



International Civil Aviation Organization

WORKING PAPER

COUNCIL — SPECIAL MODEL SESSION

Subject No. 01: Challenges relating to the projected shortages of skilled aviation personnel

(Presented by Singapore)

EXECUTIVE SUMMARY

This working paper outlines the challenges relating to the projected shortages of skilled aviation personnel. It seeks to produce a viable framework to accelerate the achievement of ICAO’s Next Generation of Aviation Professionals (NGAP) objectives through the establishment of an International Youth Aviation Community (IYAC) to drive aviation outreach to the next generation. This paper also promotes the participation of women in aviation and the importance of job re-design and rotation within the industry to retain aviation professionals.

Action: The Council is invited to:

- a) Establish an International Youth Aviation Community (IYAC) Taskforce
- b) Promote the participation of women in the aviation workforce through the NGAP network
- c) Promote the importance of job re-design and rotation within the industry to retain current aviation professionals.

Financial Implications	<p>Financial implications for the establishment of the IYAC are not quantified at this point.</p> <p>Financial implications for industry stakeholders will include costs to promote aviation to women and to provide job rotation opportunities for employees.</p>
References:	<ul style="list-style-type: none"> • ICAO Working Paper, WP/ 18, 23 July 2012, Regional Cooperation and Training Matters, Martinique, France • ICAO Working Paper, WP/19, 21 Jan 2014, Regional Cooperation and Training Matters to Support Implementation, Ottawa, Canada • Bridging Skies, Issue 25, Delivering a Sustainable Global Air Transport Network, CAAS • The Straits Times, 18 Feb 2012, Manpower Shortage Dogs Aviation Sector • AOPA News, 12 Mar 2012, Attracting Talented Workforce will be Aviation’s Challenge

1. INTRODUCTION

1.1 The global aviation industry is facing a shortage of skilled aviation personnel. ICAO projected the need for an additional 25,000 new aircraft in the next 20 years. This means that there is an urgent need to have sufficient trained pilots, air traffic controllers, mechanics and ground crew to support this growth. The shortage of skilled aviation personnel is a pressing concern that will significantly affect the sustainability of the global aviation industry. ICAO thus launched the Next Generation of Aviation Professionals (NGAP) initiative to ensure a pool of aviation professionals that are competent to continue the operation, management and maintenance of the future global air transportation system.

1.2 The NGAP taskforce has so far been successful in raising awareness of aviation and organizing technical and research committees to deliver competency frameworks and establish data-gathering systems respectively. However, there exists potential to further increase awareness of aviation globally, increase women's participation in aviation and strengthen the retention of aviation professionals within the industry.

2. BACKGROUND

2.1 A key challenge in attracting the next generation is the lack of awareness on the aviation industry. In Singapore, the common perception is that aviation jobs comprise pilots and cabin crew. However, Singapore's aviation industry comprises numerous diverse sectors. We recognise the need to promote aviation and its careers to the young, so that they are aware of the importance of the aviation industry and its career opportunities. We also note that outreach to the next generation should start at an early age, while they are still in school, before they make key decisions on their educational and career specializations.

2.2 The women population represents a talent pool that can be tapped on to address the shortage of skilled aviation professionals. However, the participation of women in the aviation industry has been minimal to date. Currently, it is estimated that women only make up 6% of the global pilot population, and 2.7% of maintenance technicians. Historically, requirements for physical strength and height to become pilots resulted in the low entry of women into aviation. However, modern improvements in adapting the work environment for ergonomics have substantially reduced such barriers preventing women from joining aviation. Another key barrier to attracting women to join aviation is the common perception that aviation jobs are only for men.

2.3 It is crucial to retain aviation professionals to ensure sufficient manpower in the long run. In Singapore, the airport sector faces high attrition. Jobs that are more physical in nature such as ground handling experience a high rate of exit. Possible reasons include the strenuous nature of jobs, lack of career advancement and lack of job satisfaction. Intrinsic motivation is one of the key elements to retain an employee, and the industry stakeholders have a role to play in improving employee satisfaction. Job redesign and rotation is beneficial as it encourages learning and reduces monotony, hence maximizing productivity and improving job satisfaction. There is also a need to instill a sense of pride among the existing aviation workforce, particularly for backend jobs, so that workers can be more motivated.

3. CONSIDERATION OF ISSUES

3.1 Increasing aviation outreach: International Youth Aviation Community (IYAC)

3.1.1 The lack of outreach and awareness of aviation globally remains a key issue for the low rate of entry of aviation professionals. We propose engaging passionate youths around the world through the establishment of an International Youth Aviation Community (referred to as IYAC henceforth). The Civil Aviation Authority of Singapore (CAAS) has in place a similar local initiative known as the Youth Aviation Ambassador (YAA) that seeks to increase aviation outreach to youths through organizing events for students and sharing their experiences at local NGAP conferences.

3.1.2 We propose these Terms of Reference for the IYAC:

- (a) To increase awareness of aviation globally through activities initiated by youths in their own countries
- (b) To provide a global network for the next generation to share ideas and best practices

3.1.3 The target audience for the IYAC includes students from tertiary institutions, as well as graduating youths about to join the workforce. ICAO could initiate the formation of IYAC and propose a list of issues and events for the IYAC to work on.

3.1.4 Some of the proposed activities to be undertaken by the IYAC include competitions to spur early engagement in the industry. A potential opportunity is the creation of an annual “Aviation Innovation Award” to encourage youths in their tertiary education to brainstorm and develop new ideas to improve various aspects of the industry. An example of a similar event is Airbus’ “Fly Your Ideas” Competition. For engagement with the public, events that promote participation with the community can be organized to encourage involvement. Redbull’s “Flugtag” competition is one such example. In addition, the IYAC could propose outreach events to celebrate International Civil Aviation Day among youths in their countries. Other possible means of outreach include the use of social media, carnivals, exhibitions, as well as networking and sharing sessions to promote aviation.

3.2 Attracting women to join aviation

3.2.1 There exists potential for the pool of skilled aviation professionals to be increased if more women join the aviation industry. One of the first moves should be changing the perception of male dominance in the industry. It is necessary to reach out to women to change the perceptions of the aviation industry as male dominated.

3.2.2 Thus, we propose marketing efforts targeted at women. Marketing efforts could include advertising through the use of social and mass media to portray greater participation of women in the aviation workforce, and dialogue sessions featuring prolific women in aviation. For instance, an initiative by the CAAS, called the “Women in Aviation” dialogue series, brought together women aviation professionals and young female students for networking and sharing to encourage greater participation of women in aviation.

3.2.3 The non-profit organization, Woman in Aviation, International (WAI), has been actively encouraging the participation of women in aviation professions. However, it appears that such initiatives only exist in regions with well-developed aviation industries. ICAO could also collaborate with WAI in reaching out to women around the world, to attract them to join aviation.

3.3 Retention of aviation professionals: Job redesign and rotation

3.3.1 The retention of aviation professionals is an important avenue for sustaining the aviation workforce. One strategy to aid retention could be job rotation within the aviation industry to reduce job fatigue, and instill pride among the existing aviation workforce. Aviation related skills are highly interchangeable and can be applied across different roles and sectors within aviation.

3.3.2 In addition to increasing the talent pool for aviation, efforts could also focus on reducing the reliance on labor. Within the industry, job redesign should be a long term goal to maximize the productivity of workers and reduce the demand for labor. With increasing automation, the nature of labor-intensive jobs such as baggage handling and technician works can be improved through process redesign and the use of new equipment and handling systems. These workers can then take on supervisory roles to increase responsibility.

3.3.3 We propose that these retention efforts could be promoted as part of the NGAP movement. The global aviation industry should be encouraged to provide opportunities for job rotation and job redesign.

4. FINANCIAL IMPLICATIONS

4.1 The implementations require a significant amount of support from the international aviation community to ensure that plans and actions are effectively put into place to achieve the aforementioned objectives.

4.2 The establishment of the IYAC may require state and industry support for its activities. The IYAC may need to look at means of fund raising or obtaining sponsorships from the aviation industry.

4.3 The promotion of women's participation in the aviation industry entails partnership with industry stakeholders to provide resources for launching initiatives and reviewing the hiring practices.

4.4 The promotion of job redesign and rotation will require consultation and input from the human resources (HR) perspective. For a start, the global HR community can share on best practices to minimize the associated costs involved.

5. ACTION

5.1 The ICAO Council is invited to:

- a) establish an International Youth Aviation Community (IYAC) Taskforce to involve young aviation professionals and passionate youths to create awareness and outreach locally and globally. Through this taskforce, large scale events can be organized to increase international exposure and encourage participation;
- b) boost attraction of women professionals in the aviation industry through support for initiatives targeted at women using NGAP's strong network; and
- c) promote the importance of job re-design and rotation to the various industry stakeholders to retain aviation professionals. The applicability of intra-industry job rotation should be reviewed to encourage career progression.

6. CONCLUSION

6.1 This working paper addresses the potential gaps relating to the shortages of skilled aviation professionals. The actions outlined in section 5 of this working paper requests initiation from the Council and subsequent support from contracting States and aviation stakeholders to accelerate the achievement of NGAP objectives.