

**REPORT**

**AIR TRANSPORT SYMPOSIUM**

**Abuja, Nigeria, 28 – 30 April 2008**

## 1. OPENING SESSION

1.1 The Air Transport Symposium, which was held at the ECOWAS Parliament, International Conference Centre, Abuja, commenced with an introduction by Captain Edward Boyo, Moderator of the Symposium.

1.2 Dr. Harold O. Demuren, Director General, Nigerian Civil Aviation Authority, welcomed the participants to the Symposium and expressed his deep appreciation to ICAO for giving Nigeria the opportunity to host the Symposium. Dr. Demuren went on to say that this gesture was an indication of ICAO's commitment and support for Nigeria and Africa towards ensuring safe air transportation and sustainable growth for the African aviation industry. Dr. Demuren pointed out that liberalisation has brought tremendous growth to the air transport industry in terms of improved services, better choices and competitive fares for the customers, wider route networks for the airlines, increase in aircraft movement and passenger traffic as well as encouragement of public/private partnership, amongst others. In this regard, the Nigerian Government strongly supported the full implementation of the Yamoussoukro Principles, as contained in the Yamoussoukro Declaration and driven by the Yamoussoukro Decision, as the driver of a profitable air transport industry.

1.3 In his opening remarks, Mr. Roberto Kobeh Gonzáles, President of the ICAO Council, thanked the Nigerian Civil Aviation Authority on behalf of the Council of ICAO for hosting the Symposium. He expressed gratitude to the Government of Nigeria for its long-standing cooperation and ongoing support of ICAO's work over the years. Mr. Kobeh observed that the objective of the Symposium was twofold in that it served to introduce participants to the latest developments in ICAO's work, and provided a forum to address current issues of interest to the aviation community. He further stated that air transport in Africa holds tremendous potential for growth and economic development by fostering trade and foreign investments, and that it should be fostered through the progressive, systematic and harmonized liberalization of the air transport sector throughout Africa, as captured by the Yamoussoukro Decision of 1999. While emphasising the need for safety in aviation as a paramount consideration which went to the heart of the mission of ICAO, the President of the Council observed that Africa is demonstrating political will and determination in creating a sound air transport industry and infrastructure and that it recognizes the tremendous economic and social benefits for improving the well-being of every African citizen, whilst opening up the world to Africa, and Africa to the world.

1.4 The President of the ICAO Council also alluded to ICAO's work in airports and air navigation services economics and encouraged all participants to attend the Conference on the Economics of Airports and Air Navigation Services (CEANS) from 15 to 20 September 2008 in Montreal. Finally, he underscored the growing importance of environmental protection from the perspective of aircraft engine emissions and noise and briefed the Symposium on recent work carried out by ICAO in this area.

1.5 Mr. Saud Hashem, Chairman, Air Transport Committee of ICAO and Representative of Saudi Arabia on the ICAO Council, briefed the participants on the work of the Air Transport Committee, observing that the Committee had served the Council in its decision-making process ably and with competence for the past 61 years. Mr. Hashem also underscored the importance of implementing the Yamoussoukro Principles, stating that one of the strengths of the Yamoussoukro Decision was that it addressed safety and security both directly and indirectly in its provisions which were consistent with global initiatives carried out through ICAO. Mr. Hashem concluded that he was glad to note the initiatives being taken in Africa to strengthen safety, security and sustainability of air transport, all of which were essential to a liberalized regional air transport system.

1.6 Mrs. Folasade Odutola, Director, Air Transport Bureau of ICAO, in providing participants with an overview of air transport activities of ICAO, outlined the aims and objectives of

ICAO in the air transport field, the Mission and Vision Statements of the Organization as well as its Strategic Objectives which drove the ICAO Business Plan. Mrs. Odotola highlighted the fact that, in the air transport field her Bureau was directly involved with two of the Strategic Objectives which respectively relate to enhancing aviation security and reducing the adverse effects of aviation on the environment. She also pointed out that the Air Transport Bureau provided input to other Bureaux and offices with regard to other Strategic Objectives concerned with safety, efficiency of operations as well as continuity, and administered cooperation with regional civil aviation organizations.

1.7 Chief Guest, the Honourable Mr. Felix Hassan Hyat, Minister of State for Air Transport, Nigeria, in formally opening the Symposium, welcomed participants to Nigeria and wished them successful and rewarding deliberations.

## **2. SESSION ONE – ECONOMIC REGULATION AND LIBERALIZATION OF INTERNATIONAL AIR TRANSPORT (MODERATOR: DR. O.B. ALIU)**

### **2.1 Global overview of air transport liberalization**

2.1.1 The first session commenced with a presentation by ICAO of the global overview of air transport liberalization, where global trends at the national, bilateral, regional and multilateral levels were examined. The presentation, in examining the various commercial and regulatory arrangements in air transport, identified opportunities as well as issues and challenges facing States and the aviation industry, such as the influence of the world economy, the continuing upward trend in fuel prices, and the treatment of air transport services under the trade regime through the World Trade Organization. Other challenges include: a growing trend of air service negotiations involving a group of States; the need to liberalize air carrier ownership and control; the need to ensure participation of all States in the world's air transport system, fair competition and protection of consumer interests. Attention was also drawn to the need for a harmonious balance between the development of air transport and protection of the environment from its adverse effects

2.1.2 The presentation concluded by describing ICAO's new focus in its work, i.e. to facilitate, promote and assist States in the liberalization process and by providing information on its policy and guidance material in this field.

### **2.2 The African experience in air transport liberalization and challenges in liberalization**

2.2.1 The ensuing panel discussion – on the African experience in air transport liberalization and challenges - focused on the importance of implementing the Yamoussoukro principles as well as liberalizing markets in Africa. One of the ideas expressed was that the airline industry of Africa was unique and that markets should not be opened arbitrarily. Furthermore, it was claimed that absolute liberalization should not be introduced in Africa in the nature of open skies unless done gradually, allowing carriers to adjust to change and become profitable. Another view expressed was that the implementation of the Yamoussoukro principles should go hand in hand with enhanced training programmes and infrastructure development. Yet another was that in liberalising African air services, countries should aim for a common (or at least coordinated) legal and regulatory framework. This would ensure that the drive for liberalisation is felt across the whole Continent. The Panel noted that, while at the sub-regional level, several groupings of States had taken steps to materialize the Yamoussoukro conceptual framework within the context of regional integration, at the national level, several States had moved to liberalize domestic air transport markets and also relax restrictions on international air services.

2.2.2 On the subject of liberalization, the Panel discussed the merits of minimizing State control over the industry – including fewer restrictions on fifth freedom traffic rights, frequency of flights,

capacity, tariffs and on the number of designated carriers – and placing greater emphasis on allowing the working of market forces. There was also discussion on airline ownership rules to the effect that they should be progressively relaxed and state-owned airlines should be freed from political interference over the company management.

2.2.3 During the Panel discussions, the African Civil Aviation Commission (AFCAC) delivered a presentation which detailed the nature and work of AFCAC, its status as an agency of the African Union charged with matters of civil aviation in Africa, and its role as the Executing Agency for the implementation of the Yamoussoukro Principles. There was also a presentation by the South African Development Community (SADC) which outlined the African aviation market, SADCs work in the implementation of the Yamoussoukro Principles, the economic benefits of liberalizing the South African aviation market and sub regional cooperation on aviation issues in Africa.

2.2.4 With respect to the challenges facing States and the industry, some issues of particular interest to African States were identified, such as bloc negotiations, implications of the US/EU open skies agreement of African States, liberalization of ownership and control, the need for fair competition and constraints on the implementation of air services agreements.

2.2.5 The Panel concluded that efficient air transport will stimulate demand both in terms of destinations and number of flights, improve customer service, offer more competitive fares and encourage tourist traffic. This will facilitate the emergence of profitable regional airlines and the integration of the African States.

2.2.6 Finally, the Panel agreed that due to the inherent characteristics of air transport, of being a public utility on the one hand and of being confronted with the danger of over regulation on the other, it requires a delicate balance between untrammelled competition and suffocative regulation. While the first approach may give rise to the usual free market inhibitors such as airport, airway and runway congestion, the other approach may ground to a halt the services that may provide air transport commensurate with the demand.

## **2.3 Implications of economic liberalization on safety/security regulation**

2.3.1 The panel discussion was followed by a presentation by ICAO on the relationship between liberalization and safety/security regulation based on an ICAO study. The basic theme of the presentation was that while liberalization per se does not necessarily affect safety or security adversely, States and the aviation industry must have a clear understanding of the relationship between the two, and their respective responsibilities for safety and security compliance and oversight. The presentation emphasised the paramount importance of safety and security in air transport development, particularly in an increasingly liberalized environment.

2.3.2 The Presentation was divided into four parts: the background of the Study, which was requested by the 5th Worldwide Air Transport Conference of ICAO (ATConf/5) held in March 2003; findings of the Study; conclusions of the Study; and an update of ICAO's recent work. One of the significant features of the presentation was the discussion of some complex situations which could lead to difficulty in identifying the line of responsibility for safety oversight amongst the parties involved, such as transfer of aircraft registration to other countries, transfer of aircraft or operation under leasing arrangements involving multiple parties, cross-border airline mergers or acquisition.

2.3.3 Complementing the ICAO presentation, a brief presentation was also made by the Federal Aviation Administration of the United States (FAA), which shared with participants the FAA's views on the safety oversight situation in Africa in the liberalization process.

2.3.4 The Symposium recognized that the pre-eminent objective in air transport must be to ensure aviation safety and security across Africa and, to this end there must be a concerted effort on the part of African States to improve safety and security. It was also recognized that oversight functions on the implementation of rules and regulations should be exercised independently from commercial interests and that there should be a common platform for cooperation at regional and sub-regional level. Also, airlines and other service providers must cooperate to have a common base in terms of ensuring safety and security.

## 2.4 Essential air service and Tourism Development Route (ESTDR) Scheme

2.4.1 The ICAO Secretariat delivered a presentation based on an ICAO Study which was considered to be of particular interest to African States. The presentation was in four parts: Background of the Study; the characteristics of the ESTDR scheme; its modalities and application; and conclusion. The Study is based on the premise that aviation is an economic catalyst and therefore should assist tourist destinations in promoting tourism.

2.4.2 Participants were advised that the study was carried out in collaboration with the World Tourism Organization (UNWTO), and arose from the work of the fifth Worldwide Air Transport Conference (ATConf/5). It sought to develop a regulatory scheme that could be used at States' discretion for granting financial support and/or regulatory assistance to airlines on international routes that may be considered essential air services (EAS) or for essential tourism development routes (ETDR) especially to Least Developed Countries (LDCs).

2.4.3 Of particular relevance to African States was the fact that the study developed an Essential Service and Tourism Development Route (ESTDR) scheme by applying the modalities of existing EAS schemes internationally. Participants noted that in the case of an EAS concept, the application of an ESTDR scheme would need to be in a liberalized or liberalizing environment. In the case of an ETDR concept, its application need not be so limited. In principle, therefore, the entire mechanism and process of an ESTDR scheme should be transparent, accountable, non-discriminatory, sufficiently flexible and, as far as possible, market-oriented to minimize the market distortion and enhance airlines' efficiency incentives. African States were encouraged to make use of this scheme according to their specific needs and situation.

## 2.5 Conclusions of Session 1

2.5.1 Based on its discussions of the subjects covered in the first session, the Symposium arrived at the following conclusions:

- a) Liberalization of air transport is here to stay and is a conduit to achieving a privatized, autonomous, commercialized and competitive air transport industry. Liberalization should be in keeping with global trends;
- b) Liberalization of air transport should not result in gaps in safety oversight. States must clearly identify their accountability for safety and establish effective safety oversight systems;
- c) Liberalization of air transport, private partnership in commercial aviation and globalization are the key drivers of progress in air transport;
- d) Full implementation of the Yamoussoukro Decisions (YD) is important for African States. The YD is being implemented through Regional Economic Communities (RECs) in order to quicken harmonization at regional level;

- e) In the Yamoussoukro implementation process, infrastructure development, harmonization of principles of competition, safety and security of aviation and human resource development and management and competency enhancement should be enhanced;
- f) Implementation of the Yamoussoukro Principles could be further enhanced by: formally establishing the Executing Agency with applicable rules; establishment of competition rules; correcting institutional deficiencies and utilizing the potential offered by regionalization and regional aviation organization;
- g) Focus should be on implementation, and, to this end, States should prepare for the anticipated traffic growth as a result of increased liberalization;
- h) The identification of essential air routes is a tool that would assist the liberalization process;
- i) The possibility of achieving a suitable balance between the operation of air Services by airlines which have large markets and those that have small markets should be a key consideration in the liberalization process;
- j) Consumer rights and the adverse effects of aviation on the environment should also be key considerations in the liberalization of the air transport industry;
- k) Some other considerations that would assist in the liberalization process are:
  - 1. The merits of opening up liberalization among States comprising the “club of the ready and willing”;
  - 2. The need to request AFCAC to put together an action plan for the implementation of the Yamoussoukro Principles;
  - 3. Involvement of African airlines as part of the liberalization process;
  - 4. The undertaking of a study that would demonstrate how far liberalization of air transport would help African States;
  - 5. Progressive elimination of national ownership and control restrictions is necessary to free up the industry; and
  - 6. The need for ICAO to retain its position as the global forum for civil aviation and assist African efforts at liberalization with its fullest support.

### **3. SESSION TWO: MANAGEMENT AND ECONOMICS OF AIRPORTS AND AIR NAVIGATION SERVICES (MODERATOR: DR. N. ZAIDI)**

#### **3.1 Trends and developments since the Conference on the Economics of Airports and Air Navigation Services (ANSCConf/2000)**

3.1.1 A presentation was delivered by the Nigerian Civil Aviation Authority on trends and developments of commercialization and privatization of airports and air navigation services in Africa. The Symposium was advised of major developments since the ICAO Conference on the Economics of

Airports and Air Navigation Services held in 2000 (ANSConf2000). The presentation focused on ownership, governance and control, trends in commercialization and privatization, performance measurement and benchmarking, implementation of ICAO's policies and challenges faced by African airports and air navigation services. It also shared the experience of Nigeria in this field, both achievements and challenges.

### **3.2 ICAO policies on charges for airports and air navigation services**

3.2.1 The Symposium then heard an ICAO presentation which focused on key principles of ICAO policies on charges, including performance measurement and benchmarking, cost recovery of airport security measures and balance of interest between airports/air navigation services providers and users, as well as status of the policies. It gave participants a comprehensive review of ICAO Council policy on charges and taxes; relevant ICAO documents containing such policies; the various provisions of the Convention on International Civil Aviation relating to charges and Assembly Resolutions; and privatization of airports and air navigation services providers. The presentation also covered the effects of liberalization on airports and air navigation services providers; airports and air navigation services charges; security charges; charges for the conduct of search and rescue operations; noise related charges and fuel consumption fees.

3.2.2 The Symposium discussed various issues arising from the subjects covered in the presentations, revolving mainly around forms of private participation in airports and air navigation services providers and the best approach for these entities.

3.2.3 Noting that revenue and investment management is a key concept which has pervaded the air transport industry participants were of the view that both airports and air navigation services need to consider issues involving commercialization or privatization in order to manage their revenues and investments. It was concluded that, along with the burgeoning need for an increase in airport capacity to accommodate the demand for increasing air transport capacity comes the issue of proper fiscal management of income derived by airports and air navigation services providers, and that intrinsic to the issue of revenue and investment management are considerations of cost pricing, liability and duties imposed upon a commercialized or privatized entity, which in turn have to be managed if successful revenue and investment management were to be accomplished.

3.2.4 The Symposium was of the view that one of the pre-eminent issues was the consideration of the dichotomy of the dual till separation of aeronautical and non aeronautical revenues derived by airports and air navigation services providers as against the single till which goes to centralize the incomes as a basis for setting charges for aeronautical services rendered to airlines. It was agreed that both airports and air navigation services need to consider issues involved in privatization and attendant liability in order to manage their revenues and investments. Intrinsically, an examination of appropriate cost pricing and revenue allocation has to be a starting point for such a discussion.

3.2.5 Another significant area of discussion was performance of airports and air navigation services providers. In this regard the Symposium noted that airports, particularly of developing nations, have attracted significant private sector investment in the past 20 years, in spite of the grave financial risks involved. However, it was more recently, in the 1990s, that there emerged a growing trend which increasingly encouraged governments to turn to the private sector for assistance in strengthening and stabilizing efficiencies in the provision of airport infrastructure services. It was also noted that the overall objective of governments when leaning toward the private sector was to salvage assets, provide a more efficient service and obviate governmental interference in tariff and investment policy decisions. Of particular interest to African states is that at present, the trend toward private investment in airports is facilitated by the globalization and liberalization of the world economies which have led the ownership and management of airports to undergo significant changes.

3.2.6 It was agreed that there was a compelling need in Africa for human resource management and training, along with infrastructure development in order to improve the performance of airports and air navigation services providers. The meeting was advised that ICAO and ACI have jointly developed the Airport Management Professional Accreditation Programme (AMPAP) which could be useful for African States.

### 3.3 **Key Issues and the Conference on the Economics of Airports and Air Navigation Services (CEANS-2008)**

3.3.1 A presentation was delivered by ICAO on the key issues to be discussed at CEANS 2008, which will be held at ICAO Headquarters from 15 to 20 September 2008. Participants were advised that the fundamental purpose of the conference was to learn from the experiences of the commercialization and privatization process that has developed over the past 8 years and further develop and refine the policies involved. Participants were advised that, in particular, CEANS is expected to enhance and strengthen cooperation between providers and users, through improved policies on consultation with users.

3.3.2 The African Civil Aviation Commission (AFCAC) advised that, at the upcoming meeting of the Air Transport Committee of the AFCAC Bureau, to be held in Antananarivo, from 3 to 6 June 2008, discussions would involve the development by AFCAC members of a common African position with regard to subjects covered by CEANS.

3.3.3 Participants were also advised by ICAO that CEANS would be immediately preceded by a pre-conference symposium to take place in Montréal on Sunday, 14 September 2008, the theme of which would be "*Challenges for Airports and Air Navigation Services*". Eminent leaders in the aviation industry have been invited to lead stimulating discussions at the Symposium. The intent of the Symposium is to set the scene and to focus on some key issues to be addressed by CEANS, enabling delegates, in an informal setting, to obtain information and clarification regarding these issues. The Symposium will serve as an integral building block for the discussions of CEANS but will procedurally be conducted as an independent event.

### 3.4 **Conclusions of Session 2**

3.4.1 The Symposium arrived at the following conclusions:

- a) some States in Africa have a compelling need to have alternate airports and ICAO guidance on the establishing and running of such airports would be helpful;
- b) airport and air navigation services charges should be imposed strictly according to ICAO guidelines;
- c) States should focus on benefiting from the joint ICAO and ACI AMPAP program and should consider hosting the programme in Africa;
- d) in the corporatizing of air navigation services the following are important:
  - 1) There is a need for a greater level of implementation of ICAO policies on charges;
  - 2) There should be more awareness among States of the importance of ICAO policy on charges;



- 3) ICAO should consider developing policy guidelines for the management of unviable airports;
  - 4) there is a need for more coherent consultation between service providers, airlines, passengers and shippers; and
  - 5) there should be a study on the most suitable pricing regime for encouraging the improvement of service standards.
- e) There is need for a balance between the interests of users and service providers;
  - f) funding unviable airports is a compelling need and a study should be undertaken to determine ways and means of achieving this objective; and
  - g) there should be more coherent policy for cost recovery with regards to search and rescue operations and accident investigation;

#### 4. **SESSION THREE: ICAO ECONOMIC ANALYSES AND DATABASES (EAD) PROGRAMME (MODERATOR: MR. R.E. KUUCHI)**

##### 4.1 **Overview**

4.1.1 The ICAO presentation on the Economic Analyses and Databases (EAD) Programme provided an overview on the best practices to be adopted in the collection and interpretation of accounting and operational data. It focused on the following broad parameters:

- a) the role of ICAO in collecting and analyzing data and the pivotal role it plays in this area;
- b) the role of senior management of civil aviation authorities in organizing and putting in place a management structure to be followed by the States in collecting, organizing and analyzing data, with a view to bringing about efficiency and environment gains;
- c) the importance of having in place a proper reporting culture so that the States are empowered to make the right decisions;
- d) the importance of high level indicators (HLI) in decision making and suggested HLIs that will aid States in this process; and
- e) the role of data and statistical analysis that will aid States in their risk mitigation efforts to reduce accident rates.

4.1.2 There was widespread interest in the ICAO EAD programme and acknowledgment that ICAO's Integrated Statistics Database (ISDB) was of immense assistance to African States in planning and developing air transport. There was also a consensus that reporting of safety and exposure data is critical in generating and analyzing trends required to reduce the rate of accidents and incidents.

##### 4.2 **Conclusions of Session 3**

The Symposium arrived at the following conclusions:

- a) there should be more focus on accident and incident reporting;
- b) States should consider establishing a centralized agency and database collection system in instances where such a system is not in place;
- c) ICAO should further its efforts in sensitizing States on the importance of data collection and analysis. It is hoped that there would be more seminars and workshops in this regard;
- d) capacity building in data collection is a critical need and ICAO and major stakeholders should give consideration to this need with a view to finding a way to build capacity;
- e) ICAO should ensure that States understand what data is required in the forms provided to States; and
- f) ICAO should develop a template that would encapsulate its requirements with regard to the data to be submitted by States to ICAO.

## **5. SESSION FOUR: AVIATION ENVIRONMENTAL PROTECTION (MODERATOR- MR. D.O. VALENTE)**

### **5.1 Main areas of ICAO activity**

5.1.1 In its presentation on recent developments on aviation and the environment, ICAO focused on its key areas of concentration in the fields of aircraft engine emissions and noise and its cooperation with international organizations. The presentation introduced the participants to the work of the Committee on Aviation Environmental Protection (CAEP) and the development of ICAO's work through CAEP. It also introduced the participants to ICAO's policies and objectives, which are to limit or reduce the number of persons exposed to aircraft noise; limit or reduce the impact of engine emissions on local air quality; and limit or reduce the greenhouse gas emissions on the global climate.

5.1.2 Participants were also familiarized with the latest developments of ICAO's work in international cooperation through the Group on International Aviation and Climate Change (GIACC), ICAO's mandate under the Kyoto Protocol, its work with the Inter Governmental Panel on Climate Change (IPCC) and the United Nations Environment Programme (UNEP). Finally, work on the carbon footprint and offsetting which involves the calculation of emissions created by aviation was discussed.

5.1.3 There was widespread interest on ICAO's environmental work and the Symposium acknowledged that this issue was of global importance and relevance which called upon total commitment on the part of African States. The Symposium was of the view that economic activity in air transport, particularly in the movement of aircraft between States territories, requires to be viewed in the context of sustainable development, where environmental protection would play a key role. Furthermore the view was expressed that, it has now become opportune to address trade in air transport and its effect on global environmental welfare as a composite whole, rather than within a fragmented framework.

### **5.2 Aircraft noise**

5.2.1 The ICAO presentation underscored the balanced approach to aircraft noise adopted by the Organization, primarily through Assembly Resolution and guidance material adopted by ICAO

including Annex 16 to the Convention on International Civil Aviation. It also introduced participants to data and certification methodology, the work of the 7th meeting of CAEP and future work of ICAO.

5.2.2 In the discussions that ensued, participants agreed that the underlying legal and political theme on aircraft noise is one of social expediency, largely categorized within the realm of the quality of life of communities affected by noise emitted by aircraft at take off, approach and landing. It was also mentioned that the major political issue concerning aviation and noise is that land is finite, for which a local community and the aviation industry may have a need, the latter to build airports in urban areas and the former to reside in. Land use planning was therefore a critical factor.

5.2.3 In the African context, it was observed that a new airport generates new opportunity for a burgeoning community, making it grow. Employment opportunities offered by a new airport attract people who in turn need basic health, educational and other community facilities and a good standard of living which cannot be a reality if they are threatened by noise. This called for airport regional planning and environmental impact statements, and, above all, political astuteness and integrity.

### 5.3 Aircraft engine emissions

5.3.1 There was also a presentation by ICAO on engine emissions management, involving discussions on emissions data, emissions and local air quality, climate change and market based measures and voluntary measures to address emissions. It outlined ICAO's work , trends in carbon dioxide and nitrogen oxide emissions and future work of CAEP, with particular focus on the work of CAEP/8 scheduled to be held in 2010.

5.3.2 At the discussion that followed, it was acknowledged that the core issues emerging from both aircraft noise and engine emissions have strong economic overtones, as well as consequences on social justice and international politics. In this context, participants recognized ICAO's pre-eminent role mandated by Article 2 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change which provides that the parties identified in Annex 1 of the Protocol are required to pursue limitations of emissions of greenhouse gases from aviation fuels, working through ICAO.

5.3.3 Finally, the Symposium observed that policy considerations regarding climate change broadly impact costs and benefits of the activities that produce global warming. The abatement of greenhouse gas emissions which in turn would reduce global warming involve three policy strategies. They lie in the areas of the desirability of an optimal, globally coordinated carbon tax; the application of the Kyoto Protocol; and the implications of a carbon tax in limiting exposure to high damage.

### 5.4 Conclusions of Session 4

5.4.1 The Symposium arrived at the following conclusions:

- a) Climate change is a global issue and Africa should take appropriate measures to respond to this challenge;
- b) land use planning is key to preventing aircraft noise from affecting populations and from preventing human habitations from being too close to airports;
- c) there is a growing need for data from African States regarding emissions. These data would be helpful in conducting environmental impact studies;
- d) Chapter 2 aircraft should be phased out at the earliest opportunity;

- e) ICAO Resolution A36-22 and its Appendices provide guidelines pertaining to ICAO's work in aviation and environmental protection and these should be taken into consideration when developing environmental policy;
- f) ICAO should select sample airports in Africa with a view to providing training on the collection of data on environmental effects of aviation, particularly with regard to emissions;
- g) States should have a centralized methodology in collecting data on aircraft engine emissions;
- h) all stakeholders should be involved within one forum, such stakeholders being local authorities, ministries, airport management, etc to discuss issues of land use and airport planning;
- i) there should be strong liaison between aeronautical authorities and users in planning airports; and
- j) alternate measures to obviate adverse effects of environmental damage (such as planting trees) should be encouraged.

## 6. CONCLUSION

6.1 It was agreed that the proceedings, discussions and Conclusions of the Symposium be brought to the attention of the ICAO Council with a view to seeking ICAO's involvement in assisting African States in the field of air transport.

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