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WORKING PAPER

ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 38: Other issues to be considered by the Technical Commission

"GET AIRPORT READY FOR DISASTER" PROGRAMME (GARD)

(Presented by Indonesia)

EXECUTIVE SUMMARY

This paper presents information on the GARD Programme (Get Airport Ready for Disaster). This Programme is aimed at improving the capability to evacuate and manage incoming relief aid as efficiently as possible. Indonesia is a hazard-prone country. In accordance with Article 194 of the Indonesian Aviation Law of 2009, it is one of the roles of an airport to assist in disaster situations. Accordingly, Indonesia's national Master Plan has mapped 22 hazard-prone areas and identified disaster-focused airports. At this time, there are 11 airports ready for disaster in the hazard prone areas which are suitable for use by aircraft such as Fokker 27 or Hercules C-130 or similar, as the aircraft type to assist in disaster situations.

For capacity-building of human resources under the GARD programme, the DGCA Indonesia has a co-operation arrangement with the National Agency for Disaster Management (BNPB), Deutsche Post A.G (DPAG-DHL), the United Nations Development Programme (UNDP) and the United Nations Office for Coordination of Humanitarian Affairs (UNOCHA) to train pilots and airport staff to get ready for disaster.

Action: The Assembly is invited to note the information contained in this paper and recommend that ICAO develop requirements for "Getting Airport ready for disaster" which will improve the ability to evacuate and manage relief aid as efficiently as possible.

Strategic Objective:	Enhance global civil aviation safety
Financial Implications:	Not Applicable
References:	Annex 14 Volume I Aerodromes

1. INTRODUCTION

1.1 Indonesia is populated with over 240 million people living across a far stretched archipelago. Many of them are vulnerable to natural and man-made disasters. Natural disasters are common and frequent phenomena in Indonesia, causing loss of lives and destruction to property and often irretrievable damage to the environment. The country is subject to a high level of seismic activities due to its location at the intersection of three crustal plates namely Eurasia Plate, Ancient Australia-Indian continent, and Pacific Ocean Floor in the northeast. Much of the activities occur at sea bringing in added risks of tsunamis or tidal waves. The country is subject to a high level of seismic activity due to its geographic location. There are three major natural hazards in Indonesia.

Earthquake

1.2 Indonesia is situated at the meeting points of three active plates, i.e. the Indo Australian plate to the south, the Euro Asian plate to the north and the Pacific plate in the east. The three plates are moving and thrusting into each other in such a way that the Indo Australian plate thrusts under the Euro Asian plate. Moving northward the Indo Australian plate pushes into the Euro Asian plate that is moving southward and this creates a seismic line and a ring of active volcanoes along the Sumatra, Java, Bali and Nusa Tenggara Islands, turning north to the Mollucas and North Sulawesi, parallel with the subduction zones of the two plates.

1.3 Earthquake-prone areas in Indonesia are distributed close to subduction zones and areas nearby active faults.

Tsunami

1.4 An earthquake that is generated by the interaction of the tectonic plates may cause deformation in the seabed that will further trigger huge sea waves and probably become tsunami when happened in the ocean. With much regions of the country situated in areas that may be affected by tectonic plate movement, Indonesia becomes prone to tsunami hazard.

Volcanic Eruption

1.5 Related to the major tectonic subduction zones outlined above, Indonesia has more than 500 volcanoes and 129 are active. The active volcanoes distributed in Sumatra Island, Java Island, Bali, Nusa Tenggara, North Sulawesi and the Mollucas Island constitute 13% of the world active volcano distribution. The 129 active volcanoes are occupying the zones of Sunda, Banda, Halmahera and Minahasa. No wonder the archipelago is said to be circumscribed by rings of fire.

2. LAWS AND REGULATIONS

2.1 Law Nr. 24 of 2007 on Disaster Management, particularly Article 4 paragraph (3), stipulates that the goal of disaster management is to “ensure the conduct of disaster management that is planned, integrated, coordinated, and comprehensive”. Under Aviation Law Nr. 1 of 2009, Article 194, providing for a national master-plan for airports in Indonesia, a policy was adopted that airports should be build in the natural hazard-prone areas in order to assist if any disaster happens. Consequently, the Minister of Transport has issued Decree Nr. 11 of 2010 on a National Master-Plan. The Decree sets out provisions and requirements for airports that are dedicated to support disaster preparedness and response, whether they are on site-airports or hub-airports.

2.2 The DGCA realizes that aviation is one of main support vectors for disaster relief. Therefore, DGCA has developed a programme in order to be prepared if any disaster happens, called the GARD programme. The programme covers developing airport infrastructure and facilities, capacity building for airport staff, and preparation for manual procedure if disaster happens.

3. DISCUSSION

Airport Infrastructure

3.1 Any airport ready for disaster should be able to accommodate aircraft type F27 or C130 Hercules or similar. The minimum runway length is 1400m or more, and the apron should be wide

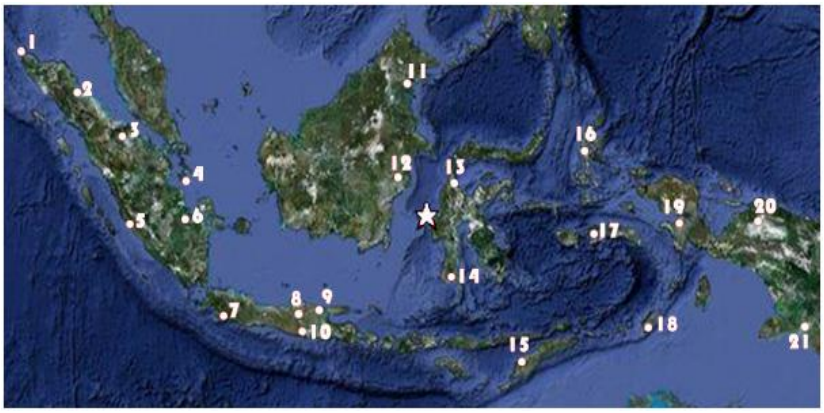
enough for unloading/loading Fokker 27, for one or more aircraft. Under the national Master Plan and the DGCA programme, the development of 22 airports is prioritized. Those airports are:

1. Tardamu Airport.
2. Kuala Batee Airport.
3. Teuku Cut Ali Airport.
4. Hamzah Fanzuri Airport.
5. Muko-Muko Airport.
6. Gewayantana Airport.
7. Namrole Airport.
8. Emalamo Airport.
9. Dobo Airport.
10. Tual Baru Airport.
11. S. Condronegoro Airport.
12. Tojo Una-Una Airport.
13. Wunopitu Airport.
14. Bula Airport.
15. Namlea Airport.
16. Muting Airport.
17. Sami Airport.
18. Miangas Airport.
19. Wahai Airport.
20. Tolikara Airport.
21. Falabisahaya Airport.
22. Numfor Airport.

At this time, there are 11 airports ready for disaster in the hazard prone areas (on-site airports) that are suitable for use by aircraft type Fokker 27 or Hercules C-130 or similar, as the aircraft type to assist disaster.

3.2 To support operations in managing incoming relief aid and evacuation, the DGCA has also determined hub-airports for disaster. The critical criteria for hub-airport are (1) that they should be able to be reached in one-hour flight duration from site-airport disaster, and (2) be able to become on- site airport, if a disaster happens in its area. A hub-airport wil normally be a large airport, mostly in the capital of the province, spread across the Indonesia archipelago. The DGCA has determined 21 hub-airports, which are:

1. Sultan Iskandar Muda Airport.
2. Polonia Airport.
3. Sultan Syarif Kasim II Airport.
4. Hang Nadim Airport.
5. Fatmawati Airport.
6. Sultan Mahmud Badaruddin II Airport.
7. Soekarno Hatta Airport.
8. Adi Soemarmo Airport.
9. Juanda Airport.
10. Adi Sutjipto Airport.
11. Tarakan Airport.
12. Sepinggan Airport.
13. Mutiara Airport.
14. Sultan Hasanuddin Airport.
15. El Tari Airport.
16. Baabullah Airport.
17. Pattimura Airport.
18. Saumlaki Airport.
19. Torea Airport.
20. Rendani Airport.
21. Mopah Airport.



3.3 Beside a runway suitable for use by the above-mentioned aircraft type, the facilities and equipment in the airport to be available are: a) runway lighting portable; b) generator set portable minimum 75 kVA; c) satellite telephone; d) portable water processing; e) forklift, and f) other necessary mobile equipment.

Airport Capacity

3.4 The capacity to manage the airport needs to be strengthened during disaster relief operations and crisis. In general, in the absence of a GARD programme airports are under-equipped to handle the sudden unexpected surge in activity in a disaster situation and do not have disaster relief surge plans in

place. Below are examples of the weak areas to be improved: a) lack of or delay in securing ground-handling equipment to offload goods from aircraft effectively; b) lack of relevant warehousing plans at the airport to store large quantities of goods for short time periods; c) lack of clarity in application of standing or emergency procedures for processing of relief goods and supplies.

3.5 During the crisis, especially in major natural disaster incidents, the airports are frequently overwhelmed with the surge in relief aid cargo and the support. To deliver the aid to the affected communities faster and more efficiently, the airport operator should be well-prepared and able to maintain its operation and function. Consequently, it is important for an airport authority to have the competency to undertake the surge capacity assessment during and post crisis.

3.6 When the crisis hits, traffic at an on-site airport or a hub-airport will suddenly increase, due to: a) limited apron capacity; b) loading/unloading of goods from aircraft takes a long time because of lack of equipment; and c) unscheduled aircraft park for a long period, usually official visit aircraft. The increase of traffic at the airport can cause flight delays, crowds of passengers, and new/more requests for slot time.

Human Resources

3.7 To get ready and prepare for disaster, not only the airport infrastructure, but also the the airport staff needs to be prepared. Although the responsibility for disaster management activities lies with the National Agency for Disaster Management (BNPB), the DGCA in cooperation with UNDP Indonesia and BNPB conduct training sessions as part of their effort to build the capacity of hub-airports to manage logistic, apron and relief cargo during a crisis and undertake surge assessment.

3.8 After attending this training, the participants should be familiar with airport disaster response capacity documentation and recommendations for pilots, airport disaster relief surge plan for pilots, and be able to conduct review at airports across Indonesia. Such training has been conducted regularly in the last three years. In 2010, DGCA, DPAG-DHL and UNDP have successfully organized training for Get Airport Ready for Disaster (GARD) in two airports in the eastern part of Indonesia. In 2011, a similar exercise has been conducted also in Ngurah Rai Airport – Bali and El Tari Airport – Kupang for southeastern Indonesia. For 2013, the exercise will be held in Minangkabau Airport-Padang (Sumatera Island), western Indonesia.

Operational Procedure

3.9 When crisis hits, confusion or even panic may set in and pre-set up-to-date procedures need to be in place. The operational procedures to handle surge capacity should consist of procedures for airside and landside. The airside procedure should cover: a) assessment of airport facilities; b) outsourcing personnel from other airports, if needed; c) coordination with local government, local BNPB and other related agencies; d) open/add operational hours at airport(s) in the vicinity as an alternate airport; e) apron capacity management, tighter slot time arrangement, faster ground time, priority for evacuation and logistic aids aircraft, no remain overnight aircraft; and f) all cargo aircraft should bring their own equipment and personnel for unloading. The landside/terminal procedure should cover: a) establishment of a coordination centre, including appointing qualified personnel; b) coordination with CIQ (customs, immigration, quarantine); and c) adding capacity for terminal (temporary terminal), water supply, electricity, if needed.

3.10 The DGCA plans to develop guidance material for operational procedures for airports in hazard-prone areas, both for on-site airports and hub-airports. The guidance material will link up with

other related agencies in disaster management, such as BNPB, immigration, quarantine, customs, and also local government. The guidance material will also be harmonized with a mainstream Disaster Risk Reduction project called "Safer Community through Disaster Risk Reduction" (SCDRR) developed under the leadership of the National Developments Planning Agency (BAPPENAS), as implementing partner with support from BNPB and the Ministry of Home Affairs.

3.11 In our view, guidance material of this nature will also be highly useful for many other Member States of ICAO having experienced natural disasters, and in particular minimum requirements for getting airports ready for disaster.

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