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DEVELOPMENT OF THE COORDINATION COURSE (C-COURSE) FOR DISASTER HEALTH MANAGEMENT (DHM) IN THE ASEAN

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List of Abbreviations

AHA Centre	: ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
ALD-DHM	: ASEAN Leaders' Declaration on Disaster Health Management
AMS	: ASEAN Member State
ARCH	: Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management
ASEAN	: Association of Southeast Asia Nations
B-Course	: Basic course on Disaster Health Management
C-Course	: Coordination course for Disaster Health Management
DHM	: Disaster Health Management
EMT	: Emergency Medical Team
EMTCC	: Emergency Medical Team Coordination Cell
EOC	: Emergency Operation Center
I-EMT	: International Emergency Medical Team
JAC	: Japan Advisory Committee
JICA	: Japan International Cooperation Agency
MOPH	: Ministry of Public Health
NIEM	: National Institute for Emergency Medicine, Thailand
PHEOC	: Public Health Emergency Operation Center
POA	: Plan of Action

PWG	: Project Working Group
RCD	: Regional Collaboration Drill
RDC	: Reception Departure Center
SASOP	: Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations
SWG-CD	: Sub-Working Group for Curriculum development
TTX	: Table Top Exercise
WHO	: World Health Organization

ABSTRACT

Introduction; Development of a standard curriculum for the Coordination course (C-Course) was initiated during the ARCH extension phase, 2019-2021. The objective of this article is to clarify important perspectives for application of the standard curriculum of the C-Course to each AMS and to be shared them especially for in-country training course developers. **Methods:** The C-Course must include contents on international and regional guidelines/procedures for EMT operations as well as domestic policies/rules/regulations on disaster management and inter-governmental coordination mechanisms for disaster response. The standard curriculum and teaching materials were developed through the following three phase process: Phase 1. Development of proto-type program and session plan; Phase 2. Conduct of Trial C-Course in Japan; Phase 3. Application of C-Course to Malaysia. **Results:** Through the above three phase process, the standard program and session plan for the C-Course were developed with the application of the C-Course in the Malaysian context, dividing it into two parts which are the pre-learning online lectures for general theories and international/regional guidelines on EMT coordination and the in-person workshop with abundant scenario-based group discussions and group works. **Discussion:** Development process for standard curriculum for the Coordination course (C-Course**)** was almost completed. **Conclusion:** The C-course has to be further tailored to suit other AMS's situations so that all the AMS could conduct their own in-country C-courses.

Keywords: Coordination Course; EMTCC; RCD

INTRODUCTION

The Plan of Action (POA) to implement the ASEAN Leaders' Declaration on Disaster Health Management (ALD-DHM) of 2019-2025 (1) was endorsed by the 14th ASEAN Health Ministers Meeting on 29 August 2019. The POA set 21 targets (2) which should be realized by the year 2025, including the following targets.

1. A Standard Training curriculum of ASEAN I-EMTs, EMT Coordination Cell (EMTCC) and other topics related to disaster health management is developed. E-learning materials are also developed according to the standard curriculum. (Target No. 8 at the regional level of the POA)
2. Each ASEAN member state (AMS) has a disaster health training system responsible for the implementation of capacity development, knowledge management, research and development initiatives in collaboration with other designated training centers of AMS and with relevant academic networks, as appropriate. (Target No. 5 at the national level of the POA)

In order to proceed with the above targets, the Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management, ARCH project (3), organized the Sub-Working Group for Curriculum development (SWG-CD) in 2020, consisting of two representatives from each AMS to initiate development of ASEAN standard curriculums for training courses that shall be conducted in each AMS for human resource development on disaster medical response. The SWG-CD decided to develop two standard curriculums. The first curriculum is for the Basic Disaster Health Management Course (B-Course) (4) which focuses on training members or member candidates of Emergency Medical Teams (EMTs) deployed in domestic disasters. The second curriculum is for the Coordination Course for DHM (C-Course) which is being discussed in this article. The C-Course aims at strengthening domestic coordination capacity in each AMS to be able to manage incidents occurring in the country including the context where international and domestic EMTs are arriving. The objective of this article is to clarify important perspectives for application of the standard curriculum of the C-Course to each AMS and to be shared them especially for in-country training course developers.

METHODS

The main objective of the C-Course is to train staffs of Public Health Emergency Operation Center (PHEOC) or Emergency Medical Team Coordination Cell (EMTCC) in each

AMS so that they can coordinate with EMTs including international EMTs and provide necessary instructions/information and support to the EMTs when a large-scale disaster occurs in the AMS. To fulfill this objective, the Course must include relevant contents on international and regional guidelines/procedures for EMT operation(5)as well as domestic policies/rules/regulations on disaster management and inter-governmental coordination mechanisms for disaster response. The standard curriculum and teaching materials were developed through the following three phase process.

Phase 1. Development of Proto-type Program and Session Plan

Japanese experts and Thai counter-parts initiated preparation of a draft proto-type program and session plan based on the WHO EMTCC Handbook (6) and the EMTCC Training course for AMS participants which was conducted on February 2019 in collaboration with WHO as one of the activities under the ARCH project and the draft version of the proto-type program and sessions plan was reviewed by the SWG-CD for further improvement.

Phase 2. Conduct of Trial C-Course in Japan

A Trial Program of the C-course was conducted in Japan for 4 days in 2022, based on the above proto-type program and session plan. Two participants from each AMS were invited to this trial course.

Phase 3. Application of C-Course to Malaysia

The first in-country training for Malaysia was conducted in 2023 with around 30 Malaysian participants, divided into two parts. The first part consist of an online program for pre-learning lectures on 20-21 July and the second part was the in-person workshop in Malaysia on 15-16 August. During the in-person workshop, the participants discussed how regional and international mechanisms/procedures/methodologies could be integrated into the Malaysian medical response mechanism.

RESULTS

Development of proto-type program and session plan

Japanese experts and Thai counter-parts prepared a proto-type program and session plan for 4 days training course while referencing the EMTCC training for AMS participants which was conducted on February 2019 in collaboration with WHO as one of the activities under the ARCH project (Table 1). This training was conducted based on the WHO standard EMTCC

training package while fitting into the ASEAN context. It means that the above EMTCC training included contents on the ASEAN "Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP) (7) " as well as the WHO EMTCC Handbook (6).

However, the main aim of the WHO standard EMTCC training package is to train international humanitarian aid persons who are dispatched to support EMTCC that would be set up in countries affected by disasters. On the other hand, each AMS needs to train enough number of national and sub-national officers who are responsible for coordination of medical response, including the context where international and domestic EMTs are deployed in affected areas. Therefore, the curriculum of the C-Course should include sessions and contents that the course participants could share their country's rules/regulations for disaster response and discuss how WHO's guideline and ASEAN regional procedures could be integrated into local mechanisms in each AMS.

Table 1. Summary of the EMTCC Training for AMS

Title	Emergency Medical Coordination Cell (EMTCC) Training for AMS
Dates/Venue	17-22 February 2019/ Bangkok, Thailand
Objectives	To develop a cadre of operationally-ready EMTCC personnel in the ASEAN region To streamline coordination mechanisms linking national, regional and international EMT responders To compliment the EMT Coordination Handbook, and other relevant guidelines, by focusing skills, practical challenges and likely response scenarios for AMS
Participants	Two representatives from each AMS
Resource persons	From WHO, JICA/JDR, ASEAN Secretariat, AHA Center, ARCH Project
Program	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
DAY 5 1) SIMEX (cont'd) 2) SIMEX Debrief 3) Learning Review/Action Planning/Knowledge Test/Participant Feedback

Source: Ikeda et al., 2025

As a result, the proto-type program over 26 hours for 4 days was developed with 26 sessions which consist of essential core contents and supporting sessions such as a Course introduction session and daily Wrap-up/Recap sessions (Figure 1). The sessions in the program were basically lined up in the order of disaster medical response procedures stipulated in the "Standard Operating Procedure (SOP) for Coordination of EMTs in ASEAN which is the 7th Chapter of the ASEAN SASOP (7). In addition, sessions for "Gap analysis between international and local coordination system" and "Application of DHM coordination system" were added in the last day of the Course. In addition, it was also considered that active participatory learning methods using disaster scenarios should be the learning approach used as much as possible in the course.

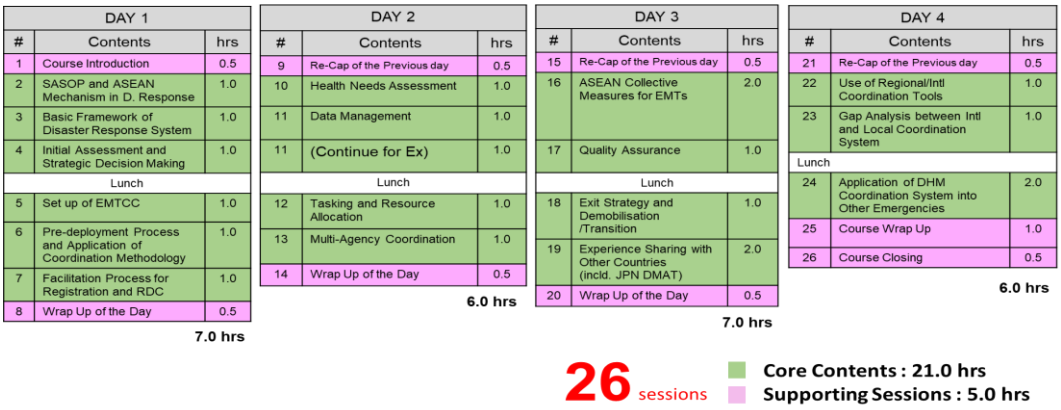

Figure 1. Proto-type Program for C-Course
Source: Ikeda et al., 2025

Moreover, a session plan was developed for each session. The session plan includes its session aim, learning outcomes, necessary materials and preparation and time table of the session. The sample is as below (Figure 2).

Session 4: Initial Assessment and Strategic Decision Making

Duration: 1.0 hour

Session Aim:

-To understand how the EOC can gauge the humanitarian impact at the very early stage after disaster, and how this assessment can be used for strategic decision making with regard to requesting international or regional EMTs.

Learning Outcomes: At the end of this session participants should be able to:

- Understand the way how the initial assessment is conducted and given situation is analyzed.
- Understand how this identified information can be utilized for decision making on requesting international/regional assistance in order to fill the gap of medical needs.

Materials/Preparation:

- Classroom set up in modular tables/4 groups of 6 (scaled to size of class) – participants will break into small groups for activities

Time allocation:

Time	Topic	Method	Facilitator Notes/Visuals
10mins	Concept of Assessment	Presentation slides	Run through the presentation slides and explain the overall concept of the assessment.
45mins	Assessment	Group Work	Information about post disaster situation is provided to the participants. The participants will calculate how many people are likely to be affected by using "Golden Ratio (by WHO)". With same manner, existing/available local resource of medical response will be identified, and this will result in revealing the gap of medical response. To fulfil the gap then participants are asked to think how much medical assistance from outside is required (by typology/capability). Similarly, the participants will consider the logistical constraints to realize the medical assistance and think about the countermeasures.
5mins	Wrap up / Q&A	Presentation Slides	Facilitator will summarize the key takeaways from the group work together with Q&A.
1min	Learning Journal		The facilitator encourages the participants to fill learning journal.

Figure 2. Session Plan sample
Source: Ikeda et al., 2025

Conduct of Trial C-Course in Japan

The trial Program of the C-course was successfully conducted for 4 days in 2022 as follows, based on the proto-type curriculum with the 26 sessions mentioned above as a part of the regional training course in Japan, inviting two participants from each AMS. The objective is to validate the proto-type curriculum and teaching materials of the Coordination Course. The trial was conducted on 5 to 8 December 2022 (during JICA's regional training course on DHM

in ASEAN which was conducted from 22 Nov. to 19 Dec. 2022 in Japan). The venue was on Kobe, Japan (JICA Kansai Centre). The participants of this program were 2 persons from each ASEAN Member States. The lecturers were mentors from Thailand, Philippines, AHA Centre and ASEAN Secretariat, Members of the Japan Advisory Committee (JAC), JICA Experts.

There were various comments and recommendations from the participants of the Trial C-Course for future application of the C-course.

1. The sessions are too heavy and some sessions were overlapping, which may confuse participants.
2. Exercises should be made more practical and correspond to tight timeframe, since the lectures are too heavy.
3. There are many components/ concepts which are difficult to understand.
4. It is recommended to have more TTX to ensure that participants understand the actual process.
5. Given the different backgrounds and knowledge levels of participants, it is recommended that participants acquire basic DHM knowledge before attending the C-Course.

Application of C-Course to Malaysia

The C-Course is developed with the aim of strengthening domestic coordination capacity in each AMS to be able to manage incidents occurring in the country through training of EMTCC or PHEOC staff so that they can coordinate with EMTs including international EMTs and provide necessary instructions or information/ supports to the EMTs when a large-scale disaster occurs in their country. Therefore, it is necessary to modify the proto-type curriculum and teaching materials in consideration of the local context of each AMS while referring to the review result of the Trial Course in Japan. As a first in-country C-Course, we decided to conduct the C-Course in Malaysia as a necessary preparation step for the Regional Collaboration Drill. The aim of the in-country C-Course in Malaysia is to train players for EMTCC or exercise controllers (Ex-con) during the 5th RCD Malaysia. This means that persons trained by the course are expected to appropriately play roles of coordination with the participants of the RCD and providing instructions or information/support to the AMS EMTs in the RCD. In addition, the C-course in Malaysia was regarded as an occasion to confirm how international and regional guidelines/procedures or general knowledge on DHM could be applied in the Malaysian context.

Based on the review results of the Trial C-Course in Japan in consideration of the above recognition, the C- Course was divided into two parts.

1. Online Pre-learning lectures on 20-21 July

The Objectives is to learn about international standards and guidelines on EMT and EMTCC, the ASEAN regional mechanism for disaster response, and other countries' experiences on DHM and ARCH products through lectures by ASEAN and Japanese lecturers. For the program, the following 15 lectures for 13 subjects were provided (7.5 hours) (Table 2). The lectures were given by resource persons from AHA centre, ASEAN Secretariat, JICA, Japan Advisory Committee (JAC) for the ARCH, Philippines, Thailand and ARCH experts.

Table 2. Pre-learning Program

No	Session Contents	Mins	Responsible Party
1-1	SASOP and ASEAN Mechanism in Disaster Response & Pre-deployment Process and Application of Coordination Methodology	40	AHA
1-2	SASOP and ASEAN Mechanism in Disaster Response (from ASEC aspect)	20	ASEC
1-3	SASOP especially SOP for Coordination of EMT in ASEAN	30	Thailand
2	Basic Framework of Disaster Response System	30	JICA
3	Initial Assessment and Strategic Decision Making	30	JAC
4	Quality Assurance	30	JAC
5	Set up of EMTCC	30	JICA
6	Facilitation Process for Registration and RDC	30	JICA
7	Tasking and Resource Allocation	30	JICA
8	Multi-Agency Coordination	30	Phillipines
9	Regional/Intl Coordination Tools	30	Thailand
10	Data Management (DHM)	30	JAC
11	ASEAN Collective Measures (ACM) for EMT	30	ARCH Poject
12	Health Needs Assessment	30	JAC
13	Exit Strategy and Demobilization/Transition	30	JAC

Source: Ikeda et al., 2025

2. In-person Workshop in Malaysia on 15-16 August

The objective of this course:

a. To learn about domestic mechanisms, rules & regulations, procedures on disaster management, EMT and EMTCC.
b. To learn practical usage of international and regional standards/guidelines/tools on EMT and EMTCC.

c. To confirm the application of international and regional standards/guidelines/tools on EMT and EMTCC with the Malaysian system on disaster medical response.

For the program, the following 12 sessions were conducted for 2 days (13 hours) (Table 3). All of the sessions were mainly facilitated by the Malaysian lecturers who were members of the RCD preparation team of the RCD host country. Malaysian lecturers and ARCH mentors team consisted of the core members of the previous RCD host countries (Thailand, Philippines and Indonesia) with Japanese advisors had a series of discussions to confirm the content of lecture and set tasks for group work in each session. Malaysian lecturers were requested to share domestic mechanisms, rules & regulations, procedures on disaster management, EMT and EMTCC in Malaysia and to clarify how to link the international and regional standards/guidelines/tools on EMT and EMTCC with the Malaysian system on disaster medical response in advance.

In addition, if there aren't any suitable local mechanisms, rules and regulations which are consistent with the international and regional standards/guidelines/tools, Malaysian lecturers were required to conduct internal consultations to pursue possible ways for applying the international and regional standards/guidelines/tools to Malaysia in advance or they could instruct the participants to discuss its possible ways as tasks of the group works in the Workshop.

Table 3. Program of the Workshop in Malaysia

	Time	Session content
1	60 mins	**Basic Framework of Disaster Response System** A Malaysian lecturer provided a lecture on the Malaysian System.
2	60 mins	**Initial Assessment and Strategic Decision Making** Malaysian lecturer and ARCH experts facilitated groups work for Assessment and Strategic Decision Making, utilizing the Master scenario of RCD Master scenario of RCD Malaysia
3	60 mins	**Set up of EMTCC** A Malaysian lecturer provided a lecture on the setup system of EMTCC in Malaysia.
4	60 mins	**Facilitation Process for Registration and RDC** A Malaysian lecturer provided a lecture on Facilitation Process for Registration and RDC in Malaysia. Groups were provided tasks about the following; -What documents shall be collected from AMS I-EMT in the RDC? -What kind of information shall the RDC provide for AMS I-EMTs?
5	60 mins	**Pre-deployment Process** Malaysian lecturer and Indonesia mentors facilitated groups work for Preparation of

	Time	Session content
		Situation Report and Contractual Arrangement.
6	60 mins	**Tasking and Resource Allocation** Malaysian lecturers, ARCH experts and Thailand mentors facilitated group work for tasking.
7	60 mins	**Data Management (DHM) -Exercise** Malaysian lecturer and JAC mentor facilitated groups work for Practice for Tally of MDS and data analysis.
8	105 mins	**ASEAN Collective Measures (ACM) for EMT** Malaysian lecturers and an ARCH expert facilitated groups work for application of the SOP and ACM in Malaysia.
9	60 mins	**Quality Assurance (QA)** A Malaysian lecturer provided a lecture on necessary issues for Malaysian context which should be considered in QA and facilitated group work for practice of QA visit with Philippines mentors.
10	30 mins	**EMTCC Coordination Meeting** Malaysian lecturer and Philippines mentors facilitated group work for the Agenda setting of the EMTCC meetings.
11	60 mins	**Health Needs Assessment (HNA)** Malaysian lecturers and Thailand mentors facilitated group work for HNA.
12	60 mins	**Exit Strategy and Demobilization /Transition** Malaysian lecturers and a JAC mentor facilitated groups work for Exit Strategy and Demobilization /Transition in the Malaysian context.

Source: Ikeda et al., 2025

Learning methodology:

Scenario-based group discussions and group works for exercises were included in most of the sessions. The following is an example of group works (Figure 3).

Session 2; Initial Assessment and Strategic Decision Making
Task 1 for Group Work: "How many injured are anticipated to be increased based on the data provided on 18th September 2023 based on the slide below?"

Affected populations with injured who need medical care

18th September 2023 (AT 1600H)

Location	Fatalities	Injuries	Missing	Displaced	No. of evacuation Center
Klang Valley	**30**	**4,772**	**1,644**	**1,550,594**	**679**

Master Scenario P.18

【Reference information】
Anticipating a massive flood, the deteriorating condition forced **at least 700,000 people** to evacuate their homes and seek shelter in more than 4000 temporary evacuation centres. In Klang Valley, which encompasses the Federal Territory of Kuala Lumpur & Putrajaya and seven districts in the state of Selangor (Petaling, Hulu Langat, Sepang, Klang, Kuala Selangor, Kuala Langat, and Gombak) more than 500,000 people were evacuated to 1389 shelters, making it the worst hit areas in the country. Master Scenario P.16

Task 2: "How many severely injured patients based on the ratio?"

Task 3: "Identify the available capacity of hospitals in the affected area (number of beds) in consideration of the report of damaged health facilities."

Task 4: Identify the necessary number of EMTs to fill the gap b/t capacity and needs, referring to the following table.

EMT Capability -EMT Classification-

Type	Description	Capacity
1 Mobile	**Mobile** outpatient teams - remote area access teams for the smallest communities	**>50** outpatients a day
1 Fixed	Outpatient facilities +/- tented structure	**>100** outpatients a day
2	**Inpatient facilities with surgery**	**>100** outpatients and **20** inpatients **7** major or **15** minor surgeries daily
3	**Referral level care**, inpatient facilities, surgery and high dependency	**>100** outpatients and **40** inpatients Including 4-6 **intensive care** beds **15** major or **30** minor surgeries daily
Specialist Team (e.g. rehab, surgical, paediatric, infectious disease etc.)	Teams that can join national facilities or EMTs to provide supplementary specialist care services	Any direct patient care related service can be termed a specialist cell EMT when given in emergency response by international providers/clinicians

Figure 3. Sample for Group Works in a session
Source: Ikeda et al., 2025

Review by the Participants:

More than 80% of participants agreed or strongly agreed in all components including that the objectives of the course were achieved, new knowledge was gained, including increased knowledge of RCD, and it was beneficial for daily work. However, a small percentage of participants expressed disagreement with conduciveness of the venue and smoothness of the event. On the other hand, some recommendations from the participants were made to be considered for improvement in future conduct of C-Course as follows.

1. To reduce the gap between online lecture and physical course and let participants review course material themselves.

2. To formulate a lecture plan to ensure sequence of lectures to follow according to events chronologically e.g., National Disaster Management Mechanism presentation should come first to connect to subsequent sessions.
3. To organize B-Course and C-Course then end up with simulation to connect all of the course content.

Outcomes of the C-course in Malaysia:

As a result of conduct of the C-course in Malaysia, the following outcomes were observed.

1. EMTCC and Ex-CON staff for 5th RCD were trained and they obtained necessary knowledge and skills to play their roles in the 5th RCD.
2. Malaysia's guidelines relating to DHM such as Disaster Management Plan, and Guidelines of Human Resource Mobilization During Public Health Emergencies (EMTCC Guideline) were updated and/or newly developed and shared among the participants toward further improvement.
3. Assignment of Medical Coordinators to AMS-EMTs was discussed including their qualifications and roles during the C-Course were tested in the RCD. As a result, it was confirmed that the presence of Medical Coordinators was necessary for effective and appropriate operations by the AMS I-EMTs as well as for the EMTCC.
4. Data collection using the WHO Minimum Data Set (MDS) was effectively practiced in the 5th RCD and the results of MDS were properly shared among AMS I-EMT during sub EMTCC meetings in the RCD.
5. The 5th RCD was successfully conducted as an upgraded RCD with full application of EMT SOP (integrated version of the SASOP), including pre-deployment exercise, assignment of Medical Coordinators, effective Data management /EMTCC meetings and challenging scenario with infectious diseases/chemical incidents

Through the above three phase process, the standard program and session plan for the C-Course were developed with the application of the C-Course in the Malaysian context, dividing it into two parts which are the pre-learning online lectures for general theories and international/regional guidelines on EMT coordination and the in-person workshop with abundant scenario-based group discussions and group works.

DISCUSSION

The proto-type program and session plan for the C-Course were developed and the Trail Course based on the developed program and session plan was successfully conducted with several recommendations for the improvement and application to an in-country training in each AMS. Subsequently, the application of the C-Course in the Malaysian context was tested as the preparation of the RCD with some modifications from the proto-type course through dividing it into two parts which are the Pre-learning online lectures for general theories and international/regional guidelines on EMT coordination and the in-person workshop with abundant scenario-based group discussions and group works. As a result, we confirmed that the development process for the standard curriculum for the Coordination course (C-Course**)** was almost completed. The standard curriculum should be applied to more in-country training courses in other AMS and their reviews and feedbacks from the courses should be collected for further improvement. Then, the improved standard curriculums could finally be submitted to the ASEAN Heath sector coordination platform such as the RCCDHM and Health Cluster 2 meetings for endorsement as the ASEAN standard curriculum on DHM training course.

LIMITATION

The discussion in this paper assumes that the current DHM framework, and close collaboration, coordination, and commitment of relevant stakeholders in the ASEAN region, including ministries of health of each AMS, ASEAN Secretariat, ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre), and AIDHM, will be maintained, with continuous socio-economic, political and diplomatic stability in the ASEAN region.

CONCLUSIONS

The C-course has to be further tailored to suit other AMS's situations so that all the AMS could conduct their own in-country C-Courses. Based on the Trial C-Course in Japan and application of the C-Course for Malaysia, it is recommended as follows:

1. Pre-learning utilizing the recorded video of the previous lectures provided for Malaysia with complementary online lectures; Total 8 hours for 13-16 modules selected from 18 modules in the table below (Table 4).
2. In-person workshop in AMS; Scenario-based group discussions and group works are mainly conducted for 2 days. Recommended modules with necessary hours in the

workshop are listed in the table below, ensuring sequence of modules to follow according to event chronology (Table 4).

3. (Optional) Table Top Exercise (TTX) based on a disaster scenario from disaster occurrence, EMTs deployment to withdrawal of EMTs; 1 day
4. After Action Review; 1 day

Table 4. Standard Modules and hours for C-Course

	Module	Pre-Learning Hour	In-person
1	Basic Framework of Disaster Response System	0.5	1.0
2	SASOP and ASEAN Mechanism in Disaster Response	1.5	
3	Initial Assessment and Strategic Decision Making	0.5	1.0
4	Set up of EMTCC	0.5	1.0
5	Pre-deployment Process and Application of Coordination Methodology		1.0
6	Facilitation Process for Registration and RDC	0.5	1.0
7	Tasking and Resource Allocation	0.5	1.0
8	Multi-Agency Coordination	0.5	
9	Use of Regional/Intl Coordination Tools	0.5	
10	Data Management (DHM)	0.5	1.0
11	ASEAN Collective Measures (ACM) for EMT	0.5	1.0
12	Quality Assurance	0.5	1.0
13	EMTCC Coordination Meeting		1.0
14	Health Needs Assessment	0.5	1.0
15	Exit Strategy and Demobilization /Transition	0.5	1.0
16	Experience Sharing with Other Countries	0.5	
17	Gap Analysis between Intl and Local Coordination System		1.0
18	Application of International Coordination into Local Context		2.0
Total		8.0	15.0

Source: Ikeda et al., 2025

The ARCH Phase 2 Project is ready to support AMS (8) as follows if any AMS is planning to conduct an in-country training according to the developed standard curriculum and teaching materials for the C-Course:

1. To provide necessary advice for implementation plan of in-country C-Course
2. To dispatch a mentor team from other AMS and Japan for preparation of the Course
3. To provide developed teaching materials and on-line lectures for pre-learning.
4. To dispatch necessary AMS/Japanese lectures to the in-country C-Course

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AUTHOR CONTRIBUTION

Each author contributed significantly to the conception, design, and execution of this study. The specific contributions of each author are outlined as follows: Shuichi Ikeda conceptualized the paper, contributing to the formulation of the research questions, methodology, and overall structure of the manuscript. Kriangsak Pintatham and Tsukasa Katsube mainly contributed to develop the proto-type program and session plan for C-Course and to conduct the Trial C-Course in Japan. Taro Kita and Mika Aono along with Shuichi Ikeda were involved in overseeing the overall process for C-Course development. All authors contributed to analysis, interpretation of results, and manuscript preparation. Additionally, all authors have read and approved the final version of the manuscript and agreed for publication.

CONFLICTS OF INTEREST

Shuichi Ikeda, Taro Kita and Mika Aono are JICA experts dispatched by JICA for the ARCH. Kriangsak Pintatham is a member of the Thai task force team for the ARCH. Tsukasa Katsube was a staff of JICA while the C-Course had been developed. The authors do not have any conflict of interest to declare.

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