

**TERMINAL EVALUATION OF PROJECT–
“BUILDING RESILIENCE IN EARTHQUAKE
PRONE AREAS IN MYANMAR”**

FINAL REPORT

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My deepest gratitude to all.

Abhijit Bhattacharjee, 05 August 2019

Summary Table

| | |
|--------------------------------|---|
| Agency Name | United Nations Development Programme (UNDP), Myanmar |
| Partners | Ministry of Social Welfare, Relief and Resettlement; National Disaster Management Council |
| Location | Myanmar |
| Project budget | US\$ 1,054,367 (donor: US\$ 910,125; UNDP: US\$ 144,242) |
| Project Start Date | 1 July 2017 |
| Project End Date | 30 June 2019 |
| Donors | European Union Civil Protection and Humanitarian Aid; UNDP Trac |
| Evaluation Commissioner | Peter Batchelor, Resident Representative |
| Evaluation Manager | Pem Wangdi, Programme Specialist, Sustainable and Inclusive Growth Unit (SIG Unit), UNDP |
| Evaluation Type | Country level project evaluation |
| Evaluation Dates | May-June 2019 |

Disclaimer: The views expressed in this report are those of the author and may not necessarily represent views of UNDP Myanmar or its partner agencies in Myanmar Government.

Abbreviations

| | |
|---------|--|
| AADMER | ASEAN Agreement on Disaster Management and Emergency Response |
| ASEAN | Association of South East Asian Nations |
| CO | Country Office |
| CSO | Civil Society Organisation |
| CTA | Chief Technical Officer |
| DAN | Disaster Alert Notification |
| DDM | Department of Disaster Management (formerly called Relief and Resettlement Department) |
| DIPECHO | ECHO's Disaster Preparedness Programme |
| DM | Disaster Management |
| DMC | Disaster Management Committee |
| DMH | Department of Meteorology and Hydrology |
| DRR | Disaster Risk Reduction |
| DRRWG | Disaster Risk Reduction Working Group |
| ECHO | European Union Civil Protection and Humanitarian Aid |
| EPRP | Earthquake Preparedness and Response Plan |
| EQ | Earthquake |
| GAD | General Administrative Department |
| IEC | Information, Education and Communication |
| KAP | Knowledge, Attitude and Practice |
| KII | Key Informant Interview |
| MAPDRR | Myanmar Action Plan for Disaster Risk Reduction |
| MCCR | Myanmar Consortium for Community Resilience |
| MEC | Myanmar Earthquake Committee |
| MoSWRR | Ministry of Social Welfare, Relief and Resettlement |
| NDMC | National Disaster Management Committee |
| NEPRP | National Earthquake Preparedness and Response Plan |
| NPW | Nay Pyi Daw |
| ProDoc | Project Document |
| RGN | Yangon |
| ToR | Terms of Reference |
| ToT | Training of Trainers |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| YCDC | Yangon City Development Committee |

Glossary

Region: In Myanmar, political division of territories is classified under three categories – states, regions and union territories. For the sake of simplicity, *unless otherwise qualified, throughout this report, the phrase “region” has been used to denote all categories.*

US\$: United States Dollar

KAP survey: Knowledge-Attitudes-Practices survey is a representative study of a specific population to collect information on what is known, believed and done in relation to a particular topic. In KAP surveys, data are collected orally by interviewers using a structured, standardised questionnaire.

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EXECUTIVE SUMMARY

Introduction and background

This report presents the methodology, findings, conclusions and recommendations of an independent terminal evaluation of the project *Building Resilience in Earthquake Prone Areas in Myanmar through better Preparedness and Response*, undertaken in May-June 2019. The project was implemented by the United Nations Development Programme (UNDP) in partnership with the Ministry of Social Welfare, Relief and Resettlement (MoSWRR) of the Government of Myanmar from July 2017 to the end of June 2019.

In the context of increasing vulnerability to earthquakes, the Government of Myanmar has been investing in assessing earthquake risk and developing strategies for earthquake risk reduction. UNDP, as chair of the multi-agency Disaster Risk Reduction Working Group (DRRWG), has been involved in several initiatives to build capacity at different levels. The current project focuses on developing a comprehensive strategy and plan at the national level to provide an overarching framework and leadership across the country, and complements the work of various agencies involved in the DRRWG on earthquake preparedness and response capacity at regional levels.

Project outputs and results: With a total budget of US\$ 1.05 million, funded largely by the European Union Civil Protection and Humanitarian Aid (ECHO), besides contribution from UNDP, the project intended to deliver three main outcomes, namely:

- ❖ Outcome 1: National and Sub-national Earthquake Preparedness and Response Plan (EPRP).
- ❖ Outcome 2: Women, men and children in the most earthquake-prone states/regions are sensitised on basic life-saving techniques before, during and after an earthquake.
- ❖ Outcome 3: Good practices, technical and scientific data and development priorities at national and regional levels are made available to all stakeholders, and especially the government, under Myanmar Earthquake Resilience Strategy.

Objectives, methodology and limitations of the evaluation

Using the criteria of *relevance, efficiency, effectiveness, impact and sustainability*, the evaluation assessed overall results of the project to draw lessons for sustainability of outcomes, and support UNDP's future programming. The scope of the evaluation covered various activities undertaken since July 2017 up to the time of the evaluation. Detailed evaluation questions and judgment criteria used in the evaluation are presented in the evaluation matrix (Annex 1).

The evaluation undertook (a) documents research, (b) purposively selected key informant interviews (KIIs) with stakeholders and (c) semi-structured group discussions with school teachers and students who had been involved in some of the project activities. The evaluator interviewed a total of 20 key informants from the Government of Myanmar, local authorities, school administrations and other agencies.

Evaluation limitation: The evaluation has not found evaluable data to assess impact of the project, as impact on community resilience or government's capacity can only be meaningfully examined in the long term. Instead, the evaluation has limited itself to examining the outputs and outcome of this short-term project.

Major findings

Findings on Earthquake response plans and resilience strategy development

1. The processes of planning and strategy development helped clarify roles and responsibilities of different stakeholders; however, periodic training, refresher courses and simulation exercises will be necessary to continuously reinforce key elements of the plan/strategy, especially in the regions. The Earthquake Resilience Strategy will require dissemination in the regions where awareness about earthquakes is sketchy.
2. Disaster Management Committees in the regions generally have weak response capacity and are weak on disaster preparedness. These will need to be the focus in future.
3. The risk management approach underpinning the resilience strategy offers scope to bring together different strands of earthquake preparedness and response work currently going on in the country.

Findings on awareness development

4. Awareness sessions through the schools have expanded on school safety work carried out in the past, and have been particularly well received by students and teachers. The training and awareness materials, however, need to be better adapted to child and adolescent learning principles.
5. Messages regarding earthquakes are seen in isolation from preparedness for other disasters which are more common in some of the regions; this, combined with the fact that local authorities and regional Departments of Disaster Management (DDM) are not seen to be actively involved in promoting these messages, causes confusion among people.
6. UNDP demonstrated flexibility and changed the implementation strategy, which originally envisaged using volunteers for community awareness programme, to using school teachers, with good effect.
7. The contributions of media campaigns and the Disaster Alert Notification (DAN) App on creating awareness of earthquake preparedness among communities are difficult to establish at this early stage, with the campaigns having been live for only 6-7 months.

Findings on National Earthquake Resilience Strategy

8. The development of the Earthquake Resilience Strategy was the key activity to bring together a scientific approach using best practices in setting national and regional priorities in earthquake risk management. This document will require dissemination in the regions where awareness about earthquakes is sketchy.
9. The risk management approach underpinning the resilience strategy offers scope to bring together the different strands of earthquake preparedness and response work currently going on in the country.

Conclusions

Relevance

The project design was based on an in-depth analysis of key gaps on earthquake preparedness and complemented the work of other stakeholders. The project's causal pathway was aligned with the overall goal of the project which remains highly relevant. The project implementation strategy hinged on DDM taking the lead in implementation of activities and this enabled the project to make necessary changes depending on context, when required. The project was aligned with national policies and priorities and various international frameworks and standards in disaster preparedness and earthquake response. The

project is closely aligned with the priorities of the Association of South East Asian Nations (ASEAN) Agreement on Disaster Management and Emergency Response.

Effectiveness

At the national level, there is greater clarity now among most stakeholders on the role of key agencies in earthquake preparedness and response, and an increasing understanding and acknowledgment of DDM’s coordinating role in disaster management. However, at the regional and township levels, there is limited awareness and understanding of disaster management and the roles played by different agencies.

UNDP’s facilitating role in bringing different stakeholders together and its ability to bring in regional and international best practices, ideas and global policy perspectives to the table have contributed immensely to the project’s activities. There are various initiatives on earthquake risk assessment preparedness and response ongoing in the country which may be brought together within a coherent risk management framework.

The awareness programme has so far reached a small proportion of schools in the targeted regions. Though it has demonstrated good results, the challenge now is in scaling up to cover a substantially larger number of schools. Along with the schools route, the media campaign to create awareness among communities may also be necessary to continue. The awareness and education programmes need to be situated within the need for overall disaster preparedness and a culture of safety, as otherwise an exclusive focus on earthquakes may send a confusing message. Key disaster-related agencies of the regional governments need to be seen to be acting in concert with the need for a multi-agency approach to disaster management. The risk management approach outlined in the resilience strategy needs to be translated into action in order to build a culture of safety and managing risks at all levels.

Efficiency

The project needed a no-cost extension as it had to wait for the government’s approval at different stages. The upside of this six-month delay was that the project benefitted from strong ownership of the activities by the DDM, in particular. Given the participatory and consultative nature of the project involving multiple stakeholders (DDM, regional education authorities, school administration), the project management was financially efficient. The project was also able to mobilise support from the private sector which offered free airtime for radio and television campaigns on earthquake awareness.

Sustainability

There is good ownership of the core outputs of the project by the DDM; the latter’s ability to mobilise and commit resources in translating the resilience strategy into action will be crucial for sustaining the outputs. The DDM and UNDP, acting in sync with DRRWG cohorts, are in a unique position to advocate with various stakeholders currently involved in earthquake and disaster response - including the World Bank, UN-Habitat and other donors - to facilitate coherence of all actions in line with the EPRP and resilience strategy.

Recommendations

| No | Recommendations |
|----|---|
| R1 | UNDP to assist DDM in mobilising resources necessary for rolling out a systematic capacity building strategy of key regional authorities (DDM, Disaster Management Committees, Flood control departments, Fire services department), specifically with regard to dissemination and implementation of EPRP and earthquake resilience strategy. |

| | |
|----|--|
| R2 | With the strengthened presence and role of DDM reinforced in the regions, work towards developing a coherent communication strategy involving all relevant agencies to facilitate community based disaster preparedness, taking a multi-hazard approach. |
| R3 | Continue and consolidate the community awareness programme using schools as the epicentre, combined with media campaigns, and in coordination with school safety programmes supported by several NGOs in the country, expand the programme to other schools in the earthquake zones in phases. |
| R4 | Working with OCHA and other relevant agencies, periodically conduct a simulation exercise for earthquake response and other rapid onset disasters from time to time. |

1. INTRODUCTION, SCOPE AND METHODOLOGY OF THE EVALUATION

1.1 Introduction and background

1.1.1 Introduction to the evaluation

1. The United Nations Development Programme (UNDP) Myanmar implemented a project on *Building Resilience in Earthquake Prone Areas in Myanmar through better preparedness and response*, in partnership with the Ministry of Social Welfare, Relief and Resettlement (MoSWRR) of the Government of Myanmar from July 2017 to the end of June 2019. The project was largely funded by the European Union Civil Protection and Humanitarian Aid (ECHO), besides contribution from UNDP. The project document had envisaged that an independent evaluation would be conducted to take stock of results and draw lessons for the future. An independent international consultant undertook the evaluation during May-June 2019. This report presents the methodology, findings, conclusions and recommendations of the evaluation.

1.1.2 The project context and objectives

2. The context within which this project has been implemented is described in detail in the project document (ProDoc)¹ and Annual Reports. Myanmar's population and economy are exposed to the devastating impact of floods, cyclones, storm surges, droughts, landslides, earthquakes, tsunamis, fires, and epidemics. Myanmar, the second-largest country in Southeast Asia, is home to nearly 54 million people.² Its geological settings make it particularly prone to earthquakes as the country sits atop four tectonic belts,³ namely: (i) the Indian and Burma plate (Eurasian plate); (ii) Sagaing fault; (iii) Eastern highland and southern part of South China plate and north-western Indochina plate; and (iv) Andaman basin. The largest of these fault lines running through the country from north to south is the Sagaing fault which divides the country into a western half moving north with the Indian plate, and an eastern half attached to the Eurasian plate. Earthquakes in Myanmar mostly have originated along an active subduction⁴ zone (Andaman Megathrust Zone) in the west and along the large Sagaing fault zone in the middle part of the country. In the past, at least two large magnitude earthquakes along that subduction zones were tsunamigenic. The Asian tsunami of 2004 also caused moderate damage in some parts of the Myanmar Coast.⁵
3. Records from the Department of Meteorology and Hydrology (DMH) show that more than 70 per cent of the earthquakes have occurred with epicenters close to a built-up environment near

¹ ECHO/UNDP. eSingle Form For Humanitarian Aid Actions 2017/00566/IR/01/01, Agreement NO. ECHO/-XA/BUD/2017/91023

² Source: World Population Review, 2019 (<http://worldpopulationreview.com/countries/>)

³ Myanmar Earthquake Resilience Strategy, 2019, DRAFT

⁴ Subduction is a geological process that takes place at convergent boundaries of tectonic plates where one plate moves under another and is forced to sink due to gravity into the mantle.

⁵ Maung Thein, Than Myint, Soe Thura Tun And Tint Lwin Swe (2009). Earthquake And Tsunami Hazard In Myanmar, Journal of Earthquakes and Tsunami, Vol 03. No 02, pp43-57 (<https://www.worldscientific.com/toc/jet/03/02>)

the Sagaing fault. The most recent major earthquake in Myanmar was in 2016 - the Chauk Earthquake with a magnitude of 6.8 (Richter Scale). The earthquake was one of the three subduction earthquake events.⁶

4. Recognising the country's vulnerability to earthquakes, the Government of Myanmar has been investing in assessing earthquake risk and developing strategies for earthquake risk reduction. Myanmar Earthquake Committee (MEC) has developed a seismic zone map of Myanmar in a deterministic approach and the seismologists of the DMH of the Government Myanmar have been conducting researches on tectonic geology of active segments of the Sagaing and Kyaukkyan faults.
5. The Government of Myanmar has put in place legislative and institutional set-up for disaster risk management. The Disaster Management Law and Rules were enacted in Myanmar in 2013 and 2015 respectively. The Law provides legal basis to set up disaster management bodies with clearly defined roles and responsibilities. The Rules detail processes for implementation of the Law. The Government further launched the Myanmar Action Plan for Disaster Risk Reduction (MAPDRR) in 2017 with the vision of "Protecting lives, economy, heritage and environment, through an inclusive approach towards sustainable development in Myanmar." These policy documents are also a response to global frameworks that include: Sustainable Development Goals (SDGs); Sendai Framework for Disaster Risk Reduction; Paris Agreement on Climate Change; Asia Regional Plan for Implementation of the Sendai Framework for Disaster Risk Reduction, and the Association of South-East Asian National (ASEAN) Agreement on Disaster Management and Emergency Response (AADMER) Work Programme, 2016-2020. In line with these policies, and in responding to development challenges, the government is now working on an earthquake resilience strategy,⁷ which will contribute to hazard abatement and timely response to any damaging earthquake.
6. UNDP has been assisting the government in developing policies, frameworks and institutional set-up for disaster risk reduction for several years. It chairs⁸ the Disaster Risk Reduction (DRR) Working Group (DRRWG) which serves as a platform for information sharing and strengthened coordination among development partners working on disaster risk reduction issues. Comprising 57 agencies (May 2019), including the UN, international NGOs, local NGOs, Red Cross and professional organisations working for disaster risk management in Myanmar, the DRRWG focuses on four key areas:⁹ strengthening institutions, community-based disaster preparedness and mitigation, building knowledge and awareness, and mainstreaming DRR into development sectors. UNDP acts as a bridge in ensuring collaboration between the DRRWG and the Department of Disaster management (DDM) of the MoSWRR which is the nodal agency for coordination of disaster management.¹⁰
7. Specifically with reference to earthquakes, in the past several years, there have been a number of initiatives to build capacity at different levels. ECHO has been supporting the Myanmar Consortium for Community Resilience (MCCR), comprising six consortium members (ActionAid-lead, Oxfam, International Organisation for Migration, Plan International,

⁶ Data quoted from Myanmar Earthquake Resilience Strategy (Draft)

⁷ As will be discussed later, this has been developed, with support of this project, and is awaiting formal approval by the Government.

⁸ UNDP has been the chair of DRRWG since 2012

⁹ DRR Working Group strategic framework 2013-2018

¹⁰ Oxford Policy Management (2014). Strategic Research into National and Local Capacity Building for DRM Myanmar Fieldwork Report, January 2014

Humanity & Inclusion and UN-Habitat). Through the MCCR, UN Habitat has been supporting seismic hazard assessment for Yangon City through the Yangon City Development Committee (YCDC), in collaboration with the DDM. This work builds on similar work of earthquake risk assessment for Bago, Sagaing and Taungoo supported by ECHO previously. UN Habitat has also been working with the Myanmar Engineering Society (MES) and MEC on engineering design and retrofitting of urban infrastructure. It has developed a certificate¹¹ training module for carpenters and masons in the country and has already trained over 1,200 people engaged in building construction to use the national building codes approved in 2016. A World Bank project has now been supporting the YCDC in risk assessment of lifeline infrastructure and retrofitting of priority public facilities to ensure a targeted level of performance during a design-level earthquake.

8. The concept of the current project emerged in the course of deliberations of the DRRWG in 2017 where it was felt that, while many of the partners were working on earthquake preparedness and response capacity at regional levels, a comprehensive strategy and plan was needed at the national level to provide an overarching framework and leadership across the country. The project was also seen in line with the ASDMER priorities which the Government of Myanmar has committed itself to.
9. **Project outputs and results:** This project intends to deliver three main outcomes, namely:
 - ❖ Outcome 1: National and Sub-national government institutions are equipped with functional and tested Earthquake Preparedness and Response Plan (EPRP).
 - ❖ Outcome 2: Women, men and children from different ethnic groups, in the most earthquake-prone states/regions¹² are sensitised on basic life saving techniques before, during and after an earthquake.
 - ❖ Outcome 3: Good practices, technical and scientific data and development priorities, at national and ASEAN levels, related to earthquake resilience in Myanmar are compiled and made available to all stakeholders and especially the government, under Myanmar Earthquake Resilience Strategy.
10. The project document (ProDoc) outlines the following specific results /outcomes and outputs/activities¹³ intended by the project (Table 1):

¹¹ The certificate is recognised across all ASEAN countries.

¹² In Myanmar, political division of territories are classified under three categories – states, regions and union territories. For the sake of simplicity, unless otherwise qualified, throughout this report, the phrase “region” has been used to denote all categories.

¹³ In the Prodoc, results are defined in terms of outcomes, and in the definition of activities there is a mixture of outputs and activities.

Table 1: Outcomes and key activities/outputs of the project

| Project goal: Building resilience of communities and strengthening capacity of the government in earthquake prone areas through better awareness, preparedness and response measures. | |
|--|---|
| Results/outcome | Activities/outputs |
| Outcome 1: National and sub-national government institutions are equipped with functional and tested Earthquake Preparedness and Response Plan. | 1.1: Development of National Earthquake Preparedness and Response Plan. |
| | 1.2: Development of Sub-National Earthquake Preparedness and Response Plan for Yangon. |
| | 1.3: Earthquake simulation at Yangon regional level. |
| | 1.4: Development of earthquake response preparedness and response training curriculum. |
| | 1.5: Training on earthquake response preparedness and response training curriculum. |
| Outcome 2: Women, men and children from different ethnic groups, in the most earthquake prone states/regions are sensitised on basic life-saving techniques before, during and after an earthquake. | 2.1: Knowledge, Attitudes and Practices (KAP) survey on earthquake preparedness. |
| | 2.2: TV campaigns such as TV interviews. |
| | 2.3: FM radio campaigns. |
| | 2.4: Dissemination of do's and don'ts on earthquake through mobile application (DAN) of Department of Disaster Management (formerly Relief and Resettlement Department) |
| | 2.5: Dissemination of earthquake information in schools in the most earthquake-prone States/Regions through DRR Youth Volunteers. |
| Outcome 3: Good practices, technical and scientific data and development priorities, at national and ASEAN levels, related to earthquake resilience in Myanmar are compiled and made available to all stakeholders and especially government, under Myanmar Earthquake Resilience Strategy. | 3.1: Development of the content of Myanmar Earthquake Resilience Strategy. |
| | 3.2: Identify and mobilize partners for their contribution to the development of the strategy |
| | 3.3: Develop Myanmar Earthquake Resilience Strategy through multi-stakeholders' consultation. |

(Source: Project logframe, Terms of Reference¹⁴)

11. The project budget and funds utilisation is shown in Table 2 below.

¹⁴ UNDP Myanmar (2019). Terms of Reference for Terminal Evaluation - Building Resilience in Earthquake Prone Areas in Myanmar Project

Table 2: Building Earthquake Resilience project - financial status, 2017-2019

| | Expenditure | | Projected Expenditure ¹⁵ | Total (US\$) |
|--------------------|------------------|-------------------|-------------------------------------|---------------------|
| | 2017 (US\$) | 2018 (US\$) | 2019 (US\$) | |
| Outcome 1 | 2,352.75 | 202,925.66 | 64,428.84 | 269,707.25 |
| Outcome 2 | 13,763.31 | 160,116.47 | 79,874.07 | 253,753.85 |
| Outcome 3 | - | 142,522.89 | 98.33 | 142,621.22 |
| Project management | 10,225.08 | 189,536.66 | 103,610.17 | 303,371.91 |
| Others | | 99.05 | 297.18 | 396.23 |
| Commitments | | | 105,905 | 105,905 |
| TOTAL | 26,341.14 | 695,200.73 | 354,213.12 | 1,075,754.99 |
| | | | | |
| Donors | | | | |
| ECHO | 26,341.14 | 470,176.6 | 98,828.19 | 595,345.93 |
| UNDP | - | 225,024.1 | 255,384.93 | 480,409.06 |
| Total | 26,341.14 | 695,200.7 | 354,213.12 | 1,075,754.99 |

(Source: UNDP Myanmar, 03 August, 2019)

1.2 Scope, objectives and methodology of the evaluation

1.2.1 Purpose and scope

12. The purpose of this terminal evaluation was to assess overall results of the project and draw lessons for the sustainability of outcomes, and support UNDP's future programming. The scope of the evaluation covered various activities undertaken since July 2017 up to the time of the evaluation.
13. The evaluation examined results, achievements and challenges faced in the course of implementation of the project, with emphasis on learning and accountability. The evaluation used the following criteria based on UNDP evaluation guidelines to draw conclusions and make recommendations: *relevance, efficiency, effectiveness, impact and sustainability*. Detailed evaluation questions and judgement criteria used in the evaluation are presented in the evaluation matrix (Annex 1).

1.2.2 Key stakeholders

14. The primary stakeholders of the evaluation are UNDP country office, DDM, National Disaster Management Committee (NDMC), Yangon Region Government/Yangon Region Disaster Management Committee and ECHO Myanmar. The secondary (indirect) stakeholders include UN-Habitat, MCCR members, DRRWG, education institutions targeted by the project for training and awareness, and District and Township Education Officers.

1.2.3 Organisation of the evaluation and declaration of conflict of interest, if any

15. The evaluation was commissioned by UNDP country office (CO) and managed by its Livelihoods and Resilience Unit. Through an international recruitment process, an independent

¹⁵ These figures may change when final expenditure statement is produced by UNDP at the end of the project.

consultant was contracted to conduct the evaluation. The consultant had never worked for UNDP on this project or any of its partner agencies in the past, nor was the consultant being considered for any other engagement as staff or consultant for UNDP CO at the time of the evaluation.

1.2.4 Methods and data sources

16. The evaluation followed a mixed-methods approach involving (a) documents research, (b) purposively selected key informant interviews (KIIs) with stakeholders and (c) semi-structured group discussions with school teachers and students who had been involved in some of the activities of the project. The evaluation matrix (Annex 1) developed during the inception stage, and agreed with UNDP, formed the basis for the evaluator to address the evaluation questions using different sources and methods of data collection and analysis. As is customary with mixed-method evaluations, triangulation with multiple sources of data comprising interviews and desk reviews was crucial for developing the evidence-base for this evaluation. Where discrepancies occurred that could not be resolved, the evaluator has not used such data for drawing conclusions, lessons and recommendations.
17. The Project log frame outlined in the ProDoc provided the reference point for data-gathering and analysis of progress made. The overall project goal had two dimensions: (a) to strengthen policy framework on earthquake for key government agencies at national and sub-national level, and (b) create awareness and knowledge in communities of earthquake risks, preparedness and survival strategies. The project has a wealth of baseline data that was collected in the early phase of the project (April 2018), as well as end-line data that was collected alongside this evaluation by a survey team especially commissioned for the purpose – all of these are important reference points for this evaluation. In order to ensure maximum complementarity (and value) between this exercise and the end-line KAP study, the evaluation drew on the findings of the latter for data on changes at community level, supplemented with data gathered during the evaluation from group discussions and KIIs with a selected sample of stakeholders. For the first component, emphasis was laid on policy/ institutional issues and strategic directions vis-à-vis the project's support at national and sub-national government levels, and synergy with related initiatives on disaster preparedness and earthquake response in the country.
18. *Triangulation of data:* Since the evaluation used a mixed-method approach to data collection, triangulation in various stages was the cornerstone of data gathering and validation. This evaluation mainly relied on:
 - ❖ Source triangulation - the evaluator compared information from different sources;
 - ❖ Method triangulation – the evaluator compared information collected by different methods, e.g. interviews, focus group discussions, documents review and KAP surveys.
19. The evaluator interviewed a total of 20 key informants – a breakdown of the key informants is provided in Table 3 below. Generic lead questions the evaluator used during interviews are provided in Annex 2 and a full list of key informants provided in Annex 3. Besides KIIs, the evaluator undertook substantial desk-based research, drawing on progress reports, studies and related documents provided by UNDP (a list of documents attached as Annex 4).

Table 3: Breakdown of key informants and group discussions

| Stakeholder group | No. of group discussions | No. of key informants |
|--|-------------------------------|-----------------------|
| UNDP & other UN agencies | - | 8 |
| Myanmar government staff (DDM, DMH) | - | 5 |
| Provincial authority (DDM and education) | - | 5 |
| Donor agencies | - | 5 |
| School teachers & students | 5 (teachers & students mixed) | 12 teachers |
| Others (mining company, donor) | - | 4 |
| Total | 5 | 39 |

(Source: Compiled by the evaluator, Terminal Evaluation 2019)

1.2.5 Evaluation ethics

20. The evaluation process ensured that the evaluator adhered to the following protocols in interactions with all stakeholders:

- ❖ *Informed consent* - the purpose of the evaluation and how data were to be used was explained to all participants who voluntarily gave their consent to participate in the evaluation;
- ❖ *Respect of rights* of those involved in evaluation process - participants had the option of not answering any or all of the questions asked;
- ❖ *Anonymity* - all information and/or views provided by the participants were on an anonymous basis; the evaluator has not attributed any of the observations, findings and conclusions to any individual or organisation, - unless explicitly authorised by interviewees in writing, nor was information provided by individual interviewees shared with third-parties, either orally or in writing, or transmitted electronically;
- ❖ *Respect dignity* - interviews and data-gathering were conducted in a way that respects the individual's dignity;
- ❖ *Ensuring inclusivity* - all voices were heard without any judgement made by the evaluator, ensuring respect to privacy and confidentiality.

1.3 Limitation

21. The evaluation has not found evaluable data to assess impact of the project, as impact in terms community resilience or government's capacity can only be meaningfully examined in the long term. Instead, the evaluation has limited itself to examining the outputs and outcome of this short-term project.

2. FINDINGS OF THE EVALUATION

2.1 Outcome 1: Earthquake preparedness and response plan

Findings:

- The process of development of National and Yangon regional earthquake preparedness and response plans was built on previous work done on disaster preparedness in the country, and was consultative involving multiple stakeholders.
- The planning process helped clarify roles and responsibilities of different stakeholders, although periodic training, refresher courses and simulation exercises will be necessary to continuously reinforce the key elements of the plan, especially in the regions.
- Disaster Management Committees in the regions generally have limited capacity and are weak on disaster preparedness. These will need to be the focus in future.

22. Working with the DDM, NDMC and other organisations, UNDP facilitated a consultative process which culminated in preparing a National Earthquake Preparedness and Response Plan (including Standard Operations Procedures). The Plan emerged from the work done previously by DRRWG and MCCR. In 2016, MCCR organised two earthquake forums in Yangon and Mandalay which brought together the DDM, City Development Committees, representatives from fire services department, DMH and other relevant government departments, UNDP, UN-Habitat, as well as NGOs and civil society organisations (CSO). Following the forum discussions, UNDP brought together the Director General and officials of DDM, UN-Habitat, the MEC, Myanmar Engineering Society and Myanmar Geoscience Society to (a) share information on each organisation's on-going and planned initiatives, and (b) discuss the need for a national plan for scaling up research, assessments, capacity building, and public awareness relating to earthquake measures. KIIs with senior government officials indicated that the entire planning process was highly consultative and involved, besides the DDM officials, senior staff from DMH, Ministry of Construction and fire services department.
23. The development of the plan also involved a National Level Earthquake Simulation Exercise conducted with the leadership of National Disaster Management Committee (NDMC) in collaboration with UNDP and UN-OCHA in early 2018. The simulation covered coordination and communication within the NDMC and its work committees, and the regional disaster management committees. Furthermore, the simulation clarified the roles and responsibilities as outlined in the Disaster Management Law (DML), its regulations, NDMC work committee's functions, and earthquake response plan (draft). The scenario was focused on search-and-rescue operations and immediate response up to seven days, divided into two phases (first: 1 - 3 days, second: 4-7 days),¹⁶ and helped test the SOP for response in the event of an earthquake. The results/finding from the simulation exercise informed development of the National EPRP, especially finalisation of the SOP. The Plan serves as reference point for development of state/region EPRP plans and looks at roles and responsibilities of the government, development partners, and all those with a stake in disaster response; the Plan also addresses effective coordination in response to the needs of communities affected by an earthquake.¹⁷ Aspects of how the humanitarian community is integrated into the national disaster response were also

¹⁶ UNDP (2018). Earthquake Response Simulation Exercise of the National Disaster Management Committee and its Working Committees (Nay Pyi Taw, 1-2 February 2018), Final Report

¹⁷ Myanmar Earthquake Resilience Strategy, 2019 (Draft)

included, as well as the process to request specific international available tools and resources (human and financial) to support the response to an earthquake scenario.¹⁸

24. The Kantar/UNDP end-line survey (2019) which interviewed a total of 42 respondents (from NDMC Work Committee members, State/Region DDM and Disaster Management Committees, NDMC and National DM Working Group) pointed to enhanced understanding of roles and responsibilities among stakeholders from various departments. Given the complex and multi-stakeholder nature of achieving earthquake resilience, seismic monitoring is vested in DMH, and leadership and coordination is led by the DDM with technical support from DMH and MEC.¹⁹ The Plan has provided a road map for the DDM to strengthen its capacity in the states/regions, according to key informants. Disaster Management Committees (DMC) which were set up in different regions have varying degrees of capacity, and now DDM is supporting them in developing their capacity. According to key informants, the key challenge with the DMCs is that they usually get into action after disasters, which means that their focus on preparedness is low. Now all the regions are being encouraged by DDM to develop a region-specific disaster preparedness plan, under the guidance of the Chief Minister who chairs State/Region Disaster Management Committee, with focus on earthquakes in earthquake-prone regions. Another challenge is that although the simulation exercises may have led to greater clarity on roles and responsibilities, frequent staff changes and transfers mean that unless such exercises are repeated periodically, these will not bring about any lasting change in the way of working. In one region visited by the evaluator, for instance, a disaster management plan incorporating earthquake hazards was prepared, but as the staff who prepared it were transferred, implementation of the plan has not been attempted, according to key informants.
25. At the regional level, the Yangon Earthquake Preparedness and Response Plan was developed through a consultative processes involving relevant stakeholders, including the regional government, DDM, Yangon Region Disaster Management Committee, UN agencies, NGOs, Private Sector and CSOs. The final draft is now under consideration of the Yangon region government, headed by the Chief Minister. Simulation exercises were held for regional capital townships in Yangon, Kachin and Chin. An important lesson that several interviewees highlighted apropos of the regional plan is that implementation of the plan requires participation of General Administrative Department (GAD) which takes the lead in disaster response at township level, in the Township Administrator's role as chair of the Township Disaster Management Committee. Urban governance and administrative structure is complex, with multiple agencies coordinated by GAD being involved. Building capacity through training and simulation for these various institutions will be crucial in implementation of the Regional Plans. UN-Habitat has been working with GAD in several major townships to develop contingency plans to deal with the after-effects of sudden-onset disasters, particularly earthquakes. The Disaster Management Training Centre (DMTC) of the Government of Myanmar has introduced a module on earthquake preparedness and response in the training curriculum, developed by UNDP, in collaboration with the DDM. Key informants however noted that periodic training, refresher courses and simulation would be necessary to ensure embedding of learning as people frequently move from one department to another. A number of DMC members do not have a

¹⁸ UNDP (2018). Earthquake Response Simulation Exercise of the National Disaster Management Committee and its Working Committees (Nay Pyi Taw, 1-2 February 2018), Final Report

¹⁹ For a detailed description of roles and responsibilities of key institutions in earthquake preparedness and response, readers may refer to the Government's Earthquake Preparedness and Response Plan (*Government of Myanmar (2018). Myanmar National Earthquake Preparedness and Response Plan 2019*).

background in disaster management, according to key informants. Regular training and sensitisation of DMC members and staff therefore will be required to create a momentum.

26. Key informants (KI) interviewed for the evaluation stated that this project has helped them see the linkages between different initiatives currently underway in the country on earthquake preparedness, and the role each agency can play to complement these various interventions: structural²⁰ and non-structural measures for risk management, preparedness, mitigation and response in relation to earthquakes. The Yangon region DDM has been using the evacuation guidelines in the Yangon Region Earthquake Preparedness and Response Plan to create awareness among communities, and is currently undertaking an inventory of all earth-moving machines and heavy equipment in the region, in case they need to use these for debris clearance in the event of an earthquake. Not all regions, however, have begun implementing the Plan due to capacity and resource constraints. From the KIs, it emerged that of the five regions (Yangon, Mandalay, Nay Pyi Daw, Sagaing and Kachin) visited during the evaluation, the Yangon DDM is ahead of others in terms of taking concrete actions on earthquake preparedness.

2.2 Outcome 2: Public education and awareness

Findings:

- The contribution of media campaigns and DAN App on creating awareness among communities on earthquake preparedness is difficult to establish at this early stage, with the campaigns having been live for only 6-7 months.
- Awareness sessions through the schools have been particularly well received by students and teachers and these build on school safety work carried out in the past.
- The training and awareness materials have predominantly been conventional classroom oriented and need to be better adapted to child and adolescent learning principles.
- Messages regarding earthquakes are seen in isolation from preparedness for other disasters which are more common in some of the regions; this, combined with the fact that local authorities and regional DDMs are not seen to be actively involved in promoting these messages, causes confusion among people.
- UNDP changed the implementation strategy - which originally envisaged using volunteers, to using school teachers - with good effect.

27. The project laid a strong emphasis on creating awareness and understanding of do's and don'ts among communities in earthquake-prone zones focusing on two States, four Regions, and one Union Territory which fall in Zone V (Destructive Zone) as per the 2012 Myanmar Seismic Zone Map. Several actions were undertaken in this regard, with the involvement of DDM and regional governments. Starting with the Knowledge, Attitudes and Practices (KAP) survey (April 2018) to take stock of people's perception and awareness regarding earthquake preparedness at household and community levels, the project launched an extensive series of TV and radio campaigns in the earthquake-prone regions broadcasting key messages on earthquake preparedness and do's and don'ts for households. Kantar/UNDP end-line survey (May-June 2019) conducted in communities in earthquake-prone regions did not show any significant change in people's general understanding of earthquakes (Box 1) from the baseline conducted in April 2018. In general, more or less the same number of respondents in the 2019 survey knew that their area was prone to earthquakes or had discussed getting prepared for

²⁰ Myanmar Engineering Society and Myanmar Earthquake Committee are now involved in risk assessment of public buildings in Yangon and are undertaking retrofitting measures on them, through assistance provided by UN-Habitat. The World Bank is also undertaking retrofitting of selected public buildings including government offices and hospitals.

earthquakes with others, compared against the baseline. A lower number of people indicated (34% as opposed to 54% in 2018) that they had been exposed to materials about preparing for disasters such as earthquakes. This could be because the baseline may have shown a relatively high score due to the fact that just before it was conducted, there were at least three major earthquakes during 2016-2018²¹ which received extensive media coverage, and these memories would have been still fresh in people's minds. Another factor for not registering significant change in level of awareness could also be the fact that the end line was conducted some 6-7 months after the media campaigns were launched, which was too short a time-frame to reinforce messages with multiple methods of communication.

Box 1: Extracts from Kantar/UNDP survey

Question asked: *“Thinking about how prepared you are for a major disaster, which is most true?”*
(average % stating ‘well prepared’)

Baseline 22%; Endline 7%

Question asked: *“Have you heard of the EQ message ‘Drop, Cover and Hold on’?”*

Baseline 62%; Endline 49%

Questions to identify correct actions to take after an EQ (average % of respondents who were correct).

Baseline 70%; Endline 78%

28. Notwithstanding the end-line survey results which may have had limitations for the reasons stated above, it is a fact that people's memories fade with time, and even if their awareness about earthquakes was high immediately after the 2017 earthquake (resulting in high positive scores in baseline, 2018), this awareness level can be sustained/enhanced only through continued exposure to awareness and education campaigns. KIIs by the evaluator with random school teachers (who had not undergone any training on earthquakes under the UNDP project) indicated that they had been exposed to the media messages on radio and television for the past several months; student groups interviewed by the evaluator also confirmed that their families have been exposed to these messages through mass media as well.
29. Along with media campaigns, the project has also supported the DDM in developing a mobile app through which it disseminates disaster alerts and information. The Disaster Alert Notification (DAN) App, initially developed in 2016, provides warnings to communities in times of disasters, as well as notifications and important news, Do's and Don'ts for prevalent hazards, and phone numbers that the general public can contact during emergencies. The application also provides a link to the website of the DDM and Department of Meteorology and Hydrology (DMH) which users can refer to for weather forecasts and early warning information. The app has been upgraded recently and is being disseminated widely in different regions. The end-line survey (2019) however found weak knowledge of earthquake ‘do’s and don’ts’ among untrained members of the general public.
30. Another significant method for creating awareness on earthquakes has been through rolling out an earthquake awareness programme in schools in the earthquake-prone regions; this has

²¹ In April 2016, an earthquake of magnitude 6.9 hit close to Maw Lite Township in Sagaing Region. Four months later (August 20, 2016) another quake of same magnitude 6.8 hit near Chauk Township in Magway Region. This quake caused lots of damages to many pagodas and temples in Bagan, heart of Myanmar. In the beginning of 2018, a series of earthquakes of less significant impact on lives and property occurred along the Sagaing fault.

attracted a great deal of interest from the education authorities, as found during KKIs in Yangon, Sagaing, Mandalay and Kachin by the evaluator. In close collaboration with Department of Disaster Management and Department of Basic Education, the project selected 704²² schools from six states/regions which are known for their earthquake-vulnerability (Kachin, Chin, Yangon, Sagaing, Mandalay and Bago) and provided training (Training of Trainers, ToT) to teachers and youth volunteers on earthquake awareness and preparedness. These teachers and volunteers then conduct awareness sessions in selected schools in the regions; the students, in turn, disseminate the messages to their families back home. The evaluator visited eight schools in four of the six regions and interviewed teachers and students to obtain their feedback on the awareness sessions. Overall, the awareness sessions are highly valued by all attendees and claim that, while these supplement what they learn from media and news, the training sessions have given them a good understanding of how they can be better prepared, as well as help others.

31. KIIs showed that the number of awareness sessions conducted in schools vary from region to region. In Mandalay, the sessions have been conducted twice in each school, while in Kachin and Yangon, only one session has been conducted so far. Teachers interviewed stated that it is important to repeat these sessions periodically as otherwise students tend to forget the messages. In all the regions the awareness sessions involved several stakeholders, namely the local branch of Red Cross, fire services department, besides DDM and education officers. This was particularly valuable for students as they learnt about the roles of different agencies, as well as helped contextualise the sessions.
32. The project developed a number of information, education and communication (IEC) material, such as the School Earthquake Simulation Guideline, comic books, posters and pamphlets. A number of comments were made by key informants regarding the need for adapting the training materials to make these more practical and engaging for participants, some of which were:
 - Training materials need to be adapted to learning methods appropriate for children (play methods, visuals and pictures, audio-visuals, role plays etc). Group discussions with students showed that knowledge retention was high in those areas where they were exposed to live demonstrations – minor first aid, CPR (cardiopulmonary resuscitation).
 - Rather than classroom lecture sessions, the materials should include appropriate video footages showing earthquakes in neighbouring countries (China, India, Pakistan, Japan, Indonesia, etc) and how people responded to these. These will give participants a near-realistic orientation to an earthquake and its after-effects, both of which are crucial as people in Myanmar have not witnessed a severe earthquake in the past 2-3 decades.
33. Most of the schools visited by the evaluator had previously participated in disaster awareness programmes through their involvement in school safety programmes run by various NGOs; this ToT and awareness programme was seen to reinforce the previous work and give a specific thrust on earthquakes. The officials from the education department also opined that this project gave them an opportunity to work with the DDM and fire services department at a local level.
34. The ToT participants comprised mostly teachers and a relatively smaller number of participants from education authorities and DDM in all the regions, except Chin where the participants were

²² The project's initial target was 500 schools, but due to increased demand from schools the coverage has been increased by nearly 40%.

mostly youth volunteers. In the initial proposal, UNDP had targeted volunteers in all regions as the recipients of ToTs. However, during subsequent discussions at a local level, it was felt that instead of volunteers, school teachers would make a better vehicle for disseminating the knowledge and awareness about earthquakes due to their close interactions with communities, parents and students, as well as for the fact that teachers are experienced ‘facilitators’. However, in Chin it was important for the facilitators to speak the local dialect, but as most of the teachers were Burmese-speaking only, youth volunteers were preferred for the ToT.

35. In the four regions visited by the evaluator, DDM and education authorities stated that they continually receive requests from dozens of schools to be included in the ToT and awareness programme, but as the project had given them limited resources, this has not been possible. Yangon, for instance, has “nearly 10,000 schools”, while only 116 schools have been covered under the project according to one key informant. The challenge now for the DDM and education authorities is to develop a process which will bring the remaining schools, or at least a substantial number of them, into coverage of an awareness programme like this in a phased manner.
36. KIIs with teachers in Mandalay and Kachin, in particular, brought home the need for concerted messages coming across from key stakeholders in disaster response. Teachers reported that a number of parents often complain that the schools are the only ones talking about earthquakes and “creating a fear”. Communities don’t hear or see any such messages coming out of local DDM or fire services department, for instance, and this causes confusion in people’s minds. This highlights the needs for a coordinated approach to reinforcing the key messages, without creating any panic in the minds of people. This could probably be creatively done using a nuanced approach to messages on floods and landslides, which are more regular, and people are more receptive to.
37. The ToT participants (12 teachers in 4 regions) interviewed during the evaluation emphasised the need for child-friendly training (using children and adolescent learning methods) material and refresher training for themselves, as otherwise they fear their own knowledge and understanding of earthquakes may become rusty. UNDP and DDM organised a lessons learning workshop for all ToT participants where teachers had the opportunity to interact with other schools, and teachers opined that refresher training could be combined with such learning sessions.

2.3 Outcome 3: Development of National Earthquake Resilience Strategy

Findings:

- The development of the Earthquake Resilience Strategy was the key activity to bring together a scientific approach, using best practices in setting national and regional priorities in earthquake risk management. This document will require dissemination in the regions where awareness about earthquakes is sketchy.
- The risk management approach underpinning the resilience strategy offers scope to bring together the different strands of earthquake preparedness and response work currently going on in the country.

38. During 2018-2019, UNDP helped DDM prepare an Earthquake Resilience Strategy which will operate in parallel with the Earthquake Preparedness and Response Plan. As part of the process of strategy development, UNDP organised a consultation workshop with NDMC and other

stakeholders, including the DRRWG. The resilience strategy focuses on actions that will contribute to strengthen communities' resilience in the event of earthquakes. The strategy will operate in parallel with the National Earthquake Preparedness and Response Plan, which looks at minimum actions that a society or individual can employ to stay safe during an earthquake, as well as roles and responsibilities of the government, development partners, and all those with a stake in disaster response. The plan is aligned with MAPDRR (2017) and will address effective coordination in response to needs of communities affected by an earthquake disaster.

39. The resilience strategy focuses primarily on building resilience at the community level.²³ It is also important, however, to prepare for the rare instances where earthquake disasters could extend beyond localities and have national-level consequences. With three main goals (Box 2), building national earthquake resilience aims at creating synergies between resilience to earthquakes and to other hazards.

Box 2: Goals and objectives of National Earthquake Resilience Strategy

Goal A: Improve Understanding of Earthquake Processes and Impacts

Objective 1: Develop national seismic risk model to enhance understanding of earthquake risks

Objective 2: Understanding of earthquake effects on the built environment

Objective 3: Understanding of the social, psychological, and economic factors linked to implementing seismic risk reduction and mitigation strategies in the public and private sectors

Objective 4: Improve post-earthquake information management

Goal B: Cost-Effective measures to reduce earthquake impacts

Objective 5: Assess earthquake hazards for research and practical application

Objective 6: Loss estimation and risk assessment tools

Objective 7: Tools for improving seismic performance of buildings and other structures

Objective 8: Tools to improve seismic performance of critical infrastructure

GOAL C: Improve the earthquake resilience of communities nationwide

Objective 9: Improve the accuracy, timeliness, and content of earthquake information products

Objective 10: Comprehensive earthquake risk scenarios and risk assessments

Objective 11: Seismic standards and building codes and advocacy for adoption and enforcement

Objective 12: Promote implementation of earthquake-resilient measures in professional practice and in private and public policies

Objective 13: Increase public awareness of earthquake hazards and risks.

Objective 14: Develop the nation's human resource base in earthquake safety fields.

40. KIIs with regional DDM indicated that while they were aware of the resilience strategy, they have not had any orientation on it, nor did they know when this was going to be implemented. Resource constraints, even to carry on the routine functions of the department, came up in several interviews. The risk management approach which underpins the resilience strategy is important to be demystified for provincial authorities, township administrators and the general public. There are several initiatives ongoing in the country (section 1.2) which are working to help the country manage disaster risks better through structural and non-structural interventions. These offer an opportunity to create synergy by bringing these strands of work together. UNDP and DDM are perhaps best placed to explore this connectedness, going forward.

²³ Myanmar Earthquake Resilience Strategy, 2019 (Draft)

3. CONCLUSIONS: ASSESSMENT AGAINST EVALUATION CRITERIA

3.1 Relevance²⁴

41. **The project design was based on an in-depth analysis of key gaps that were identified by various stakeholders (section 1.2) and aimed at complementing and strengthening the already ongoing initiatives on disaster management in the country.** Towards this, besides addressing the need for policy framework at the national level specifically on earthquakes, the project aimed at engaging with regional DDM and piloting at least one regional earthquake response plan. Within the ASEAN region (Association of South East Asian Region), of which Myanmar is a member, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2016-2020 aims to reduce disaster losses and enhance regional cooperation to respond jointly to disasters. The goal of the new work programme is to build a resilient ASEAN Community through the implementation of eight (8) Priority Programmes that cover the entire range of thematic areas in disaster management. Of these, three AADMER priorities (Box 3) are addressed by this project.

Box 3: AADMER Priority 1: Enhance risk assessment and improve risk awareness of ASEAN Community.

Strengthened ASEAN's capacity in risk and vulnerability assessment;
Improved the availability of data and information on regional risk and vulnerability; and
Enhanced mechanism on risk data utilisation and information sharing.

AADMER Priority 2: Building Safe ASEAN Infrastructures And Essential Services.

Promoted equitable and high quality infrastructure and essential services;
Scaled-up ASEAN Safe Schools Initiative; and
Promoted innovative practices towards building resilient and climate adaptive cities.

AADMER Priority 3: A Disaster Resilient And Climate Adaptive ASEAN Community.

Strengthened institutional capacity and policy frameworks for effective implementation of disaster risk reduction (DRR) and climate change adaptation (CCA);
Established ASEAN youth leadership in DRR and CCA;
Increased replicable programmes and models of building community resilience; and
Strengthened awareness building programmes on a disaster resilient and climate adaptive ASEAN Community.

42. Myanmar has well-developed policies, legislative and institutional set-up for disaster risk management. Besides the Disaster Management Law and Rules which were enacted between 2013-2015, the Government launched the MAPDRR in 2017. This project is directly

²⁴ *Questions examined:* To what extent is the project in line with the National Disaster Management Strategy and priorities, and how does it align with AADMER, MAPDRR and core international standards on earthquake preparedness and response? To what extent are the objectives and activities of the project consistent with the overall aim of the project? Has the project been able to adapt its programming to any contextual changes during the period of its implementation, and do the objectives still remain valid?

contributing to all the four pillars²⁵ of the MAPDRR, and to at least two of the seven milestones set for 2020, namely: (i) disaster response, relief, rehabilitation and reconstruction strategy/guidelines/procedures in place; (ii) national, sectorial, regional/state, self-administered zones, township and ward/village tract disaster risk management plans prepared and implemented.

43. The development of both the National Earthquake Preparedness and Response Plan and Earthquake Resilience Strategy was informed by global frameworks like the Sendai Framework for DRR (Priority Actions 2 and 4) and Sustainable Development Goals (SDG), as well as technical standards in earthquake risk mapping and mitigation measures. Close collaboration with MEC, Myanmar Earthquake Society (MES), national and international seismologists ensured that all activities, especially those where technical issues were involved, conformed to international standards and practices.
44. **The project's results chain (log frame) and strategy are clearly aligned with the overall goal of the project** which is to strengthen institutional capacity of key institutions to effectively deal with risks associated with earthquakes and promote better awareness and preparedness at a community level. The three outcomes are specific and directly link to the project goal. The project implementation strategy which hinged on DDM taking the lead, with UNDP's support in implementation of activities, meant that the project could make necessary changes depending on context, as required. For example, based on feedback from the regional DDM staff, the approach to ToT was changed from targeting volunteers to school teachers in all regions except Kachin where use of volunteers were seen to be more appropriate in the local context.

3.2 Effectiveness²⁶

45. Section 2 gives a detailed account of the key results the project has achieved – a comparison with the project proposal shows that the objectives and outputs have been fully achieved in the past two years. The success of the project owes a great deal to the fact that it was built on previous work UNDP had done through the DDM with which it has developed a strong partnership over the years, as well as a consultative process that the project facilitated in all its core activities. **The multi-stakeholder nature of the simulation exercise and process of development of the National Disaster Preparedness and Response Plan helped clarify roles and responsibilities of various entities in the government, as well as outline coordination mechanisms during an earthquake response.** At the national level, there is greater clarity now among most of the stakeholders on the role of key agencies in earthquake preparedness and response, namely NDMC, DMC, various working groups, GAD, Ministry of Construction, fire services department and DMH. **An important byproduct of all the consultative and multi-stakeholder processes has been an increasing understanding and**

²⁵ Pillar 1: Assessing Disaster Risk including extreme weather events and creating public awareness on DRR in Myanmar; Pillar 2: Strengthening disaster risk governance to reduce and manage risk; Pillar 3: Mainstreaming disaster risk reduction for resilient development in Myanmar; Pillar 4: Enhancing disaster preparedness for effective response and resilient rehabilitation and reconstruction in Myanmar

²⁶ *Questions examined:* What were the intended and unintended results (positive or negative) and the key explanatory factors behind the results? To what degree UNDP contributed to the observed results? To what extent the key stakeholders benefited from capacity building programme of the project to provide leadership on earthquake preparedness and response? What type of partnership has been facilitated by the project and to what extent the partnership is/are able to add value to the project outcomes? To what extent the public communication and awareness campaigns in communities and schools have increased people's awareness and understanding of do's and don't before, during and after an earthquake? Which good practices and knowledge products have been developed through this project and disseminated?

acknowledgment of DDM’s coordinating role on disaster management in general, at national and regional levels.

46. **The findings point to the need for more sustained efforts in disseminating the national and regional (Yangon) plans developed under the project** as the level of awareness and understanding of disaster management, and the roles played by different agencies is limited among the various stakeholders at regional and township levels. While there may be better clarity at a national level in terms of Standard Operating Procedures (SOPs) and roles and responsibilities in disaster response, the same is not the case yet in all the regions, especially at township levels which have complex administrative structures working to both regional governments and the central government. The project resources did not allow for such ‘socialisation’ of the EPRP and the resilience strategy at regional levels through dissemination and simulation exercises, and this will be necessary in future if the initial momentum brought about by this project is to be maintained.
47. The awareness programme has witnessed varying degrees of success. Promotion of awareness through schools has been particularly well received by students, teachers and communities in general, as these build on some of the previous work on school safety done by various organisations in the past. Some of the schools in the regions have begun to include disasters (including earthquakes) in their curriculum as well. As discussed in section 2.2, the teachers/volunteers trained for training others need periodic refresher courses and the training materials need better adaptation to child-focused learning methods using a multi-media approach. One of the unforeseen consequences of focusing on earthquakes in the training and awareness sessions in schools has been that, as earthquakes are not frequent and many of the towns where the schools are located have not witnessed any major earthquake in their vicinity in recent past, local people tend to treat the schools’ focus on earthquake preparedness with some scepticism. Moreover, as no other agency, including DDM or Township Administration, is seen to be disseminating similar messages on earthquakes, people get confused. People are more used to floods, landslides and fire incidents taking place frequently, and hence are more likely to have come across messages regarding the need for preparedness on these disasters. This poses a challenge in that the **training and awareness sessions need to be weaved into a culture and mindset of multi-hazard disaster preparedness.**
48. The project was very small in terms of resources. The awareness programme has so far reached only a fraction of the schools in the targeted regions, though it has demonstrated good results for a project this small. **The challenge now lies in scaling up, in order to cover a substantially larger number of schools in the coming years.** Along with the schools route, the media campaign to create awareness among communities may also be necessary to continue so as to ensure that there is some awareness of earthquake hazards, though the end-line survey may not have shown any conclusive evidence of the campaign’s effectiveness.
49. Building on the resilience strategy, the key task in future will be to translate the risk management approach outlined there into action in order to build a culture of safety and managing risks at all levels (section 2.3). In practical terms, this would mean, for example:
 - i. as a minimum, all schools who are participating in the awareness programme will have assessed their own immediate environment for safety (from fire, earthquakes and floods);
 - ii. the provincial and township authorities be given orientation in building codes and how to implement these, for example, when they are trained in disaster management.
50. UNDP’s facilitating role in bringing different stakeholders together - governmental and non-governmental - as well as its ability to bring in regional and international best practices, ideas

and global policy perspectives to the table have contributed immensely to the shape and direction of the project's activities. These, combined with UNDP's ability to work on other national development priorities in partnership with development partners, have meant that the Government of Myanmar considers UNDP as a trusted partner. Leveraging this, **UNDP is probably best placed to take forward the challenge of connectedness among various initiatives discussed above.**

3.3 Efficiency²⁷

51. The project got off to a slow start, as can be seen from financial data presented in Table 2. The crisis in the Rakhine State during the second half of 2017 which took up most of the attention of the government meant that though this project technically commenced on 1 July 2017, it officially started in December 2017 when formally launched by the Union Minister of the MoSWRR. Recruitment of project staff, consultants and activities could start only after this. Further delay was caused by the fact that the project needed to undertake a baseline KAP survey at inception, which took several months as the Government took nearly 3-4 months to approve the survey questions.²⁸ This had an effect on other activities which necessitated a no-cost extension of the project for six months. Apart from that, the implementation of all activities were on time, despite the substantive consultative process the project entailed at different stages. Due to a high level of interest of the government counterparts in ensuring that the project is responsive to evolving needs and priorities on earthquake resilience in the country, longer timeframes were taken in approving the planned various deliverables, namely: i) the National Earthquake Preparedness and Response Plan; ii) the Sub-national Earthquake Preparedness and Response Plan for the Yangon Region; and iii) the Earthquake Resilience Strategy and the Information, Education and Communication (IEC) materials. With hindsight, the initial project duration was short, given that several documents (survey questions, National and region EPRPs and National Resilience Strategy) needed time-consuming government approval before these could be disseminated widely.
52. The project team has been small, with one international Chief Technical Adviser (P-4) and one national DRR specialist, besides a national project manager who is in charge of day-to-day project management and coordination with the government, non-government actors and communities. The project manager is supported by one Project Associate for monitoring of project activities and one project assistant for financial and administrative matters. The CTA and DRR specialist were based in Nay Pyi Daw to ensure a close working relationship with the government. UNDP Area Offices in Myitkyina (Kachin State) and Mandalay (Mandalay Region)²⁹ provided coordination and logistical support for organising public awareness activities in the respective states/regions. Overall, given the highly participatory and consultative nature of the project involving multiple stakeholders (DDM, regional education authorities, school administration), the project management was efficient in financial terms. The project was also able to mobilise support from the private sector in terms of the latter offering free airtime for radio and television campaigns on earthquake awareness.

²⁷ Was the project implemented within the timeframe and the budget earmarked for it? Were the activities cost-efficient, compared to alternative options? Were issues that negatively affected performance identified and dealt with in a timely and effective manner?

²⁸ The government set-up an Ethical Review Board that reviews all questionnaires in relation to social studies/surveys in the country. Getting endorsement from the Board in conducting the Knowledge, Attitudes and Practices (KAP) survey took three months as compared to the two weeks that was envisaged in the plan and consequently, delayed implementation of the activities.

²⁹ It was planned to engage Chin State Area Office when the project was designed, but the office in Chin State was closed with country programme changes in 2018,

3.4 Impact³⁰

53. The project has delivered its intended outcomes as discussed in section 3.2. However, the project duration was too short to expect any lasting changes in capacity or communities' preparedness practices.

3.5 Sustainability³¹

54. The project has developed, tested and shown a pathway to being better prepared at institutional and community levels for earthquakes. This needs to be continued and will require continued investment in dissemination and socialisation of policies and SOPs on the one hand, and awareness at the level of communities on the other. A great deal will depend on the DDM's ability to mobilise and commit resources to continuation of the core actions outlined in earthquake preparedness plans and resilience strategy. In this regard, advocacy with various stakeholders currently involved in earthquake and disaster response, including the World Bank, UN-Habitat, and the USAID/OFDA, will be crucial, to facilitate coherence of all actions in line with the EPRP and resilience strategy.

³⁰ What have been the changes at institutional level in key stakeholders (DDM, NDMC, education authorities, etc) in terms of their resources and capacity to continue investing in earthquake preparedness and response? Have there been any changes in communities' actions towards preparedness, for example, building earthquake resilient homes?

³¹ *Questions addressed:* Is there evidence to show that the outcome of the project will be sustained in the future, once the project comes to an end? What changes could be made (if any) to the project to improve sustainability of results in the long term?

4. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

4.1 Summary of conclusions

Relevance

55. The project design was based on an in-depth analysis of key gaps and complemented the work done by other stakeholders. The project's causal pathway was clearly aligned with the overall goal which remains highly relevant. The project implementation strategy hinged on DDM taking the lead in implementation of activities and this enabled the project to make necessary changes depending on context, when required. The project was aligned with national policies, priorities and various international frameworks and standards in disaster preparedness in general, and earthquake response in particular.

Effectiveness

56. At the national level, there is greater clarity now among most of the stakeholders on the role of key agencies on earthquake preparedness and response, and an increasing understanding and acknowledgment of DDM's coordinating role on disaster management at national and regional levels. However, at the regional and township levels, awareness and understanding of disaster management and the roles played by different agencies are limited.

57. UNDP's facilitating role in bringing different stakeholders together and its ability to bring in regional and international best practices, ideas and global policy perspectives to the table have contributed immensely to the project's activities. There are various initiatives on earthquake risk assessment preparedness and response ongoing in the country which may be brought together within a coherent risk management framework.

58. The awareness programme has so far reached a small proportion of schools in the targeted regions. Though it has demonstrated good results, the challenge now is in scaling up to cover a substantially larger number of schools. Along with the schools route, the media campaign to create awareness among communities may also be necessary to continue. The awareness and education programmes need to be situated within the need for overall disaster preparedness and a culture of safety, as otherwise an exclusive focus on earthquakes may send a confusing message. Key disaster-related agencies of the regional governments need to be seen to be acting in concert with the need for a multi-agency approach to disaster management. The risk management approach outlined in the resilience strategy needs to be translated into action in order to build a culture of safety and managing risks at all levels.

Efficiency

59. The project needed a no-cost extension for reasons beyond the control of the project management as it had to wait for the government's approval at different stages. The upside of this six-months delay was that the project benefitted from strong ownership of activities by the DDM in particular. Given the highly participatory and consultative nature of the project involving multiple stakeholders (DDM, regional education authorities, school administration), the project management was efficient in financial terms. The project was also able to mobilise support from the private sector in terms of the latter offering free airtime for the radio and television campaigns on earthquake awareness.

Sustainability

60. There is good ownership of the core outputs of the project by the DDM; the latter’s ability to mobilise and commit resources in translating the resilience strategy into action will be crucial for sustaining the outputs. The DDM and UNDP, acting in sync with DRRWG cohorts, are in a unique position to advocate with various stakeholders currently involved in earthquake and disaster response, including the World Bank, UN-Habitat, the USAID/OFDA and other donors, to facilitate coherence of all actions in line with the EPRP and resilience strategy.

4.2 Recommendations

| No | Recommendations |
|----|---|
| R1 | <p>UNDP to assist DDM is mobilising resources necessary for rolling out a systematic capacity building strategy of key regional authorities (DDM, Disaster Management Committees, flood control departments, fire services) specifically with regard to dissemination and implementation of EPRP and Earthquake resilience strategy.</p> <p><i>Key actions:</i></p> <ol style="list-style-type: none"> 1. <i>In coordination with the DRRWG, identify key agencies in the earthquake-prone regions and conduct coordinated assessments of core capacity needs tailored to each region.</i> 2. <i>Develop a minimum action plan for core capacity development (focused on earthquake preparedness and response) in consultation with the relevant agencies and explore resource mobilisation for this.</i> 3. <i>Strengthen DDM’s capacity in the regions to coordinate a multi-agency approach to earthquake preparedness, working closely with the GAD.</i> |
| R2 | <p>With strengthened presence and role of DDM reinforced in the regions, work towards developing a coherent communication strategy involving all relevant agencies to facilitate community based disaster preparedness taking a multi-hazard approach.</p> <p><i>Key actions:</i></p> <ol style="list-style-type: none"> 1. <i>Linking with recommendation 1 above, earthquake-related messages on preparedness need to be nuanced with preparedness for other common disasters like floods, high winds, fire, landslides, etc., which occur at more regular intervals.</i> 2. <i>The emphasis of all community-based preparedness and awareness needs to be laid on disaster risk management and a culture of safety at household and community levels.</i> |
| R3 | <p>Continue and consolidate the community awareness programme using schools as the epicentre, combined with media campaigns, and in coordination with school safety programmes supported by many NGOs in the country, expand the programme to other schools in the earthquake zones in phases.</p> <p><i>Key actions:</i></p> <ol style="list-style-type: none"> 1. <i>UNDP/DDM to ensure periodic training, learning events and refresher courses for the teachers and volunteers.</i> 2. <i>Working with the DRRWG, UNDP needs to facilitate linking up - through schools - the awareness programme to the school safety programme and explore scaling these up in earthquake-prone regions.</i> |

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| R4 | Working with OCHA and other relevant agencies, periodically conduct simulation exercises for earthquake response and other rapid onset disasters from time to time. |
|----|---|

ANNEXES

Annex 1: Evaluation Matrix, Terminal evaluation of Building Resilience to Earthquake in Myanmar project

| Evaluation criteria and evaluation questions | Performance indicators | Means of verification | |
|---|---|--|--|
| | | Data collection method | Data source |
| 1. RELEVANCE: To what extent is the project aligned with national priorities, policies and international commitments? | | | |
| 1.1. To what extent is the project in line with the National Disaster Management Strategy and priorities, and how does it align with AADMER, MAPDRR and core international standards on earthquake preparedness and response? | Convergence between the project's priority objectives and MAPDRR, Myanmar National Framework for Community Disaster Resilience (MNFCDR) | Desk review; KII | Project documents, MAPDRR, MNFCDR, project staff |
| | Convergence of the project objectives with ASEAN Agreement on Disaster Management and Emergency Response. | Desk review; KII | AADMER document |
| 1.2 To what extent are the objectives and activities of the project consistent with the overall aim of the project? | Assumptions underpinning the output-outcome chain are realistic and explain causal pathway of the underlying theory of change. | Desk review, Analysis of project assumptions | ProDoc, Progress reports |
| 1.3 Has the project been able to adapt its programming to any contextual changes during the period of its implementation, and do the objectives still remain valid? | Ability of the project to respond to new /emerging issues; changes to log frame during project implementation. | Desk review on context analysis; KII | Project reports, UNDP Staff, RRD staff; MCCR and UN-Habitat, ECHO |
| 2. EFFECTIVENESS: To what extent have the expected outputs and outcomes of the project been achieved? | | | |
| 2.1. What were the intended and unintended results (positive or negative) and the key explanatory factors behind the results? To what degree UNDP contributed to the observed results? | Level of progress <i>and UNDP's distinctive contribution</i> made in relation to outcomes and outputs as per Table 1 of IR | Desk review, KII & FGD, analysis of KAP data | Progress reports, KAP data (baseline and end-line), RRD, Provincial authorities, education officers, volunteers, community groups, school students, MCCR, UN-Habitat |

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| 2.2. To what extent the key stakeholders (RRD, Yangon Region Department of Disaster Management, National Disaster Management Committee) benefited from capacity building programme of the project to provide leadership on earthquake preparedness and response? | Key outputs can be traced back to UNDP/project interventions | Desk review, KII | UNDP staff, NDMC, Yangon Region Department of DM |
| | Evidence of distinctive contribution of UNDP to institutional capacity (policies, systems, expertise) | Desk review, KII | UNDP staff, NDMC, Yangon Region Department of DM |
| 2.3. What type of partnership has been facilitated by the project and to what extent the partnership is/are able to add value to the project outcomes? | Synergies with other UNDP programmes and projects implemented by other agencies on emergency preparedness & response which this project has leveraged | KII, desk review | RRD, Yangon Region Department of DM, NDMC, Education authorities, MCCR, UN-Habitat |
| 2.4. To what extent the public communication and awareness campaigns in communities and schools have increased people's awareness and understanding of do's and don't before, during and after an earthquake? | The end-line survey showing positive change since the baseline. | Desk review, KII | KAP reports, Survey team, group discussions at community level |
| 2.5 Which good practices and knowledge products have been developed through this project and disseminated? | Knowledge products generated and disseminated | Desk review, KII | Myanmar Earthquake Resilienc Strategy; other documents on good practices; NDMC, provincial DMC officials |
| 3. EFFICIENCY: Was the project managed efficiently, maintaining the balance between the results achieved and the resources allocated to it? | | | |
| 3.1. Was the project implemented within the timeframe and the budget earmarked for it? | Level of utilization of funding by budget item (budgeted vs actual) and timeliness of implementation | Desk review | Annual report, financial reports |
| 3.2. Were the activities cost-efficient, compared to alternative options? | Opportunity cost comparison shows alternatives not preferable | KII | Project staff, RRD |
| 3.3. Were issues that negatively affected performance identified and dealt with in a timely and effective manner? | Evidence of adaptive management principles and effective M&E system | KII | Project staff |
| 4. IMPACT: What has been the overall impact of the project in bringing about any lasting changes? | | | |

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| 4.1. What have been the changes at institutional level in key stakeholders (RRD, NDMC, education authorities, etc) in terms of their resources and capacity to continue investing in earthquake preparedness and response? | The targeted government departments have acquired resources and capacity to continue strengthening community level preparedness and response to earthquakes on a regular basis. | KII | RRD, NDMC, education authorities, DRRWG |
| 4.2 Have there been any changes in communities' actions towards preparedness, for example, building earthquake resilient homes? | KAP end line showing positive changes in preparedness at community/household levels | Desk review, KII | KAP reports, Survey team, group discussions at community level |
| 5. SUSTAINABILITY: What is the likelihood that the results and benefits generated through the interventions will continue once donor funding ceases? | | | |
| 5.1. Is there evidence to show that the outcome of the project will be sustained in the future, once the project comes to an end? | Evidence that the National Earthquake Preparedness and Response Plan, Yangon Region Earthquake Preparedness and Response Plan and Earthquake Resilience Strategy are being implemented by respective departments. | KII | RRD, NDMC, education authorities, DRRWG |
| | Local authorities prioritizing community awareness and preparedness on an ongoing basis | KII | Regional authorities: Yangon, Sagaing, Kachin |
| 5.2. What changes could be made (if any) to the project to improve sustainability of results in the long term? | Clear exit strategy and handover mechanism in place, backed by resource commitments | Findings analysis | Findings on 4.1 |

Annex 2 - Interview Guide

A.1 UNDP project staff (YGN and NPT)

(Interviewer: at the start, provide brief introduction about the aim of the evaluation, ethics and how data will be used, outline confidentiality protocol, obtain permission to take notes, agree time needed for the interview – about 45-60 minutes – with some individuals, the evaluator may need to negotiate more than one session; introducing each other)

Before each interview, the interviewer to select maximum of 6-8 priority questions for each individual interviewee, depending on an understanding of the latter's role and functional expertise.

Context and overview of disaster preparedness work in Myanmar

1. As a country prone to frequent disasters, what have been the key challenges in disaster preparedness at the level of government and communities, and why?
2. What have been the key external/contextual factors and internal factors that have influenced UNDP's implementation of the project in the past two years?
3. What other initiatives in earthquake preparedness and community resilience are shaping disaster management in the country?

Partnership

4. What programme approaches and partnership strategies has UNDP used? How did UNDP engage with MCCR, DRRWG and UN-Habitat which leads on urban resilience?
5. In what ways and how effectively has the project influenced others to strengthen earthquake preparedness in the country?
6. How did the project leverage other projects of UNDP working on DRR, preparedness, resilience, etc?

Results

7. What key outputs and outcomes were achieved during the period that were most significant in your opinion, and why?
8. How is the National Earthquake Preparedness Plan being used and who is the custodian of it?
9. What changes have you observed at institutional level in key stakeholders (RRD, NDMC, education authorities, etc) in terms of their resources and capacity to continue investing in earthquake preparedness and response, and which aspect of these changes would you attribute to this project?
10. Is there a system for generating lessons learnt and good practices in place? How were the lessons disseminated and to whom?
11. Is there anything distinctive about the work of this project compared to those of other organisations working on disaster preparedness and response capacity?
12. With hindsight, could UNDP have achieved better results doing something different with the same or less resources?

A.2 National /Regional counterparts (RRD, NDMC, Yangon Disaster Management Department)

(Interviewer: at the start, provide brief introduction about the aim of the evaluation, ethics and how data will be used, outline confidentiality protocol, obtain permission to take notes, agree time needed for the interview – about 45-60 minutes; introducing each other)

Before each interview, the interviewer to select maximum of 5-6 priority questions for each individual.

Context and overview of disaster preparedness work in Myanmar

1. As a country prone to frequent disasters, what have been the key challenges in disaster preparedness at the level of government and communities, and why?
2. What other initiatives in disaster preparedness and community resilience are shaping disaster management in the country?

Results

3. What have been the key contributions made by UNDP in assisting your capacity development in earthquake preparedness and response?
4. Which key outputs and outcomes you achieved through the ‘*building earthquake resilience*’ project were most significant, and why?
5. How are you using/implementing the earthquake preparedness and resilience plan/Yangon Region Earthquake Preparedness Plan?
6. Is there a system for generating lessons learnt and good practices in place? Are lessons learned and good practices generated disseminated? If so, how?
7. With hindsight, could you have achieved better results doing something different with the same or less resources?

Sustainability

8. What will happen at the end of the projects? Is there any ownership of the activities by the beneficiaries/local authorities?
9. What would you say were the lasting benefits of the intervention to the community, if any?

A.3 ECHO

(Interviewer: at the start, provide brief introduction about the aim of the evaluation, ethics and how data will be used, outline confidentiality protocol, obtain permission to take notes, agree time needed for the interview – about 45-60 minutes; introducing each other)

1. How would you rate UNDP and its approach in terms of its overall role in supporting government capacity in disaster preparedness in general, and on earthquakes, in particular, in the country?
2. Did you see any evidence of UNDP’s support on strengthening RRD/NDMC’s capacity to on disaster preparedness for earthquakes?
3. ECHO /DIPECHO had supported the urban resilience work in the past. How did this project (building resilience) of UNDP engage with the former, and was there any synergy?
4. How satisfied are you with the overall results of the project, and what specifically?

A.4 Education authorities, teachers/volunteers, community members

(Interviewer: at the start, provide brief introduction about the aim of the evaluation, ethics and how data will be used, outline confidentiality protocol, obtain permission to take notes, agree time needed for the interview – about 45-60 minutes; introducing each other)

So as not to duplicate the questions the survey team is asking, the evaluator will frame the questions for this group after a meeting with the survey team in the first 1-2 days of the mission. This discussion will help the evaluator to take into account the pattern of emerging findings and gaps from the survey to structure the questions appropriately.

Annex 3: Interviewees List – Terminal Evaluation of Building Earthquake Resilience Project, UNDP Myanmar, 2019

| Category | Name | Position /Department/Organisation |
|--|--|--|
| UNDP | | |
| | Peter Batchelor | Resident Representative |
| | Biplove Choudhary | Chief of Unit, Sustainable and Inclusive Growth |
| | Pem Wangdi | Programme Specialist, Sustainable and Inclusive Growth Unit (SIG Unit) |
| | Martin Cosier, | Chief Technical Adviser, Environmental Governance, SIG Unit |
| | Sujeeta Bajracharya | Quality Assurance and Reporting Specialist, UNDP |
| | Mai May Htar Phwy Bob | Project Manager, Earthquake Resilience project |
| Other UN agencies | | |
| | Shashank Mishra | Programme Manager, DRR, UN-Habitat |
| | Ni Ni Win | Programme Officer (DRR & Resilience), UNICEF |
| National Government | | |
| | Dr. Min Thein | Director, DDM |
| | Oo Than | Assistant Director, Seismology section, DMH |
| | Dr. Ko Ko Naing | Director, General, DDM |
| | Hlaing Win | Deputy Director, Fire Services, Naypyidaw |
| | Dr. Yin Myo Min Tun | Deputy Director, Seismology section, MH |
| Provincial Government | | |
| | Min Htike | Township Education Officer, Mandalay |
| | Htun Min | Deputy Township Education Officer |
| | Min Thu | Director, DDM Mandalay region |
| | Ms. Daw than Win | Assistant Director DDM Sagaing region |
| | Win Shwe | Director, DDM Yangon region |
| Schools (teachers and students) | | |
| | Group discussion – 5 teachers | Sub-Basic Education High School, No. 12, Mandalay |
| | U Zaw Lin Aung | Teacher, Basic Education High School1, Moniwa |
| | U Thin Nyuent | Teacher, Basic Education High School1, Moniwa |
| | Group discussion – 6 teachers | Basic Education Middle School, Moniwa |
| | Group discussion – 3 teachers and 3 students | Myitikena BEHS – I |
| | Group discussion – 4 teachers and 5 students | Myitikena BEHS – II |
| | Group discussion – 3 teachers | BEHS-II Mayangon township, Yangon |
| | Head Teacher | Yongon BEHS – I |
| Donor agencies | | |
| | Aung Soe U | Programme Management Specialist, USAID |
| | Marybeth McKeeper | Regional Adviser, USAID |

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| Category | Name | Position /Department/Organisation |
|-----------------|---------------------|--|
| | Clementina Cantoni | Head of Office, ECHO |
| | Anna De Palma | Livelihood Specialist, DFID |
| | Hayato Nakamura | Project Formulation Adviser, DRR & Env. Management, JICA |
| Others | | |
| | Michael McGrath | Researcher, KT Survey team |
| | Latif S. S. Mohamed | MCCR Consortium, Manager |
| | Sat Htwe | Vice President, Myanmar Earthquake Committee |
| | Prof. Myo Thant | Department of Geology, University of Yangon |

Annex 4: List of key documents consulted

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