



**WORKING PAPER**

**COUNCIL — SPECIAL MODEL SESSION**

**Challenges relating to the projected shortages of skilled aviation personnel**

(Presented by NIGERIA)

**EXECUTIVE SUMMARY**

The International Civil Aviation Organization (ICAO) has projected that from now to 2030, world annual traffic growth rates will increase by 4.7% resulting in a demand for up to one million pilots, one million maintenance personnel and over 100,000 air traffic controllers to serve the global aviation industry. The challenges facing Nigeria are similar to those of other African countries, calling for regional solutions supported by a global approach.

Under the aegis of Next Generation of Aviation Professionals initiatives, emphasis is placed on attracting potential new entrants into the industry. As such, proposals that seek to inspire and facilitate young students and graduates to take an interest in the aviation profession are acknowledged as a priority. However, in furtherance of the goal of increased safety in the aviation sector, capacity building of the existing workforce, as well as increasing efforts towards retaining the best is also identified as of great importance to the future growth of the industry.

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

- a) Note the information in this paper
- b) Approve the establishment of a voluntary Human Resources Development Fund (HRDF), and a regional research and development initiative
- c) Urge industry to join the TRAINAIR PLUS program
- d) Direct the TRAINAIR PLUS program to establish an Introduction to Aviation Standardized Training Package (STP) to be implemented by the Regional Training Centres of Excellence
- e) Approve the establishment of a youth network named Next Generation Advisory Council and/or an ICAO youth forum, enjoying observer status at ICAO
- f) Note the success of World Space Week and produce an annual report at ICAO of the activities of States and aviation related organizations for International Civil Aviation Day

<i>Financial implications:</i>	The global personnel shortage has been identified and as such a determination can be made as to the financial implications of training programs to meet up with the expected growth of the industry, based on the current cost of training. These costs will need to be shared by governments, industry and the potential aviation professionals.
<i>References:</i>	ICAO Global and Regional Forecasts 2010-2030 ICAO Civil Training Policy (July 2014) Association of African Aviation Training Organization Strategic Plan 2013-2015

## 1. INTRODUCTION

1.0 The International Civil Aviation Organization (ICAO) has projected that from now to 2030, world annual traffic growth rates will increase by 4.7% resulting in a demand for up to one million pilots, one million maintenance personnel and over 100,000 air traffic controllers to serve the global aviation industry. The extent of the problem however differs regionally, depending on the forecast growth, aircraft distribution and aircraft movement in that region, calling for regional solutions supported by a global approach.

## 2. BACKGROUND

2.0 The ICAO *Global and Regional Forecasts 2010-2030* compares the number of new aviation personnel to be trained within the next 20 years with annual training capacities of the existing training infrastructure and concludes that by 2030 there will be shortage of highly qualified pilots, air traffic controllers and aircraft maintenance personnel. While the commercial fleet of the African region represents only 5% of the world total; with robust fleet and traffic growths of up to 5% forecast in the medium to long term, training shortages are forecasted specifically for pilots and maintenance professionals in Africa. The Association of African Aviation Training Organizations also highlights similar shortage trends, particularly for airline operations.

	Personnel Needed by 2030		Annual Training Needs	Annual Training Capacity	Shortage/Surplus	
	Global	Africa			Global	Africa
Pilot <sup>1</sup>	1,097,402	56,991	3892	1010	6475	2882
Maintenance	1,164,969	58,635	3769	600	18,071	3169
Air Traffic Controller	139,796	2863	169	210	1978	+41

Table 1: African Training Needs and Capacities by 2030 Source: ICAO

## 3. CONSIDERATION OF ISSUES

### Challenges to Capacity Building in Africa

3.0 As identified by the Steering Committee for the Regional Implementation Plan for Aviation Safety in Africa (AFI PLAN), the challenges facing capacity building in Africa include: training and competency requirements not identified by Civil Aviation Authorities and the aviation industry, training is provided on ad-hoc basis rather than planned and trainees have been identified as not meeting the entry level, training courses are not consistent and Training provided not consistent with staff responsibilities, oversight over training organizations and programmes in Africa and abroad not adequate.

3.1 In light of the aforementioned challenges, the establishment of a voluntary Human Resources Development Fund (HRDF) to introduce capacity building opportunities for the civil aviation sector should be supported. A HRDF has been approved for Africa, to be used to support secondments to ICAO, provide internships for young and emerging African professions and other areas based on identified needs. This initiative could be replicated for other regions. Concurrently, there is also a need to

<sup>1</sup> Based on an average of the High and Low Scenario Forecast developed by ICAO

establish regional research and development initiatives to ensure continuing innovation in the aviation sector.

### **Inspiring and Facilitating the Next Generation of Aviation Professionals**

3.2 The ICAO Training Policy is implemented in part through the TRAINAIR PLUS Programme, with four modalities of recognition including: Recognized Training Organizations, Regional Training Centres of Excellence, Standardized Training Programs (STP) and Qualified Trainers. A new Introduction to Aviation Standardized Training Program is proposed to be implemented by the Regional Training Centres of Excellence as an effort to support the entry of the Next Generation of Aviation Professionals.

#### Develop a new Introduction to Aviation STP: A Two-Phased Program

3.3 The current STP courses are dedicated to aviation training on matters related to Safety and Air Navigation Capacity and Efficiency for *existing* aviation professionals. It is proposed that a new two phased course is designed as an Introduction to Aviation that can be promoted to students and young graduates *not yet* in the Aviation industry. Supported by Government and Industry, the two phased program would be implemented by the ICAO recognised Regional Centres of Excellence.

3.4 **Phase 1** of the program would cover all aspects of aviation related topics in an interdisciplinary manner and would be supported by national governments, either through scholarships or interest free loans, as part as their activities towards increasing interest in aviation. The program could be accomplished over a three-month period as laid out in a standardized ICAO developed curriculum, with some attention to local factors. Following completion of Phase 1 and exposure to all facets of aviation, students choose to write entrance exams for the chosen area they want to specialize in and apply for entry into Phase 2.

3.5 **Phase 2** would be developed in partnership with and supported by industry, to include a cadet/internship program. To implement this, there would need to be support to develop industrial partnerships with organizations along the aviation value chain; from OEMs, to maintenance, and oversight organizations. The Regional Centre of Excellence would enter into these partnership agreements with organizations to develop cadet programs open to successful graduates of the Phase 1 program. A Nigerian example of such a cadet program is the Arik Air Cadet pilot programme. At the start of operations in 2006, Arik Air launched a Cadet Pilot Training Programme as an initiative to creatively address the looming pilot shortage in Nigeria's aviation industry. The first batch of 16 students drawn from 15 states of the federation was sent to the Nigeria College of Aviation Technology (NCAT) Zaria for the Standard Pilots' Course. Several others have been trained within Nigeria and abroad.

3.6 Currently there are few corporate members of the TRAINAIR Programme with the first OEM, Bombardier, joining in 2013. If Phase 2 is to be a success, increased efforts will be required to increase membership of industrial entities regionally to the TRAINAIR Programme.

### **Encourage Outreach Activities**

#### International Civil Aviation Day

3.7 ICAO celebrates International Civil Aviation Day in December each year. There could be an opportunity to promote the aviation sector more effectively if some priority is placed on development of this initiative. For example, in the space sector, following the 1999 UN General Assembly declaration that the 4-10 October be recognised as World Space Week, it has grown into one of the largest global

public space events. More than 1,400 events in 80 countries were celebrated to highlight the benefits of space and excitement about space exploration in 2013. Lessons learned from World Space Week can also be replicated while celebrating International Civil Aviation Day to have the same benefit and maximum impact.

#### Establish Global Youth Networks

3.8 To engage more youth and young professionals in the aviation sector, a Next Generation Advisory Council (NGAC) or ICAO Youth Forum should be established. The NGAC could take the form of a global non-governmental organization supported network which would seek to represent university students and young aviation professionals to ICAO, aviation related companies, and academia. Enjoying observer status at ICAO, the youth network/forum could inject the next generation point of view into global aviation affairs. Established with national branches, the volunteer network would focus on recruiting members between the ages of 18 and 35 and engaging in outreach and other activities.

### **4. FINANCIAL IMPLICATIONS**

4.0 The global personnel shortage has been identified and as such a determination can be made as to the financial implications of training programs to meet up with the expected growth of the industry, based on the current cost of training. These costs will need to be shared by governments, industry and the potential aviation professionals themselves.

### **5. ACTION**

5.0 The Council is invited to:

- a. Note the information in this paper
- b. Approve the establishment of a Voluntary Human Resources Development Fund (HRDF), and a regional research and development initiative
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### **6. CONCLUSION**

6.0 ICAO has recognised that the availability of competent human resources is a key strategic issue and that there is an increasing need to facilitate the recruitment, education, training and retention of the next generation of aviation professionals. It will be necessary for all stakeholders, both at ICAO, of Member States and in the industry, to ensure that the information regarding aviation related careers is disseminated amongst the young students and professionals who would take advantage of the viable future in the aviation sector.