operation [at least 1.89% of all contributing military personnel in Thailand]. In terms of air

power, **20 aircraft from France, Singapore, Malaysia, Japan, U.S.A.** [at least 15.87% of all contributing aircrafts] joined G2 and G3 aircraft, providing search and rescue (S&R) and delivery operation from Day 2 onward. Six aircrafts from France, Singapore, and Malaysia joined the RTAF Forward Detachment at Phuket International Airport. The S&R mission was assigned to the French aircraft due to their capabilities. Japan dispatched 3 warships [20% of all warships in action], 4 helicopters, and those 590 JSDF personnel mentioned above to Thailand's affected areas on Day 4. Both Japanese warships and helicopters cooperated with RTN. Six American C-130 H airplanes arrived at the U-Tapao Airport, Chonburi, on Day 4, and moved to Donmuang International Airport in Bangkok on Day 5 to start transporting donations to the South. Table 3 shows international support in Thailand in the first week of the disaster.

Table 3: International Contributions (military personnel & civilians who joined the military) during the first week

Day / Type	Personnel	Warships	Aircrafts
Total	N/A	3 from Japan	<b>20 (for Thailand)</b> <b>6 (based in Thailand, but for Indonesia)</b>
Day 2	Arrival of French team (joined RTA engineering units) >> temporary houses at Baang Muang  Arrival of American team (joined RTA engineering units) >> cleared 2 sides of Pechkasem Rd. and Baan Nam Khem		<ul style="list-style-type: none"> <li>● 2 from French Air Force: 1 ATLANTIC and 1 FENNEC helicopters – 35 flights</li> <li>● 2 from Singapore Air Force: 2 SUPER PUMA helicopters – 48 flights</li> <li>● 2 from Malaysia Air Force: 2 DOLPHIN helicopter – 25 flights</li> </ul> <p>[joined aircraft G3: RTAF Forward Detachment]</p> <p><b>[January 1-13, 2005 = 108 flights]</b></p>
Day 4	JSDF 590 personnel [From Dec. 29, 2004 to Jan. 1 >> found 57 corpses]	JSDF 3 warships (joined RTN)	<ul style="list-style-type: none"> <li>● 4 JSDF helicopters (joined RTN, aircraft G2)</li> <li>● 1 JSDF C-130 airplane at U-Tapao (for Aceh)</li> <li>● 6 C-130 H airplanes from U.S.A.</li> <li>● 5 Boeing KC-135 Stratotankers from U.S.A. at</li> <li>● U-Tapao air base (for Aceh)</li> </ul>
Day 5	-	-	<ul style="list-style-type: none"> <li>● 4 helicopters from Singapore (joined RTN, aircraft G2)</li> <li>● 6 C-130 H airplanes from U.S.A. moved to BKK for transporting donations (joined RTN, aircraft G2)</li> </ul>

Source: *Tsunami, December 26, 2004 Archives Royal Thai Navy; (2004). Matichon (December 27, 2004); Thairath (December 27, 2004); Manager (December 27, 2004); Khao Sod (December 28, 2004); Matichon (December 28, 2004); Dailynews (December 28, 2004); (Khao Sod (December 30, 2004); Thairath (December 31, 2004); Dailynews (December 31, 2004); Khao Sod (January 1, 2005); Thairath (January 1, 2005).*

To sum up, Table 4 conveys the overall military contributions for the disaster relief operation in Thailand

**Table 4: Overall Military Contributions**

<b>Types</b>	<b>Domestic</b>	<b>International</b>	<b>Total</b>
Military personnel	At least 31,122 personnel + those from 28 trips via TAF buses	At least 600 personnel	<b>At least 31,722 personnel</b>
Aircraft	At least 106 aircraft	At least 20 aircraft	<b>At least 126 aircraft</b>
Warships	12 warships	3 warships	<b>15 warships</b>

### **3. Operation Tasks**

In the first-week period, military assistance can be described as 10 operation tasks, namely photo taking, evacuation, search and rescue, medical aid, corpse management, corpse retrievals,

personnel / tool delivery, landscape, road, hotel and resort clearing, Phang-nga Naval Base rehabilitation and distribution of donations / foodstuff.

Table 5 shows the summary of military operation in the first-week period.

**Table 5: Summary of Military Operation**

<b>Time Period</b>	<b>Military contributions</b>	<b>Operation outcomes</b>
Disaster Day (Dec. 26, 2004) [Day 1]	<ul style="list-style-type: none"> <li>■ <b>Total of 6,133 personnel</b> [by 4<sup>th</sup> Army Area Command]</li> <li>■ <b>Total of ≥ 30 aircraft</b> [by RTAF, BKK]</li> <li>■ <b>Total of 10 warships</b> [by NAC3, Phang-nga]</li> </ul>	<ul style="list-style-type: none"> <li>■ Evacuation: <b>30,394 persons</b> [by Thai aircraft]</li> </ul>
The first 72 hours (Golden Period) [Day 1- Day 3]	<ul style="list-style-type: none"> <li>■ <b>Total of 22,965 personnel</b> [by all forces, BKK and NAC3 and 4<sup>th</sup> Army Area Command] <ul style="list-style-type: none"> <li>✓ Day 2 ≥ 12,832 personnel (41.23%) [by 4<sup>th</sup> Army Area Command; RTA engineering units, Rachaburi; NAC3]</li> <li>✓ Day 3 ≥ 4,000 personnel [by RTA and RTN from Bangkok]</li> </ul> </li> <li>■ <b>Total of ≥ 126 aircraft</b> [106 from all Thai forces + 20 from foreign countries] <ul style="list-style-type: none"> <li>✓ Day 2 ≥ 82 aircrafts (65.07%) [76 from all Thai forces + 6 from France, Singapore, Malaysia]</li> </ul> </li> <li>■ <b>Total of 10 warships</b> [by NAC3, Phang-nga]</li> </ul>	<ul style="list-style-type: none"> <li>■ Photo taking: <b>19 flights</b> (31.5 hours) [by RTAF]</li> <li>■ Evacuation: N/A</li> <li>■ Search and Rescue: <b>very limited</b></li> <li>■ Landscape, road, hotel and resort clearing: [by RTA]</li> <li>■ Corpses retrievals: <b>N/A</b></li> <li>■ Personnel delivery: [by aircrafts]</li> <li>■ Donation/foodstuff contribution: [by aircrafts]</li> <li>■ Medical aid: <b>≥ 1,044 injured victims</b> in Phang-nga Province within 3 days (18.65% of injured victims in Phang-nga province or 24.79% of injured victims in Takua Pa district) [by RTA, RTN]</li> </ul>

Table 5: Summary of Military Operation (Cont.)

Time Period	Military contributions	Operation outcomes
First week [Day 1 – Day 7]	<ul style="list-style-type: none"> <li>■ <b>Total of <math>\geq 31,722</math> personnel</b></li> <li>■ <b>Total of <math>\geq 126</math> aircrafts</b> [106 from all Thai forces + 20 from foreign countries]</li> <li>■ <b>Total of <math>\geq 15</math> warships</b> [12 from RTN + 3 from JSDF]</li> </ul>	<ul style="list-style-type: none"> <li>■ Evacuation: <b><math>\geq 31,924</math> persons</b> (62.18% of 51,335 evacuated victims in all affected provinces) [by Thai aircraft]</li> <li>■ Evacuation: <b><math>\geq 2,006</math> persons</b> (3.90%) [ by 15 warships]</li> <li>■ Evacuation: <b><math>\geq 1,700</math> persons</b> (3.31%) [by RTA]</li> <li>■ Search and Rescue: <b><math>\geq 9</math> persons</b> during Dec. 27, 2004 to Jan. 13, 2005 [at least 159 flights by aircraft, in cooperation with warships]</li> <li>■ Search and Rescue: <b>373 persons</b> [by RTN warships]</li> <li>■ Search and Rescue: <b>very limited</b> [by RTA]</li> <li>■ Clearing Phetkasem national highway [by RTA]</li> <li>■ Clearing Hotels and resorts in Takua Pa &amp; Thai Muang, Phang-nga [by RTA]</li> <li>■ Corpses retrievals: <b><math>\geq 6,664</math> corpses</b> (82.39% of 8,008 corpse retrievals) [by RTA, RTN, JSDF military personnel]</li> <li>■ Personnel delivery: [by Thai aircrafts]</li> <li>■ Donation/foodstuff contribution: [by aircrafts]</li> <li>■ Corpse management: <b><math>\geq 80</math> corpses</b> per dayat Yan Yao Temple [by 600 RTA personnel]</li> </ul>

Source : Royal Thai Army, Engineering Unit (2004); Royal Thai Air Force, Directorate of Civil Affairs (2005).

#### 4. *Chain of Commands in Military Operations*

Military personnel offered a variety of crucial assistances as illustrated above. In terms of military-military cooperation, the involving assistance units can be divided into 2 levels: the national level and operational level. The national level consisted of the Ministry of Defense (MOD),

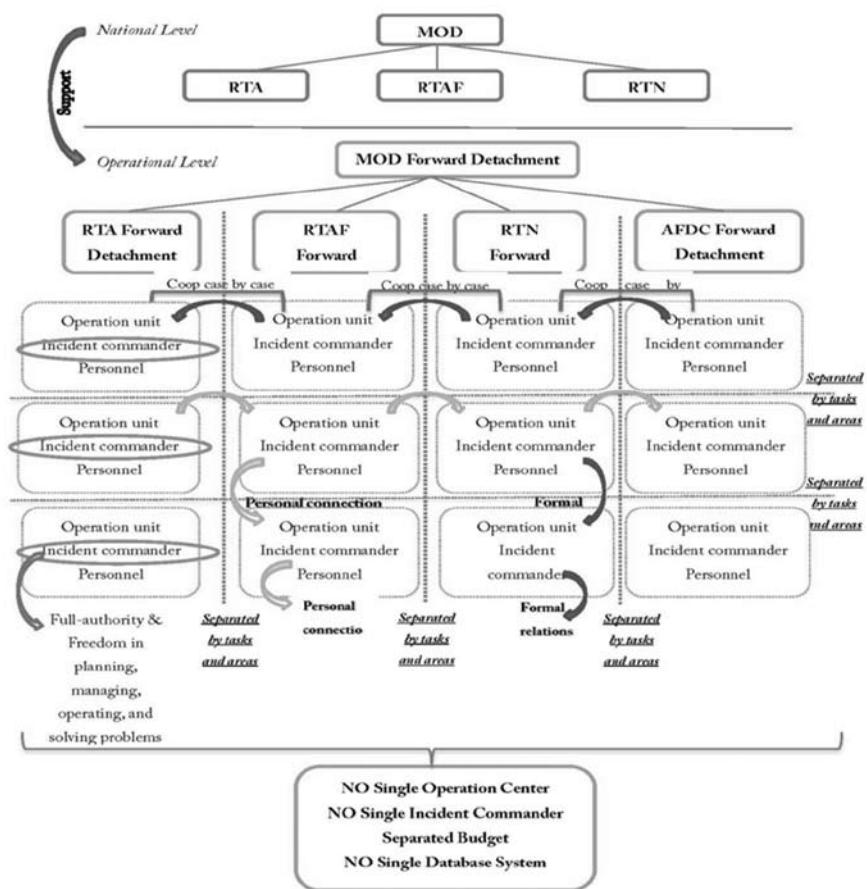
the Royal Thai Army, the Royal Thai Air Force and the Royal Thai Navy. The others consisted of five forward detachments namely MOD forward detachment, RTA forward detachment, RTAF forward detachment, RTN forward detachment and the Armed Forces Development Command forward detachment. Each of these forward detachments composed of several operation units which had

their own chains of commands and incident commanders who had full authority and freedom in planning strategies, operating, solving problems. The assistance units at the national level were the supporters of the operation-level units.

It can be clearly observed that there was a separation of chain of commands among three armed forces or among the operation units within each forward detachment. Within each operation unit, assignments were given to different teams for different tasks and areas. Similarly, the budget was also separately managed by each armed force. Each forward detachment thus worked quite

individually according to their different tasks and areas as mentioned. The coordination between units from different armed forces occurred sometimes on the basis of case-by-case situations. Only some units had points of contact between each other, mostly through personal connections. Personal connection and formal relations among military personnel could be observed in each operation unit, between operation units under the same forces, and also between operation units under the different forces.

The following diagram shows military-military relations in the operation.



*Diagram 1: Military-Military Cooperation*

## 5. Data Analysis

The conceptual framework concluded earlier under Topic 1.3 will be applied to analyze the military disaster relief operation in the three perspectives: military operation perspective, civil-military cooperation (interagency operation) perspective, and international assistance perspective. As mentioned in Topic 1.3, the analysis in military operation perspective will include three phases, i.e. preparedness phase, assistance operation phase, and post-operation phase. The analysis in civil-military cooperation perspective will, however, consist of assistance operation phase and post-operation phase while in international assistance perspective will cover only assistance operation phase.

The analysis will point out limitations and strengths as independent variables as well as outputs and outcomes as dependent variables.

### 5.1 Analysis of Military Operation Perspective

#### 5.1.1 Preparedness phase

For the preparedness phase, since it was the first-time experience for Thailand, there was no needs assessment and analysis and, therefore, no pre-strategic planning or application of a developed national plan to support the operation. Also due to the lack of knowledge and experience, the local emergency management authority (LEMA) was not established. The unit could have assisted all aspects of the relief operations especially keeping records, providing needed database, and carrying out coordination.

#### 5.1.2 Assistance operation phase

To depict the analysis points, the two diagrams below illustrate limitations, strengths, outputs and outcomes of military operation in Day 1, the first 72-hour, and the first week operations.

**Limitations:**

- The delay of accurate information about damages [*intelligence and information gathering*]
- Some military units in the area were victims themselves
- No *needs assessment* [*lack of experience*]
- No *pre-strategic planning* [*lack of experience*]
- The slightly damaged of the warships at Phang-nga Naval base [*urgently repaired*]

**Strengths:**

- The readiness of disciplined military personnel in the surrounding provinces (4<sup>th</sup> Army Area Command) [*resource mobilization*]
- Flexibility in rules and regulations
- Clear chain of command of each force [*command and control: C2*]
- Personnel connection, e.g. air unit from BKK [*resource mobilization*]
- The capability of the air unit [*restraint*]

**Outputs:**

- Speedy and timely arrivals of the units from 4<sup>th</sup> Army Area Command and the air units from Bangkok [*resource mobilization*]

**BUT**

- Inadequate personnel and equipment due to the lack of needs assessment [*resource mobilization*]
- Inexperienced military personnel [*proficiency of personnel*]

**Outcomes:**

- A large number of victims [30,394 persons] could have been evacuated by the air units.
- Ground and maritime operations were limited.
- Many survivors, especially those who were stuck in the debris, could not be rescued.

**Diagram 2: DAY 1 Operation Analysis**

**Limitations:**Both periods

- The lack of preparation
- No single incident commander (separation of chain of commands among operation units) *[command and control: C2]*
- Different chains of command between civilian and military units *[command and control: C2]*
- No Civil-Military Operation Center (CMOC) *[CIMIC perspective]*
- The lack of clear communication lines, inefficient communication between involved agencies both among military itself and between military and civilian units *[command and control: C2]*
- The distrust and incompatibility among some civilian personnel *[CIMIC perspective]*
- No systematic record of the entire daily operation *[intelligence and information gathering]*
- No single unit for budget management
- The shortage of international assistance in reconstruction and restoration operation *[international assistance perspective]*

**Strengths:**The first 72-hour period

- The establishment of forward detachments
- The arrivals of a large number of Thai military personnel *[resource mobilization]*
- The arrival of engineering units from Ratchaburi *[resource mobilization]*
- The capability of the air units (appropriate vital equipment at forward detachment, skilled personnel, adequate aircraft) *[restraint]*
- The arrivals of international supports, particularly the air units (appropriate aircraft for S&R) > The sufficiency international assistance in air operation *[resource mobilization]*
- The readiness of 10 warships *[restraint]*

The 1<sup>st</sup> week period

- The arrival of two main warships from Sattahip, Chonburi province *[resource mobilization]*
- The arrival of 3 warships from Japan *[resource mobilization]*
- The cooperation between warships and air units in providing assistance *[restraint]*

Both periods

- Disciplined military personnel *[proficiency of personnel]*
- The uncomplicated and flexible chain of commands of each force *[command and control: C2]*
- The freedom and independence of each incident commander *[command and control: C2]*
- The support from national-level sectors for the operational-level units
- Clear division of responsibilities of each operational units in terms of areas and missions *[objectives]*
- Unity among military personnel in each operation unit *[unity of effort]*
- Personnel connection among civilian and military personnel *[CIMIC perspective]*
- Mutual trust between military personnel and civilian *[CIMIC perspective]*
- Positive attitude toward military personnel *[CIMIC perspective]*
- Good cooperation between Thai military and foreign assistant military *[international assistance perspective]*

**Outputs:**

- Speedy and timely arrivals of military units [*resource mobilization*]
- Adequate and appropriate aircraft and warships for evacuation, personnel delivery, photo taking, donation and foodstuff distribution [*resource mobilization*]
- Adequate personnel (quantitatively) [*resource mobilization*]
- *Unity of effort, unit integrity, trust and respect* derived from personnel connection among military personnel and between military personnel and civilians [*military operation and CIMIC perspectives*]
- Very good civil-military cooperation due to mutual trust between them [*CIMIC perspective*]

**BUT**

- Inexperienced disciplined military personnel [*proficiency of personnel*]
- Inadequate equipment due to the inaccuracy of need assessment and the damages of many equipment in the affected areas (kept waiting the equipment from BKK) [*resource mobilization*]
- Chaos and confusion in providing assistance due to the lack of single incident commander [*command and control: C2*]
- Nonsense, hard and repetitive work because of the distrust and incompatibility among some civilian personnel
- Poor daily evaluation and strategic review due to the lack of daily operation record [*need assessment and strategic planning*]
- Time-consuming operation, especially in clearing and construction operation, due to the lack of appropriate equipment [*military operation perspective*]

**Outcomes:**

- Limited success of search and rescue operation in both first 72-hour and the first week periods. However, maritime in cooperation with air operation could rescue some survivors.
- Active evacuation operation, personnel delivery, and donations/foodstuff contribution, particularly by the air operation.
- Active and success in corpse retrieval mission by all forces.
- Active, but time-consuming, in landscape, road, hotel and resort clearing operation by the engineering units.
- Providing some medical assistance even though it was not the major responsibility of the military units.

**Diagram 3: 72 hours [Golden Period] and the 1<sup>st</sup> week periods Analysis**

On the disaster day, with regard to resource mobilization, as one of the major assistance operations, the military personnel in the affected areas provided a speedy and timely response during the first week of the operation. However, there were inadequate personnel since many of them were victims themselves. A large amount of necessary equipment in the areas was ruined so that the personnel had to wait for the logistic support from Bangkok and other provinces in the central part of Thailand. (Wichai Tatsanamontien 2016; Bongsoot Singhnarong 2016; Pramote Imwattana 2016; Somsak Sawangsak 2016). However, the arrivals of some military units from Bangkok, for example the military from RTAF, were quick enough due to the capability of the units and personal connection with the related authorities (Piseadsak Boonrat, 2016). In contrast, many military units arrived at the affected areas a little bit late because of the lack of accurate information about the incident and the lack of clear communication lines (Pramote Imwattana 2016; Bongsoot Singhnarong 2016)

*In the first 72-hour period, the so-called the golden period which most survivors could be rescued, due to the lack of preparation and experience, the equipment was inappropriate for the operation tasks. Thus, many survivors, especially those who were stuck in the debris, could not be rescued (Wichai Tatsanamontien 2016; Bongsoot Singhnarong 2016; Pramote Imwattana 2016; Somsak Sawangsak 2016); Moreover, the intelligence*

*and information gathering was poor because of the lack of operation and incident database of the whole operation which also affected the daily evaluation and strategic review, including the unity of effort of the entire operation.*

*Personal connection within the operation unit was important because it provided the good impact to unity of effort, unit integrity, trust and respect, and happiness on duties (Piseadsak Boonrat 2016; Porntip Rojanasunan 2016; Wichai Tatsanamontien 2016). Furthermore, the unity among military personnel in each unit uncomplicated chain of command of each operational unit, and clear division of responsibilities made each unit achieve its goals as expected. (Piseadsak Boonrat 2016; Pramote Imwattana 2016; Somsak Sawangsak 2016; Bongsoot Singhnarong 2016)*

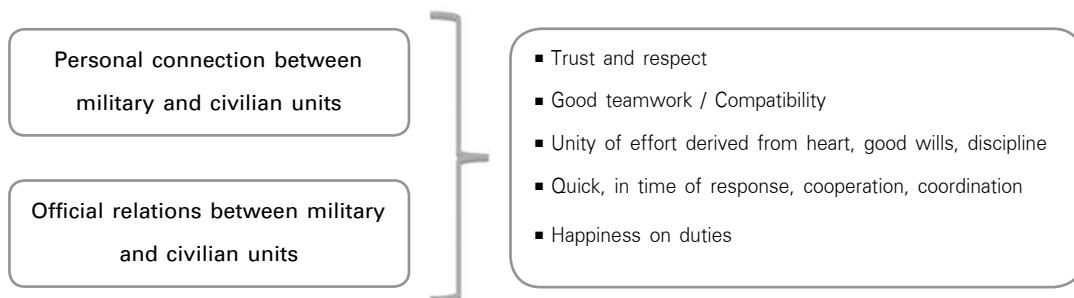
For the command and control (C2) aspect which had the direct relation with the objective matter, each of these forward detachments composed of several operation units which had their own chains of commands and incident commanders who had full-authority and freedom in planning strategies, operating, solving problems. The organs at the national level were the supporters of the operational-level units (Wichai Tatsanamontien 2016). The clear defined line of command was derived from the uncomplicated and flexible chain of commands, the flexibility in related rules and regulations, and the freedom and independence of each incident commander (Bongsoot Singhnarong 2016). However, the different chains of command

between three armies caused the confusion which could affect the effectiveness of the overall operation especially in the first week. Thus, for the military side, the single incident commander was necessary. Moreover, the budget management should be done by one single unit since it affected the quality of outcome and the satisfaction of victims and the morale of military personnel.

Another limitation affected military operation was the distrust and incompatibility among some civilian personnel themselves. This caused the nonsense, hard and repetitive work for military personnel (*Wichai Tatsanamontien 2016*)

The outcomes of the first-week operation shown in the diagrams were the results of both strengths and limitations stated earlier. The effectiveness was mostly derived from the discipline of military personnel, flexibility in command and control, personnel connection, international support and very good civil-military cooperation. On the other hand, the ineffectiveness of the relief operation resulted from the lack of single incident commander, inappropriate equipment, the conflict among civilian themselves.

#### *Civil-military cooperation*



#### **5.1.3 Post-operation phase**

In the post-operation phase, strategic review and lesson learning should be done for the better operation in the future. The systematic data records in the operation phase, thus, are the most important things.

#### **5.2 Analysis of Civil-Military Cooperation Perspective**

In assistance operation phase, even though there was no Civil-Military Operation Center (CMOC) and no effective liaisons with all lead agencies, the relation between military sector and civilian sector was very good in the crisis time. Mutual trust happened throughout civil-military coordination (*Porntip Rojanasunan 2016; Orachorn Attaveelarp 2016; Charoen Pakbara 2016*); Different chains of command between civilian and military units were fine if there were good and adequate points of contact. Either personal connection or official relation between civilian actors and military actors provided many positive elements of the operation as shown in the diagram below

However, in the post-operation phase, the lack of strategic review between military and civilian sectors was another limitation to improve the disaster relief management system in the future.

### **5.3 Analysis of International Assistance Perspective**

The assistance from foreign assisting military is needed when the affected states lack crucial equipment. The shortage of international assistance in clearing and restoration operation by the engineering units of RTA resulted in the time-consuming operation in the emergency period whereas the sufficiency international assistance in air operation by RTAF Forward Detachment at Phuket International Airport brought about the more effective operation in a shorter period of time. Qualified military personnel must be chosen to be an incident commander. Besides the leadership of the personnel, the compromise and acceptable foreign language abilities are the other vital characteristics of the commander.

## **6. Conclusion**

My argument is that military personnel should be the primary responding unit to large-scale disasters due to its unique capabilities. At the operation level, especially in the emergency period, military should be the answer to the question of the leadership of the operation. The

last resort principle should not be applied to the matter. At the very beginning of the emergency phase when the roads couldn't be used, the air operation is the most crucial response to evacuating victims, especially those in the mainland, transferring personnel, and distributing donations including foodstuff. Furthermore, in cooperation with RTN warships, the aircraft yet played an important role in search and rescue operation, survey and evacuation missions for those on the islands. The personnel from the Royal Thai Army, especially the engineering units, devoted to landscape, road, hotel and resort clearing. It was the personnel from all forces who put efforts on corpse retrievals

Both strengths and limitations of the operations can be found in all three perspectives in the first week operation which was the most chaotic week. By prioritizing strengths and limitations, at least four important limitations, i.e. 1) the lack of single incident commander; 2) inadequate necessary equipment; 3) inefficient communication between involved agencies in the emergency period; and 4) no daily operation records, need to be amended in order to provide a better relief operation in the future. More importantly, two strengths, which are 1) mutual trust building; and 2) the flexible and clear chains of command and control (C2), need to be enhanced and maintained.

## References

Amnuay Jayarat. 2016. Interviewed by Panita Chaisorn. Bangkok. February 4, 2016.

Anderson, E. W. 1994. Military geography: The changing role of the military. *Geo Journal* 34(2): 201-205.

Bartko, F. 2012. Holistic analysis of the military district units disaster relief efforts. *Science & Military Journal* 7(1): 40-42.

Bongsoot Singhnarong. 2016. Interviewed by Panita Chaisorn. Bangkok. January 19, 2016.

Charoen Pakbara. 2016. Interviewed by Panita Chaisorn. Phuket. February 9, 2016.

Cho muen sop phaga susan rot tainam [Nearly 10,000 bodies, shock under-water cars' graveyard]. 2005. *Khao Sod*, January 1, 1,14-15. (in Thai)

Cottey, A. and T. Bikin-Kita. 2006. The military and humanitarianism: Emerging patterns of intervention and engagement. In *Resetting the rules of engagement: Trends and issues in military-humanitarian relations*, eds., V. Wheeler and A. Hamer. London: Overseas Development Institute.

Diskett, P. M., and T. Randall. 2001. Humanitarian assistance: A role for the military? *NATO's Nations and Partners for Peace* 46(3): 170-176.

Fukushima, Annie I., et al. 2014. *Disaster militarism: Rethinking U.S. relief in the Asia-Pacific*. <https://www.thenation.com/article/disaster-militarism-rethinking-us-relief-asia-pacific> (Accessed on May 5, 2016).

Headquarters Department of the Army. 1993. FM 100-5 Operations. [http://www.fs.fed.us/fire/doctrine/genesis\\_and\\_evolution/source\\_materials/FM-100-5\\_operations.pdf](http://www.fs.fed.us/fire/doctrine/genesis_and_evolution/source_materials/FM-100-5_operations.pdf). (Accessed on May 5, 2016)

Heaslip, G. and E. Barber. 2014. Using the military in disaster relief: systemizing challenges and opportunities. *The Journal of Humanitarian Logistics and Supply Chain Management* 4(1): 60-81.

The Joint Chiefs of Staff. 1995. Joint Publication 3-07: Joint Doctrine for Military Operation Other Than War. Department of Defense, ed. [http://www.bits.de/NRANEU/others/jp-doctrine/jp3\\_07.pdf](http://www.bits.de/NRANEU/others/jp-doctrine/jp3_07.pdf). (Accessed on July10, 2016)

Khatyuea tsunami phungsaenkhon Takua Pa thueng 4 phan sop. [Tsunami victims arise to 100000 bodies, 4000 at Takua Pa]. 2004. *Thairath*, December 30, 1,12,19. (in Thai)

Khluen yak thalom 5 changwat le tai chep nap phan. [Tsunami hits 5 provinces. Many died and injured]. 2004. *Thairath*, December 27, 1, 12. (in Thai)

Khontai klaithueng 5 phan tuean yat rap sop phittua. [Nearly 5000 died, warning relatives get the wrong bodies]. 2005. *Thairath*, January 2, 1,9,19. (in Thai)

Kluean thuk ko thueng 2 phan sop Khao Lak dang susan. [Found all over every island, more than 2000 bodies, Khao Lak as graveyard]. 2004. *Khao Sod*, December 28, 1, 14-16. (in Thai)

Kluenyak kra lai roi cheewit. [Tsunami kills numerous people]. 2004. *Manager*, December 27, 1-2. (in Thai)

Kluen 5 phan sop khluennarokt thalom 5 prathet Asia. [5000 bodies! Tsunami hits 5 Asia countries]. 2004. *Matichon*, December 27, 1, 13-15. (in Thai)

Ministry of Interior. Department of Provincial Administration. 2016. *Phang-nga Province's Populations and Households*. <http://stat.bora.dopa.go.th/stat/statnew/statTDD/views/showDistrictData.php?rcode=82&statType=1&year=47> (Accessed on May 5, 2016)

Napphan sop don fang yang kumaidai naofe long maipho. [More than 1,000 buried bodies can't dig out, rotten, not enough coffins]. 2004. *Thairath*, December 29, 1,12,19. (in Thai)

National Archives of Thailand. 2005. *Hetkan thorani phibat chakk khluen tsunami 26 thanwakhom 2547* [Tsunami 2004]. Bangkok: Ministry of Culture. (in Thai)

Orachorn Attaveelarp. 2016. Interviewed by Panita Chaisorn. Phuket. February 10, 2016.

Piseadsak Boonrat. 2005. *Banthuek patibatkan pracham wan khong kongthap akad lae tangchat na Sanambin Nanachat Phuket*. [The operation of Royal Thai Air Force and assisting foreign military at Phuket International Airport]. Phuket: Royal Thai Air Force. (in Thai)

----- 2016. Interviewed by Panita Chaisorn. Bangkok. February 6, 2016.

Piti Kumpoopong. New roles of the Thai military: Readjusting for the 21st century. [http://www.nids.mod.go.jp/event/other/arf/pdf/thailand\\_paper.pdf](http://www.nids.mod.go.jp/event/other/arf/pdf/thailand_paper.pdf). (Accessed on June15, 2016)

Porntip Rojanasunan. 2016. Interviewed by Panita Chaisorn. Bangkok. January 20, 2016.

Pramote Imwattana. 2016. Interviewed by Panita Chaisorn. Bangkok. February 1, 2016

Royal Thai Air Force. Directorate of Civil Affairs. 2005. *1 pi thoraniphibatphai: thapfa fa tsunami*.

[1Year after the disaster: RTAF and Tsunami]. Bangkok: The Directorate. (in Thai)

Royal Thai Army. Directorate of Civil Affairs. 2005. *Kongthapbok kap kan chuailuea phuprasopphai tsunami*. [RTA and Tsunami victims' assistance]. Bangkok: The Directorate. (in Thai)

Royal Thai Army. Engineering Units. 2004. *Banthuek patibatkan prachamwan nuaithahanchang kongthapbok* [Daily Operation of Engineering Unit, Royal Thai Army]. Ratchaburi: The Units. (in Thai)

Royal Thai Navy. Naval Education Department. History Division. *2004. Chotmaihet “Tsunami” 26 thanwakhom 2547*. [Tsunami, December 26, 2004 Archives]. Samutprakan: The Department. (in Thai)

Ruam phalang suatmonuthit haiyuea ngoenborichak 245 lan. [Pray for the death, donation reach 245 million]. 2004. *Dailynews*, December 31, 1,14,18. (in Thai)

Salotchai napmuenchiwit phawa khluen yak! Thalom samrop song 6 changwat Andaman. [Grief for 10,000 died and injured, frighten the 2<sup>nd</sup> round-Tsunami 6 Andaman provinces]. 2004. *Dailynews*, December 28, 1,13-14,18-19. (in Thai)

Somsak Sawangsak. 2016. Interviewed by Panita Chaisorn. Bangkok. February 4, 2016.

Sop kepmai mot taipenbuea. [Can't collect all bodies, too many died]. 2004. *Dailynews*, December 29, 1, 18-9. (in Thai)

Suam roi chuailuea chon tsunami ngatsep – chokphet 3 lan. [Robbers, pry safe, grab diamond, valued 3 million]. 2004. *Khao Sod*, December 30, 1, 14-15. (in Thai)

Ubpasak fon hasop tsunami puan. [Rain! Obstacle, searching for corpses in turmoil]. 2005. *Dailynews*, January 2, 1,10-11. (in Thai)

Weber, Karl E. 2005. *Tsunami 2004 nam chai Thai*. Bangkok: The National Identity Board, Royal Thai Government.

Wichai Tatsanamontien. 2016. Interviewed by Panita Chaisorn. Bangkok. February 18, 2016.

Yot sop thalu phan nayok haithamchai “mi ik” Khao Lak wippayoknak. [more than 1000 died, P.M. said to be more, Khao Lak severe]. 2004. *Matichon*, December 28, 1, 13, 14,15. (in Thai)

Yot tai phung 2,394 tueanphai rawangtham – phukhao thalom. [2,394 died, caution cave-mountain fall down]. 2004. *Thairath*, December 31, 1, 12, 19. (in Thai)

Yuea tsunami khriatying lae knitai kolahon. [Tsunami victim under pressure, bombard, chaos]. 2005. *Thairath*, January 1, 1,12,19. (in Thai)

