

AIR TRANSPORT SECTOR RESTRUCTURING

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1.0 INTRODUCTION

Over the past 10 to 15 years, significant change has occurred in the effectiveness of air transport service delivery and in the efficiency of its administration. Much of this change can be attributed to the process of restructuring the entities that operate, regulate, and administer the civil aviation system.

This paper describes the basis for restructuring in the civil aviation environment, discusses the approaches to restructuring employed in various countries, and examines the options open to civil aviation administrations in developing countries to benefit from restructuring.

2.0 THE "WHAT", "WHO" AND "WHY" OF RESTRUCTURING

2.1 What is Restructuring ?

The context in which restructuring in civil aviation is addressed concerns the change or modification of civil aviation administrations that are presently functioning within government, normally as part of a government department. However, restructuring can, and often does, affect a number of elements and needs clarification.

A useful definition of restructuring in the air transport sector may be stated as :

"Any change in the form of administration, function, operation and ownership, made to achieve improved service delivery, staff productivity and financial performance"

For civil aviation administrations, restructuring may involve a change of ownership, where some functions may be privatized, but it always involves a change in administrative form, function, operations and staffing. For government-owned airlines, restructuring mostly affects ownership, which generally changes to the private sector, while operations usually becomes more commercially focused. However, airlines may also be directly affected by changes in the civil aviation

regulatory environment, where institutional change may also trigger a more liberal air service regime. In turn, this will usually threaten the commercial position of protected national carriers.

In the final analysis, improvements sought through restructuring relate to how well the organization performs, its staffing levels and its financial b

2.2 Who are the Principal Candidates ?

There are essentially three types of organization affected by institutional restructuring in air transport. These are:

- National Air Carriers
- Civil Aviation Administrations and
- Airport Administrations

Under restructuring, national air carriers are normally sold to the private sector, either in whole or in part, to major investors, including other private airlines, or to the public at large through a share issue.

Civil aviation administrations may be restructured by being re-organized internally, or by being re-established outside the government departmental structure as new, commercially-focused, entities or businesses. Airport administrations within government may be restructured by being devolved down to regional or local levels as public sector entities of those levels of government, or may be re-established outside government as independent commercial agencies. The ultimate situation which does occur, is where the airport administrations, along with the assets they manage, are privatized by outright sale to private sector interests, or by sale through a public share issue.

Around the world, examples may be found where all three types of organization have undergone restructuring of the form described, to greater or lesser extents. In some countries, a culture of commercialization or of privatization has taken hold and, along with other government functions, this has triggered a restructuring of the air transport sector controlled by government.

2.3 Why Restructure ?

Naturally, there have to be reasons to change the way civil aviation is administered, otherwise there would be no need to consider such action. Normally, as a first step, a review of civil aviation structure, operations and finance is carried out for a country, from which are identified the strengths and weaknesses of the current situation. Reasons for change, if any, then emerge from this process.

From experience, the main reasons for restructuring civil aviation that tend to be identified are the need to:

- Improve the quality of services provided to users and customers,
- Improve the financial performance of the civil aviation administrative entity, and
- Remove the operational and financial constraints imposed by the weight of government that act against the interests of users, and result in poor service, low productivity and high costs.

The first two above are obvious, but the influence of the third reason is at least as important. Government has a tendency to impose constraints on its operational departments that greatly affects their performance and dampens the initiatives of its employees. Typical among these are hiring freezes that prevent adequate staffing, civil service staff grading and advancement constraints and low salary levels that discourage productivity, and inefficient procurement policies. Where commercial objectives are to be followed, as is now generally the case with civil aviation administrations and airport authorities, this influence is definitely counter-productive.

While reasons for restructuring may exist, it is important to recognize that a radical change may not always be needed to rectify the major problems. All of the issues need to be identified and addressed, and options for change evaluated, before an implementation plan can be advanced. In creating a proposal for restructuring civil aviation, it is important to realize that what suits one nation may not work in another. There are several models available for restructuring and different forms have been implemented in several countries for a variety of reasons. In some cases, restructuring civil aviation within the existing governmental department structure may be the best near-term approach, while in others a more commercialized approach may be necessary in order to achieve the desired objective. Just because one nation has separated their Air Traffic Control service from government as a separate corporation, does not mean that the same should be implemented everywhere.

3.0 NATIONAL AIR CARRIER RESTRUCTURING

Restructuring of national airlines is a common concept, and one that has achieved acceptance in developed and developing countries alike. The main feature of restructuring in the case of national airlines is the change of ownership that takes place when the airline moves into the private sector, and the re-focussing of the airline business that follows.

The concept of privatization of national airlines goes back a long way. In Asia, one of the early examples was Korean National Airlines (KNA), which in the 1960's became private, and is today the primary airline of the Republic of Korea, operating under the name of Korean

Air Lines. Privatization of national airlines has accelerated since the mid-1980's and several prominent national carriers have undergone the transition to private sector ownership. Examples of these are Air Canada, British Airways (1986), Japan Air Lines and Qantas (1993 - 1995). Other examples may also be cited where only partial privatization has taken place, with national governments retaining some proportion of public sector ownership. For instance, Malaysian Airlines has 30% Malaysian government ownership, while the respective governments of Singapore and the Philippines own 53% of Singapore Airlines and 46% of Philippine Air Lines.

Change of ownership for a national airline means that it moves away from direct government control, with the objective of improving both service to customers and financial performance. Major route and service rationalization can then take place without government influence, while changes can also occur in fleet composition and staffing. For the latter, the objective is normally to improve staff productivity, as this is directly related to airline operating costs. For a former government airline, this improvement usually means a need to reduce the size of the workforce, however difficult that might be. This issue has been one (among many) of the difficulties faced by Philippine Airlines in attempting to recover from its financial crisis of the late 1990's.

The key feature is the change of ownership that seems to be the impetus needed to bring about a stronger commercial focus. As noted above, there are variations on the degree of ownership change under privatization, ranging from partial privatization in which government retains some proportion of the national airline, to total privatization where ownership shifts entirely into the private sector. There are, therefore, a few basic conceptual ownership models associated with privatization of national airlines, and each may possibly influence the commercial success of the resulting privatized entity.

Exhibit 1 summarizes the ownership models that have occurred among national airlines undergoing privatization. Total privatization, common among the national carriers of the developed nations and prevalent among Asian countries having high per capita incomes, may occur in one of two basic ways. This may be either through outright sale to one or more major investors, such as in the case of Korean Air Lines, owned by a major Korean "chaebol" (Hanjin), or through outright sale by means of a share issue to the public, as occurred with the sale of British Airways. There are also cases where a combination of the two models exist. A good example of this is the case of Qantas, the Australian national carrier, which was privatized in two stages. Firstly, 25% of the airline was sold to British Airways in 1993, and later in 1995 sale of the remaining 75% Australian Government holding took place through public floatation of a share issue.

The partial privatization model is common where government wishes to inject capital into an airline without losing total control. Malaysian Airlines, with majority ownership held by the Malaysian Government, has a minority private partner in the form of the Brunei Investment Agency. Singapore Airlines has minority private investors, including a 5% stake held by Delta Airlines of the United States. Philippine Airlines has a complex government ownership arrangement, involving three government agencies and other government financial institutions holding 46%, while the remaining 54% private holding is owned partly by a prominent Filipino industrial magnate, and partly by companies under his control.

An important point to be made about the partial privatization model is that airline ownership can later transition to total private ownership,

through the sale of the government holding to major investor groups, to other commercial airlines, and to the public through sale of shares on the stock market. This is, for instance, the process that resulted in total privatization of Air Canada.

Finally, mention should be made of the further progression in the process of privatization, which occurs when an airline sells parts of its operation to other investors. Following privatization, this can occur as a result of rationalizing the airline's operation in the interests of commercial and operational efficiency, or can occur where government feels that parts of a national carrier's operation are suitable for separate privatization for reasons of revenue generation. Typically, airline activities that may be regarded as non-core businesses are sometimes candidates for sale as subsidiary businesses. Activities commonly carried out by airlines as support activities, such as aircraft maintenance, air cargo operations, flight catering, or ground handling, are examples of subsidiary activities that have been sold by operating airlines as separate businesses.

4.0 RESTRUCTURING CIVIL AVIATION ADMINISTRATION

4.1 Background

In some of the developed nations, significant change in the way in which civil aviation is administered has been in effect for some time. A prominent feature of this has been the creation of civil aviation authorities, either as separate agencies of government, or with a measure of independence from government. In addition, in some cases, core activities of civil aviation, such as Air Traffic Control or Airport Operations and Management, have been separated out and set up as commercial entities, either partly within government, or as private businesses.

In the developing world, the concept of restructuring civil aviation is taking hold more slowly, as governments are adjusting to the idea of releasing control over some hitherto traditional functions of the state. A significant influence acting on governments to restructure civil aviation has been the International Civil Aviation Organization (ICAO) which, through its Technical Cooperation Bureau (TCB), has taken the initiative to implement this concept in a few developing countries.

ICAO started to bring about improvements in the administration and operation of civil aviation in the late 1980's, as part of a series of TCB projects in East Africa. The motivation for this was rooted in the responsibility ICAO felt towards ensuring that its own UNDP funding in the infrastructure of civil aviation would be properly managed and maintained. The opportunity to implement a more efficient style of management of civil aviation, and to do so under commercial principles, arose following the normalization of government in Uganda, which had gone through several years of civil war and anarchy. Background studies were carried out and, with the blessing of the new government, a Civil Aviation Authority, separate from the

Ministry of Transport, was established under ICAO guidance and UNDP funding. This success was followed by similar restructuring projects in Africa with, in some cases, the feasibility studies forming part of the creation of National Civil Aviation Development Plans using the standardized ICAO approach.

ICAO is the leading international agency in successfully promoting and implementing fundamental change in civil aviation administration. It is also the only agency to have sponsored sufficient feasibility studies for restructuring to enable an effective approach to be developed for identifying and evaluating restructuring options open to developing nations.

Recently, some regional development banks, including the Asian Development Bank, and national development aid agencies, have funded feasibility studies of the opportunity to restructure civil aviation administration. However, examples of projects actually implemented under these funding sources are not known.

4.2 Forms of Restructuring

There are a few different corporate and legal concepts for civil aviation restructuring, which may involve :

- Retaining the organization within the government framework, but improving structure, staffing and operations,
- Creating a separate, autonomous, entity outside government, or
- Establishing an entity totally within the private sector, as in the case of several airport authorities, for instance.

Besides the corporate and legal concepts, there are also different ways in which the functions of civil aviation administration may be treated. For instance, certain civil aviation functions may be regarded by some as sacred to government, and hence necessary to retain under direct government control, while other functions can be devolved to another entity. It is often felt that Accident Investigation, for instance, should be completely separate from the influences of civil aviation administration, and should therefore be embodied in an independent agency. Similarly, in aviation circles, safety and regulation enforcement is often viewed as needing to be separate from the operational functions of civil aviation, over which it has an oversight role. In some situations it has been found appropriate to separate out as independent agencies the operational components of civil aviation. These comprise the entities involved in operating and managing national airports (as one or more airport authorities), or the air navigation and air traffic services functions.

Three basic functional options can therefore be identified when determining how to restructure civil aviation. These are to:

- Retain all civil aviation functions together in one agency, whether within government or not,
- Retain within government only specific functions that need government oversight, such as accident investigation, or possibly safety regulation, and separate out all other functions, or

- Separate out specific operational functions as independent agencies or business units, such as ATS or Airports, and retain all other functions within government.

The functional variations relating to restructuring civil aviation may be regarded as one axis of a matrix for assessment and evaluation of the optional concepts for restructuring, with the corporate and legal options describing the other axis (**Exhibit 2**). A choice as to which form to adopt is therefore determined by selecting options from both axes of the matrix, thus creating the most appropriate mix of corporate / legal structure and functional responsibility.

4.3 Optional Structures

No single approach to restructuring civil aviation suits all applications, and reasonable options have to be identified and evaluated before any commitment is made. Typical options studied, and in some cases adopted elsewhere, range from restructuring an existing civil aviation department, to complete devolution of responsibility for civil aviation to separate commercial business entities, operating outside government. The four most common options considered for restructuring are the following:

- Restructure within Government, but not necessarily within the same department,
- Establish a separate "parastatal" agency with responsibility for civil aviation affairs,
- Create a commercially-based corporation with either "profit" or "not-for-profit" objectives, responsible for some, or all, civil aviation functions,
- Establish a hybrid organization involving certain functions retained within government, such as regulation, and single or multiple independent commercial agencies or corporations, established outside government, being responsible for other specific functions.

The Restructured Civil Aviation Department

Restructuring an existing government department, by streamlining its operations and improving its effectiveness, is always an option to consider. Typically, civil aviation departments have grown over time as the air transport system management needs have expanded. As a result, department structures may have grown and added divisions and sections to the point of being an unwieldy bureaucracy. Experience also shows that as civil aviation departments have added divisions, and divisional heads, deputy directors etc., the Director of Civil Aviation may have become remote from the day to day operation of the department.

In such situations, restructuring the department can be effective by reducing the number of operating units to the minimum necessary to achieve the goals of the Department, through combining functions that might logically work together. At the same time, removal of middle layers of management between the DCA and the heads of the operating divisions can improve the effectiveness of management. An example of this may be found in one Civil Aviation Department in the Middle East, where, over time, the Department had grown to include 20 operating divisions, each headed by Director-level staff, and with overlapping and confused functions. Streamlining the department in this case was possible by reducing the structure down to some 6 primary divisions, and therefore only six senior staff reporting directly to the Director-General of Civil Aviation.

Other features of being a government organization may not be so easily addressed, depending on the country involved. For example, changes to staff grading and salaries, and procedures established throughout government for procurement, may not be possible so long as the civil aviation management function remains within government. Thus, the inertia of government and inflexibility of established procedures may not render restructuring of a department of government as effective as might be desired.

The Parastatal Agency

The creation of a "parastatal" agency outside the formal government structure is an interesting approach, and one that permits civil aviation to be separate, yet not too divorced, from government. While a relatively common concept for administration of civil aviation in some developed countries, creation of parastatal agencies has not been common in developing countries in the civil aviation environment, although they are sometimes found managing national utility agencies or commodity marketing organizations etc.

The essential feature of a parastatal organization is that it is an agency established outside the government departmental structure for a specific purpose or function. It is managed through a General Manager, who reports to a Board of Governors, or trustees. The Chairman of the Board might be the Minister of Transport, or a prominent government appointee. The parastatal agency is controlled by government, in the sense that the Board reports directly to government, while its financial affairs would normally require approval at the Ministerial level, or possibly at a higher level of government. However, a parastatal agency has the opportunity to be established with commercial objectives, to operate under commercial principles and to raise capital its own right, and this is a major benefit. Revenues are retained by the agency, which also covers its own operating costs and, where possible, its capital costs as well. Additional capital funds are either injected by government or, where the enterprise can generate sufficient cash flow to repay debt, are obtained on the commercial markets by means of loans or a bond

issue. The UK Civil Aviation Authority and the civil aviation agencies in Australia and New Zealand are examples of parastatal agencies.

The Independent Corporation

A greater degree of independence for administration of elements of civil aviation, can be obtained through creating a corporation in the private sector, properly incorporated under the appropriate national companies legislation. Ownership of the corporation is typically held by government, or by one or more agencies of government as shareholders. In certain situations, particularly where airport authorities are established as independent corporations, the ownership of the corporation may be held by one or more major strategic investors, by the public as a result of a share floatation, or by a combination of these.

Under this concept, all or parts of the civil aviation function can be separated from government, placed in a business environment with independence of operation, and made financially self-sufficient in terms of covering costs and raising capital funds. The concept relies fundamentally on the ability of the corporation to generate a sufficient cash flow from revenue activities to cover operating costs, to raise capital in the commercial markets for expansion and development, and to repay the capital debt. Where a private shareholding exists within the ownership structure, the corporation will also have to generate a dividend on the shares held by the private sector.

The independent corporation may be established in one of two ways - as a "*for-profit*" corporation, or as a "*not-for-profit*" corporation. The for-profit corporation is, of course, the same model as for any other private sector corporation. The expectation in this case is that, after covering operating cost and capital debt repayment charges, and making provision for future capital needs from operating profit, the corporation also returns part of its profit to its shareholders in the form of a dividend. The shareholders in this case may be the government itself, private sector investors, or a mix of the two. This is the basis for many commercial airport authorities that have been privatized by government - the British Airports Authority (now BAA plc) being a prime example of one whose shares are owned by the general public as investors.

The "*not-for-profit*" corporation differs from the for-profit corporation in two ways. One is the manner in which profit is treated. Under this concept, the not-for-profit corporation must cover its operating costs, make repayments on capital debt raised by borrowing, and make provision for future capital needs. There is no requirement to return a profit to shareholders as dividend, and any operating surplus is retained by the corporation for its own future need to expand operations, upgrade the infrastructure, or add to a reserve capital fund.

Another difference may be found in the ownership of a not-for-profit corporation. This is generally confined to a selected group of shareholders, being either the government itself, or a group of shareholders with a direct interest in the commercial success of the corporation, resulting from being able to minimize user costs and ensure efficiency of management. Vested-interest shareholders, such as user airlines in the case of an airport or air navigation corporation, can be attracted to ownership for self-serving reasons, even where there is no profit returned as dividend. Nevertheless, the shares of the corporation will have a declared value and may be traded internally under set conditions.

The not-for-profit concept has been applied to the devolution of civil aviation activities in Canada, where the former major federal airports, as well as the air navigation and air traffic control agency, have been set up outside government as not-for-profit corporations.

The Hybrid Concept

The hybrid concept is one that applies to the larger, mature, civil aviation administrations at a point in their development where there is sufficient activity of management and operations to justify devolution to a number of entities, some of which may be self-supporting. The concept involves reorganization of civil aviation into two distinct elements, one within the government sector and responsible for certain specific functions of civil aviation, and the other in the commercial and/or private sector and responsible for functions of a more commercial nature. While the government element represents a reorganization of the civil aviation department, this may either retain its departmental status and remain entirely within government, or may be established as a parastatal agency of government with a measure of independence. Functions retained within the government element typically comprise the non-commercial functions of civil aviation administration, such as flight safety regulation, airport inspection and licensing, air transport licensing, airworthiness, personnel licensing, management of air service agreements and international facilitation.

The non-government element of the concept represents those functions of civil aviation that generate revenue and can be shown to be capable of financial self-sufficiency. Comprising principally the functions of airport operations and management, and management and operations of air traffic control and air navigation, these can be separated and set up as one or more corporations in the private sector. For instance, the airport operations function may be embodied in an incorporated airport authority operating in the private sector, but owned by government. Alternatively, the concession to operate and manage airports may be sold on a very long-term lease, or the assets of the airport may be sold outright, to private sector interests. Similarly, operation and management of the air traffic control service and air navigation system may be established separately as commercial corporations responsible for their own financial affairs.

In this way, the hybrid approach enables the opportunity to be taken to improve operations, management and financial performance of the revenue-generating elements of civil aviation. At the same time, the non-commercial, and possibly sensitive, functions can be retained under government control, either within a reorganized government department or under one or more parastatal agencies.

4.4 Evaluation of Options

Once the options for restructuring civil aviation have been identified for a particular case under study, they must be evaluated so that a clear preference can emerge for selection. Obviously, the cost of implementing and operating civil aviation under each option must be assessed and used in the evaluation, but there are several other criteria against which evaluation must also take place.

4.4.1 Criteria for Evaluation

Although each study of restructuring will have its own set of criteria for evaluation, there are eleven primary criteria that need to be considered.

These are the following:

- **Safety, Security and Regulation**
How does each option safeguard aviation safety and ensure that security requirements and standards can be maintained ? Are there issues of sensitivity regarding devolution of activities and functions, such as flight safety and regulation, accident investigation and aviation security, and how do the options deal with possible concern over loss of government control over these areas ? Is there a need to separate the regulatory function from the operating elements - or can the integrity of the Authority be guaranteed, to enable it to regulate its own operations ?
- **Staffing**
What staffing levels are implied by each option, and does one approach involve much higher staffing levels than does another ?
- **Operating Costs**
What are the costs to operate each option, including the cost of staff and benefits, operation and maintenance of facilities, and use of consumable materials needed to support the activities of the organization ?
- **Functional overlap**
Do the options result in clear definition of functions between different divisions, or between different agencies, where each may be responsible for parts of the civil aviation function ?
- **Level of Government Funding Required**
How much government funding, in terms of capital and operating funds, will be required under each option to manage civil aviation ? Will some of the functions under each option require capital or operating subsidy ?
- **Transition Costs**
What costs are involved in implementing each option and in transitioning from a government structure ?
- **Ability to Raise Capital**
Each option may represent a different capability in terms of raising capital, either because of the nature of the restructuring option itself and whether the organization will have access to commercial capital markets, or because of the projected financial capability of the particular organization under study.
- **Commercial Self-sufficiency**
Some civil aviation departments have a greater potential for revenue generation than others, and this will affect their ability to be commercially self-sufficient. The extent to which a candidate for restructuring can be financially self-sufficient will influence whether one form of organization will be superior to another.
- **Maximize Commercial Potential**

Do any of the options considered have a greater commercial potential than any others, and which would maximize commercial opportunity?

- **Future Flexibility**
Flexibility to modify the organizational concept may be important if there is a need to implement the restructuring in stages. Concepts should therefore be assessed against this criterion, where appropriate.
- **Balance Between Profit Motive and Public Interest**
In separating civil aviation responsibility from government in favour of corporate entities that are more commercially focussed, there is always a concern that the motive to make profit may act against the interests of the public and user of the civil aviation system. Evaluation of concepts must consider how well each concept design safeguards the public interest.

In defining criteria for evaluating restructuring options in civil aviation, it must be noted that each situation, and each country, will represent a different situation. Consequently, there may be other criteria that may need to be applied in the evaluation process, and the degree of importance of each criterion may differ in different countries. Hence, the weight given to each in the evaluation, may differ also.

5.0 RESTRUCTURING AIRPORTS ADMINISTRATION

In the previous section, discussion of the options available for restructuring civil aviation administration suggested that operation and management of airports could be either retained within government, or separated under a few possible institutional and corporate models. The option to separate from government includes, at the extreme, the possibility of total devolution of airports to the private sector, through outright sale of the airport assets as well.

Essentially, the same restructuring models, identified for civil aviation generally in Section 4.0, can be applied to a nation's airports system. In this context these options are :

- Restructure the existing Government function responsible for national airports, and retain ownership, administration and operations within Government. Possibly create a commercially-focused airport authority within government or apply commercial operational principles to airport administration within a Civil Aviation Department or Authority.
- Create a parastatal commercial airport authority to operate and manage all of the national airports under a single entity, or create separate authorities for each airport or a regional grouping of airports,
- Create incorporated commercial airport companies in the private sector, with each owned by government or by community interests, for the purpose of operating and managing the national airports as commercially self-sufficient facilities,

- Privatize, through outright sale of the assets, those national airports that can be financially self-sufficient, under appropriate conditions along with safeguarding of the public interest, or

- Adopt a hybrid approach involving a combination of the above models, such as creation of an airport authority with certain of its facilities (terminal buildings, cargo centre etc.) privatized through purchase, or developed under private sector financing.

Exhibit 3 illustrates the above corporate models for airport ownership and administration that have been applied for airports in a number of countries. As with restructured civil aviation administrations, the models applicable to airports also involve three possible corporate forms - total ownership, administration and control by government, a semi-governmental status known as a "parastatal" entity, and a totally private entity.

Retention of airport administration and ownership by government is always an option, and one that is prevalent especially among the developing nations. A measure of restructuring within the government airports function of these nations has gained in popularity, as governments realize that a financial benefit may be possible to attain through adopting a commercial focus and an enhanced interest in user satisfaction. However, the main interest of governments is now to devolve the airports function away from government, to greater or lesser extents, depending on the degree to which government still feels it necessary to impose control over airport administration.

The other models illustrated in Exhibit 3 are examples of the degree of loosening of government control that is now found among airport administrations in both the developed and developing world. The first stage of independence from government is represented by the parastatal model, in which government retains ownership of the airports but administers them through a state-owned independent airport authority. A variation on this approach is represented by a hybrid ownership arrangement, in which ownership and administration of the national airports is shared between government and private sector investors. The ultimate separation of airport ownership and administration from government is represented by absolute privatization, in which ownership of an airport (or an entire national airports system) is sold by government to private sector investors. Shareholding in the airports may then be held by a small number of major strategic investors (individuals or corporations), or by the general public as a result of a general share issue. As with the restructuring options for civil aviation administration, an airport administration can also be restructured in stages, being established as a corporate parastatal entity initially, and then privatized later.

Examples of all of the above options may be found at airports around the world. As will be discussed later, the original British Airports Authority was established as a parastatal agency of government, totally owned by the U.K. government, until privatized through a public share issue in the 1980's.

A more recent example in the 1990's was the case of Hong Kong. While the original airport at Kai Tak was owned by the Hong Kong

Government and operated through its Department of Civil Aviation as a government function, the new Hong Kong Airport Authority has been established outside the government departmental structure under its own ordinance, as a parastatal commercial agency¹. The Authority management reports through a Chief Executive Officer to the Board of the Airport Authority, which is, in turn, responsible to the legislative body of the Hong Kong Special Administrative Region of the Peoples' Republic of China (SAR). The Airport Authority, and the airport assets created at government expense, are owned by the Hong Kong SAR Government as the only shareholder, while the original lands for the airport are leased to the HKAA by the SAR Government. The HKAA may retain revenue, and may assign its operating surplus to a reserve fund, although the SAR Government has powers to require it to declare a dividend from operating profits on the shares held by the government. Although the possibility exists that partial or complete privatization of the airport might occur at some time in the future, no provision is made in the Ordinance for sale of HKAA shares to anyone other than the SAR Government.

Similarly, the new airport at Kuala Lumpur was created under a state-run enterprise. Owned by the Malaysian government, this airport, along with all of the other public airports in Malaysia, is operated and managed by the national airports authority, Malaysian Airports Berhad (MAB). This agency was, itself, originally established as a parastatal agency of government, however in 1999 part of the MAB was sold to the public through a share issue.

Incorporated airport companies, in which the assets are retained in the public sector, while the operation and management is entirely commercially-focused, also exist. For instance, the Vancouver International Airport Authority and the authorities established under the devolution of the primary national airports in Canada are examples of this type of arrangement. So, too, is the corporation established by the Korean Government to operate and manage the new Incheon International Airport (Incheon International Airport Corporation - IIAC), which is an incorporated commercial company, wholly owned by government, and operated by an appointed Board of Directors. The Board of IIAC reports to the Ministry of Construction and Transportation and the Ministry of Planning (Budget Sector). IIAC has control over its own financial affairs and is intended to be financially self-sufficient, and generate a profit, once the airport is operational. New Zealand also originally established this type of corporation to operate and manage the national airports prior to their later privatization.

The case of the privatized airport is also fairly common, but not in the developing nations. Several airports in the U.K. are privatized, as are the majority of the former federal airports of Australia. Vienna Airport has been privatized, and there are other examples in Europe.

¹ Airport Authority Ordinance, No. 71 of 1995.

Hybrid arrangements are less common, although Macau International Airport is one. In this case, the Macau Airport Company (CAM) is owned by the Government of the Peoples Republic of China as majority shareholder (51%), along with a single major private sector investor, and other minority investors. As such, the CAM is a hybrid of public and private ownership.

Other hybrid situations also bear mention. These are where private sector investors may be involved in ownership and operation of specific parts of an airport, such as a passenger terminal building. The third terminal building at Toronto's International Airport was, for example, initially developed as a privately financed build-operate-transfer (BOT) development, for which a concession was granted for construction on what was then a government-owned and operated airport. Manila's Ninoy Aquino International Airport, a publicly-owned airport, operated by a parastatal airport authority, also has private sector BOT projects in which private investors are involved in an air cargo centre and in a (proposed) new international terminal building. Both of these projects are large capital investments, requiring a 25-year repayment period, and involving the Philippines government in substantial guarantees to the private sector investors.

However, it is in the area of privatization of airports, and privatization of airport facilities, that greatest scrutiny should be focused in restructuring airport administration. Privatization involves the sale of an airport, or major facility to the private sector. It may also mean the private investment in development of facilities on an airport. Governments embarking on a programme of privatization, or even devolution of responsibility for airports (Canada's approach), have different motives. Some view the sale of the assets as an opportunity to extract their capital investment and generate a one-time capital gain for the national treasury. Australia has realized a major windfall profit from privatization of the national airports, for instance, although it recognizes that reporting such a capital injection into the national accounts would be distorting. In the case of Canada, the withdrawal of government from airport operations and management, and devolution to local airport authorities, relieved the federal government of the on-going expense of airport operations and responsibility for future capital works. As such, the Canadian airport devolution represented a saving of future costs, since the assets themselves were not sold for financial gain to the local airport authorities.

Any civil aviation administration considering privatization must also assess its own motives for adopting this approach. Is there a capital gain to be derived, and is this the primary motivation? Or is the motivation to save future operating costs and capital requirements? For the developing nations the latter motivation may be more applicable, since many countries are unable to provide adequate funding to maintain required safety standards or expand their civil aviation infrastructure. If that is the case, then reduced future costs can be achieved through devolution (as in the Canadian model), rather than through outright privatization and sale of the airport. Capital can still be invested by the private sector, rather than by government, in

specific projects where financial viability exists, and this could still mean that airport upgrading, facility development and capacity expansion might actually take place without having to dispose of the airport assets to the private sector.

At the same time, caution must be exercised. The private sector will only invest in a privatization scheme if there is a return to be gained from the investment. Airports to be considered for privatization must be capable of generating a positive cash flow from operations, and provide a profit that represents an acceptable return to the investor. Sufficient profit must also be made to contribute to a capital reserve for later airport capital works. Only the larger airports are capable of generating a sufficiently large cash flow to support privatization, and much depends on the size of the revenues generated from user charges (passenger fees, landing fees airport terminal charges etc.) and concession revenues from commercial operators on the airport site. As a result, airports with limited sources of revenue, will not have a sufficient cash flow generation potential, and will not be capable of supporting a privatized operation. It may well be that proponents of the approach taken in India, where it is assumed that the private sector, rather than government, will develop the nation's airport infrastructure, may be surprised if insufficient private sector interest is shown in all but the larger airport projects. Perhaps, an alternative approach will have to be adopted if privatization fails to take off.

Pressure to privatize airports is increasing, on the strength of the experiences of the larger, developed, airports that have already gone through this process. Economists view airport privatization as being inherently a good thing, because it removes the airport from government and increases the opportunity for it to operate on a commercial footing. Also argued is the point that airports that cannot survive financially in a private sector environment should be closed. This may well have some merit in the world of pure economics, although it must be argued that commercialization, rather than privatization, can also bring about the same benefit, should one exist. Privatization is also a final step, and once taken cannot be retraced, unless abandoned by the investor. The cautious civil aviation administration would be prudent to approach privatization in stages, much like the approach taken by the New Zealand Government. In this case, privatization was finally reached after first corporatizing the airports as commercial entities, and gaining experience in commercial operation of the national assets, before deciding to dispose of them to the private sector.

Another common feature of the airports system in developing nations is that many of the airports exist under government funding with minimal revenue base, and therefore little opportunity to generate a positive cash flow. At the same time, they almost always have considerable need for capital improvement, for which funding is simply not available. Often, as in countries like the Philippines, Indonesia or nations of the Caribbean, where geography forces reliance on air transport for essential communications, tourism and

regional economic development, many of the airports exist for reasons of social necessity and must be maintained, even if there is no revenue-generation potential. Certainly, a rationalization of airport facilities is necessary and justified, to ensure that there is no over-provision and hence excessive cost to government, but in such situations privatization cannot be applied. At best, a commercialized operation can be implemented to maximize any revenue potential that may exist, while management under a regional structure, incorporating several airports, might be appropriate. A similar approach was applied for the airports of the far north and Arctic regions of Canada, where aircraft are the only means of transport connecting small isolated communities. Here, a regional approach has been adopted with the northern airports placed under the Governments of the Northwest Territories, Nunavut and the Yukon, with little expectation that they will ever be financially viable. This type of approach, and a mechanism to cross-subsidize airports of social-necessity, may be the best way in which to serve the public interest in many situations in the developing world.

In the final analysis, privatization of airports may be applicable to only a very few airports in the developing nations, although some may mature over time under a corporatized management to warrant greater private sector involvement.

Comment must also be made regarding the profit motive in airport privatization, and its potential effect on three areas of public interest.

Firstly, because the for-profit objective of the airport corporations creates a priority need to satisfy the investors and shareholders with a return on their investment, the incentive to re-invest in expansion of infrastructure is weakened. Indeed, the shareholders themselves can influence those corporations to place priority for investment in enhancing the revenue-generating potential of the airport, at the expense of other improvements. As a result, much needed expansion to maintain level of service to users may be deferred or delayed until congestion builds and pressure from travellers and airlines forces further improvement. BAA's record would appear to suggest that investment in facilities to increase commercial space in its terminals has a higher priority than does improvements in public amenities. East Midlands Airport in the U.K. demonstrates how a private sector airport developer is prepared to adopt a minimalist approach to facility improvements for public use. It remains to be seen whether the new owners of Australia's principal airports will invest capital for expansion ahead of the demand curve, or as a result of pressure from declining levels of service.

A bigger issue in the U.K., and one affected by the privatization of the London airports (specifically BAA), is the question of where and how to expand the airport capacity of the London area. A fifth London Airport to serve the South East of England has been suggested as being necessary to absorb future growth. Clearly, it is not in BAA's interest to add any airport capacity in the London area unless it is at the three BAA airports that already serve London, or unless BAA has a

stake in the new airport. But development of new airports is extremely expensive, and sufficient cash flow to generate a return on investment will likely not occur in the initial years of operation. This was found to be the case at Kansai, Japan, for instance. Possibly as a means of offsetting initiative to develop a new London mega-airport, and so safeguard shareholder interests for longer, BAA is proceeding with development of Terminal 5 at Heathrow on the assumption that this terminal will absorb all of the remaining capacity in the runway system. Presumably, the hope is that this investment in Terminal 5 will be recovered before any of the future Heathrow traffic growth might be diverted to a new airport in SE England.

A similar problem looms for Manila's Ninoy Aquino International Airport (NAIA) in the Philippines. The privatization initiatives of the former President Ramos have resulted in privatized projects proceeding at that airport, with the result that there will be a need to retain NAIA in operational service, at least for the economic life of those projects. At the same time, due to airside capacity constraints at the airport there is also a pressing need to find a new airport site to either supplement NAIA, or to replace it. So long as the private sector is heavily invested in facilities at NAIA, with an obligation to obtain a return over a long period, there will be no incentive for the private sector to invest in any replacement facility.

The second issue created by privatization of airports concerns the case where airports are fairly close together and markets overlap. Prior to privatization, these airports could be managed as an airport system, with traffic allocated among them in the interests of service to the travelling public. Balanced investment in infrastructure between airports was possible, recognizing their respective roles in the aviation system. Following privatization, with their commercial interests at the forefront, these airports become competitors. As such, they compete through the price mechanism to attract traffic in order to maximize revenue. This inevitably means that each airport attempts to outdo the other by attracting traffic away from its competitor. While this might result in lower costs to the user airlines and possibly provision of additional service to customers of one airport, it can also mean less choice for the traveller in terms of the services and frequencies available, unless competing airlines mirror the services provided at nearby competing airports. From the national perspective, the effect of intense competition between nearby airports generates a heavier use of the airspace, possibly lower load factors for airlines and a measure of duplication of investment in facilities. Certainly, the ability of national government to plan or manage the overall airport system is lost in such situations. Examples of competing airports in close proximity exist in a few nations with high density populations and extended conurbation settlement patterns. A good example of this may be found in the Midlands of the U.K. where three airports are in relatively close proximity - Birmingham, East Midlands and Leeds-Bradford - and are competitors with a degree of market overlap. Interestingly, these airports along with Manchester Airport, are also now direct competitors to the BAA airports of Heathrow and Gatwick for traffic with regional European destinations,

as a result of increasing congestion and user inconvenience at the BAA airports.

The third issue of concern under privatization is the effect on environmental impact. With a measure of government control over airport operations and traffic allocation, there is also an ability to manage and mitigate the impact of aircraft noise resulting from airport operations, and to control the amount of traffic growth that is accommodated. While noise abatement flight procedures can be applied, and even a night curfew established, privatization of airports leaves little or no control available to government to limit air traffic operations, or even to enforce the night curfew to the fullest extent. To do so can directly affect the commercial performance of the airport, and interference in this runs counter to the principles of privatization. There is a risk that government will be reluctant to constrain airport operations in the interests of environmental impact mitigation.

6.0 EXPERIENCE OF OTHER COUNTRIES

6.1 Civil Aviation Administration in Developed Nations

Experience over the past 15 years shows that among the developed nations, a range of approaches to restructuring has been implemented. These are summarized below for the more significant cases to illustrate the specific applications.

United Kingdom

The U.K. was one of the early nations to restructure its national airline and rationalize its Department of Transport.

Responsibility for administration of civil aviation regulation is now invested in the U.K. Civil Aviation Authority (CAA), which is a parastatal agency of government. It is operated through a board of management responsible to the Minister of Transport and chaired by a lay person, appointed by the Minister. This devolution of responsibility to the CAA has been successful, in that it has resulted in more open and accountable management of civil aviation, a streamlining of operations, and greater efficiency of service to the users. In the U.K., the CAA is only responsible for regulation, as the operational functions of air traffic services and airport operations and management have been separated from government as well, but into separate operating entities.

Management of the air traffic control system in the U.K. has been vested in the National Air Traffic Services (NATS), which has been established outside government as a separate parastatal agency. NATS operates independently of the CAA, which provides regulatory oversight, but also reports to the Minister of Transport. From time to time in the U.K., there has been discussion about removing the NATS

even further from government, by establishing it as a commercial corporation in the private sector.

The main commercial airports of the U.K. had always been owned and operated by government, either at the level of the central government, or at the municipal level. The national airports, of which there were seven, including the three London airports (Heathrow, Gatwick, and Stansted), were initially operated by the Ministry of Transport, until restructuring resulted in all seven being placed under the management of the British Airports Authority (BAA). The BAA was originally established as a parastatal agency of government with commercial objectives, managed by a board of management, and chaired by an appointed chairman. Ownership of the BAA was retained by government, while the Ministry of Transport continued to provide regulatory oversight.

In 1987, the U.K. Government privatized the BAA, by creating a private sector corporation (BAA plc) as a for-profit company, in which were vested the assets of the seven BAA airports, and the monopoly to operate and manage these airports. As a result of its profit motive, and because of its inherent monopoly position in the London air transport market and beyond, the BAA was placed under a regulatory mechanism that placed a cap, or ceiling, on charges the corporation could levy on user airlines and the public. This mechanism allows for increases in user charges to be imposed based on a set percentage level below the U.K. consumer price index (known as the Retail Price Index - "X" formula). Privatization in this case took the form of a public share floatation, which was well over-subscribed by employees and the public alike, with the result that the majority of applicants received some 200 shares each. Today, the BAA plc is totally owned by its large number of private sector shareholders.

The BAA example of a progressive restructuring. Firstly, the initial restructuring moved responsibility for operation and management of airports out of government and into a parastatal agency. Later, as a second stage, the parastatal agency was fully privatized. The BAA example serves as a useful illustration of the ability to apply an evolution in the process of restructuring civil aviation. As a result of this approach, the U.K. public, and their government, was able to "test the waters" of commercialization in civil aviation administration, and then to approach privatization with greater knowledge of the opportunities and needs for safeguarding public interest.

Other major airports in the U.K., such as Luton, Manchester, Birmingham, Belfast, East Midlands, Leeds-Bradford, Cardiff-Wales etc. were all owned by the municipal authorities in whose jurisdiction they were located. Pressure to privatize all of these municipally-owned airports was applied by the Thatcher Conservative Government in the late 1980's and early 1990's, and this has since largely occurred. Different forms of restructuring have been applied in these cases, with some of the airports being sold outright to strategic investors, and some being acquired under a "buy-out" by the former airport management and employees. Strategic investors in these

airports have included private sector developers (as in the case of Cardiff-Wales Airport under TBI), former government bus transport companies that had themselves become privatized (as in the case of East Midlands Airport under National Express), or other agencies, as represented by acquisition of part of Birmingham Airport by Aer Rianta, the state-owned national airport authority of the Republic of Ireland.

The success of the ultimate privatization of the U.K. airports may be measured by the financial performance of the airports. In the case of the BAA, the profits from operation of the London airports ensure that the corporation is profitable and returns a dividend to its shareholders.

Australia

Australia has only in recent years moved to restructure civil aviation. While administration and operation of all civil aviation functions, except for operation of a few minor airports, had formerly been the responsibility of the Department of Transport, the present situation represents a fairly major devolution to other agencies. This is illustrative of a civil aviation administrative environment that has achieved a high level of maturity.

The Department of Transport is now effectively only responsible for some limited functions. These include overall responsibility for international air transport regulation with respect to the air service agreements between Australia and other countries, a function that it delegates to the International Air Services Commission. Aviation security at the Australian airports is also a function retained under the Department of Transport. An additional, but supposedly short-term, responsibility of the Department of Transport is the operation and management of the Sydney (Kingsford Smith) Airport and some of the smaller general aviation airports in the Sydney region².

Responsibility for regulation of civil aviation is now vested in the Civil Aviation Safety Agency (CASA), which is a parastatal agency of government. This is separate from the Department of Transport in a structural sense, but reports to the federal Minister of Transport.

Operation of the Air Traffic Control service and for air navigation, has been placed under a separate agency, known as Air Services Australia. Surprisingly, Air Services Australia has also been given responsibility over operation of the fire and emergency services at the Australian airports. Like CASA, Air Services Australia is also a parastatal agency of government, which is independent of the Department of Transport, but reports to the Minister.

Responsibility for aircraft accident investigation has also been separated from the Department of Transport. The Bureau of Air Safety Investigations (BASI) has been established as an independent

² This arrangement is intended to last until the issues relating to development of the new Sydney Airport are resolved.

agency (within government) to fulfill the function of aircraft accident investigation. The BASI reports to the Minister of Transport.

As far as the Australian airports are concerned, the major capital city airports, along with a number of other city airports, have long been owned and operated by the Department of Transport. With the notable exception of Sydney Airport and a number of smaller airports in the Sydney region, the federally owned airports were privatized in 1998, raising for the federal government a higher sale price than expected. Privatization in this case has been by way of sale of individual airports to consortia of strategic investors following a bidding process. Conditions have been applied to the Australian privatization, among which are limits on competition, conditions regarding user charges, and the obligation to maintain and develop the infrastructure based on a long-term master plan for each airport. An interesting feature of the Australian privatization has been the involvement of foreign commercial airport authorities among the bidders. For instance, the U.K.'s BAA plc. is part of the consortium that was successful in bidding for Melbourne Airport, while the Dutch Schiphol Airport was successful in bidding for Brisbane Airport. Other bidders also included foreign commercial airport development companies.

Other minor (non-federal) airports in Australia are owned and operated by local authorities or are privately-owned.

The Australian example of restructuring is interesting in that it has removed most of the aviation functions from the Department of Transport, and established regulatory and operational agencies that are government-controlled, yet independent, entities. Noteworthy is the separation of the function of the regulator of civil aviation from the operator in all cases.

New Zealand

New Zealand has been a leader in the area of civil aviation restructuring, having embarked on a dramatic and ambitious process of removing the excess burden of government from many areas of society.

In the administration of civil aviation, New Zealand has separated civil aviation administration and operations from the Ministry of Transport. A separate Civil Aviation Authority has been established as a parastatal agency along the U.K. lines, and is responsible for regulation of civil aviation. Operation of the air traffic control and air navigation system has also been separated from government and is vested in the Airways Corporation, a commercial corporation presently owned by government. Privatization of the Airways Corporation has been discussed.

The principal airports of New Zealand were also formerly owned and operated by government, under the Civil Aviation Department. In the process of restructuring, these were each incorporated as commercial

corporations, with part of their ownership transferred to the municipal level of government in the jurisdictions in which they are located. For instance, after corporatization, ownership of Auckland International Airport was shared between the New Zealand government, the City of Auckland and the regional municipal government. Similarly, Wellington International Airport had a shared ownership between the central government and the City of Wellington. In 1998 and 1999, these two airports were privatized through sale of the government-held shares. In the case of Auckland, privatization was accomplished through sale of shares to the public in a share floatation. For Wellington, privatization occurred through sale of the government holding to a development company. Sale of the government holding in Christchurch Airport and the other government airports is also expected to take place in time, subject to there being no change in government policy on privatization³.

While the New Zealand government has successfully gone through a process of devolution of civil aviation administration and operations, involving government-controlled agencies and corporations, it is too early to assess the performance of the privatized airports. It will be interesting to watch the future development of Auckland Airport, and whether capacity additions will be made in a timely fashion after privatization. More so the case of Wellington Airport, which because of its site, will face a limiting capacity constraint before the useful economic life of major investment in terminal facilities has been reached. It is doubtful whether the private sector developer will have the incentive to commence development of the replacement airport for Wellington before the return on investment is extracted from the initial purchase.

Canada

Canada is an interesting example of the process of devolution of civil aviation administration, especially the manner in which the separated agencies have been established.

In the past, the Ministry of Transport (Transport Canada) provided all of the functions of civil aviation administration, and also owned, operated and subsidized 152 federal airports. Under restructuring, only the regulatory and licensing function has been retained by Transport Canada within government, along with responsibility for international air service agreements.

Responsibility for accident investigation has long been a separate function, vested in the Canadian Transportation Safety Board. This is separate from Transport Canada and reports to the Minister of Transport.

The operational functions of civil aviation, such as operation of the air traffic control and air navigation system, and operation of the federal

³ In October 1999, a general election brought about a change of political party forming the government of New Zealand.

airports, are all now separated from government. The Air Traffic Control and Air Navigation system have been brought together (they had previously been separate branches of Transport Canada) and formed into a commercial corporation, known as NAVCANADA. This was set up in 1996 as a not-for-profit corporation, with its ownership vested in the Government of Canada. Management control over the corporation is exercised through a board of directors, to which the chief executive reports. Directors of the corporation are the principal users of the air navigation system. Although an operator of the ATS/ANS system, NAVCANADA is also the regulator for these services, being Canada's designated representative responsible for Annexes 4, 6 and 10 of the Chicago Convention.

As a commercial corporation, NAVCANADA carries the debt for acquisition of the national assets of the ATS and ANS system, with an obligation to repay this to government over time. However, the corporation, with its 5500 employees nationwide, handles over 5 million flights in Canadian domestic and oceanic airspace each year, and generates some \$500M annually in revenues (1998) from the service it provides. As a not-for-profit corporation, its operating surplus is re-invested in the corporation to provide for infrastructure upgrading and expansion, and to maintain a capital reserve fund.

Under the Canadian Airports Policy of 1994, responsibility for the federal airports has been devolved to provincial and municipal governments, to local airport authorities and community interest groups. Some 152 federal airports were owned by Transport Canada when the National Airports Policy was implemented and all but 31 have so far been transferred over to a variety of locally-established entities. The 26 largest federally-owned airports, such as the international airports in the Provincial capital cities and other regional airports, accounted for 95% of the national air passenger traffic. These were transferred to local airport authorities, created as not-for-profit corporations, with ownership of the lands retained by the government. Other lower-tier airports (Regional, Local, Small or Remote Airports) were transferred to local municipal authorities and locally-established, airport commissions, with the title to ownership of the property transferred as well. Transfer of the airport property was for a nominal fee, sometimes for \$1.00, and not at market value. Under the National Airports Policy, the 11 Arctic Airports owned and operated by the Federal Government were transferred to the territorial governments of the Northwest Territories, Nunavut and the Yukon.

Aside from the federally-owned airports, there are many other licensed commercial airports in Canada, that are owned at the local municipal level and operated by municipal government, or by the private sector under contract. A number of small general aviation airports, available for public access, are also owned and operated privately.

6.2 Examples from Developing Nations

In a few of the developing countries there have been some successful restructuring projects sponsored by ICAO. Perhaps the most successful and encouraging has been the example of the creation of the Civil Aviation Authority in Uganda in East Africa in the early 1990's. Two other interesting examples are represented by the recent civil aviation restructuring projects carried out in Botswana (Southern Africa) in 1996/98 and in the Kingdom of Jordan in 1996.

6.2.1 Botswana Civil Aviation Department Restructuring

The project to examine and improve the administration of civil aviation in Botswana was sponsored by ICAO, and carried out in 1996 and 1997 by consultants retained by the ICAO Technical Cooperation Branch⁴. Objectives of the project were to assess the entire civil aviation administrative structure and operation in Botswana, including its staffing, functions, costs and revenues. In addition, the project was required to assess extent and condition of facilities and equipment, and determine the future requirements for capital expansion and upgrading of those facilities.

At the time of the project the civil aviation function was administered by the Department of Civil Aviation (DCA), a department within the Ministry of Transport and Communications. Its structure was such that it had a total of 950 staff organized into 6 Divisions, each with its own Director, and an additional 4 Administrative Sections reporting to the Director of Civil Aviation.

The structure of the Botswana Civil Aviation Department at the start of the project is illustrated in **Exhibit 4** and comprised the following Divisions:

- Flight Safety Division
- Telecommunications Division
- Air Traffic Services Division
- Aviation Ground Services Division
- Aerodromes Engineering Division
- Air Transport Division
- Administrative Sections - Administration, Accounts, Supplies and Training co-ordination

The DCA administered all of the regulatory functions of civil aviation in Botswana, operated the air traffic control and air navigation system, and operated 5 principal airports (Gaborone, Selibe, Francistown, Kasane and Maun), as well as a number of smaller airfields. Also included among the functions of the Flight Safety Division was responsibility for accident investigation, for which the DCA was inadequately equipped.

As a result of its historical growth, the Department of Civil Aviation while responsible for the above functions, did not provide all of the

⁴ "Feasibility Study for the Establishment of a Civil Aviation Authority in Botswana", Sypher Mueller International Inc. and AirPlan Aviation Technical Services Inc., for ICAO (TCB Project BOT/92/001), September, 1998.

services necessary for operation of the civil aviation system. Key services necessary to discharge its responsibility were provided to DCA by other government departments, yet the DCA did not have any direct control over these. Nor was the cost of providing additional services to the DCA accounted for under the DCA budget. External services provided to DCA comprised the following:

- architectural and building services (building design, contract supervision and maintenance of buildings),
- electro-mechanical services (design, supervision of installation and maintenance of electrical and mechanical equipment),
- printing (AIP, NOTAMS etc.),
- transportation (purchase and maintenance of DCA vehicles), and
- meteorological services (aviation weather observation, reporting and dissemination).

Although difficult to determine the true cost of providing the civil aviation service because the cost of external services was not allocated to DCA, the Botswana DCA operated at a net cost to government. All revenues from operations (airport user charges, ATS and air navigation charges) were channeled to the national treasury, and not retained by DCA, while the budget received annually by the Ministry for civil aviation was insufficient to support the needs of the existing infrastructure, let alone major expansions.

Several difficulties were identified that hampered the efficiency and effectiveness of the DCA. Chief among these were:

- an out-dated Civil Aviation Act,
- an overlap of functions in certain areas,
- separation of airport-related functions and activities,
- lack of flexibility in airport development to account for changing aviation needs,
- a reliance on external services over which no direct control could be exercised in terms of priorities and timing,
- insufficient staffing for the flight safety, accident investigation and airworthiness functions, and
- an under-funding for operations, maintenance and capital projects.

To improve the present operation of the DCA, the project identified 4 possible approaches for consideration. These were:

1. Re-structured and re-organized Department of Civil Aviation

This would comprise a revised departmental structure with 5 directorates (Airports, Air navigation Services, Aviation Safety & Regulation, Air Transport and Administration) reporting to a Director-General of Civil Aviation and a Deputy to the Minister of Transport (**Exhibit 5**).

2. Civil Aviation Authority as a parastatal agency for all functions

Under this option, a separate Civil Aviation Authority would be created with 5 directorates (as identified above), fulfilling all required functions. The CAA would report through a Director-General of Civil Aviation to a Board of Members and ultimately to the Minister of Transport and Communications (**Exhibit 6**),

3. Independent Not-For-Profit Corporation - operational functions only

This approach was aimed at capitalizing on the revenue-generating activities of civil aviation. A corporation would be established as the Civil Aviation Company, with a structure comprising 3 operational business units for airports, air navigation & air traffic services, and corporate operations. Excluded would be the functions of flight safety and regulation (which would remain within the government structure of the Ministry). The corporation would be owned by government and report through a Managing Director to an appointed Board of Directors (**Exhibit 7**).

4. Restructured DCA with a parastatal Airports Authority

This approach comprised restructuring of DCA into 4 divisions (Air Navigation Services, Aviation Safety, Air Transport and Administration), reporting through the Director-General of Civil aviation to the Minister of Transport. In addition, a separate parastatal Airports Authority was proposed to operate and manage all of the national airports under a single organization. This agency would be owned by government and supervised under the Ministry of Transport, with the Chief Executive of the Airports Authority reporting through a Board of Members to the Minister of Transport (**Exhibit 8**).

In all of the above options it was proposed that the Flight Safety function continue to include accident investigation where this was related to accidents of general aviation and small aircraft. In case of a major accident involving commercial jet transport aircraft, it was proposed that a special accident investigation unit would be assembled for the purpose, with contracted expertise brought in from Europe or North America.

Each of the above structural organizations was assigned a cost and then subjected to evaluation in order to be able to express a preference for later decision-making. It is understood that the DCA and Ministry of Transport are presently favouring creation of a Civil Aviation Authority as a parastatal agency of government (Option 2 above), with all functions retained within the agency. This approach finds favour with the Botswana Government, as it already has several parastatal agencies operating in other sectors of the economy.

6.2.2 Kingdom of Jordan Civil Aviation Authority

A project to restructure civil aviation in the Kingdom of Jordan was carried out in 1996 with funding from the Government of Canada, through the Canadian International Development Agency (CIDA). The project was combined with a consultant study of the upgrading of Queen Alia International Airport to improve the passenger terminal building and one of the runways⁵.

The existing organization administering civil aviation and the airports of Jordan was studied in detail in the project. This revealed that the civil aviation administration had some 20 separate departments, each with a Director and each reporting directly to the Director-General of Civil Aviation (**Exhibit 9**). A staff complement of 1480 staff was required under the structure to administer a fairly modest level of aviation activity and a total of 3 airports with international services (Queen Alia International, Amman Airport and Aqaba Airport). However, its air traffic services department handled a large number of transcontinental overflights between Europe and the Middle East and Asia through Jordanian airspace. Revenues from this service amounted to over US\$ 10M per year, helping to generate for the civil aviation administration an effective 38% profit over direct operating costs. However, as with all government departments, all of this revenue was received by the national treasury. Capital and operating budgets provided by the Ministry of Transport for support of civil aviation fell short of requirements to operate and upgrade the national infrastructure.

Several options to restructure were studied and evaluated. As a result a concept to create a commercial corporate Civil Aviation Authority was selected as superior and appropriate for the Jordanian situation. Under this concept, the CAA would be established as a corporation, owned by the Jordanian government, and operated with 5 business units (instead of the previous 20 directorates). These would report through a Managing Director to the Board of Directors of the Authority. The Board would be directly responsible to the Minister of Transport for all of the affairs of the CAA. All functions would be vested in the CAA, with the exception of accident investigation, for which it is proposed that a team would be assembled on an ad hoc basis, using contracted expertise, as and when required in the event of an accident.

The new proposed CAA structure is illustrated in **Exhibit 10**, with details shown of the functions for which business unit would be responsible. A consequence of the re-organization of civil aviation administration in the case of Jordan is that the proposed new structure requires only 870 staff. This is a reduction in staff level of 41% from the 1480 staff of the original structure.

⁵ "Feasibility Study for the Restructuring of the Civil Aviation Authority and the Commercialization of Airport Operations", Architects Crang & Boake, Sypher and AirPlan Aviation Technical Services for Canadian International Development Agency and The Hashemite Kingdom of Jordan, July, 1996.

It is understood that the Jordanian government is anxious to implement the restructuring of its civil aviation administration, and is seeking ways to obtain funding to cover the costs of the transition to a corporatized CAA.

7.0 CONCLUSIONS

Using experience gained in other countries, an examination of the opportunity and options for restructuring administration of civil aviation, enables some fundamental conclusions to be drawn:

1. Restructuring civil aviation administration needs to be considered where it can be shown that there are benefits to be gained in terms of service delivery, efficiency and productivity, and financial performance.
2. There are several models to be considered before embarking on any particular concept for structural change, and the advantages and disadvantages of each need to be assessed.
3. Measures can be taken to safeguard the public interest in critical areas of civil aviation responsibility, even where a fundamental shift away from government is proposed.
4. An approach to restructuring adopted by one country is not necessarily the best for every nation, as each situation is different.
5. It is possible to implement restructuring in a cautious and evolutionary manner, staging over time both the extent of institutional change and the transition from government to, in the extreme, the private sector.
6. Implementation of a restructured civil aviation administration, or airport authority, requires proper study of the options available, a review of staffing needs, salary scales and benefits, development of a 5-year capital and operating budget with implementation funding for the transition process, drafting of enabling legislation, and appointment of a facilitation team to manage the transition process.
7. Privatization, particularly of airports in developing countries, is not always the most appropriate approach. Often, it may not even be realistic or financially viable. Before yielding to external pressures to privatize, civil aviation administrations need to be clear about the motive for considering privatization, and assess whether the fundamental trigger criteria for adopting this concept are satisfied. Many airports will never qualify as being commercially self-sufficient, yet may still need to be retained and subsidized. Alternative concepts for devolving civil aviation functions, such as restructuring by corporatizing the operation and management of airports, may have greater merit than outright privatization.

8. Where privatization of airports is to be applied, it must be remembered that because of the (usually) inherent locational monopoly of an airport, there is a need to safeguard the public interest, through independently regulating privatized airports to prevent monopoly-induced user charges, and to ensure that degradation of service quality does not occur. A mechanism to ensure that additional capital investment is made so that airport capacity is increased when required by service standards, must be a fundamental feature of any privatization agreement.