



**WORKING PAPER**

**COUNCIL — SPECIAL MODEL SESSION**

**Subject No. XX: Challenges relating to the projected shortages of skilled aviation personnel**

(Presented by Malaysia)

**EXECUTIVE SUMMARY**

In response to ICAO addressing shortage of skilled aviation professionals, ICAO undertook activities to promote the induction of younger professionals to work in the civil aviation sector. Among the activities decided in the five-day event include developing a new training policy that allows ICAO to endorse aviation-training institutions.

In the regional level of civil aviation training, several institutions have been endorsed by ICAO and local civil aviation authority to produce human capital for the aviation industry. Among the institutions that are available in the Asia and Pacific (APAC) region are Bangkok Aviation Centre (BAC), Malaysia Aviation Academy (MAvA), Singapore Aviation Academy (SAA) and APG International Aviation Academy. Such regional schools enrol local students from their respective countries and this imposes difficulty for students to accommodate the international civil aviation standard.

Our next priority is to address the declining quality of work by aviation personnel by ensuring that the workforce has an up-to-date knowledge of civil aviation rules and regulations. Several methods are further discussed to resolve this issue. Further enforcement is required to monitor the progress of each aviation personnel performance by running workshops and stringent yearly benchmarking of local civil aviation training centre through key performance indicators so that the standard do not differ across the globe.

If the aforementioned issues can be handled, a greater number of aviation personnel can be sourced from these regional growing aviation industries to serve the international aviation sector.

**Action:** The Council is invited to:

- a) *Acknowledge* the issues being faced at regional level and provide workforce to improve the quality of teaching delivered at civil aviation institutions
- b) *Monitor* continuously the progress on production of human capital from different regions to be absorbed in case of shortage of workforce

**References:**

[1] *Global and Regional 20-Year Forecasts: Pilots, Maintenance Personnel, Air Traffic Controllers. (Doc 9956)*

## 1. INTRODUCTION

1.1 In the next two decades, civil aviation sector is projected to significantly grow in numbers where it is projected that 25,000 fleet will be added from existing 17,000 aircrafts. To accommodate this, a strong number of human capital need to be trained and prepared to meet the demand of the sector. Problem arises when there are challenges to generate this workforce, given that there are difficulties in educating current generation of professionals to be at the same level of growth as our growing technology in aviation.

1.2 In response to document released by ICAO '*Global and Regional 20-Year Forecasts*', which explain in detail about growth of aviation sector and aviation personnel associated with it for the year 2010 to 2030, we are going to address the potential of regional office to play their roles in this issue. Having standardized curriculum for all training institutions with regularly updated syllabus is important to be monitored in a frequent basis to ensure up-to-date and quality training delivered to NGAP

1.3 Asia and Pacific (APAC) Office initiate Developing Countries Training Programme in Singapore and Republic of Korea in 2014 and this provides platform to increase awareness in civil aviation sector to developing countries. Implementing the same initiative to more countries will help to engage bigger volume of young professional to join this sector

## 2. BACKGROUND

2.1 Factors that causes deficit in supply of human capital for this industry was stated by ICAO when shortage of skilled aviation professionals problem is addressed. Among the factors that induce this problem are insufficiency of training capacity to meet demand, learning methodologies that is not responsive to new evolving learning style, as well as little awareness by the "next generation" of types of aviation professions available.

2.2 Statistically, it is also shown that by 2026, civil aviation will need 480,000 new technicians to maintain new aircrafts and over 350,000 pilots to fly them. Projecting this number of aviation personnel needed in the sector, the number of institutions will not be able to produce enough workforces to meet the demand.

2.3 Another concerned matter to be addressed here are the retirement of veteran aviation professionals, which is another factor that will contribute in increasing demand of the workforce. A method should be introduced to reduce this gap and capitalizing veteran workforces to guide Next Generation Aviation Professionals (NGAP) should be considered to meet the demand.

### 3. CONSIDERATION OF ISSUES

3.1 As stated in section 1 and 2, several factors have been addressed that is slowing down the production of human capital in this sector. In this section, the paper will discuss the in-depth problems that are causing this issue as well as suggesting viable solution for each issue.

3.2 Aviation institute plays major role player to face this upcoming challenge in aviation sector. Students enrolled in these institutes are the ones who will replace current workforce and serve the sectors for the next two decades. Locals find it hard to attend these academies since there is no subsidy provided by local government to support the growth of this sector by providing affordable education in aviation study. This causes low attractiveness for society to pursue their future career in aviation sector. To improve this, ICAO and local aviation authority can provide incentives and provide scholarships for students who are interested in working with aviation sector in the future.

3.3 The institute curriculum should be up-to-date with current civil aviation regulations and also accessible to public so that growing interest among society in working with aviation sector can be generated. To improve the curriculum, a separate council should be formed to create a standardized evaluation system as well as updating the curriculum regularly ensuring that it matches latest technology and aviation practices. To increase awareness, activity such as workshops, airshow, and aviation career week could be organized.

3.4 Students who are expecting to graduate are often faced with the issue of not familiar with existing civil aviation rules in other regions. Throughout the academy, it is expected that the regional regulations are implemented into the system. Even though students are aware of the local rules, often times they are unfamiliar with different obligatories from other regions (such as EASA, CAA, FAA etc.). To resolve this issue, exchange programs can be introduced between the academy institutes in different regions. This in turn can provide a platform for the students to learn from each other and share their experience.

3.5 Retiring veterans can be capitalized to guide NGAP as their knowledge and experiences gained throughout their career are valuable to train future generation. As the veterans share their story, they are able to capture participants' attention as first-hand information on real situations are often times more accurate and interesting. The personal experiences of the veterans, the mistakes done back then, challenges that the future generations might face are seen as the incentives and opportunities for the new generation to continue improving and excel in their field.

#### 4. FINANCIAL IMPLICATIONS

4.1 The solutions suggested for the considered issues are based on regional move at international level thus, the financial implications are difficult to be broken down into specific projects or implementation of regulation. The estimates of the monetary usage for this proposal also depend on the scale of action being taken i.e. number of students to be sponsored etc. Since the numbers are not specified in this paper, the estimate of the cost is not yet determined.

4.2 However, the financial implications are to be supported by regional office as well as local authority at respective country to carry out the task suggested in section 3.

#### 5. ACTION

5.1 ICAO has addressed the issues that are faced by the aviation industry recently. The shortage of skilled aviation professionals and the increasing demand of a younger workforce to replace the retiring veterans are closely monitored.

5.2 In order to deliver these issues a few suggestions are listed as follow:

- a) Provide a more affordable learning platform in aviation sector.
- b) The civil aviation curriculum should be reviewed and updated frequently to ensure the quality of the future generation.
- c) Exchange programs or conferences should be held more often as the young professionals are able to keep themselves updated with the evolving trends in aviation industry.
- d) Capitalizing veteran aviation professionals to guide NGAP as they are able to provide incentives to younger generation.

#### 6. CONCLUSION

6.1 ICAO has initiated to promote the aviation industry to the future younger generation to address the lack of professionals in the aviation industry among the younger generation by establishing NGAP. To address the underlying problem of the high demand and low supply of aviation professionals, immediate actions should be implemented as soon as possible in order to ensure a smooth transition period for the industry for the younger professionals to replace the retiring generation. This challenge should be taken up starting from the regional level where the local civil aviation industry should address the problems they faced locally. While they are being addressed, the aviation industry is able to sustain the workforce.