

Indonesian Aviation Human Resources : An Evaluation

Adya Paramita Prabandari¹, Wahyu Satrio Utomo,¹Dr Martono²

¹(Lecturer at International Law Department, Diponegoro University, Semarang, Indonesia)

²(Professor in the Law Faculty, Tarumanagara University, Jakarta, Indonesia)

Abstract: This article deals with introduction; legal ground of safety regulations such as the Civil Aviation Act of 2009 includes aviation human resources, preparation and development, education and/or training, competency certificate and licenses, contribution of aviation services providers and working hours, public participation; human resources development on transport agency includes historical background, aviation technical and safety academy in Medan, Surabaya, Makasar, aviation training offices in Palembang and Jayapura; rotary wing training program; cooperation with ICAO and other agencies; the role of ICAO to support the development of civil aviation in Indonesia; capacity building activities; Indonesia-ICAO developing countries training program; workshops opportunities for D-8 civil aviation; the ASEAN aviation training education summit; enhancing cooperation in worldwide aviation including an agreement between Indonesia and Boeing, cooperation with ICAO, TRAINAIR membership; an international aviation events; improving the training capacity; aviation safety and security; international cooperation to support the development of civil aviation in Indonesia and finally conclusion.

Keywords: safety, human resources, cooperation with ICAO and ASEAN aviation training.

I. Introduction

The aims and objectives of the the International Civil Aviation Organization (ICAO), among other thing, is to develop the principles and techniques of international air navigation and to foster the planning and development on international air transport so as insure the safe and orderly growth of international civil aviation throught out the world.² In relation to safety, the Council of the ICAO had decided to convene in Montreal, from 10 to 12 November 1997, an international conference for Directorate General of Civil Aviation to review the ICAO safety oversight programme and to consider its expansion. Almost simultaneous with this decision, ICAO released its preliminary accident and security statistics for 1966, which reflect that scheduled air carriers from the 185 ICAO Contracting States reported 23 fatal aircraft accidents in 1996, compared with 26 in the previous year. Although the accident rate declined in 1996, the number of passenger deaths reported rose dramatically in 1996 to 1135, compared with 710 in 1995.³ Safety of air transport largely dependent upon the professional human resourace such as technical personnel, air crews as well as operational personnel. In this regards, Indonesia, taking into consideration as a member of the ICAO, fully complies with the recommendation provides by the ICAO.

II. Legal Ground of Safety Regulations

A. Civil Aviation Act of 2009

The Indonesian Civil Aviation Act that came into force on 12 January 2009 aims to promote the development of Indonesian civil aviation.⁴ It regulates a host of matters related to aviation, from sovereignty in airspace, aircraft production, operation and airworthiness of aircraft to aviation security and safety, aircraft procurement, aviation insurance, aircraft accident investigation, and the licensing of aviation professionals. The Civil Aviation Act of 2009 (the CAA of 2009) also regulates scheduled as well as non-scheduled air transportation, airline capital, the ownership of aircraft, aircraft leasing, tariffs, the liability of air carriers, air navigation facilities, airport authorities and services, and law enforcement related to civil aviation. The CAA of 2009 also has provisions aimed at supporting the development of national and international air transportation in Indonesia, including provisions regarding the creation of a public services institute to further those goals. Due to the comprehensive nature of the CAA of 2009, the present article is only able to discuss and highlight certain

¹ Chief, Human Resources Development of Transportation Agency, Ministry of Communications (MOC).

1. Milde M., *Annals of Air and Space Law*, Vol.XVIII-1993 Part II. Toronto : The Carswell Compny Ltd,at 34; See also Dampsey P.S.,*Annals of Air and Space Law*, Vol.XXXVIII-2005-Part I. Toronto : The Carswell Compny Ltd,at...

2. R.I.R.Abeyratne, *Regulatory Management of Safety in Air Transport*, J.A.T.M.4 (1998) 25-37.

3. Act concerning Civil Aviation, Act No.1 of 2009 [Civil Aviation Act], Ministry of Transportation Republic of Indonesia, online:Directorate General of Civil Aviation <http://hubud.dephub.go.id/?en/uu>

matters that have potential impact on the development of the civil aviation, especially regarding human resources relating to aviation safety in Indonesia.

B. Aviation Human Resources

Aviation human resources are stipulated in Chapter XIX from articles 381 to 393 of the CAA of 2009. Basically, as above-mentioned, the government is responsible for preparing and developing human resources in the civil aviation field. Aims and objectives of aviation human resources are professional, competent, disciplined, reliable and having integrity. It shall consist of aircraft personnel, air transportation personnel, airport management, flight air navigation, aviation safety and aviation security. In order to achieve the aims and objectives, the Ministry of Communications (MOC) stipulates policies on preparation and development of human resources in aviation fields covering manpower planning, education and training, expansion of job opportunities and supervision, monitoring and evaluation.

In accordance with Article 109 of the Civil Aviation Act of 2009, to obtain a business permit, an airlines shall submit the establishment deed of Indonesian entity whose business is in the field of scheduled or non-scheduled air transportation and is enacted by the Minister in charge, tax identification number, domicile letter issued by the authorized agency, approval letter from the agency responsible for capital investment sector if the company/individual concerned utilizes capital investment facility, evidence of capital already deposited and bank guarantee and business plan for a minimum period of five years.

The requirement of business plan shall contain human resources consisting of management, technicians, engineers, aircraft crews. Any individual may be appointed as a director of an airline after fulfilling the requirements of possessing operational and managerial competence in air transportation, is certified fit after a proper test conducted by the MOC, has never been involved in any criminal legal conviction related to air transportation operating and during management of the individual the company has never been declared bankrupt.

With regard to aircraft personnel, every personnel of an aircraft shall be compelled to own license or certificate of competency. Aircraft personnel with direct involvement in operating an aircraft shall be obliged to possess legitimate and valid license issued by the MOC. Personnel license will be issued by the MOC after fulfilling the requirements of administrative, physical and mental fitness to fly, holding certificate of competency in his/her field and declaring having passed a professional test. Personnel license shall be obtained through education and/or training organized by an accredited institution.

In relation to airport personnel, every airport personnel shall also be compelled to own a license or competence certificate. Each airport personnel directly involved in operation performance and/or maintenance of airport facilities must own a legitimate and valid license. The license shall be issued by the MOC upon meeting requirements of administrative requirements, being physically and mentally fit, possessing competence certificate of the field and passing the examination/test. The competence certificate shall be obtained through education and/or training conducted by any institution duly accredited by the MOC.

C. Preparation and Development of Human Resources

As above-mentioned, human resources regulation is found in Chapter XIX Articles 381 to 396 of Act Number 1 Year 2009. It consists of preparation and development, education and/or training, competency certificates and licenses, contribution of aviation service providers and working hours arrangement.

1. Preparation and Development

Article 381 of Law Number 1 Year 2009 provides that the government is responsible for the preparation and development of human resources in the aviation sector. With the aim creating human resources that are professional, competent, disciplined, reliable, and having integrity in the fields of aircraft, air transportation, airport management, flight air navigation, aviation safety and aviation security. In order to achieve the above mentioned objectives, the MOC shall issue policies on the preparation and development of human resources in the aviation sector, covering manpower planning, education and training, expansion of job opportunities, and supervision, monitoring and evaluation. Further provisions regarding preparation and development of human resources in the aviation sector will be governed by Ministerial Regulations.

2. Education and/or Training

Education and/or training in the field of civil aviation must be undertaken in the framework of the national educational system. The MOC will be responsible for supervision and organization of education and/or training. This responsibility will cover at least improvement of the quality of educators, development of curriculum, syllabus and methods in accordance with pre-determined standards, structuring, improvement, and certification of aviation educational and training organizations or management, and modernization and

improvement of the technology of learning teaching facilities and infrastructure of aviation educational and training institutions.⁵

Education and/or training may be implemented by the Government, regional government or the community through formal and/or non-formal educational paths. The formal educational path will be implemented in medium and higher education levels in accordance with the provisions of laws and regulations, whilst non-formal educational paths will be implemented by non-formal educational units that have the approval of the MOC.⁶

The MOC will determine the model by which aviation human resources education and/or training will be formulated. This model of human resources education and/or training will contain at least kinds and levels of education and/or training, requirements for participation in the education and/or training, curriculums, syllabuses and methods of education and/or training, qualifications of educators and trainers, infrastructure and facility standards for education and/or training, requirements for education and/or training operators, standards for determining educational and/or training charges, and control and oversight of the education and/or training.⁷The Government will direct, supervise, and oversee the implementation of education and/or training, whilst regional governments will assist and provide facilities aiming for well implemented education and/or training.⁸ Further provisions regarding the implementation/operation of education and/or training will be issued by the the MOC.⁹

3. Competency Certificates and Licenses

The operators of education and/or training must provide certificates of competency or licenses¹⁰ to the students/trainers who have passed the education and/or training. Any personnel in the civil aviation sectors who have already passed competency exams will be given a license by the MOC after fulfilling the requirements. In performing his/her work, personnel in the civil aviation field must possess a certificate of competency or license in accordance with the requirements pre-determined for his/her field of work.

Providers of civil aviation services or organizations operating in the civil aviation sector must employ aviation personnel possessing a certificate of competency or license, formulate training programs in the aviation sector for maintaining and improving the competence of aviation personnel employed. Further provisions regarding certificates of competency and licenses and the formulation of training programs will be governed by MOC.¹¹

4. Contribution of Aviation Service Providers and Working Hours

Civil aviation service providers or organizations having any activities in the civil aviation sector must give contributions to support personnel preparation and development in the civil aviation. These contributions will consist of at least scholarship grants for education and/or training, establishment of educational and/or training institutes and/or provision of educational and/or training facilities, cooperation with existing educational and/or training institutes, and/or the extension of internship opportunities for education and training. Any person violating the provision will be liable to administrative sanctions such as warning, administrative fines, freezing of permit/license or revocation of permit/license.¹² In order to ensure aviation safety, regulations will be made on limits on working days, working hours, and breaks for flight operational personnel. Further provisions in this regard will be issued by the MOC.¹³

With regard to human resources in relation to national air power, the human resources will have a supporting role in the case of the Ministerial of Defense (MOD) needing human resources in the aviation sector, which in certain conditions, especially in times of peace, the personnel of the MOD will assist the civil aviation in air traffic control in the joint utilization of airports and military airbases as provided in Article 257 of the CAA of 2009.

5. Public Participation

Public participation regulations are found in Chapter XX Articles 396, 397 and 398 of the CAA of 2009. Article 396 of the CAA of 2009 provides that in the framework of optimally improving aviation operations the public/community has equal and broad opportunities to participate in civil aviation activities.

-
1. Article 382 of Law Number 1 Year 2009
 2. Article 383 of Law Number 1 Year 2009
 3. Article 384 of Law Number 1 Year 2009
 4. Article 385 of Law Number 1 Year 2009
 5. Article 387 of Law Number 1 Year 2009
 6. Certificate of competency is evidence that an individual has met the requirements of knowledge, expertise and qualifications in his/her field.
 7. Article 392 of Law Number 1 Year 2009
 8. Articles 393 and 394 of Law Number 1 Year 2009.
 9. Article 395 of Law Number 1 Year 2009

Such activities will be in the form of monitoring and safeguarding discipline in aviation operations; providing input to the Government regarding improvement of regulations, guidelines, technical standards in the aviation sector; providing input to the Government and regional governments in aviation, supervision, operation and oversight; giving opinions and considerations to officials in charge of aviation operational activities on any actions causing significant environmental impact; reporting any action(s) in deviation from aviation procedures, and malfunction of aviation equipment and facilities; reporting any accident or incident occurring on aircraft; prioritizing and promoting aviation safety culture; and/or taking class action(s) against aviation activities disrupting, damaging and/or endangering the public interest. The Government, regional governments and aviation service providers must follow up any input, opinions and reports submitted by the above mentioned, but, the public participants are responsible for maintaining aviation orderliness, safety and security. With regard to public participation in relation to national air power, the public/community has the role of supporting national air power through the national interest in aviation.

III. Human Resources Development on Transport Agency (HRDTA)

A. Professional Human Resources



Sources : Capt.Bobby Mamahit, *Aviation Training Development in Indonesia to meet the Rapid Increase in Demand for Aviation Professionals*, presented in TRAINAIR Plus Global Symposium, 25-28 September 2012.

The Republic of Indonesia (ROI) impressive economic development is driving rapid growth in the aviation activities and the commercial air transportation, it is the reason the ROI has emphasized its commitment and consistency to enhance cooperation and to play an active role in worldwide aviation, especially in developing human resources.

As a manpower supplier, the aviation organization are committed to fulfilling the market demand and for civil aviation professionals, making Indonesia priority, but the ultimate goal is to supply civil aviation professionals to the world by training system, starting from recruitment through to the training system to meet the standard competencies. The government realizes that all of resources employed nothing without the spirit of making worldwide aviation better. It is the reason, the training system not only focuses on developing and improving skill and knowledge of the students, but also their attitude. Discipline is one of the objective. Any one cannot handle the air traffic control if he is fail controlling himself. The Air Transport Human Resources Development Center (ATHRDC) teaches the cadets not only how to fly the aircraft, how to control the air space and how to fix the aircraft, but also form them with mental abilities and appropriate attitude.

The education and/or training programs conducted by the ATHRDC is consist of four training department such as the pilot training department, the civil aviation safety training department, the civil aviation technical training department and the civil aviation management training department. The pilot training department is consist of fixed wing pilot training program, rotary wing pilot training program and flight operation officer training program, whilst the civil aviation safety training department is consist of the air traffic control training program, the aeronautical information service training program, the aeronautical telecommunications training program and the airport fire fighting training program. The technical training

department is consist of the aircraft maintenance training program, the air telecommunications and navigation training program, the airport electrical training program and the airport mechanical training program and the airport building and runways training program, whilst the aviation management department is consist of the aviation management training program, the airport operation training program and aviation administration training program.¹⁴

The Indonesian Civil Aviation Institute (ICAI) of Curug was the first pilot school in Indonesia and has trained thousands of pilots both from within and outside Indonesia. The ICAI conducts Diploma I through Diploma IV training program and mandatory training course. It has for training departments such as pilot training, aviation technical training, the aviation safety training and aviation management training.

With regard to aviation human resources, the CAA of 2009¹⁵ provides that aircraft personnel,¹⁶ airport personnel,¹⁷ flight air navigation personnel¹⁸ shall be compelled to own license or certificate of competency. These certificates or licenses shall be obtain through education and/or training organized by accredited institution. In this regards, the MOC is responsible to create human resources that are professional, competent, disciplined, reliable and having the integrity. Such human resources shall consist of human resources in the field of aircraft, air transportation, airport management, flight navigation, aviation safety and security. For that purposes, the MOC stipulates policies on preparation and development of human resources in civil aviation fields, covering manpower planning, education and training, expansion of job opportunities and supervision, monitoring and evaluation. With regard to education and training, the MOC has set up the Human Resources Development on Air Transport Agency (HRDTA) to develop human resources in the field of air transportation.

1. Historical Background

The ATHRDC is a government organization which is part of Human Resources Development on Transport Agency (HRDTA), MOC of the ROI. Its main task is to develop human resources in the field of civil aviation. ATHRDC established on 20 August 1952 by Ir. H. Djuanda as MOC with the name Indonesian Aviation Academy (API) and assisted by the United Nations Development Programme (UNDP) as executive agency under auspices of the United Nations. The ICAO provides technical assistance and experts from Australia, the United States of America (USA), the United Kingdom (UK), Canada and Denmark.¹⁹ In 1974 the name was replaced by Civil Aviation Training Center (CATC) of Indonesia, and it was mandated to develop qualified aviation personnel in order to provide safety and security in accordance with national as well as international required standards and regulations. This was initially realized through a single training institution at Curug, Tangerang, West Java, Indonesia.

In 1989, the MOC decided to establish five new Regional Civil Aviation Training located at Medan, Palembang, Surabaya, Ujung Pandang and Jayapura to cater the increasing needs for aviation personnel. As a result of the above mentioned policy, the CATC of Indonesia became ATHRDC of Indonesia in 2010 and part of HRDTA, so the task and the duties of the ATHRDC have also been expanded.²⁰ These changes are also followed by the government training institutions under the coordination and supervision of the ATHRDC, namely the Indonesian Civil Aviation Institute of Curug, the Aviation Technical and Safety Academy (ATSA) of Medan, the Aviation Technical and Safety Academy (ATSA) of Surabaya, the Aviation Technical and Safety Academy (ATSA) of Makassar, the Aviation Training Office (ATO) of Palembang and the Aviation Training (ATO) of Jayapura as follows.

2. Aviation Technical and Safety Academy (ATSA) in Medan

Aviation Technical and Safety Academy (ATSA) in Medan is the largest aviation academy in Sumatra. This academy has an aviation technical training department which are not only developing and improving the knowledge and competencies of aviation personnel, but their attitudes as well. The aviation technical department is consists of an air navigation and telecommunications engineering training program and an airport electrical engineering training program as well.

Due to increasing number of :”required systems” in aviation, the aviation education and training system is facing the challenge of developing the management and technology to satisfy both international and external requirements. To do so, the aviation education and training system must be networked into one fully integrated system to provide Web-based learning and a long-distance learning system.

1. *Ibid.*

2. Act Concerning Civil Aviation, Act.No.1 of 2009 [*Civil Aviation Act of 2009*]

3. Article 58 paragraph (1)

4. Article 222 paragraph (1)

5. Article 292 paragraph (1)

6. Martono K., *Hukum Udara, Angkutan Udara dan Hukum Angkasa*. Bandung : Alumni, 1987 p.55 [Martono, Hukum Udara].

7. ICAO NGAP & TRAINAIR PLUS : A paper Submitted to the Regional Symposium 2013, at Bali on 23rd – 26th, 2013 [ICAO NGAP & TRAINAIR]

Based on the above mentioned, ATSA of Medan has a new tool to support the aviation education and training system, known as the Medan Future Integrated Aviation Training System (MFIATS), which provides relevant data and information from the industry. The basic concept of MFIATS is that all of the supported training system in ATSA of Medan will be integrated. To reach the full MFIATS, ATSA of Medan has taken some initiatives, such as adding a new simulator with new technology [aerodrome control tower simulator with airport lighting system, Aeronautical Mobile Services (AMS) laboratory for operators and engineers], computer based training for theory and ground school, etc. At present, ATSA of Medan is developing and improving all aspects of MFIATS support.

3. Aviation Technical and Safety Academy (ATSA) of Surabaya

Aviation Technical and Safety Academy (ATSA) of Surabaya is expected to participate in the road map to zero accidents through the development of human resources in the air transportation sector by generating competent and competitive aviation professionals. It also a vision to be an aviation training provider which generates world-class aviation professionals who are competent and competitive both national and internationally.

The ATSA of Surabaya has an Aviation Technical Training department, Aviation Safety Training department, Aviation Management Training department and the new pilot training department by Air Transportation Human Resources Development Center which conducts non-diploma, fixed wing pilot training.

4. Aviation Technical and Safety Academy (ATSA) of Makassar

The Aviation Technical and Safety Academy (ATSA) of Makassar is also a governmental aviation training provider under the coordination and supervision of the ATHRDC. This academy has two training department such as the Aviation Technical Training Department and the Aviation Safety Training Department. The Aviation Technical Training Department consist of the Air Traffic Controller program, the Airport Electrical Engineering training program, the Airport Mechanical Engineering training program, the Aircraft Maintenance training program and the Airport Building and Runways Engineering training program.

The Aviation Safety Training Department consists of the Air Traffic Controller, Aeronautical Information Services training program and the Flight Service Officer training program. Besides conducting diploma training program, the institute and academies also conduct mandatory short courses and tailored short course training program.

5. Aviation Training Office (ATO)

The Aviation Technical Office (ATO) of Palembang and the Aviation Technical Office (AT) of Jayapura are training providers under coordination and supervision of the ATHRDC, which conduct short courses for aviation human resources to improve the safety, security and on-time performance. The missions of these training are to improve and to develop the competencies of aviation personnel in accordance with national and international standards by conducting training, recruitment training and tailored training that match customer needs.

Training programs conducted in the ATO including airport management, aviation security, computer engineering, aviation search and rescue and firefighting, CNS/ATM, ICAO English language Proficiency, airport operators, aviation knowledge, aircraft marshalling, airport construction and runways, dangerous goods etc

B. The Rotary Wing Training Program

The rotary wing training program trains cadets how to fly rotary wing aircraft such as the Bell 206 helicopter, the fixed wing training program trains cadets how to fly Boeing 737 and the Airbus 320, and the cadets of the flight operation officer (FOO) program are trained in planning and arranging flight scheduled, flight routes, luggage capacity, passengers and other aircraft operations. ICAI has a 60 units fleet consisting of 11 Beechcraft sundowner C23s, 8 Piper Dakota PA28-236s, 17 Socata TB-10s, 3 Beech Baron B58s, and 3 Bell Ranger 206B helicopter.

C. Cooperation with ICAO and Other Agencies

Some recent steps have been taken by the ROI such as an agreement with Boeing in 2011 which including transfer of technology, counter trade and opening a research and development center in Indonesia; cooperation with ICAO in 2012 for institutional strengthening of the ICAI to increase the capacity of CNS, Air Traffic Management (ATM) and a Quality Management System (QMS); becoming TRAINAIR Plus Associate Member in 2012 and the intention to become a TRAINAIR Plus Full Member; hosting international aviation events, such as the Regional Indonesia Aviation Training & Education Conference 2012 (IATEC), ASEAN Aviation Training & Education Summit 2013 (AATS), ICAO Next Generation of Aviation Professionals

(NGAP) and TRAINAIR Plus Regional Symposium 2013; conducting ICAO-Indonesia Developing Countries Training Program (IIDCTP) since 2012, which will become an annual Indonesian program.

The Air Transportation Human Resources Development Center (ATHRDC) intends to improve the training capacity in Indonesia by establishing new pilot schools still study at Riau Island, Sumatra Island and Sulawesi, and by developing a new training program at ATSA of Makassar – the Aircraft Maintenance training program. It is worthwhile to note here that ATHRDC conducted in Indonesian Civil Aviation Institute (CAI) in Curug, Aviation Technical and Safety Academy (ATSA) in Medan, Surabaya, whilst Aviation Training Office (ATC) conducted in Palembang and Jayapura respectively.²¹

D. The Role of ICAO to Support the Development of Civil Aviation in Indonesia

ICAO has provided technical assistance to the ROI for some 40 years under UNDP and the ROI cooperation. The significant ICAO technical assistance was given in the areas of airworthiness; air navigation and air traffic management; training center, human resources development and capacity building; regulatory matters; airport and aerodromes; safety and security; industry development such as airlines, aircraft manufacturers, airports aircraft maintenance; inspection, surveillance and audit.

The objective of technical assistance are to develop the Directorate General of Air Communications (DGAC) capabilities, role, function and responsibilities in line with the relevant ICAO Annexes, recognized best practices and procedures and to develop the DGAC in human resources such as management, inspectorate and administrative personnel to ensure that the DGAC's staff are fully trained and capable to fulfill the functions and responsibilities related to airworthiness, safety, security and the environment.

Since 1995, ICAO Technical Cooperation in Indonesia has provided at least eleven subject matters such as flight safety enhancement through technical competency training and certification of airport and airways facilities maintenance technician (1995); strengthening of aviation certification (1995); upgrading of flight operation surveillance (1995); strengthening of aviation maintenance safety standards (1996); enhancing aviation safety in Indonesia (2007-present); assistance to the representation of Indonesia to the ICAO (2011-present); enhancement of safety oversight capabilities of DGAC (2009-present); assistance to the educational and training agency in development of aircraft maintenance training at ACAI Curug (2010); assistance to the educational and training agency in development of aircraft maintenance training at ACAI Curug (2009- 2012); Institutional strengthening of the ICAI (2012-2013) and assistance in the development and implementation of environmental measures for civil aviation (2014-2017).²²

E. Capacity Building Activities in ATHRD

Aviation in Indonesia is increasing rapidly, with traffic flows and airline fleets increasing accordingly. This situation has a direct impact on the needs for trained aviation professionals, both quality and quantities of educations. In order to ensure that human resources development for aviation in Indonesia keeps track of the increased needs and remains sustainable, the ROI has organized, coordinated and hosted meetings, course and seminars in the aviation technical field aimed at the improvement of aviation safety and security in Indonesia as well as the development of human resources.

The Human Resources Development on Transportation Agency (HRDTA) is a agency under the MOC of the ROI, in accordance with the CAA of 2009, responsible for development of human resources for all modes of transportation. In the civil aviation field, the activities of Human Resources Development are conducted by the Air Transportation Human Resources Development Center (ATHRDC) in which implements aviation education and training within Indonesia and conducts all related program.

Such education and training program are divided into four training department such as the pilot training department consist of the fixed wing pilot training program, the rotary wing pilot training program and the flight operation officer training program; the aviation safety training department consist of the air traffic control (ATC) training program, the aeronautical information services training program, the aeronautical telecommunications training program and the airport fire fighting program; the aviation technical training department consist of aircraft maintenance training program, the air telecommunication and navigation training program, the airport electrical training program, the airport mechanical training program and the airport building and runway training program; the aviation management training department consist of the aviation management training program, the airport operation training program and the aviation administrative training program.²³

1. ICAO NGAP & TRAINAIR PLUS REGIONAL SYMPOSIUM 2013 in Bali April 23rd – 26th 2013

2. Muzaffar Ismail, on behalf Santoso Eddy Wibowo, *Indonesia Civil Aviation Growth and Technical Cooperation*. Submitted to the Global Aviation Cooperation Symposium, ICAO Montreal Headquarters, Montreal, 30 Sept-3 October 2014.

3. *Capacity Building Activities in Air Transportation Human Resources Development*, presented by Indonesia on Assembly-38th Session : Technical Commission, See A38-WP/225 TE/94 5/09/13

F. Indonesia-ICAO Developing Countries Training Program 2013

As long as air travel cannot do without pilots and other air and ground personnel, their competence, skills training and professional will remain the essential guarantee for efficient and safe operations. Adequate personnel training and licensing also instill confidence between States, leading to international recognition and acceptance of personnel qualifications and licenses and greater trust in aviation on the part of the traveler.²⁴

Indonesia and ICAO firmly believes that the safe and effective operation of air transportation is totally dependent on the skills and knowledge of the national personnel who operate and maintain those systems. For the purpose to increase the skill and knowledge of the national personnel in the developing countries, in January 2008, the MOC of the ROI and ICAO, signed a Management Service Agreement (MSA). The scope of the cooperation includes the agreement to jointly establish a fellowship Training Program for Developing Countries. The objective of this program is to provide opportunities to individual from developing countries to gain knowledge to implement ICAO Standards and Recommended Practices and to promote the safety and development of international civil aviation.

The program conducted on 13 April – 20 April 2013 in the Indonesian Civil Aviation Institute (ICAI) in Curug, Tangerang West Java, Indonesia. The follow ship are offered to choose the subjects such as Aviation Internal Audit (AIA), Dangerous Good Training Course (DGTC), Legal Aspects of Aviation Security (LAAS), Safety Management System (SMS) and Aerodrome Certification Training Course (ACTC).²⁵

G. Workshops Opportunities for D-8 Civil Aviation

From 3 September – 12 October 2012, Indonesia is offering 60 fellowships in five training program for training at workshops and courses conducted in the Civil Aviation Center in Jakarta. The project, as part of the program to upgrade the country's Civil Aviation Training Center (ICAI), is intended for the staff of foreign DGAC's and other open to all D-8 member countries. The DGAC, the Indonesia department in charge of the program- has announced that the Government of the ROI will fully cover the costs of such fellowships including tuition fees, course materials, accommodation and living expenses, except for travel from the home country to/from Jakarta.²⁶

H. The ASEAN Aviation Training and Education Summit



The Minister of Transportation of Indonesia, H.E. Ignius Jonan (right), opening ICAO 2014 together with ICA Secretary General Raymond Benjamin (center) and Acting Director general of Civil Aviation of Indonesia, Mr Bambang Tjahjono (left).

The ASEAN Aviation training and education conducted in Jakarta from 22-23 January 2013. The meeting was participated by the DGAC of Indonesia, the President of the European Civil Aviation Conference (ECAC), the Director Generals and other high-ranking officials of ASEAN member States. In this event, ICAO Secretary General Raymond Benjamin was the keynote speaker. The main objective of the meeting is the

1. ²⁴ ANNEX 1 to the Convention on International Civil Aviation, Personnel Licensing.
2. See the State Letter of ICAO Number TC2/3.81 (12/801)-13/31 dated 28 March 2013.
3. See developing8.org/latestnews.aspx?News... loading at 10/29/2015

development of a framework for closer cooperation between ASEAN countries to maximize the use of existing resources in the field of aviation training and education.

The event should be seen against the background of the ASEAN “Roadmap for the integration of the travel sector” and the region’s vision of a single ASEAN air transport market as of 2015. As a part of the ASEAN Aviation Training and Education Summit, Mr Raymond Benjamin also had the opportunity to visit Indonesia Civil Aviation Institute (ICAI), which is the main governmental training institution in the field of civil aviation in Indonesia, as well as the Maintenance Facility and the Training Center of Garuda Indonesia Airlines.²⁷



During the event, Benjamin presented an ICAO Trainair Plus Certificate to the Indonesian Civil Aviation Institute (STPI), represented by the Head of Human Resources Development of Transportation Agency, Wahyu Satrio Utomo.

I. Enhancing Cooperation in Worldwide Aviation

Taking into account that Indonesia’s impressive economic development is driving rapid growth in the aviation sector and air commercial transportation, Indonesia has emphasized its commitment and consistency to enhance cooperation in the worldwide aviation activities, especially in development human resources. Some recent steps in this regards such as an agreement between Indonesia and Boeing; cooperation with ICAO; TRAINAIR membership; an international aviation events; and improving the training capacity as follows:

1. An Agreement Between Indonesia and Boeing

In 2011, Indonesia has signed an agreement with Boeing. The objective of an agreement was to transfer of technology, counter trade and opening a research and development center in Indonesia.

2. Cooperation with ICAO

In 2012 Indonesia cooperated with International Civil Aviation Organization (ICAO). The purpose of the cooperation was for institutional strengthening of the Indonesia Civil Aviation Institute (ICAI) to increase the capacity of CNS, Air Traffic Management (ATM) and Quality Management System (QMS), and since 2012, Indonesia conducting ICAO-Indonesia Developing Countries Training programs (IIDCTP) which will become an annual Indonesia’s programs.

3. Trainair membership

In 2012, Indonesia becoming a TRAINAIR Plus membership and the intension to become a TRAINAIR Plus full membership by 2012.

1. ICAO News Brief see Wbsite : www.icao.int

J. An International Aviation Events

Indonesia actively hosting in international events, such as the Regional Indonesia Aviation Training & Education Conference (ATEC) of 2012, Asian Aviation Training & Education Summit (AATES) of 2013, ICAO Next Generation of Aviation Professionals (NGAP) and TRAINAIR Plus Regional Symposium of 2013.

K. Improving the Training Capacity

ATHRDC intends to improve the training capacity in Indonesia by establishment a new pilot school in Riau Island, Sumatra Island, Sulawesi Island and by developing a new training program at ATSA of Makassar – the aircraft Maintenance training program.²⁸

L. Aviation Safety and Security

As member of ICAO since 27 April 1950, Indonesia adopted the CAA of 2009²⁹, which significantly modernized the legal and organization framework. The CAA of 2009 takes into account ICAO SARP and the need for implementing regulation, which become the guidance to promote the safety and security. Indonesia has shown its commitment to safety and security by undergoing all relevant ICAO USOAP and USAP audits and fully cooperating towards remedy of findings. Indonesia intends to achieve full compliance in the ICAO Continuous Monitoring Approach.

To increase the safety and security and efficiency of air navigation services, Indonesia is establishing a single air navigation services provider, to enable the separation of regulatory and operational functions, in line with ICAO guidance. It has also implemented the safety management system (SMS) for its aviation sector including the elements of the state safety program (SSP). Indonesia also is committed to enhance and ensure the implementation of aviation security measures in airport and airlines against acts of unlawful interference by complying with all relevant ICAO Standards and Recommended Practices. In 2009, based on the Civil Aviation Act of 2009, a new Directorate for Aviation Security was established within the DGAC to regulate and control aviation security measures more effectively supported by 10 regional offices through Indonesia.³⁰

In addition, Indonesia has shown its commitment to safety and security by undergoing all relevant ICAO USOAP and USAP audits and fully cooperating toward remedy of findings. Indonesia has completed the remedy of 82.3 per cent of the audit findings by November 2012. Indonesia aims to achieve full compliance in the ICAO Continuous Monitoring Approach.

In order to ensure safety, Indonesia's vast air space is serviced by ground navigation aids and RADAR surveillance, while the automatic dependent surveillance – broadcast (ADS-B) is in the midst of implementation. In line with the evolution from ground based navigation to satellite based navigation, Indonesia is well advanced in the adoption of Performance Based Navigation (PBN).

Indonesia has modernized its air traffic management (ATM) system with state of the art technologies supporting advance sensors, including ADS-B, Mode-S Radar, reduced vertical separation minimum (RVSM), performance-based navigation (PBN) and air traffic services (ATS) inter-facility data communications (AIDC), in order to increase its capacity and to harmonize itself with neighboring FIRs.

To increase the safety and efficiently of air navigation services, Indonesia is also establishing a single air navigation service provider, to enable the separation of regulatory and operational functions, in line with ICAO Guidance. It has also implemented the safety management system (SMS) for its aviation sector including the elements of the state safety program (SSP).³¹

In addition, Indonesia is committed to enhance and ensure the implementation of aviation security measure in airports and airlines against acts of unlawful interference by complying with all relevant ICAO Standards and Recommended Practices. In 2009, a new Directorate for Aviation security was established with the DGAC to regulate and control aviation security measures more efficiently, supported by 10 regional offices throughout Indonesia.

M. International Cooperation to Support the Development of Civil Aviation in Indonesia

For technical assistance regarding aviation safety and security, navigation and airports, the DGAC has established international cooperation with European Aviation Safety Agency (EASA), European Union regarding assistance in safety and airworthiness (2008-2009); Director General for Civil Aviation and Maritime Affairs (the Netherlands) regarding SMS and International Regulation (2008-2009); the DGAC France for assistance to strengthen the safety of air carriers (2014-present); whilst for technical assistance regarding the

1. ICAO NGAP & TRAINAIR, *supra* note 7 page 5
2. Act concerning Civil Aviation, Act.No.1 of 2009 The Republic State Gazette No.1 of 2009, Supplement State Gazette No.4956 of 2009.[Civil Aviation Act of 2009]
3. Indonesia's Civil Aviation Development, a paper submitted to Worldwide Air Transport Conference, 6th Meeting at Montreal, 18-22 March 2013
4. Indonesia's Civil Aviation Development, a paper submitted to Worldwide Air Transport Conference, 6th Meeting, at Montreal on 18-22 March 2013, see AT Conf/6-IP/10 1/3/13

environment, Indonesia cooperate with Swedish International Development Agency (SIDA) especially eco airport and green flight.

In addition, with regard to international cooperation, the DGAC also has established international cooperation with several countries for technical assistance regarding aviation safety, security, navigation and airports, such as in cooperation with CASA Australia regarding Indonesia Transport Safety Assistance Package (2008-2014); Japan International Cooperation Agency (JICA) regarding development of aviation safety (2006-2015); Federal Aviation Administration (FAA) concerning assistance in runway safety and organizational structure study (2009-2010).³²

IV. Conclusion

Based on the above-mentioned evaluation, could be concluded that as far as related to aviation human resources, Indonesia fully complies with the recommendations of the ICAO especially related to human resources such as technical personnel, air crew as well as operational personnel to insure the safety of air transportation.

References

Books

- [1]. Dampsey P.S., *Annals of Air and Space Law*, Vol. XXXVIII-2005-Part I. Toronto : The Carswell Compny Ltd
- [2]. Martono K., *Hukum Udara, Angkutan Udara dan Hukum Angkasa*. Bandung : Alumni, 1987 p.55 [Martono, Hukum Udara].
- [3]. Milde M., *Annals of Air and Space Law, Vol. XVIII-1993 Part II*. Toronto : The Carswell Compny Ltd.

Articles

- [4]. Muzaffar Ismail, on behalf Santoso Eddy Wibowo, *Indonesia Civil Aviation Growth and Technical Cooperation*. Submitted to the Global Aviation Cooperation Symposium, ICAO Montreal Headquarters, Montreal, 30 Sept-3 October 2014.
- [5]. R.I.R.Abeyratne, *Regulatory Management of Safety in Air Transport*, J.A.T.M.4 (1998) 25-37

Documents

- [6]. Act concerning Civil Aviation, Act No.1 of 2009-The Republic State Gazette No.1 of 2009, Supplement State Gazette No.4956 of 2009 [Civil Aviation Act], Ministry of Transportation Republic of Indonesia, online:Directorate General of Civil Aviation <http://hubud.dephub.go.id/?en/uu>
- [7]. Annex 1 to the Convention on International Civil Aviation, *Personnel Licensing*.

Others

- [8]. A38-WP/225 TE/94 5/09/13 *Capacity Building Activities in Air Transportation Human Resources Development*, presented by Indonesia on Assembly-38th Session : Technical Commission,
- [9]. Developing8.org/latestnews.aspx?News... loading at 10/29/2015
- [10]. *Icao Ngap & Trainair Plus* : A paper Submitted to the Regional Symposium 2013, at Bali on 23rd – 26th, 2013 [ICAO NGAP & Trainair]
- [11]. ICAO News Brief see Wbsite : www.icao.int
- [12]. Indonesia's Civil Aviation Development, a paper submitted to Worldwide Air Transport Conference, 6th Meeting at Montreal, 18-22 March 2013
- [13]. The State Letter of ICAO Number TC2/3.81 (12/801)-13/31 dated 28 March 2013.
- [14]. AT Conf/6-IP/10 1/3/13, Indonesia's Civil Aviation Development, a paper submitted to Worldwide Air Transport Conference, 6th Meeting, at Montreal on 18-22 March 2013

³² *Ibid.*