

**UNITED NATIONS DEVELOPMENT PROGRAMME
PAPUA NEW GUINEA COUNTRY OFFICE**

THREE PAGE MISSION REPORT SUMMARY

Date: 28 - 31 July, 2018



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<p align="center">Approved Mission Itineraries: POM – Madang - POM</p>	<p align="center">List of Annexes: N/A</p>
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<p align="center">(From) Inclusive Travel Dates (To)</p> <p align="center">28-31 May 2018</p>	<p align="center">Key counterpart (s) in each location:</p>
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<p>Purpose of Mission:</p> <p>To develop a Disaster Action Plan for a meeting of APEC Finance Ministers to be held in Madang from the 5 to 8 of June 2018.</p>	<ul style="list-style-type: none"> • Madang: Provincial Planning Office, Public Service Office and Provincial Disaster Coordinator. • Provincial Disaster Emergency Service Office
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Brief Summary of Mission Outputs:

The focus of the planning process was on the safety of those attending the APEC meeting. The planning process also identified further actions which could be used to develop a disaster plan and risk reduction measures for Madang town.

Development Plan

The draft Disaster Action Plan was developed primarily through a workshop with stakeholders held on 29 and 30 May in Madang. The workshop followed a general outline of:

1. Setting objectives and reviewing disaster planning concepts.
2. Defining disaster scenarios for Madang. For the APEC plan, the scenarios focused on tsunami, earthquakes and associated fires, with the magnitude of events based on modeling and historic events.
3. Identifying expected impacts for the selected scenarios.
4. Identifying actions to address these impacts. These actions covered earning, lifesaving response, life supporting assistance and preparedness. Although recovery and risk reduction actions were identified in many cases, the focus of the planning was on immediate management of disaster during the APEC meeting, that is, basic preparedness, warning and assistance operations for up to 3 days after the onset of as disaster. (Warning was not covered for earthquakes.)
5. Identifying resources needed to take the actions identified and whether these resources were available. (Note that "resources" refers to goods, services and guides, documents and trained persons.)
6. Assigning responsibility for each action to a specific organization and identifying additional supporting organizations if appropriate.

In addition to the action plans for tsunami and earthquakes, separate summary evacuation plans were developed. These plans provide a quick guide to actions needed to move APEC attendees from Madang in situations where there was no land access to the airport from the meeting site, or where the airport was not operational for fixed wing aircraft

**DISASTER RISK MANAGEMENT (DRM) PROJECT
DISASTER ACTION PLAN WORKSHOP IN PREPARATION FOR APEC FINANCE MINISTERS MEETING
MADANG PROVINCIAL DISASTER CENTRE**

The Disaster Action Plan workshop took place at Madang Resort Conference Room on the 29 and 30th of May 2018. The meeting was attended by the UNDP Project Team (DRM), A representative from the Port Moresby Geophysical Observatory, the Madang PDC Staff, as well as staff from the Provincial Administration, and various Public Services of concern.

The workshop was formally opened by Provincial Disaster Director, Mr. Rudolf Mongallee, followed by the introduction from the rest of the participants and the UNDP project team.

The first day of the workshop followed a general schedule and used presentation to guide activities. The second day of the

workshop focused on completing Action Plan tables (see **Disaster Action Plan – Tsunami and Earthquakes – Madang Town**) and did not involve a formal schedule of activities.

The initial plan results were written up into a draft disaster plan and additional information was collected to improve the specificity of the plan. The resulting **Disaster Action Plan** was shared with the DESO for review and comment, although the short time between the planning work and the actual meetings left little time for time for revisions.

Additional Support

In addition to the development of the **Disaster Action Plan**, support was provided to the DESO on:

- Drafting a letter to provincial authorities requesting specific actions be taken to strengthen preparedness.
- Drafting a letter to provincial authorities requesting assignment of Fire Service search and rescue personnel and Defence Force personnel and landing draft to supplement firefighting and search and rescue capacities.
- Drafting an Information Notice on earthquake and tsunami safety to be placed in hotel rooms used by the APEC attendees.

Issues and Actions

Timing and Participation

There was very little time between the disaster planning work and the APEC meeting, allowing almost no time to implement any preparedness measures, conduct trainings or engage additional resources, e.g., search and rescue trained personnel.

Further, there was very limited participation in the workshop, with key players such as the Departments of Health and Works Departments absent. Action should be taken as part of any similar planning in the future to ensure adequate lead time and participation in the disaster planning process.

National Government Involvement

A Government specialist on earthquakes and tsunami attended the workshop and provided significant support to the planning process. However, no one from the National Disaster Center (NDC) was able to attend, while the type of disaster planning undertaken should have been led by the NDC and not a project.

In the future, the NDC should have lead responsibility for supporting provinces in disaster plan development, with support from external sources if needed.

Hazard Information

Information on the tsunami hazards available for the planning workshop was inconsistent, and not usable for most expected local hazard management actions such as defining evacuation routes and safe areas. The RIMES modeling indicated potential for a very small tsunami, up to 10 cm. Research from the 1980 earthquake indicated a local tsunami on the order of 2.8 meters north of Madang.

Using a worst-case approach, a tsunami height of 3 meters was used for planning purpose. However, if the RIMES model was more accurate for Madang (the 1980 earthquake may have had less than a 1.2 meters height in Madang itself), then tsunami not be a significant hazard for Madang.

Further, the tsunami impact mapping by RIMES was insufficient in and of itself to identify safe locations and evacuation routes.¹ As a result, the planning work could only provide general guidance on tsunami safety: move to higher ground when one of the warnings of a tsunami occur.

If local tsunami hazard planning is to be done in the future, then a more precise mapping of impact zones is needed in advance of the planning exercise, and coherence between different tsunami height projections should be achieved.

The RIMES report indicates earthquake impacts in ground acceleration. However, for action planning impacts need to be defined as levels of expected damage. As a result, the Modified Mercalli Intensity levels identified following the 1980 earthquake (VII to VIII) were upgraded to X to XII to take into account the difference between the magnitude of the 1980 earthquake (7.2) and the RIMES modeled earthquake (8.2 – 8.5). A similar approach to turning modeling output into usable planning information is recommended for the future.

Disaster Plan Actions and Follow-up

The disaster action planning process identified a large number of actions for which resources, in the form of equipment, training, funds, plans or other preparations, were missing or not available. Most of these gaps cannot be addressed before the APEC meeting. The tsunami and earthquake action plans also provide a basis for further disaster management capacity development. Gaps identified in the planning for the APEC meeting should become the basis for developing a disaster management capacity in Madang town.

¹ The RIMES modeling was likely not intended to be of sufficient precision to identify safe areas and evacuation routes and only provide a level of risk to buildings from the National modeled event.

Disaster Action Planning, Recovery and Risk Reduction

The disaster action planning process and scenario-based results which can be used to plan recovery, for instance how to repair or replace damaged bridges or the port, and identify where risk reduction is needed. Analysis such as contained in the RIMES report provides a basis for quantifying damage levels and thus using cost-benefit analysis to justify specific risk reduction measures. With the existence of a Madang **Disaster Action Plan** for Madang, work should move to defining recovery needs and risk reduction measures.

At the same time, a scenario-based plan does not easily distinguish between more and less severe impacts or provide a prioritization for response operations. Application of the RIMES modeling may be of use in prioritizing which aspects of a disaster should be prioritized for action.

Safety and Security at Hotels

It was not possible to complete even a basic safety and security assessment for the main APEC hotels. However, from what was observed, it is likely that there are gaps in these areas for even the most advanced of the hotels in Madang. Because of their in-place facilities (e.g., beds, water, generators, kitchens, vehicles, staff, meeting space, etc.) hotels are likely to play a key role on responding to a disaster. It would be useful to develop guidance on how hotels can prepare for disasters and engage the appropriate trade group in disseminating this information to hotels in Madang and elsewhere.

Names of Participants in the Workshop: (Refer to Annex A in link below)

(<https://drive.google.com/open?id=1Dq181nmGvfaxmrLztOEn58fIIMs6hNIQ>)

Photos



Acting Director for Madang Provincial Disaster Office, Rudolf Mongallee, giving his opening remarks during Day 1 of the workshop.



Participants who attended the workshop during the final day of the workshop.

Expected Results:

Results:

The following results and outputs were achieved during the visit to Madang:

- Action Plan for Tsunami and Earthquake developed.
(<https://drive.google.com/open?id=1Dq181nmGvfaxmrLztOEn58fIIMs6hNIQ>)
- Evacuation Plan for those attending the APEC Finance Ministers Meeting developed.
(<https://drive.google.com/open?id=1Dq181nmGvfaxmrLztOEn58fIIMs6hNIQ>)

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