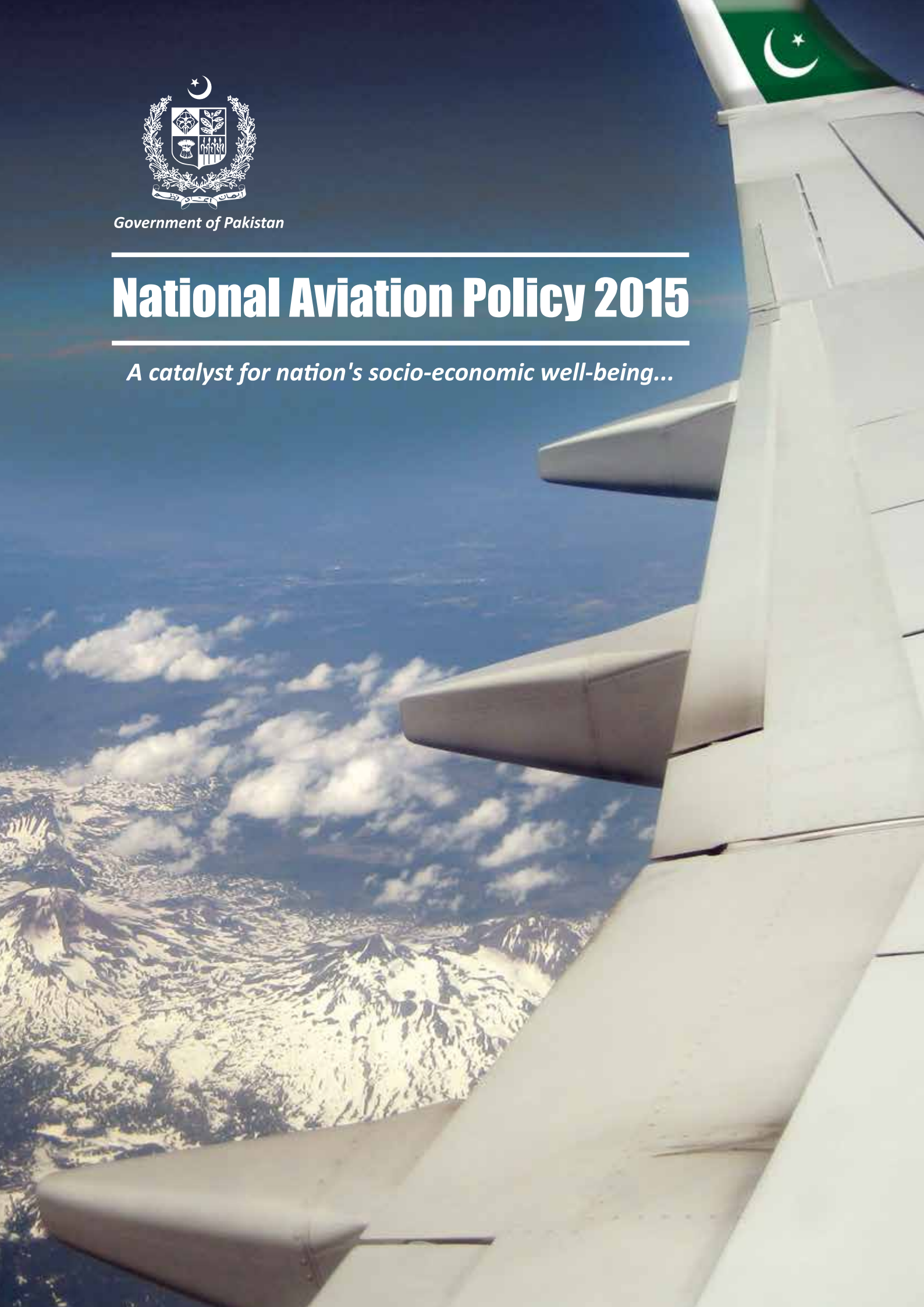




Government of Pakistan

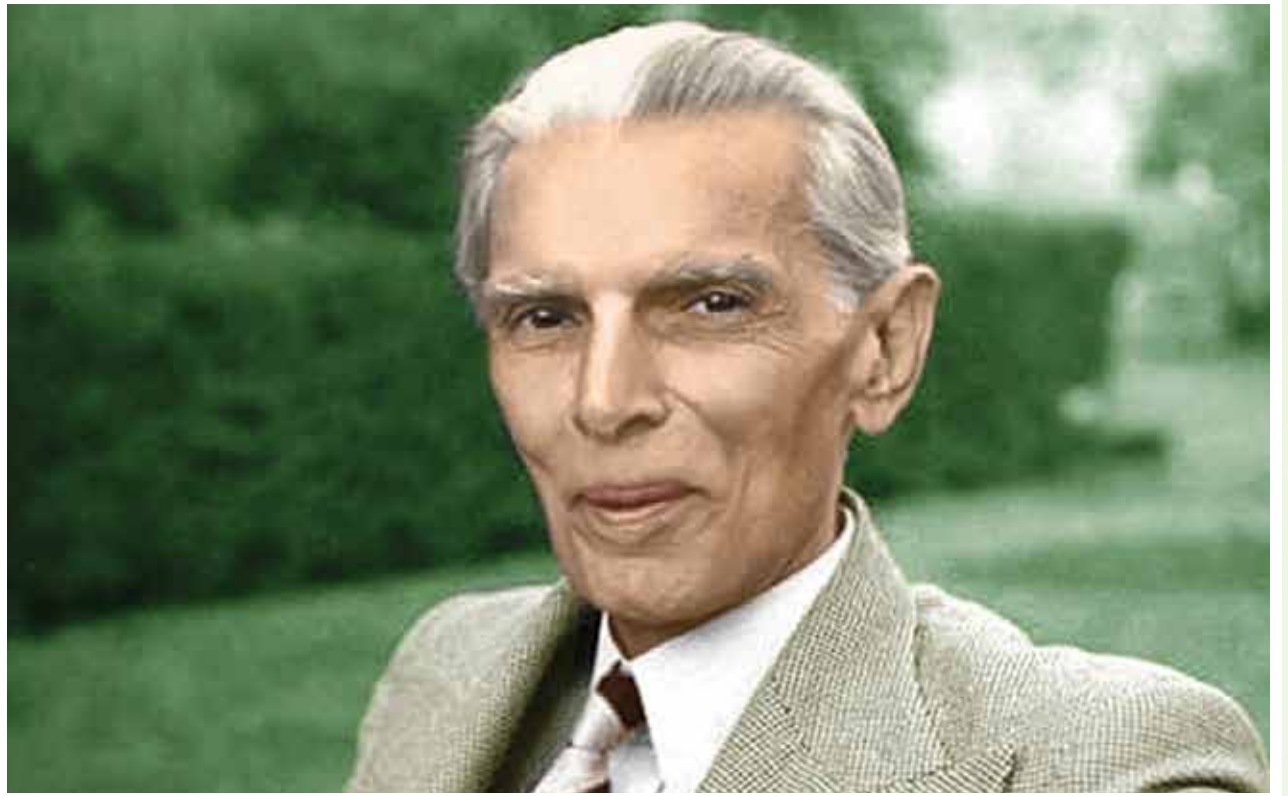
National Aviation Policy 2015

A catalyst for nation's socio-economic well-being...



Formative Phase

National Aviation Policy has been formulated after receiving and studying nationwide comments and suggestions from stakeholders representing different segments of the aviation industry. This was followed by a series of deliberations at Pakistan Civil Aviation Authority and Government of Pakistan's Aviation Division. The ensuing analysis includes valuable reviews, comments and suggestions by national and international aviation industry professionals and consultants.



“With faith, discipline and selfless devotion to duty, there is nothing worthwhile that you cannot achieve.”

Quaid-e-Azam
Mohammad Ali Jinnah
Founder of Pakistan

Prime Minister's Message



“It is heartening to know that a new dynamic and forward looking National Aviation Policy has been formulated. This is in line with the Government’s policy initiatives which will ensure sustained economic growth.

Its thorough implementation will bring about a positive and meaningful change in Pakistan's aviation industry.

National economic growth is strongly linked with a strong and vibrant aviation industry of a country.

The new National Aviation Policy fully supports and corroborates our national economic growth plans.

I am confident that the initiatives enunciated in the policy shall not only introduce the latest trends in aviation but shall also help facilitate travel and business in Pakistan.”

Mohammad Nawaz Sharif

Prime Minister of Pakistan

Message from Special Assistant to the PM on Aviation



“Previous National Aviation Policy was formulated 15 years ago. The dynamic nature of aviation necessitates appropriate and timely adaptation to the required changes. This policy embraces globally accepted best practices and draws a road map for implementation of safety, security and quality standards.

The impact created by the aviation industry goes way beyond economic benefits. More importantly, growth in aviation brings people and countries of the world closer.

The new policy is cognizant of the challenges that the industry faces and is resolute to undertake bold steps to enhance consumer confidence and growth of the aviation industry while staying compliant to the ICAO standards.

Wholehearted commitment by all stakeholders is essential for the success of the aviation policy.”

Capt. Shujaat Azeem

Special Assistant to the PM on Aviation

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PREAMBLE



The aviation industry, if given due consideration and priority, can transform the social and economic fabric of the nation. Some pertinent quotes substantiate this statement:

“The Flight Path to Economic Growth:

- Aviation contributes to the overall economic growth of nations
- Aviation provides significant revenues to national public finances
- Aviation creates large number of high-value jobs
- Aviation delivers extensive catalytic benefits to international trade and tourism

All this illustrates the pivotal role aviation plays in driving today's global economy. A productive and efficient aviation industry serves as the strong foundation for the development of our globalized economy.”

-- Extract from www.AviationBenefits.org

The year 2014 marks the 100 year anniversary of commercial aviation. In these 100 years, air transport has changed the lives of people around the globe. Over 65 billion passengers have boarded planes to fly on an increasingly large network of routes. It is projected that in 2014, some three billion passengers will board an aircraft somewhere on this earth. That's almost half the world's population.

Some interesting statistics reveal the global impact of aviation across businesses in directly and indirectly related industries.

- 58.1 million jobs are supported by aviation worldwide
- Over 25,000 commercial aircraft are in service worldwide (Global Summary – Aviation Benefits: April 2014)
- 5.7 trillion km were flown by passengers across the globe in 2013
- Aviation's annual global economic impact is US\$ 2.4 trillion

-- Extract from www.AviationBenefits.org

“Tourism is fast becoming the world's number one industry and it is one that aviation is proud to help facilitate. The growth in the middle classes in the emerging economies of the world is being met with a similar boom in air transport, most keenly felt in the Asia-Pacific region. We urge governments in these high growth economies not only to create the environment for growth with liberalized traffic rules and by easing travel restrictions, but also to be mindful of the impact that a lack of planning can have for growth decades from now.”

-- Michael Gill, ATAG Executive Director (Geneva, April 2014)

The Need for Dynamic and Forward Looking Aviation Policy

A forward looking and dynamic aviation policy is needed to support the aviation industry's growth. The policy's core objective is to assist regulators in formulating rules and procedures that fulfill the vision stated in the aviation policy.

Policy guidelines should focus on safety and security while making travel affordable and easy. The policy must also ensure a competitive playing field for all national airlines, an open sky that increases travel and market access, and a fair and just system for all stakeholders that does not compromise strategic long term national interests. Therefore, a paradigm shift is required to revamp the entire aviation environment.

Pertinent Statistics for Pakistan's Aviation Industry

In 2013, the domestic passenger traffic marginally grew to 6,723,749, a 7% increase in 4 years (or 1.8% average growth per annum). The international passenger traffic rose to 9,566,210 displaying an increase by 20% in 4 years (or about 5% average growth per annum). The total traffic grew by about 15% in four years giving an average growth of total traffic growth by 3.6% per year.

National Aviation Policy Recommendations, Research and Statistical Data for Pakistan prepared by Embry-Riddle Aeronautical University, USA

Following key policy decisions would have a significant impact on the national economy.

- a. Bilateral liberalization, when carefully designed and implemented manifests a competitive environment and better travel opportunities, and the end-user (passengers) tend to be the key beneficiaries. Sustained growth in aviation results in a favorable economic growth of the country and the region.
- b. Lowering of aviation fuel taxes results in lower fares, greater travel, more business activity and overall larger contribution to economy. Reduction in taxation and duty on aviation related activities has a positive impact on overall increase of travel (due to lower prices), and economic growth is registered in the country.
- c. Total economic impact of aviation is calculated by adding direct, indirect and induced economic impacts (multipliers). The economic impact that aviation brings to the economy is substantial.

The Economic Impact of Air Transport Industry on National Economy of Pakistan

(Contributed by Professor Dr. Bijan Vasigh, Embry-Riddle Aeronautical University, Daytona Beach, FL, USA)

Currently, the airline and airport industry supports about 58.1 million jobs (8.7 million are within the sector itself, working for airlines, at airports) and \$2.4 trillion in global gross domestic product, equivalent of 3.4% of global GDP.¹

Public spending on aviation infrastructure plays an important role in promoting economic development and growth. Developing countries in Asia enjoy steady economic growth at 6.2 % in 2014. Asia's population and income growth are expected to continue through at least the first half of the 21st century. If the current growth rate continues, by 2050, Asia's per capita income could rise by 600% matching Europe and other Western countries, and this growth will generate major changes in the travel market.²

The aircraft manufacturers estimate the region's airlines will need an additional 12,820 airplanes valued at \$1.9 trillion over the next 20 years.³

That would represent 36% of the world's new airplane deliveries. Air transport is indispensable for business and tourism of Pakistan, which are principle foundation of economic growth, particularly for developing economies. The economy of Pakistan is the 44th largest in terms of nominal GDP. However, Pakistan has a GDP per capita of \$3,149 and ranks 140th in the world.⁴

Having said that, the economic impacts of transportation on Pakistan is undeniable; a dollar flowing into a local airport of a regional airline from outside of the local economy is a benefit to the regional economy.

The financial return for residents is in the form of jobs, higher earnings, and new revenues that follow because of the initial development of a new business organization, and through new spending in the area.

The demand for air transport is largely determined by the spending capacity of national citizen, and is a function of the elasticity of demand. The estimation of price elasticity in aviation can, however, be rather difficult, given the various problems concerning national security, travel habit patterns, distribution of national income and finally data availability on prices and number of passengers travelling from different socio-economic and demographic market segments.

¹ *Government partnership needed for green growth in air travel, Air Transport Action Group, 2014.*

² *Shaping the future of travel in Asia Pacific. Amadeus, 2013.*

³ *Boeing market outlook, 2013-2031.*

⁴ *World Bank Document, 2013.*

EXECUTIVE SUMMARY



The policy marks an important milestone in Pakistan's aviation history, where the Government along with all stakeholders, representing various segments of the aviation industry, collectively developed a comprehensive and forward looking document. Key objective set forth for aviation division was to develop a safe, secure and efficient air transportation structure. The policy is designed to create better business opportunities and enhance economic activity through effective utilization of resources.

In order to ensure effectiveness and oversight of aviation safety and security, regulatory and service provider functions shall be made independent of each other in both Pakistan Civil Aviation Authority (PCAA) and Airports Security Force (ASF).

Safety Investigation Board (SIB), shall be made independent and report to Minister of Aviation to ensure that findings and safety recommendations of an investigation remain unbiased.

Protectionism and restrictive market access policy have suppressed the growth potential of the aviation sector. Transition to more liberal Air Services Agreements, shall accord greater business freedom, higher levels of customer satisfaction and greater micro and macro-economic growth of the aviation domain. Pakistan shall pursue bilateral open skies policy towards other countries based on the principle of reciprocity.

Global trend in participative and cooperative business structures has given credence to the concept of Public-Private Partnership (PPP) models for operation and management of airports. While the private sector specializing in airport management enhances passengers' travel experience by investing in modernization of facilities, the Government shall focus on oversight of the operations and ensure accountability of the services. PCAA shall work with global airport management companies to find suitable PPP models to be followed for the operations and management of landside and terminal facilities of airports. This policy shall also be implemented for small, medium and large airports, with a focus to exploit their commercial and tourism potential.

Airport infrastructure shall also be modernized to meet future needs of aircraft, passenger and cargo traffic. It includes refurbishment of airport buildings and rehabilitation of airside infrastructure. Air cargo import and export will further strengthen our business community and help in promoting Pakistani products globally. Two state of the art cargo villages shall be established, one in the North and one in the South.

Chief Operating Officers (COO) shall be appointed at major airports. The operational control of all agencies working at airports like ANF, Customs, and Immigration shall be placed under COO for efficient airport

operations.

Another impediment in growth of air travel and cargo is unjustified taxes and duties, which is hampering investment and not yielding any significant revenue for the Government. Rationalization of duties and taxes in the aviation sector shall help attract more businesses, thus resulting in the growth of the industry and ensuing benefits to the end-users. Taxes shall be restructured and simplified in line with the best international practices. Higher taxes and duties on aviation businesses negatively impact transportation activity in the country, which in turn, adversely impacts Gross Domestic Product (GDP) and employment. Therefore, the policy strongly advocates that there should be no taxes and duties on investment in aviation sector.

Tax breaks and exemption of CAA charges shall also attract investors in various sectors of aviation business, including establishment of quality Maintenance, Repair & Overhaul (MRO) organizations.

Recent air crashes and incidents have highlighted the need for stringent checks and procedures. PCAA shall review such procedures and regulations for greater safety and efficiency of air transportation services. The policy shall also encourage induction and operation of more efficient aircraft by Pakistani operators. Such modern aircraft are safer and more fuel efficient. As a measure to ensure that only sound investors/operators venture in the aviation business, the paid-up capital requirement to obtain relevant licenses has been enhanced.

Scheduled routes to politically and socially deprived locations are now ear-marked to be served as deemed adequate and feasible. The operators shall be offered an attractive incentive by waived-off fees and other allied charges while operating to and from these locations.

The policy puts strong emphasis on up-gradation of air navigation infrastructure and effective utilization of satellite based technology to improve safety standards and future capacity needs of air traffic.

In order to capitalize true potential of General Aviation (GA), apart from routine training of aviation personnel, other GA areas like aero-sports, tourism, agricultural pesticide and seeding sprays, cloud seeding, etc. would be encouraged and facilitated wherever considered possible and appropriate. Befitting incentives shall be offered for the growth of this sector.

Keeping in view the rapidly changing technology in the aviation industry, training and skill development of aviation personnel has also been given due importance in this policy.

Vision

To promote and regulate civil aviation activities, and to develop an infrastructure for safe, secure, efficient, adequate, economical and properly coordinated civil air transport service in Pakistan.

Key Objectives

- a. To improve governance and oversight for the compliance of ICAO standards of aviation safety, security and efficiency.
- b. To provide level playing field for national airlines and liberalize aviation sector in the country by allowing market forces to determine the price, quality, frequency and range of air services options.
- c. To follow suitable Public-Private Partnership (PPP) models for the operations, management and development of airports.
- d. To develop a state-of-the-art infrastructure for the provision of safe and efficient air transportation.
- e. To incentivize aviation sector for socio-economic growth.
- f. To create conditions conducive for affordable general aviation activities, i.e., sports flying and inter-city air travel by private aircraft /air-taxi service/charters, etc.

Key Issues Identified as Impediments to Sustained Growth

Issues that are perceived as road blocks to good governance, development and sustained growth of the industry are summarized below:

- a. Security and safety is a major concern that deserves utmost priority. Greater issue is security of airports and safety of passengers and supporting staff. The physical assets at the airports have to be secured from possible terrorist attacks. Threat identification, threat analysis and preventive measures have to be undertaken on priority. Effective deterrence, using technology and innovation must be adopted.
- b. Whereas CAA Ordinance 1982 stipulates the responsibilities of Pakistan Civil Aviation Authority (PCAA)

to promote safe and efficient air transport services in the country as per relevant ICAO Annexes and other ICAO documents, ASF Ordinance 1975 assigns the Security responsibilities of Pakistani Airports and Air Navigation facilities to ASF as per ICAO Annex 17 and other relevant documents. There is, however, an inherent conflict of interest between service provider and regulator within the PCAA as well as Airport Security Force. PCAA provides Air Navigation and Airport Services and is also the regulator of these essential services. Same is the case of Airport Security Force, though PCAA tends to be its regulator without having been clearly mandated by the Government.

- c. Whereas, PCAA generates its own revenues to cover its operating and administrative expenses; ASF depends on the Government for the same. Accordingly, PCAA funds its development projects, through its own resources and ASF looks up to the Government to fund its development projects. This sometimes causes delays in cases where urgent action is required to plug-in security loopholes in the physical infrastructure. Hence, necessary legislation needs to be done at the highest level to fix financial responsibility for the development of necessary security infrastructure, including small development schemes, at the airports to streamline processes and eliminate inordinate delays.
- d. There has been inadequate human resource development. The regulators as well as the service providers lack formal training on international standards. The operators lack adequate training and the desired qualification. Training and education in all segments of aviation industry must be given serious attention and priority. Formal training of technicians, education in aviation management for managers, international certifications for air traffic controllers, air transport & economic regulators, airspace and aerodrome safety regulators, airworthiness and flight standard inspectors are few of the areas that deserve attention. Emphasis on human resource development in finance and information technology is also lacking. Additionally, there seems to be a perpetual shortage of regulators, particularly flight standards and airworthiness regulators. This shortage adversely affects ramp inspections which the industry needs for efficient approvals and certification processes.
- e. There is a cultural change required in being customer-centric, safety and security-conscious and being positive in our attitude with high moral values and good work ethics for all PCAA personnel in particular and the aviation industry in general. This is a known weakness and concerted efforts need to be initiated to bring about a constructive change. Changing culture takes time and results will not be immediate, but we must initiate the efforts to make the desired change today. The future of our aviation system depends on this change.

- f. There is a declining trend in tourism and that is adversely impacting aviation. While some increase in traffic is visible in the travel of VFR (visitors, friends and relatives) and business segment, a negative domestic growth rate in tourism is hurting the aviation industry. Effective coordination and a stronger linkage with the Ministry of Tourism is required for a mutually beneficial strategy for growth in this segment. It is assumed that current Government initiatives on improving security perception shall yield positive results in the months to come and tourism can be effectively rekindled.
- g. There is slow and inadequate infrastructure development (aerodrome facilities and navigation facilities on the airside). This aspect has been neglected in the past and is being addressed on priority. There are also huge gaps in communication and surveillance coverage in the western and northern part of Pakistan airspace due to limitations of conventional transmitters and sensors in hilly terrain. This could have been resolved long ago by application of satellite technology like CPDLC (Controller Pilot Data Link Communication), and ADS(C) [Automatic Dependent Surveillance (Contract)]. These technologies are ideally suited not only for the hilly terrain but are also cheaper alternates to conventional tools of communication and surveillance necessary for air traffic control at long distances. Hence, action is being initiated by PCAA to address this issue urgently as it relates to safety of air traffic transiting through Pakistan airspace.
- h. The “procedures and regulations” are not user-friendly and act as a barrier to entry for new entrants in the industry. This aspect is also being addressed.
- i. There is inadequate technology awareness, adoption and usage in all segments of the industry.
- j. There is insufficient commercialization of non-aeronautical areas at the airports (e.g., real estate, car parking, food & beverages, retail stores, hotels, commercial plazas, etc.)
- k. Reduction in taxes and duties on aviation fuel in particular, and other aviation related activities is recommended for review in light of its overall positive economic impact on the aviation industry that may favorably reflect on the growth of national economy.
- l. It has been statistically proven globally that cost of fuel is an impediment to growth. Abolishment of fuel taxes may help in reduction of tariff. It is estimated that the loss in taxes is often more than compensated by the growth in GDP.

- m. The existing monopoly in the fuel supply for piston engine aircraft has resulted in artificially high fuel (100LL) prices. This has increased cost of pilot training and other general aviation flying activities in Pakistan. Hence, actions are being initiated through this policy to introduce competition in the supply of fuel for piston engine aircraft in Pakistan.
- n. In the past, National Aviation Policy was not implemented effectively. Therefore, National Aviation Policy-2015 implementation plan shall be developed for timely implementation and follow up. Progress audit and remedial measures for non-performance shall be enforced.

The above stipulated key issues and a few other concerns are addressed in this document.

Chapter 1

SAFETY, SECURITY & ECONOMIC OVERSIGHT



1.1 Safety

PCAA shall regulate safety activities of aviation sector. State safety goals shall be aligned with ICAO Global Aviation Safety Plan (GASP).

State Safety Program (SSP) and Safety Management System (SMS) shall be implemented as per ICAO requirements, and a safety culture shall be developed. Safety culture is a pervasive culture that emphasizes performance based safety doctrines and one that underscores risk mitigation precepts in all organizations.



From specific aviation safety perspective, major focus shall remain on airspace safety, runway safety, aircraft safety, ramp safety, ATCOs and flight crew certifications and surveillance, aerodrome certifications, transportation of dangerous goods, enhancement of language proficiency of pilots and controllers, continuing airworthiness and human factors.

1.1.1 Continuous Monitoring Approach

Pakistan shall prepare for Continuous Monitoring Approach stipulated in ICAO SMS, such as Manual 9859 of ICAO and other relevant ICAO documents for safety audits published from time to time.

1.1.2 Safety Investigation Board (SIB)

It is essential that the board, commission or other body tasked to carry out the investigation of aircraft accidents and serious incidents report directly to Minister of Aviation, so that the findings and safety recommendations of the investigation are not diluted when passed through regular administrative channels. Therefore, Safety Investigation Board shall be made independent and shall report directly to the Minister of Aviation.

SIB would carry out accident investigations pertaining to accidents, near misses, safety violations and

The air up there in the clouds is very pure and fine, bracing and delicious. And why shouldn't it be? —it is the same the angels breathe. --- Mark Twain

any crash involving Pakistan Registered Aircraft outside Pakistan. Adequate financial resources shall be provided to SIB through Ministry of Aviation as a separate head from the budget. It is recognized that trained and qualified personnel are required for SIB's efficient and effective working.

1.1.3 Pilot Deviation Reporting System

One safety related area that is 'disguised' is the Pilot Deviation Reporting system (PDR)*. PDR is a web based report to encourage pilots to report incidents (anonymously) that are violations of aviation regulations (without fear of official sanction). These reports are vital pieces of information that are analyzed to determine if changes in training, regulation, etc. need to be made. This data is collated, analyzed and appropriately disseminated. This shall be a component of the PCAA web portal which would be launched soon.

*(Ref. Dr. Dawna Rhoades on PDR, NASA portal)

1.1.4 Addressing Aircraft Aging and Safety Concerns

Research studies of commercial jet transport aircraft have indicated a trend of increased accident rate with age for aircraft older than 20 years.⁵ Notwithstanding such studies, it is generally accepted that with adequate additional specific maintenance schedules, the impact of ageing can be mitigated. Chronological age of aircraft and operational exposure are two main factors related with age and safety correlation. Widespread Fatigue Damage (WFD) to a metallic structure occurs when the structure is subjected to repeated loads, such as the pressurization and depressurization that occurs with every flight of a transport jet airplane. Over time, this fatigue damage results in minor cracks in the structure, and the cracks may begin to grow rapidly to cause critical structural strength degradation.⁶

Maintenance procedures like Supplemental Inspection Program (SIP) are required to be carried out up to a predetermined Limit of Validity (LOV) of the engineering data that supports the structural maintenance program to reduce the safety risk associated with ageing aircraft. To operate an airplane beyond the

⁵ *Analysis of Impact of Aircraft Age on Safety for Air Transport Jet Airplanes, Professor R. John Hansman, MIT International Center for Air Transportation, October 2014.*

⁶ *How old is too old? The impact of ageing aircraft on aviation safety. Australian Transport Safety Board, 2007.*

Boeing: China will need 6,020 new commercial aircraft valued at \$870 billion over the next 20 years. --- Sep 2014, Air Transport World

existing LOV, an operator must incorporate the extended LOV and conduct associated tests and component replacement into its maintenance program as applicable. The airplane is not considered airworthy beyond the extended LOV.⁷

These programs will only increase effectiveness of safety if operators seriously adhere to the stipulated maintenance schedules. Both regulators and operators must ensure that any defect identified by one operator is notified quickly and efficiently to all concerned and preventive actions are promptly undertaken to preclude recurrence of similar informative observation leading to a possible incident/accident within the industry.⁸

Airworthiness Directorate shall be tasked to study the required WFD, LOV and SIP along with Continued Airworthiness program for all classes of aircraft registered and operating in Pakistan. Accordingly, relevant Safety Bulletins and Airworthiness Directives (from manufacturers) should also be implemented with stringent oversight.

Since aircraft on regular scheduled flights are most affected due to the nature of operational exposure, i.e. frequency (cycles flown) and duration (hours flown) as well as number of pressurization and depressurization during every cycle, which may be the cause of repeated structural stress, it is considered prudent to place a calendar age limit for registration and induction of aircraft for scheduled passenger flights (RPT operations) as well as for aircraft involved in non-RPT scheduled flights carrying passengers. Maximum chronological age of such aircraft to operate in Pakistan under Pakistan registration shall be 20 years. (Please refer Chapter 4.2.c for further details).

While the average age of aircraft deployed for RPT operations is less than 12 years in most advanced airlines; globally, the piston engine fixed-wing aircraft (for GA operations) have been operating with an average operational life of almost 4 decades. It may be noted that although these aircraft are old, stress exposure and usage rates tend to be much lower for these aircraft, compared with turbofan and turboprop aircraft engaged in commercial air transport operations.⁹

⁷ *Aging Airplane Program: Widespread Fatigue Damage Final Rules, U.S. Federal Register, Volume 75, Number 219, November, 2010.*

⁸ *Continuing Structural Integrity Program, EASA AMC 20-20, December 2007.*

⁹ *Australian Aviation Safety in Review, ATSB, 2007*

Man must rise above the earth—to the top of the atmosphere and beyond—for only thus will he fully understand the world in which he lives. --- Socrates

To address safety concerns of all aging aircraft, Directorate of Airworthiness shall study and recommend the SIP, LOV and WFD concepts and procedures considered most appropriate for the GA fleet of aircraft in particular and other aircraft in general. Suitable pertinent regulations will follow for implementation by all operators and oversight by Airworthiness inspectors.

Aircraft deployed for cargo operations shall also be subject to similar procedures and maintenance oversight by the Directorate of Airworthiness.

1.2 Security

Security audits, tests, surveys and inspections shall be conducted on a regular basis to verify compliance with the national civil aviation security program and to provide for the rapid and effective rectification of any deficiencies. It shall be ensured that the management, setting of priorities and organization of the national civil aviation security quality control program shall be undertaken independently from the entities and persons responsible for the implementation of the measures taken under the national civil aviation security program.



Therefore, the role of Airport Security Force (ASF) will remain that of a service provider, as per ASF Ordinance 1975, whereas PCAA shall act as a Security Regulator.

Existing security processes at airports shall be improved to ensure that these are commensurate with the level of threat while at the same time ensuring expeditious clearance of passengers.

The state-of-the-art technology and pertinent security equipment shall be purchased and installed to improve passenger, baggage and cargo scanning. Appropriate technology shall also be used to thwart perimeter intrusion at airports.

NASA X-43A is an unmanned hypersonic aircraft, holding the fastest flight speed record recognized by the Guinness World Records in 2005 for reaching speeds of 10,461 km/h (7,000 miles per hour) or 8.4 times faster than the speed of sound.

For efficient security management at airports, collaborative decision making shall be improved amongst PCAA, ASF, local military authorities, para military forces, intelligence agencies and local police.

Airport policing should also be made more effective and efficient. Capacity building of ASF shall be enhanced with training, equipment and best work practices. Special training modules for all types of threats and emergencies shall be developed for ASF.

Compliance with ICAO facilitation standards related to Machine Readable Travel Documents (MRTDs) and biometrics shall be implemented. This would help in preventing terrorism.

Layered security system shall be implemented in letter and spirit and its quality should also be enhanced. This system shall be made as hassle free as practically possible for all travelers.

1.3 Role of PCAA as a Regulator & Service provider

PCAA is a service provider of Airport Services and Air Navigation Services; concomitantly, it is also a regulator of these two services which inherently creates a conflict of interest. Therefore, the role of PCAA as a regulator shall be made independent of service providers with financial and administrative autonomy. Organizational change modalities and structure of the regulator shall be developed so that this strategic objective is implemented with minimal adverse collateral disadvantage.

1.4 Economic Oversight

Economic oversight is an essential requirement of the industry and is also recommended by ICAO. It shall have regulatory and advisory responsibility of economic oversight of Pakistan's aviation industry in both domestic and international markets. As the involvement of private sector for the operations and management of airports is being encouraged, therefore, the role of economic oversight will assume greater significance. Hence, the function of Economic Oversight needs to be strengthened.

Economic Oversight will manage and collate relevant data on all aviation operators for economic performance analysis of existing operators so as to monitor anti-competitive trends. Economic oversight shall refer such potential issues to Competition Commission of Pakistan (CCP). It shall also oversee financial stability of airlines and other related issues, including airline mergers, acquisitions, domestic &

*For once you have tasted flight you will walk the earth with your eyes turned skywards,
for there you have been and there you will long to return--- Leonardo da Vinci*

international code-share alliances and other joint venture agreements, immunized international alliances between Pakistan and foreign carriers, and biases or preferential routing, frequency allocation, slots, etc. allocated to airlines, thus ensuring a fair and competitive environment, in the larger interest of passengers and other stakeholders.

The main purpose of economic oversight should be to achieve a balance between the interests of airports and Air Navigation Service Providers (ANSPs), including Government-operated providers, and those public policy objectives that include, but are not limited to the following:

- a. Minimize the risk of airports and ANSPs engaging in anti-competitive practices or abusing any dominant position they may have.
- b. Ensure non-discrimination and transparency in the application of charges.
- c. Ascertain that investments in capacity meet current and future demand in a cost-effective manner.
- d. Protect the interests of passengers and other end-users.

The A380 has about 4 million parts, with 2.5 million part numbers produced by 1,500 companies from 30 countries around the world.

Chapter 2

LIBERALIZATION & ECONOMIC DEVELOPMENT



2.1 Concept of Market Access and Liberalization

There are generally two types of liberalization in international air transportation. These are “market access liberalization” and “ownership liberalization.”

2.1.1 Examples of Market Access Liberalization

Market Access Liberalization opens up routes and markets to new entry. The global trend is towards more liberalized air service agreement and the effects have been very positive as the facts below present.

- a. In 2003, there were 87 liberalized agreements. In 2012, there were over 400. Due to greater benefits, the trend is increasing.
- b. Average traffic growth with air liberalization is 12-35%.
- c. The Korea – US Open Skies in 1998 increased the air traffic between the US and Korea by 26% in two years (before September 11, 2001).
- d. Total passengers increased 35% in the year following the liberalized US-China ASA in 2004, and further liberalization has led to the number of non-stop routes between the two countries increasing from 10 in 2006 to 33 by June 2014. Air passengers have since more than doubled, increasing from 2 million in 2006 to 4.4 million in 2013.
- e. The Canada-US Open Skies (1995) resulted in 41% traffic growth within 5 years.
- f. The UK-US liberalization in 1994 resulted in 29% growth in air passenger traffic in 10 years.
- g. Traffic rose in the Australia-New Zealand market from 3.3 million in 2000 to 4.6 million in 2004 following the full operation of the Single Aviation market in 2000. The Open Skies between Korean and China's Shandong Province resulted in a 50% traffic growth in one year.
- h. The 37% of market expansion between Malaysia and Thailand has been attributed to liberalization and the entry of new low cost carriers creating more than 4,300 full-time jobs and adding over \$114 million to their respective GDP.
- i. The 2007 pro-competition policy in Brazil helped to more than double the average annual growth rate of international traffic from 4% in the 2000-2006 to 9.8% in the 2007-2012 period.

2.1.2 The above real world examples suggest that Pakistan should also consider an appropriate open market access policy. Restricted market access raises prices, creates monopoly and suppresses aviation growth. Liberal air services agreements remove limitations on airlines' freedom to increase service, lower fares and promote economic growth. Therefore,

- a. Major international airports shall be developed as business & tourists hubs.

Sometimes, flying feels too godlike to be attained by man. Sometimes, the world from above seems too beautiful, too wonderful, too distant for human eyes to see . . . Charles A. Lindbergh, 1953.

- b. Pakistan is strategically located on the confluence of international routes. Liberal arrangements with our bilateral partners, in addition to providing direct and convenient connections to the local traffic from these airports, shall encourage and enhance the movement of international air traffic through our airports.

2.1.3 Examples of Ownership Liberalization

Ownership liberalization involves relaxing the restrictions for foreign owned airlines to consolidate and merge with existing national carriers and evidence indicates that this type of liberalization also has positive impacts:

- a. In Brazil, there was a 20% reduction in fares and a 32% increase in international traffic.
- b. In India, there was a 19% reduction in fares and a 23% increase in international traffic.
- c. In the UAE, there was a 16% reduction in fares and a 21% increase in international traffic.

2.1.4 Examples of Impact of Jet Fuel Tax

A number of studies have found that jet fuel taxes raise the cost to airlines, raise fares to consumers and reduce overall air traffic which in turn costs jobs in the local economy.

- a. In the Philippines, excise tax accounts for 10.8% of the fuel costs airlines pay which lead to a 1.6% decline in annual traffic.
- b. In Ecuador, fuel taxes add 5% to the cost decreasing air traffic by 0.9%.
- c. The elimination of the fuel tax in British Columbia saved airlines CAN\$12 million and it is estimated that every new international long-haul flight will generate between CAN\$5-8 million in new wages.
- d. In Ghana, a reduction of \$0.29 per liter created 4,200 new jobs.

2.1.5 Effect of Taxation on Aviation

Excessive or unjustified taxation on air transport usually has a negative impact on the industry as well as economic and social development. When a new tax on aviation is introduced, it will be transferred to the price of the ticket. The International Air Transport Association (IATA) estimates the following economic impacts from around the globe of tax reduction efforts:

- a. The abolition of the UK Air Passenger Duty supports an additional 60,000 jobs by 2020.
- b. Ending the German Air Travel Tax contributes EUR 1,226 million to their GDP.

Boeing said China will need 6,020 new commercial aircraft valued at \$870 billion over the next 20 years.

- c. Moderating jet fuel prices and moving to a market-based pricing system generates USD 62.3 million in economic benefits and contributes an additional 10,604 jobs. The aeronautical tariff at Delhi International Airport is projected to lower air travel demand by 6-10.4%.

2.1.6 Total Economic Impact of Aviation

The total economic impact of aviation activity is the sum of direct impacts, indirect impacts, and induced impacts. Employing labor, purchasing locally produced goods and services, and contracting for construction and capital improvements are all examples of activities that generate direct impacts. Indirect impacts derive from off-site economic activities that are attributable to the business activities of the aviation companies.

The indirect effect is the number of jobs created at those firms that supply ancillary services for individuals who are employed at the aviation industries and for customers of the firms. Induced impacts are the result of the spending of wages and salaries of the direct and indirect employees on items such as food, housing, transportation and medical services. Induced effects are the multiplier effects caused by successive rounds of spending throughout the economy as a result of the direct and indirect effects. While the direct impacts are the most easily observed; they often represent only a small part of the total effect as the numbers illustrate below:

- a. In 2008, NASA activity generated 14,559 direct jobs and 40,802 total jobs.
- b. In the UK, the activity of British defense and aerospace company, BAE Systems, created 12 jobs in the supply chain (indirect employment) for every 10 they employ directly.
- c. In the US State of Florida, Florida airports employed 158,861 people, aviation visitors generated an additional 753,353 jobs, aviation-related construction added 25,321 jobs, air cargo created 69,256 jobs while other categories of aviation activity added almost 165,000 more jobs.


The above examples clearly indicate that aviation supports economic growth much more than commonly understood. Liberalization, tax abolishment as well as other incentives have a long lasting positive impact on the national economy, particularly for countries with developing economies.

On Aviation: More than anything else the sensation is one of perfect peace mingled with an excitement that strains every nerve to the utmost, if you can conceive of such a combination. --- Wilbur Wright

2.2 Liberalization of Air Service Agreements

Pakistan shall pursue bilateral open skies policy with other countries on the principle of reciprocity.

The existing cargo open skies policy shall continue but restricted to third, fourth and fifth freedom traffic rights for the designated airlines of our bilateral partners. Coterminalization* should also be favorably considered. (*See 'Glossary of Terms' for definition).



An airplane takes off or lands every 37 seconds at Chicago O'Hare International Airport. That's almost 100 planes per hour.

Chapter 3

ORGANIZATIONAL & INFRASTRUCTURE DEVELOPMENT



For the growth of aviation activities in the country organizational changes and infrastructure development is considered essential. These are discussed in the succeeding paragraphs.

3.1 Development of Airports Infrastructure

Airports infrastructure in the country needs to be modernized in line with global standards to cater for the needs of passengers and shippers. Following policy guidelines shall be observed for the infrastructure development of airports:



- a. Airports shall be made safer and user friendly. Commensurate with anticipated increase in traffic demand, optimum capacity utilization and efficient management shall be ensured while appropriate world class airport infrastructure is provided. To achieve this end, participation by private sector would be encouraged.
- b. Private sector shall be encouraged to construct and/or operate new/existing airports, airstrips, water lakes for amphibian aircraft operations, helipads, heliports, including cargo complexes on BOO, BOT basis or any other suitable management arrangement, and to raise non-aeronautical revenues from these premises. Construction of new commercial airports in the private sector will be permitted to meet the growth in air traffic.

3.1.1 Airports Land Utilization Policy

- a. Land at major airports shall be utilized more effectively for commercial purposes with the involvement of private sectors.
- b. Land at remote and non-operational airports shall be utilized for non-aeronautical commercial and recreational purposes. PCAA shall formulate land lease policy to make it commercially viable for private investors and/or provincial government without jeopardizing aviation activities.

The world's most expensive plane ticket cost Sydney millionaire Julian Hayward, an amazing \$123,000, after being the first person to buy a seat on the A380 maiden flight between Singapore and Sydney in 2007.

3.1.2 Public-Private Partnership (PPP) Models for Airports

At present, almost all small and medium sized airports are running into losses due insufficient passenger traffic and commercial activity. In order to cut losses and exploit the commercial and tourism potential of small and medium sized airports like Gilgit, Sakardu, Chitral, etc., PCAA may enter into suitable Public-Private Partnership (PPP) models for operation, management and development of these airports.

For major airports, these Public-Private Partnership (PPP) models would also be followed to improve revenue streams and quality of services. The airport's terminal side shall be outsourced to world class operators of international standing through transparent and competitive bidding. Appropriate consultants shall be hired for outsourcing of such facilities at airports. PCAA shall yield revenue either in shape of annual fee structure or through appropriate equity partnership models.

3.1.3 Development of Airports for Socio-political Routes

Development and expansion of socio-political routes (addressed later in Chapter 4.1) would require development of airports and their associated facilities. Since this aspect is in the larger interest of socially and economically isolated communities, the onus of development should rest with the Government through Public Sector Development Program (PSDP) fund.

3.1.4 Marketing of Airports

Fair and equal opportunities shall be accorded to public and private sector airports to market themselves within the framework of national aviation policy and bilateral air services agreements. Private sector shall be encouraged to set up tariff and charges as market forces dictate. However, PCAA shall have the responsibility of economic oversight of all airports.

3.1.5 Greenfield Airports

For all greenfield airports, state of the art equipment would be imported to enhance safety, security and efficiency of air transport operations and passenger facilitation.



The exhilaration of flying is too keen, the pleasure too great, for it to be neglected as a sport. --- Orville Wright

3.2 Airport Management Administrative Control

Different Government agencies (e.g. Customs, immigration, ANF) working at Airports report to their concerned departments/ministries. This way of working compromises unity of command of head of the Airport management i.e. Airport Manager. In order to ensure smooth operations through unity of command at the Airports, a Chief Operating Officer (COO) shall be appointed at major Airports by Pakistan CAA. All the Government officials working at the Airports will be directly under the command of COOs for administrative purposes. To ensure efficient control of these allied agencies officials, a column shall be added in their Annual Confidential Reports (ACRs) which shall be filled in by COO. The COO will have the administrative powers to take action against any defaulting officials of allied agencies as per rules/law.

3.3 Use of Technology at Airports (to facilitate Passengers)

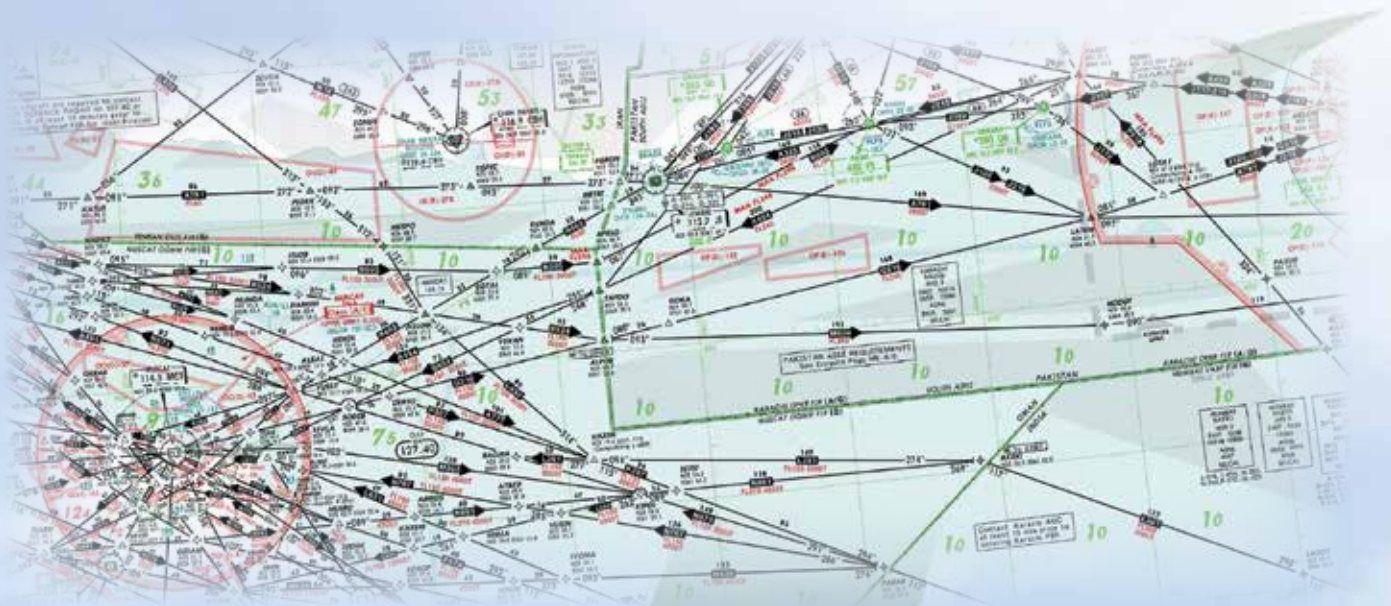
To further facilitate passengers travelling on domestic sector, PCAA shall facilitate airlines to introduce self-check in kiosk and/or IT-enabled systems. This will further minimize congestion at the counters and make the departure halls/briefing areas more accessible to other passengers. PCAA shall provide space and connectivity for kiosks.



3.4 Development of Air Navigation Infrastructure

Pakistan will develop its air navigation infrastructure in the light of ICAO Global Air Navigation Plan (GANP). As we attract global aviation to fly to and/or through Pakistan, the requirement to upgrade our current navigation systems' infrastructure is an essential consideration. To ensure continuous safety improvements as well as air navigation modernization, ICAO has also developed a strategic approach to the up-gradation process. This concept of Aviation System Block Upgrades (ASBU) allows realization of global interoperability, greater safety, sustained growth and increased efficiency. The Block Upgrades describe a way to apply the concepts defined in the ICAO Global Air Navigation Plan with the goal of implementing regional performance improvements. They will include the development of technology roadmaps to ensure that standards are mature and to facilitate synchronized implementation between air and ground systems and between regions. The ultimate goal is to achieve global interoperability. Safety demands this level of interoperability and harmonization.

KLM is the world's oldest airline, established in 1919. Its first flight between Amsterdam and London took place on 17th May 1920.

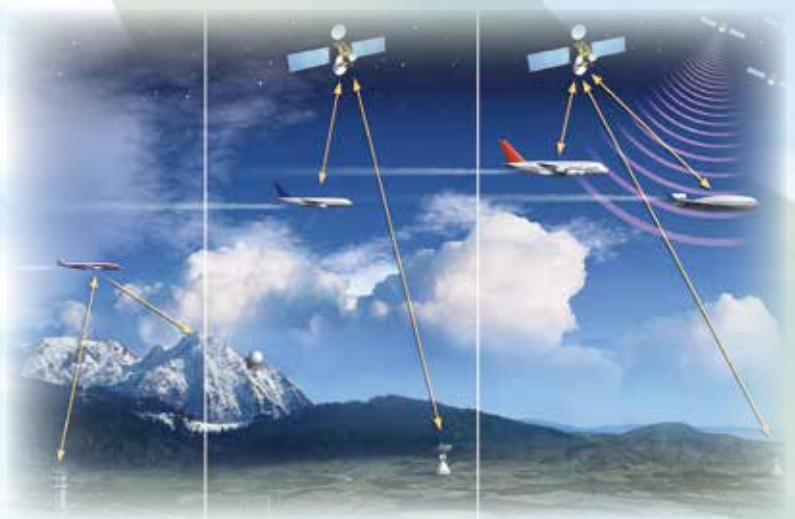


A number of improvements are, therefore, required to follow the ASBU concept.

One of the fundamental requirements is to ensure that airspace capacity is fully capable to meet the ongoing and future demands. This could be achieved by improving the Air Traffic Services (ATS) route structure using Performance Based Navigation (PBN) and Air Traffic Flow Management (ATFM). Parallel routes using specific PBN navigation specifications would allow increased traffic flow within specific areas. More Area Control Centers (ACC) may also be considered for safe and efficient handling of air traffic.

The concept of Flexible Use of Airspace (FUA) is also required to be implemented to ensure optimum utilization of airspace. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn. PBN implementation in terminal areas is also required to be implemented. This would allow optimum profiles for arrival and departure trajectories as well as approaches to runways using satellite navigation.

Besides these measures, efforts are required to ensure optimum facilities addressing Communication, Navigation & Surveillance- the basic airspace enablers for air navigation. In this connection, Pakistan airspace is required to be provided with redundant communication and surveillance facility for provision of ATS. The existing surveillance radars should be augmented by using advanced surveillance sensors of ADS-B and ADS-C,



No one can realize how substantial the air is, until he feels its supporting power beneath him. It inspires confidence at once. --- Otto Lilienthal

where appropriate. This would provide redundant surveillance coverage throughout Pakistan airspace. Controller- Pilot Data Link Communications (CPDLC) is a basic tool for provision of air navigation services. This has to be ensured by providing multiple E-VHF frequencies at remote locations to ensure redundancies for CPDLC. Provision of Controller-Pilot Data Link Communications (CPDLC) facility in Area Control Centers (ACCs) may also be considered for augmentation.

Although the satellite navigation is being used by majority of commercial aircraft, the existing navigation aid infrastructure in Pakistan lacks desired navigational capability and redundancies in case of failures or operational issues. Considering the pace of development, the VORs being used for en-route navigation should be maintained for at least the next 5-10 years. Terminal facilities of VORs & NDBs may also be maintained during this period.

The Instrument Landing System (ILS) facility has a pivotal role in providing access to aerodromes during poor visibility conditions. It also enhances safety during approach to land. The ILS facility should be installed at major aerodromes, and the category should be determined according to relevant condition and frequency of traffic.

Sequel to installation/up-gradation of latest navigation aids and procedures, capacity building of industry human resource shall also be enhanced. Pilots and air traffic controllers shall be trained on new systems, procedures and technology.

3.5 Development of Cargo Village Facilities

For an efficient and quick transit, a single window clearing mechanism and facilities for warehousing, weighing scales, airline offices, freight forwarders, customs house agents, Government and regulatory agencies, airline ground handling agents, insurance and banks' facilities, etc. shall be made available under-one-roof. Infrastructure of a cargo village shall include multi-modal transport, cargo terminals, cold storage centers, automatic storage and retrieval systems, mechanized transport of cargo, dedicated express cargo terminals with airside and city side openings, computerization and automation. The plan shall be based on PPP as under:

- a. All major international airports shall be promoted as trans-shipment hubs through development of requisite infrastructure.
- b. Cargo villages shall be established on Public-Private Partnership at major international airports and linked with national trade corridor. Cargo villages, one in South at Karachi and other in North shall be established on priority.

*As well as being the second oldest airline in the world
Qantas, formed in 1920, also has the best safety record with
no fatal crashes in their history.*

- c. The available land at AllAP, Lahore and JIAP, Karachi shall be given to private companies through competitive bidding process to develop:
 - i. Perishable Facility.
 - ii. Cold Chain Facility.
 - iii. Common facility for housing banks, freight forwarders and shipping agencies, etc.
- d. All the facilities at the airport including the Government bodies shall operate on 24/7 basis to facilitate cargo operations. One window operation for cargo clearance shall be introduced on all major airports of the country.

For efficient supply chain management of cargo cities, not only adequate warehouses and cold storage shall be developed but also concept of e-freight or near paperless environment and use of Electronic Data Interchange (EDI) for efficient flow of information among stakeholders of cargo operation shall be encouraged.

3.6 Development of Maintenance, Repair & Overhaul Organizations

Pakistani carriers and general aviation organizations have together around 100 aircraft. There is a substantial aircraft maintenance market emanating from Central Asian Republics, Afghanistan, Iran and Gulf based aircraft that can be given lucrative rates for their major overhauls as labor costs in Pakistan are still lowest in the region. Aircraft with their mandatory periodical maintenance and subsequent overhaul requirements make it a viable industry within aviation. At present, engines along-with major components are outsourced for major checks and aircraft servicing to MRO hubs like Singapore, Malaysia, South Korea, China, Japan and Dubai and even in Europe.



3.6.1 Incentives for MROs

The multi-million dollar MRO market has been untapped in Pakistan where it is operating at less than 0.05% MRO business. Therefore, following incentives shall be offered to investors in MRO business:

*I fly because it releases my mind from the tyranny of petty things.
--- Antoine de Saint-Exupéry*

- a. Tax incentives shall be offered for MROs.
- b. Negligible PCAA charges for the piece of land leased for MROs.
- c. Up to 100% Foreign Direct Investment (FDI) shall be permitted. However, JV with a local business entity shall be preferred.

These MROs shall also earn foreign exchange by providing services to foreign clientele.

3.6.2 Human Resource for MROs

Armed Forces retiring aviation engineers and technicians may also be gainfully absorbed in the MRO (and other aviation organizations). This skilled and experienced workforce shall be given an opportunity to attend short courses organized by a competent training institute (with course curriculum approved by PCAA) for certification as technicians in specializations commensurate with their experience. A relevant ANO to facilitate absorption of this work force shall be developed and implemented. A fast track certification shall be awarded to such experienced and skilled human resource by PCAA. Mandatory condition of college education shall be waived off in line with ICAO Annex I. This will allow availability of skilled/technical manpower locally as required to handle the MRO operations. Capturing international MRO market shall be the goal of the MRO establishments. For incentives offered for investors in MRO business, please see para 6.1.2

If everyone on a plane jumped up at the same time would the plane get lighter? The answer is no. Actually the opposite is true. Due to the basic laws of physics, every action has an equal and opposite reaction, so if you jumped into the air you actually force the aeroplane down a little bit, thus increasing its weight albeit momentarily.

Chapter 4

OPERATIONAL POLICY GUIDELINES



4.1 Commuter Services by General Aviation (Charter Operators) on Selected Socio-Political Routes

Pakistani charter operators (including helicopter operations) would be encouraged to operate scheduled commuter services to/from Gwadar, Turbat, Panjgur, Khuzadar, Dalbandin, Zhob, Rawalakot, Skardu, Chitral, Gilgit, Bannu, Parachinar, and Muzaffarabad. While economic advantages to these areas will also accrue over time, political integration shall be the prime objective of this plan (Socio-political routes).

The scheduled commuter services for the selected socio-political routes shall be entitled for the following privileges:

- a. No landing, housing and air navigation charges on both ends of the selected socio-political route.
- b. Tax incentives shall be provided for the socio political routes.
- c. After satisfactory operations of two years, with acceptable regularity of seven (7) weekly flights on socio-political routes, the operator would be entitled to apply for RPT license which shall be processed within 60 days. The operator shall then become entitled for RPT operations for all categories of domestic routes. However, seven (7) weekly flights to any one or more of the socio-political routes shall be mandatory to continue RPT.
- d. Once the socio-political routes are activated under this plan, RPT operators shall be relieved of the obligation to maintain schedules on such routes. However, the requirements of operations on primary and secondary routes as stipulated in para 4.4 (a) sub para (i) and (ii) shall remain valid.



Discovery Channel: 95.7% passengers in air crashes around the world have survived.

4.2 Airline Registration, Size and Age of Fleet

In the past, airline licenses granted to financially unsound operators gave rise to opportunism, thus compromising safety, security and quality of service in local market. Local operators were allowed unlimited wet leased aircraft operations on domestic as well as international routes. As job market for local pilots, engineers, technicians and cabin crew dissipated, the business of training institutes such as flying clubs etc. were also adversely affected. Hence, the requirements of enhanced paid-up capital, fleet registration, its size, and restriction on wet lease operations on foreign registered aircraft in the country will ensure better safety oversight. It shall also boost the local job market and training activities. Therefore, following requirements are stipulated:

- a. Fleet registration in Pakistan by all operators shall be mandatory.
- b. Foreign airlines shall be permitted to take equity stakes up to 49% in domestic carriers.
- c. Minimum fleet size for domestic operators shall be three (3) airworthy aircraft and for international operations shall be five (5) airworthy aircraft. Calendar age of all types of commercial aircraft, operated by Pakistani operators shall not be more than twelve (12) years at the time of induction with minimum of 35% remaining operational life. Operational life expectancy shall be based on international standards considering limitations on maximum hours, flight cycles, chronological age and environmental exposure. Aircraft older than twenty (20) years, being operated by Pakistani operators, including non RPT operators utilizing aircraft for commercial passenger service, shall not be allowed to continue operations in Pakistan. The existing operators shall fulfill this requirement within 2 years. (For policy on calendar age limitations on other aircraft see Chapter 1.1.4)
- d. Shall have aircraft that meet the international noise and environmental standards.
- e. For charter operation of passenger aircraft (domestic/international) minimum requirement shall be two (2) airworthy aircraft.
- f. For cargo operation, one (1) airworthy aircraft shall be acceptable.

4.3 Paid-up Capital and Security Deposit for Airline Operators

Paid up capital for RPT license shall be enhanced to Rs 500 million as specified in Annexure "B".

The current RPT and other operators will enhance their paid-up capital to the revised requirement within a period of two years from the date of approval of this policy.

Any airline applying for RPT license shall deposit 100 million rupees as security deposit. An amount equal to 3 billing cycles shall also be deposited before the commencement of operations (billing assurance). Fifty percent of security deposit may be in the form of a bank guarantee, payable to PCAA upon default. Subsequent to the successful issuance of the license to operate, an airline is bound to start its operation within 365 days otherwise its security deposit will be forfeited. In case of outstanding dues exceeding an amount equal to 90% of security deposit/bank guarantee, the operations of airline shall be suspended.

The Wright brothers created the single greatest cultural force since the invention of writing. The airplane became the first World Wide Web, bringing people, languages, ideas, and values together. --- Bill Gates

Notwithstanding the existing PCAA Rule 179, (CARs 1994), the authority, before issuance/renewal of a license, shall consider managerial competence of the applicant's key personnel to determine whether they have sufficient business and aviation experience to operate an airline, and whether the management team, as a whole, possesses the background and experience necessary for the specific kind of operations proposed.

Second, the authority shall review the applicant's operating and financial plans to see whether the applicant has a reasonable understanding of the costs of starting its operations and either has on hand, or has a specific and verifiable plan for raising the necessary capital to commence operations. Before being granted/renewal of license, the applicant must submit third-party verification that it has acquired the necessary capital to conduct its operations.

Third, the authority shall look at the applicant's compliance record to see whether it and its owners and managers have a history of safety violations or consumer fraud activities that would pose a risk to the traveling public, or whether other factors indicate that the applicant or its key personnel are unlikely to comply with Government laws, rules and directives.

Therefore, following financial requirements shall be mandatory:

- a. Paid up capital shall be free of losses and reviewed periodically by PCAA Board.
- b. Owner's equity (net worth) shall not be negative at any point in time.

Minimum Equity (net worth) to Assets Ratio should be at least 5%, gradually increasing by at least 1% per annum up to a minimum of 10% over a period of next five years.

Renewal of license shall take into account customer satisfaction (estimated by pax complaints) and operational performance (punctuality, regularity) as well as financial performance of airline as per submitted business plan. Operations on mandatory socio-economic routes shall also be met. Regularity on socio-economic routes is required to be above 80%. Any airline not fulfilling the stipulated criteria will be subjected to cancellation of one or more international/domestic routes or cancellation of license.

4.4 Policy Guidelines for Operations on Socio-Economic Routes

A liberalized market structure and reliance on competition is the best way to deliver efficient aviation services for the benefit of consumers. This would be achieved through bare minimum Government-imposed restrictions on the commercial behavior of air carriers. However, public service obligation requires that the Government and the air carriers work together in establishing air link on primary and secondary routes. There shall be no landing and housing charges at secondary airports for scheduled services. Hence, Pakistani scheduled air carriers shall operate to at least one primary or one secondary route as under: (Note: For definition of routes, please refer to Annexure-A).

- a. Pakistani scheduled air carriers shall be required to operate part of their total capacity—Available Seat Kilometers (ASKs)- floated on domestic Trunk Routes to Primary and Secondary Routes are as under:
 - (i) Primary Routes: At least 10% of the total capacity (ASKs) floated on Trunk routes, or,
 - (ii) Secondary Routes: At least 5% of the total capacity (ASKs) floated on Trunk routes.

An air traveler can lose approximately 1.5 liters of water from the body during a 3 hour flight.

- b. PCAA shall facilitate joint ventures or commercial agreements between Pakistani scheduled air carriers and Pakistani charter operators for operations to primary and secondary routes, by allowing a Pakistan registered aircraft to operate on the AOC of two different Pakistani operators.
- c. To qualify for the approval of the forthcoming seasonal (summer/winter) schedule, the license of RPT operators must also ensure that at least 80% of the schedule is actually flown and 80% punctuality and regularity is maintained (with the exception of force majeure). Operators not adhering to the above requirements shall be suspended for 90 days and if remedial action is not demonstrated, RPT may be cancelled after 180 days.

4.5 Policy Guidelines for International Operations

The interest of users will be best served if airlines are free to compete according to their commercial judgment. However, following parameters shall have to be met:

- a. Pakistani designated airlines shall be eligible to commence operations on international routes after one year of continued satisfactory operations on domestic routes. Continued satisfactory operations would entail the following performance parameters:
 - i) Flight Punctuality above 80%. (See Glossary of Terms).
 - ii) Flight Regularity above 95%. (See Glossary of Terms).
 - iii) No outstanding complaints on account of Air Passenger Rights as promulgated by PCAA/Government.
 - vi) Satisfactory operations on socio-economic routes as specified in this policy (para 4.4).
 - v) No outstanding PCAA dues.
- b. Qualifying airlines shall be eligible to operate on international routes, to countries pursuing open skies or where there are no bilateral constraints on capacity.
- c. Where there are bilateral constraints on capacity, the available capacity shall be allocated amongst the competing air carriers' proportionate to their capacity [Available Seat Kilometers (ASK)] floated on domestic routes in the previous two scheduling periods. Additionally, airlines' regularity, punctuality, safety record, fleet registration and financial condition shall also be quantified and considered while allocating capacity.
- d. Allocated capacity unutilized by an air carrier for two scheduling periods shall be allocated to another Pakistani air carrier desirous of utilizing it unless the air carrier was in a force majeure situation.
- e. Where there are bilateral constraints on multiple designations of air carriers the designation of an offline Pakistani carrier shall be replaced with an air carrier desirous of operating to that destination.

4.6 Policy Guidelines for Tariff Oversight

- a. PCAA as a regulator shall oversee and intervene in case of predatory pricing or collusion by a group of operators in the interest of the traveling public. When so required such cases shall be referred to Competition Commission of Pakistan, which is the appropriate forum to adjudicate the matters

The engine is the heart of an Aeroplane, but the pilot is its soul.
--- Sir Walter Alexander Raleigh

pertaining to anticompetitive practices.

- b. All fares shall remain deregulated.
- c. PCAA shall make rules, regulations and procedures to redress public grievances and adjudicate these on merit.

4.7 Policy Guidelines for Dry or Wet Lease of Aircraft

Dry lease shall be encouraged over wet lease arrangements. There shall be no permanent addition to capacity by inducting foreign registered aircraft on wet lease.

4.7.1 Wet Lease Special Condition

Temporary induction of foreign registered aircraft on wet lease may be permitted under following conditions:

- a. Extra ordinary/special circumstances (such as aircraft accident or Hajj, Umra or ziarat operations, etc.)
- b. Permissible up to maximum of 180 days, not extendable further.
- c. Calendar age of all types of aircraft shall not be more than 12 years.
- d. Wet leased capacity (Available Seat Kilometers) shall not exceed more than 50% of the total capacity at any point in time. Special consideration may be given by DG CAA for Hajj operations.

4.8 Policy Guidelines for General Aviation Operations

Role of General Aviation (GA) is primarily for the training of aviation personnel, tourism, plant protection, cloud seeding, aviation sports, medivac, charters, aerial work, etc. Not only incentives will be provided for the growth of General Aviation but also regulatory framework will be strengthened for the safety and growth of this sector. Following steps shall be taken to enhance GA operations:

- a. Private sector investors shall be encouraged to develop supporting infrastructure like airstrips for General Aviation outside control zone area. PCAA will provide free guidance and advice to all prospective entrepreneurs and investors on selection, siting of airstrips and business plan.
- b. Import or lease (wet/damp/dry) of any General Aviation aircraft shall be tax and duty free.
- c. Duties shall also be abolished on the import of maintenance kits and associated parts of aircraft, including aircraft tires to address AOG issues. Import of technical manuals and ground support equipment for general aviation aircraft shall also be exempt from import duties.
- d. Uniform curriculum requirements of training shall be developed and implemented for ground studies of pilots. In this regard, consultancy from aviation experts shall be sought.

Only around 25% of first class passengers pay full fare. The rest are upgrades, frequent fliers and airline employees.

- e. A transparent, standardized and online examination system shall also be introduced for pilots, air traffic controllers, technicians and engineers.
- f. All licenses shall be issued as smartcards with all details on record. License validity would be for lifetime with the onus of ensuring all checks, medical, etc. shall be on the incumbent.
- g. For conversion of foreign licenses to PCAA licenses, rational and logical process of conversion shall be adopted, in line with global practices. Conversion of FAA, JAA, and Australian Licenses shall be introduced to compensate flying hours of CPL/ALTP holders for induction in commercial airline.
- h. Multi Crew Pilot License (MPL) training shall be introduced. The MPL syllabi shall be more focused on multi crew training under supervision. (Reference IATA PANS-TRG doc 9868).
- i. Operation for night charter/aerial work shall be permitted to single engine aircraft certified for night VFR.
- j. Fuel supply through fueling companies shall not be monopolized for any category of fuel.
- k. Liberalized guidelines shall be formulated, in consultation with users, to promote and encourage private investment in flying clubs, air taxi service, private ownership of aircraft including helicopters and gyrocopters, airships, light sports aircraft, amphibian aircraft and aero-sports activities, i.e., hang-gliding, ballooning, heli-skiing and para-jumping, etc .
- l. Flying clubs shall be facilitated to overcome shortage of pilots in the country. For example, PCAA facilities to flying clubs, where available, would be leased to develop airstrips outside control zones exclusively for training flights.
- m. PCAA may take initiative to ignite the dormant market of general aviation by investment in low cost modern technology training aircraft and lease them to flying clubs in order to reduce flying training cost by about 50%. Grass air strips, up to 3000 feet long, may also be developed in every district under PPP to encourage sports flying and air taxi service. Provincial Government interest in ownership, administration and use of these air strips may also be considered.
- n. Clearance from security agencies if delayed more than 40 days shall be deemed as approved No Objection Certificate (NOC). DG CAA shall permit the induction of aircraft of all categories including rotary wing, balloons on lease and purchase basis for commercial or private use through a simplified procedure to be published in the form an Air Navigation Order (ANO).



The Boeing 747 (all versions) have traveled an estimated 35 billion statute miles, that is the equivalent of 75,000 trips to the moon and back.

- o. Security clearance for the import of fixed/rotary wing aircraft on purchase/lease basis shall not be required for Pakistani companies and nationals holding valid licenses. Already security cleared operators shall need no further security clearance for the import of aircraft, provided there is no change in their board of directors. However, such aircraft could be subject to security check on arrival.
- p. Plant Protection Department, currently having large assets and negligible or no utilization of this expensive Government asset must be put to gainful use. PPP, JV or complete privatization shall be considered. Cloud seeding and other commercial ventures should be studied and best option implemented to gainfully utilize this dormant asset. Coordination between PCAA and Ministry of Agriculture (under whom these assets are) shall be initiated to implement the above stated utilization of the assets.

4.9 Policy Guidelines for Helicopter/Gyrocopter Operations

Private investors shall be encouraged to develop heliports and purchase/lease helicopters. These aircraft shall provide access to areas where fixed wing aircraft cannot fly. Helicopter/gyrocopter operation shall be encouraged for:

- a. Emergency operations, Search & Rescue operations.
- b. Tourism to Northern Areas.
- c. Adventure sports in Pakistan.



PCAA will create incentives for helicopter operators willing to establish heliport at the international airports.

Helicopter operations can also be setup in a joint venture with foreign companies and/or investors in similar pattern as prescribed for the aircraft registration and operations. Following incentives by PCAA will be provided:

- a. PCAA shall not levy any charges on such operation.
- b. PCAA will provide free guidance and advice on selection of helicopter (to the extent possible).



A Boeing 747s wing-span is longer than the Wright brothers first flight (120ft)

- c. PCAA shall provide evaluation of business plan to all prospective entrepreneurs and investors.
- d. PCAA shall assist (to the extent possible) in site selection of heliports. Induction of gyrocopters shall also be encouraged in a similar manner.

4.10 Policy Guidelines for Charter Operations

Following guidelines shall be observed for all charter operations:

- a. Domestic charter operation shall be allowed to Pakistani operators using Pakistani registered aircraft including helicopters flown by Pakistani pilots.
- b. International charters originating from Pakistan shall be allowed to Pakistani operators only (except Hajj, Umra and other religious pilgrimage operations to and from other countries which may be regulated as per bilateral arrangements with those countries).
- c. There shall be no restriction on round trip tourist passenger charter groups on all international routes irrespective of the scheduled operations.
- d. On routes adequately served by scheduled operators, one way passenger service will not be allowed with an aircraft having more than 19 seats. This is to protect the interest of scheduled operators on these routes.
- e. Private sector investor/entrepreneur other than charter operators shall be encouraged to develop Executive Lounges for Charter Aviation operation at Lahore, Islamabad and Karachi Airports. These lounges shall also include facilities of customs and immigration on 24/7 basis.



I was sold on flying as soon as I had a taste for it. --- John Glenn

Chapter 5

POLICY GUIDELINES FOR OTHER SERVICE PROVIDERS



5.1 PCAA Charges Levied to All Service Providers

Taxes, fees and charges for the suppliers of air transport services increase tariff and adversely impact the growth in civil aviation. Hence, charges levied to suppliers of air transport services by PCAA shall be cost-based. The suppliers of air transport include airport service and air navigation service providers, airline/aircraft operators, aircraft lessors, ground handling agents, MROs, aviation related training/education institutions, fuel suppliers, travel/cargo handling agents, catering services and aviation related manufacturing facilities.

5.2 Ground Handling Service Providers

Ground handlers have very important role for the safety and efficiency of aircraft operation at airports. Only financially sound ground handlers with quality equipment would be allowed to operate/enter the industry. PCAA would improve safety and quality oversight of ground handlers. PCAA would also develop necessary infrastructure on airside and landside for efficient ground-handling and passenger-handling.

5.2.1 Self-Handling for Domestic Airlines

Domestic airlines may be permitted by the relevant authority to undertake self-handling, or outsource services to licensed Ground Handling Operator Certificate (GHOC) holder.

Ground handling services to foreign airlines shall also be through ground handling agencies holding valid GHOC.

5.3 Policy Guidelines for Other Suppliers of Air Transport Services

All other service providers (agents) including GSA Pax, GSA Cargo, DG Agents, NSFP Agents, etc. shall have recourse to complaints or suggestions through an online portal managed by PCAA.

PCAA shall also facilitate information for requirements from PCAA perspective for new entrants and continuing relevant suppliers.

Aviation's annual global economic impact is US\$ 2.4 trillion.

5.4 Policy Guidelines for Fuel Supply Services

Aviation fuel is an essential industry input. Pricing of fuel is important component of cost of flights by all operators. Fuel cost is a major component of variable cost for airlines and commercial aviation. Fuel needs to be supplied reliably, with continuity and through competitive market conditions where possible. The responsibility for fuel (jet fuel or 100LL for general aviation light aircraft) supply of all



categories will not be in a monopolistic manner, and if prevalent due to non-availability of forth coming suppliers, excessive pricing is not charged to the operators. In an oligopolistic situation (few suppliers), PCAA's Economic Oversight will ensure that collusion and price-fixing by suppliers does not take place. Assurance ultimately rests with the PCAA and the industry for meeting the demands of all stakeholders in airline and general aviation segments. Aviation Division on behalf of the Government shall support improved planning and communication among fuel suppliers at all trunk, primary or secondary airports. Government shall continue to monitor fuel prices at comparable Asian airports to monitor the trend in fuel prices. Aviation Division and Ministry of Petroleum and Natural Resources will work together to prevent monopolistic trends in the ownership of fuel supply infrastructure at all airports and may allow new market entrants of aviation fuel suppliers.

Additionally, PCAA shall encourage induction of aircraft operating with alternate fuels (for example, Rotax engines with non 100LL fuel, motor gasoline and other alternatives, e.g., CAAFI, Commercial Aviation Alternative Fuels Initiative which is a cooperative effort among interested stakeholders to bring commercially viable, environmentally friendly alternative aviation fuels.

Tax on all aviation fuels shall be considered for reduction such that a corresponding impact on tariff is assured. Initially, this policy could be a "tax holiday" for a period of one year to analyze the impact of such a measure. The tax holiday can continue for more years if positive results in traffic increase are evident.

The great bird will take its first flight . . . filling the world with amazement and all records with its fame, and it will bring eternal glory to the nest where it was born. — Leonardo da Vinci

5.5 Policy Guidelines for Catering Services

This aspect is a focal point to ensure hygienic uplift of catering services by all airlines. To meet high standards, only accredited companies shall be eligible for provision of catering services of airlines. The catering services have to mandatorily undergo certification on Quality Standards and Food Management System. The audit report is to form a part of the application process. The companies applying for such services have to prove their credibility as catering and F&B service provider for a minimum time period of 5 years are to be eligible for provision of license and subsequent services to client airlines. To satisfy international carriers' requirement and to encourage uplift of F&B from Pakistan airports, international catering companies shall be encouraged to participate in joint ventures with local companies. The same provision shall also apply to establishment of catering food outlets or such services within all major airport premises.

5.7 trillion km were flown by passengers across the globe in 2013.

Chapter 6

INCENTIVES, TAXES & DUTIES



6.1 Taxes & Duties

In principle, tax relief would be on investment and taxes would be levied on revenue.

Fiscal incentives on aviation sector will be announced through Budget 2015-16 after due approval of Parliament. Tax relief incentives shall be applicable with effect from July 01, 2015.

**This space is intentionally left blank.
As integral to this policy document, details of incentives, taxes and duties shall be
published for implementation with effect from July 01, 2015 after the budget is passed by
the Parliament.**

The bad news is that time flies. The good news is that you are the pilot. --- Anon



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the Parliament.**

Chapter 7

HUMAN RESOURCE DEVELOPMENT: TRAINING & EDUCATION



In order to meet future needs of aviation sector in Pakistan, a well-trained and skillful human resource shall be developed through aviation institutions in public and private sectors .

In collaboration with ICAO, CATI (Civil Aviation Training Institute) was established in 1982 at Hyderabad as a regional training institute to meet the training needs of PCAA as well as other countries in the region. Since then, the institute conducted various courses pertaining ATC, Airport Management and other technical courses like E&M, Fire Fighting, Communication, Navigation and Surveillance, etc. Trainees from African countries, Sri Lanka, Iran, Afghanistan, Bangladesh, etc. were also trained. However, the declining standards of training have discouraged foreign trainees to pursue such courses in Pakistan. Consequently, PCAA is incurring huge cost to maintain the facility (almost 500 million rupees per year). With fewer benefits of maintaining such a training facility, a review of cost and benefit analysis needs to be done. Lack of well-qualified instructors and modern training aids (like ATC simulators) has also adversely affected the quality of training.

For greater efficiency CATI shall be outsourced to a reputable national and/or international educational organization / institute / university fulfilling all PCAA Human Resource training and education requirements. Additionally, the scope may also include airline and air transport and economic regulations, cargo handling, BBA/MBA in aviation management, etc.



58.1 million Jobs are supported by aviation worldwide.

For technical training of engineers and aircraft technicians, institutes will be established at various locations in the country particularly for training Licensed Aircraft Maintenance Engineers (LAME). LAMEs will hold licenses with maintenance authorities at B1 or B2 level (Aerospace or Avionics). These maintenance engineers (LAMEs) shall be responsible for 'signing off' on all aircraft maintenance, routine or emergency, as airworthy.

Over and above, PCAA shall also facilitate an Aviation Institute/University duly recognized by Higher Education Commission (HEC) by offering available land at various airports in Pakistan at subsidized lease/license rates i.e. 50% of the standard rates. It could train and educate candidates in the disciplines of aircraft engineering, flying, air traffic control, aerospace, information technology and aviation business management. The university shall award, certification, diplomas and degrees as per recognized and approved curriculum and duration of course. HEC and PCAA may be involved in authorization of recommended courses.

Aviation institutes and universities will be encouraged to conduct Research and Development (R&D) so as to bring the industry and the academia in closer collaboration. R&D will help the institution while the industry will also benefit from the research conducted. Internships, scholarships and collaborated Training and Education Needs Assessment (TNA) as well as syllabi and curricula adaptation to the industry needs should be a regular feature between the institutions (academia) and the aviation industry.

PCAA shall offer their employees an opportunity to attend short courses abroad. It would not only improve their vision but shall also give them exposure/understanding for ongoing developments in the aviation industry.

Regulators and service providers shall be trained and qualified from reputable institutions abroad. On their return from overseas, they would be detailed to train other inspectors to enhance the overall skill and knowledge base of the regulators.

The DG CAA shall be the final authority for the administrative and financial approval of all essential foreign courses, conferences, seminars and workshops pertaining to safety and professional efficiency.

Train-the-trainer programs shall be initiated in all departments of civil aviation and the same may be offered to aviation operators. Foreign qualified and competent trainers shall train other employees. It would help to spread dissemination of knowledge and learning. Privately held aviation institutes and universities should also be engaged in enhancing knowledge base of all the aviation stakeholders, wherever deemed appropriate and plausible.

Aerospace Maintenance and Regeneration Group (AMARG), in Tucson, Arizona, is the world's largest cemetery of planes and houses a collection of over 4,000 retired aircraft including nearly every plane the US armed forces have flown since the Second World War.

Chapter 8

GREEN AVIATION ENVIRONMENT



Worldwide, forecasts predict 3.6 billion passengers will fly in 2016. Without intervention, in all probability a significant escalation in harmful jet engine emissions, unprecedented traffic jams in the sky and nonstop noise near airports will make more citizens unhappy about the effects on their health and their quality of life.

Growth in Pakistan's aviation and its effect on the environment is an important aspect to consider. In order to reduce or possibly eliminate as much potential harm to the environment as possible and make air travel as efficient and economical as it can be, the Government and the industry must work together for a number of environmentally beneficial, or "green" aviation initiatives. These initiatives are stipulated below:

- a. PCAA shall regulate aviation sector to minimize adverse impact of aviation related CO₂ and other harmful emissions and noise pollution.
- b. ICAO guidelines shall be followed to develop a roadmap for tackling issues of CO₂ emissions.
- c. Quieter and fuel efficient aircraft shall be inducted as per specification stipulated in the relevant ANO and 12 years age limit of aircraft induction shall be enforced.
- d. Viable substitution of existing fuels, i.e., biofuels shall also be explored.
- e. Low carbon modes of transportation to access airports shall be developed and promoted.
- f. Water recycling and solid waste recycling plants shall be developed by outsourcing or by a suitable PPP model at major airports.
- g. Solar, wind power and rain water shall be harnessed for airports to cater for at least 5% of the requirement.
- h. Landscaping and green belt cultivation shall be encouraged.
- i. As far as possible, paper-less aviation environment shall be encouraged and implemented.
- j. Coordination between civil and military aviation authorities with respect to Flexible Use of Airspace (FUA) shall be implemented and enhanced/improved to shorten ATS routes and optimize flight profiles in terminal areas, thereby saving fuel, enhancing capacity and reducing carbon emissions.

"Some of us have great runways already built for us. If you have one, take off. But if you don't have one, realize it is your responsibility to grab a shovel and build one for yourself and for those who will follow after you." Amelia Earhart

Chapter 9

CONSUMER PROTECTION



Following aspects shall be the guidelines for implementation of economic oversight for consumer Protection.

- a. PCAA shall ensure transparent economic oversight for the protection of aviation consumer.
- b. There shall be no discrimination in application of charges.
- c. For the application and revision of charges, ICAO guidelines given in DOC 9082 would be followed. The infrastructure constraints at some of our airports result in aircraft parking problems and congestion in passenger lounges, baggage/cargo handling areas and land side parking/traffic areas. This could lead to administrative, operational and security related issues. This problem can be partially resolved by introducing variable charges at these airports to stagger the flights evenly over a period of 24 hours for optimum utilization of airports. Aeronautical charges will be reviewed periodically on the basis of peak and off peak periods.
- d. PCAA shall ensure that there should be no overcharging and abuse of dominant position.
- e. Airports shall start web based reporting to present a full picture of the quality of experience and charges passengers can expect at their airports.
- f. Economic oversight at PCAA shall also ask all airlines to submit data on a monthly basis, very similar to Air Travel Consumer Report (ATCR) in the United States.
(<http://www.dot.gov/airconsumer/air-travel-consumer-reports>)
- g. The above report (submitted regularly and posted on the web) shall assist consumers with information on the quality of service provided by the airlines. Delays, lost baggage record, customer complaints, technical delays and cancellation of flights, safety violations, etc. of all airlines shall be monitored and displayed online for information of all consumers. Based on identified parameters airlines' rating system for consumers may also be adopted.
- h. Reports like those collected and analyzed by Research and Innovative Technology Administration (<http://www.rita.dot.gov/bts/>) shall also be developed and hosted.
- i. Similarly, Service Difficulty Reports as hosted at <http://www.ire.org/nicar/database-library/databases/faa-service-difficulty-reports/> shall also be developed.

D-Check is by far the most comprehensive and demanding check for any airplane. It is also known as a Heavy Maintenance Visit (HMV). This check must be performed approximately every 5 years and may take over two months and may cost about a million USD.

Chapter 10

CONCLUSION



The National Aviation Policy (NAP-2015) was formulated after getting inputs from all willing-to-contribute stakeholders and professionals in the industry. Due deliberations, discussions, reviews and comments were also received from aviation business consultants and aviation management academicians from both national and international fora.

The impact of liberalization, open skies, tax and other pertinent strategic policy decisions has also been analyzed by a team of world-renowned consultants. Their tacit recommendations for Pakistan are substantiated with pertinent examples and analysis of policy decisions from other countries of the world. The results clearly display statistical significance and relevance to Pakistan, and such bold policy decisions must be favorably considered for long term, sustainable economic growth and prosperity of Pakistan.

Further periodic reviews of NAP-2015 shall follow to ensure optimal strategic direction for sustained growth of all identified segments of the aviation industry. Implementation and timely audits will also ensure on track navigation as we move forward with greater safety and security to be an efficient, dynamic and result oriented industry. Customer centric, user-friendly and forward looking aviation business is what NAP-2015 aims to achieve.

Wherever possible and feasible, all relevant and pertinent information, application forms, customer complaints/suggestions, etc. shall be web-based, online systems / web portals. A professional team of IT specialist shall be engaged by PCAA to ensure timely updates, availability of pertinent information and user-friendliness of web portal for all stakeholders.

The implementation of NAP-2015 shall be the responsibility of DG CAA. This supersedes all other previous policies on the subject.

An action plan (not attached to this document) is a comprehensive list of action items contingent on NAP-2015 that must be accomplished in a timely manner. Action items may be grouped into projects. Office of Primary Responsibility (OPI) for each project shall be designated. The OPI will be headed by a Change Implementation Leader who will be an Accountable Manager with authority and responsibility. Budget requirements, completion phases, allocation of resources and contingency plans are to be submitted by OPI within one month from the date of assignment.

Action Plan audit shall also be done by a team of professionals and Subject Matter Experts (SMEs) after each phase of the planned completion of the identified projects with each OPI.

For years politicians have promised the Moon. I'm the first one to be able to deliver it.
— Richard Nixon, 1969.

GLOSSARY OF TERMS



Air Service

Air Service means any scheduled air service performed by aircraft for the public transport of passengers, mail or cargo.

Aircraft

For the purpose of this document, aircraft shall include all fixed and rotary wing aircraft as well as lighter than air vehicles (balloons).

ANF

The Anti-Narcotics Force is deployed at all major airports in the country. The force acts under the Control of Narcotic Substances Act 1977.

ANO

The Air Navigation Order: Secondary legislation covering legal requirements under which Pakistan registered aircraft/airlines operate; providing that operating permits should be required for foreign airlines operating commercial services (scheduled and charter) to Pakistan and setting out the grounds on which permits may be refused and the penalties levied for infringements of the ANO.

AOC

Air Operator Certificate: AOC is the key link to safety oversight. It attests an airline's competence as to its safe operation, and it determines who is responsible for an airline's safety oversight. In Pakistan it is the Flight Standard Directorate of the Pakistan Civil Aviation Authority. An AOC is one of the criteria required in order for the PCAA to grant an operating license.

ASA

Air Services Agreement: A treaty containing bilaterally-agreed legal framework upon which scheduled air services may operate. This is negotiated by the Government with other governments on a bilateral basis.

ASF

Airport Security Force: A special force deployed for the security of all major airports.

ASK

Available Seat Kilometers. It is calculated by multiplying available passenger seats and kilometers flown.

CAA (PCAA)

Civil Aviation Authority: Pakistan Civil Aviation Authority is abbreviated PCAA. It is Pakistan's aviation safety and economic regulator.

CATI

Civil Aviation Training Institute located in Hyderabad.

Capacity

The frequency of flights or number of seats which the designated carriers of each side are permitted to operate. These arrangements are usually set out in the Memorandum of Understanding (MoU) and can involve a stated limit on capacity, an agreed step increase in capacity or another formula for covering the need for future growth in capacity.

I've never known an industry that can get into people's blood the way aviation does.

— Robert Six, founder of Continental Airlines.

Charter

A non-scheduled flight operated according to the national laws and regulations of the country being served, as provided for in Article 5 of the Chicago Convention. A flight on which all (or almost all) the capacity which is occupied by passengers or cargo has been sold to one or more charters for resale.

Code Sharing

An increasingly common marketing device whereby an airline places its designator code on a service operated by another airline. When selling a service, the marketing carrier is required to tell passengers that the service will be operated by another carrier.

Coterminalization

The right to serve two or more specified points in the territory of a party to an air-transport services agreement on the same flight, provided these points are contained in the same route. If two or more separate routes are granted, the right to coterminalize points on separate routes must be specifically established.

Dangerous Goods

It covers articles or materials capable of posing significant risk to people, health, property, or environment when transported in quantity. It includes items of common use, such as aerosol cans, perfumes, and paints.

Designation

Designation is a nomination by a state of the airline or airlines to operate a particular route. The bilateral partner can be informed of the nomination by letter, diplomatic note or inclusion of the details in an Memorandum of Understanding (MoU) / Agreed Record.

Multiple Designation

Arrangements permit an unlimited number of scheduled carriers to operate. Dual designation allows only two carriers from each side to operate and single designation permits only one carrier from each side to operate.

Flight Frequency

Flight Frequency is defined as the number of scheduled flights operated during a period of time (e.g. daily, weekly, monthly, or yearly).

Flight Punctuality

For air traffic, airport flow management and benchmarking purposes flight punctuality is expressed in percentage of flights delayed less than 15 minutes during a specified period (e.g. weekly, monthly or yearly). For purposes of determining airline efficiency, force majeure flight delays not attributable to the airline are excluded.

Flight Regularity

Flight Regularity is defined as the percentage of scheduled flights operated (flown) during a specified period of time (e.g. daily, weekly, monthly, or yearly). For purposes of determining airline efficiency, force majeure flight cancellations not attributable to the airline are excluded.

Flying Club

For the purpose of this document, a Flying Club is any PCAA approved Flying Training Organization (FTO).

Hughes H-4 Hercules with a wing span of 322 feet, is the largest seaplane ever built – and it is made from birch wood!

Freedom of the Air

(These definitions relate to aircraft registered in state A):

1st freedom

The right to flight over state B without commercial or technical stops.

2nd freedom

The right to land in state B for technical purposes, e.g., refueling.

3rd freedom

The right to set down traffic from state A in state B.

4th freedom

The right to pick up traffic in state B destined for state A.

5th freedom

The right to pick up traffic in state B destined for state C or disembark traffic in state B originating in state C.

6th freedom

Taking passengers between states B and C but flying via state A.

7th freedom

Service between state B and state C operated by airline of state A "free-standing fifth freedom".

8th freedom

Cabotage: domestic services in one country operated by a carrier of another country.

Greenfield Airport

Greenfield Airport means a new airport which is built from scratch in a new location because the nearby airport is either unusable/non-existent or is unable to meet the projected requirements of traffic.

ICAO

International Civil Aviation Organization: A United Nations body formed in December, 1944 under the auspices of the Chicago Convention with the objectives of developing the principles and techniques of international air navigation and fostering the planning and development of international air transport so as to: ensure safe and orderly growth of international aviation throughout the world; encourage the arts of aircraft design and operation for peaceful purposes; encourage the development of airways, airports and air navigation facilities for civil aviation; meet the needs of people of the world for safe, regular and efficient and economical air transport; prevent economic waste caused by unreasonable competition; ensure the rights of states are respected; avoid discrimination between states; and promote the safety of flight. Detailed standards and recommendations are included in the Annexes to the Convention, e.g., Annex 6 on safety and Annex 9 on "facilitation" (customs, immigration, security checks, etc).

Interlining

Changing at an intermediate point on a journey from one aircraft to an aircraft of a different airline but without any sharing of the airline codes. Compare code sharing.

Aeronautics was neither an industry nor a science. It was a miracle. — Igor Sikorsky

Lease

A wet lease is a leasing arrangement whereby one airline (lessor) provides an aircraft, complete crew, maintenance, and insurance (ACMI) to an airline or other type of business acting as a broker of air travel (the lessee), which pays by hours operated. The lessee provides fuel and covers airport fees, and any other duties, taxes, etc. A dry lease is a leasing arrangement whereby an aircraft financing entity provides an aircraft without insurance, crew, ground staff, supporting equipment, maintenance, etc. Dry lease is typically used by leasing companies and banks, requiring the lessee to put the aircraft on its own AOC and provide aircraft registration. A dry lease arrangement can also be used by a major airline and a regional operator, in which the regional operator provides flight crews, maintenance and other operational aspects of the aircraft, which may be operated under the major airline's name or some similar name. Damp lease is an arrangement where the lessor provides the aircraft, flight crew and maintenance but the lessee provides the cabin crew is sometimes referred to as a damp lease.

Limit of Validity (LOV)

LOV is a maintenance precept that is established on the basis of Widespread Fatigue Damage (WFD) considerations; it is intended that all maintenance actions required to address fatigue, corrosion, and accidental damage up to the LOV are identified in the structural-maintenance program.

NDB

NDB is a Non-Directional (radio) Beacon. It is a radio transmitter at a known location, and is used as a navigational aid.

Open Skies

Open Skies is an international policy concept that calls for the liberalization of the rules and regulations of the international aviation industry - especially commercial aviation - in order to create a free-market environment for the airline industry. Its primary objectives are:

- a. To liberalize the rules for international aviation markets and minimize government intervention as it applies to passenger, all-cargo, and combination air transportation as well as scheduled and charter services.
- b. To adjust the regime under which military and other state-based flights may be permitted.

For open skies to become effective, a bilateral, and sometimes multilateral, Air Transport Agreement must be concluded between two or more nations.

Operating License

Granted by the Civil Aviation Authority, the operating license attests to the competence of an airline to operate air services. The criteria for granting a license, covered by PCAA Rules on Licensing of Air Carriers, relate principally to the place and nature of business; nationality of ownership and control; adequacy of financial resources; the holding of an Air Operator's Certificate; fitness; and passenger and third party insurance.

Operating Permit

A permit issued allowing a carrier to operate a service to Pakistan. Permits are required for scheduled and non-scheduled passengers, cargo and combi services where these services are operated for reward. Empty flights to position aircraft or for aircraft maintenance and flights operated on a non-commercial basis (e.g., a corporate-owned aircraft flying company members) does not require permits. Pakistani airlines similarly need to seek permits from the aviation authorities of the country to which they wish to operate.

The North American X-15 holds the world's fastest manned flight record to this day. Its maximum speed reached an astonishing Mach 6.7 or 7,274 km/h (4,520 mph).

Predatory Fare or Price

A below-cost fare set by an airline with the intention of forcing competitors out of the market.

Route

The permitted points to or through which a carrier may fly under the bilateral arrangements with third/fourth freedom traffic rights. It is usually contained in the route schedule/annex to an ASA but amendments to the route may be set out in subsequent exchanges of notes.

RPK

Revenue Passenger Kilometers. It is calculated by multiplying revenue passengers and kilometers flown.

RPM

Revenue Passenger Miles. It is calculated by multiplying revenue passengers and statute miles flown.

Scarce Capacity

Where bilateral restrictions prevent Pakistani airlines from operating all of the services they plan to provide. The PCAA will allocate scarce capacity between competing Pakistani airlines.

Scheduled Service

An air service operated on a regular basis by a carrier in accordance with a published timetable or with flights so regular or frequent that they constitute a recognizably systemic series. International scheduled service requires bilateral agreement to operate by virtue of Article 6 of the Chicago Convention.

Supplementary Inspection Document (SID)

A supplementary maintenance schedule intended to be used after the aircraft reaches a specified number of flights or hours. SIDs provide additional maintenance and inspections to ensure the continuing airworthiness of ageing aircraft.

Supplementary Inspection Program (SIP)

Supplementary Inspection Programs (SIPs) are used to ensure the continuing airworthiness of ageing aircraft. Maintenance becomes more complex as an aircraft increases in age. Additional maintenance is required in areas where experience has shown fatigue or environmental degradation to be greater than predicted.

Tariff

The price charged for the public transport of passengers, baggage and cargo (excluding mail) on scheduled air services, including the conditions governing the availability or application of such price and the charges and conditions for services ancillary to such transport.

VOR

VHF Omni Directional Radio Range (VOR) is a type of short-range radio navigation system (using Very High Frequency, VHF) enabling aircraft with a receiving unit to determine their position and stay on course by receiving radio signals transmitted by a network of fixed ground radio beacons.

Widespread Fatigue Damage (WFD)

WFD is fatigue damage in a structure (aircraft or engine) to the extent that the structure no longer meets its damage tolerance requirements. WFD looks for the presence of cracks of a sufficient size and density in a structure, to the extent that it can no longer maintain the structure's required residual strength.

The reason birds can fly and we can't is simply that they have perfect faith, for to have faith is to have wings. — Sir James Matthew Barrie

CATEGORIES OF ROUTES

1. Trunk Routes

Routes between any two of the following cities would form a Trunk Route:
Karachi, Lahore, Islamabad, Peshawar and Quetta.

2. Primary Routes

Air link with the following destinations would form a Primary Route:
Multan, Faisalabad, Sukkur, Sialkot, D.G. Khan, Rahim Yar Khan, Bahawalpur and Nawabshah.

3. Secondary Routes

Air link with the following would form a Secondary Route:
Skardu, Mohenjo-daro, Zhob, Saidu Sharif, Dalbadin, Bannu, Parachinar, Sehwan Sharif, D.I. Khan, Hyderabad, Ormara, Khuzdar, Rawalakot, Muzaffarabad, Chitral, Gilgit, Panjgur, Gwadar, Turbat, Jiwani, Pasni, Jacobabad and Mirpur Khas.

4. Socio-Economic and Socio-Political Routes

While Socio-Economic routes comprise selected Primary and Secondary routes, the Socio-Political routes (where political integration is the prime objective) are a subset of the Secondary routes and include: Gwadar, Turbat, Panjgur, Khuzadar, Dalbandin, Zhob, Rawalakot, Skardu, Chitral, Gilgit, Bannu, Parachinar and Muzaffarabad.

Annexure-B NAP-2015

PAID-UP CAPITAL

The paid-up capital (free of losses) for various types of licenses shall be as under:

LICENSE	CLASS / CATEGORY	PAID-UP CAPITAL
Regular Public Transport (RPT)	Passengers & Cargo	Rs. 500 Million
Charter Domestic	Class-I	Rs. 25 Million
Charter Domestic	Class-II	Rs. 50 Million
Charter International	Class-I	Rs. 25 Million
Charter International	Class-II	Rs. 50 Million
Aerial Work Domestic	Class-I	Rs. 13 Million
Aerial Work Domestic	Class-II	Rs. 25 Million
Aerial Work International	Class-I	Rs. 13 Million
Aerial Work International	Class-II	Rs. 25 Million
Flying School	Class-I	Rs. 13 Million
Flying School	Class-II	Rs. 25 Million
Ground School	N/A	Rs. 13 Million







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