

**Project Completion Report
for
the Project for Strengthening the ASEAN
Regional Capacity on Disaster Health
Management
(ARCH Project)**

December 2021

Abbreviations:

AADMER:	ASEAN Agreement on Disaster Management and Emergency Response
ACDM:	ASEAN Committee on Disaster Management
AHA Centre:	ASEAN Coordinating Centre for Humanitarian Assistance On disaster management
AHMM:	ASEAN Health Ministers Meeting
AIDHM:	ASEAN Institute on DHM
ALD:	The ASEAN Leaders' Declaration
ALDDHM:	ASEAN Leaders' Declaration on Disaster Health Management
AMS:	ASEAN Member States
APCDM:	Asia Pacific Conference on Disaster Medicine
ARCH Project:	Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management
ASEAN:	Association of Southeast Asian Nations
COVID-19:	Coronavirus disease 2019
CPR:	Committee of Permanent Representatives
DHM:	Disaster Health Management
DMAT:	Disaster Medical Assistance Teams
EMT:	Emergency Medical Teams
HDA:	Health Development Agenda
HNA:	Health Needs Assessment
I-EMT:	International EMT
JADM:	Japanese Association for Disaster Medicine
JDR:	Japan Disaster Relief
JICA:	Japan International Cooperation Agency
MDS:	Minimum Data Set
MOPH:	Ministry of Public Health
MR:	Minimum Requirements
NIEM:	National Institute for Emergency Medicine
ODA:	Official Development Assistance
PDM:	Project Design Matrix
POA:	Plan of Action
PRWG:	Preparedness Response Working Group
PWG:	Project Working Group
RCC:	Regional Coordination Committee
RCCDHM:	Regional Coordination Committee on Disaster Health Management
RCD:	Regional Collaboration Drill
R/D:	Record of Discussions
REMPAN:	Radiation Emergency Medical Preparedness and Assistance Network
SASOP:	ASEAN Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations
SOMHD:	ASEAN Senior Officials Meeting on Health Development

SOP:	Standard Operating Procedure
SWG:	Sub Working Group
TOR:	Terms of Reference
TTX:	Tabletop Exercise
WADEM:	World Association for Disaster and Emergency Medicine
WHO:	World Health Organization

I. Background

Southeast Asia is a region where natural disasters frequently occur and the damage from those disasters is huge. In fact, Southeast Asia is the second biggest region in terms of the total number of natural disasters since 1900, topped by South Asia and followed by East Asia. Additionally, the total number of deaths by disasters during 2000-2017 in Southeast Asia was 350,000 for 1.2 million in the world.¹ It means that deaths in the Southeast Asia region whose population is one tenth of world population accounted for one third of the number of deaths by natural disasters in the world.

A massive earthquake of Magnitude 9.1 occurred off the coast of Sumatra in Indonesia and resulted in the Indian Ocean Tsunami on 26th Dec 2004. More than 220,000 people were killed by the Earthquake and Tsunami in Indonesia and other countries, including many foreign tourists in coastal resort areas such as Phuket Island. After this unprecedented damage by the disaster, the Association of Southeast Asian Nations (ASEAN) initiated regional challenges toward strengthening regional collaboration for disaster prevention and response. The ASEAN Member States (AMS) signed the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) on 26 July 2005 in Vientiane, Lao PDR.² The Agreement seeks to provide effective mechanisms to achieve substantial reduction of disaster losses in lives and in the social, economic and environmental assets of AMS, and to jointly respond to disaster emergencies through concerted national efforts and intensified regional and international cooperation. In April 2008, Myanmar was hit and severely damaged by Cyclone Nargis. At that time, Myanmar accepted medical teams from AMS by respecting the AADMER, although the Myanmar government refused many other offers of assistance from the international community. The AADMER mentioned above came into effect on 24 Dec 2009 after all 10 AMS completed their internal process of ratification. Afterwards, the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) was established in Jakarta, Indonesia in Nov 2011.³ The AHA Centre has been strengthening its functions and capabilities to coordinate with AMS and relevant UN and international organizations for effective disaster response in the ASEAN region. After Typhoon Haiyan struck the Philippines in Nov 2013, momentum to strengthen the regional capacity for disaster response was further increased in ASEAN. The ASEAN Leaders finally signed “the ASEAN Declaration on One ASEAN, One Response: ASEAN Responding to Disasters as One in the Region and outside the Region” at the 28th ASEAN Summit in Vientiane, Lao PDR on 6 September 2016 to increase the speed, scale and solidarity of ASEAN’s response.⁴ The Declaration was inspired largely from lessons and experiences gained from ASEAN’s response to Typhoon Haiyan in 2013. In the same year (2013), WHO published the Classification and minimum standards for EMT.

Disaster causes many injuries and sickness. Hospitals in the affected area are also damaged during large scale disasters, and it becomes difficult for those damaged hospitals to provide medical services or care for their patients and to respond to the surge of medical needs in the affected area.⁵ Therefore, Sendai Framework for Disaster Risk Reduction prioritizes the establishment of disaster medical system at national and local levels.⁶ One of the key factors in the disaster medical system is to dispatch emergency medical teams (EMT) from outside of the affected areas. If the number of injured and sick by a large-scale disaster is beyond the medical capacity of the affected country, acceptance of

international EMTs (I-EMTs) by the affected country must be considered.⁷ Many I-EMTs of other developed countries including Japan, or Red Cross and international NGOs have been dispatched to large-scale disasters that occurred in the AMS in the past, and recently AMS themselves have begun to dispatch their EMTs to the affected area in other AMS as the case of Cyclone Nargis in Myanmar. Nowadays, AMS have come to consider more proactively to dispatch their EMTs to disasters in ASEAN region. The acute phase within the first week after disaster onset is very important for deployment of I-EMT to respond to surging medical needs of the affected population. AMS EMTs are advantageous in terms of deployment time within ASEAN region in comparison with I-EMTs outside of the ASEAN region. In addition, each AMS has commonality and similarity in their languages and culture as well as many people of each AMS living in other AMS. In consideration of these facts mentioned above, AMS have come to recognize that it is necessary to accelerate the collaboration among themselves for emergency medical response in the ASEAN region as much as possible. However, ASEAN has not yet developed a robust regional mechanism and capacity to realize “One ASEAN, One Response”, especially for disaster medical response. Familiarizing the concept of disaster health management (DHM) in each AMS and realizing regional collaboration of medical response toward “One ASEAN, One Response” have been discussed. There are big differences and gaps among the 10 AMS countries in terms of their systems and capacities to implement DHM. The system and capacity for emergency medicine which must be a base for implementation of medical response operation in the acute phase of a disaster has not been established yet in some AMS. Based on these perceptions, ASEAN raised DHM as one of the priority areas in the ASEAN Post-2015 Health Development Agenda (HDA) adopted by the 12th ASEAN Health Ministers’ Meeting in September 2014 stipulating that ASEAN should strengthen regional collaboration and coordination mechanism and regional capacity on DHM.⁸

In December 2013, the Government of Japan committed to enhance cooperation in disaster management with ASEAN as stated in the Vision Statement of the ASEAN-Japan Commemorative Summit by introducing “ASEAN-Japan cooperation package for enhancement of disaster management”.^{9, 10} One of the components of this cooperation package in the above statement is to establish a network for disaster medicine between ASEAN and Japan. With the above context, Japan International Cooperation Agency (JICA) conducted a Survey on the Current Situation of Disaster/Emergency Medicine System in the ASEAN Region to collect necessary data and information on current status, potential needs, and challenges of disaster/emergency medicine in each AMS in order to examine a possible plan and way forward of establishing regional collaboration mechanism on DHM in the ASEAN region.¹¹

Japan is also a disaster-prone country and has plenty of experience and knowledge in all aspects of disaster management. Through those experiences and efforts to build back better, Japan has developed Disaster Medical Assistance Teams (DMAT) for domestic disasters response as well as the Japan Disaster Relief (JDR) Medical Team for international disaster response, both of which have been deployed many times for actual disasters.^{12, 13} JICA also have conducted international training courses on Emergency Medicine and Disaster Medicine for 20 years from 1988, inviting totally 207 participants from 53 developing countries.^{14, 15} Thailand established a Thai disaster medical team in 2008 by leadership of the ex-participants of the JICA training courses referring to the Japanese DMAT system.

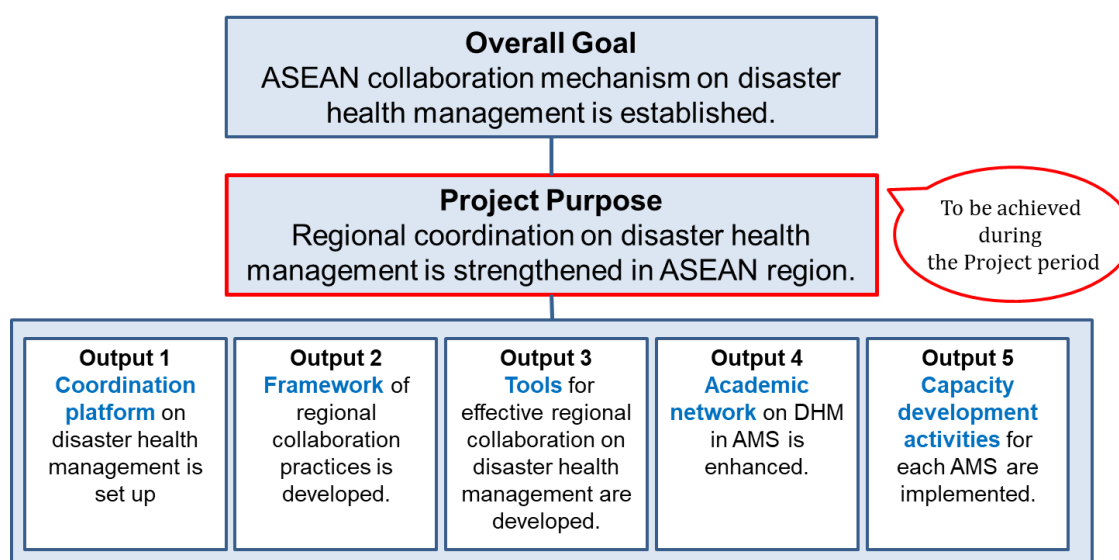
Under the above circumstances, Japan expressed itself ready to continuously support ASEAN for disaster medicine at the 6th ASEAN +3 Health Ministers Meeting in September 2014.¹⁶ On the other hand, DHM was raised as one of priority areas in the ASEAN Post-2015 HDA, and Thailand expressed to formulate the Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management (ARCH Project) in cooperation with JICA to develop a regional collaboration mechanism and capacity on DHM in the ASEAN region.¹⁷ Then, Thai National Institute of Emergency Medicine (NIEM) and JICA agreed to implement the ARCH Project which was a technical cooperation project under Japan's Official Development Assistance (ODA) in February 2016. The Committee of Permanent Representatives (CPR) of ASEAN also approved the ARCH Project in January 2016 as an ASEAN official project which was listed for Health Priority 12; Disaster Health Management in the ASEAN Post-2015 Health Development Agenda 2016-2020.⁸ The ARCH project started in July 2016, led by three parties which are NIEM, Thai Ministry of Public Health (MOPH), and JICA. The ARCH Project was implemented from July 2016 until July 2019 at first and was extended for 21 months until March 2021. Moreover, the Project was extended again for another 9 months from April 2021 to Dec. 2021 in order to complete the planned activities which were not able to be conducted by March 2021 due to the outbreak of the coronavirus disease 2019 (COVID-19).

II. Project Framework and contents

The main objective of ARCH Project is to strengthen coordination on DHM for rapid and effective response to disasters occurring in the ASEAN region by utilizing regional resources, and also to enhance the capacity of each AMS on DHM and its basal emergency medicine. Finally, the Project aims to develop an ASEAN regional collaboration mechanism on DHM in the future, which could function effectively for medical response to actual disasters in the ASEAN region to realize “One ASEAN, One Response” so that it could mitigate sufferings of affected population.

In order to realize the objective and goal, the ARCH project set five expected Outputs and planned to conduct the following activities to achieve each Output. The outline of the Project is indicated in Fig. 1.

Fig.1 Outline of the Project



Output 1; “Coordination platform on DHM is set up.”

Activity 1-1; Regional coordination committee (RCC) meetings are organized every year to share the progress and discuss the direction of the Project.

Activity 1-2; Discuss on the Work Plan of the Plan of Action (POA) 2019-2025 to implement the ASEAN Leaders’ Declaration on Disaster Health Management (ALDDHM) ¹⁹ and the part of DHM under Work Programme for the next Health Development Agenda 2021-2025.

Output2; “Framework of regional collaboration practices is developed.”

Activity 2-1; Develop and prepare the program of the regional collaboration drill (RCD) with project working group (PWG).

Activity 2-2; Conduct the RCD every year in AMS.

Activity 2-3; Compile recommendations on regional collaboration on DHM based on the discussion and knowledge sharing through project activities.

Activity 2-4; On-site practice is conducted when disaster occurs in ASEAN region (or AMS) (if possible).

Activity 2-5; Collect and share Lessons Learned from responses to actual disasters in ASEAN.

Output3; “Tools for effective regional collaboration on DHM are developed.”

Activity 3-1; Formulate PWG for regional collaboration tools at the beginning of the project.

Activity 3-2; Develop a draft regional Standard Operation Procedure (SOP) and minimum requirements (MR) for disaster health management with the project working group.

Activity 3-3; Prepare databases of EMTs of AMS.

Activity 3-4; Draft framework of health needs assessment (HNA) in emergencies with the PWG.

Activity 3-5; Facilitate the endorsement process of all regional collaboration tools that was developed in this phase by ASEAN SOMHD or relevant ASEAN sectoral bodies.

Activity 3-6; Study on possibilities of ASEAN collective approaches.

Output4; “Academic network on disaster health management in AMS is enhanced.”

Activity 4-1; Present outcomes of the Project activities at academic conferences such as Japanese Association for Disaster Medicine (JADM), Asia Pacific Conference on Disaster Medicine (APCDM) and World Association for Disaster and Emergency Medicine (WADEM).

Activity 4-2; Hold an academic seminar.

Output5; “Capacity development activities for each AMS are implemented.”

Activity 5-1; Prepare training plan, curriculum and materials on DHM and emergency medical system based on needs survey with the PWG.

Activity 5-2; Develop standard training curriculum.

Activity 5-3; Conduct training on DHM and emergency medical service for AMS.

Activity 5-4; Conduct monitoring survey and evaluation on capacity development on DHM in each AMS.

Activity 5-5; Conduct a study of systems and needs for the capacity development of DHM in each AMS.

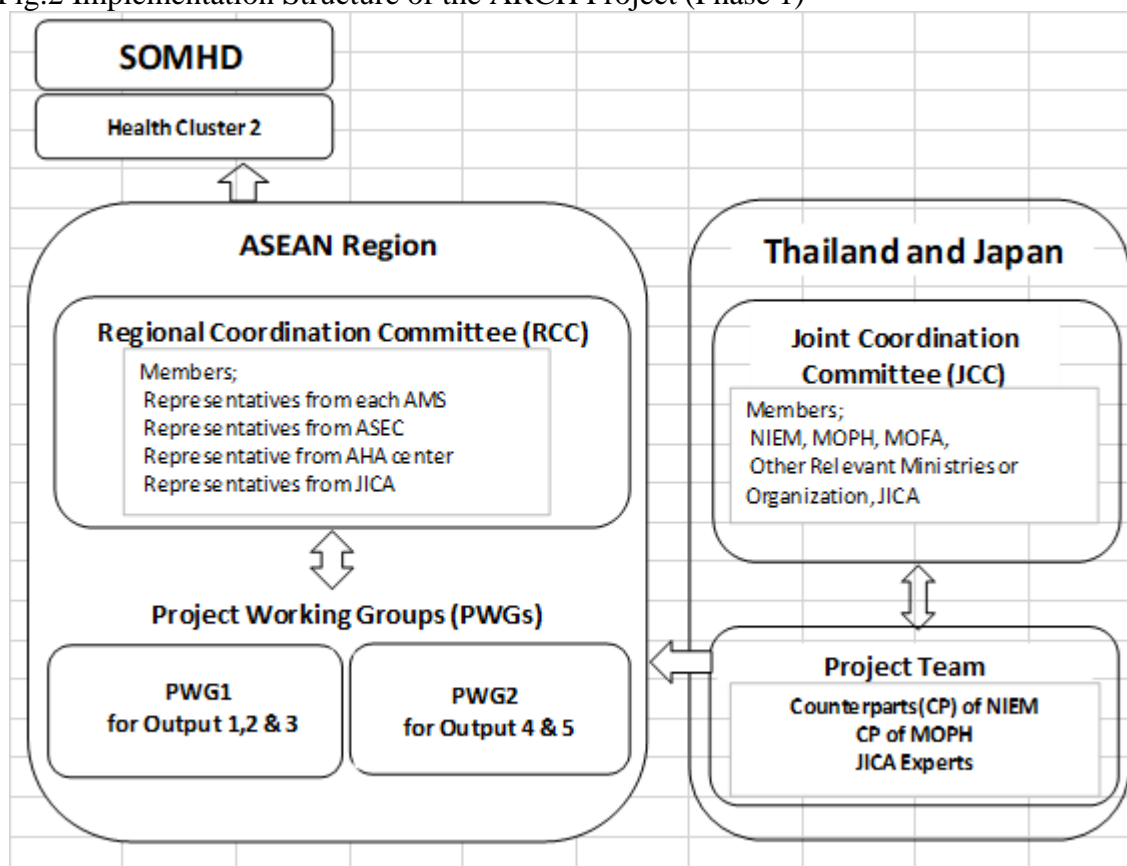
Activity 5-6; Conduct a study tour in Japan for AMS.

Activity 5-7; Conduct training program in Japan for the Thai counterpart personnel.

III. Implementation Structure of the Project

The implementation structure of the phase 1 of the project is as below.

Fig.2 Implementation Structure of the ARCH Project (Phase 1)



1. Senior Officials Meeting on Health Development (SOMHD) and Health Cluster 2
 - Provide oversight and guidance to the ARCH Project (i.e. Thailand and JICA will report on the progress and results of the project)
 - Support Thailand and JICA to implement the project by asking AMS to make necessary arrangements such as gathering and providing information, gathering participants to any type of meetings, etc. within the responsibility of SOMHD, Health Cluster 2 or ASEAN Secretariat.
 - Suggest the utilization or application of the results of the project to AMS.
 - Coordinate and collaborate with the ASEAN Committee for Disaster Management (ACDM) which has overview on policy and strategic matters related to disaster management in ASEAN, for the review and subsequent endorsement of proposed tools, procedures or documents produced by the ARCH Project that strengthen the health components of disaster management tools and mechanisms of ASEAN.
 - Share project progress/updates, among others related to Disaster Health Management to relevant ASEAN Sectors through the JTF on HADR.
2. Regional Coordination Committee (RCC)/ARCH Project
 - Shares the conceptual framework, outlines and work plan of the project;
 - Oversees and provides guidance to the implementation project activities;

- Exchanges views and decides on any major issues that arise through the project activities, including the regional collaboration drills, development of regional collaboration tools and trainings;
- Reviews, provides guidance and approves the draft regional collaboration tools.
- Discusses and provides direction for relevant issues in order to promote regional coordination on disaster health management, especially disaster medicine; and
- Makes appropriate recommendations to ASEAN, through the Health Cluster 2 and Senior Officers' Meeting for Health Development (SOMHD), for the future collaboration mechanism on disaster health management.
- Coordinates with related initiatives under the ASEAN Health Cooperation to maximise synergies and complementarities of efforts that would result to holistic and well-coordinated, multi-faceted health response to disasters and public health emergencies.
- Contributes to the implementation of the Plan of Action (POA) for the ASEAN Leaders Declaration on Disaster Health Management (ALD on DHM) by ensuring that ARCH Project activities are aligned with the priority areas of the POA.

3. ASEAN Secretariat

- Through the Health Division (HD), and together with the Disaster Management & Humanitarian Assistance Division (DMHAD), ensures that the ARCH Project are [a] aligned with and contribute to the priorities of the ASEAN Health Cooperation and that of the ASEAN Cooperation on Disaster Management, [b] aligned and consistent with, and reinforces established mechanisms and tools on disaster management and emergency response in ASEAN, and [c] adhere to and follow the protocols and procedures of ASEAN in project implementation and administration.
- Coordinates and works with the AHA Centre in ensuring the realisation of Items A and B.
- Serves as members of the RCC and PWGs, and resource organization to provide technical comments on the implementation of the project.
- Assists in the coordination and facilitation with all relevant sectoral contact points/focal points in ASEAN Member States.

4. AHA Centre

- As overall coordinating body to facilitate cooperation in disaster management and emergency response in ASEAN, provides technical guidance in project implementation ensuring that tools and procedures developed are aligned and consistent with existing tools, procedures and mechanisms of ASEAN, and that activities employ the latest tools and procedures of ASEAN.
- Serves as a member of the RCC and PWGs as a resource organization to provide operational/technical inputs that ensure relevance, alignment and complementarity of project outputs with the overall disaster management mechanisms of ASEAN.
- Together with DMHAD, updates the ASEAN Committee for Disaster Management (ACDM) and their Working Groups on the progress of the implementation of the ARCH Project

5. Thailand

- Lead Country for Disaster Health Management, one of the Health Priorities of the ASEAN Health Cooperation, coordinates with ASEAN Member States on the ARCH Project implementation and matters related to disaster health management in cooperation with the ASEAN Secretariat
- Reports project progress to SOMHD and ASEAN Health Cluster 2 through the ASEAN Secretariat.

6. ASEAN Member States (AMS)

- Assign the official focal point of the Project
- Nominate working group member(s)
- Participate in the conduct of project activities
- Utilize the lessons and outcomes of the project to strengthen the capacity of own countries

7. JICA

- Recruits and dispatches JICA experts
- Organizes the Japanese Advisory Committee
- Secures necessary budget for the implementation of the project
- Participates in project implementation as member of the JCC, RCC and PWGs
- Provides necessary instructions for the JICA experts based on the comments and advice by the JCC and RCC/PWGs.
- Shares the progress and results of the project at necessary opportunities

8. NIEM and MOPH of Thailand

- Implement the project with the Project team and JICA as the hosting agencies
- Prepare reports of the project with the Project team
- Provide part of the budget and necessary facilities.

9. Joint Coordination Committee (JCC)

JCC will be established in order to facilitate inter-organizational coordination between Thailand and Japan. JCC will be held at least once a year and whenever deems it necessary in order to fulfill the following functions:

- Approve an annual work plan,
- Review overall progress,
- Conducting evaluation of the Project, and
- Exchange opinions on major issues that arise during the implementation of the Project

JCC shall be chaired by Secretary General, NIEM with Co-Chairperson, *Permanent Secretary (PS), Ministry of Public Health.

*PS can delegate the Co-Chairpersonship to his deputy or other high-ranking official of the MOPH, if necessary

10. Project team (JICA experts and Counterparts members of Thai NIEM and MOPH)

- Facilitate to implement the project activities.
- Write reports or various documents of the project.

11. Project Working Group 1 (PWG1)

- Design and plan the regional collaboration drills (e.g. develop scenarios);
- Develop a draft regional SOP and minimum requirements for disaster health management;
- Pilot, evaluate and improve the draft regional SOP and minimum requirements through regional collaboration drills;
- Prepare a database of emergency medical teams of ASEAN Member States (AMS); and
- Develop a draft framework of health needs assessment in emergencies.

12. Project Working Group 2 (PWG2)

- Design and develop a training plan (e.g. objective, theme, methodology, trainers, etc.);
- Develop training curriculum and materials;
- Provide necessary support for conducting trainings;
- Review each training program and improve the following training programs; and
- Make a training report.

On the other hand, the structure of the Project for the extension phase was slightly modified as follows.

1. RCC/ARCH to RCC-DHM

The RCC/ARCH which is a coordinating platform to oversee the implementation of the ARCH Project was established immediately after the Project started. On the other hand, the RCC on DHM (RCC-DHM) which is an ASEAN authorized committee to effectively and sustainably operationalize the Plan of Action (POA;2019-2025) for the ALDDHM in a timely manner was established after the POA was endorsed by the 14th ASEAN Health Ministers Meeting (AHMM) on 29th August 2019. It is regarded that the RCC set up by ARCH could expand its role and function, and upgrade to the RCCDHM which could be a sustainable formal mechanism on DHM in ASEAN. Under these emerging circumstances, it was decided that the RCC/ARCH finished its roles and the RCCDHM succeeded the roles to oversee the implementation of the ARCH Project in addition to the operationalization of the POA.

2. PWG 1 & 2

Although both PWGs were continuously established for the extension phase, roles of each PWG were modified as follows.

PWG1 is responsible for

- Reviewing and improves the regional collaboration tools such as the SOP, minimum requirement for health professionals of EMT, framework of health needs assessment and database of EMTs.
- Drafting the Work Plan for the POA of ALD.
- Developing a format for sharing lessons learned from responses for actual disaster
- Facilitating discussion on ASEAN standards or methods for ASEAN-EMT.

PWG 2 is responsible for

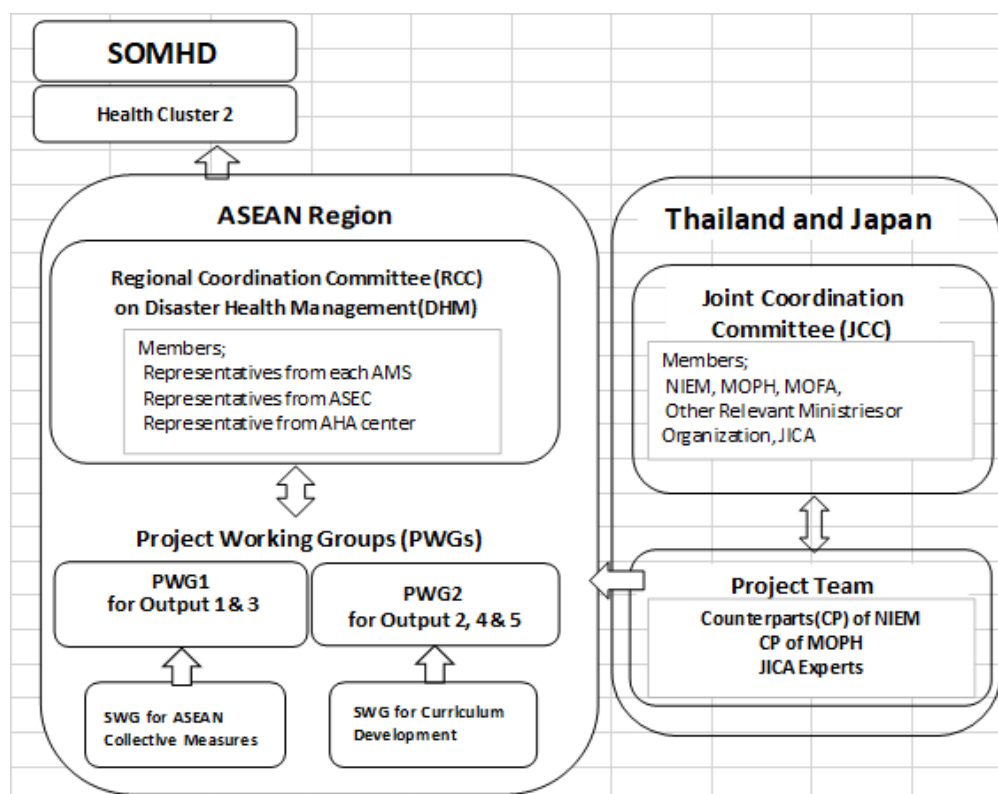
- Providing the Project team and host country of the RCD with technical guidance or advice for the regional collaboration drills.
- Organizing and facilitate an international academic seminar, including inviting academic/training institutes in AMS.
- Conducting a study on the needs and potential of capacity development on DHM in AMS in collaboration with the Project team.
- Discussing the standard training curriculum on DHM.

3. Sub Working Groups (SWG)

Two SWGs were newly established for the additional activities in the extension phase. One is the SWG for ASEAN Collective Measures which is an additional activity for the Output 3. One person from each of 5AMS which are disaster prone countries and host countries of the past RCD or planned RCD during the ARCH 1 and the extension phase was nominated as the members of the SWG as well as members from ASEC and JICA. PWG1 is responsible for this activity and SWG. Another one is the SWG for Curriculum Development which is an additional activity for the Output 5. The first meeting of the SWG was organized by support and funds of the Chulabhorn Royal Academy of Thailand, with respectively two representatives from each AMS. PWG 2 is responsible for this activity and SWG.

The implementation structure of the extension phase of the project was modified as below.

Fig.3 Implementation Structure of the ARCH Project Extension Phase



IV. Overall Progress of the Project

1. First Phase of the Project from July 2016 until July 2019

Output 1; “Coordination platform on DHM is set up.”

Regional coordination committee (RCC) was established to oversee the implementation of the ARCH Project and five RCC meetings were held.

	DATE PLACE	AGENDA
1st	29-30 Sept.2016 Bangkok, Thailand	1) Presentation on Outlines of ARCH Project 2) ASEAN Health Cooperation on Disaster Health Management 3) Orientation on the draft ASEAN Joint Disaster Response Plan (AJDRP) 4) Discussion on TOR of the Regional Coordination Meeting (RCM) 5) Discussion on TOR of the PWG 1 and 2
2nd	21 July 2017 Phuket, Thailand	1) Overall Progress of ARCH Project 2) Report on the Start-Up Drill and First RCD 3) Report on Progress and Outputs from PWG 1 4) Report on Progress and Outputs from PWG 2 5) ASEAN Leaders' Declaration on Disaster Health Management 6) Hosting of Upcoming RCD, and Related Meetings 7) Relevant events in ASEAN (ARDEX) 8) Communication channel of the Project, and other related issues on Disaster Health Management
3rd	30 March 2018 Da Nang, Viet Nam	1) Report on the Progress and Outputs from PWG 1 and Planning of the 3rd RCD 2) Report on the Progress and Outputs from PWG 2 and Planning of the 3rd and 4th AMS Training, Study Tour in Japan 3) Implementation of ASEAN Leader Declaration on Disaster Health Management
4th	7 Dec. 2018 Manila, Philippines	1) Report on PWG 1 and PWG 2 Meetings 2) Update on the Development of POA of ALD on DHM 3) Priorities for the Remaining Period of ARCH Project, Phase 1 4) Potential Priorities in Disaster Health Management (Post ARCH Project Phase 1)
5th	4 March 2019Bangkok, Thailand	1) Overall Progress of ARCH Project (3rd RCD, EMTCC-training) 2) Overview of ASEAN DHM & ARCH 3) Update on the POA of ALD on DHM 4) Update on the integration of the SOP into the SASOP 5) RCD in Indonesia 6) Plan for the Extension Phase

Output2; “Framework of regional collaboration practices is developed.”

The Regional Collaboration Drill was developed and conducted in three countries as follows. Draft Standard Operation Procedure (SOP) for coordination of EMTs in ASEAN and Health Needs Assessment (HNA) forms for EMTs developed for the Output 3 was tested in the RCDs.

	DATE PLACE	PARTICIPANTS	AGENDA	SPECIAL REMARK
--	---------------	--------------	--------	----------------

Start-up	17-19 January 2019 Bangkok, Thailand	9AMS, Japan, ASEC, AHA Centre, Thai MOH, NIEM Thai, JICA and Japan expert team	DAY 1: Table Top Exercise DAY 2: Field Training Exercise DAY 3: Review Workshop	To understand the regional coordination and collaboration tools in the health sector and to be in line with the existing mechanism / platform / tools such as the SASOP/ EAS toolkit/ WHO EMT standard
1st	17 to 19 July 2017 Phuket, Thailand	10AMS, Japan, ASEC, AHA Centre, Thai MOH, NIEM Thai, JICA and Japan expert team	DAY 1: Table Top Exercise DAY 2: Field Training Exercise DAY 3: After Action Review	To enhance knowledge, skills and capacities of the International Emergency Medical Team (I-EMTs) using common reporting forms in I-EMTs' reporting activities
2nd	26-28 March 2018 Da Nang, Viet Nam	10AMS, Japan, ASEC, AHA Centre, Vietnam MHO, Da Nang PHO, NIEM Thai, JICA and Japan expert team	DAY 1: Table Top Exercise DAY 2: Field Training Exercise DAY 3: After Action Review	To use common forms: medical record, WHO forms, SASOP To validate "ASEAN SOP" To conduct "EOC" by Vietnam actual representatives To identify the issues to be discussed on regional collaboration mechanism
3rd	3-5 December 2018 Manila, Philippine	10AMS, Japan, ASEC, AHA Centre, NIEM Thai, JICA and Japan expert team	DAY 1: Table Top Exercise DAY 2: Field Training Exercise DAY 3: After Action Review	To test electronic reporting system for iSPEED

Output3; “Tools for effective regional collaboration on DHM are developed.”

The Project Working Group (PWG) 1 on regional collaboration tools was established and its meetings were held as follows. The Standard Operation Procedure (SOP) for coordination of EMTs, Minimum Requirements (MR) for members of EMTs, and HNA forms for EMTs were developed. Those developed draft documents were reviewed and finalized in the PWG1.

DATE PLACE	AGENDA
20 Jan 2017 Bangkok, Thailand	1) Overview of PWG 1 2) Regional Collaboration Tool: Standard Operating Procedure (SOP) 3) Regional Collaboration Tool: Minimum Requirements 4) Regional Collaboration Tool: Health Needs Assessment Framework 5) Regional Collaboration Tool: A Database of Emergency Medical Teams (EMTs)
8-9 May 2017 Bangkok, Thailand	1) Updates from ASEAN relevant to Disaster Health Management 2) ASEAN Leaders' Declaration on Disaster Health Management (1) 3) Review of the Start-Up Drill in January 2017 4) Regional Collaboration Tool (1): Standard Operating Procedure (SOP) 5) Regional Collaboration Tool (2): Rapid Health Needs Assessment (RHNA) Framework 6) Plan of the 1st Regional Collaboration Drill (RCD) in July 2017 7) Regional Collaboration Tool (3): Database of EMTs in ASEAN 8) ASEAN Leaders' Declaration on Disaster Health Management (2) 9) Regional Collaboration Tool (4): Minimum Requirements

20 July 2017 Phuket, Thailand	1) Overview of ARCH Project (PWG 1 & 2 Joint Session) 2) Conclusions, Recommendations from the First Regional Collaboration Drill (RCD) (PWG 1 & 2 Joint Session) 3) Regional Collaboration Tool (1): Standard Operating Procedure (SOP) for Coordination of EMT in the ASEAN 4) Regional Collaboration Tool (2): Health Needs Assessment (RHNA) Framework 5) Regional Collaboration Tool (3): Database of Emergency Medical Teams (EMT) in ASEAN 6) Regional Collaboration Tool (4): Minimum Requirements
28-29 Nov 2017 Bangkok, Thailand	1) Review of the 1st Regional Collaboration Drill (RCD) in July 2017 in Thailand 2) Database of EMTs in ASEAN 3) Health Needs Assessment Framework 4) Standard Operating Procedure (SOP) 5) Medical Record 6) Minimum Requirements 7) ASEAN Standard of I-EMT and Standard Training Curriculum of ASEAN I-EMT 8) Plan of the 2nd RCD in March 2018 in Viet Nam 9) Mechanism of Future Collaboration 10) ASEAN Leaders' Declaration and Plan of Action
29 March 2018 Da Nang, Viet Nam	1) Plan for the 3rd Regional Collaboration Drill 2) Session on the Implementation of the ASEAN Leaders' Declaration on Disaster Health Management 3) Revision of the SOP for the Coordination of EMT in the ASEAN 4) Database of EMT in the ASEAN, and the Revision of the Minimum Requirements and Qualifications for Members of EMT 5) Revision of Health Need Assessment Form and Summary Report 6) Revision of the Medical Record Form
5-6 July 2018 Bangkok, Thailand	1) Relevant Updates on DM & HA Matters in the ASEAN 2) JICA's Perspective for ARCH and Forward 3) Progress of Regional Collaboration Tools Development 4) Plan of Action: RCC on Disaster Health Management 5) Plan of Action: ASEAN Institute for Disaster Medicine 6) Plan of Action: Targets by 2025 7) Plan on the 3rd Regional Collaboration Drill in the Philippines 8) Discussion on the 3rd Regional Collaboration Drill in the Philippines
6 Dec 2018 Manila, Philippines	1) Regional Collaboration Tool: Standard Operating Procedure (SOP) for the Coordination of EMT in the ASEAN 2) Regional Collaboration Tool: Database & Minimum Requirements 3) Regional Collaboration Tool: Health Needs Assessment & Medical Record (Forms)

Output4; “Academic network on disaster health management in AMS is enhanced.”

The project dispatched the team members or representatives from AMS to participate and make presentations in various international academic conferences as follows.

13th Asia-Pacific Conference on Disaster Medicine (APCDM) (in Bangkok, Thailand)	
Session Title	Title Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management (ARCH Project)
Date	7 th November 2016
Participants	Members of APCDM (about 50 participants) - Twenty (20) ARCH Project team
Contents of the presentations	<ul style="list-style-type: none"> - Background of ARCH Project - Summary of Basic Survey (the Survey on the Current Situation of Disaster/Emergency Medicine System in the ASEAN Region) - Project formulation - Objectives of ARCH project - Steps to ASEAN collaboration mechanism – - Scope of the project - Activities of the project - Implementation Structure

Responses from the participants	<p>The audience was very keen to learn how Thailand and Japan can contribute to strengthening ASEAN disaster health management systems.</p> <p>Q&A - How to endorse the outputs of the project through the AMS? →Initially making consensus on the mechanism of international/ Regional disaster response system among the ASM, then submitting them to ASEC as official tools</p>
The Second Workshop of Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) (in Seoul, Korea)	
Session Title	ARCH project on strengthening regional preparedness to health emergencies in ASEAN member state
Date	6 th December 2016
Participants	24 participants from 16 countries
Contents of the presentations	The delegate shared with the audience the concept of Disaster Health Management in ASEAN Post 2015 Health Development Agenda for 2016 to 2020 and how ASEAN and Japan collaborate in making the vision come to fruition throughout the Project.
22nd Annual Meeting of Japanese Association for Disaster Medicine (JADM) (in Nagoya, Japan)	
Session Title	JICA's contribution to developments on international disaster medicine
Date	14 th February 2017
Participants	Members of JADM (about 100 participants) - Five (5) Thai C/Ps
Contents of the presentations	The delegates shared the results of the Basic survey on disaster medicine and emergency medical services in ASEAN and explained the recent AMS disaster health management drill in January 2017, including the implementation structure and expected outcomes. Subsequently, the delegates shared the drill results and had fruitful discussion on the synergies with relevant JDR activities to promote education and training standardization for promoting individual countries' capacity of disaster response both sending and receiving I-EMT.
Responses from the participants	<p>The audience was very keen to learn how the project collaborated with relevant JDR activities.</p> <p>Q&A - Will the project formulate the ASEAN standards for EMT? →No original standard, some additional tools following with WHO EMT Initiative (Dr. Phumin)</p> <p>How to join the future drills? →The drills are being considered as ones of JDR trainings, all JDR members have opportunities to join</p>
20th Congress of World Association for Disaster and Emergency Medicine (WADEM) (in Canada)	
Session Title	Health Systems
Date	27 th April 2017
Participants	Members of WADEM (about 50 participants) - Three (3) Thai C/Ps
Contents of the presentations	The delegate shared with participants the highlights of the previous basic survey, which should be linked with the Project goal contributing the concept "ONE ASEAN, ONE RESPONSE". Subsequently the delegate clarified the project scope and objectives to strengthen regional coordination mechanisms and each ASEAN Member State's disaster health management capacity.
Responses from the participants	<p>The audience was very keen to learn the relationship among the present international mechanisms.</p> <p>Q&A</p> <p>- Funding Agency? →Mainly from JICA and NIEM, Thailand.</p>

	<ul style="list-style-type: none"> - Who are the main targets of Minimum Requirement? →Both individual EMT member and EMT - Who has the responsibility for team accreditation? Does ASEAN take it independently? →Following WHO EMT Initiative. - How to prove team consistency? → Within the Regional Collaboration Drill aligning with ASEAN context
23rd annual meeting of Japanese Association for Disaster Medicine (JADM) (in Yokohama, Japan)	
Session Title	ASEAN-Japan collaboration for future vision of ASEAN Disaster Medical System
Date	1 st February 2018
Participants	Members of JADM (about 100 participants) - Ten (10) Thai C/Ps
Contents of the presentations	The delegates of the Project Team shared the experiences of success and challenges mainly through the regional collaboration drills, which have been conducted for better cooperation/coordination on the disaster health management among AMS. Subsequently, the delegates explained about ASEAN Leaders' Declaration on Disaster Health Management, which was adopted in the 31st ASEAN Summit in Manila, Philippines in November 2017. The delegates shared with the audience how ASEAN and Japan collaborate in making the vision come to fruition.
14th Asia Pacific Conference on Disaster Medicine (APCDM) (in Kobe, Japan)	
Session Title	“Experience on domestic capacity building with the ARCH project” and “How to meet the WHO Standards and ASEAN current situations?”, which was a joint session with WHO.
Date	17 October 2018
Participants	Speakers: Eight AMS C/Ps and two JAC Observers: 36 AMS C/Ps and Experts of disaster medicine from Asia and Pacific countries (about 100 participants)
Contents of the presentations	In the first session, the Thai Project team introduced the Project purpose and activities for achievement such as regional collaboration drills. And as a host country of the drill, delegates from Viet Nam and Philippines shared their challenges, responsibilities and benefits. In the second session, the delegates of the Project team shared the issues to be addressed to fill a gap between WHO EMT standards. They explained that all AMS members have reached a common understanding on the current challenges through the ARCH Project activities or their own experiences of the actual dispatch to the affected country. The delegates shared with the audiences how ASEAN met the WHO EMT standards while considering the context of the actual situation in ASEAN.
Responses from the participants	The audience had high expectations for further development of ARCH Project activities. Q&A – What is the benefit of being a host of regional collaboration drills? →Develop the fundamental strength of the national capacity for disaster health

Output5; “Capacity development activities for each AMS are implemented.

The Project Working Group (PWG) 2 on Capacity Development was established and its meetings were held as follows.

	DATE TIME	AGENDA
1 st	20 January 2017 Bangkok, Thailand	1) Overview of PWG 2 2) Overview of Training Programs for AMS

		3) Detailed Plan of the First Training for AMS 4) Selection Criteria for Trainees 5) Preparation for the 1st AMS Training 6) Themes of the 2nd, 3rd, and 4th AMS Training
2 nd	20 July 2017 Phuket, Thailand	1) Report on the First AMS Training 2) Participants' Feedbacks from the First AMS Training 3) Plan for the Second AMS Training 4) Presentation on Plan for AMS Training 5) Proposed Plan for the Second AMS Training 6) Plan of Upcoming Activities of PWG 2
3 rd	9 November 2017 Bangkok, Thailand	1) Report on the 2nd AMS Training 2) Theme of the 3rd and 4th AMS Training 3) Vision and Roadmap of Capacity Building/ Training in Disaster Health Management in ASEAN "Regional Disaster Health Training Center" 4) Group Discussion: Vision and Roadmap of Capacity Building/ Training in Disaster Health Management in ASEAN
4 th	29 March 2018 Da Nang, Viet Nam	1) Input from the 2nd Regional Collaboration Drill 2) Planning of the 3rd AMS Training in May (On I-EMT) 3) Plan for the 4th AMS Training 4) Training and Study Tour for AMS in Japan 5) Implementation of ASEAN leader Declaration on DHM: Training Center
5 th	6 December 2018 Manila, Philippines	1) Highlights and Outcomes of the 3rd AMS Training 2) Highlights and Outcomes of the Japan Study Visit for AMS 3) Draft Standard Training Curriculum for I-EMT (Lessons Learned from 1st-3rd AMS Trainings) 4) Updates on the 4th AMS Training - EMTCC Training

AMS Trainings on Disaster Health Management were planned and conducted in Thailand as follows.

	DATE PLACE	PARTICIPANTS	AGENDA	SPECIAL REMARK
1 st	22 – 26 May 2017 Chiang Mai, Thailand	Three (3) representatives from each AMS	DAY 1 Current system human resource development in disaster health management (both preservice and continuing professional development; CPD) / Mass Casualty Incident (MCI) management DAY 2 - Best practices in Pre-service - Best practices in CPD DAY 3 Introduction of related training course and training package DAY 4 Site Visit: Faculty of Medicine, Chiang Mai University DAY 5 - Workshop/Discussions: What is “standardized” training /knowledge in	Human Resources Development

			disaster health management for each AMS/ASEAN region? - Course evaluation and way forward for the 2nd AMS Training	
2 nd	5 – 8 Nov 2017 Bangkok, Thailand	Three (3) representatives from each AMS NIEM staff, relevant officials and JICA staff	1. Country Report on Current Situation of Emergency Response System 2. On-site Team Management (lectures/exercise/simulation)	Capacity Development of Emergency Medical Team (EMT) – On-site Team Management
3 rd	28 – 31 May 2018 Bangkok, Thailand	Four (4) * representatives from each AMS, consisting of current duties - 1 team leader of EMT - 3 team members	DAY 1 “Prerequisite for deploying I-EMT” DAY 2 “Introduction “Roles and Responsibility of EMTCC” DAY 3 “Mission Management of I-EMT” DAY 4 “Adaptation of WHO standard to ASEAN Context”	International Emergency Medical Team (I-EMT)
4 th	17 – 22 Feb 2019 Bangkok, Thailand	32 participants - Two (2) Representatives from each AMS - ARCH Project (Thailand & Japan) - WHO SEARO/AFRO	DAY 1 1) Introductions 2) Review of Pre-learning 3) Operational Context of the EMTCC 4) Humanitarian Assistant Procedure (SASOP) and EMTCC Coordination in ASEAN DAY 2 1) Chaos at the EMT Arrivals Lounge 2) Overview of the EMTCC Lifecycle 3) Activation & Set-up 4) Interactive Mentoring Exercise using Earthquake Case Study (Mobilization & Registration of teams, Task Allocation) DAY 3 1) Interactive Mentoring Exercise (cont’d) (Civil-Military Coordination, Managing Referrals, Dealing with Complaints, Transition, De-activation) 2) Skills Stations: Facilitation Skills for EMTCC Personnel DAY 4 Skills Stations (cont’d): Reception & Departure Procedures, Information Management, Linking with Other Humanitarian Coordination Structures, Operations Management	Emergency Medical Team Coordination Cell (EMTCC)

			DAY 5 1) SIMEX (cont'd) 2) SIMEX Debrief 3) Learning Review/Action Planning/Knowledge Test/Participant Feedback	
--	--	--	--	--

In addition, AMS representatives were invited to participate in a study tour program in Japan in 2018.

DATE	PLACE	PARTICIPANTS	AGENDA
16 - 19 October 2018	Kobe, Japan	Three (3) participants from each AMS *at least 2 persons: members of the Project Working Group (PWG) 1 and of PWG ASEC and other relevant institutions	DAY 1: Lessons Learned from Hanshin Awaji Earthquake DAY 2: Asia Pacific Conference on Disaster Medicine (APCDM)* 1) PART I: Experience on domestic capacity building with the ARCH Project 2) PART II: How to meet the WHO Standards and ASEAN current situations? 3) PART III: WHO Joint Session/Expert Roundtable Discussions on Strategic and structured development of scientific evidence through collaboration among Asian and global researchers. DAY 3: 1) Psychological Support in Disaster 2) Site visits The Disaster Reduction and Human Renovation Institution (DRI) Hyogo Emergency Medical Center DAY 4: 1) ARCH Project Review 2) Site visit: Hokudan Earthquake Memorial Park (Awaji Island)

The training programs for Thai counterpart members were conducted in Japan.

	DATE PLACE	PARTICIPANTS	AGENDA
1 st	22 Feb -07 Mar 2017 JICA HQ JICA Tokyo National Disaster Medical Center, Tachikawa Center for Disaster Medicine and Education, Niigata University Kaetstu Hospital, Niigata, etc.	Eleven (11) Thai counterpart personnel, who are engaged in /are expected to be trainers for human resource development in disaster health management in Thailand	1. Training for Disaster Health Management 2. Lecture/Exercise - History of disaster health management in Japan - Overview of Disaster Medical Assistance Team (DMAT) and the role of a disaster base hospital - Overview of the Center for Disaster Medicine and Education, Niigata Uni. Faculty of Medicine - Overview of Japan Disaster Relief Team (JDR) - Lessons learned from the Great East Japan Earthquake - WHO Minimum Data Set (MDS) 1-40 3. Developing an action plan for further strengthening disaster health management system and capacity development in Thailand

2 nd	25 Jan – 03 Feb 2018 JICA HQ JICA Tokyo International Center (JICA Tokyo) National Disaster Medical Center, Tachikawa Joetsu General Hospital, Niigata Pacifico Yokohama, etc	Ten (10) Thai counterpart personnel, who are engaged in /are expected to be trainers for human resource development in disaster health management in Thailand	1. Training for Disaster Health Management 2. Lecture/Exercise - Overview of the Center for Disaster Medicine and Education, Niigata Uni. Faculty of Medicine - Role and function of Ministry of Health, Labor and Welfare during disasters as well as peacetime - History of disaster health management in Japan - Overview of Disaster Medical Assistance Team (DMAT) and the role of a disaster base hospital - Logistics and team management - Overview of Japan Disaster Relief (JDR) - Observation of JDR Stockpile in Narita - WHO Minimum Data Set (MDS) – progress in Japan- 1. The 23rd Annual Meeting of Japanese Association for Disaster Medicine (JADM) - Presentation by ARCH Project
-----------------	--	---	---

2. Extension Phase of the Project from July 2019 until December 2021

The First Phase of the Project (Phase 1) was implemented from July 2016 until July 2019, and had already achieved various project outputs such as the development of tools for effective regional collaboration in the delivery of emergency medical services to disaster-affected populations and the conduct of disaster health management training for AMS. On the other hand, the ASEAN Leaders' Declaration (ALD) on Disaster Health Management (DHM) was adopted on the occasion of the 31st ASEAN Summit in Manila on 13 Nov. 2017. In addition, the POA to implement the ALD was drafted and was submitted to the ASEAN Health Cluster 2 for endorsement in 2019. Based on the movement mentioned above, all the stakeholders of the Project agreed that the Project should extend for a certain period until the POA is approved and the main Mechanism of the POA starts and get its actual activities on track so that the Project could ensure the impact and sustainability. At first, the Project was extended for 21 months from July 2019 to March 2021. Moreover, the Project was extended again for another 9 months from April 2021 to Dec. 2021 in order to conduct some activities which were delayed due to the outbreak of the COVID-19. The following additional activities were conducted for the Extension Phase.

Output 1; “Coordination platform on DHM is set up.”

RCCDHM was officially established after the POA had been endorsed by the 14th ASEAN Health Ministers Meeting (AHMM) on 29th August 2019. The following meetings of the RCCDHM were organized with support from the Project.

DATE PLACE	PARTICIPANTS	AGENDA
(1 st RCCDHM) 22-23 January 2020 Bangkok, Thailand	50 AMS, ASEC, JICA, and other related organizations	1) TOR of RCC-DHM 2) Overview and Progress of ARCH Project 3) ASEAN 12th Health Priority Work Programme 2021-2025

		4) Integration of SOP for EMT to SASOP 5) Lesson Learnt from Actual Disaster 6) Collective Approach of AMS I-EMT 7) Academic Network and ASEAN Institute on DHM 8) Regional Collaboration Drill 9) Study/ Survey on Potential Needs for Capacity Development on DHM 10) Standard Training Curriculum
(2 nd RCCDHM) 09 December 2020 Online meeting (Cisco WebEx)	35 AMS, ASEC, JICA, and other related organizations	1) Updates on ASEAN Meetings/ Events Relevant to RCC-DHM 2) Updates on Outcomes/ Agreements from the First Meeting of RCC-DHM 3) Updates on Roadmap for the ASEAN Health Cooperation's Contribution to the Realization of One ASEAN One Response 4) Establishment of the ASEAN Institute on Disaster Health Management (AIDHM) and ASEAN Academic Network 5) Progress on the integration of ASEAN EMT SOP to ASEAN SASOP 5) Updates on ARCH Project Extension and ARCH Phase 2

Joint PWGs meetings inviting both representatives of PWG1 & 2 were organized to discuss and share on relevant or common matters for both PWGs.

DATE PLACE	PARTICIPANTS	AGENDA
10 July 2019 Bangkok, Thailand	60 AMS, ASEC, JICA, JAC and other related organizations	1) Recap on the 6th PWG 2 Meeting 2) Conclusion on Academic Network, Standard Curriculum and Regional Training Centre 3) Work Plan for POA in the implementation of the ALD/ DHM 4) Mozambique Response Experience by JDR 5) RCD Implementation in the Extension Phase 6) 4th RCD 7) Guidebook for RCD Preparation 8) Comprehensive Team Information
25 June 2020 Online (CisCo WebEx)	37 AMS, ASEC, JICA, JAC and other related organizations	1) ASEAN Health Response to COVID-19, ASEAN Post-2015 Health Development Agenda and Work Programmes of ASEAN Health Clusters 2) Resumption of Implementation of ARCH Project Activities 3) Rescheduling of ARCH Project Activities/ Events 4) Proposed Additional ARCH Project Activities to Respond to COVID-19 Pandemic

14 December 2021 Online (CisCo WebEx)	??? number of participants AMS, ASEC, JICA, JAC and other related organizations	1) Updates from the ASEAN Secretariat 2) Overall Progress of the ARCH Project 3) Progress of the Standard Curriculum Development 4) Results of the Preparatory Meeting for the ASEAN Academic Network on Disaster Health Management (AANDHM), and the ASEAN Academic Conference 5) Project Review and Completion Report 6) Implementation Plan for the Main Activities of ARCH Project Phase 2, and TORs of PWG 1 and 2 of the ARCH Project Phase 2
---	--	--

Output2; “Framework of regional collaboration practices is developed.”

The 4th RCD was conducted in Bali, Indonesia in Dec.2019 as follows. On the other hand, although one more RCD as the 5th RCD was planned to be conducted during the extension phase, it was cancelled due to the outbreak of COVID19.

Event	4 th Regional Collaboration Drill
Dates	25-28 November 2019
Venue	Grand Inna Hotel (Bali), Tanah Ampo Pier (field exercise)
Participants	90 International participants from AMS, ASEAN Secretariat, AHA Centre, JICA, JAC, JDR Medical Team, and 200 Indonesian participants
Programme	<ul style="list-style-type: none"> ● Day 1; Preparation Workshop <ul style="list-style-type: none"> ○ Health Information System of Indonesia, and Communication Exercise ○ Comprehensive Team Information ○ The Composite Team ● Day 2; Fourth Regional Collaboration Drill <ul style="list-style-type: none"> ○ Presentation on AMS Comprehensive Team Information ○ Orientation on WHO Quality Assurance ○ Indonesia Health Crisis Management Policy ○ Reception Departure Centre (Presentation of Indonesian Protocol) ○ RDC Practice ○ Current Situation Briefing for the field exercise with Map (Demonstration of the Situation Awareness) ● Day 3 <ul style="list-style-type: none"> ○ EMT Patient Care and Quality Assurance -Round 1,2 ○ EMTCC Meeting No.1,2,3 ○ Health Needs Assessment, and Composite EMT Exercise ○ Exit Report ● Day 4 <ul style="list-style-type: none"> ○ Demobilization ○ After Action Review Presentations ○ SASOP Orientation; The summary on the submission of the Request for and Offer of Assistance by AMS ○ Presentation by the ARCH Project Team and
Summary and Review Result	<p>The 4th RCD was hosted in Bali, Indonesia on 25th-28th November 2019. The drill employed the eruption of Mount Agung as a main scenario. The activities include Pre-Deployment, TTX, FTX and AAR.</p> <p>Key recommendations for the next drills include</p> <ul style="list-style-type: none"> ✓ more patient details e.g. results of electrocardiogram, chest x-ray. ✓ consider mass casualty incident and management ✓ enhance information management ✓ consider the inclusion of injects requiring response to acute outbreaks ✓ more public health components eg. CBRNE

	<ul style="list-style-type: none"> ✓ improve the practice quality assurance visits ✓ EMTCC operation should be included in actual exercises
--	---

A template for the collection of lessons learned from responses for actual disasters in ASEAN was developed. It was decided that this template should be utilized when AMS I-EMT was dispatched in an affected area by a large scale disaster in the ASEAN region and AMS that dispatched I-EMT is required to submit its I-EMT's deployment report in this template to an earliest meeting of the RCCDHM in order to review its deployment and share its lessons learnt among all the AMS. The developed template was finally decided to be the Annex 13 of the SOP for coordination of EMTs in ASEAN, which is a product for Output3.

<Additional Activity for the Output 2>

Collection of Good practices and knowledge sharing on emergency medical response to the COVID19 pandemic in ASEAN. Good practice case refers to the activity conducted responding to COVID-19 outbreak which is considered effective, efficient, replicable and cost effective, and could be collected on the following aspects of emergency medical response.

The good practices were collected from 7 AMS and Japan with a total of 12 cases. The good practice cases were compiled and published into Good Practice on Medical Response Against COVID-19 Outbreak Report.

Webinar on Good Practice on Medical Response Against COVID-19 Outbreak.

	DATE PLACE	PARTICIPANTS	AGENDA
1st	15 Sep 2020 Online meeting (Microsoft Teams)	ARCH Project, JAC, Thailand, Cambodia, Philippines and Viet Nam	1) SCOT: Special COVID-19 Operation Team + Q&A 2) Medical Response Against COVID19 in Cambodia + Q&A 3) Deployment Protocols for Healthcare Workers Assigned in the COVID Response Team + Q&A 4) Good Practice for Control of Covid-19 Spreading in the Special General Hospital + Q&A
2nd	8 Dec 2020 Online meeting (Microsoft Teams)	ARCH Project, JAC, Brunei, Indonesia, Thailand	1) Responding to COVID-19 in Brunei Darussalam: Lessons for small countries 2) DMAT Activities for COVID-19 Response 3) MDS for COVID-19 4) Distribution of Logistics (PPE) as a response to COVID-19 management 5) Impact of Large-Scale Social Restrictions in Communities on COVID-19 Patients Visits in Hospital 6) Dead Bodies Management of Covid-19: Stigma vs Proper Procedure 7) Thailand Quarantine Facility

Output3; “Tools for effective regional collaboration on DHM are developed.”

The PWG1 was re-organized for the extension phase and its meetings were held as follows.

	DATE PLACE	PARTICIPANTS	AGENDA
8th	11 July 2019 Bangkok, Thailand	40 AMS, ASEC, AHA Center, JICA, JAC, and Project Team	1) Project Framework and Implementation Plan of the Extension Phase 2) TOR of PWG 1 3) Integration of SOP to SASOP 4) Development of a reporting format and guideline for lessons learned from response for actual disaster 5) ASEAN Standard for ASEAN EMT
9th	21 Jan. 2020 Bangkok, Thailand	40 AMS, ASEC, AHA Center, JAC, and Project Team	1) Integration SOP to SASOP 2) Collective Approach for AMS I-EMT 3) Lesson Learnt from Actual Disaster 4) ASEAN Health Priority 12 on Disaster Health Management Work Plan for 2021 - 2025
1 st Online	1 Oct 2020 Cisco WebEx	40 AMS, ASEC, AHA Center, JICA, JAC, and Project Team	1) Updates from the ASEAN Secretariat 2) Updates on the Implementation Plan of POA/ ALD on DHM, ARCH Re-Extension Phase and ARCH Phase 2 3) AMS I-EMT Lessons Learnt Report Template 4) Updates from the Sub-Working Group on ASEAN Collective Measures for AMS I-EMT 5) Updates on the Finalization of EMT SOP, and Integration of EMT SOP into ASEAN SASOP 6) Updates on a collection of Good Practices for COVID-19 Response & Proposed Development of Minimum Data Set for COVID-19 7) ARCH Project Extension Phase Implementation Plan in 2021 (with Proposed Alternatives)
2nd Online	23 Mar 2021 Cisco WebEx	40 AMS, ASEC, AHA Center, JICA, JAC, and Project Team	1) Updates from the ASEAN Secretariat 2) Updates on the Finalization of EMT SOP, and Integration of EMT SOP into ASEAN SASOP 3) Updates on ASEAN Collective Measures for AMS I-EMT 4) Planned Activities for the ARCH Re-Extension Phase, and Updates on the Preparation of ARCH 2
3rd Online	2 Sep 2021 Cisco WebEx	39 AMS, ASEC, JICA, JAC, and Project Team	1) Updates from the ASEAN Secretariat 2) Updates on the Finalization of EMT SOP, and Integration of EMT SOP into ASEAN SASOP 3) Updates on ASEAN Collective Measures for AMS I-EMT 4) Plans on the Implementation of Activities in the Remaining Period of the ARCH Project Extension Phase (including ASEAN Academic Conference), and Updates on the Preparation of ARCH Project Phase 2

The PWG1 decided that the SOP for coordination of EMTs in ASEAN with other tools such as Medical Record Form and HNA forms developed by the ARCH phase 1

should be integrated into the Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operation (SASOP) which is an ASEAN official document in order to realize “One ASEAN, One Response: ASEAN Responding to Disasters as One in the Region and outside the Region”. The SOP is considered to be one of the chapters of the SASOP.

For the purpose of the integration of the SOP into the SASOP, the ARCH project co-organized a tabletop exercise with the AHA Centre, inviting AMS representatives of both the Health Cluster 2 (HC2) and Working Group-Preparedness, Response and Recovery (WG-PRR) in Jakarta on November, 2019 to review the draft SOP as below.

EVENT	DATE	PLACE	PARTICIPANTS	AGENDA
Tabletop Exercise (TTX) to Test Draft of AMS EMT SOP	7-8 November 2019	Jakarta, Indonesia	ASEAN Member States, ARCH Project, ASEC, AHA and related organization	<ul style="list-style-type: none"> - Deployment - Mobilization of EMTs - On Sites Operations of EMTs - Demobilization and exit phase - Post-Deactivation phase

Summary of Discussion	<ul style="list-style-type: none"> - Issue raised on whether MOH focal point can access WebEOC, WebEOC will remain as a collaborative tool between AHA Centre, NDMO, and ERAT. - NDMO is the lead/ single point of contact - Information sharing should not be limited to NDMO. - Subscribe to AHA Centre’s information products to get Information sharing for the Health Sector. - Other EMT forms beyond the EMT registration form needs to be simplified. - Affected AMS will only receive one form (contractual arrangement), which will be as detailed as possible, including the EMT registration form (required by WHO, MOH can look directly at this form relevant to them) as an annex. - Mandate of SG-AHAC – coordinate and mobilize resources from AMS, including access to available funds, and to mobilize resources from ASEAN dialogue partners and other partners. - Role of SG-AHAC is bigger than the EMT SOP, but on a bigger scale, if there are challenges faced by EMTs or whoever involved in the disaster response, the SG-AHAC can be tapped on for his/her political push (as guided by ACDM). <p>Role of WHO and Health partners shall be discussed further more with WHO presence, might be during ARDEX.</p>
------------------------------	---

The recommendations of the TTX and ASEAN Collective Measures (ACM) were reflected in the EMT SOP, and the revised draft was discussed and endorsed by the RCCDHM in March followed by the endorsement by the AHC 2 in April 2021. The integration of the draft EMT SOP was discussed at the ACDM WG on Preparedness, Response and Recovery (PRR) on 9 September, and it was concluded that the EMT SOP be integrated as a draft 7th Chapter of the ASEAN SASOP with a conduct of future testing at ARDEX. The conclusion was further endorsed by ACDM on 11-14 October.

The SWG for ASEAN Collective Measures was established under the guidance of the PWG1 and the following meetings were held.

EVENT	DATE	PLACE	PARTICIPANTS	AGENDA
1 st SWG for ACM	20 January 2020	Bangkok, Thailand	(10) ARCH Project, Indonesia, Myanmar, Philippines, Thailand, Viet Nam, ASEAN Secretariat and Consultant	1) Expected Outputs/ Products (Proposal from Japan-Thailand Bilateral Meeting) 2) Report from Consultant (relevant international/ national policy and guideline) 3) Discussion on Contents/ Details of each Output/ Product 4) Briefing on questionnaire for target countries and field trip plan
Online Consultation of SWG on ACM	7 August 2020	Microsoft Teams	Myanmar, Indonesia, Thailand, Viet Nam, Philippines, Japan	1) Background/ Update/ Reschedule 2) Proposal on ASEAN Collective Measures - Waste Management - Placement of Liaison Officer - Preposition of EMT items - Set of Information for AMS I-EMT - Foreign Medical License - Medical Accident - Future Strategy of the ASEAN Collective Measures

ASEAN Collective Measures (ACM) is proposed to consider supporting the two opposite roles of AMS in DHM, strengthening the capacity of EMTs to meet the minimum requirements set by the WHO (role of supporting country) and also strengthening the capacity of AMS to receive I-EMTs in the event of disasters or emergencies (role of receiving country) by supporting AMS's efforts to meet the Classification and Minimum Standards for EMTs (WHO), and taking advantage of the strength of the existing ASEAN regional network, system and structure.

The ACM recommendations consists of development of Database of AMS for receiving I-EMT, support to identify and develop National SOP for receiving I-EMT, development of curriculum and implementation of DHM trainings, development of Guidance Document for EMT including Waste Management, Medical Accident, Malpractice and Patient complaint management and the conduct of feasibility study on Preposition scheme for EMT items, as well as the management of ACM products and future status of the ACM.

The report on ACM and its recommendations with annex documents underwent review, and was subsequently endorsed by PWG1 through an ad-referendum in December 2021.

Output4; “Academic network on disaster health management in AMS is enhanced.”

Both the Terms of References (TOR) of the ASEAN Academic Network on Disaster Health Management (AANDHM) and the ASEAN Institute on Disaster Health

Management (AIDHM) have been endorsed by the Project Working Group (PWG) 2 in 2020, and subsequently elevated to the Regional Coordination Committee on Disaster Health Management (RCC-DHM) for endorsement on 7 July and 21 April 2021, respectively.

After the endorsement of the TOR of AANDHM on the level of RCC-DHM, the TOR was subsequently endorsed by the ASEAN Health Cluster (AHC) 2 on 13 Sep 2021 and the Senior Official Meetings on Health Development (SOMHD) on 10 Nov 2021. As to move forward the development of the AANDHM, the request letter of the nomination of National Focal Point Institutes was issued by the RCC-DHM Secretariat to AMS, and the Preparatory Meeting for the AANDHM was conducted on 30 November 2021 to reiterate the content of TOR of the AANDHM, and to discuss the TOR of Steering Committee (SC), management structure, and next necessary actions toward the actual establishment of the AANDHM.

The consultation for TOR of AIDHM is currently undergoing on the level of RCC-DHM for a further discussion regarding the host country selection. RCCDHM shall elevate to AHC 2 and subsequently to SOMHD the host country selection for concurrence, and draft TOR for review and/ or endorsement.

<Additional Activity for the Output 4 >

The Project initiated a new challenge as an additional activity in the extension phase, which was to put the ARCH various activities and outputs in academic articles and to publish those articles in an influential international peer-reviewed academic journal. The Advisory Working Group (AWG) consisting of the following members was organized to proceed with these new activities.

- Prof. Tatsuhiko Kubo, Hiroshima University, Japan
- Dr. Kayano Ryoma, WHO Kobe Centre, Japan
- Prof. Shinichi Egawa, Tohoku University, Japan
- Dr. Phumin Silapunt, Deputy Director of Chulabhorn Hospital, Thailand
- Assoc. Prof. Prasit Wuthisuthimethawee, Deputy Director of Songklanakarin Hospital, Thailand

The AWG held meetings 6 times below.

	DATE PLACE	PARTICIPANTS	AGENDA
1st Online AWG	15 Dec 2020 Microsoft Team	AWG, JICA, JAC and Project Team	1) Selection of International Journal 2) Article Content and Author 3) Writing Guideline for Article 4) Schedule for Article Publication
2nd Online AWG	25 Mar 2021 Microsoft Team	AWG, JICA, JAC and Project Team	1) Progress for collection of Manuscript 2) Communication Method for Editing 3) Proofreading Company 4) Selection of International Journal

3rd Online AWG	21 Apr 2021 Microsoft Team	AWG, JICA, JAC and Project Team	1) Communications with International Journal (PDM) 2) Update on Collection of Academic Articles 3) Integration of Articles
4th Online AWG	3 Jun 2021 Microsoft Team	AWG, JICA, JAC and Project Team	1) Update on Collection, Integration, and Review of the Manuscripts 2) Communication with International Journal (PDM)
5th Online AWG	5 Jul 2021 Microsoft Team	AWG, JICA, JAC and Project Team	1) Update on the Progress of Planned Schedules 2) Update on the Inputs and Comments from the 2nd AWG Review 3) ASEAN Academic Conference
6th Online AWG	1 Sep 2021 Microsoft Team	AWG, JICA, JAC and Project Team	1) Final Review for the Articles 2) Submission of the Articles to the PDM and after 3) Update on Plan of ASEAN Academic Conference

AWG selected the **Prehospital and Disaster Medicine (PDM)**, which is the international academic Journal for World Association for Disaster and Emergency Medicine (WADEM) in order to publish a set of several articles on the ARCH project as a supplement issue of the PDM. The AWG decided to prepare five (5) articles according to the following contents for the supplementary issue.

1st Article: Introduction to the Project for Strengthening the Capacity of Disaster Health Management in ASEAN (ARCH Project)

- I. Background and Aim - Why/How was the ARCH Project commenced
- II. Structure and contents of the project - Who does what?
- III. Overall Progress and Evaluation of ARCH
- IV. Future Strategy

2nd Article: ARCH Project and the global initiatives of disaster health management

- I. How the ARCH Project has incorporated the WHO EMT Standards
 - A. Overall:
 - B. Incorporation into ARCH training programs/drill
- II. How the ARCH Project has contributed to the WHO EMT Initiative EMTCC/MDS (including the activation in Mozambique)

3rd Article: How the ARCH Project has contributed to the development of ASEAN regional collaboration mechanism on disaster health management

- I. Impact and contribution to ASEAN regional policy and strategy (ALD on DHM, and POA, APHDA)
- II. Development of ASEAN regional collaboration framework and tools
 - A. RCC-DHM:
 - B. Standard Operating Procedure (SOP) for AMS I-EMT:
 - C. Development of regional forms for AMS I-EMT
 - 1. Medical record form:
 - 2. HNA form:

D. ASEAN Collective Measures:

4th Article: How the ARCH Project could contribute to strengthening ASEAN regional capacities on DHM

- I. Regional collaboration practice - Regional Collaboration Drill (RCD)
 - A. Overall/ Startup/First (Thailand):
 - B. 2nd RCD (Viet Nam):
 - C. 3rd RCD (Philippines):
 - D. 4th RCD (Indonesia):
- II. Academic Approach
 - A. Development of Standard Curriculum on DHM:
 - B. ASEAN Academic Network:

5th Article: Impact of the ARCH Project on National capacity development on Disaster Health Management among ASEAN member states and Japan

- I. Impact for each 10AMS:
- II. Impact for Japan:

Questionnaire survey for the AMS situation was conducted in order to collect necessary information for the 5th Article. A series of the articles was finalized after several reviews by the AWG members and submitted to the PDM at the end of September 2021. Totally 43 persons from Thai, Vietnam, Philippines, Indonesia and Japan participated to write some parts of the articles. The PDM notified of the acceptance of the five manuscripts on 4 December 2021. It is expected that it will take two to three months for the manuscripts to be published.

ASEAN Academic Conference was organized online on 1st and 2nd December 2021.

EVENT	DATE PLACE	PARTICIPANT S	AGENDA
ASEAN Academic Conference	1-2 Dec 2021 Microsoft Teams	Around 120 participants from the ASEAN Member States, ASEAN Secretariat, AHA Centre, Japan, and World Health Organization	Session 1 “ARCH Project, ASEAN Regional Mechanism, and Global Initiatives for EMT” 1) Overall Progress of the ARCH and Future Strategy (ARCH 2) 2) ARCH Project’s contribution to ASEAN regional policy and strategy on disaster health management 3) The ARCH Project and the Global Initiatives of Disaster Health Management 4) How the ARCH Project has Contributed to the WHO EMT Initiative Session 2 “Impact of ARCH on National Capacities and Policies on Disaster Health Management in ASEAN Member States and Japan” 1) Impact of the ARCH Project on Capacity Development of ASEAN Member States in Disaster Health Management 2) Impact for Thailand 3) Impact for Vietnam 4) Impact for Philippines

			<p>5) Impact for Indonesia 6) Impact for Japan</p> <p>Session 3 “Experiences of Disaster Health Management in Actual Disasters in ASEAN Member States and Japan”</p> <p>1) Brunei Darussalam: COVID-19 Medical Response in Brunei Darussalam</p> <p>2) Cambodia: Cambodia’s Experiences on Disaster Health Management in Actual Disasters</p> <p>3) Indonesia: Experiences of Disaster Health Management in Actual Disasters in Indonesia, Central Sulawesi Large-Scale Disaster in 2018</p> <p>4) Lao PDR: Experiences of Disaster Health Management in Sanamxay District, Attapeu Province, Lao PDR</p> <p>5) Malaysia: Hospital’s Response to Surge Capacity</p> <p>6) Myanmar: COVID-19 Situation and Response Strategies in Myanmar</p> <p>7) Philippines: The Philippines Experience</p> <p>8) Singapore: Experience from a Multi-Disciplinary Care Team Against COVID-19 pandemic: A Healthcare Perspective</p> <p>9) Thailand: Thai Cave Rescue Mission</p> <p>10) Vietnam: Medical Responses to Flood in Central Provinces, Vietnam, 2020</p> <p>11) Japan: Experiences of Disaster Health Management in Actual Disasters in Japan</p> <p>Session 4 “Academic Network on Disaster Health Management”</p> <p>1) ASEAN Academic Network (Including Development of Standard Curriculum)</p> <p>2) ASEAN Networks Relevant to Cross-Cutting Concerns on Disaster Health Management</p> <p>3) History of the Japanese Association of Disaster Medicine and the Development of Disaster Medicine in Japan</p> <p>4) WHO Thematic Platform for Health Emergency and Disaster Risk Management Research Network (Health EDRM RN)</p> <p>5) Academic Publication of ARCH Project: Crystalize Your Efforts in the Articles</p> <p>Panel Discussion “How can ASEAN Realize the One ASEAN One Response in the Field of Disaster Health Management?”</p>
--	--	--	--

			1) How can the ARCH Project Phase 2 Contribute to Capacity Strengthening in Disaster Health Management in each ASEAN Member States 2) How can the ARCH Project Phase 2 Contribute to Strengthening Preparedness and Response to Health Emergencies, including Pandemics such as COVID-19
--	--	--	---

Output5; “Capacity development activities for each AMS are implemented.

The PWG2 was re-organized and its meetings were held as follows.

	DATE PLACE	PARTICIPANTS	AGENDA
6th	9 July 2019 Bangkok, Thailand	18 AMS, ASEC, JICA, JAC, and other related organizations	1) Project Framework and Implementation Plan of the Extension Phase 2) TOR of PWG 2 3) Standard Training Curriculum 4) TOR for study on CD for DHM in AMS 5) Questionnaire for academic/ training, systems and needs for CD on DHM in AMS
7th	29 Nov.2019 Bali, Indonesia	29 AMS, ASEC, JICA, JAC, Project Team, and other related organizations	1) Conclusion, Recommendations from the 4th RCD 2) Host Country and Concept Plan for the Next RCD in 2020 3) Guidebook for RCD Preparation 4) Work Plan for POA to Implement the ALD on DHM 5) Regional Disaster Health Training Centre and Development of Standard Training Curriculum 6) Results of Questionnaire for Academic/ Training, Systems, and Needs for Capacity Development on DHM in AMS 7) Plan for Field Visits in CLMV on Capacity Development for DHM 8) Schedule Setting and Members of the Field Trips in CLMV on Capacity Development for DHM
1 st Online	20 Oct.2020 Microsoft Teams	37 AMS, ASEC, AHA Centre, JICA, JAC, Project Team, and other related organizations	1) Updates from the ASEAN Secretariat 2) Updates from Sub-Working Group on Standard Curriculum Development 3) Proposal on ASEAN Academic Network and ASEAN Institute for Disaster Health Management (AIDHM) 4) Plan on the ASEAN Academic Seminar, and Proposed Publication of a Set of Articles on ARCH Project Achievement and Impact 5) Updates on the 5th Regional Collaboration Drill & RCD Preparation Guidebook 6) ARCH Project Extension Phase Implementation Plan in 2021 (with Proposed Alternatives)

2nd Online	22 Mar 2021 Microsoft Teams	40 AMS, ASEC, AHA Center, JICA, JAC, and Project Team	1) Updates from the ASEAN Secretariat 2) Updates on the TOR of the ASEAN Academic Network and ASEAN Institute for Disaster Health Management (AIDHM) 3) Updates from the Sub-Working Group on Standard Curriculum Development 4) Updates on the Fifth Regional Collaboration Drill (RCD) and RCD Guidebook Development 5) Updates on the Publication of Academic Articles on ARCH and the Plan for ASEAN Academic Conference 6) Planned Activities for the ARCH Re-Extension Phase, and Updates on the Preparation of ARCH 2
3rd Online	31 Aug 2021 Microsoft Teams	33 AMS, ASEC, JICA, JAC, and Project Team	1) Updates from the ASEAN Secretariat 2) Updates on the TOR of the ASEAN Academic Network on Disaster Health Management (AANDHM) and ASEAN Institute for Disaster Health Management (AIDHM) 3) Updates from the Sub-Working Group on Standard Curriculum Development 4) Updates on the RCD Guidebook Development 5) Updates on the Publication of Academic Articles on ARCH Project and the Plans for ASEAN Academic Conference 6) Plans for the Implementation of Activities in the Remaining Period of the ARCH Project Extension Phase, and Updates on the Preparation of ARCH Project Phase 2

The SWG for Curriculum Development was established under the guidance of the PWG2 and the following meetings were held as below.

EVENT	DATE	PLACE	PARTICIPANTS	AGENDA
1 st SWG on CD	13 – 14 February 2020	Bangkok, Thailand	(31) SWG member (2 representatives from each AMS), ARCH Project	1) Review of the ASEAN Health Cooperative Framework 2) Brief on PWG 2 Priorities 3) Purposes, Objectives, and Outcomes of SWG Meeting 4) Conclusions of Requirements from ARCH Project Activities for DHM Training Course 5) Purpose for Basic DHM Training Courses 6) Brainstorming for Basic DHM Training Courses 7) Purpose of EMT Coordination during Disaster Training Course 8) Conclusions of Requirements from ARCH Project Activities for EMT Coordination during Disaster Training Course 9) Brainstorming for EMT Coordination during Disasters Training Course

				10) Draft of the Basic DHM Training Course 11) Draft on the EMT Coordination during Disaster Training Course
Thai-Japanese Experts of SWG on CD (Bilateral)	16 June 2020	Microsoft Teams	Thai and Japanese Taskforce	1) Basic DHM Curriculum
2 nd SWG on CD between Thai-Japanese Experts (Bilateral)	21 July 2020	Microsoft Teams	Thai and Japanese Taskforce	1) Coordination Curriculum
Online Consultation of (2 nd) SWG on the ASEAN CD	22 September 2020	Microsoft Teams	SWG Members, ASEC, AHA Centre, JAC, JICA and ARCH Project	1) Review of the 1 st SWG on Basic Course on DHM 2) Draft Contents on Basic Course on DHM 3) Next Step for Basic Course on DHM in-Country Coordination Course
Online (3 rd) SWG on the ASEAN CD	15-16 July 2021	Microsoft Teams	SWG Members, ASEC, AHA Centre, JAC, JICA and ARCH Project	1) Minute of the 2 nd Sub-Working Group on Curriculum Development 2) Module 1 to 12B presentation 3) Summary of B-Course 4) Review draft Modules of Coordination Course 5) Discussion on Workshop of B-Course
Online (4 th) SWG on the ASEAN CD	13 December 2021	Microsoft Teams	SWG Members, ASEC, JAC, JICA and ARCH Project	1) Minute of the 3 rd Sub-Working Group on Curriculum Development 2) BDHM 2.1 Review on BDHM 2.2 Remark and discussion on BDHM workshop's objective 2.3 Introduction and examples of activities + assessment – 3) C course 3.1 Update of development for Coordination Course 3.2 Product image in the ARCH extension and plan in the ARCH2

				3.3 Plan for Trial training course in Japan (3weeks with TOT program) 4) Project Strategy for training programs under the ARCH2
--	--	--	--	--

In the 7th PWG2 meeting, Nov 29th 2019, Bali, Indonesia, the Working Group 2 agreed that the Sub-Working Group on Curriculum Development would be hosted, under ARCH Project, by Chulabhorn Royal Academy, Thailand.

- Aims to develop a self-sufficient disaster-related healthcare team.
- To make the ASEAN Member States engage and participate in the curriculum creation, 15 modules are assigned by their willing and interest.

During the 1st SWG, the meeting agreed to develop 2 courses 1) Basic Disaster Health Management Training Courses (BDHM Course) and 2) In-Country Course for the Coordination of EMT.

1) Basic Disaster Health Management Training Courses (BDHM Course) which focused on the (i) six course competencies which will be realized through a blended learning approach consisting of off-site individual study on the knowledge/theory and face-to-face workshop for joint application and skills development, (ii) the nine course modules, covering general disaster health management, medical medicine, and logistic-related topics, and (iii) progress of modules development and submission by AMS and the following modules be produced by the following AMS:

- Module 1: Brunei Darussalam
- Module 2: Indonesia
- Module 3: All AMS should create it by their own
- Module 4: Malaysia (Can use WHO minimum dataset if no reporting system available in the country)
- Module 5: Singapore
- Module 6: The Philippines
- Module 8: Thailand
- Module 11a: Vietnam

All of the modules for the BDHM Course prepared by AMS have been discussed and reviewed, some minor suggestions have been circulated online. Workshops were discussed and examples of workshop templates were proposed to the SWG on CD.

2) In-Country Course for the Coordination of EMT

The four-day course covers international and regional mechanisms and methodology in the first three days, while the fourth day dedicates on the application of concepts at the local/national level. The further development of the course to consider the balance between international and regional methodologies, and national mechanisms and methodologies. AMS implementing the course are expected to adapt the course contents according to their context.

The priority of the ARCH Project Team now is the further development and finalisation of the session plans, the identification of resource persons to be part of the course implementation team, and development of session materials.

Questionnaire survey was conducted to study systems and needs for the capacity development of DHM in each AMS in the middle of 2019 and the results were reviewed by the 7th PWG2 meeting on 29 Nov. 2019 in Bali, Indonesia. Then, a field study to complement the above Questionnaire survey in Lao PDR and Cambodia was conducted in Feb. 2020 as presented in the table below. Although another planned field study in Vietnam and Myanmar was canceled due to the outbreak of the COVID19 at the beginning of 2020, a follow-up online interview meeting with Vietnam was held on 1 March 2021 instead of the field study in Vietnam. All the results of the Questionnaire survey and field study/online interview were compiled in the final report “**Needs and Potential Survey for Capacity Development of Disaster Health Management in ASEAN Member States**” (March 2021).

Event	Field Study for Capacity Development on DHM
Dates	11-19 February 2020
Place/Venue	Vientiane (Lao PDR) and Phnom Penh (Cambodia)
Participants	ARCH Project, Thai Taskforce, Malaysia, JICA HQ, JAC and Consultant
Agenda	<div>12-Feb Visit to Ministry of Health Lao PDR</div> <div>13-Feb Visit to University of Health and Science</div> <div>Visit to Mittapharb Hospital</div> <div>14-Feb Visit to Vientiane Rescue</div> <div>Final Internal Meeting</div> <div>17-Feb Visit to Ministry of Health Cambodia</div> <div>18-Feb Visit to Calmette Hospital</div> <div>19-Feb Visit to Cambodian Red Cross</div> <div>Visit to University of Health and Science</div>
Summary of Discussion	<p><u>(LAO PDR)</u></p> <ul style="list-style-type: none"> ✓ Laos already has a plan to establish their National EMT within 2020. ✓ There's no clear plan or policy on how to develop and train the N-EMT on (DHM). ✓ There's no SOP for deployment. ✓ No standard curriculum and No trainers for DHM training. ✓ Many professors and staff have been trained in Thailand. ✓ Staff of Vientiane Rescue have good intrinsic motivation to work. <p><u>(CAMBODIA)</u></p> <ul style="list-style-type: none"> ✓ They are currently preparing a Strategic Plan for DHM (2020 – 2024). ✓ Government's priorities on health focusing on communicable disease and maternal-child health more than DHM. ✓ The Calmette Hospital has experience in deploying medical personnel during disasters in Cambodia. ✓ There's no SOP for deployment.

	<ul style="list-style-type: none"> ✓ The Cambodian Red Cross has a good logistics capability (able to transport supplies for humanitarian assistance). ✓ The Cambodian Red Cross is planning to sign an MOU with the Ministry of Education (MoE) to strengthen DHM training in schools and universities. ✓ No standard curriculum and No trainers for DHM training.
--	--

V. Review results of ARCH Project.

The Project was reviewed in terms of accomplishment, implementation process and five evaluation criteria as follows.

(1) Accomplishment of the Project

The accomplishment of the Project was measured in terms of the Outputs, the Project Purpose and Overall Goal in comparison with the Objectively Verifiable Indicators

of the Project Design Matrix (PDM) as well as the plan delineated in the Record of Discussions (R/D), which are the documents.

(2) Implementation Process

The implementation process of the Project was reviewed to see if the Activities have been implemented according to the schedule, and to see if the Project has been managed properly as well as to identify obstacles and/or facilitating factors that have affected the implementation process.

(3) Evaluation based on the Five Evaluation Criteria

- (a) **Relevance:** Relevance of the Project was reviewed to see the validity of the Project Purpose and the Overall Goal in connection with the needs of the beneficiaries and policies of ASEAN and Japan.
- (b) **Effectiveness:** Effectiveness was analyzed by evaluating the extent to which the Project has achieved and contributed to the beneficiaries.
- (c) **Efficiency:** Efficiency of the Project implementation was analyzed focusing on the relationship between the Outputs and Inputs in terms of timing, quality, and quantity.
- (d) **Impacts:** Impacts of the Project were forecasted by referring to positive and negative impacts caused by the Project.
- (e) **Sustainability:** Sustainability of the Project was analyzed in institutional, financial and technical aspects by examining the extent to which the achievement of the Project would be sustained and/or expanded after the Project is completed.

(1) Accomplishment of the Project

The accomplishments for each Output are described in Table 1. All Outputs were accomplished. The RCC was established as a coordination platform to oversee the implementation of the ARCH project and it was upgraded to an ASEAN official committee, namely Regional Coordination Committee on Disaster Health Management (RCCDHM) for the Output 1. Regional coordination drill (RCD) was developed as an occasion for regional collaboration practices and it was conducted 5 times in 4 AMS for Output 2. The standard operation procedure (SOP) for coordination of EMTs in ASEAN was developed as a tool for effective regional collaboration on DHM for Output 3. The SOP was integrated into the SASOP which is the ASEAN official document for disaster response in the ASEAN as one of the Chapters. Various presentations on the activities and outputs of ARCH were made by ARCH members on academic occasions such as APCDM or WADEM for the Output 4. The first ASEAN Academic Conference was held online in December 2021. Terms of Reference (TOR) for the ASEAN Academic Network were prepared and endorsed by the ASEAN SOMHD. Several training programs were

conducted in Thailand and Japan for the Output 5. Standard curriculums for training courses on DHM were developed.

Table 1 Evaluation of ARCH Project accomplishment for each Output

Output 1 Coordination platform on disaster health management is set up.
<ul style="list-style-type: none"> • The RCC was set up and the RCC meetings were held 5 times in person. • The ALDDHM was adopted on the occasion of the 31st ASEAN Summit on 13 Nov. 2017.¹⁸ • The POA to implement the ALDDHM (2019-2025) was drafted and discussed in the PWG and RCC. ASEAN Health Ministers Meeting (AHMM) at the end of August 2019 endorsed the POA.¹⁹ • The RCCDHM to operationalize the POA was established and the first meeting was organized on 22-23 Jan. 2020 in Bangkok and the second meeting was organized online on 9 Dec. 2020. • Joint PWGs meetings were held once in person and twice online during the extension phase. • The Work Programme for the Health Priority 13 on Disaster Health Management in the next ASEAN Health Development Agenda 2021-2025 was drafted and submitted to the SOMHD.
Output 2 Framework of regional collaboration practices is developed.
<ul style="list-style-type: none"> • RCDs were conducted 5 times in Thailand (2 times, including the start-up drill), Vietnam, Philippines and Indonesia. • So far, there have been no chance for on-site practice • The MDS which was officially adopted by WHO in Feb. 2017 as an international reporting standard for EMT was tested in the RCDs and was verified to be effective.²² • The Guidebook for preparation of RCD was developed for the host country.
Output 3 Tools for effective regional collaboration on disaster health management are developed.
<ul style="list-style-type: none"> • The PWG 1 was organized and its meetings were held 7 times. • The SOP for coordination of EMTs in ASEAN, Minimum Requirements (MR) for members of EMTs, Health Needs Assessment (HNA) for EMTs were developed. The SOP, MR and HNA were finalized through testing those tools in the RCDs and were reviewed in the PWG1. • Template of the database for EMT was made. EMTs data was collected from all AMS. • The SOP was endorsed by SOMHD in April 2019. • The SOP was tested by the Joint Tabletop Exercise (TTX) between Health Cluster 2 and WG PRR in collaboration with the AHA center in November 2019.

- PWG 1 in the Extension Phase was organized and the meetings were held 2 times in person and 3 times remotely through an online tool.
- Template for the collection of lessons learned from responses for actual disasters in ASEAN was developed. The developed template was officialized as the Annex 13 of the SOP for coordination of EMTs in ASEAN.
- The Sub Working Group (SWG) on ASEAN Collective Measures (ACM) was organized and its meetings were held. The SWG finalized the recommendations on ASEAN Collective Measures.
- The ACM report was prepared with recommendations.

Output 4 Academic network on DHM in AMS is enhanced.

- Various presentations on the activities and outputs of ARCH were made at the 13th and 14th APCDM, 2nd Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) Workshop, JADM annual meetings, and WADEM congresses.
- Various ARCH activities and outputs were put in academic articles and the set of those academic articles will be published in a supplementary issue of the **Prehospital and Disaster Medicine (PDM)**, which is the international academic Journal for the WADEM.
- TORs for ASEAN Academic Network on DHM and ASEAN Institute for DHM were drafted and submitted to the RCCDHM for enforcement.
- ASEAN Academic Conference was organized online on 1-2 December 2021.
- The Preparatory meeting for the ASEAN Academic Network was organized on 30 November 2021.

Output 5 Capacity development activities for each AMS are implemented.

- The PWG 2 was organized and its meetings were held 5 times
- Regional trainings inviting participants from all AMS were conducted 4 times in Bangkok.
- Thai Counterparts training programs in Japan were conducted twice.
- Study tour in Japan for key members from all AMS was conducted in October 2018.
- The PWG 2 in the Extension Phase was organized and the meetings were held 2 times in person and 3 times remotely through an online tool.
- The SWG on Standard Training Curriculum was established and its meetings were held in person as well as remotely through web conferences.
- Questionnaire survey on capacity development in AMS was conducted in 2019. The field study on capacity development was conducted in Lao PDR and Cambodia in Feb 2020. Online interview meeting with Vietnamese relevant personnel was held in March 2021. All the results of the Questionnaire survey and field study/online interview were compiled in the final report.
- Standard curriculums for Basic DHM training course and Coordination course were drafted.

The Project Purpose and its verifiable Indicators are indicated in Table 2.

Table 2 ARCH Project Purpose according to the verifiable indicators.

Project Purpose	Regional coordination on disaster health management is strengthened in ASEAN.
Verifiable Indicators	<ol style="list-style-type: none"> 1. Coordination meetings on DHM in ASEAN are held on a regular basis. 2. Activities needed for regional collaboration are clarified and approved in the coordination meeting. 3. Recommendations for developing regional collaboration mechanisms in DHM are proposed to the SOMHD. 4. Regional collaboration tools are developed and approved in the coordination meeting.

Indicator 1 was Achieved. The RCC which is a coordinating platform to oversee the implementation of the ARCH Project was established immediately after the Project started. The RCC meetings were held 5 times. The RCC on DHM (RCC-DHM) which is an ASEAN authorized committee to effectively and sustainably operationalize the POA for the ALDDHM in a timely manner was established after the POA was endorsed by the 14th ASEAN Health Ministers Meeting (AHMM) on 29th August 2019 in Cambodia.¹⁹ The RCC-DHM meetings were also organized with supported from the Project.

Indicator 2 was Achieved. Necessary activities and products of regional collaboration such as RCC, PWG, RCD, AMS training, SOP and various templates for AMS I-EMT were clarified in the RCC and PWG.

Indicator 3 was Achieved. The RCC and PWG discussed not only the directly related activities and outputs of the ARCH Project but also on the drafting of ALD-DHM and its Plan of Actions (POA) in consideration of sustainability for regional collaboration after the Project. The text drafted through the discussion in the RCC and the PWG was submitted to the ASEAN Health Cluster 2 meetings and the SOMHD. Finally, the ALD was adopted on the occasion of the 31st ASEAN Summit in Philippines on 13 Nov. 2017 and the POA was endorsed by the 14th AHMM on 29th August 2019.^{18, 19}

Indicator 4 was Achieved. The regional collaboration tools such as the SOP and various templates for AMS I-EMT were developed and reviewed and endorsed by the PWG 1 and RCC. Those tools were submitted to the RCCDHM, ASEAN Health Cluster 2 and SOMHD for endorsement. Joint table top exercise by ASEAN Health Cluster 2 and Working Group- Preparedness, Response and Recovery (WGPRR) under ASEAN Committee on Disaster Management (ACDM) with AHA Centre was conducted to review the SOP for AMS I-EMT in order to integrate it into ASEAN Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief

and Emergency Response Operations (SASOP).²¹ ACDM decided to integrate the SOP into the SASOP as its 7th Chapter in October 2021, on the condition that the SOP shall be tested in the next ASEAN Regional Disaster Emergency Response Simulation Exercise (ARDEX).

The overall goal and its verifiable indicators are indicated in Table 3.

Table 3 The Overall Goal and its Verifiable Indicators

Overall Goal	ASEAN and Japan collaboration mechanism on disaster health management is developed.
Verifiable Indicators	<ol style="list-style-type: none"> 1. Roadmap of ASEAN regional collaboration mechanism on DHM is finalized and proposed to SOMHD. 2. Hub organization in-charge of coordination of ASEAN and Japan collaboration mechanisms is identified, and its role is clarified. 3. Necessary staff and budget of hub organization of ASEAN and Japan collaboration mechanism are proposed. 4. Activities based on ASEAN and Japan collaboration mechanisms will work if large-scale disaster occurs.

Indicator 1 was Achieved. The ALDDHM was adopted on the occasion of the 31st ASEAN Summit in the Philippines on 13 Nov. 2017.¹⁸ The Plan of Action (POA) to implement the ALDDHM (2019-2025) was drafted by the leadership of Thailand. The RCC and PWG of ARCH discussed how to improve the POA and a revised version based on those discussions was submitted to the SOMHD in April 2019. Finally, the POA was endorsed by the AHMM on 29th Aug 2019.¹⁹ In addition, the Work Programme for Health Priority 13 on Disaster Health Management of the next ASEAN Health Development Agenda (2021-2025) was submitted to the SOMHD in October 2021

Indicator 2 was Achieved. The RCCDHM was organized to operationalize the POA according to the Terms of Reference (TOR) for the RCCDHM approved by the 14th AHMM on 29 August 2019. The AMS representatives of the RCCDHM were nominated in December 2019. First meeting of the RCCDHM was held on 22-23 January 2020. Establishment of ASEAN Academic Network and ASEAN Institute on DHM (AIDHM) were also proposed to facilitate academic parts of the POA including research activities, education/training activities and knowledge sharing. The draft of the Terms of Reference (TOR) for the ASEAN Academic Network and AIDHM were also discussed and polished in the Project and submitted to the RCCDHM. The RCCDHM and the AIDHM could be regarded as the “Hub organization in-charge of coordination of ASEAN and Japan collaboration mechanism” referred to in this Indicator. Although it is still necessary to continue negotiations and discussions among AMS on the ASEAN Academic Network and AIDHM, if the discussions are concluded, it can be said that this indicator would be

satisfied. The ARCH Project has been conducted in close collaboration with the Japanese Advisory Committee, which consists of experienced and knowledgeable medical professionals on disaster medicine as well as the JDR Secretariat and JDR registered members. In addition, several opportunities have been provided for the ARCH AMS members to participate and make presentations in the conferences of JADM, APCDM, REMPAN and WADEM. The network of practitioners and experts on DHM between AMS and Japan has been already strengthened through the ARCH Project. The ARCH Project took a very important role for the standardization of the Emergency Medical Team Minimum Data Set (MDS) which is the EMT reporting format for disease surveillance developed in collaboration between WHO and Japan (JICA and JDR members).

Indicator 3 was Partially Achieved. Thailand decided to serve as the secretariat of the RCCDHM. Thai MOPH appointed some staff of the Division of Public Health Emergency Management as the officers in charge of the secretariat of the RCCDHM.

Indicator 4 is not evaluable. So far, cases in which activities based on ASEAN and Japan collaboration mechanisms were conducted for actual disaster response have not yet been reported.

(2) Implementation Process

Involvement of the Thai Ministry of Public Health (MOPH) in the ARCH hadn't been clear since the project started in July 2016. However, the MOPH is mainly responsible for contact with health sector bodies or meetings in ASEAN and WHO. In addition, the MOPH is responsible for setting up the Emergency Operation Center (EOC) in the health sector if a large-scale disaster occurs in Thailand. Moreover, MOPH should be responsible for overseas deployment of EMT. Therefore, it is essential to get commitment from the MOPH for all the activities of the ARCH. Accordingly, the R/D of the project was amended in Aug. 2017, the Permanent Secretary was appointed as the Co-Project Director and Division of Public Health Emergency Management (DPHEM) was assigned as the implementation body of the MOPH. The amended R/D also clarified the titles and organizations for the members of the Joint Coordination Committee (JCC) and stipulated that JICA should dispatch long-term experts who are responsible to improve the coordination with ASEAN bodies and WHO and to strengthen the collaboration among the MOPH, NIEM and JICA. The long-term expert (Chief Advisor) based on the amended R/D was dispatched in June 2018.

ASEAN Leaders' Declaration (ALD) on Disaster Health Management (DHM) was adopted on the occasion of the 31st ASEAN Summit in Manila on 13 Nov. 2017. In addition, the Plan of Action (POA) to implement the ALD was drafted and was submitted to the ASEAN Health Cluster 2 for endorsement in 2019. Based on the movement mentioned above, all the stakeholders of the Project agreed that the Project should extend for a certain period until the POA is approved and the main Mechanism of the POA starts and gets its actual activities on track so that the Project could ensure the impact and sustainability. The Project was extended for 21 months from July 2019 to March 2021. Two long term experts (Chief Advisor and Project Coordinator) dispatched by JICA have been facilitating the implementation of the Extension Phase. The roles and responsibilities between the NIEM and MOPH were clearly demarcated, in which the

MOPH should be mainly responsible for the matters that are necessary to approach ASEAN's policies or systems including organizing the PWG1 and the NIEM should be responsible for activities relating to capacity development and knowledge management including organizing the PWG2. On the other hand, both the organizations tend to focus on the activities within their responsibilities and want to conduct their responsible activities only by themselves with lack of collaboration, although most activities under the Project are relevant to each other and it is essential for both organizations to appropriately share the information on the activities and work together for the implementation of the activities.

Many activities were forced to suspend after February 2020 due to the COVID-19 pandemic. Although some activities have been partially resumed through online tools since June 2020, it was decided that many activities that need gathering the participants with overseas traveling such as field studies in other countries, organizing the RCD and Academic Conference in person had to be postponed from 2020 to 2021. As a result of the suspension, further extension for another 9 months until the end of December 2021 was decided. However, it is more difficult to have sufficient discussions by online tools than in person and it must become inefficient to get conclusions. In addition, several activities and events with overseas travels are not still able to resume even during the re-extension period and must be postponed to the next phase.

(3) Evaluation based on the Five Evaluation Criteria

Evaluation of the ARCH Project based on the Five Evaluation Criteria is listed in Table 4.

Table 4 Evaluation of the ARCH Project based on the Five Evaluation Criteria

Relevance	High; <ul style="list-style-type: none"> • ASEAN is continuously the region where large scale disasters frequently occur. ASEAN has been strengthening their efforts for disaster prevention/mitigation as well as rapid and effective disaster response. • Regarding the disaster medicine which had not been tackled enough in comparison with other sectors relating to disaster management in the ASEAN, as a result of the adoption of ALDDHM at the occasion of the ASEAN Summit in 2017, it can be expected that political priority for the DHM could rise higher in this region than the situation before the project. • COVID19 pandemic has raised further interests to strengthen the regional capacities of medical response for public health emergencies.
Effectiveness	Relatively High; <ul style="list-style-type: none"> • Targets of all the indicators for the Project Purpose have been achieved.

	<ul style="list-style-type: none"> The SOP and other tools developed by the project were officialized as the ASEAN documents, however, it is necessary to utilize them for actual disasters in ASEAN and continuously review and revise them if necessary. In addition, EMTs of some AMS have difficulties in meeting some elements of WHO I-EMT minimum standards, especially in the area of logistics, and their capabilities are not enough for self-sufficient international deployment.
Efficiency	<p>Medium;</p> <ul style="list-style-type: none"> The organizational commitment from Thai MOPH for the ARCH Project wasn't clear in the first year of the Project. Therefore, the agreement document between Thailand and Japan for the ARCH was amended so that the Thai MOPH became the implementation agency with the NIEM. Roles and responsibilities between the NIEM and MOPH were clearly demarcated for the implementation of the ARCH activities. However, both the organizations tend to focus on the activities within their responsibilities and want to conduct their responsible activities only by themselves with lack of collaborations. There are many relevant parties of Japan involved in the project implementation such as the Advisory Committee, the Consultant Team, Infrastructure and Peacebuilding Department of JICA and the Secretariat of JDR Team. However, the roles and responsibilities of each party were not distinct and communication among the parties was somewhat confused in the first half of the project period. Because the participants for the RCC and PWG from each AMS were often changed, it was difficult to maintain consistency in the sequence of discussions. It is not certain how the participants of the AMS training and the RCDs have utilized their acquired knowledge for capacity development on DHM in each AMS. Many activities were forced to suspend after February 2020 due to the COVID-19 pandemic. As a result of the suspension, further extension for another 9months until the end of December 2021 was decided. However, it is difficult to have sufficient discussions by online tools than in person and it must become inefficient to get conclusions. In addition, several activities and events with overseas travels are not still able to resume even during the re-extension period and must be postponed to the next phase.
Impact	High;

	<ul style="list-style-type: none"> • The ARCH Project had many opportunities to make presentations on the progress and outputs of the project in the AHMM, SOMHD or other important ASEAN meetings relating to disaster management. In addition, ARCH Project has contributed to emphasize the importance of DHM on the occasions of the ASEAN Summit, • The text of the ALD was drafted through a series of discussions in the RCC and PWG of ARCH. ALD DHM was adopted on the occasion of the 31st ASEAN Summit in Philippines on 13 Nov. 2017 and the leaders of the ASEAN confirmed to strengthen the further efforts for DHM in the ASEAN.¹⁸ • POA to implement the ALDDHM (2019-2025) was drafted through the discussions in the RCC and PWG of ARCH Project. The POA was endorsed by the 14th AHMM on 19th August 2019. If the POA will be implemented smoothly as planned, it could be regarded that the ASEAN Collaboration Mechanism was developed and ASEAN is expected to gradually strengthen the capacities of DHM and be acquiring the capabilities of rapid and effective medical response for any large-scale disasters in the near future. • The MDS, which Japan Disaster Relief proposed to the WHO to develop and took the lead for the development, was tested by the RCD of ARCH and its effectiveness was verified by the ARCH regional drills. The MDS was officially adopted by WHO in Feb. 2017 as an international standard. Thus, ARCH has also made a significant international contribution beyond the ASEAN region. • The Work Programme for the Health Priority 13 on Disaster Health Management in the next ASEAN Health Development Agenda 2021-2025 was submitted to the SOMHD and will be commenced soon toward the achievement of the targets.
Sustainability	<p>High;</p> <ul style="list-style-type: none"> • The ALD was already adopted and Leaders of ASEAN have reconfirmed to strengthen the system and mechanism for Disaster Health Management in each country as well as in the region as a whole. It could be expected that the political priority for DHM will continue at a higher level. • The POA to implement the ALD was already endorsed by ASEAN Health Ministers Meeting and the RCCDHM to facilitate the POA was also organized. It is regarded that the RCC set up by ARCH could expand its role and function, and upgrade to the RCCDHM which could be a sustainable formal mechanism on DHM in ASEAN.

	<ul style="list-style-type: none"> • The integration of the SOP into the SASOP could ensure the effective utilization of the SOP for actual disaster cases. • Once the ASEAN Academic Network and AIDHM is established, AMS training courses which were initiated by ARCH will be taken over to the ASEAN Academic Network and AIDHM. AIDHM will be responsible for developing training curriculums and teaching materials in collaboration with the regional training centers and member institutes of the ASEAN Academic Network, referencing the products of ARCH. AIDHM will play a role as the secretariat to enhance the ASEAN Academic Network on DHM. ASEAN Academic Network and AIDHM will also activate research activities and knowledge sharing on DHM in ASEAN. • The activities and products through ARCH were succeeded by the POA and the activities will be continuously conducted and the products will be improved through reviewing activities.
--	--

Most of the Activities have been implemented and the Outputs have been achieved as planned. Regarding the indicators for the Project Purpose, the Project has already achieved all of its targets. In addition, the Project has created a synergistic effect on the participants from AMS, resulting in the accomplishments beyond the Project Purpose toward the Overall Goal, which should be achieved several years after the termination of the Project period.

Using the Five Evaluation Criteria, the ARCH Project has succeeded to generate a bigger Impact and to secure higher Sustainability than those expected before starting. If the POA for the ALDDHM can be smoothly implemented, the Impact and Sustainability for ARCH could be ensured further. On the other hand, Effectiveness has some space for improvement. It is necessary to continue testing the SOP and other tools in the RCDs so that they can be functional and effective in an actual disaster. The SOP and other tools must be utilized for actual international deployment. Some AMS have difficulties in meeting some elements of WHO I-EMT minimum standards, especially in the area of logistics, and their capabilities are not enough for self-sufficient international deployment. The participants of the AMS training and the RCDs should utilize and broadly share their acquired knowledge with their medical colleagues in each AMS. In addition, it is also necessary to continuously study regional collective measures that could complement the shortage of the capabilities of AMS I-EMTs. Efficiency has not been so high. Especially, communications and collaborations among the stakeholders in the implementation structure shall be improved.

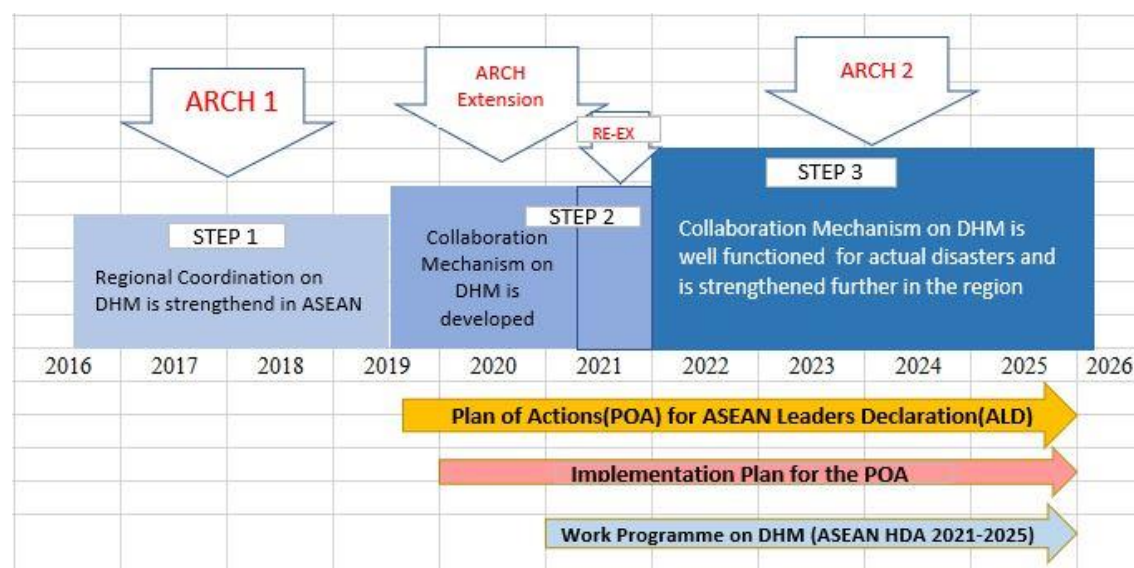
VI. Future Strategy

As a result of discussions between AMS and Japan during the project formulation stage before the ARCH Project was started, it was planned that the project should be continued for 10 years, saying more in details, first target in the 1st phase for 3-4 years is to initiate and strengthen the regional coordination on DHM in ASEAN and next target in the 2nd phase for 3-4 years is to develop the collaboration mechanism on DHM and

finally in the last phase, ASEAN could complete to acquire the functional collaboration mechanism and regional capacity on medical responses for actual disasters and emergencies. Actually, the progress by the ARCH Project and its circumstances on DHM in ASEAN has moved on faster than expected. The ALDDHM was adopted on the occasion of the 31st ASEAN Summit in Manila on 13 Nov. 2017.¹⁸ Additionally, the POA 2019-2025 to implement the ALDDHM drafted through the ARCH Project was also endorsed by the ASEAN Health Ministers Meeting in Aug. 2019.¹⁹ The POA included the activities which ARCH Project has initiated, such as RCC, RCD, SOP of AMS I-EMT, training programs on DHM and ASEAN Academic conference. This means that the ARCH Project has already developed some extent of the collaboration mechanism on DHM and has entered into the final stage to complete toward acquiring the functional collaboration mechanism and regional capacity on DHM in ASEAN.

The POA is the plan till 2025, which has 5 priority areas and 21 targets (14 targets at the regional level and 7 targets at the national level).¹⁹ Therefore, the next phase of ARCH should align with the POA to achieve the selected 19 targets among the 21 POA targets. ARCH 2 Project will start in 2022 after the ARCH extension phase completes at the end of 2021 and will support the targets of the POA for 4 years and some months. The 10-year plan for steps to an ASEAN collaboration mechanism on DHM is indicated in Fig. 2.

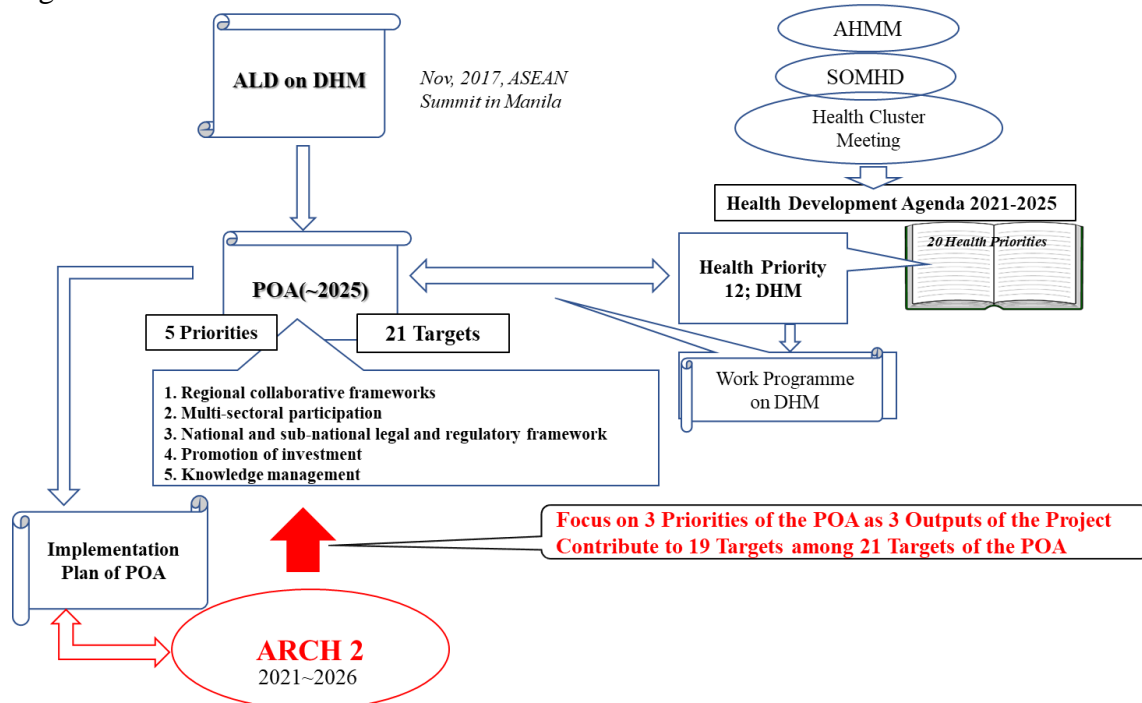
Fig.2 Mid-Term Plan for Steps to ASEAN Collaboration Mechanism on DHM



ASEAN has set the ASEAN Post-2015 HDA in which DHM has been raised as one of the 20 health priorities, and the ARCH Project was listed as a project for the health priority on DHM.⁸ Now, ASEAN is preparing a new work programme for the next ASEAN HDA 2021-2025.²⁰ DHM should be continuously one of the health priorities in the HDA. ARCH prepared a draft work programme on DHM through a series of discussions in the ARCH PWG and which was consistent with the implementation of the POA.¹⁹ The work programme on DHM has been already proposed to the ASEAN upper health bodies. Therefore, ARCH 2 Project can contribute to implement both the POA and

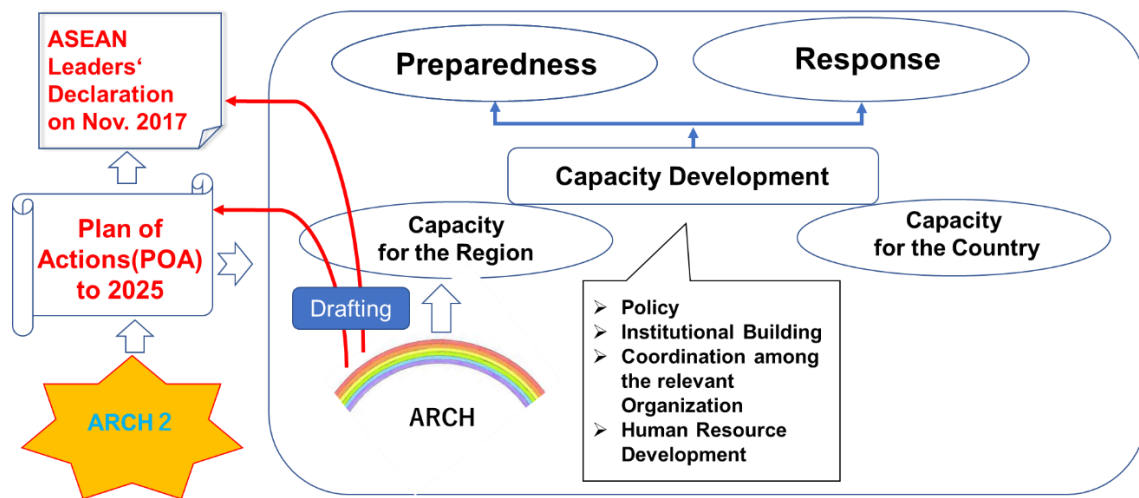
the work programme on DHM in the ASEAN Health Development Agenda 2021-2025. Relations among the ALD, POA, HDA and ARCH can be illustrated in Fig. 3.

Fig.3 ASEAN Policies for DHM and ARCH2



The overall purpose of the ARCH Project is to contribute to the capacity development relating to the preparedness and response stages in the disaster management cycle. The First and Extension Phase of the ARCH Project have mainly concentrated on developing the regional capacity through the development of a regional collaboration/coordination platform, framework and tools as well as training for the AMS personnel involved in regional collaboration/coordination on DHM. However, the ARCH 2 Project must tackle both regional capacity and national capacity in each AMS so that ASEAN could acquire sufficient capacity to strengthen its preparedness as a whole in the region and to effectively work together for disaster medical response. Therefore, the ARCH 2 Project should approach the 7 targets at the national level as well as 12 targets at the regional level of the POA. Fig. 4 illustrates the outline and relationship of the ARCH and ARCH 2 Projects. The overall goal of the ARCH and ARCH 2 Projects is the health emergency and disaster resilient ASEAN region with both improved regional capacity (ARCH Project) and national capacity (ARCH 2 Project) complementing each other.

Fig.4 Overall Purpose of ARCH and ARCH 2 Projects



VII. Conclusion

The ARCH Project is the first ever regional cooperation mechanism and standardization of DHM in ASEAN. It was not possible without multi-stakeholder

commitment of AMS including AHA Centre, relevant governmental and non-governmental bodies, health and non-health clusters under the umbrella of “One ASEAN, One Response” in one of the most disaster-prone regions in this unprecedented time of complexity, aging, urbanization and climate change. COVID-19 and social unrest are increasing the difficulties in DHM. The ARCH and ARCH 2 Projects will have an eminent impact on the resilience and flexible medical response to disasters caused by any type of hazards, although continuous efforts of stakeholders to make this initiative sustainable are necessary.

References

1. The Centre for Research on the Epidemiology of Disasters (CRED). EM-DAT: The International Disaster Database. <https://www.emdat.be/>. Accessed December 8, 2021.
2. ASEAN. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER). <http://agreement.asean.org/media/download/20190702042042.pdf>. Published 2005. Accessed September 6, 2021
3. The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management. <https://ahacentre.org/>. Accessed September 6, 2021.
4. ASEAN. The ASEAN Declaration on One ASEAN, One Response: ASEAN Responding to Disasters as One in the Region and outside the Region. <https://asean.org/wp-content/uploads/2016/09/Declaration-on-One-ASEAN-One-Response.pdf>. Published 2016. Accessed December 9, 2021.
5. WHO. Comprehensive safe hospital framework. https://www.who.int/hac/techguidance/comprehensive_safe_hospital_framework.pdf?ua=1. Published 2015. Accessed September 6, 2021.
6. United Nations. Sendai Framework for Disaster Risk Reduction 2015-2030. https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf. Published 2015. Accessed September 6, 2021.
7. WHO. Classification and minimum standards for foreign medical teams in sudden onset disasters. https://extranet.who.int/emt/guidelines-and-publications#dfli-pdf_manual31/1/ Published 2013. Accessed September 6, 2021.
8. ASEAN. ASEAN Post-2015 Health Development Agenda (2016-2020) <https://asean.org/wp-content/uploads/2018/12/16-ASEAN-Post-2015-Health-Development-Agenda-1.pdf>. Published 2018. Accessed December 9, 2021.
9. ASEAN and the Government of Japan. Vision statement on ASEAN-Japan friendship and cooperation. <https://www.mofa.go.jp/files/000022449.pdf>. Published 2013. Accessed September 6, 2021.
10. ASEAN and the Government of Japan. Implementation Plan of the Vision Statement on ASEAN-Japan Friendship and Cooperation. <https://www.mofa.go.jp/files/000022447.pdf>. Published 2013. Accessed September 6, 2021.
11. JICA. The Survey on the Current Situation of Disaster/Emergency Medicine System in the ASEAN Region: Final Report. <https://openjicareport.jica.go.jp/pdf/12237384.pdf>. Published 2015. Accessed September 6, 2021.
12. Kondo H, Koido Y, Morino K, Homma M, Otomo Y, Yamamoto Y, Henmi H. Establishing Disaster Medical Assistance Teams in Japan. *Prehosp Disaster Med.* 2009;24(6):556-564.
13. Homma M. Development of the Japanese National Disaster Medical System and Experiences during the Great East Japan Earthquake. *Yonago Acta Med.* 2015;58(2):53-61.
14. Asari Y, Koido Y, Nakamura K, Yamamoto Y, Ohta M. Analysis of medical needs on day 7 after the tsunami disaster in Papua New Guinea. *Prehosp Disaster Med.* 2000;15(2):9-13.

15. Kondo H, Seo N, Yasuda T, Hasizume M, Koido Y, Ninomiya N, Yamamoto Y. Post-flood- infectious diseases in Mozambique. *Prehosp Disaster Med*. 2002;17(3):126-133.
16. ASEAN. Joint statement of the 6th ASEAN Plus Three Health Ministers Meeting. https://aseanplusthree.asean.org/wp-content/uploads/2020/01/6th-ASEAN-Plus-Three-Joint-Statement_17-Sep-2014_Adopted-by-PrepSOM.pdf. Published 2014. Accessed September 6, 2021.
17. ASEAN. Joint Statement 12th ASEAN Health Ministers Meeting. https://asean.org/wp-content/uploads/images/2015/January/asean_health_minister_meeting/12th_AHMM_Joint%20Statement_Final.pdf. Published 2014. Accessed September 6, 2021.
18. ASEAN. ASEAN Leaders' Declaration on Disaster Health Management. https://asean.org/wp-content/uploads/2017/11/4.-ADOPTION_2017_ALD-on-DHM_Endorsed-13th-AHMM.pdf. Published 2017. Accessed September 6, 2021.
19. ASEAN. Plan of Action to implement the Asean Leaders' Declaration on Disaster Health Management (2019-2025). <https://asean.org/wp-content/uploads/2021/10/Plan-of-Action-to-Implement-ALD-on-DHM-2019-2025.pdf>. Published 2019. Accessed December 9, 2021.
20. ASEAN. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER). <http://agreement.asean.org/media/download/20190702042042.pdf>. Published 2005. Accessed September 6, 2021
21. ASEAN. Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP). <https://ahacentre.org/wp-content/uploads/SASOP/2.-SASOP-Revision-V2.0-April2018.pdf> Published 2017. Accessed September 6, 2021.
22. Kubo T, Yanasan A, Herbosa T, Buddh N, Fernando F, Kayano R. Health Data Collection Before, During and After Emergencies and Disasters-The Result of the Kobe Expert Meeting. *Int J Environ Res Public Health*. 2019;16(5):893.

ARCH Deliverables

Title	Access Link
A survey on the Situation of Disaster/ Emergency Medicine System in the ASEAN Region (2015)	LINK
ARCH Project Progress Report (2017)	LINK
ARCH Project Progress Report (2018)	LINK
Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management (First Phase Final Report, 2019)	LINK
ARCH Project Proceedings of Meetings - First Phase (July 2016 to July 2019)	LINK
ARCH Project Progress report - Transition to Extension Phase (April 2019 to March 2020)	LINK
Situation Survey for ASEAN Collective Measures to Support AMS I-EMT Deployment Needs and Potential Survey for Capacity Development of Disaster Health Management in ASEAN Member States (2021)	LINK
ARCH Project Progress report - Extension Phase (April 2020 to March 2021)	LINK
ARCH Project Proceedings of Meetings - Extension Phase (July 2019 to March 2021)	LINK
ARCH Project Proceedings of Meetings - Extension Phase (March 2021 to December 2021)	LINK
Guidebook for Preparation of ARCH Regional Collaboration Drill (RCD)	LINK
ACM Report	LINK
ACM Annex 1: Database	LINK
ACM Annex 2: Guidance on Medical waste management	LINK
ACM Annex 3: Guidance on Medical accident/ malpractice, Patient complaints management	LINK
Proceedings of 1 st ASEAN Academic Conference (2021)	LINK
ARCH Project Handbook (2021)	LINK
COVID-19 Good Practices Booklet (2021)	LINK