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**ASSEMBLY — 40TH SESSION**

**EXECUTIVE COMMITTEE**

**Agenda Item 16: Environmental Protection – International Aviation and Climate Change — Policy and Standardization**

**ADAPTATION PLANS AT JAPANESE AIRPORTS AGAINST CLIMATE CHANGE**

(Presented by Japan)

**EXECUTIVE SUMMARY**

Climate change issues are presently attracting a great deal of international concern. This is because a number of countries have been damaged at a level never experienced before by natural disasters caused by climate change.

In Japan, the Typhoon No.21 in 2018 devastated Kansai International Airport where the broad area including the runways was flooded.

This paper presents the adaptation plans to the impacts of climate change, specifically countermeasures against possible disasters, Japan's efforts to establish environmental measures to prevent climate change itself and significant points in promoting policies, all of which are to be shared with all States.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective E- Environmental Protection.
<i>Financial implications:</i>	Not applicable.
<i>References:</i>	None

**1. BACKGROUND**

**1.1 Disaster Countermeasures**

1.1.1 In 2018, we particularly experienced many natural disasters due to abnormal weather occurred by climate change. Christian Aid, British charitable institution, published a report on 27 December 2018, in which they cited 10 significant events with the total damage exceeding one billion dollars respectively, noting that the last year was “a year of climate breakdown”.

1.1.2 The report referred to the record heat wave in the summer and the Typhoon No. 21 of 4 September 2018 which caused 14 deaths due to flood as well as the total damage of 7 billion dollars in Japan.

1.1.3 Kansai International Airport (KIX) was hit by a tidal wave due to the Typhoon No.21. The airport was immensely damaged because the runways and power supply facilities were flooded and the means of transportation were blocked by the accident that a drifted tanker by the gale crashed against the access bridge to the airport.



1.1.4 According to the report, the global average temperature in 2018 was the fourth highest in recorded history and was nearly one degree higher than that before the Industrial Revolution. They forecast that this tendency will continue in the future and assume that natural disasters such as abnormal weather will increase.

## 1.2 Environment Countermeasures

1.2.1 We should take necessary measures against possible natural disasters, and moreover, it is indispensable to continue our efforts in reducing environmental burdens to prevent the occurrence of climate change. At the airports, in its operation, we have been making efforts in reducing environmental burdens in a variable way.

1.2.2 This paper introduces the efforts being made by Civil Aviation Bureau, Ministry of Land, Infrastructure, Transport and Tourism (JCAB) in regard to disaster countermeasures in the aviation field and shares our efforts in reducing environmental burdens with all States for reference.

## 2. JAPAN'S EFFORTS

### 2.1 Disaster Countermeasures

2.1.1 JCAB immediately established a committee composed of experts and concerned parties to discuss large-scale disaster countermeasures at airports, triggered by the damage to airports due to the Typhoon No.21 and the earthquake. JCAB officially announced a final report with the title, "Get ready for disaster prone era!! ~ Converting to *Integrative Disaster Management* at airports", on 10 April 2018 after eight times of the meetings.

2.1.2 The report first referred the damage caused by the large-scale disasters occurred in Japan in 2018, then outlined the basic understanding of social circumstances across Japan, and finally determined the direction of countermeasures against large-scale natural disasters as below:

- Damage and loss estimation with full "Disaster Imagination". All parties concerned at airports should sufficiently estimate the damage at a level someone had never experienced before.

- Building “Integrative Disaster Management System”. Build the system in which the on-the-spot decision maker integrates all the variety of parties concerned at airports.
- Setting the “Specific Restoration Goal”. Restore the required functions promptly in case of an emergency, which are the bases for relief and lifesaving activities, and for transportation of emergency supplies and emergency squad. Then, the goal is to operate commercial airlines within 3 days at the latest at airports which are critical for air transport in Japan.

2.1.3 The report established “A2 (Advanced/Airport)-BCP” which is a truly effective BCP including not only the conventional countermeasures against the respective natural disaster events but also establishment of contingency plans for each airport function such as securement of power supply and transportation means with the aim to maintain and/or restore the overall function of airports. (Refer to the Attachment which specifies the required point of view and the basic concept of A2-BCP)

2.1.4 Actually, we have completed to introduce A2-BCP into 16 major domestic airports of significance in terms of air transportation.

2.1.5 We understand that the introduction of A2-BCP is just the first step and it is important to effectively function A2-BCP at the time of disaster through regular practical training, and constant verification and review based on a close communication among concerned parties.

## 2.2 Environment Countermeasures

2.2.1 At the same time, Japan is promoting the Eco-Airport initiative with the goal to reduce environmental burdens at airports. This is a comprehensive environmental scheme for airports including water quality management and noise countermeasure as well as CO<sub>2</sub> reductions as a measure against climate change. JCAB has developed “Eco-Airport Guideline” which stipulates the establishment of “Eco-Airport Council” composed of the respective airport administrators and major relevant airport businesses and the preparation of “Airport Environment Plan” taking into consideration of characteristics of the respective airports. Each airport is voluntarily conducting regular checking and evaluation of their activities and review of the plan.

## 3. SIGNIFICANT POINTS IN IMPLEMENTATION

3.1 While introducing Japan’s disaster countermeasures and reduction efforts of environmental burdens so far in this paper, following is the significant point of view to be shared with all States, when implementing measures.

3.2 What is important is that all parties concerned meet together and discuss at the outset. The national government administration airports that the private companies operate under the concession scheme have been increasing in number and their operation has become complex because the airport administrators and the terminal operators are different in case of the national government administration airports. In view of this, it is crucially important that all parties concerned at the airport center their efforts on implementation of comprehensive disaster countermeasures and environmental countermeasures through daily airport activities in cooperation with each other.

3.3 Next important step is regular reporting and monitoring of the efforts of respective airports. In addition to the meaningful voluntary efforts based on the characteristics of each airport, JCAB intends to establish more substantial measures through regularly reporting the training status and results regarding the disaster countermeasures and the achieved numerical results of the environmental measures, and through reviewing the measures on the advice of the national governmental organization (JCAB) having nationwide knowledge.

3.4 Final important step is to implement appropriate hardware measures as well as the software measures including establishment of the system. Various efforts such as review of the design value of the bank protection and drainage facilities based on the recent climate change causing flood and securement of power supply are specified in the report. Introduction of ground power units (GPU) and utilization of new energy source such as solar power generation are ongoing environmental measures.

#### 4. **CONCLUSION**

4.1 The concrete disaster countermeasures both sides of hardware and software specified in the above report to be implemented at all airports should be promoted. The Assembly is invited to:

4.1.1 Note the information contained in this paper; and

4.1.2 Encourage States to consider preparing their business continuity plan (BCP) considering possible disasters in their States.

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## APPENDIX

### POINT OF VIEW REQUIRED FOR RESTRUCTURING BUSINESS CONTINUITY PLAN (A2-BCP) AT EACH AIRPORT

1. Clarification of the significance of BCP (Maintenance/restoration of the function of entire airports)
2. Setting up general emergency headquarters (Overall management function of entire airports)
  - Clarification of fundamental role-sharing among concerned parties at airports (Clarification of the fundamental role of the concerned parties of airports such as traffic controllers, passenger transport services, ground handling services, cargo transport services, operation entities of adjacent accommodation, and information sharing system etc.)
  - Clarification of the external adjustment function (Securement of information sharing routes with national government's organs such as Self Defence Force, District Transport Bureaus, Regional Development Bureaus and Japan Coast Guard, the police, local governments including fire stations and access transport operators)
3. Establishment of an integrated decision making system enabling a swift decision making (including the proper way of delegation of decision-making authority to the field).
4. Formulation of contingency plans of each function at airports
  - Evacuation of passengers when a disaster strikes/handling and transfer of people left behind (including the handling of foreign travellers visiting Japan, elderly persons, disability persons and employees related to airports)
  - Contingency plan in case of loss of function of power
  - Contingency plan in case of loss of function of other lifeline including water and sewage, and communication function
  - Contingency plan in case of loss of function of major access transportation system
  - Planning to restart operation of passenger flights and cargo flights
  - Restoration planning of passenger and cargo facilities
  - Planning to secure staff and employees including replacement who engage in the above assignment etc.
5. Building relations with external organizations (Cooperation agreement on disaster management, request for dispatch of helpers etc.)
6. Clarification of appropriate information transmission (Press release, media strategy etc.)
7. Ensuring effectiveness of respective contingency plans (Clarification of implementation methods and procedures of the plan: training, assignment of engineers and information exchange with other organs etc.)
8. Others
  - Reorganization of various existing contingency plans (Mapping)
  - Ensuring that the above contingency plans are consistent with the contingency plans of concerned parties at airports (Traffic controllers, passenger terminal building companies, passenger transport services, cargo transport services, ground handling services, operation entities of adjacent accommodation etc.)
  - Decision making and coordination process in relation to the airport closure etc.