MASTER PLAN FOR AIR TRANSPORTATION IN MAURITIUS

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EXECUTIVE SUMMARY

Mauritius is an economy in transition. Since it may not be able to generate sufficient economic contribution from its traditional sectors, sugar and textile, it develops other sectors, with tourism being one of the specific target areas. Tourism is moreover a labour intensive sector, which contributes specifically to the urgently needed job creation.

However, now even the tourism sector is stagnating, after booming developments in the 90's. This is moreover painful, as in the recent years large investments have been made in this sector, notably in extending and upgrading hotel capacity.

Although this stagnation can partly be contributed to the stagnating European economy since 2001, the main reasons are found in Mauritius itself. Hotel occupancy rates are in decline, but the rates have – despite this decline - increased significantly in recent years. This raises the question whether there is substantial competition among the hotels. Also among the other contributors to the tourism product, the airlines, there is limited competition. Although at key routes there is – besides Air Mauritius – a second carrier from the counterpart state, these two carriers mostly operate in code share and other agreements with each other.

Whereas there is no evidence of substantial competition among hotels and among airlines, incentives for competitive pricing are largely lacking. However, these incentives are urgently needed in the highly competitive tourist market. Mauritius competes not only with its neighbours, such as Seychelles and Maldives, but with almost all other tourist destinations in the world. In many of these areas there are more of such incentives for competitive pricing.

Mauritius is however relying on its image. Although its beauty is un-disputed, it is not unique. Today, new un-explored areas in the world emerge with similar products, but with lower prices. Hence, the question for Mauritius is if the image can still attract tourists as it has done before. Nevertheless, the current tourism strategy is still restrictive, as it focuses on the up-market segment, which cannot generate enough benefits for Mauritius and its 1.5 million inhabitants. An influx from more market segments would therefore seem to be needed.

There is currently no lack of capacity. Hotel occupancy rates are low, even in decline. There is neither a shortage of air seat capacity, as the hotels seem to claim. There are nevertheless particular seasonal imbalances, causing a shortage of air seat capacity at particular routes at particular periods, even on particular days. There is however no role for the government to interfere with these imbalances. Such imbalances should be solved by market mechanisms.

However, market mechanisms are largely absent in Mauritius. In contrast, both contributors to the dominant (i.e.: package tours) tourism product, hotels and airlines, find themselves locked in their own positions, waiting for action of the other. In addition, the inbuilt free-rider mechanism is not stimulating the individual contributor to take action, as it can expect more benefits if the other takes initial action.

Nevertheless, urgent action is needed in the short term, but also in the longer term to create a sustainable structure. *Firstly*, it is recommended that the hotels take action on the short term and decrease their rates to levels that existed a couple of years ago. This would – in the highly competitive tourist market – generate more tourism, which would moreover benefit the airlines and their load factors. *Secondly*, Air Mauritius should engage into structural measures of cost savings and improved marketing. The airline needs a restructuring, within a short period, so as to enable it to survive in an increasingly competitive world. In this context a restructuring of the network is inevitable so as to align it with a limited number of destinations, preferably only those it can serve at least once a day.

The network Air Mauritius is operating should be based on sound economic principles, efficient end well able to resist actions from competitors. It should not be based on principles related to the quality of access to the island, which are clearly criteria from the government and society point of view. Should this be necessary, the government may make specific requests to Air Mauritius to operate particular routes under government control as well as government contribution.

The government is the third contributor to the tourist product. It has to create preconditions for a competitive market structure between the hotels as well as between the airlines. It can do this by developing two types of policies.

Firstly, it has to liberalise its air access policy, but in a step-by-step manner. Although it would be beneficial for the economy, it cannot take overly drastic steps, as this would have adverse effects for Air Mauritius. Double designation with France, however with particular conditions, is an area that can be explored. Also it may consider allowing “quasi-charter” operations from airports that are not served by Air Mauritius. Such measures would have the additional advantage that incentives for Air Mauritius are created to take the necessary cost measures. Also the exchange of fifth freedom rights needs careful consideration, as the costs (more competition and eroding market shares of Air Mauritius on the routes to South Africa) need to be balanced with the benefits (more tourism from North East Asia).

Secondly, the government needs to ensure that the market structure between the hotels is competitive. It can contribute to a competitive environment, if it would stimulate the informal sector, together with the further implementation of quality standards that Mauritius thinks are necessary. This has – apart from bringing more tourists - two additional effects. It would create incentives for the larger hotels for more competitive pricing. It would also lead to a better income distribution over the whole island, while significantly more people would benefit from tourism than only those working in the hotels and resorts.

The institutional framework should be responsive to the above challenges. It is recommended that a unit be created within the government, dealing specifically with economic regulation and air access policy. This unit would create the new environment described above as well as monitoring the extent to which competitive pricing is indeed realised. While dealing with the air access policy, the unit should be strictly independent from the airline industry. Finally a corporatised Civil Aviation Authority and a separate Air Traffic Service Provider is recommended to be established.

SUMMARY OF FINDINGS

Introduction

Today, Mauritius is an economy in transition. Although the country has enjoyed an economic growth well over 5% per annum over the last two decades, it is now facing structural challenges. Its traditional sectors (notably sugar and textile) may not be able to generate enough momentum to sustain this growth percentage in the longer term. Already today, the Mauritian economy looses momentum. GNP growth is now less than 5% per year and unemployment is now above 10%. During this year the situation seems to be getting worse, as in the textile sector significant lay-offs are expected.

A new orientation on its economic strategy is therefore urgently needed. Whereas new economic sectors such as IT, banking etc. are specific target areas, tourism is specifically a sector with large potentials for the Mauritian economy. It is moreover a labour intensive sector, which may contribute to the urgently needed job creation.

Diagnosis of the System

The current tourism strategy is however restrictive. The strategy focuses on the up-market segment specifically. There is however a large increase in hotel capacity expected. Up to 2006 total hotel capacity is expected to be about 25 to 30% higher than today. It is found that this current hotel development is not in line with the intended policy of controlled development, which aims at a more efficient and sustainable use of land resources. An indication that the intended policy is not followed is that the current major hotel development takes place in a time that only 55 % of the room capacity is used and tourist arrivals are stagnating. Hotel occupancy rates are in decline and a further decline is expected on the short term.

It is claimed, notably by the hotel sector, that air seat capacity is insufficient. This – in their view – is one of the reasons of the low occupancy rates of the hotels. However, as it appears from the figures, only in very limited periods of the year there is a significant shortage of air access capacity. These periods refer to the New Years holiday and the weeks when the Mauritian ethnics from overseas visit the island. In the rest of the year, there is – regarding the overall load factors - in fact no real shortage of air access capacity.

Overall load factors of Air Mauritius are (taking the period October 2003 until June 2004), about 65 to 70%. There are large discrepancies between the routes. Only the routes to Paris and London show load factors over 70%, whereas the other routes show load factors below 70%, in some case even below 60%. Load factors of the other airlines are not significantly different from those of Air Mauritius. Taking all airlines together, the average load factors over the year are in the order of 65 to 70%.

There is practically no competition with Air Mauritius on its routes. It has – together with its code share partners – even a monopoly on most of the routes. Consequently airfares are high. Given the current marginal profits, this supports the conclusion that the routes to Paris and London are reasonably profitable, but these profits are used to finance the losses on the other routes.

The question is whether Mauritius' current strategy is sustainable on the longer term. Hotel occupancy rates are in decline, but the hotel rates have increased significantly in the recent years. This raises the question as to what extent there is indeed sufficient competition between the hotels. If even within the hotel sector competition is limited, one may characterise the market structure as highly ineffective. In such a case there is within Mauritius – by lacking competition in the hotel sector as well as at the air access side – little incentive to provide a competitive product vis-à-vis other tourist destinations. There is in such an environment a risk that the price of the "Mauritius-product" gets increasingly expensive compared to the competing destinations, particularly if there is – unlike in Mauritius - more internal competition at the other areas.

However Mauritius seems to justify these high costs by emphasising on its image. The image is a weak basis however. Mauritians may perceive it, but the question is whether - for instance - Europeans will continue to perceive it. In such markets more destinations are promoting themselves by lower-priced packages with similar products. If the image of Mauritius must be kept in – for instance – the European markets, more aggressive promotion efforts should be established in case prices need to increase.

It is also recognised that the tourism market is mainly a package market. Every stakeholder (airline, hotel and tour operator) contributes to the product and is therefore responsible for the final overall price. This mechanism induces a 'free-rider' behaviour: one action of a particular stakeholder may have favourable impacts for the others. If the airline reduces its fares, overall selling volumes increase with higher hotel occupancy rates. Similar effects for the airlines occur if hotels decrease their rates. It seems that – regarding this in-built mechanism – that both stakeholders are locked in their own position, waiting for action of the other.

The other immediate threat is the pressure that is built up from France, where Corsair, notably with its mother company Nouvelles Frontières, is insisting on serving Mauritius from Paris as a second French carrier. There is also a request from Star Airlines to operate from Paris-Nice to Mauritius. Ignoring these pressures, by retaining the current air access policy, may have significant impacts for the product portfolio (e.g. Mauritius vis-à-vis other products) of Corsair' owner, Nouvelles Frontières.

The conclusion is therefore, that there are significant disadvantages to the current policy of Mauritius with respect to tourism and air access. It is even very unlikely that the current policy is sustainable on the longer term, without serious impacts on the economy as well as Air Mauritius.

This implies a fundamental change in the policy orientation of Mauritius. More concrete: not focusing uniquely on the up-market segment, but also targeting the segment with "lower willingness and ability to pay". It is noted that this is not the same as "low yield back packers". The expenditure of this segment may be lower, but this is compensated by their volume increase and more importantly: substantial employment improvement.

The main problem is not the limited period around the New Years holiday and some weeks when the ethnics visit Mauritius. The main problem of Mauritius relates to the – say – forty-five other weeks of the year. In these weeks, there is sufficient seat capacity. There is no structural shortage of seat capacity, as overall airline load factors are not even 70%. The main problem is the very un-even distribution of demand for seats and hotel rooms over the seasons. It is concluded that – while no overall seat capacity shortage exists – there is no need for immediate government action in providing more seats by “further opening the air”.

The other problem that has been identified is that there is a specific problem in particular weeks, indicated as ‘the ethnic’ season. This is the season when the ethnics visit Mauritius, demanding air seats, while not demanding hotel room capacity. Also there is no specific role for the government to solve this problem of the three individual stakeholders: hotels, airlines and tour-operators. The ‘in-visible hand’ of the market should handle such problems, as well as the other problems related to un-even demand.

For the government there are only two types of roles with regard to these problems. Firstly, pre-conditions should be created that the desired market forces can indeed do their work. Furthermore, in case there is indeed a structural seat capacity shortage, there is a necessity for government action with regard to its air access policy.

From the point of view of the local economy, there is a need for more tourists in all seasons, but most of all in the off-peak seasons. More seats will not solve the problem, at least not in most of the weeks, only lower prices will do. This may be realised by even larger differentials in seasonal pricing, which demands more coordinated pricing and flexibility from the airlines as well as from the hotels. This implies that the hotels are the first to leave their locked-in positions, and take the first steps, by moderating their room rates, that have increased by significant percentages in the recent years. The fact that the hotels should take the first steps is moreover supported by two arguments: firstly, average occupancy rates of hotels are lower than load factors of the airlines; secondly, hotels have financially more room for manoeuvre than the airlines. It is recommended that the government keep an eye on these developments by developing a price monitoring system for package tour prices as well as individual prices of seats and rooms.

There is – given this diagnosis – no need to take significant steps on the short term with regard to air access. We will argue below why major steps in such directions would have adverse effects for Air Mauritius, which is an important factor in the air access policy. Rather it is recommended that the hotels and the airlines are coordinating and find ways to decrease the discrepancies between demand and supply in hotel and seat capacity in the off-peak periods. Although no major steps should be taken, careful steps into more competition in air access are however recommended. Prior to this, it is also recommended – during a clearly delineated period – that Air Mauritius takes such measures that it is well able to survive in a more competitive world that will inevitably come also to Mauritius.

Open Skies Policies

One issue that urgently needs address now is the request of France for double designation, by designating a second carrier, Corsair, on the route Paris – Mauritius. Another request from France, which is even a step beyond double designation, is allowing Star Airlines to operate on the route Paris- Nice - Mauritius. Allowing these two new entrants would certainly mean a big step towards open skies, as France is the prime tourist market for Mauritius.

Looking to Air Mauritius' load factors, the route to Paris is (together with London) probably the only profitable route, and the entrance of Corsair, would therefore to a large extent dry up the sources of cross subsidisation of the less profitable parts of the network. Given the current financial state of Air Mauritius, that seems to justify its existence largely by oligopolies and high airfares, this would inevitably imply that this decision would not be sustainable for Air Mauritius on the longer term.

Such a decision would nevertheless benefit the tourism markets from France significantly. Not so much by providing more seats, as in most of the year there are enough seats anyway. The major benefit would come from lower airfares. Corsair would be the price-leader on the Paris-Mauritius route, and Air Mauritius and Air France would be forced to follow. A significant influx of new market segments would come into the island with inherent positive effects for the economy and job creation. The price for this is the shock to Air Mauritius that is immediately exposed to fierce competition in its most profitable market.

It is therefore recommended to be careful with the potential new entrants at the routes to France. However, we recommend that some steps be taken, even on the short term. These are addressed in the section hereafter.

Restrictive Air Access Policies in the Short Term

A major step towards an open skies policy in the short term, initiated by the allowance of the French entrants, has adverse effects for Air Mauritius, as argued above. This period should however not be characterised as business-as-usual, but should be used to change the internal tourist market structure (as indicated above) as well as the financial performance of Air Mauritius.

Such a policy implies that Air Mauritius is given some time to be ready for exposure to competition. As more tourists are needed, the hotels have to take the initiative to bring down their prices, as Air Mauritius has little room for manoeuvre. The government may have a particular role in this, in ensuring that the market structure of hotels is ensuring adequate competition between hotels. One way of doing this is stimulating the informal sector, together with the further implementation of quality standards that Mauritius thinks are necessary.

The stimulus of the informal sector has another advantage. Not only will it stimulate competition between hotels, and bring more tourists, it also has the impact that it leads to a better income distribution over the island. Rather than keeping the tourist income in the resorts and to those working at the resorts, there is much more economic impact over the island if the medium range informal sector is also stimulated.

More competition and lower hotel rates would moreover not necessarily have negative implications for the large hotels. There is even a strong likelihood that the hotels will benefit from increased competition and lower rates. It would very likely even – given the large price elasticity in the tourist market - mean more revenue for the hotels. As occupancy rates are low, costs would only moderately increase, with a positive leverage effect on profit.

Furthermore load factors of Air Mauritius may increase as well as its revenues. In this phase it is Air Mauritius, who is the “free rider”. This period should however be used to monitor a tough cost savings program for Air Mauritius, which would enable the airline to survive in a more competitive market in the future. The government should be the main driver behind this monitoring program, as the market is not yet giving the right incentives to Air Mauritius.

As the market is not yet giving the right incentives to Air Mauritius, it is recommended that also on the short term some careful steps be taken into more competition in air access. One of the steps could be the allowance of Star Airlines to serve Mauritius from Paris-Nice. The government has still the possibility to impose restrictions to such operations with regard to frequency and other service level factors. It should use this possibility to monitor competition level as well as the performance of Air Mauritius with respect to its policy to adapt to circumstances of more competition.

Further Recommendations for Air Access

The recommendations for a step-by-step liberalisation of air access as well as for a restructuring of Air Mauritius has particular implications for the future air access policy and the air networks connecting Mauritius to the rest of the world. Air Mauritius is the backbone of this air access, also in the future. We recommend that Air Mauritius serves a limited number of ‘gateways’, together with a code-share partner, which it has already at most of its routes. It is moreover recommended that these gateways are served daily, if possible. With this partner, it can serve most of the destinations beyond these gateways indirectly. This implies that the airline should give up some routes where frequency and load factors are low.

Such decisions clearly affect the quality of air access to Mauritius directly. Code-share agreements may at least partly enhance air access. However, for Air Mauritius, commercial criteria should be prevalent and not the criteria of air access to Mauritius. In this context, commercial principles, relevant for Air Mauritius, should be kept separate from principles of air access to the island, which are only relevant from the government and society point of view.

If such code share agreements cannot be established on sound economic principles, and air access to the island is not reaching the desired levels, the government may decide to make specific requests to Air Mauritius to serve particular routes, even if these routes cannot be served economically. The other condition is that any airline from the counterpart state is not willing or able to serve Mauritius. In return, the operation of such routes needs government contribution. One important issue that the financial performance and efficiency on the routes involved of Air Mauritius is clearly monitored by the government.

We recommend furthermore a gradual influx of new entrants to points other than these gateways. This is already the case today: Lauda Air to Vienna, Air Europe to Milan and in the near future LTU to Munich. Furthermore we have recommended allowing carefully Star Airlines on the routes to Paris-Nice. A further step that could be taken after some time is to allow Corsair on the route to Paris. The government has still the possibility to apply restrictions and conditions to these new entrants with regard to frequency, service levels (classes, seat pitch and the extent to which service is provided on a seat-only basis).

These gateways are in Europe: London, Paris and Frankfurt. Furthermore Mumbai and Melbourne in India and Australia respectively. Mauritius has still to determine which gateway it should choose in South East Asia. This is a more complex matter, as it is related to the issue of granting 5th freedom rights. One candidate is Singapore. The route to Singapore could be served by Air Mauritius in co-operation with Singapore Airlines. This destination should explicitly function as a gateway, as it will intend to serve also points in North East Asia beyond Singapore, such as China, Korea and Japan. Singapore Airlines is well able to serve these points as a well-established 6th freedom carrier. The airline would moreover bring more tourists to Mauritius from North East Asia, with the described effects for the economy.

It is however unlikely that tourists from North East Asia will come only for the specific features of Mauritius: sun, sand and sea. They may however be lured by a product that is offered by "partner-destinations": countries in mainland Africa who offer safari-products. Air Mauritius would be well able to take these tourists to Kenya, South Africa and possibly Zimbabwe. This implies the development of a new 'beach and bush" product, where the axis Mauritius – Singapore plays a crucial role.

There is however a potentially significant price to pay by Mauritius: granting 5th freedom rights to the South East Asian airline on the route Mauritius - Johannesburg, for which Singapore Airlines has been used as the example. This involves competition on the route Mauritius – Johannesburg, at least a significant loss of market share for Air Mauritius. It is strongly advised that - before granting such 5th freedom rights to a particular South East Asian carrier – it is ensured that the above described benefits will accrue to Mauritius. In this respect it is noted that Singapore Airlines is not the only candidate for developing this concept. Other candidates are Malaysian Airlines, Thai International Airways and Cathay Pacific, each with specific advantages and disadvantages. This would imply that the gateway would be Kuala Lumpur, Bangkok or Hong Kong respectively, rather than Singapore. It is moreover relevant to note that – in granting these 5th freedom rights – Mauritius has still a position of negotiation.

Air Mauritius

It is clear, that the challenges for Air Mauritius are high; to be able to face competition that inevitably will come. It is recommended that the airline take strong measures at the revenue as well at its cost side.

Regarding the revenues, another recommendation is that Air Mauritius targets the direct selling market specifically. In the travel industry there is a trend towards un-bundling of the package product and even direct (internet) selling. The product Air Mauritius has to offer in this market is highly uncompetitive in comparison with other airlines serving the island of Mauritius.

Whereas the airline Air Mauritius takes tough cost saving measures and becomes more competitive in the direct selling markets, in this transition period the emphasis should be the improvement of load factors, rather than increasing frequencies, let alone the development of new destinations. It should not develop new destinations, apart from the gateways indicated. Frequencies are only increased, clearly within the existing air access policy frameworks, if load factors increase sufficiently to justify this.

There will be however one moment in future, say in 2-3 years, that the actual state of Air Mauritius is again reviewed, whether it is cost effective enough to survive in a competitive world, and whether the moment is suitable to liberalise the air access further.

Airport Developments

As far as the airport infrastructure in Mauritius is concerned, the master plan of SSR Airport, which has been accepted by the Cabinet to be the basis for the development of the region, indicates that the airport will be capable of handling the traffic up to far beyond the planning horizon for the Master Plan for Air Transportation. Once a second runway will be constructed in accordance with the guidelines of the master plan study, the airport will be able to meet the highest ICAO flight safety requirements and will improve the operational reliability to airline users. This, the financial/economical barrier related to the construction and operation of a new, or a second, airport and some other reasons lead to the advice to abandon the plans to reserve the Plaine des Roches area for future airport development.

For environmental reasons, the majority of the inhabitants of Rodrigues have objections against the introduction of jet aircraft on the routes to and from their island. Furthermore, the introduction of jet aircraft would mean that the runway of the airport, Plaine Corail, would need to be extended, which would only be possible at prohibitive cost and environmental damage. The large turbo-prop propelled ATR 42 and ATR 72 aircraft, which are currently used on the Rodrigues routes, are expected to be able to meet the capacity requirements in the future.

To improve the access to Agalega Islands, the present airstrip should undergo a simple upgrading programme, which will allow commuter type aircraft to transport persons and goods to and from Mauritius and the Seychelles. If a hotel accommodation would be developed at Agalega, such an upgrading is considered a requirement.

Other Issues in the Master Plan

Environmental and social constraints

From the environmental and social points of view, the implications as a result of an increase in tourism should be taken into account. It is observed that the policies and strategies for sustainable development as formulated in e.g. “Into the 3rd Millennium” are hardly translated into concrete actions and implementation plans, whereas this would be an absolute requirement for a controlled and sustainable development of the tourism sector. Careful environmental planning and design are essential to prevent the island from an urban sprawl of hotel developments, which would destroy its strengths. A good water management is necessary to take care of the increase of both the demand of drinking water and the volume of wastewater. Next to that, the residents of Mauritius will be increasingly confronted with the tourists, whether in competition or the beaches or in acquaintance with the informal sector. Therefore, the developments would have to be guided by a balanced social programme.

Cargo

The air cargo market of Mauritius showed an average annual growth of 4 to 5 % over the last eight years. The total amount of air cargo through SSR Airport in 2003 was little over 40,000 tons. Air Mauritius Cargo is by far the largest cargo carrier connecting Mauritius with the rest of the world. It is furthermore the only significant cargo handler at SSR Airport.

Several stakeholders reported their concerns that the air cargo tariffs are kept artificially high due to the limited competition. Information provided by Air Mauritius and a conducted benchmark study comparing air cargo tariffs with neighbouring countries, contained however no indication of an obstructed market mechanism.

Two growth scenarios have been developed. The ‘business as usual’ scenario, autonomous growth mainly through macro economic developments and passenger aircraft movements, could lead to an average annual growth of almost 4%. Better results could be obtained through a ‘business development’ scenario, focussing on superior infrastructure, high-end industries and Mauritius Air Cargo, potentially resulting in annual growth figures of 5 to 7 %.

General Aviation

The market in Mauritius is considered to be too limited for establishing a pilots’ school. Another obstacle for pilots’ lessons is that single-engine aircraft, which are generally used for lessons in view of cost, are only permitted to fly above the land, which would make their freedom of movement very limited.

Maintenance

The geographical location of Mauritius is such that it is considered unlikely that SSR Airport will in the future house an aircraft maintenance base where third party aircraft are maintained at a larger scale. From an operational viewpoint, it is crucial for Air Mauritius that SSR Airport will have available maintenance capabilities up to the C-check level. The airline should make an early decision as to whether it is financially more attractive to keep its current light C-check capabilities, or to continue with their plans to extend the range of C-check capabilities, or to outsource the C-checks.

Institutional Framework

Concerning the institutional framework it is concluded that the existing Civil Aviation Act of 1974 is too concise. Furthermore it was illustrated that the competition regime of individual states increasingly affects the operation of international air services operated by Air Mauritius. This may bring the Mauritian authorities to the conclusion that a competition law has to be drawn up and enforced to anticipate the application of foreign competition regimes. The enactment of a regulation on slot allocation and a regulatory framework for airport charges was recommended.

Concerning the public tasks and the required organisation of the authorities the principles were of independence and enforcement were leading. This approach continues along the road already chosen by the Mauritian authorities. A next step is recommended by corporatising the Air Traffic Service Centre and the Civil Aviation Department. It is recommended that another unit in the Ministry of External Communications be established to develop the economic regulation policy and the air access policy. Objectives, activities and staffing are discussed in detail. If this Air Access Policy Unit as a strictly independent unit towards the industry is well positioned in the government organisation, the involvement of different interest groups can be organised by hearing on specific air access topics. The consultants did not discover sufficient reasons to establish a separate Air Access Advisory Council if the Air Access Policy Unit is adequately staffed and is able to incorporate the different views within the society in their policy development.

IN MEMORIAM MR. D. DUSSAYE

To the great grief of the team of consultants and many others in the aviation circles of Mauritius, Mr. D. Dussaye passed away during the final stage of the preparation of the Master Plan for Air Transportation in Mauritius. As the Resident Project Manager he played an indispensable role in the consultants' team by collecting information needed for the study, in arranging meetings between the stakeholders and the consultants and in keeping the consultants in Europe up to date about developments in the aviation and hotel sectors in Mauritius.
We wish to thank and commemorate Mr. Dussaye by presenting an excerpt from one of his last e-mails to the project leader, which reflects his love for poetry:

Quote: I would have preferred something really arresting as introduction <to the report> and I would suggest a quotation from the Mauritian poet Paul Jean Toulet, who wrote of Mauritius as a:

**"Jardin qu'un dieu sans doute a posé sur les eaux,
Maurice où la mer chante et dorment les oiseaux."**

As Voltaire said: "Il faut cultiver son jardin" otherwise it grows wild.

And this is surely the purpose of the master plan Unquote.

We wish his wife, son and close relatives and friends strength in bearing the loss of such a devoted man.

<u>The team of consultants</u>

1. PROBLEM DEFINITION

1.1 Economic Development, Tourism and Air Access

This report deals with the Air Transportation Master Plan for Mauritius. This plan intends to integrate all aviation related issues, assets and policies in a consistent development plan for the next decade.

It is evident that this Plan is of utmost importance for an island economy like Mauritius. Air transport is more or less the modern 'navel string' to the rest of the world: aviation like any other transport mode is not an end in itself but it creates the possibility for other economic activities. Sometimes it is even a precondition to other economic activities like import and export of time-sensitive and perishable goods and – in the case of Mauritius - tourism. This also explains the ample attention paid in this report to non-aviation activities in the Mauritian economy, especially the tourism sector.

Since demand for air transport to Mauritius is predominantly a derived demand for tourist services, a close correspondence has developed in the past between the tourism development strategy and the air transport strategy of Mauritius. The tourism development strategy has successfully focused in the past on an exclusive up-market product that corresponds with a high-quality airline product provided by Air Mauritius. This high-quality airline product of Air Mauritius has been created in a relatively protected air transport market based on bilateral air service agreements between the state of Mauritius and other states. The result of these two strategies has been very successful. A high-quality, low-volume and relatively expensive product for tourist accommodation and air transport.

However this strategy has been put under pressure by a number of developments during the last few years.

1. The Mauritian economy has arrived in an accelerating process of transition due to external impacts like the changes in the ACP/EU Sugar Protocol, and the phasing out of the Multi Fibre Agreement in accordance with decision processes within WTO. As a result the tourism sector in the Mauritian economy will play a decisive role in the further economic development of Mauritius in the near future. In other words: tourism volume has become a key factor in national economic development.
2. The international air transport markets are being deregulated for more than two decades already. Restrictive bilateralism has been replaced by fully liberalized markets or by an increasingly liberal bilateral regime. The results are clear: increased competition on individual routes, increased concentration on the network levels, declining airfares, increased airline cost efficiency, reduced product quality and extra growth in demand. In other words, the air travellers increasingly perceive the relatively expensive high-quality product of Air Mauritius as a less competitive product.
3. The liberalized air transport markets and resulting lower airfares have very strongly stimulated long haul tourism destinations since the nineties of the last century. An increasing number of holiday destinations have become direct or indirect competitors of Mauritius.
4. The Tourism Development Plan for Mauritius is aiming at the continuation of Mauritius as a high-quality tourism destination. To maintain this positioning the

Plan assumes continuous quality improvements of airline services and accommodation. At the same time the Plan foresees a relatively substantial volume increase in the high-quality hotel sector. Particularly during the first five-years period of the Plan the growth in hotel room capacity is substantial.

Due to these developments some tension is created between the up-market high quality tourism ambitions and the expected tourism volume developments. From the point of view of national economic development the future tourism volume becomes increasingly important to create new employment and value added.

The contrasts in the expectations of air travel to Mauritius are even bigger. Opposite to the mainstream developments in the international airline industry Air Mauritius is expected to continuously improve the quality of its airline services to bring the high yield tourist to Mauritius.

These possible conflicts of interest illustrate that a new Air Transportation Master Plan has to focus primarily on the future aviation policy and in more detail on the key issue of future air access policy. This policy should contribute to a healthy airline industry and correspond with the needs for future national economic development in a rapidly changing world economy. To be more specific, tourism as an exponent of this economic development will strongly determine the need for future airline services. Future air access policy has to be based on those needs and should thereby safeguard the high quality profile of the tourism product while the contribution to the national economy is optimised.

All in all, the Master Plan for Air Transportation will be embedded in the context of rapidly changing requirements for the economic development of Mauritius and especially the tourism sector. The resulting key question that has to be answered in the Master Plan concerns the future air access policy in correspondence with the future development of Air Mauritius. The way this air access policy and - in a broader framework - the whole aviation policy will be implemented in the next years requires a strong organizational and institutional framework. The Master Plan will secondly focus on the implementation of this framework. Thirdly the Air Transportation Master Plan brings together a number of diverse issues from the aviation industry. These issues will be brought together in the final chapters of this report.

1.2 Recent Economic Developments and the Future Role of Tourism

Today, Mauritius is an economy in transition. Although the country has enjoyed an economic growth well over 5% per annum over the last two decades, it is now facing structural challenges. Its traditional sectors (notably sugar and textile) may not be able to generate enough momentum to sustain this growth percentage in the longer term. Already today, the Mauritian economy looses momentum. GNP growth is now less than 5% per year and unemployment is now above 10%. During 2004 the situation seems to be aggravated, as in the textile sector significant lay-offs are expected.

Background to this economic situation is the continuing trend in liberalising world trade markets. Mauritius cannot escape from this trend, where it will increasingly be part of competition in global markets. The sugar and textile sectors are no exception. Regarding the sugar sector, Mauritius may not be able to keep its status as ‘developing’ country in the ACP/EU Sugar Protocol, by which it has enjoyed favourable prices for sugar in the past. The economy has now arrived at a stage where its GNP per capita is too high and its economy is too diversified to be able to make the case for being a developing country. There is a possibility that sugar prices will decline by 37% in the near future.

Textile is the other sector for which the effects of globalisation are now affecting Mauritius. The textile sector faces increasing competition from lower wage countries, such as India and China, notably the two most populous countries in the world. Compared to Mauritius, wage costs in these countries are significantly lower. This enables them to produce textile at lower costs, by which Mauritius now seems to loose market share. Measured in volumes, the textile sector is now shrinking. The decline was 6% in 2002, again 4% in 2003, and it will probably shrink by another 2% in 2004. A further decline can hardly be avoided despite of an intensive restructuring programme. The phasing out of the Multi Fibre Agreement in accordance with WTO rules will ease these reallocation processes.

Mauritius may therefore feel obliged to adapt its development strategy on the short term by shifting its focus to other sectors, where a competitive advantage exists to the lower wage developing countries. Textile seems still to be a sector with potential for Mauritius, but it should shift its focus from the lower to the higher quality end of the textile market. In this type of markets it has still a significant competitive advantage compared to – for instance - Europe. A similar argumentation holds for the IT-sector. In the interviews held in June 2004, it was observed that labour costs are already too high to be competitive in the lower end of IT-services market (such as call centres). Software development would however seem a sector with some potential for Mauritius. Moreover, other sectors that are mentioned are banking, financial services and – not the least – tourism.

1.3 The Need for Growth in Tourism

Tourism in particular remains an economic sector with large potentials for Mauritius. Already today in Mauritius more than 20,000 jobs are generated by this sector. Although in the past three years the tourism markets have been stagnating, its prospects for the longer term are potentially good. Its main market is Europe. The expenditure on tourism in Europe is expected to increase stronger than its GNP. Tourism – and certainly long distance tourism - is a typical ‘luxury good’, for which high income elasticities are seen: its share in total consumers expenditure increases. Although the GNP-growth per capita in Europe is relatively low compared to USA and Japan, long-term growth prospects in the European market are positive.

However, like the other sectors, tourism is also a competitive market. Today, the number of long distance tourist destinations is growing in the tour operator’s brochures. “Value for money” is mainly determining the market share the distinct destinations can expect. In competing markets, like the tourist market, price sensitivity is high: given the quality, relative small price changes can lead to large market share changes.

Globally, there are factors by which ‘value for money’ increases. Starting with the ‘money-component’, the costs of a typical long distance holiday has decreased substantially. The air trip component is the main contributor to this decline. by –

say – Europeans. Anyhow, on the longer term, image is a weak basis. Should this image fade away, Mauritius may loose significant market shares in the distinct originating markets. Therefore one must conclude that the current tourist strategy bears some risk in it: whereas until today the image could justify the high price of the Mauritius' tourist product, this may not be the case in the future anymore especially if promotion efforts diminish.

But even if Mauritius would be able to pertain its value perception by promotion, this would bring – in some views – too few tourists with insufficient economic multiplier effects into Mauritius. The current state of the economy may require a significant increase in tourist demand volume. Recent volume developments in the up-market segment make it impossible to compensate the current lay-offs in the textile sector. Among other things the current pricing strategy in the tourism sector is not expected to provide the new employment perspectives. It can even be questioned whether Mauritius is able to retain its current market share in the up-market segment as such.

Enlargements of the tourist market may imply major changes in the environmental and social structure. Careful environmental planning and design is essential to prevent the island from an urban sprawl of hotel developments. A good water management is necessary to take care of the increase of both the demand for drinking water and the volume of wastewater. Next to that, the residents of Mauritius will be increasingly confronted with tourists, whether in competition for the beach or in acquaintance with the 'informal' sector. Therefore the developments have to go with a balanced social program.

2. THE TOURISM MARKET

2.1 The Tourist Development Plan and Current Tourism Policy

2.1.1 Policy Options Chosen

The Tourism Development Plan (2002) is the basic document for the current tourism policy of Mauritius. We therefore summarise the main issues of this Plan as a point of departure for our further analysis. We also indicate the recent developments since the Plan was accepted.

The general objective of tourism as indicated in the Plan is to optimise socio-economic benefits from the tourism industry for the people of Mauritius. Parallel to that objective it is intended to make tourism a positive force for environmental conservation and for social-cultural enhancement.

The Tourism Development Plan (TDP) distinguishes three basic options for tourism development:

1. tourist numbers
2. quality and the mix of accommodation
3. diversification of market segments and accommodation stock.

1. Regarding the volume of tourism, the government has already committed to a target of one million tourist arrivals on the short term and two million before 2020 in the up-market segment. The TDP concludes that tourist development in Mauritius will not be constrained. The tourist burden on the country in terms of environmental and social impact remains limited, given these targeted growth figures.

   In correspondence with these targets for the first five-year period room capacity is increasing from 9,024 rooms in 2001 to 12,830 rooms in 2006, with an accelerating growth especially in the last few years (see Figure 2.2.).

2. Despite the 'low volume and high quality' hotel sector there are regional and domestic markets that seek inexpensive accommodation, for example the French coming through Réunion. This accommodation has developed through the 'informal' sector. According to a survey executed for the TDP this accommodation has substantial capacity. An estimate of 7,000 rooms resulted from this survey. In comparison with the hotel room capacity in the formal sector the occupancy rates are much lower in the informal sector: Bed nights sold in the formal hotel sector are about 3.5 times higher than in the informal sector according to the TDP. Table 2.1 summarises the main differences between the various types of accommodation. It should be emphasised that there is a complementary value of the informal sector product in the tourism product portfolio. Repeat tourists, accounting for 33% of the tourists interviewed in the 2000 survey, probably are more or less captive customers of the informal sector. If this is the case a value added strategy for this sector will contribute to the economic development without undermining the high quality profile of the formal hotel sector.

Accommodation	Proportion of tourists	Average Length of Stay (in nights)	Average Expenditure per night)
Hotels	76%	8.5	Rs 2,858
Bungalows	8%	12.9	Rs 1,154
Boarding houses	6%	9.2	Rs 1,256
VFR	7%	15.5	Rs 730

Table 2.1 Some characteristics of the different types of accommodation,

The TDP intended to regularise the informal sector by a licensing system and to upgrade it by a special selling formula and training support. If this policy would not be implemented the TDP expects that the main characteristic of 'cheapness' could undermine the high quality hotel sector. The implementation of this policy has in 2004 resulted in some 1,720 licensed rooms only. So probably the majority of the informal sector has remained informal until now.

3. The third option the TDP discussed is the opportunity for diversification. Diversification will add more to the product portfolio and make the destination more attractive, but it has to be achieved without disturbing the core market segment: tourists with high expenditure profiles who want relaxation and high quality services. The Tourism Development Plan suggests diversification into a number of market segments, like 50+ group, conferences, exhibitions and other special events. Next, there is a need for further diversification and improvement in the (inland) tourist attractions, among which eco-tourism, and opening up some inland sites for tourist accommodations.

Future tourism policy

Based on these choices in policy options the most important topics from the national tourism policy indicated by the Ministry of Tourism can be summarised as follows [1]:

- the policy will remain focused on selective tourism aiming at the higher end market segment.
- Mauritius will be positioned as a safe and quality destination with a low-density type of development;
- the tourism portfolio will be broadened by some diversification into niche products (golf, wellness, marina, MICE etc.);
- new concepts of resort development will be introduced englobing upgrading of facilities and services outside hotel premises;
- more equilibrium will be created between tourism and local recreational needs;
- more linkages will be created with other sectors like handicraft, agricultural products etc.;
- the non-hotel sector will be regulated.

The future tourism policy apparently also covers other government domains. For example the tourism policy also indicates that an air access policy of no charters will be maintained.

[1] Note from the Permanent Secretary of the Ministry of Tourism d.d 03 August 2004

2.1.2 Physical Planning of Hotel Projects

The TDP emphasises the introduction of clear land-use zoning and physical development plans to permit a more efficient and sustainable use of land resources. Six tourism development zones have been identified for which the TDP has formulated a specific development and planning strategy. The question is to what extent the current developments (approved hotel projects) in the tourism sector are in line with the strategy formulated in the TDP (plus).

The *Northern Tourist Zone* is the main tourist centre. The focal point is to maintain and increase the broad range of accommodation type whilst upgrading the quality. Large-scale developments are allowed and the focus is on mixed development, which means luxury and quality hotels, boarding houses and bungalows/villa's/apartments as well. At this moment the Northern Tourism Zone has a capacity of 4.620 rooms[2]. The two approved hotel projects, Club Med and Beau Manguier, will add 365[3] extra rooms by the year 2006.

The *South West Tourist Zone* is indicated to allocate a wide range of accommodation types. The strategy is to maintain the luxury and high quality hotel development and at the same time upgrade informal sector through license control to regulate and upgrade this accommodation sector. Currently the South West Tourist Zone accommodates about 1.750 rooms. The projects 'Les Salines Integrated' are being implemented and will be realised before the end of 2006. This will increase the hotel capacity with 825 rooms divided among 5 different hotels. The Taj Exotica and Wolmar projects will insert another 108 rooms (2004-2006) in the South West Tourist Zone.

The development focus for the *Eastern Tourist Zone* is the luxury and quality hotel range. This implies a strategy of maintaining the luxury and high quality hotel development through control and environmental protection and improvements. Large-scale developments are not planned. Nevertheless, the TDP appoints different locations for the development of luxury hotel complexes (and environmental protection). The Beaux Multipliants hotel project will take care of 30 extra rooms (2005) on top of the current amount of 1.750 rooms in the Eastern Tourist Zone.

Mahébourg Tourist Zone is a zone for small scale mixed development. The strategy emphasises to maintain luxury hotels in Blue Bay, whilst making environmental protection a priority. Another spearhead of the strategy is to stimulate high quality small hotel development, like bungalows, villa's or apartments (the informal sector). The current amount of hotel rooms is 530 and according the approved hotel projects this will enlarge with another 225 rooms (Mahébourg and Ex. Thalassa) by the end of 2006.

The philosophy for the *South Coast Heritage Zone* is to maintain a rich environmental reserve of scenery and natural features of the island. The zone could be considered as protection zone for tourism and environmental activities. Controlled development will protect the coast and the Pas Géométriques. The

[2] all figures 'current situation' are rounded off and based on figure 8.7 'Spatial distribution of hotel rooms' – Mauritius Tourism Development Plan

[3] all figures 'new hotel rooms' are indicative and based on a 'Approved Hotel Projects (2003-2006)' received from AHRIM.

strategy for the village centres is to encourage high quality small hotel/guest houses development. At this moment the zone is hardly developed for tourism (25 rooms). The Bel Ombre Integrated project is one of the developments in the South Coast Heritage Zone. Together with the hotel projects Beau Champ and St. Felix 1.519 extra rooms will be available by the end of 2006. Surprisingly, the South Coast Heritage Zone is being developed as a more important tourist area with 1,544 rooms in total. According to the physical planning policy the zone is meant for controlled development for small high quality hotel/guest houses. This strategy is formulated in order to protect and maintain the rich environmental reserve of scenery and natural features. It is questionable whether this development is in line with the policy and contributes to the protection of the environment, especially in the coastal zone.

The *South West Nature Zone* is meant for improvements in 'green activities' and not for hotel developments. The Black River Gorges National Park is incorporated in this nature zone. Recreational links will be developed from the coast to the nature zone. Currently there are no developments for new rooms.

2.2 Second Opinion on Environmental and Social Constraints

2.2.1 Standing Policy

The Tourism Development Plan (TDP) for Mauritius and Rodrigues were tasked with putting a prudent emphasis on sustainability. Consequently, one of the objectives is to make tourism a positive force for environmental conservation and for social-cultural enhancement. The TDP suggests a framework for physical planning and development control. In spite of this, the TDP didn't define the limits of acceptable environmental change. This is the important first step towards sustainable tourism. The other steps are: inform the tourists, monitor, measure and manage and re-invest the yields to improve the environment. None of them is incorporated in the TDP; the TDP just gives quantitative objectives for a growth in tourism.

A Strategic Environmental Impact Assessment never is done to judge the Tourism Development Plan. This is a shortcoming, because only then all tourism developments and their spatial and environmental consequences could have been considered in relation with each other. From there it is possible to assess the separate developments. Currently, Environmental Impact Assessments are done without notice of the context with other developments. Hotel developments occur in a largely ad hoc fashion and it is expected that this could be a danger for the island's environment.

Since 1997 two marine parks were proclaimed: The Blue Bay Marine Park in the south of the island with an extent of 353 ha and the Balaclava Marine Park in the north of 485ha. In 2000 these areas are declared as Marine Protected Areas. In October 2001 the government of Mauritius approved new regulations to protect marine life. This "Marine Reserves Protected Areas Regulations" makes net fishing interdicted. Line fishing from boats would be allowed only outside the lagoon, at a distance of one kilometre away from the coral reefs. Boats would not be allowed in the marine parks. There are plans for two marine centres to raise the awareness of the local population as well as foreign visitors on the need to protect marine life. Other sites around the island will also be transformed into marine parks or fishing reserves. They include the small islets, l'Isle Plate and Coin de Mire, in the north of Mauritius.

Mauritius is party to various international environment agreements:
- Biodiversity;
- Climate Change;
- Climate Change-Kyoto Protocol;
- Desertification;
- Endangered Species;
- Environmental Modification;
- Hazardous Wastes;
- Law of the Sea;
- Marine Life Conservation;
- Ozone Layer Protection;
- Ship Pollution;
- Wetlands.

It is observed that the policies and strategies for sustainable development as formulated in e.g. 'Into the 3rd Millennium' are hardly translated into concrete actions and implementation plans. Whereas that is really needed for a controlled and sustainable development of the tourism sector.

2.2.2 Current Situation

Mauritius is a relatively small island and has a fragile ecosystem and marine life. It is a volcanic island and is surrounded by a coral reef. Marine parks have been allocated to protect coral life, in which for example jet skiing is forbidden. The representation of the landscape is mainly given by the long stretches of white coral sand beaches and a crystal clear sea. The hotel sector has been using this scenery for their benefit, especially in northern tourism zone. Hotels are situated parallel with the beach and sea, which disturb the relation with inner land. The inner land offers another scenery. Near the see it is flat and covered with sugar cane plantations, more inland it is mountainous and vulnerable to erosion. From the mountains to the coast rivers criss-crossed the island. The south coastline is different from the other coastlines of Mauritius. It has a more rough and wild character and is hardly exploited by the hotel sector. The south coast is spatial transitioning into the Black River Gorges National Park. This Park consists of a wide range of habitat, which contains some of the rarest birds in the world: Mauritius kestrel, echo parakeet and pink pigeon. Mauritius is said that to be recognised for it's unique flora and fauna. However, less than 2% of the island is covered with endemic plants and the island possesses less than 1% of intact original forest.

Mauritius is almost completely encircled coral reefs. This cluster of calciferous polyps can only exist in seawater so at river estuaries and at the sea's surface it perishes. The coral reef is a habitat for various fish species like moray eels, trumpet, clown and box fishes, trigger, scorpion and king fishes, groupers, barracudas. Tourist can experience the marine life by diving, snorkelling by taking a trip in a glass bottom boat. Unfortunately, the reef has been overexploited in recent years. Studies show that there has been a dramatic decline in population attributable to pollution from domestic and tourism, coral attacks by the Crown of Thorns starfish and illegal dynamiting of the reef by fishermen. The degradation of coral reefs is one of the most important environmental current issues in Mauritius.

At present, Mauritius does not have problems with fresh water resources. For Rodrigues however fresh water is limited and on this island hotels are committed to build their own desalination plants. The source for water is simply rain and 92 rivers, 232 rivulets, 5 man made lakes, 2 natural lakes and ground water distributed into 7 ground water basins constitute the main fresh water bodies of Mauritius. The present domestic water consumption is estimated to be around 250 litres per day per person. In the tourist sector the water consumption varies from 1000 litres per day per person in five star hotels to 180 litres per day per person in ordinary hotels. In the year 1998 the water losses in the Mauritius' supply system is estimated to be of the order of 55% and roughly doubles the water demand figure. It is estimated that if losses are cut to 25% or even 35% of water requirement, then demand will be met in the year 2010.

Mauritius obliges hotels with more than 75 rooms to have sewage treatment, unless they can be easily attached to the sewer system. It is possible that the number of 75 rooms will be lowered in the future. Hotels with less than 75 rooms use cesspits. The danger is that effluent can rapidly percolate to the lagoon and pollute it through nutrient enrichment. In total 80% of the wastewater is purified before it is discharge into the sea. Water pollution is an important environmental current issue. Sources of water pollution are industry, agrochemical usage, domestic usage and sugar mills.

The inhabitants are mainly living in the centre of the island. The economic growth over the last two decades however, has caused a social change in Mauritius. Extended families are becoming an exception. Next to that more and more residents live in coastal areas instead of in the inland villages. Also the demand for leisure has grown. At this moment the beach is the most important leisure facility for Mauritian residents, but the public beaches spaces available for local residents are limited.

2.2.3 Towards the One and Two Million Tourists

An increase of tourism will have its consequences for the environment. The hotel developments take space and affect the scenery and nature. This will be notably the clearest in the South Coast Heritage Zone. The current developments there are enormous and will transform the south coast from wild, rough and natural into tourist scenery. In the South West and Mahébourg Tourist Zones the hotel developments will also have an impact. The extra room capacity and other tourist facilities replace natural recourses and space. Start from the current hotel developments, parallel with the sea, the new hotel approved projects will worsen the break through of the gradient sea-inland, whilst this is just interesting for tourism and have to be accentuated. For Black River Gorges National Park more tourists mean disruption of habitats. Therefore, zoning, monitoring and maintaining is required. Considering the quantities objectives up to two million tourists by the Year 2020 and the facilities needed, careful environmental planning and design is indispensable. If not, the developments will cover the landscape and natural environment of Mauritius as an urban sprawl. On top of that there is currently a considerable room capacity that is only used for 55% in 2003 (see Figure 2.1). So it can be asked whether all the hotel developments are advisable or not.

Almost the same can be said for the coral reef and marine life that surrounds the island Mauritius. While the coral reef is one of the features of the island, tourism is also one of the causes for the decline of the coral reef. Zoning, monitoring and maintaining and at the same time raising public awareness is required.

Although at this moment Mauritius can rely on its fresh water resources, it is to be expected that more tourists will have impact on the water management of the island. More drinking water is needed and at the same time the amount of wastewater will increase. The amount of water consumption mainly depends on the type of hotels. The indication is 1000 litres per day per person in five star hotels to 180 litres per day per person in ordinary hotels. These amounts of water are also the contribution to the sewage system. The assumption is that hotels with a sewage treatment do not provide in a complete sewage treatment. In that case approximately 40% of the used water is treated by the hotels themselves and will be used for e.g. gardening. This means that around 60% of the used water return to the sewage system. In short this will be 600 litres per day per person in five star hotels. The hotel developments imply more paved surface. This means less infiltration of raining water and will have consequences for the ground water level.

The package tours have been protecting the social fabric up till now. The tourism product was directed to the sea and kept its back to the inhabitants who are mainly living in the centre of the island. Nowadays more residents live in coastal areas and the demand for leisure has grown. At this moment the beach is the most important leisure facility for Mauritian residents. Hence, there will be a competition between tourists and residents in the coastal areas. This possibly can cause a social clash. The strategy for the South Coast Heritage Zone to encourage high quality small hotel/guest houses development in the village centres will have consequences for the social-cultural resources. Also the development-focus on a broader mixture in types of accommodations, meaning the development the ‘informal’ sector will have impact on the social fabric. As yet it is not clear whether this will be a positive or negative impact.

Nevertheless, tourism could also be a locomotive for improvement of the whole environment (physical and social), if the yields are invested in environmental planning and design, flora & fauna, water management, facilities for the inhabitants, SME, etc.

2.2.4 Conclusion

For sure an increase of tourism will have consequences for the environment. Current hotel developments parallel with the sea break through the gradient sea-inland. As an urban sprawl the hotels replace the natural environment. This give the hotel projects the identity of autonomous developments, without having a relation with the environment. The South Coast Heritage Zone will be the most affected, if no precise environmental planning and design is used. On top of that there is currently a considerable room capacity that is only used for 55% in 2003 (see Figure 2.1). Marine life is very fragile and will need zoning, monitoring and maintaining and public awareness. Exactly because the coral reef is one of the tourism attractions. Proceeding from these facts and from an environmental point of view it is recommendable to optimise the room capacity available, rather than realise new hotel projects without referring to the framework for physical planning and development control.

More tourists will have impact on the water management of the island. More drinking water is needed, the amount of wastewater will increase and the increase of paved surface will hinder infiltration of raining water.

The increase of tourism also will have its impacts on the social-cultural resources. As yet it is not clear whether this will be a positive or negative impact. The strategy to encourage high quality small hotel/guest houses development in the village centres, means contact between residents and tourists. Next to that, Mauritian residents living in coastal areas and using then beach for leisure, imply a competition between residents and tourists.

2.3 Current Problems in Mauritius Hotel Sector

2.3.1 The Key Problem: Declining Hotel Room Occupancy Rates

The occupancy rates of available bed places show a decreasing trend since a number of years already, from 63% in 1997 to 55% in 2003. In other words, the hotel sector of Mauritius has become less and less successful in exploiting the available capacity.

This is a trend of major concern since a number of developments point into the

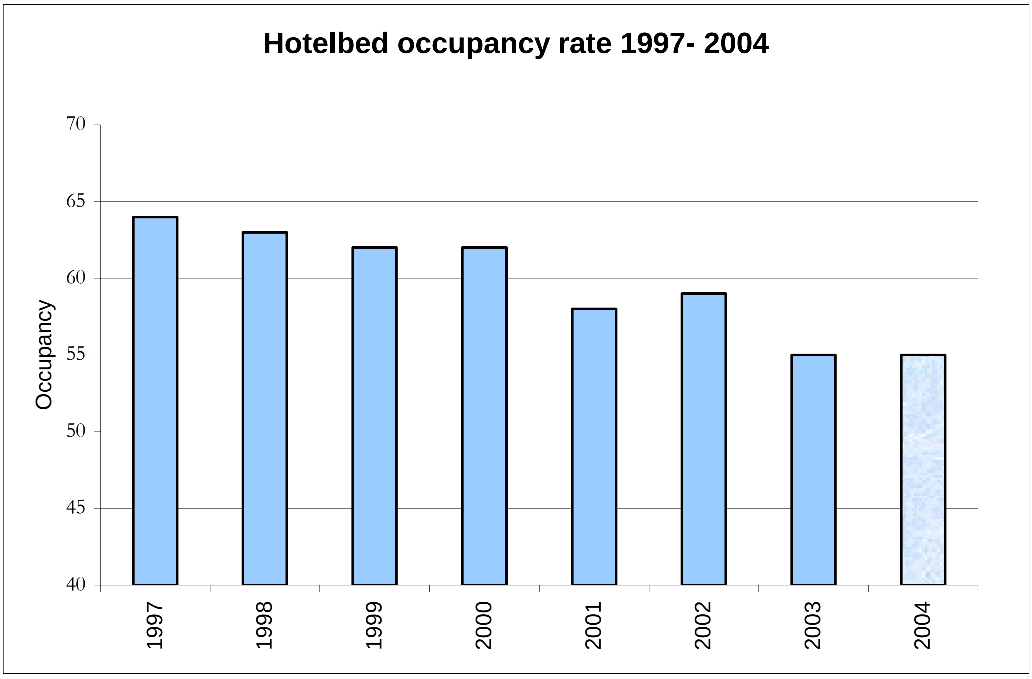

Figure 2.1: Annual occupancy rate of hotel beds available (source: AHRIM)

direction of a further deterioration of this figure. This key problem has two sides. From the point of view of national economic development value creation is frustrated and employment opportunities remain unused. From the point of view of the hotel business more and more hotels may arrive in the danger zone, since an overall break-even load factor of the sector may lie in the range of a 50% occupancy rate. In that case employment perspectives would further worsen due to bankruptcies.

The key question therefore is how to change this negative development into a positive one. And of course the essential question that has to be answered in this report is whether the available seat capacity by air has been or will be a decisive factor in the development of this occupancy rate.

2.3.2 Hotel Room Capacity

The problem of the declining occupancy rates is the more urgent since not only the percentage of unsold hotel bed nights is increasing but also the numbers of beds and rooms. In other words, the capacity supplied is growing but demand does not follow this growth. Although the annual growth of hotel capacity in Mauritius has been varying over the years, as Figure 2.2 demonstrates, it is clear that the hotel planning ‘pipeline’ shows unprecedented growth figures in the numbers of hotel rooms for the next few years.

The number of hotel rooms will grow from 9,647 rooms in 2003 to 12,830 in 2006, according to the figures of the Ministry of Tourism. The hotel room capacity offered in Mauritius will therefore increase in three years time by 33%. If we combine this development with the declining occupancy rates until now, it is likely that ceteris paribus this decrease will accelerate and end within a few years below the average break-even load factor.

2.3.3 Hotel Room Rates

The most surprising issue in this development of increasing oversupply are the average room rates. In economics it is common sense that if demand does not keep pace with expanding supply the price mechanism will take care of the market equilibrium and demand will meet supply at a lower price. Annual average room rates however show a substantial upward trend, which is only partly explained by inflation. AHRIM reported the following average room rates: from Rs 4,236 in 2001, to Rs 4,669 in 2002, Rs 5,193 in 2003 and Rs 5,569 estimated for 2004. In summary, this would mean an average price increase of 31.5% in a period of 3 years, based on a survey of 30 hotels.

This increase in hotel room rates is well above inflation that only accounts for merely 5% per annum. An explanation by AHRIM on this is the pricing of rooms in Euros. So the remaining part of this increase in room rates should be attributed to the appreciation of the Euro vis-à-vis the Rupee. Nevertheless, most of the hotel costs are local costs by which the profit per hotel bed night sold should have increased substantially.

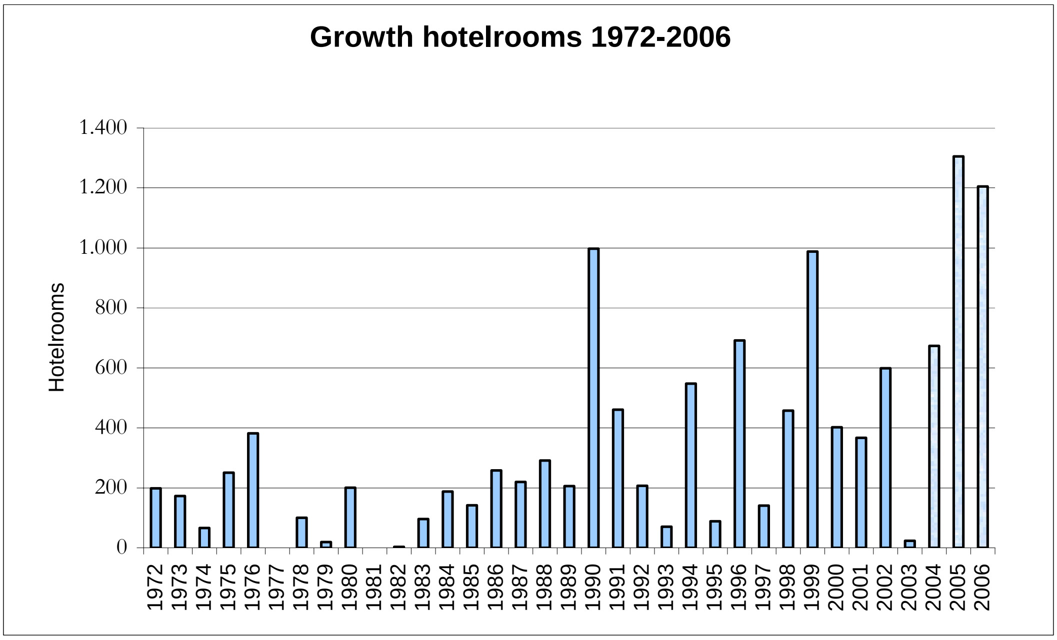

Figure 2.2: Annual growth in numbers of hotel rooms available (Source: Central Statistics Office, planned growth stated by Mauritius & Ministry of Tourism and Leisure)

In general however this pricing behaviour is inconsistent with the trend in the average hotel occupancy rate. In the interviews held it has been indicated that fierce price competition exists between the hotels. In that case there is expected to be a strong incentive among hotel operators to reduce their room rates in order to improve their occupancy rates more than proportionally.

An analogy for this market behaviour can be found in the air transport sector elsewhere in the world. Also in air transport there was substantial overcapacity worldwide, but deregulation has resulted in fierce competition reflected in lower fares, in some cases even price wars. The result has been a significant decline in yields and a substantial increase in passenger volumes to such an extent that overall load factors are now substantially higher. To cope with increased break-even load factors airlines are extensively involved in cost cutting programmes.

One would expect similar developments in Mauritius' hotel sector, given the low occupancy rates and – as indicated by AHRIM - the competition between the hotels. Competitive behaviour is however difficult to understand in relation to a rapidly growing supply of rooms in combination with an increase of average room rates by 31.5% during the last three years and continuously decreasing occupancy rates.

The explanation may partly be found in the fundamentally different market conditions between the peak and off-peak season. The peak season from November to January is a very strong demand driven market in which high and increasing room rates go hand in hand with relatively high room occupancy rates well above 70%, according to AHRIM. The off-peak season is however a supply driven market with low and decreasing room occupancy rates and relatively low room rates at 36.4% of the peak rate. It is therefore likely that the annual increase in overall room rates is partly attributable to disproportionate increases of room rates during the peak season when demand is less price elastic. The off-peak room rates however do not incentivise sufficient demand volume during the off-season period, resulting in an overall decrease in occupancy rates.

This decrease in occupancy rates is exacerbating due to an substantial overall increase in hotel rooms, especially on the short run. At the same time an increase in overall room rates is stimulated by the disproportionate increase of top-class hotel rooms. [4]

We conclude that the market conditions for the demand and supply of hotel rooms in Mauritius are not that flexible and competitive as claimed by various stakeholders. Probably an over-emphasizing of the up-market image, the strong contrasts between the peak and off-peak characteristics, possibly the role of tour operators and last but not least the pipeline effects of additional hotel room supply are stiffening the hotel room market.

A further analysis of hotel room pricing is outside the Terms of Reference for this study, but we would recommend more detailed analysis to better understand the role of pricing in this market -especially in the peak and off-peak tariffs- and to eliminate unnecessary impediments to a flexible and demand responsive pricing.

2.3.4 Decreasing Length of Stay

Another complicating factor that may contribute to the deteriorating occupancy rates is the decreasing length of stay per arriving hotel tourist. In other words hotel owners have to attract more tourists to be able to sell the same number of bed nights. The value for 2004 is a preliminary one that is only based on indications of AHRIM and the Ministry of Tourism. It however confirms the structural decrease in this indicator.

General factors as well as specific factors for Mauritius can explain this tendency. In general, tourist behaviour is changing. The number of holidays per person per year in European countries is increasing and the average length of holidays is shortening. Long haul and short haul trips are succeeding each other more frequently. More impulsive last minute bookings for shorter periods and with shorter lead times. This behaviour is also stimulated by more flexible internet bookings, an increasing market for last minute trips and more flexible package

[4] Several other arguments are put forward by AHRIM to explain the decreasing overall occupancy rates in combination with the increasing overall room rates. For example the reduced length of stay is used as an argument (see also below, 2.3.4). This may partly be a ‘chicken or the egg’ issue, since one could wonder whether the length of stay is completely an autonomous phenomenon or is it also related to higher room rates? Another argument for rising room rates are the costs due to hotel renovations. One may wonder however whether a full absorption of the renovation costs in the room rates will be accepted by the consumer in a highly competitive market as claimed by AHRIM. The third argument refers to the growing strength of the Euro against the Mauritian Rupee. This is reflected in the average room rate –according to AHRIM- since most of the operators sell their rooms in Euros. If however the major part of the hotel operating costs are incurred in Rupees, there is an excellent opportunity, especially in an assumed highly competitive market to reduce the average room rates in Euros. The fourth argument reveals an inadequate pricing behaviour: due to the low business in the off-peak season –and an all year around operation and pay roll- hotels have to project a subsequent rise in their tariff to break-even and to generate profit. Such a pricing strategy will ultimately enable competing holiday destinations to absorb Mauritius’ market share.

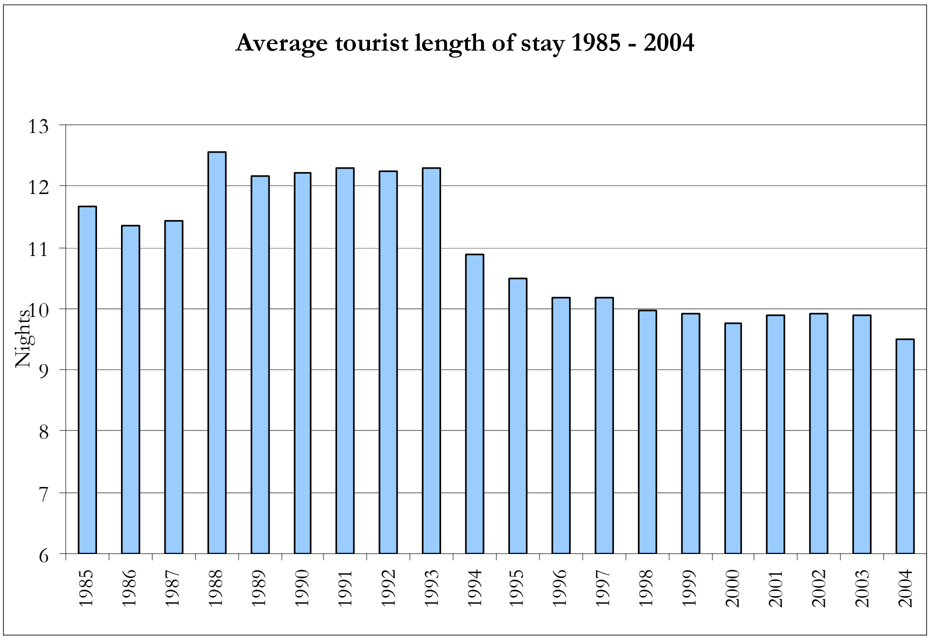

Figure 2.3: Average length of stay of tourists in hotels

tour arrangements due to the fact that charter airlines intensified their frequencies and booking flexibility, especially to Mediterranean holiday destinations.

More specifically for Mauritius the following factors can be taken into consideration. One way of compensating for a relatively high pricing of the Mauritian holiday product (see also Figure 1.1.) can also be reflected in a shorter length of stay. This should however require more detailed analysis. It is however clear that a focused pricing on a longer stay can be an important incentive to change trends in tourist behaviour. This however is a point of further consideration between the hotel owners and the tour operators.

The shortening length of stay must also be related to the growing desire of tourists to experience heritage, culture and natural resources as suggested in the diversification programmes developed in the Tourism Development Plan. As long as Mauritius primarily remains a set of individual beach resort destinations without an overall ‘Mauritian’ identity, high yield tourists which are looking for new holiday experiences may be increasingly inclined to shorten their beach resort experience. This however requires in-depth analysis by peer group interviews to clarify the relative importance of the various individual explanatory variables. This information is however indispensable for a well focused and coordinated strategy of all the stakeholders involved -including the government- to improve the average length of stay.

2.3.5 Seasonal Pattern in the Hotel Bed Occupancy Rates

Another complicating factor that can contribute to the key problem of the declining overall occupancy rates concerns the strong seasonal fluctuations in demand for holidays in Mauritius. The seasonal pattern in the hotel bed occupancy rate is strongly pronounced and although it may be flattening out a little, it still fluctuates in a range of 43 - 61% in 2003.

Since this graph only depicts the monthly fluctuations, the even more pronounced peaks within one month are smoothed out. This explains that the absolute peak in demand during the one/two week period around Christmas and New Years Eve, is not reflected in the graph. There is another peak in March, be it that in more recent years this peak does not emerge on a monthly base according to Figure 2.4. The absolute low season is the early European summer (June, the coldest month in Mauritius), although it is picking up rapidly during August, the month in which the French holidays are concentrated.

If the demand pattern shows pronounced seasonal fluctuations, peak and off-peaks price incentives throughout the value chain are well-known instruments to smooth these fluctuations and to improve the overall occupancy rate. From the interviews with AHRIM and the figures provided we understand that hotels are applying already strongly differentiated room rates during the high and low season periods.

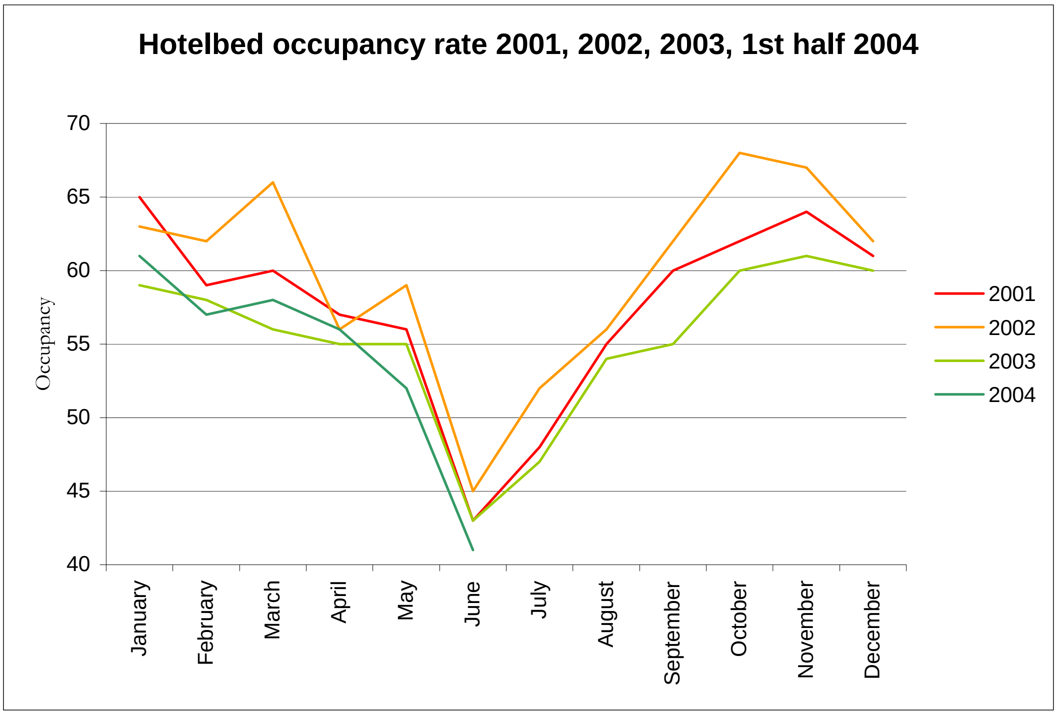

Figure 2.4: Seasonal pattern of hotel occupancy rates (source: AHRIM)

A prerequisite for efficient peak pricing is however that every stakeholder in the value chain for holidays in Mauritius synchronizes his pricing policy to effectively influence the booking behaviour of the holiday makers in such a way that the seasonal pattern can be better smoothened out. This seems to be the case in March and December, but not in August during which period holiday bookers are competing for the available seat capacity with ethnic VFR passengers returning to Mauritius. In this period air ticket prices are going up, while hotels apply reduced room rates[5]. In Section 4.4, pricing behaviour of the various stakeholders in the holiday value chain is analysed in more detail. Here only one question remains to be answered which is important in the context of this study: can the decrease in the occupancy rate also be attributed to insufficient seat capacity by air? This question is answered in Chapter 3.

2.4 Conclusions and Recommendations

Conclusions and recommendations on the physical planning of hotel projects

The TDP emphasises the introduction of clear land-use zoning and physical development plans to permit a more efficient and sustainable use of land resources. Six tourism development zones have been identified for which the TDP has formulated a specific development and planning strategy. Most remarkable are the current developments in the South Coast Heritage Zone. This zone is being developed as a more important tourist area with 1,519 rooms extra to the current 25 rooms. It is questionable whether this enormous development is in line with the proposed policy of controlled development. In the South West Tourist Zone and the Mahébourg Tourist Zone, will be realised more than 50% extra rooms resulting in respectively 2683 rooms and 755 rooms in total. It is also imprecise whether these hotel developments correspond to the formulated policy.

It is recommendable to reconsider the formulated policy for physical planning and land-use as proposed in the TDP. A Strategic Environmental Impact Assessment could be useful for accentuate or revise the policy in order to aim for a sustainable use of land resources. For the implementation of a proper physical planning policy a concrete interpretation is essential. Actions, numbers, guidelines, criterions, etc. have to be formulated in order to effectuate, uphold the policy and control the developments.

Conclusions and recommendations on the environmental and social policy

It is also observed that the policies and strategies for sustainable development as formulated in e.g. 'Into the 3rd Millennium' are hardly translated in concrete actions and implementation plans. Whereas, that is really is needed for a controlled and sustainable development of the tourism sector. The first step to be taken is to define the limits of acceptable environmental change. This is rather a complex assignment. It will cost a lot of studies to understand the complete current condition of the Mauritian environment and the factors that can affect this; tourism will be one of them. Subsequently the national ambition has to be formulated and translated in measurable limits of acceptable change. For sure this will have consequences for other policy areas and will be a matter of balancing different (political) interests against each other. The environmental ambition provides a framework for monitoring, measuring and managing. To fulfil the ambition a package of measures and policy instruments should be evolved. Next to that the tourist should be informed; also their behaviour influences the natural, maritime and social-cultural environment. A communication plan that explicates the objectives, messages, target groups and means of communication

[5] This effect is already attenuated by the provision of more seat capacity and the removal of hyper-peak season fares during July/August, according to Air Mauritius

can be very useful for this theme. At last there should be an appropriate program to reinvest to improve the environment.

Apparently Mauritius has an overcapacity in rooms; only 55% is used in 2003 (see Figure 2.1). Proceeding from these facts and from an environmental point of view it is recommendable to optimise the room capacity available, rather than realise new hotel projects without referring to the framework for physical planning and development control.

Current hotel developments parallel with the sea break through the gradient sea-inland. As an urban sprawl the hotels replace the natural environment. This give the hotel projects the identity of autonomous developments, without having a relation with the environment. Exactly the strengths and characteristics of the natural environment should be the immediate cause for developments and design. Therefore, in order to develop hotel projects in coherence with the natural environment, landscape architecture and design-specifications are advised.

Although Mauritius currently has no supply problems with fresh water, it is to be expected that more tourists will have impact on the water management of the island. More drinking water is needed and at the same time the amount of wastewater will increase and the increase of paved surface will hinder infiltration of raining water. Next to that the losses of the water supply system is estimated to be of the order of 55% system. Hence, to provide the island of drinking water in the long term, it is advisable to develop a good water management system. Controlling the unaccounted water or losses in the system is an important factor in managing efficiently the island's water resources and in determining the level of investment needed for the water supply systems up to 2010.

The increase of tourism also will have its impacts on the social-cultural resources. As yet it is not clear whether this will be a positive or negative impact. For sure, it is advised that the developments have to go with a balanced social program. This plan should start from the needs and creative forces of the local population and maybe even formulated in cooperation with them.

3. THE ROLE OF AIR SEAT CAPACITY IN TOURISM

This chapter concentrates on the interaction between occupancy rates of hotel beds and the available seat capacity by air. Is it possible that the monthly occupancy rates in Figure 2.1 have been worsening due to a monthly seat capacity shortage in specific periods? This question will be addressed in Section. 3.1.

Another development that may affect the occupancy rates in the next few years is the growth in room numbers now under way. What should be required from the development in seat capacity? Would this seat capacity become a constraint in the future occupancy rates of expanding room numbers? This question is treated in Section. 3.2. The final question that remains in this context concerns the role of pricing in optimising load factors and occupancy rates.

3.1 The Influence of Seat Capacity by Air on the Short Run

To answer the question whether the current air seat capacity is a constraint on occupancy rates the following calculation scheme has been applied.

Firstly the seats claimed per month have been estimated. To that end the monthly figures of total tourist arrivals have been corrected upward to total passenger arrivals and corrected downward for the passenger arrivals by sea to get the total monthly number of passenger arrivals by air.[6] To generate the estimated monthly number of seats claimed, the total monthly numbers of arriving passengers is determined by the inverse of the load factor. The existing overall load factor of arriving aircraft at SSR Airport has been used for the first calculation, i.e. 70%. [7] Since this is an overall annual average it is obvious that monthly load factors will change according to fluctuations in seat demand and supply. It is however unlikely from an operational point of view that a monthly average load factor can be improved to more than say 85-90%. Therefore a second calculation was executed that assumed a less ambitious number of seats claimed, based on an average load factor of 85%. If we confront these two sets of monthly seat requirements with available seats per month we get a first impression of possible shortfalls in the individual months.

To determine the available seats per month we used the AML winter and summer schedule 2003/2004 resulting in an estimate of 1,445,700 arriving seats for that period. [8] Since tourist arrival figures were only available until June 2004 we used the monthly figures of July – September 2003 to determine the seat capacity claimed for those months. However, the available seat capacity for those months have been derived from the schedule in 2004.

This analysis can only result in preliminary conclusions, since two refinements are necessary to come to definite conclusions. Since this analysis is based on monthly

[4] Furthermore it is assumed that arriving and departing passengers per month are in full balance.
[7] Note that the overall load factor of the airlines operating to Mauritius is substantially better than the overall occupancy rate of the hotel sector. Actually this load factor corresponds with the load factors of network carriers in Europe. See for example Yearbook AEA 2003 at www.aea.be that reports an overall load factor for all AEA airlines of 73.6.
[8] This calculation was confirmed by AML estimates of 1,412,959 seats for 2003.

figures strong demand fluctuations within a month are averaged out. So for example capacity problems may be more severe during periods of a few weeks while off-peak weeks within the same month can smoothen out these violent fluctuations. This actually requires weekly figures.

The same holds for the route network. This analysis is based on overall monthly figures for arriving passengers from the total route network of SSR Airport. In other words, a French tourist intending to spend his holidays in Mauritius during Christmas holidays will not find much consolation in the fact that the load factors on the flights from Perth are low at the moment his flight from Paris has been fully booked. Coping with these shortcomings however requires a detailed analysis of route specific data, which could not be made available until now.

From Figure 3.1 we therefore can only draw some preliminary conclusions. The monthly pattern does not reveal a substantial shortage in overall seat capacity. The only exception is December where a monthly shortage of seat capacity by air can be detected[9].

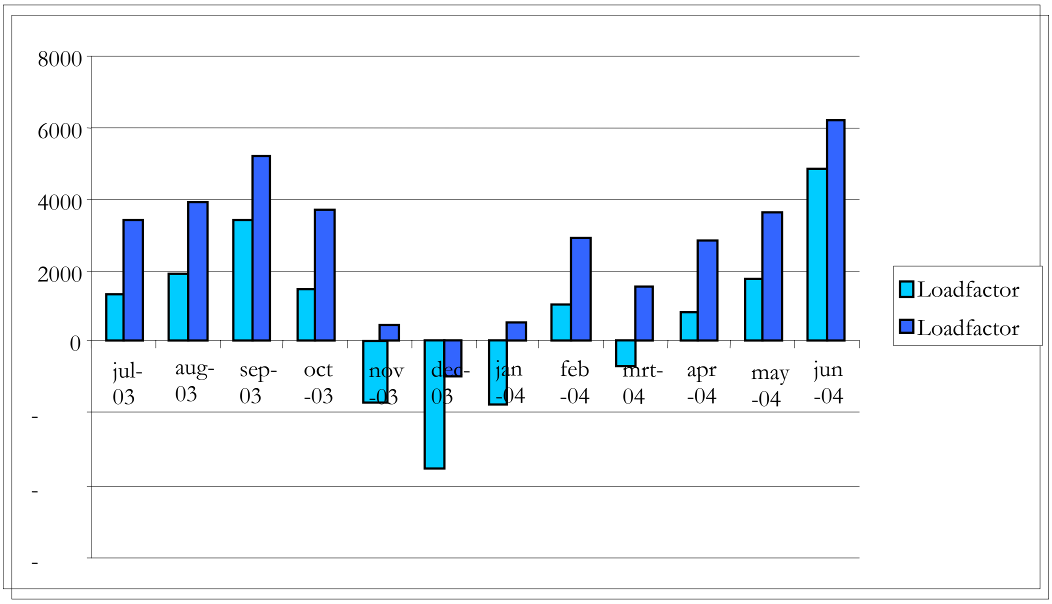

Figure 3.1 Excess seat capacity per month for different load factors

It is therefore likely that the declining occupancy rates of hotel beds in the recent past can hardly be assigned to constraints in available air seat capacity: during the December peak a shortage in seat capacity could be detected.

In this analysis the existing seasonal pattern in tourist arrivals is assumed to be an unconditional datum. These tourist arrivals are however heavily influenced by strong price fluctuations. Figure 4.4 for example illustrates that all stakeholders ranging from hotel owners and airlines to tour operators heavily apply peak pricing, especially in December. So tourist arrivals are not an unconditional datum but also the result of pricing behaviour of some the stakeholders in the supply chain. If all stakeholders apply a synchronized pricing capacity shortages in the

[9] Another problem is the directional effect that could not be detected sicnce weekly data on traffic have been lacking. Comments of Air Mauritius suggest that there are specific directional seat capacity shortages, which should be considered.

hotel and airline system can be handled effectively. During the Christmas/New Year peak holidaymakers are apparently willing to pay substantially more for their package tours. During this period this willingness to pay is heavily creamed of by the stakeholders. In off-season periods pricing is an important instrument as well to stimulate demand. The question is however how deep the discounts can go, without affecting the unique high quality destination image.

The other point is that pricing should be a concerted action of all stakeholders. As we understood from the interviews this is not the case in July /August when European summer holidays cause an increase in VFR ethnic arrivals by air resulting in higher ticket prices while demand for hotel rooms is being stimulated by off-peak pricing of room rates.

Although in on our preliminary analysis shortages in seat capacity by air seem to be moderate and although peak and off-peak pricing can smoothen strong fluctuations in demand, air seat capacity shortages are also an almost inevitable consequence of a scheduled-only policy. We will address this policy, also indicated as the no-charter policy, in more detail in Chapter 4. However, the generically strong seasonal demand pattern for holiday destinations has been the very reason for the existence of charter operations. [10] One cannot expect that a scheduled carrier frequently change its schedule. These are costly adaptations since fleet utilisation will usually decline if aircraft have to be reallocated in the route network during short peak periods.

After the further analysis in Chapter 4 on the no charter/scheduled-only policy we will formulate more detailed recommendations on this subject.

3.2 Hotel Capacity Versus Seat Capacity by Air Today and in the Near Future

In this paragraph we analyse the relationship between the increasing number of hotel rooms during the next few years and the available seat capacity by air. To that end a simple demand model framework[11] has been developed that specifies the following demand categories:

- tourist arrivals by air staying in hotels;
- tourist arrivals by air staying in informal accommodation;
- other arrivals by air: this segment consists of business and VFR traffic.

For each category a short-term demand forecast can be included. After that the resulting total demand for seats by air is confronted with the available seat capacity. This framework is used to develop several distinct scenarios based on various efficiency assumptions in the hotel sector and the airline sector. The resulting scenarios are described in this paragraph. The model clarifies that a one-to-one relationship does not exist between the number of rooms available and the seat capacity by air. Firstly, there are segments requiring seats by air, but not requiring hotel capacity. These are the VFR-segments as well as the

[10] Since holiday charters have been operating for a long time in cheap mass package tour markets resulting in low yields, poor quality of service and unreliable services due to bankruptcies, these characteristics –sometimes indicated as the backpackers syndrom- still seem to dominate the discussion in Mauritius.
[11] The model framework is developed for the purpose of sensitivity analysis and not for the purpose of exactly reproducing statistics. Therefore we emphasise that the figures reflect realistic values but not exact figures from the statistics.

tourists staying in the informal accommodations. Furthermore, there is the average stay length. This figure has been decreasing already for some years, and has also contributed to the decline in the hotel occupancy rates. Demand for seat capacity however did not decline.

Next table is summarising the main indicators of the model framework for 2004.

Tourist arrivals (hotels)	497.200
Stay Length (days)	8,50
Bed nights sold (hotels)	4.226.300
Bed nights supplied (hotels)	7.684.300
Occupancy rate of hotels in %	55
Tourist arrivals (informal)	240.000
Other arrivals (business+VFR)	270.000
Total arrivals	1.007.200
Total arrivals by sea	10.000
Total arrivals by air	997.200
Seat capacity	1.445.700
Load factor of all airlines	69

The table illustrates that the annual hotel occupancy rates and airline load factors do neither immediately point to a shortage of hotel capacity nor to a shortage of air access capacity, as has been discussed in Section 3.1. The load factor of the airlines is almost 70%, which is below the average that can be expected for long haul operations. However, for more firm conclusions on this, one must look into the seasonal pattern of the load factors, as has also been done for the hotel occupancy rates. Details are not available from the airlines involved.

These variables are used to develop a few scenarios to better understand the interrelationship between the hotel system and the airline system, after increasing the number of rooms according to the planned figures.

3.2.1 Scenario 0: Business as Usual

This scenario extrapolates the model indicators on to 2006, assuming that no changes occur in current policies. This implies that until 2006 the number of hotel rooms increases by 24% from 10,320 to 12,830. This also increases the available bed-nights by the same percentage to over 9.5 million in 2006. It is moreover assumed that tourist arrivals in hotels continue to stagnate. This is not an unlikely scenario if the hotels continue to increase their rates in Rs in the way it has been done in the past couple of years.

The model assumes however a modest (10% in two years) increase of tourist arrivals in the informal sector. The informal sector may be able to generate some market share increases, as their rates vis-à-vis the hotel stay somewhat behind. Also it is assumed that the other arrivals (VFR + business traffic) can also increase by 10%, as their dependence on the hotel rates is much smaller. The table summarises the result.

	2004	2006	% increase 2004-2006
Tourist arrivals (hotels)	497,200	479,200	0
Stay Length (days)	8.50	8.50	0
Bed nights sold (hotels)	4,226,300	4,226,300	0
Bed nights supplied (hotels)	7,684,300	9,553,200	24
Occupancy rate of hotels in %	55	44	- 20
Tourist arrivals (informal)	240,000	264,000	10
Other arrivals (business+VFR)	270,000	297,000	10
Total arrivals	1,007,200	1,058,200	5
Total arrivals by sea	10,000	11,000	10
Total arrivals by air	997,200	1.047,200	5
Seat capacity	1,445,700	1,445,700	0
Load factor of all airlines	69	72	5

The scenario illustrates that, if the hotels keep increasing their rates, their occupancy rates decline significantly below 50%, and thereby in general arrive below the break-even level. In this respect, it is the worst-case scenario for the hotels.

The effects for the Mauritian economy can best be understood by observing the bed-nights sold. This indicator reflects the actual number of tourist days in Mauritius. Multiplying this with an average daily expenditure, the impacts for the economy (and jobs) can be assessed. It may be clear from the table that the economy does not benefit from such a scenario, which in fact reflects the current policies until 2006.

The airlines, including Air Mauritius, may benefit in such a scenario. On a yearly basis, there is no need to increase seat capacity significantly. There is more demand for the informal sector, as well as from VFR or business traffic, but this demand manifests itself relatively less in the absolute peak season.

3.2.2 Scenario 1: Retaining Current Hotel Occupancy Rates

This scenario assumes that the hotels are finding ways to keep the occupancy rates in 2006 as they are in 2004 on 55%. This assumes 24% extra bed nights to be sold. It is furthermore assumed that the additional demand is generated by a moderation of hotel rates in the peak periods as well as in off peak periods. Therefore, the additional demand is also generated in the peak periods, and the airlines have therefore to increase their seat capacity. Given the increase of the demand in other segments of 10%, there is only 17% more overall demand for air seats, which is translated into 17% more seats.

	2004	2006	% increase 2004-2006
Tourist arrivals (hotels)	497,200	618,100	24
Stay Length (days)	8.50	8.50	0
Bed nights sold (hotels)	4,226,300	5,254,300	24
Bed nights supplied (hotels)	7,684,300	9,553,200	24
Occupancy rate of hotels in %	55	55	0
Tourist arrivals (informal)	240,000	264,000	10
Other arrivals (business+VFR)	270,000	297,000	10
Total arrivals	1,007,200	1,179,100	17
Total arrivals by sea	10,000	11,000	10
Total arrivals by air	997,200	1,168,100	17
Seat capacity	1,445,700	1,695,000	17
Load factor of all airlines	69	69	0

These 17% more seats would only have to be effectuated during limited peak periods, but given the current no-charter policy, it will be difficult for scheduled operations to modulate the seat capacity within the six month period of the summer or winter schedule so that it is more likely that also during the rest of the year there will be provided more seats, where they would not be needed. Consequently, the airlines do not benefit, as their load factors are unchanged. Nor do hotels benefit from it, as they are still not able to increase their occupancy rates. The Mauritian economy benefits however from this increase, as the island may expect 24% more hotel tourists together with their expenditure.

If however during the peak periods non-scheduled services would be provided, less additional seat capacity would be needed from the scheduled operators. If the extra seats in the peak seasons would be provided by charter airlines, the scheduled airlines would be able to retain their seat capacity unchanged. This could positively influence their load factors.

The other way of avoiding the need for more seats is a more pronounced promotion of Mauritius and its hotels in the off-peak season. This would also imply that the relative difference in hotel rates between the off-peak and peak season is further widened than it already is. If this strategy is followed in such a way that in the peak season no new demand is generated, but that all additional demand is generated in the off-peak season, this would also avoid the need for more seats, whereas the year around load factors of the airlines as well as the overall occupancy rates of the hotels would improve. Some co-ordination in pricing between the hotels, airlines and tour operators may be needed in this respect.

3.2.3 Scenario 2: Increasing Average Stay Length

Figure 2.3 has shown an ongoing decline in average stay length in the past period. Given a number of tourist arrivals, a lower average stay length affects the hotel occupancy rates (less bed nights are sold), whereas there is no reduced demand for seat capacity. Regarding the shortage in seat capacity as supposed by some organizations, this would seem ineffective. Alternatively, a policy to revise this trend would be beneficial to the overall hotel occupancy rates without increasing the demand for seat capacity.

Hotels may follow such a strategy by offering special price incentives to stimulate extended stays, particularly concentrated in the off-peak season, but it may even be considered for the peak period. As an illustration, it is expected that Sunday 2 January 2005 is a particular peak day in seat demand out of Mauritius[12]. One way of relieving this peak is to offer price incentives for extended stay during the first week of January. Co-ordination between hotels, the airlines and the tour operators to identify the periods of excess capacity, may again be needed to make such a policy successful.

This scenario assumes similar tourist arrival number as in Scenario 1, however with an average stay length of one extra day.

	2004	2006	% increase 2004-2006
Tourist arrivals (hotels)	497,200	618,100	24
Stay Length (days)	8.50	9.50	12
Bed nights sold (hotels)	4,226,300	5,872,420	39
Bed nights supplied (hotels)	7.684.300	9.553.200	24
Occupancy rate of hotels in %	55	61	12
Tourist arrivals (informal)	240,000	264,000	10
Other arrivals (business+VFR)	270,000	297,000	10
Total arrivals	1,007,200	1,179,100	17
Total arrivals by sea	10,000	11,000	10
Total arrivals by air	997,200	1,168,100	17
Seat capacity	1,445,700	1,695,000	17
Load factor of all airlines	69	69	0

Such a strategy would immediately translate into better overall hotel occupancy rates. Overall pricing strategies to keep the total tourist arrivals in line with the hotel capacity, in combination with strategies to extend their stays, would increase total bed nights sold by 39%, with inherent effects for the Mauritian economy. Seat capacity would only need to increase by 17%, if the current scheduled-only policy is maintained.

[12] Air Mauritius pointed to their efforts to operate supplementary flights to meet peak demand in the weekend between 1 and 2 January 2005.

3.2.4 Scenario 3: Recommended Policy for the Short Term

This policy assumes that the hotels in coordination with the tour operators implement dedicated price measures in such a way that total tourist arrival numbers in the hotels are kept in line with the hotel room capacity expected. For this, 24% more tourist arrivals in hotels are needed. This may even be achieved by price measures, particularly in the off-peak period. This would bring 120.000 more yearly tourist arrivals in hotels.

The price substitution elasticity between the “Mauritius product” and competing products (see Figure 1.1.) is high. It would seem that decreasing the price of a holiday in Mauritius of 8-10% would be sufficient to generate the above-mentioned 24% more arrivals.[13] Depending on the hotel share in the total holiday costs, one may assess how much the hotel prices should decline to bring down the overall costs of a holiday in Mauritius. Given the fact that hotel prices have increased by a substantial percentage in the last couple of years (the AHRIM sample has increase by 41% in three years), one would conclude that there is realistic scope for such a decrease and consequently for 24% more tourist arrivals in the hotels.

If the hotels would be able to realise this, there are several ways of accommodating these arrivals without the need for more scheduled seats. To the extent that these arrivals occur in the current peak seasons, load factors cannot be increased much. The only way to avoid an extra cost burden on scheduled carriers like Air Mauritius is the allowance of supplemental operations.

Whereas 120,000 more tourist arrivals can be welcomed in the hotels, there are 50,000 additional arrivals in the other segments (tourists in the informal sector plus the business and VFR-segment). If one assumes that for the other segments 50,000 additional seats are provided, one may assume that by implementing the above policies one may not need the full 120,000 seats if off-peak demand is stimulated. How much less this will be depends on the success of implementing these policies and on the co-ordination between the hotels and the airlines. If all additional demand can be directed to the off-peak period, in fact no additional seats at all would be needed. As a realistic scenario assumption, provided that such policies are successful, one would need 60,000 more seats for the arrivals in the hotels.

The other element is stimulating the extension of the stay length. If this could be brought back to the earlier levels of 9.5 days, this would further enhance the hotel occupancy rates. The implications of such policies are summarised in the table below.

The table shows that such a policy is beneficial for all three stakeholders. The hotels see their occupancy rates increasing by 39% (24% more arrivals combined with 12% more stay length). This would bring the hotels also more revenues, although less than 39%, but – regarding the high price sensitivity - possibly still in the order of 15% more revenues. If moreover most of the additional demand can be accommodated in the off-peak periods, the cost increases can be moderate, with positive leverage effects on the profits of hotels.

[13] This range of price reaction to realise the earlier established 24% extra arrivals is based on the indication of AHRIM concerning cross price elasticities for other holiday destinations.

	2004	2006	% increase 2004-2006
Tourist arrivals (hotels)	497,200	618,100	24
Stay Length (days)	8.50	9.50	12
Bed nights sold (hotels)	4,226,300	5,872,420	39
Bed nights supplied (hotels)	7,684,300	9,553,200	24
Occupancy rate of hotels in %	55	61	12
Tourist arrivals (informal)	240,000	264,000	10
Other arrivals (business+VFR)	270,000	297,000	10
Total arrivals	1,007,200	1,179,100	17
Total arrivals by sea	10,000	11,000	10
Total arrivals by air	997,200	1,168,100	17
Seat capacity	1,445,700	1,555,700	8
Load factors of all airlines	69	75	9

Also the airlines benefit. Overall, there are 17% more arrivals, which are accommodated for 8% by more seat capacity and for 9% by higher load factors. Given the low marginal costs of additional passengers on empty seats, this would immediately translate into higher profits for the airlines.

Last but not least the Mauritian economy benefits. There are 39% more "tourist days". If average daily expenditure is unchanged there are similar effects on total tourist income with significant effects on job creation.

3.3 Competition and Pricing

The various scenarios in Section 3.2 indicated that performance variables in the hotel system as well as in the airline system would determine the extra seats required within a few years. If these seats are made available, for example, by a revised air access policy, it is however not obvious that just more seats will bring the desired effects for the tourist sector and the Mauritian economy. Other conditions have to be fulfilled as well. These are elaborated in this paragraph.

Currently competition between airlines is limited, if not absent. Although on several routes, notably France, two carriers operate in code-sharing and other commercial agreements, to such extent that competition is virtually absent. More seat capacity does not necessarily imply more competition, if only frequencies of incumbent carriers are increased without changing their agreements and without the entrance of new carriers.

More seat capacity without more competition between airlines may result in more bed nights sold, but this is not obvious given the trends discussed in Chapter 2. It should be noted that in the case of simply providing more capacity in the number of seats and the number of hotel rooms, both stakeholders in the tourist product, the airlines and the hotels, can continue to operate in an environment of limited competition. So the current development in package tour pricing for Mauritius will not change, since incentives for cost and price measures are lacking. In a way, the high quality and low volume premium brand of the Mauritian tourist product seems to have an anti-competitive impact on the pricing behaviour of the stakeholders. The inherent free rider mechanism in the package tour pricing will reinforce this behaviour. As a consequence strong barriers result for each of the stakeholders in taking the initiative to master the price developments of the total tourist product.

This has adverse effects on the Mauritian economy already today, regarding the low occupancy rates and stagnating tourism. It should be noted in this context that – taking the point of view of the originating tourist markets and their providers, the tour operators – Mauritius is only one of their available alternatives. Whereas there may be limited competition between the different parties within the Mauritius' tourist product, there certainly is increasing competition between the product of Mauritius and those of competing destinations. It should moreover be realised that high substitution price elasticities may be the case in this type of markets: price increases of the Mauritius product may imply more than proportional decreases in the market share of Mauritius vis-à-vis competing destinations.

All in all, more seats do not necessarily bring the desired positive effects for the Mauritian economy. If there remains only limited competition between the airlines serving Mauritius and between the hotels in Mauritius, it is likely that the price of the Mauritius' product remains high vis-à-vis competing destinations with a substantial negative impact on job creation in Mauritius.

The effects of a more competitive pricing are not necessarily inconsistent with the up-market strategy. This strategy has however two elements that should not be left unaddressed. One element is that a substantial part of the targeted market segments are not reached. Those with a little lower willingness-to-pay and choosing other destinations because of the high price tag of the Mauritius product. The other element of this strategy is that one of the reasons for the up-market segment to travel to Mauritius is the image. It has been indicated already that image alone is a weak basis in retaining this up-market segment. This will at least require a continuous promotion effect in the originating countries.

There remains one question to be answered here. Does effective pricing matter in a high quality and low volume market like the tourism sector of Mauritius? The Austrian market gives the answer. In July 2004 Lauda Air started up the Vienna-Mauritius route. The load factors of the first flights were extremely low. Within two months the load factors have been increased however substantially. This was due to Lauda Air's pricing policy in cooperation with the Austrian tour operators that focused on cheap offers for a second travel partner and thereby incentivised substantial new demand from the Austrian market. This was reflected in the Austrian tourist arrivals at SSR Airport: a growth of 50% in the second four weeks period compared to the first four weeks period. The key question is of course, whether this pricing policy undermines the high quality profile of Mauritian tourism. This should be carefully analysed in more detail, but the hotels offered in the package tours ranged from Le Coco Beach to le Saint Geran. One should not generalize too much on one small case, but it is remarkable that a tour operator is willing to sell a package tour product that combines the in-flight service of a charter airline with the accommodation quality of Le Saint Geran and Le Touessrok. Further analysis of this development is strongly recommended, because this could imply that the present holidaymakers may perceive the no-charter policy as one of the pillars for the upmarket image of Mauritius' tourism in different way.

3.4 Conclusions and Recommendations

For the time being one can conclude that currently there is no structural capacity shortage in seats by air. Only during several short periods of the year there is an explicit shortage. These peak periods, especially the last week of December, are strongly creamed off by all providers, i.e. tour operators, airlines and hotels. The European summer period is only creamed off by the airlines, as this is also the ethnic VFR-season. Room rates are then relatively low in correspondence with the low occupancy rates.

Due to increasing hotel room capacity and decreasing occupancy rates the hotel sector claims extra air seat capacity. Ceteris paribus, more seats would probably mainly contribute to increasing tourist peaks without resolving the overall low occupancy rates during the rest of the year. This means an overall drawback in annual load factors and an extra cost burden to especially Air Mauritius. Such a policy would therefore be only beneficial to the hotels. There is a serious risk that the airlines pay a high price for such a policy, while the Mauritian economy would enjoy only the benefits in limited periods of the year.

A more logical way to cope with the strong increase in hotel room capacity is a moderate pricing policy of the hotel sector as illustrated by the scenario analysis. This implies a demand stimulation of hotel rooms in general, but particularly in off-peak periods. If – on the short term - a hotel pricing policy can be designed in such a way, that the hotel occupancy rates in the off-peak season increase, while the rates in the peak season increase only moderately, this would be beneficial to all stakeholders.

If room rates are stronger discounted during the long off-peak season and airfares follow this pricing policy, this results in a reduction of the overall price of Mauritius' tourist product. This will result in more tourists as the Lauda Air case illustrated without affecting the high quality profile. Regarding the high price sensitivity in this competitive tourist market, it is expected that there will be an overall increase in revenues for the hotels, since this particular strategy will only marginally increase costs, regarding the low occupancy rates in the off-peak seasons. The same holds for the airlines. The economy of Mauritius benefits from such a strategy. It brings more tourists in the long off-peak season, and as a consequence more jobs.

We recommend stimulating more competitive pricing in the various components of the total tourist product in two ways. Firstly by setting up a regulatory system that monitors competition within economic sectors, probably analogously to the institutional models seen in Europe (see also Chapter 11). But secondly by stimulating the informal accommodation sector, within quality standards that Mauritius wishes to impose to the informal sector. This would create a realistic alternative with a likely effect on a more competitive environment within the lower segment of the hotel sector.
To improve overall occupancy rates as well as occupancy rates during the peak season, we sustain the following proposals brought forward by the MTPA:

- to carry out an audit of tour operators in Mauritius' important source markets to verify seat availability from their point of view and to make an effort to quantify rejects in different peak periods;
- to request details (seat allocations and release periods) from airlines serving Mauritius regarding their seat reservation mechanisms to cope with the phenomenon of late bookings and sudden increases in demand from IT and MICE segments;
- to request airlines and hoteliers to work out a better alignment of seasonalities to ensure that Mauritius can benefit from those taking family holidays during airline peak time;
- to facilitate clearance of permits required by private jets before landing at SSR airport;
- to elaborate longer term programming of a series of additional flights from different source markets to determine the availability of additional seats well in advance and made available to tour operators prior to the publication of their brochures.

Finally we recommend to carefully follow the pricing experiment in Austrian market. There is some evidence that a charter airline in cooperation with one or more tour operators seems to be able to increase tourist arrivals in the off-season by a dedicated pricing strategy without undermining the high quality profile of the tourist product.

4. THE CHANGING INTERNATIONAL AIR TRANSPORT INDUSTRY

Continuing deregulation and liberalisation of air transport markets (see Chapter 5) have been strong drivers for structural changes in the air transport industry worldwide. These changes have a profound impact on the air service providers: new market entrants have intensified competition and incumbent carriers have to adapt to these new market conditions. Airline network structures are fundamentally changing. Incumbent airlines enlarge their networks via route specific or network wide code-sharing agreements. Alliances, bankruptcies and take-overs are symptoms of an on-going market concentration among the incumbent carriers. At the same time a new business model - the low cost carrier - has emerged in the market introduced by a rapidly increasing number of new low cost entrants. As a consequence, incumbent carriers – full service scheduled airlines as well as holiday charter airlines - have to redefine their market position. These developments will directly or indirectly affect also the international airline markets from and to Mauritius. From this point of view an overview of market changes is therefore important with an emphasis on air leisure markets originating in Europe. Thereafter the no charter policy of Mauritius is analysed in the context of the changing international air transport market. Finally the consequences of the package tour market and its consequences for the pricing policies of the various stakeholders in Mauritius are discussed.

4.1 Market Developments in Liberalised Markets

4.1.1 Network Structure, Alliances and Fare Competition

The creation of a deregulated domestic market in the USA and an open internal market in the EU followed by a series of open skies agreements between the US and individual EU members states has resulted in an important structural change in the air transport industry.

Firstly of all, the network structure of major full service carriers has been transformed from either linear networks in the USA or star burst networks in Europe into hub and spoke systems. Particularly in Europe this has resulted in a transformation of national airports that mainly accommodated 3rd and 4th Freedom operations into hub airports where the home based carrier operates in waves of arriving and departing flights. This has strongly stimulated intra-EU connecting traffic as well as intercontinental 6th Freedom operations. Today the transfer share in total passenger volumes at the major airports in Europe is about 40-50%. However congestion at London Heathrow does not allow for connection waves. Therefore the transfer share at Heathrow is less than 30%. For a carrier like Air Mauritius it is of paramount importance to operate from these airports on slots that provide short transfer times to and from connecting European flights of the code-sharing partners. This enables Air Mauritius to use these few hub airports as collection and distribution points for originating passengers elsewhere in Europe.

Alliance building within Europe and also on the intercontinental level has reinforced the hub and spoke systems of the major European carriers. In this way interconnecting continental hubs in worldwide networks creates multi hub systems. This has resulted in three conglomerates of alliances: American Airlines and

British Airways, United Airlines and Lufthansa, including Austrian and SAS, and the alliance Delta - Air France now interconnected with KLM and its alliance partners NorthWest and Continental.

As a result airlines are not only competing on direct routes, but increasingly also on indirect routes. Within Europe for example a trip Copenhagen-Madrid is offered as a direct flight by Iberia and SAS, but also as indirect flights of KLM connecting via Amsterdam, or as connecting Lufthansa flights via Munich and connecting AF flights via Charles de Gaulle. The same holds on the continental level where alliance networks compete with each other on direct and indirect routes.

This competition has been further intensified on short haul routes by new entrants, the low cost carriers (see below). As a result network airlines are now involved in a continuing cost cutting process. Yield is under constant downward pressure Average load factors have improved substantially. And reducing three class configurations to two classes and increasing the number of economy class seats by a reduced seat pitch are simplifying the airline product.

At the same time the passenger's perception of the airline product is changing. Due to increased competition and especially the very competitive pricing of low cost carriers, the majority of the passengers accepts a less luxurious but also lower priced product. Business travellers for example are increasingly inclined to choose an economy class seat especially on the shorter haul flights, as indicated in Figure 4.1

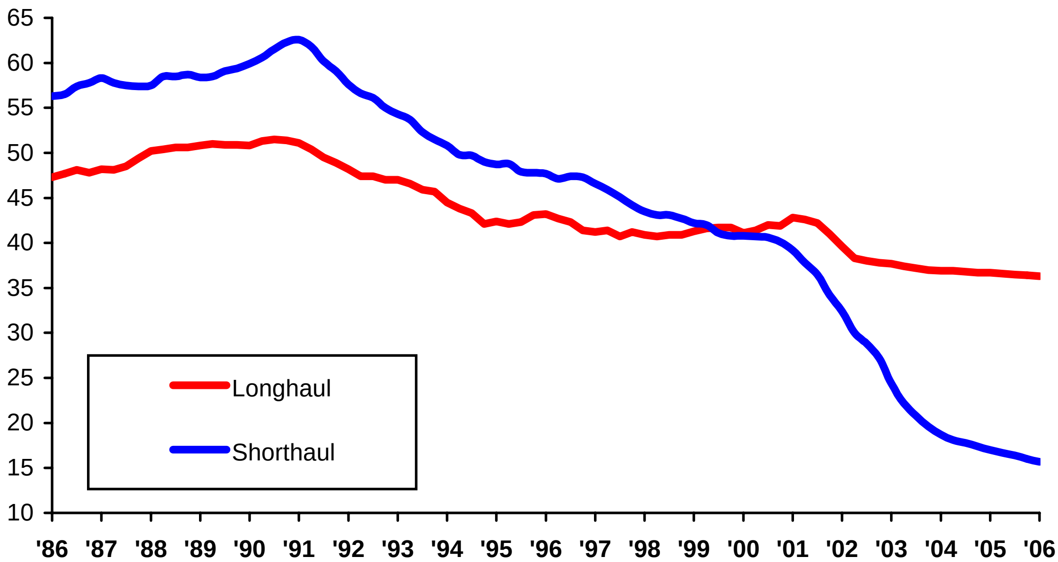

Figure 4.1 percentage of business travellers in premium cabins, 4 quarter moving average. Source: Mason, Cranfield

Finally the dynamics in the number of competing carriers has increased. Parallel to the concentration among full service network carriers via alliances, bankruptcies (Sabena and Swissair) and take-overs (KLM by Air France), an increasing number of low cost carriers enters the market. In 2002 and 2003 each, twelve new low cost carriers entered the EU market.

Although low cost carrier competition on long haul routes has been limited until now, it is expected that their fleets will be adapted to long haul operations as well in the near future. Therefore it is important to analyse in more detail the consequences of the low cost carriers since they will affect the market conditions on the route to Mauritius as well, either directly or indirectly.

4.1.2 Low Cost Carriers as the New Competitors

Starting in the USA, with notably Southwest Airlines, the phenomenon has gained momentum in Europe around the year 2000. Today, low cost carriers (LCCs) in Europe have a market share of about 15%, and a substantial further increase is expected to about 25% in the next few years. LCCs in the USA and Europe have taken the opportunity to develop point-to-point networks in an open internal market, not governed by bilateral constraints. Low cost carriers in Europe are particularly successful on short haul routes of about 2-3 hours maximum flying time.[14] Within this distance range, they are able to charge about 50% of the conventional fare of full service carriers. This cost advantage mainly springs from higher seating density (16%), minimal station cost and outsourced handling (10%) and reduced sales costs via internet (11%). Last but not least the operational advantages from point-to-point services, quick turn-arounds and single class flights with few or no frills have contributed to a further cost reduction. The success of their internet sales is also based on a strongly simplified fare structure based on early booking discounts.

LCC's have partly created new markets due to their low fares and new routes they opened. Partly they also have substantially cannibalised traffic from incumbent carriers on existing routes: from the full service network carriers on major city destinations and from the charter airlines on Mediterranean holiday destinations.

Until recently LCC's only focused on the non-business passengers. A number of LCC's have however more recently targeted the business passengers as well. They have increased their frequencies, introduced ticket flexibility and focused on primary airports. EasyJet, Germanwings and VirginExpress are examples of this new approach that corresponds with consumer preferences reflected in Figure 4.1.

LCC's are now also starting up in the ASEAN region, Japan, South Africa and Brasil. This is mostly the case in domestic markets only, because of the restrictions imposed by existing bilateral Air Service Agreements (BASA's). The rapid development of LCC's in Singapore, Malaysia, Indonesia, the Philippines and Thailand is creating pressure on regulators to seek multiple designation and more liberal traffic rights. These ASEAN airlines are able to gain market share at distances up to 5 hours.

Although LCC's have mainly manifested themselves until now in the short to medium haul markets, it should be noted that their indirect impact is also strongly affecting long haul markets. Cost structure and product definition of incumbent carriers are rapidly changing and the traditional distinction between scheduled and unscheduled traffic is quickly blurring. One example is the way airline distribution costs are changing now.

[14] Note, however, that in the USA longer haul low cost carrier operations on coast-to-coast routes show an increasing popularity.

4.1.3 Direct Selling and Unbundling; The Role of Internet

Low cost carriers in Europe have rigorously cut back their distribution costs by directly selling their tickets to the passenger via their websites and call centres. Some low cost carriers now report almost 100 % direct bookings. Scheduled full service carriers have recently followed this strategy. It enables them to fully eliminate commission fees to travel agents and to give them access to their customers to build effective customer relationship management (CRM). Estimates of direct internet selling by larger airlines in Europe are moving now to 10% of their tickets sold. This percentage is expected to further increase in the next few years.

Since the eighties charter airlines already sold seat-only tickets via tour operators and travel agents. More recently this seat-only selling is also developing towards direct selling via the charter airlines' websites.

At the same time scheduled airlines start to sell package tours via their websites:
BA sells package tours to Mauritius via its website BA-holidays. Lufthansa's website gives access to L-tur's last minute package tours to Mauritius. Austrian's website sells Lauda Air tickets to Mauritius as well as hotels in Mauritius and package tours (not to Mauritius).

Internet selling as well will increasingly stimulate unbundling. Unbundling is manifesting itself in various ways in the airline industry. Low cost carriers for example try to unbundle the traditional airline product in their continuous search for cost reductions. In-flight meals, in-flight movies and belly baggage are separately sold to the passenger now. One outspoken integrated product that may increasingly become a target for unbundling is the package tour, stimulated by the booking possibilities via Internet. Most tour operators already provide separate options for flight-only bookings, hotel bookings and package tours to Mauritius (see for example TUI-Germany). Hotel chains like Beachcomber provide individual room rates as well as package tour prices to Mauritius combined with call centre bookings.

All in all the distinction between traditional business models -scheduled and non-scheduled airlines- is more and more blurring also due to the new competition of the LCC's. Network carriers are moving toward a lower cost structure, by introducing internet booking, dynamic pricing, no-frills on-board service and streamlining the product (number of classes and seat pitch). A number of LCC's is moving upward in the market by introducing product differentiation, frequent flyer programmes and longer flight sector. The older low cost business model of charter airlines is competing now with the modern low cost model of LCC's by operating lower frequencies with larger aircraft than the LCC's. So the question remains whether a clear distinction can be maintained between charter and scheduled operations also with an eye on the effectiveness of the no-charter policy applied by Mauritius.

4.2 The Blurring Distinction Between Charters and Scheduled Airlines

According to ICAO's definition a scheduled international air service [15] possesses the following characteristics:

- it passes through the air-space over the territory of more than one State;
- it is performed by aircraft in such a manner that each flight is open to use by members of the public;
- it is operated, so as to serve traffic between the same two or more points, either according to a published timetable, or with flights so regular or frequent that they constitute a recognisably systematic series.

ICAO included a number of notes on the application of the definition, for example:

- The definition does not state how many flights are necessary as a minimum to constitute a 'series'.

A service may be regarded as open to the public notwithstanding certain restrictions, which relate, for example, to the time of reservation, the minimum length of stay or the obligation to deal with an intermediary. It will be incumbent on the each Contracting State to assess the scope of these restrictions and decide whether the restrictions are so substantial that the service should be considered as non-scheduled.

It can be observed from this ICAO definition that it is a rather flexible definition, at the discretion of each Contracting State to decide whether an air service can be qualified as a scheduled operation.

Usually in practice non-scheduled services are air services that are not listed in a published timetable and therefore operated on an irregular or infrequent basis. Charter flights are one form of non-scheduled services. The term 'non-scheduled' and 'charter' are often used interchangeably. Charters in Europe and across the Atlantic have developed partly as a response to market circumstances, such as the high seasonality of passenger traffic and freight, and partly as a response to some regulatory constraints on scheduled services, including the high fares supported by these constraints. The regulation of non-scheduled services is generally outside the bilateral system, which tends to cover scheduled services only. The authorisation of charter services remains at the discretion of individual countries. Thus proposed charter services must generally satisfy the charter requirements of both countries independently before they can commence operations.

All in all, a clear self evident distinction between scheduled and charter operations is not so obvious. In Europe liberalisation has made it increasingly difficult to delineate the phenomenon of the charter airline.

[15] ICAO, Definition of a Scheduled International Air Service, second edition 1985.

4.2.1 Low Cost Carriers and Leisure Airlines

EU liberalisation has eliminated the formal regulatory distinction between charter and scheduled operations in the internal market. Since then charter airlines developed into leisure airlines, started to publish seasonal or even annual schedules to holiday destinations and created the possibility to book seat-only flights via the travel agents.

These scheduled operations were further stimulated by the entrance of the new low fare airlines in the market which did not only start to compete with scheduled full service carriers but also with charter airlines on year-around services to larger holiday destinations in the Mediterranean.

Charter airlines are moving more and more into the direction of scheduled leisure airlines by providing charter and scheduled operations and at the same time maintaining a low cost structure. Examples are:

- Monarch in the UK;
- Star airlines in France;
- Air Berlin in Germany; and
- Lauda Air in Austria.

A number of stakeholders in the leisure market chose another approach and started their own low cost scheduled airline like Basiqair by Transavia in The Netherlands, My Travel Lite by tour operator MyTravel and Hapag Lloyd Express by charter airline Hapag Lloyd within the TUI concern.

The question is whether this blurring picture of scheduled and charter airlines also manifest itself in the long haul leisure market. Actually this seems to be case. In the nineties the increasing popularity of long haul holiday destinations brought European leisure airlines to adapt their fleet and to start charter series or even scheduled operations to popular holiday destinations all over the world. To operate year-around scheduled services on these long haul routes leisure airlines increasingly applied for the status of designated carrier to operate these routes. The holiday market of Mauritius also reflects these developments: Condor is the German designated carrier to Mauritius and Lauda Air is the Austrian designated carrier. This is partly explained by the ownership of Lufthansa and Austrian in these respective carriers. Air Europe is also a hybrid charter/scheduled airline operating from Italy to Mauritius on a more or less year-around schedule.
Also France is requesting access now for (quasi-) charter airlines as designated carriers, i.e. Corsair from Paris, and Star Airlines at the Paris-Nice-Mauritius route. These carriers have close ties with the French tour operators Nouvelles Frontières and Club Med respectively.

At the same time the capacity on the Paris-Réunion market has been expanded by a Réunion based low cost new entrant, called Air Bourbon. Air Austral seems to have responded on this route by a further increase in frequency. These developments will also have a strong impact on the Réunion-Mauritius market.

The structure of the European leisure market has also become more complicated since the position of the charter airlines in the value chain has recently changed substantially. This development is important, since it clarifies the position of the individual leisure airlines and the policy of major tour operators to sell their inclusive tours via their own leisure airlines.

4.2.2 Vertical Integration in the Value Chain

The volatility of the charter market and its poor image with travellers in the seventies and eighties led tour operators to set-up their own in-house airlines. Most European charter airlines now form part of *vertically integrated* organizations that incorporate tour operators, travel agency chains, airlines and more often than not hotels and providers of ground transportation. The following examples illustrate these developments:

- Corsair (France) owned by Nouvelles Frontières;
- LTU (Germany) owned by Rewe Touristik;
- Condor (Germany) owned by Thomas Cook AG;
- Thomas Cook Airlines (UK, former JMC) owned by Thomas Cook AG;
- Brittania Airways (UK) owned by Thomson;
- MyTravel Airways (UK, former Airtours) owned by MyTravel Group;
- First Choice Airways (UK, former Air 2000) owned by First Choice Group.

The liberalised EU market also stimulated cross border take-over in the tour operator business resulting in *vertical and horizontal integration*. The results are two major conglomerates in the European leisure market now:

- TUI Group AG based in Germany, encompassing among others:
  - German tour operator TUI and the charter airline Hapag Lloyd;
  - the UK tour operator Thomson and Brittania Airways;
  - the Belgian tour operator Jet Air and TUI Airlines Belgium;
  - the French tour operator Nouvelles Frontières and Corsair.

- Thomas Cook Group (former C&N, 50% owned by Lufthansa), encompasses among others:
  - UK tour operators Thomas Cook and JMC, Thomas Cook Airlines (ex JMC Air);
  - German tour operator Neckermann and airline Condor;
  - Thomas Cook Airlines Belgium.

Note that in this list we have neither included the subsidiaries in other European countries nor affiliated or owned hotel chains nor travel agent chains. Vertical integration of hotels in Mauritius and tour operators has hardly been observed yet. Only one Italian tour operator seems to have ownership of one hotel in Mauritius.

It is however important to realize the market power of these conglomerates. They will play a decisive role in the way alternative holiday destinations are offered to the holidaymakers in the EU member states. [16] This may be especially the case concerning the request for multiple designation of France.

[16] In the literature the considerable influence of the tour operator on visitor volume, relevance and overall success of the holiday destination is frequently underlined . See for example C. Cooper, J. Fletcher et al. Tourism Principles and Practice, Longman, Essex, 1998.

4.3 An Evaluation of the No-Charter Policy

Until now the air access policy of Mauritius has focused on high quality air access. The purpose of this policy was to develop the tourism market at the upper end of the spectrum and to enable Air Mauritius to develop a scheduled international network from Mauritius without too much competition.

Government policy therefore has been not to allow charter series to develop, be it that more recently the Mauritian Government has accommodated the requirements of a number of bilateral partners that nominated a (quasi) charter carrier as their designated carrier to Mauritius.

Although there does not exist any policy document on the no-charter policy several reports have been issued on this subject. We have analysed these reports and we shortly discuss the arguments below.

The Grundig report (1982) [17] and the report of InterVISTAS Consulting (2003) [18] put forward arguments in favour of a more open or selective charter regime. Several arguments are provided to clarify that charters do not necessarily operate a social selection of the tourism market or provide access for the lower end tourists. The gap between promotional scheduled fares and charter fares have narrowed so much that it cannot explain a shift to the lower end tourists. InterVISTAS even expects fares on charters to be higher than scheduled airfares[19].

The current accommodation prices are high and a major barrier to entry of lower end tourists, if seats are sold in package tours. If a selective charter policy is introduced, additional conditions can be formulated on minimum length of stay, advance booking conditions and the proportion of package tours versus seat-only bookings. The recent example of Lauda Air confirms this approach.

InterVISTAS also underlines that the introduction of a selective charter policy does not have to imply that additional charter carriers will squeeze Air Mauritius' profits and affect its ability to cross-subsidise unprofitable services. If there is however a potential for charter services for developing routes currently without service then this argument is not relevant. This has been the pattern seen in other parts of the world: seasonal charter services have initially developed destinations, which leads eventually to year-round service on more scheduled carriers (see also Par. 3.2.2 and 3.2.3 for the supplementary role of (quasi) charter airlines).

In summary we have found reasonable arguments in favour of a selective charter policy. Such a charter policy should however take into account the interests of Air Mauritius and counter the presumed danger of a shift to lower end tourists. These criteria will be developed in Chapter 7.

In contrast with the former two reports the Tourism Development Plan takes the opposite position in favour of a continuation of the no-charter policy. The arguments are the following - with our comments between brackets -:

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17 Analysis of the economic impact of alternative air access policies on tourism in Mauritius.
18 The Air Traffic Forecasting Study for AML.
19 A search for fares on the Travelocity.com website for travel between Frankfurt and Mauritius found that it was cheaper to fly via Paris on Air France than direct on the charter carrier Condor. However we found that travelling from Amsterdam to Mauritius was considerably cheaper with Lauda Air via Vienna than with Air France via Paris.

There would be some downward shift from 4-6 star hotels to 2-4 hotels or even lower (if this is the case at all, it also depends on the access conditions).
One or more of the scheduled carriers would pull out from Mauritius due to the competition with the charter carriers. (This is not the case with non-scheduled operators on new routes and it can be doubted on already operated routes during the peak periods.)

Air Mauritius itself would probably have to respond to the new market conditions by cutting costs and in effect become a charter carrier itself. (Cutting costs will be inevitable anyway, as will be argued in Chapter 8, but that does not have to imply that scheduled operations have to be given up.)

Greater numbers would come to Mauritius, stimulating some businesses but generally the spending per day would be lower. (The greater numbers would definitely be the case, but the spending level also depends on access conditions.)

All in all, the TDP arguments are a little weak in our opinion, especially if a more selective charter policy is followed. The TDP also warns against the danger that abandoning the no-charter policy would imply for Mauritius that it would be entering into a "numbers game", and the benefits can't be kept in Mauritius since it will result in "competing them (the benefits) away in consumer surplus." This conviction however is not based on sound economic principles. In the case of Mauritius, the national economy will definitely benefit from expanding the customer base for tourism by a small price correction resulting from an adequately coordinated pricing strategy. Figure 4.2 can clarify this.

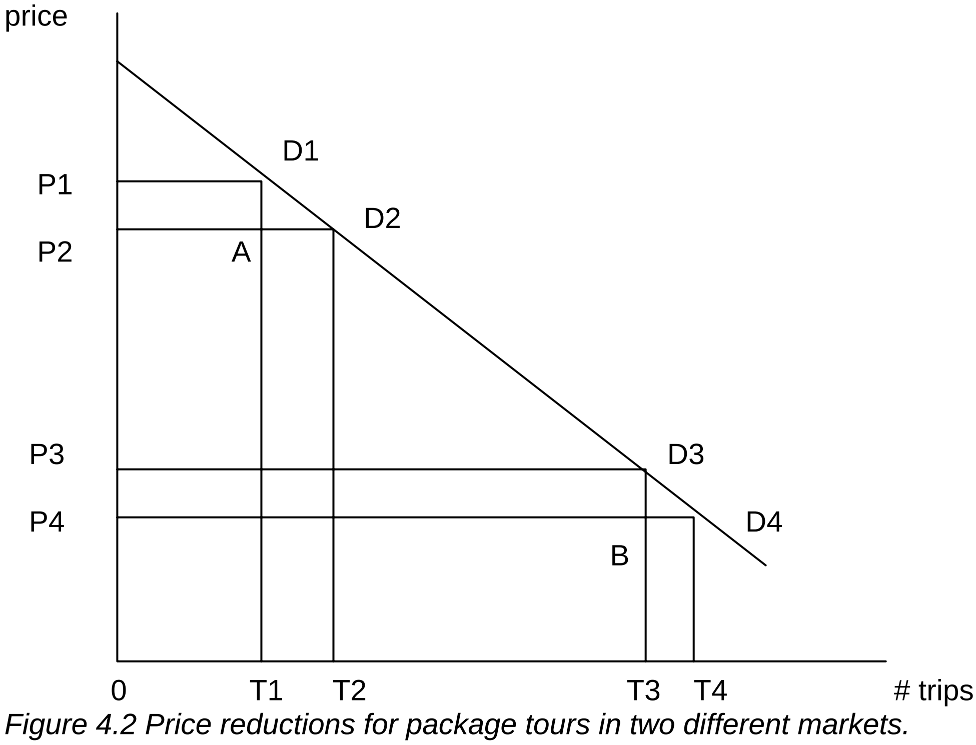

Figure 4.2 Price reductions for package tours in two different markets.

Figure 4.2 illustrates that in an up-market a limited price reduction of the package tour from P_1 to P_2 will result in a substantial benefit to the national economy: the square $P_1P_2AD_2$ is indeed lost due to the price reduction. However, this is more than fully compensated by the extra revenues indicated by the square $T_1T_2D_2A$

“The benefits competed away in the consumer surplus” only refers to the small triangle D_1AD_2.
In a mass tourism market with a price level of P_3, a further price reduction will result in the opposite effect, i.e. a substantial net loss to the national economy as can be derived from Figure 4.2

All in all, Figure 4.2 illustrates that a limited price reduction in the case of Mauritius will result in substantial value added as well as important extra volume for employment. Since this is all about pricing the tourist product of Mauritius, it is important to discuss the consequences of the package tour product, before we arrive at the conclusions of this chapter.

4.4 The Package Tour Market

About 61% of the tourists travel on package tours. These tourists stay on average 8.5 nights on the island and spend Rs 2,851 per night. The non-package tourists stay 11.5 nights and spend Rs 1,510 per night. Despite of shorter stay, the package tourists contribute more to the economy during their holiday than the non-package tourist. The main generating country for package tours is Italy, followed by the UK and Germany. About half of the tourists from Réunion travel on a seat-only formula (see Table 4.3).

Country	Contribution	Distribution to	
		Package tours	Non-package tours
France	**33%**	60,5%	39,5%
UK	13%	77,3%	22,7%
Réunion Island	12%	47,2%	**52,8%**
South Africa	10%	69%	31%
Germany	6%	71,7%	28,3%
Italy	5%	**84,9%**	15,1%
Other countries	21%	--	--

Table 4.3 Package tour shares per country

The tourism product of Mauritius is sold in different types of markets involving different market players and different pricing. First of all there is an un-bundled seat-only market where passengers directly book their airline tickets either via a travel agent or increasingly at the airlines’ websites. (See also Chapter 8) for an analysis of Air Mauritius’ website). Parallel to the first, there is a room-only market where customers directly book their rooms through a travel agent or via the hotel. The third and largest tourism market for Mauritius concerns the bundled market for package tour arrangements.

For hotels the package tour market is even more important: based on interviews in 2000 it was estimated that 79% of tourists stayed in hotels with a package tour arrangement. The package tours share in the total number of tourists is however declining as it does in all tourist markets. This corresponds to global market trends as already described in Para. 4.1.3. In other words, the seat-only leisure market will become more important, also for Air Mauritius (see Chapter 8).

The main characteristic of the package tour market is an obvious one, but also an apparently ignored one in the discussion between hotel sector and the airlines: it is the simple fact that the tour operator determines the brochure price of the package tours. This brochure price embraces the room rate negotiated with the hotel companies, the seat prices negotiated with the airlines and the tour operator's own margin. These negotiated prices are a usually well-kept secret between the market parties. We only know that they will be substantially lower than the public fares of the individual components.

This pricing system may stimulate a free rider behaviour of the individual groups of the suppliers: if the hotels can convince the airlines that they have to reduce their air fares, package tour prices may go down and the hotels will increase their profits without having to change their own prices. Vice versa the same holds for the airlines.

The price differentials for bundled and un-bundled services are illustrated in the following diagram.

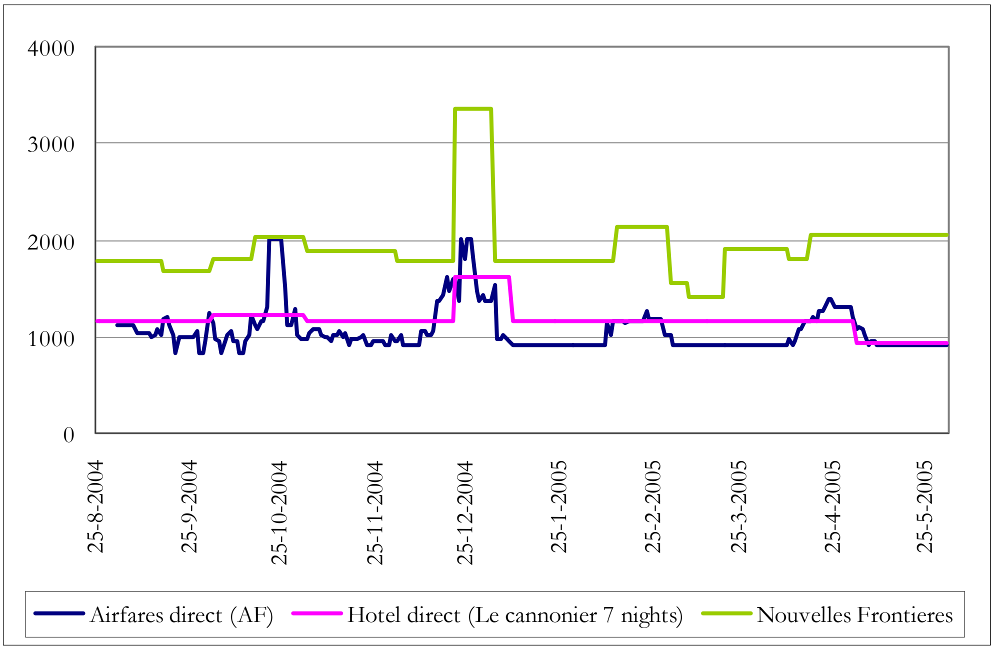

Figure 4.4: Package tour prices, Air France seat only and room rates

The diagram reflects the package tour prices ex Paris for a 9 days holiday in Mauritius, Air France's seat-only fares offered at its website and the separate room rates for the same hotel that is included in the package tour arrangement. The diagram clearly demonstrates the lower yield level of the air travel costs in the inclusive tour arrangements: seat-only airfares plus room-only fares already exceed the package tour prices, which also include the tour operator's margin. One cannot generalise too much on one sample but the fluctuations in the seat-only fares do not fully correspond with the fluctuations in the package tour prices. The fluctuations in the room rates are even more limited. Taking into account the declining overall occupancy rate of hotel rooms, an active peak/off-peak room pricing would have been more plausible. In other words, a better coordinated peak- and off-peak pricing by the three different stakeholders for the bundled and unbundled services may deserve more attention. Note however that the June-August period is missing in this diagram.

Another important issue is the changing relative costs of the package tour arrangements. We were informed during the interviews that the airfares to Mauritius have been declining moderately during the last decade. The room rates however have increased especially during the last few years, be it that the appreciation of the Euro against the Rupee will not be reflected in the European package tour prices. It is however most likely that the airfare reduction has been absorbed by the room rate increases in the overall package tour prices. So all in all one cannot expect a substantial price effect in package tours to stimulate the demand for package tours in favour of the Mauritian economy.

4.5 Conclusions and Recommendations

Market liberalisation and Internet developments have resulted in a much more diversified range of airlines operating in the European market. Not only the regulatory distinction between scheduled and non-scheduled operations disappeared, but also competition of the new low cost scheduled carriers necessitated full service scheduled carriers to severely cut back their operating costs. This is clearly reflected in today’s airline product, i.e. the number of classes, the seat pitch and in-flight service. At the other side of the spectrum it stimulated traditional charter airlines to transform their operations into scheduled services. These market developments are also reflected in the present air access policy of Mauritius. Some European quasi-charters or hybrids are allowed now to operate to Mauritius. The main admission criterion seems to be a year-around service. Assumed low fare and low quality air services and the connected danger of backpackers’ hordes do not play an explicit role in these cases.

Until now the traditional package tour has maintained a remarkably strong position in many leisure markets. The increasing market penetration of Internet and the continuing individualisation process in the European society may however become a threat for the traditional package tour. High spending individuals probably prefer to increasingly compose their own holidays. The luxury holiday product of Mauritius will fit in this market niche. TUI AG seriously takes this trend into account by building up a “modular approach” in its booking system. It is of utmost importance that the tourism sector in Mauritius closely follows these trends, since this development can have important implications for the pricing of Mauritius’ tourism product. For example the airline seat-only business may become more important for Air Mauritius.

The changing relations in the value chain reveal that large conglomerates of tour operators now own their in-house airlines. These tour operators can offer the whole range of long haul holiday destinations. This does not only stimulate the transparency in each holiday market segment but also increases the competition between alternative long haul holiday destinations. If access to Mauritius is denied to such an in-house airline, the danger might also be that the tour operator involved will divert potential holidaymakers for Mauritius to other holiday destinations. Actually this may be the case with Corsair as the in-house airline of Nouvelles Frontières.

All in all the role of the modern quasi-charters in the air access policy of Mauritius has to be carefully reviewed.

Recommendations

Package tours dominate the holiday market of Mauritius. The Mauritian economy would benefit from a generic reduction in package tour prices, irrespective whether this comes from airfares, accommodation prices or both. It is therefore recommended to develop coordinated pricing policies for both components to enable expansion of Mauritius' customer base in the tourism sector without diverting from the upper end market. Chapter 11 will address this issue in greater detail.

The arguments in favour of a selective charter policy are stronger than those against such a policy. In Chapter 7, detailed conditions are developed for such a policy. The blurring distinction between scheduled and charter operations in liberalised markets also contributes to this change in policy. In some cases supplementary services on existing routes will be able to improve occupancy rates without undermining Air Mauritius position. In other cases, less scheduled operations enable the development of new routes to increase the tourist customer base of Mauritius.

A number of recommendations brought forward by MTPA are highly relevant in the context to implement the approach by us, i.e.:

- to conduct surveys in countries with no direct flights to Mauritius to explore the possibilities of working with Tour operators linked with airlines (e.g. with Lauda Air in Austria) and reach a completely new market segment;
- to encourage arrival of special flights and give relevant permits at the shortest time possible subject to the credibility of operators or provision of financial guarantee.

5. LIBERALISATION TENDENCIES

5.1 Sovereignty and Freedoms of the Air

5.1.1 The Chicago Convention on International Civil Aviation (1944)

Mauritius is a party to the Chicago Convention of 1944, laying down basic principles on international civil aviation. The basic principle of the Convention is sovereignty, granting contracting states, the exclusive and complete competencies over the airspace above their territories.[20] In the exercise of their sovereign powers, states enter into agreements with each other, while restricting the complete and exclusive powers over their airspace.

The Chicago Convention dictates that access for scheduled international air services to airspace is subject to agreement between states.[21] Contracting states to the Chicago Convention may grant approval for access to their national airspace, and for carriage of traffic to, from and via points in their territory, on a multilateral, regional, bilateral or unilateral basis.

5.1.2 Multilateral Regimes Governing Air Access

Rights on access, that is, rights pertaining to navigation through the airspace of a foreign country, and to carriage of traffic to, from and via points on the territory of a foreign country, are called "Freedoms of the Air". We will further explain the Freedoms of the Air in Annexe D to this report.

States can choose to *multilaterally* exchange the mentioned "Freedoms of the Air", by adhering to the worldwide regimes laid down in:

- the *International Air Services Transit Agreement* of 1944;
- the *International Air Transport Agreement* of 1944.

Mauritius is a party to the *International Air Services Transit Agreement* of 1944, under which participating states exchange the two first "Freedoms of the Air".[22]

Mauritius is not a party to the so-called *International Air Transport Agreement*, under which participating states exchange the so-called "five Freedoms of the Air" as explained in Annexe D.

[20] See Article 1
[21] Article 6 *Scheduled Air Services:* "No scheduled international air service may be operated over or into the territory of a contracting State, except with the special permission or other authorisation of that State, and in accordance with the terms of such permission or authorisation."
[22] See Annexe D to this report

5.2 The US Deregulation Process

US deregulation changed the economic operation of domestic air services overnight. This relatively sudden process contrasts with, for instance, the liberalisation program, which was implemented in the EC during the period 1987-1997, as to which see the next paragraph.

The US *Airline Deregulation Act* of 1978[23] eliminated all restriction on domestic routes regarding market access, schedules and pricing.
The Deregulation Act has as its objectives to:

- improve service to the travelling public;
- lower fares;
- result into higher growth of air traffic;
- create more competition in the airline industry;
- enhance profits for US carriers.

At the same time, the *International Air Competition Act* of 1979[24] must regulate competition in the new environment as to prevent air carriers from abusing dominant positions and restricting competition by concerted actions.

US deregulation achieved mixed results in most of the above areas. Lower domestic airfares have come from increased industry productivity, growth of new entrant carriers and the expansion of low cost carriers. Competition on international routes has also intensified because of the connection of local networks with international routs systems through the so-called "hub and spoke" systems.

5.3 Liberalisation in the EC

5.3.1 The EC Competition Regime

Following US deregulation and decisions rendered by the European Court of Justice, in the *Nouvelles Frontières*[25] and *Saeed* cases,[26] the EC Transport Council decided, in 1987, to integrate the European air transport market, including now the European Economic Area (EEA).

A *single competition* regime is applied to air transport within the European Community. This regime is designed to prevail over national competition legislation and bilateral competition clauses. The application of the EC competition regime is assured and monitored by the EC Commission.

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[23] Public Law 95-204, 92 Stat. 1705, 24 October 1978
[24] Public Law 96-192 {S. 1300}, 5 February 1980. The International Air Competition Act is designed "... to amend the Federal Aviation Act of 1958 in order to promote competition in international air transportation, provide greater opportunities for United States carriers, establish goals for developing United States international aviation negotiating policy, and for other purposes."
[25] Cases 209-213/84, *Ministère Public v. Lucas Asjes*, European Court Reports 1425 (1986).
[26] Case 66/86, *Ahmed Saeed Flugreisen and Silver Line Reisebüro* v. *Zentrale zur Bekämpfung unlautern Wettbewerb E.V*., European Court Reports 803 (1989).

Moreover, the Commission is entrusted with the enforcement of the *Merger Regulation*. In 2004, the Air France-KLM combination was, subject to specified conditions, approved under this regulation. The Merger Regulation has been applied to companies, including airlines, which are not nationals of EC Member States, such as the Delta-PanAm case.[27] However, it seems to us that a merger of Air Mauritius with a Community air carrier (for instance with Air France) is not so likely that we should further discuss this regulation here.

Since the entry into force of EC Regulation 1/2003 *on the implementation of the EC competition rules* on 1 May 2004, the EC competition rules also apply to air transport services between the Community and third countries. The provision on the prohibition of anti-competitive agreements, decisions and concerted practices (Article 81) between airlines is now directly applicable to all air services having an *effect on the internal market* of the European Community. In addition, the provision on abuse of a dominant position (Article 82) is equally effective to extra-Community air services.

Bilateral air services agreements will not be affected, as the competition rules do not apply to agreements between *states* as opposed to *undertakings* (airlines). However, agreements between airlines which accompany bilateral agreements will be within the scope of the competition provisions of the EC Treaty and Regulation 1/2003, in particular any agreements which deal with the sharing of capacity or frequencies, co-ordinating schedules or agreeing policy on fares.

Since Regulation 1/2003 entered into force recently, it is not yet sure how law and policy of the Community will evolve in respect of air services between a point in the Community and a point outside the Community, for instance, between Paris and Mauritius. The Commission might argue that it also has the power to examine anti-competitive conditions affecting the *external* market of the European Community under the so-called "*effects*" doctrine. Under the "effects" doctrine that is applied by the European Court of Justice, anti-competitive behaviour, for instance, price fixing by undertakings, which are established outside the Community, may be subject to the EC Competition regime if such behaviour affects intra-Community trade.[28]

Consequently, agreements between airlines - for instance, between MK and AF - may be made subject to the scope of Regulation 1/2003. That means that, if the Commission finds that the agreements or conduct between the airlines are anti competitive under the competition rules of the EC Treaty as implemented in Regulation 1/2003, the concerned airlines can be fined.

[27] Delta took over the Pan Am routes crossing the Atlantic Ocean, the intra-German operations of Pan Am and Pan Am's US East coast shuttle operations. The Commission found that the concentration which resulted from the take-over did not prejudice intra-Community trade, because the parties had a relatively little market share and because of important competitors in the relevant market.

[28] Because Articles 81 and 82 of the EC Treaty do not require that the "undertakings" have an "EC nationality" or that they have an establishment in the Community. The principal condition for application of the said article is that trade between Member States is affected, irrespective of nationality criteria. In the US, the effects doctrine has even been codified by law: a "direct, substantial and reasonably foreseeable effect on US commerce" justifies US jurisdiction.

5.3.2 The Establishment of the Internal Market

The Community has three principal regulations forming the legal basis for the establishment of the *internal* market, namely:

- Council Regulation 2407/92 of 1992 *on licensing of Community air carriers,* harmonising licensing standards for Community air carriers;
- Council Regulation 2408/92 of 1992 *on access for Community air carriers to intra-Community air routes*, opening up all intra Community routes, including domestic routes of the (now) 25 EC Member States;
- Council Regulation 2409/92 of 1992 *on fares and rates for air services*, deregulating pricing on intra-Community routes for Community air carriers.

These three regulations are relevant for *internal* market operations. The only exception to this statement could be a situation in which MK operates intra-Community 5^{th} Freedom flights. Since Community air carriers have "price leadership" prerogatives on such intra Community flights, MK would not be entitled to undercut pricing set by Community air carriers.

5.3.3 The Implementation of the Community Air Carrier Clause

Bilateral agreements routinely contain provisions that a contracting party is entitled to refuse the designation made by the other contracting party on grounds specified in the agreement. These grounds typically include so-called nationality clauses that make "substantial" national ownership of the designated airline and "effective control" of the airline by nationals of the designating state a condition for exercising traffic rights.

The continuing existence of these designation conditions constitutes an effective "show-stopper" for Community airlines incorporated or owned in one state that wish to compete for traffic rights to international destinations from gateways in other Member States where they also have business establishments.

Taking the ECJ decision of 5 November 2002 on the *Open Skies* cases as the point of departure, Community air carriers are entitled to exercise traffic rights from any EC Member State in which they have "an establishment", hereafter also referred to as "(*secondary*) *establishment*", as opposed to the *principal place of business* of the airline. The principal place of business of the airline is the place where the airline is incorporated, and/or has its headquarters, and/or carries out most of its activities.

Not only "flag carriers" of an EC Member State but also other Community air carriers must be able to operate air services from a (secondary) establishment in that EC Member State to a third country under the bilateral air services agreement regulating air services between the country where the Community air carrier has its establishment and the third country. For instance, under the bilateral agreement between Mauritius and France, the rights which France obtained for carriers to be designated under this agreement, should not only be exercised by "French" carriers, that is, carriers having their principal place of business in France, such as Air France,[29] but all other Community air carriers having an *establishment* in France.

The ECJ decided that such Community air carriers must be able to operate traffic rights from an EC Member State other than the one in whose territory they have a principal place of business, and, hence, in which they are licensed. They must be able to obtain “national treatment” (by meeting the conditions applied to and enjoying the same opportunities of a national operator) and thereby exercise the principle of establishment of the EC treaty. Consequently, it is necessary to establish and clarify the meaning of an “establishment” which is not obvious under international air law.

EC Member States are sovereign states. They are all (25) a party to the Chicago Convention. The European Community is not a party to this convention. Neither the European Community as an organisation nor the Commission as one of its representative bodies are a party to bilateral air agreements with third states. Third states may, of course, even refuse talking to the EC Commission if they do not wish so (which has happened).

Under the current state of affairs, the European Commission has no legal position vis à vis third states that have not entered into an agreement with the EU. Till now, there is no EU-third state agreement, that is, under the so-called *vertical mandate*, that is, under the current state of affairs, with the US as the only candidate for an EU-wide-third state agreement under the "vertical" mandate.

Moreover, since 5 June 2004, the European Council of Transport Ministers granted the European Commission a negotiation mandate with *all* third states concerning the revision of clauses relating to the ownership and control of Community air carriers (as to which se the section on the Community air carrier clause in the draft final report), and all other matters coming under the exclusive external competence of the Community (at least slot allocation, fares, and CRS, but now also taxation of aircraft fuel). This concerns the so-called *horizontal mandate*, granted by the EC Council of Transport Ministers to the EC Commission.

Since the EC Commission cannot negotiate changes in the bilateral agreements (since there are so many), EC Member States can continue in their own areas of competence as well as on matters, which are subject to the horizontal mandate. In these matters, they cannot deviate from standards clauses at Community level. If such standard clauses cannot be accepted by a third country, the EC Commission will check whether or not the outcome of the negotiations by the Member States complies with Community law and can exercise the horizontal mandate, which it has been given.

On 9 November 2004, the EC concluded an agreement with Lebanon, under which Lebanon and the EC Member States agreed to change certain clauses (EC air carrier clause and taxation of aircraft fuel clause) in their respective Base’s (under the horizontal mandate). A representative of the EC Commission

[29] At present, EC Member States license carriers as Community air carriers when they are owned and controlled by Community interests, and have their principal place of business within the territory of the licensing state; see Article 4 of Regulation 2407/92, mentioned above.

chaired the negotiations. Similar agreements are foreseen/have taken place with Chile, Georgia and Singapore.

For Mauritius this would mean that when it resists the Community air carrier clause (as many third states have done) the Commission may call upon Mauritius' aviation authorities and try to set up negotiations with Mauritius under the above "horizontal" mandate. Obviously, Mauritius can refuse and state that bilateral agreements as they stand are the basis of air transport relations between Mauritius and EC Member States. There is no evidence what happens if a third State continues to resist acceptance of EC clauses, of which the Community air carrier clause and the clause on taxation of aircraft fuel are the principal clauses.

5.3.4 Definition of "Establishment"

The EC Treaty does not define "establishment."[30] In the *Factor tame* case,[31] the ECJ has defined the concept of establishment as the place where an operator (in this case of a vessel), *pursues an economic activity* in another Member State (other than the Member State where the operator has his principal place of business; has a "*fixed establishment"* in that other Member State; carries the economic activity out "*for an indefinite period of time"* in the other Member State.

Once a company, for instance an airline operating aircraft to offer commercial aviation services, has a "permanent establishment" through a branch or an agency in another Member State (other than the Member State in which it has its principal place of business), that company is entitled to national treatment in that other Member State.[32] National treatment means that an airline must be able to enjoy the grant, or allocation of international traffic rights, that is, the operation of extra- Community routes rights,[33] in the other Member State.

Since the ECJ decision, the Commission has published two documents pertaining to the consequences of this decision on the air transport relations between the Community, and its Member States, on the one hand and third states on the other hand.[34]

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[30] Other than by stating that: "Freedom of establishment shall include the right…to set up and manage undertakings" including: "the setting up of agencies, branches or subsidiaries by nationals of any Member State established in the territory of any Member State." See Article 43 of the EC Treaty

[31] Case C-221/89, see in particular paragraphs 21 and 22: "21 Consequently, the registration of a vessel does not necessarily involve establishment within the meaning of the Treaty, in particular where the vessel is not used to pursue an economic activity or where the application for registration is made by or on behalf of a person who is not established, and has no intention of becoming established, in the State concerned". "22 However, where the vessel constitutes an instrument for pursuing an economic activity which involves a fixed establishment in the Member State concerned, the registration of that vessel cannot be dissociated from the exercise of the Freedom of establishment".

[32] See for instance: *Elide Gottardo*, case C-55/00, para. 32; *Centros*, Case C-212/97, par. 17; *Saint Gobain*, Case C-307/97, par. 34, 35.

[33] By which we mean a route linking the "secondary" establishment of the Community air carrier to a point outside the Community.

[34] See: COM(2002) 649 final of 19 November 2002 at 36, in which the Commission states that national treatment applies when an airline has "an establishment" in another Member State, "regardless of the principal place of business", and COM(2003) 94 final of 26 February 2003, at 11, under which a Community air carrier should enjoy national treatment (as regards the allocation of traffic rights) when he "can show that he has a place of business (subsidiary, branch or agency) in the territory of a Member State."

Community air carriers must meet the following conditions for maintaining a "secondary establishment". [35] Such Community air carriers must:

- Have sales offices; and:
- Have a manager at the airport, and:
- Have set up an agency or branch office, and:
- Carry out air transport activities for an indefinite period of time,
  In the EC Member State of the "(secondary) establishment".

Consequently, it seems to us that the major carriers of the Community can be said to have a "secondary establishment" in the airports of other Member States into and from which they operate. Hence, the aviation authorities of the Member State in which the Community air carrier has a *secondary* establishment must permit such a carrier to apply for available route licences and compete on equal terms for scarce capacity. For instance, Lufthansa may want to apply for scarce route rights, which France acquires under its bilateral agreement with Mauritius so as to operate Lufthansa flights on the route Paris-SSR Airport.[36]

Under international air law, such a flight - air service - would be qualified as "7th Freedom". Consequently, when the authorities of Mauritius accept the introduction of the Community air carrier clause into their bilateral agreements with EC Member States, they accept 7th Freedom rights which Community air carriers are allowed to exercise under such agreements.

5.4 Open Skies Agreements

In 1992, the US Department of Transport (DoT) issued an Order establishing an official definition of "Open Skies".[37] The Final Order in the matter of defining "Open Skies" of the Department of Transportation lists eleven components that should be encompassed in an "Open Skies" regime.[38] It further specifies that this list is not meant to be exhaustive and that additional elements are to be negotiated on case-by-case negotiations.[39]

The term "Open Skies" indicates a shift from the traditional exchange of traffic rights towards a system under which *regulation of competition* forms the core element. As Freedom is inherent to such a system, it would seem more appropriate to list what should *not* be allowed under such a regime instead of the present situation of a non-exhaustive list of what *is* allowed.

The US uses the term "Open Skies" to designate a liberal approach towards the operation of international air services. The term therefore is more of a marketing tool than a legal concept. Parties to an Open Skies agreement have to translate the policy into legal terms. As will be seen below, such terms may - be it slightly - vary from one agreement to another. However, the approach is the same.

[35] See, Consideration No (10) of the Preamble of the Regulation 847/2004. The Common Position (EC) No 7/2004 defines an establishment as "the effective and real exercise of air transport activity through stable arrangement" whereby "the legal form of such an establishment, whether a branch or subsidiary with legal personality, should not be the determining factor in this respect."

[36] Following the above criteria for secondary establishment, Lufthansa would operate its flights from its establishment in Paris

[37] Final Order of the US Department of Transportation in the matter of defining 'Open Skies', Order 92-8-13, Docket 48130, of August 5, 1992 (hereafter: Final Order of the DoT in the matter of defining 'Open Skies').

[38] Final Order of the DoT in the matter of defining 'Open Skies'; see Annex 1 to this article.

[39] Final Order of the DoT in the matter of defining 'Open Skies', at 'other matters'.

Open Skies agreements contain the following liberal elements:

- freedom of each country's airlines to operate air transport services between any point or points in the countries of the contracting parties, including to intermediate and beyond points, subject to a third state's approval, and to customs, technical, operational or environmental restrictions;
- multiple designation of airlines;
- no capacity limitations;
- subject to government intervention designed to prevent monopolies, predatory pricing and artificially low prices due to government subsidies, Freedom with respect to pricing;
- promotion of liberalisation in the field of charter flights, cargo and Computer Reservation Systems;
- performance of own support functions at airports located in the territory of the other party.

The exercise of the above rights is subject to national and local rules regarding safety, customs, security, and the environment. Also, slot scarcity can place restrictions on the exercise of traffic rights.

The above list is flexible. For instance, the US has concluded Open Skies agreements providing for 7th Freedom rights on cargo services.
A principal benefit which smaller countries like the Netherlands, whose "flag" carrier is engaged in an alliance with a US carrier, receive when concluding an Open Skies agreement with the US, is the grant of *anti-trust immunity* by the US for such an alliance.

"Open Skies" as interpreted by the above US policy does not mean that *all* elements falling under economic regulation of international air transport services are liberalised under the agreement.

The following restrictions may remain, or may be made subject to further negotiation:

- national ownership and control clauses for designated air carriers;
- 7th Freedom operations;
- cabotage;
- commercial opportunities in the other country, including the requirement that code sharing must be based on traffic rights for all partners;
- (wet-) leasing arrangements;
- non-freedom pertaining to currency remittance.

Obviously, Open Skies agreements are not "monopolised" by the US. In 2000, Australia and New Zealand concluded an agreement, including provision of 7th Freedom rights for cargo carriers - see Section 5.5.2. on the *Tasman Pact*. In 2004, China and Thailand concluded what they termed an "Open Skies" agreement. In the same year, Argentina and Uruguay concluded an Open Skies agreement including the reciprocal grant of cabotage rights.

In October 2004, China sent delegations to EC Member states to close open skies agreements. Traffic growth between China and EC Member states, especially Germany and the UK, is expected to grow dramatically in the years to come. According to the Chinese government, Open Skies agreements with European countries will not only enable the major Chinese airlines to expand their markets, but also will stimulate travel in the domestic segment. In addition, Open Skies partners of China in the European Community will receive *Approved Destination Status*, which lets tourists obtain visas for up to 30 days of travel to these countries. China will negotiate Open Skies agreements with EC Member states individually. So far, China has resisted claims made by EC Member states for the introduction and application of the Community air carrier clause.[40]

Neither the Open Skies policy, nor the subsequent Open Skies agreements, make provision for the conduct of a converged competition policy, or make reference to agreements, which provide for co-operation between competition authorities. This omission is the more prominent as the Freedom to operate air services internationally is dependent on applicable competition regimes.

Moving from *ex ante* regulation of the operation of international air services, as exemplified by the Bermuda 1 and Bermuda 2 Agreements, to *ex post* regulation of the Freedom granted to such services, implies application of *competition regimes*, which are designed to remedy anti competitive practices and abuses of dominant positions.

Mauritius has not concluded an Open Skies agreement, or an agreement, which resembles an Open Skies agreement. However, it seems to us that in the longer run Mauritius will not be able to resist requests made by third states with respect to the conclusion of Open Skies agreements. As shown above, the tendency towards such agreements is world wide present and increasingly applied. Section 5.6 will touch upon liberalisation, including Open skies agreements, in Africa.

5.5 Liberalisation in Asia and Latin America

5.5.1 The APEC Agreement

In 2001, six members of the Asian Pacific Co-operation (APEC), namely the USA, Brunei, New Zealand, Chile, Peru and Singapore concluded an agreement called the *Multilateral Agreement on the Liberalisation of International Air Transport*. The agreement can be termed as a "super-regional" agreement", but not as an interregional agreement. Other APEC countries may join the agreement, which is designed to relaxing, inter alia, the airline nationality clause in a multilateral fashion.[41]
At the same time, nothing in the agreement affects a party's national laws and regulations concerning the ownership and control of airlines.

Other features of the agreement are:

[40] See, Aviation Daily of 21 October 2004
[41] Article 3(2) of the APEC Agreement dictates that APEC parties "shall grant appropriate authorisations … provided that: a. effective control of that airline is vested in the designating state, its nationals, or both; b. the airline is incorporated in and has its principal place of business in the territory of the party designating the airline …" These conditions do not affect the power of a state to designate airlines on the basis of national ownership (next to effective control and principal place of business).

- grant of the first Six Freedoms of the Air, with 7th Freedom cargo, and the option for the provision of 7th Freedom passenger rights and/or cabotage rights;
- no restrictions on pricing or capacity arrangements;
- expansion of commercial opportunities for airlines, including third country code sharing.

There is no harmonised, let alone a unified competition regime. Enforcement of the above provisions is left to the participating states.

The APEC agreement is a step forward in liberalisation efforts in a regional context. However:

- the agreement has yet to be ratified and enter into force for all the parties concerned;
- nothing in the agreement affects party's laws and regulations concerning the *ownership and control* of airlines.
- there are no arrangements for converging competition regimes among participating APEC countries.

5.5.2 The Tasman Pact

Since 2000, the *Tasman Pact*[42] liberalises air traffic between Australia and New Zealand. The Tasman Pact goes slightly further than Open Skies agreements as identified above in that:

- nationality requirements for airlines flying under the Tasman Pact are relaxed;
- airlines flying under the Tasman Pact may exercise 7th Freedom rights on cargo services;
- those airlines are allowed to engage in cabotage;
- 7th Freedom operations for passengers are under consideration.

However, there is no talk of convergence with respect to the application of competition regimes. Domestic competition laws will continue to apply to the operation of the airlines of both parties. Hence, in terms of liberalisation, the Tasman Pact can be regarded as an interim measure between Open Skies agreements “US Style” and the Third Package of the Community of 1992.

Other features of the agreement are:

- grant of the first Six Freedoms of the Air, with 7th Freedom cargo, and the option for the provision of 7th Freedom passenger rights and/or cabotage rights;
- no restrictions on pricing or capacity arrangements;
- expansion of commercial opportunities for airlines, including third country code sharing.

[42] See: http://www.executive.govt.nz/gosche/open_skies/

5.5.3 Latin American Initiatives

In Latin America, the *Mercosur Agreement* and *Andean Pact* are aimed at achieving free trade in air services between the participating countries along the lines of the mentioned *Yamoussoukro Declaration*. However, all bilateral agreements between these countries are still in place, and have not been replaced by a regional framework. Since Mauritius does not entertain bilateral relations with any of these countries, and MK does not fly into Latin America, we will both not further discuss these ventures.

5.6 Liberalisation of Air Transport in Africa

5.6.1 The Yamoussoukro Arrangements

The primary objective of Yamoussoukro Decision is to pool resources among African states and their airlines with a view to enhancing air services between participating African states.

We understand that implementation of this agreement could harm the interests of Mauritius, inter alia on the operation of:

- 5th Freedom traffic, in competition with MK;
- 6th Freedom traffic (as "Yamoussoukro carriers" can channel traffic from SSR Airport via their home base into Europe);
- charter services, which is against the air policy of Mauritius.

Apart from the above considerations, which are related to the aviation interests of Mauritius, we do not perceive the Yamoussoukro Decision as a vehicle for promoting air traffic between African countries because of:

- the weak legal status of the agreement under international law so that the provisions, including those on the exchange of traffic rights, are not easily enforced;
- lack of traffic between the participating countries so that the relevance in practice of this agreement is not as great as it could be.

We will limit our discussion of this agreement, as we understand that Mauritius has chosen not to adhere to the Yamoussoukro Decision. It follows that MK, or carriers designated by states adhering to the Yamoussoukro Decision, are not entitled to operate traffic rights from, to or via Mauritius, or from, to and via said states, which are liberalised under the mentioned decision.

5.6.2 South African Development Community (SADC)

The Directors General of the Civil Aviation Authorities (CAA's) of the SADC countries have adopted a standard text for bilateral air transport agreements between SADC states, including Mauritius.

The BASA's agreed upon by SADC states provide for the exchange of Fifth Freedom rights subject to the conditions that:

- the designated airlines enter into commercial agreements; and
- such commercial agreements be approved by the concerned CAA's.

Other objectives promoted by SADC are to create a unified airspace through the establishment of a:

- regional regulatory air transport regime providing for harmonised norms in the technical and environmental areas as well as for consumer protection;
- common negotiating machinery with third countries;[43]
- converged or common competition regime.

SADC states have always supported the policy and legal provisions made under the Yamoussoukro arrangements (as to which see above in this paragraph).

5.6.3 COMESA

In 2000, COMESA (Common Market for Eastern and Southern Africa) adopted a policy of progressive liberalisation of traffic rights, which was designed to lead to a complete liberalisation of the airspace as between the participating countries in the year 2000.

Liberalisation as between COMESA states was to be archived in two phases:[44]

Phase 1:

- no restrictions on intra-COMESA cargo services;
- no restrictions on non-scheduled services (intra-COMESA);
- provision of two daily passenger services (intra-COMESA);
- multiple designation on intra-COMESA services;
- no capacity limits on intra-COMESA services.

Phase 2 (starting October 2000) should introduce complete liberalisation of air services between COMESA states.

COMESA states have always supported the policy and legal provisions made under the Yamoussoukro arrangements (as to which see above in this paragraph).

We doubt whether the above regional arrangements form the right path for the promotion of the air transport interests of Mauritius. To embark on commitments with respect to opening up the charter market without national legal and policy control, and on releasing 5th Freedom rights without adequate reciprocity does

[43] Until the entry into force of Yamoussoukro Decision, air services between SADC and non-SADC states continue to be governed by the relevant bilateral air agreements See also suggestions made by Mr Julius Okara and Mr Watiposo Mkandawire, officers with COMESA, promoting in the US an "Open Skies" pact between SADC/COMESA and the US. See: http://usembassy.state.gov/Nigeria/wwwhp100202dhtml

[44] COMESA Legal Notice No. 2 of 1999

not appear to do justice to the special air transport needs of the country, and the status of its flag carrier, Air Mauritius.

5.6.4 Overview of Regional Liberalisation Arrangements

Table 5.6.1 below identifies the differences between the main elements of air policy regimes discussed in this chapter. As will be demonstrated in 6.2 below, bilateral agreements concluded by Mauritius fall in the first category, that is, under restrictive bilateral agreements. The table made below identifies progressing degrees of liberalisation in bilateral and multilateral air agreements.

	1. Restrictive bilateral agreements	**2. Open Skies agreements**	**3. SADC**	**4. COMESA**	**5. EC internal market (1992)**
Nationality requirements Airlines[45]	Applicable	Applicable	Applicable	Applicable	Community requirements[46]
Designation	Single	Multiple	Multiple	Multiple	Unlimited[47]
Traffic rights[48]	I-IV, V subject to conditions	I-VI, VII in exceptional cases[49]	I-V, VI-IX to be implemented	I-V, VI-IX to be implemented	I-IX
Pricing	Double approval (of both)	Free	Free	Free	Free
Capacity	Subject to conditions	Free	Free	Free	Free
Code sharing	Sometimes permitted, and subject to conditions	Allowed	Allowed; mandatory on 5th Freedom services	Allowed	Allowed
Scheduled/ non-scheduled services	Scheduled (incl. cargo services)	All services (sched./non-sched./cargo)	Sched., inc. cargo; non-sched. to be included	All services	All services

Table 5.6.1 Differences between the main elements of air policy regimes

On the basis of oral information supplied to us, we understand that Mauritius does not consider itself to be bound by COMESA arrangements on air transport,

[45] In terms of "substantial ownership and effective control"

[46] Including that nationality of airlines operating under the *Third Aviation Package* of 1992 are “substantially owned” and “effectively controlled” by nationals of the European Community, and have their principal place of business in a Member State of the Community. See sub section 5.1.3.3, above

[47] The term “designation” does not apply to the regime set forth by the European Community; access to intra-Community routes is free for Community airlines if the conditions drawn up by the said Third Aviation Package of 1992 are satisfied. See sub-section 5.1.3.2, above.

[48] In terms of Freedoms of the Air; see the Annex to this report.

[49] For instance, on specified cargo flights

and that no SADC state is implementing the liberalisation measures made under the Yamoussoukro decision.

SADC and COMESA are committed to implement the Yamoussoukro decision. Membership of SADC and COMESA can be a catalyst for opening access into the airspace of Mauritius, as the said arrangements provide for liberalisation of economic restrictions imposed upon the operation of air services.

Questions for Mauritius are whether:

- apart from traffic from/to South Africa, *traffic growth* can be expected in the markets linked by SADC and COMESA arrangements;
- the *multiple designation* articles of such arrangements support the air policy objectives of Mauritius;
- SADC and COMESA carriers will channel traffic from Mauritius via their home base to destinations in Europe on the basis of *6th Freedom rights*;
- the envisaged introduction of more *competition* into regional air services will not result into pressures upon fares, which may conflict with the interest of Air Mauritius;
- the introduction of *charter services* into the liberalisation programmes foreseen by SADC and COMESA are in line with Mauritius air policy.

Other, more general questions pertain to *supervision* and *implementation*. We wonder whether the relations between the SADC and COMESA countries, and their willingness to set up supra-national institutions such as a COMESA Court of Justice and SADC Tribunal are stable enough to achieve the ambitious programmes drawn op by the participating countries. Unfortunately, we cannot provide the answer to the above questions as that would require an examination and analysis of the regional achievements so far, which, in our view, falls outside the scope of the Terms of Reference of this study. However, we will keep the above initiatives in which Mauritius participates in mind when making suggestions for opening access into the airspace of Mauritius in the course of this study.

5.6.5 The Position of Mauritius under the Above Liberalisation Programmes

Obviously, Mauritius cannot be bound by Open Skies regimes and cannot be made subject to the application of Community air carrier clauses unless it gives its consent to do so. This follows from its sovereign status under Article 1, in combination with Article 6, of the Chicago Convention, in combination with provisions of the Vienna Law of the Treaties.[50] However, we have attempted to demonstrate that liberalisation will affect Mauritius, its air carrier and airport.
The above chapter demonstrates that liberalisation finds its way into Africa, including Southern Africa. This is evidenced by the conclusion of the Yamoussoukro decision.[51] We understand from oral information that Mauritius

[50] On 18 January 1973, Mauritius has acceded to the *Vienna Convention on the Law of Treaties* (1969). See, in particular, Article 11 of this Treaty, stipulating that: "The consent of a State to be bound by a treaty may be expressed by signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession, or by any other means if so agreed."
[51] See also, the call made by the African Airlines Association at the Conference held in Cape Town on October 19, 2004. It was agreed that Africa needs Open Skies to promote development of trade and social interaction.

has indicated to African states that it cannot implement the provisions of the Yamoussoukro Decision.

At the same time, Mauritius is a party to SADC, which is committed to liberalise air transport between participating states by implementing the provisions of the Yamoussoukro Decision. Hence, it is difficult to see, both in law and in practice, how Mauritius can apply the liberalisation programme made by the Yamoussoukro Decision through its membership of SADC and COMESA.

However, it would seem that SADC and COMESA arrangements do not bind Mauritius, as Mauritius prefers not to be bound by them. From our position, it is difficult to assess through which governmental acts Mauritius made it clear to its partners in SADC and COMESA that it does not want to be bound by said arrangements. Another question is whether SADC and COMESA states are in a position to enforce the concerned liberalisation measures vis à vis Mauritius, if Mauritius is bound by them.

6. BILATERAL RELATIONS

In Chapter 5, worldwide trends in legal and aero political issues have been addressed. For the distinct world regions the main issues have been dealt with. The chapter has concluded with some characteristics of the bilateral and regional arrangements Mauritius has made.

This particular chapter is examining selected Bilateral Air Service Agreements (BASA's) in more detail. We will firstly define specific points where individual BASA's may need attention and an eventual revision

6.1 The Air Access Policy of Mauritius

As far as we know, Mauritius has not a formal policy document laying down its policy objectives. However, as its engagements in a regional (SADC, COMESA, Yamoussoukro, see Paragraph 5.2.1, above) and in a bilateral setting (as to which see below) demonstrate that Mauritius has a clear mind on how to pursue its policy objectives. We summarise these policy objectives below.

It seems to us that the air access policy of Mauritius is driven by two principal parameters, namely, the protection of Air Mauritius as a "flag carrier"; and the attraction of "up market" tourists.

As we briefly outlined above and will further explain below, these policy objectives are supported by the following strategy:

- maintenance of *single designation* clauses;
- *double approval* fare systems, which entitle governments to control fares if they so wish but which rights are not necessarily enforced in practice;[52]
- *restrictions* with respect to the mounting of *capacity* and *frequencies*;
- reluctance to exchange 5th and 6th Freedoms of the Air;
- continuation of a *non-charter policy*, although exceptions to this policy are being made[53]
- modest liberalisation efforts only in a regional context;
- no full privatisation of Air Mauritius.

For the time being, we conclude that the air policy conducted by Mauritius is not "competition driven" in terms that it is designed to promote competition between air carriers. In doing so, Mauritius does not follow the trend of promoting competition internationally. We will come back to this provisional conclusion, taking into account our analysis of the domestic economic situation, with special reference to hotel capacity and pricing.

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[52] In its comments made in November 2004, Air Mauritius states that the double approval system is not applied in practice. This may be so, but we wonder whether the governmental authorities of Mauritius continue to write the double approval clause in their bilateral agreements. Reference is made to the tables shown below.

[53] Charter flights on an ad hoc basis from markets, which are not directly served by MK, are allowed. Examples are Air Slovakia and Malev Hungarian Airlines, which have been authorised to operate a series of charter flights. New operators like LTU start operating air services into Mauritius. ***Source*: Air Mauritius, Statement of November 2004**

6.2 Analysis of Bilateral Air Agreements in Force

6.2.1 Characterisation

Before examining the bilateral air agreements concluded by Mauritius, we divide such air agreements, henceforth: BASA's, into *three categories*. BASA's can be characterised along the following lines.

- The *most restrictive BASA's* have as their basic premise that producers - airlines - control the market. They decide on how much will be produced in terms of capacity, and at what price services will be offered. Market access, capacity and pricing are pre-determined by the airlines. They are being co-ordinated and controlled by the aeronautical authorities of the two states party to the BASA. The purpose of such agreements is to reach a balance of benefits. In most western (OECD) countries, such restrictive agreements are considered as illegal in light if prevailing competition regimes such as Regulation 1/2003 of the EC (as to which see Para. 5.1.3, above).

- The *Bermuda 1 model*, based on the BASA concluded between the US and the UK in 1946, is more liberal in that it is designed to promote *managed competition*. Those BASA's have as their objective to create "a fair and equal opportunity" to provide the agreed international air services. Airline or airlines of one side are not supposed to "unduly affect" the interests of the airline(s) designated by the other party.
  - The primary objective of Bermuda 1 type BASA's is to provide the legal basis for the carriage of 3rd and 4th Freedom traffic. Carriage of 5th Freedom traffic is subordinate to carriage of 3rd and 4th Freedom traffic.
  - Either party may designate one or more airlines (*single or multiple designation*) for the provision of the agreed services.
  - Clauses for *pricing* are formulated in such a fashion that reasonable profits can be made. Furthermore, pricing was co-ordinated in a multilateral fashion, that is, by the IATA tariff co-ordination system.
  - *Capacity* is not predetermined by the parties, but is subject to *ex post facto* review.

- *Open Skies* agreements: see discussion in Para. 5.1.4, above.

6.2.2 Analysis of Current Air Service Agreements

Mauritius has concluded thirty BASA's, including a Memorandum of Understanding with United Arab Emirates. In fact, 18 of them are operational in the sense that services are being operated under such BASA's. There are two proposed BASA's, namely, with Ethiopia and Oman, both having been tabled in 2001.

As this report focuses on ways and means of broadening market access, we will examine concisely the following clauses of the mentioned BASA's:

- designation (single, multiple or free);

- Freedoms of the Air: exchanged route and traffic rights (see Annex);
- the frequency of the agreed services;
- capacity provisions;
- pricing arrangements;
- cargo provisions (see also Chapter 9);
- commercial agreements such as code sharing, pool and leasing arrangements;
- doing business rights such as ground handling, maintenance and representation/establishment as further explained in Section 10.5.

6.2.3 Schematic Overview of BASA's concluded by Mauritius

The following section presents an analytical overview of the main provisions regarding air access of bilateral air agreements concluded by Mauritius in a schematic fashion. A section in which said provisions will be further clarified will follow this section. In doing so, we will briefly identify changes, which can be made into these provisions with a view to improving air access.

Before presenting the tables, we briefly clarify the abbreviations that are used in the tables made below.

Gen. prov.: General Provisions which may read as follows:[54]
"1. There shall be fair and equal opportunity for the designated airlines of both contracting parties to operate the agreed services on the specified routes between their respective territories.
2. In operating the agreed serves, the designated airlines of each Contracting party shall take into account the interests of the designated airline of the other Contracting Party so as not to affect unduly the services that the latter provides on these specified routes.
3. The agreed serves provided by the designated airlines of the Contracting parties shall bear close relationship to the requirements of the public for transportation on the specified routes and shall have as their primary objective the provision, at a reasonable load factor, of capacity adequate to carry the current and reasonably anticipated requirements for the carriage of passengers, cargo and mail originating from or destined for the territory of the Contracting party which ahs designated the airline.
4. The agreed services may, within the limits of total capacity provided primarily for the carriage between the Contracting Parties under the preceding paragraph take into account the traffic requirements between the territory of any of the Contracting [parties and the territory of any third state."

D.A.: *Double Approval* of tariffs which must be given by the aeronautical authorities of the two states

j.v.: joint venture arrangements (between airlines)

[54] See Agreement between the Government of the Republic of Mauritius and the Government of the Republic of South Africa Relating to Air Services between and Beyond their Respective Territories, as amended in 1993

Cap. Req.: capacity requirements - see also above, under General Provisions

Subj.: subject

	Opera-ted	Desig-nation	Freedoms of the Air	Frequency	Capacity	Pri-cing	Cargo	Comm. Arrange -ment.	Doing bus. rights
Austra lia	MK	Dual/M ultiple	1-4	Gen. prov.	Gen. prov.	D.A.	No prov.	Third countr y code sharing[55]	Airline repres.[56] allowed
Austria (1999)	Air Lauda	Single	1-4, plus co-terminal rights[57][58]	1/week may be increased	Gen. prov./ Pre-determined, subj. to appr.	D.A.	No prov.	j.v. and code sharing allowed[59]	Airline representati on allowed
Belgium (1993)	MK (?)	Single	1-4	Gen. prov.	Gen. prov./ Pre-determined[60]	S.D.[61]	No prov.	No prov.	Airline representati on allowed
China (1994)	None	Single	1-4, 5 (as specified)	2/week	Gen. prov., incl. “area” cap. req.	D.A.	No prov.	Between designat ed airlines	Airline representati on allowed

Table 6.2.3.1 - Schematic and summary overview of market access related clauses *in bilateral air agreements concluded by Mauritius* (1)

[55] ***Source*: Air Mauritius, Statement of November 2004**

[56] As well as “self handling” rights

[57] Co-terminal rights are granted to Mauritius as the other parties, that is, Austria, Germany and Italy cannot exercise such co terminal rights into Mauritius because it has only one airport which is used by the designated carriers of these three countries.

[58] The exercise of *fifth Freedom rights* is not granted by this agreement but may be agreed upon between the two parties.

[59] Code share MK/Austrian Airlines practiced.

[60] Which is subject to approval by the aeronautical authorities

[61] Single Disapproval, see Article 13(4), second paragraph: “ If within thirty (30) days from the date of receipt, the aeronautical authorities of one Contracting party have not notified the aeronautical authorities of the other Contracting party that they are dissatisfied with the tariff submitted to them, such tariff shall be considered to be acceptable and shall come into effect on the date state in the proposed tariff.”

	Opera-ted by	Desig-nation	Free-doms of the Air	Frequency	Capacity[62]	Pricing	Cargo	Comm. arrang.	Doing bus. rights
France (1979/95 2002) *tbc*	AF/ MK	Single[63]	1-4, 5 (as specified)	Gen. prov.[64]	Gen. prov.	D.A.[65]	No prov.	AF/MK j.v./pool agr.[66]	No prov.
Germany (1974/ 1997)	MK/ Condor	Multiple	1-4, plus co terminal rights	3/week[67]	Gen. prov.	D.A.[68]	No prov.	No prov.	Airline representati on allowed
Hong Kong (1995/ 1999)	MK	Multiple	1-4, 5 subject to special agreeme nt	2/week[69]	Gen. prov.	D.A.	No prov.	No prov.	Airline representati on allowed
India (1971/ 1996/ 2000)	MK	Single	1-4, 5 (as specified)	Specified per route	Gen. prov./ Pre-determined, subj. to appr.	D.A.	No prov.	AI/MK j.v. plus code share arr.	Airline representati on allowed
Italy (1975/99 *incom-plete*)	MK/ Air Europe	Single[70]	1-4, plus co terminal rights	To be determined by airlines	Max. 800 seats/week in each direction	D.A.	XXX	j.v. and third country code sharin[71]g allowed	Airline representati on allowed

Table 6.2.3.2 - Schematic and summary overview of market access related clauses in bilateral air agreements concluded by Mauritius (2)

62 **Irrespective of aircraft types and size. *Source*: Air Mauritius, Statement of November 2004**

63 By route. In 2002, France requested multiple designation and implementation of the " Community air carrier" clause (as to which see below).

64 Currently under review. In 2002, France proposed to amend the existing provisions contained in paragraphs 5, 6, 7 and 8 of Article XI so as to enhance capacity, This request is so far resisted by Mauritius as Mauritius feels that such a request does not meet the principle of operations based upon " fair and equal opportunity" France, on the other side, stressed that " fair and equal opportunity" does not imply equal number of seats (capacity). An 8th frequency/week has been added during peak periods.

65 In 2002, the suggestion was made to add paragraph 8 to Article XIII: " The provisions of this article will not be applicable to services between points located within the European Community or any other country member of the European Aviation Market." This new paragraph would be in accordance with the EC provision, contained in EEC Regulation 2409/92 that tariffs on intra-EU routes no longer need to be approved by the aeronautical authorities of the concerned EU states.

66 Including a code share agreement MK/AF. Mauritius emphasises that it is in favour of co-operative marketing agreements, including code sharing agreements, between airlines of the two contracting parties, but not between airlines designated by the same contracting party, as the latter type of arrangements are liable to affect the competitive position of the airline designated by the other contracting party.

67 May be increased.

68 In 1997, Germany suggested to adopt the " *Country of Origin*" system for tariff approval. This means that the tariffs to be charged by the designated airlines of both parties for the carriage of passengers, cargo and mail from the territory of one party to the territory of the other party will be those which are approved by the authorities of the party from whose territory the tariffs are to be applied. According to our information, the Mauritian authorities have not yet agreed with this proposal

69 May be increased subject to prior permission of the aeronautical authorities of the other side.

70 To be increased on the Italian side by one carrier in case of more than 130,000 passengers per year. Dual/multiple designation has been agreed upon with; however, the agreements has yet to be formalised (status quo per November 2004, source Air Mauritius)

71 ***Source*: Air Mauritius, Statement of November 2004**

	Operated by	Desig-nation	Free-doms of the Air	Frequency	Capacity	Pricing	Cargo	Comm. arrangem.	Doing bus. r.
Mada-gascar (1995)	MK/ Air Madagascar	Single	1-4, 5 to be determined	No prov.	Gen. prov., Pre-determined, subj. to appr.	D.A.	No prov.	No prov.	Airline representation allowed
Malaysia (1988)	MK	Single	1-4, 5 to be discussed		Gen. prov., incl. "area" cap. req.	D.A.	j.v. betw. desig-nated airlines[72]	No prov.	Airline representation allowed
Malaysia (1988)	MK	Single	1-4, 5 to be discussed		Gen. prov., incl. "area" cap. req.	D.A.	j.v. betw. desig-nated airlines[73]	No prov.	Airline representation allowed
Sey-chelles (1997)	MK/ Air Seychelles	Single	1-4	1/week[74]	Gen. prov.	D.A.	No prov.	Allowed	Airline representation allowed
Singa-pore (1980, 84, 87, 1988)	MK	Dual/Multiple	1-4, 5 (as specified	1/week to be increased	Bermuda 1/Gen. Prov.	D.A.	No prov.	Allowed, also with third state airlines	No prov.
South Africa (1993)	MK/ SAA	Single	1-4, 5[75]	See capacity and cargo	General and specific[76] provisions	D.A.	Joint operation MK/ SAA	Allowed, in a regional context	Airline representation allowed
Swit-zer-land (1997)	MK	Single	1-4	3/week[77]	Gen. and specific[78] provisions	D.A.	1/week	Allowed[79]	
UAE (2001)	Emirates	Single	1-4, 5 (as specified	3/week	Gen. prov.	D.A.	Unrestricted for 3/4th Freedom	Allowed	No prov.

Table 6.2.3.3 Schematic and summary overview of market access related clauses in bilateral air agreements concluded by Mauritius (3)

72 Including code share agreement between MK and Malaysian Airlines
73 Including code share agreement between MK and Malaysian Airlines
74 Which number (1) may be increased to 2/week as soon as either BA or AF ceases to operate and exercise traffic rights on the Seychelles-Mauritius route.
75 SAA is entitled to operate Fifth Freedom rights in accordance with the terms of a commercial agreement with MK.
76 To be made between the designated airlines, subject to traffic demand and other conditions.
77 Subject to specified conditions
78 To be made between the designated airlines, subject to traffic demand and other conditions.
79 Code sharing allowed subject to the possession of traffic rights and other conditions

	Operated by	Desig-nation	Free-doms of the Air	Frequency	Capacity	Pricing	Cargo	Comm. arrangem.	Doing bus. r.
UK (1973/ 1999)	MK/ BA	multiple	1-4, 5 (as specified	5/week[80]	Gen. prov.	D.A.	No prov.	Third country Code sharing[81] (1999)	Airline represe ntation allowed
Zim-babwe (1990)	MK/ Air Zimbabwe	single	1-4, 5 (specifie d)	Predetermi ned, subj. to approval	Gen. prov./ Predetermi ned, subj. to approval	D.A.	No prov.	No prov.	No prov.

Table 6.2.3.4 Schematic and summary overview of market access related clauses in bilateral air agreements concluded by Mauritius (4)

6.3 Analysis of the Current BASA's

Revision of the current BASA's may focus on the following points:

- *Agreements designed to restrict and manage competition*
  In summary, we conclude that the above BASA's restrict competition, as their main features are:
  - single designation;
  - limited exchange of traffic rights and frequencies (as to which see further below);
  - establishment of capacity relying on traffic demand between the two countries;
  - double approval system for pricing.

- *Nationality requirements*
  All BASA's contain nationality requirements to the effect that the designated airline must be substantially owned and effectively controlled by the designating state and/or its nationals. We found two exceptions to this:
  As usual the agreement with *Hong Kong* provides that the airline designated by Hong Kong must be "incorporated" and have "its principal place of business in HKG".
  The agreement with *Switzerland* speaks of "preponderant ownership" instead of "substantial ownership". *Preponderant* must be understood so as to encompass more than 50 percent national ownership. *Substantial* ownership may be less than 50 percent national ownership, although there are no agreed definitions on what "substantial" means.
  We noted that, in 2002, the French aeronautical authorities suggested that the nationality requirements as laid down in their agreement with Mauritius be replaced by the *Community air carrier clause* – see also Para. 5.1.3.

[80] In peak periods. Frequency entitlement on routes to/from the UK is 6 as from 2005 and 7 as from 2006.
[81] ***Source*: Air Mauritius, Statement of November 2004**

- *Freedoms of the Air*[82]
  Obviously, all agreements form the legal basis of the operation of air services.
  The 5th Freedom of the Air is exchanged subject to further specifications, such as sector specifications.
  The 6th Freedom of the Air – which is, as stated above, not recognised as a separate Freedom of the Air – is not mentioned (except in the agreement with the Seychelles).
  We understand that Mauritius resists requests for 5th and 6th Freedom rights on the grounds that they are liable to affect Air Mauritius' current revenues on its core routes without offering new business. The argument against 6th Freedom rights is that there is insufficient originating traffic from these destinations to justify Air Mauritius services. The foreign 6th Freedom carrier merely takes a share of existing traffic so that Air Mauritius looses traffic. Reference is made to the case study pertaining to Emirates, as to which see Section 6.4.3.

  The 7th Freedom of the Air is not mentioned either, as this "stand alone 5th" Freedom is only exceptionally granted in certain Open Skies agreements, and mostly for cargo services only.

  Most agreements forbid carriage of domestic traffic in the territory of the other party also referred to as *cabotage*, or as the 8th and 9th Freedom of the Air.

- *Application to scheduled international services*
  The BASA's regulate the agreed international services. When doing so they refer to the definitions given in Article 96 of the Chicago Convention.[83] Hence, they are in most cases limited to scheduled international air services, coming under Article 6 of the Chicago Convention.
  We did not find provisions on non-scheduled, including charter services, which are subject to the regime of Article 5 of the Chicago Convention.
  In two agreements, namely in those with Italy and with Switzerland, the Mauritian authorities confirmed that they maintain a policy of not authorising charter operations to and from Mauritius. However, there are currently charter operations between Mauritius and Italy.

- *General principles applying to frequencies and capacity*
  All agreements contain general principles, which can be made to apply to economic parameters of the operation of the agreed services such as capacity, frequencies and pricing. Reference is made the case study regarding Emirates, as to which see Section 6.4.3.

  Such general principles include (but are not limited to) the following:
  - there shall be "fair and equal opportunity" for the designated air carriers to operate, or "to compete" on the routes of the agreed services;

[82] As to which see Annex D to this report
[83] Article 96 of the Chicago Convention gives the following definitions:
(a) " Air Service" means any *scheduled* air service performed by air craft for the public transport of passengers, mail or cargo;
(b) " International air service" means an air service which passes through the airspace over the territory of more than one State.
(c) …." (*italics added*)

- in operating such services, the designated airline of one side shall take into consideration the interests of the airline of the other side so as not to affect unduly the services of the latter air carrier;
- the agreed services shall bear close relationship with traffic demand for public transportation;
- the agreed services shall have as their primary objective the carriage of traffic between the territories of the two states, that is, carriage of 3d and 4th Freedom traffic.

Reference is made to the Bermuda 1 principles, which are briefly outlined in Section 6.1.2.

- *Pricing*
  Most agreements – exceptions are the agreements with Belgium and UAE – provide for a double approval system. Again, most agreements lay down rather detailed procedures for the application,[84] filing and implementation of tariffs. Also, they contain rules on the determination of tariffs in cases where the two airlines cannot agree on them. We also mention that provisions on pricing speak of the involvement of the IATA machinery for tariff co-ordination.

- *Doing business rights*
  We examined the rights of designated air carriers to employ own personnel in the territory of the other party (e.g., the agreements with Austria, Italy and Belgium. In exceptional cases, the agreement specifically addressed the matter of establishment of offices in the territory of the other country. (E.g., the agreement with Seychelles).

- *Ground handling services*
  One agreement, namely, the agreement with Australia, provides for self-handling by the designated carrier in the territory of the other party.
  In 1999, the aeronautical authorities of the UK, 1999 complained of the high costs of ground handling in Mauritius, which were liable " to jeopardise services to Mauritius". This remark sheds another light on possible interruptions by BA's services to Mauritius as BA considers stopping its services to SSR Airport because of competition from 6th Freedom services operated via Dubai by Emirates (see section 6.4.3). However, ever since, the ground handling fees have been reduced by approximately 50 percent since the government granted a licence to a second provider, namely, Servisair.[85]

- *Cargo*
  Since we did not find specific provisions on the operation of all-cargo services such services fall under the "agreed services". However, regimes for the operation of cargo services are increasingly liberalised.

- *Enforcement*
  We examined the agreements as they stand. Enforcement may be, or rather is another matter.

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84 This point is illustrated by Article 7 of the agreement with Hong Kong

85 BA contracted Servisair but Servisair could not provide the services in time so that BA was forced to go back to MK. Servisair handles Air Europe, and business jets, and Aviatec. The strategy of Servisair is to capture new entrants, such as Corsair.

During the course of our visits to Mauritius, stakeholders requested us to examine cases with which they were confronted, which were related to 6th Freedom traffic. The following sections discuss these cases, which concern:

- 6th Freedom pricing;
- the position of Emirates, with special reference to the question of 6th Freedom pricing;
- a possible solution: the establishment of a national law on 6th Freedom pricing.
    -

We will also pay attention to the position of Réunion vis-à-vis Mauritius.

6.4 Special Features of 6th Freedom Traffic in Relation to Mauritius

6.4.1 6th Freedom under Bilateral Regimes

6th Freedom refers to the carriage of traffic between two foreign points via the home base of the carrier. For instance, Air Mauritius flies from Singapore to London via SSR Airport. The flight numbers for the stretch Singapore-Mauritius, and Mauritius-London, do not have to be the same. Also, the flights may be operated by different aircraft (and other equipment).

Views on 6th Freedom operations, and pricing of such operations, may differ. The two following views appear to be predominant in international air policy.

1. Carriage of 6th Freedom traffic can be viewed as a *combination of third and fourth Freedom traffic*. In the given example, the flight operated by Air Mauritius on the stretch between Singapore and Mauritius would be a fourth Freedom flight, whereas the Mauritius-London flight, operated by Air Mauritius, would be a 3rd Freedom flight. Passengers on the Singapore-Mauritius flight disembark at SSR Airport, transit through SSR Airport and embark - another Air Mauritius- flight Mauritius-London.

2. More restrictive, less liberal countries regard 6th Freedom as a *variant of 5th Freedom services*. Again, in the given example, such a view would amount to requiring the transfer of traffic via the home base, *not to be on a same day connection*, so as to treat carriage of traffic by Air Mauritius from Singapore via Mauritius to London as a combination of 4th and 3rd Freedom.

If 6th Freedom traffic is regarded as a variant of 5th Freedom traffic, such traffic will be subject to the capacity and pricing clauses of two bilateral agreements:

The carriage of *third and for the freedom* traffic must be the *primary objective* of the operation of the agreed services. Hence, states may restrict this freedom as they do to fifth freedom traffic, by:

- o limiting the traffic allowed to be carried to and from their territory in direct transit via the home country of the carrier to a third country, or
- o disregarding this traffic as a justification for the request made by another state to increase capacity on the route concerned to and from their territory, or:

- limiting the freedom of sixth freedom pricing (see next sub section).

Governmental authorities (of Mauritius) should introduce clauses on these measures in their BASA's and apply them (to begin with, by talking to the governmental authorities of the other side). In case Mauritius has already secured these measures in BASA's, they could talk, or negotiate on these issues. A final remedy is arbitration but this instrument is hardly used.

6.4.2 Pricing of 6th Freedom Traffic

If 6th Freedom traffic is treated as a combination of 4th and 3rd Freedom carriage, the tariffs for air transportation in 6th Freedom fall under the pricing clauses of two different bilateral regimes, in the given example the bilateral agreements between Singapore and Mauritius, and between Mauritius and the UK. In such cases, 6th Freedom may have to be priced on two different flight coupons of the ticket.

Bilateral agreements may provide for provisions on filing of tariffs. Under a *double disapproval* system - which is considered as a liberal pricing system - tariffs are allowed to stand unless both governments disapprove the tariff. Restrictive countries may limit the advertising of transportation beyond the foreign carrier's homeland against low through fares, that is, below the sum of local fares.

The airlines wishing to operate the agreed services must file new tariffs with the aeronautical authorities. Filing of tariffs with the authorities should be allowed up to ten days before their intended entry into force. If disapproval of a tariff is justified, the carrier concerned should be notified thereof by the aeronautical authorities on short notice, that is to say, within five days after the filing.

World wide there is a tendency to do away with filing of tariffs as it is seen as an anti competitive move. Airlines should be free to set their tariffs, which can be made subject to the application of competition regimes.

6.4.3 A Case Study: 6th Freedom operated by Emirates

Emirates (EK) carries traffic between SSR Airport and its home base Dubai, and from Dubai to destinations in Europe such as London and Paris. EK offers competitive tariffs to passengers flying via its home base, affecting, and undercutting, pricing made by Air Mauritius and European carriers, including AF and BA, on their non-stop flights between Mauritius and the concerned European points, that is, Paris and London respectively.

The question is how the Mauritian authorities can challenge such 6th Freedom pricing, affecting the competitive position of Air Mauritius (and other carriers). We understand that Air Mauritius has never been a member of the IATA Tariff [Coordination] Committee.

There are three ways to reply to this question:

1. As explained above, if the Mauritian authorities adopt a restrictive stance towards 6th Freedom operations so as to consider such operations as a

variant of 5^{th} *Freedom* services, the EK flights between Mauritius and Dubai, and from there to Paris/London, are not only subject to the pricing clauses of the agreements between Mauritius and United Arab Emirates (UAE), and between UAE and UK (or France). EK should quote locally filed (and approved) fares on the Mauritius-Dubai services. Mauritian authorities cannot control pricing of services beyond Dubai.

The bilateral agreement between Mauritius and the UAE, called the *Memorandum of Understanding for air services* signed on 6 June 2001, henceforth also referred to as: MoU (2001), including two Annexes, does not a provision on pricing, or on price leadership.

The MoU (2001) contains three provisions, which are relevant for this case:

- o "Each Party shall allow a fair and equal opportunity for the designated airlines of both parties to compete in the international air transportation covered by this Memorandum." (Article 6). Fair competition means that the dominance of the carrier on one side - for instance, of UAE - in each of the agreed services should be avoided. Dominance means the ability to act independently of competitors (and consumers). Price leadership may go against clauses promoting fair competition. It can be argued that price leadership does not meet the requirements of the two following provisions.

- o "In operating the agreed services, the designated airline of each Contracting Party shall take into account the interests of the designated airline of the other Contracting party so as not to affect unduly the searches which the latter provides on the specified routes." (Article 7)

- o "Each Party shall take all appropriate action within its jurisdiction to eliminate all forms of discrimination or unfair competitive practices adversely affecting the competitive position of the airline of the other part." (Article 8)

If the London(/Paris)-Mauritius route via Dubai is specified in the agreement, the question on pricing and price leadership of EK should be made subject to the above provisions. The aeronautical authorities of Mauritius could chose to enforce them by requesting consultations pertaining to pricing questions.

2. If, on the other hand, the Mauritian authorities adopt a more liberal position on 6^{th} Freedom operations, the mentioned UK flights are regulated by the pricing clauses laid down in the agreements between Mauritius and UAE (as to which see above), and between UAE and UK. As we do not dispose of the agreement UAE-UK, we cannot examine the question on pricing or price-leadership under this agreement.

3. Finally, in a liberal environment, pricing of air services may be made subject to the competition regimes of the countries whose markets are *affected* by pricing strategies of carriers, including foreign carriers. Price leadership may be an element of free competition as protected by competition regimes. As we will explain below, the Competition Act of

Mauritius does not apply to the operation of air services, so that we will not further consider this option.

6.4.4 National Law on Pricing

The trend is to liberalise pricing rather than subjecting it to governmental interference under the double approval system and national regulations. Pricing of air services becomes increasingly free. Dumping and excessively high pricing may be forbidden by competition regulations, (as to which see remarks made in relation to Regulation 1/2003 of the EC) which are not in place in Mauritius.

That is why the instrument of national regulations may be used to remedy certain irregularities in the field of pricing. Tariffs applied by air carriers carrying traffic from and into a point of the territory of a state may be made subject to approval by the Minister of Transport of that state. Again, such a provision need not be applied in all cases; it gives the authorities of a state an instrument to act in special circumstances, such as when sixth freedom carriers are "stealing" traffic from the state having implemented the tariff regulation.

Hence, the government of Mauritius could opt for enacting a national regulation on pricing of airfares. Such a national regulation could be designed so as to implement bilateral provisions on pricing, and to form the legal basis for administrative action in relevant cases. Also, a national regulation on pricing can be useful for controlling 6th Freedom pricing.

Such a regulation could state that no air carrier may set fares for scheduled international air services from and to a point in the concerned country unless the competent Minister has approved such fares. The regulation also could provide for procedural rules, indicating how, when and in which form fares must be filed. Also, the regulation could specify how and when the Minister must approve fares. Secondary rules may give further explanations as to the above. In addition, governmental authorities may wish to set up an automatic filing system in order to facilitate the filing process.

6.5 The Position of Réunion

The BASA with France also requires careful attention because of the geographic proximity of Réunion, the French wish to designate more than one carrier, and its insistence on the adoption of the Community air carrier clause. Also, the entry into force of Regulation 1/2003 on 1 May 2004 may affect services from Réunion into Mauritius and vice versa, in so far as those services are carried out under commercial agreements between French and Mauritian carriers'.

The following explains the position of Réunion under European Community law, and its consequences for operations between Réunion and Mauritius.

As a French overseas department, Réunion is considered as a part of the French territory for the purpose of applying Community law, including EC air transport law. The provisions of the EC treaty and of secondary law apply automatically to

French overseas departments. However, it remains possible for France to adopt specific measures in order to meet the needs of these departments.[86]

Unless France has adopted specific measures in relation to Réunion, this means that all Community air carriers are free to start services from any point in "metropolitan France" (the territory in Europe) and Réunion. So far, only French carriers operate routes between France (in Europe) and Réunion.

As pointed out above, commercial agreements between French carriers and carriers from Mauritius fall under the scope of Regulation 1/2003. As we are not certain that there are such agreements we limit our comments to making this observation. In conclusion, we believe that the above points may be useful when Mauritian authorities reconsider their bilateral relationship with France.

6.6 Conclusions and Recommendations for Existing BASA's

On one hand, Mauritius has concluded bilateral air agreements, which are restrictive rather than liberal. They are based upon the Bermuda (1) and (2) models. *On the other hand*, there is pressure from bilateral partners, especially EC Member States, to relax certain provisions of their BASA's with Mauritius. That pressure is market driven, because new entrants are eager to operate flights into Mauritius. Community law and policy also drive that pressure. We refer to the introduction of the Community air carrier clause, which is mandatory for EC Member States since 5 November 2002, and the application of a new competition regime since 1 May 2004. The proximity of these developments is confirmed by the geographic position of Réunion, which is examined in section 6.4, above.

For the time being, we doubt whether Open Skies agreements can be recommended to Mauritius as a policy to be pursued. Liberalising along bilateral lines, also vis-à-vis the Member States of the European Community, while taking into account the economic interests of Mauritius and Air Mauritius as its single airline, and introducing selective elements of the liberalisation process on a step by step and case by case (country by country) basis, may provide a more successful avenue to be followed in order to relax air access. We will further explain this approach in the following chapter.

6th Freedom pricing is a concern for the national carrier of Mauritius. We believe that a solution can be found on a bilateral basis, by way of negotiations on the subject, and/or by the establishment of national regulations on pricing.

[86] As confirmed by the European Court of Justice in the case of *Hansen* versus *Hauptzollamt Flensburg*, European Court Reports 1978, 1805.

7. RECOMMENDATIONS FOR A FUTURE AIR ACCESS POLICY

7.1 General Principles

As shown above, and from a point of view that, in accordance with general trends (as to which see Chapter 5) air transport should be treated as a normal economic activity, the present air policy is designed to restrict access into Mauritius. Principally, access into Mauritius can be relaxed by adopting a more *market-oriented approach* towards the operation of air services. Taking into account the special geographic position of Mauritius, the reputation of Air Mauritius as its flag carrier, and its air transport needs, we believe that Mauritius should liberalise along *bilateral lines* on a *step by step* basis, so as to keep control of changes, rather than through engaging into regional arrangements or deregulating its policy overnight.

Before examining the elements, which can be applied by the Mauritian government for improving air access, we confirm that air subject is, and always must be subject to safety considerations. The Mauritius government can enforce safety standards which are laid down in the Chicago Convention, ICAO Annexes thereto and national law, can be enforced on the basis the provisions of bilateral air agreements, as Mauritius can refuse access to airlines which do not comply with ICAO's minimum standards. Also, foreign airlines must abide by national safety norms pursuant to Article 11 of the Chicago Convention. Finally, Mauritius may want to take note of the results of ICAO's Safety Oversight Programme, on the context of which ICAO concludes Memoranda of understanding with its Member States on Safety oversight inspections.

7.2 Liberalising Air Access

Taking into account the specific needs of Mauritius and market conditions of Air Mauritius, a liberalisation policy can be conducted by using tools, which include but are not limited to:

- Policies related to 3rd and 4th Freedom rights:
  - *increasing capacity* and *frequencies of* incumbent carriers, again, if justified by market conditions. Such a policy assumes no entry of new carriers. However, the entry of new carriers may be considered by:
  - allowing non-scheduled, including *charter services*, subject to the establishment of national regulations conditioning the admission of charter services; this implies *reconsidering the non-charter policy while keeping control of access* into Mauritius by introducing clauses on charters into BASA’s and enacting national regulations geared to submit requests for access of charters into Mauritius to such national regulations, and to approval by national authorities, while formulating conditions for such access;[87]
  - *multiple designation* of air carriers, to be introduced if *market conditions* so dictate;
  - new 3rd and 4th Freedom rights to be granted

[87] See the note made in Chapter 5.1 on the relaxation of the non-charter policy

- Policies related to 5th and 6th Freedom rights:
  - exchanging the *5th* and exploiting *6th Freedoms of the Air*, again, if market conditions so dictate which will primarily apply to the operation of *6th Freedom services*
  - *abandoning fare control* in the double approval system and replacing it with more liberal pricing systems, while supplementing fare control by *national regulations* designed to support legal and administrative enforcement of price control as a fall back position for government interference with pricing, in particular with 6th freedom pricing practised by non-Mauritian carriers
  - developing 6th Freedom traffic by Air Mauritius via SSR.

- Policies related to price and capacity regimes
  - The relationship between Mauritius and states party to the *EU* will be increasingly characterised by *competition driven* clauses in the bilateral air services agreements between Mauritius and EU states. Hence, clauses providing for double approval of tariffs may have to be abolished so as to make the operation of the agreed international air services subject to competition regimes to begin with the EU competition regime as laid down in EC Regulation 1/2003 and related regulations. Consequently, these bilateral agreements will move into the direction of "Open Skies" agreements.

  - We have briefly analysed the aviation relationship between *Mauritius* and *UAE*, which does not explicitly regulate pricing. The aeronautical authorities of Mauritius may want to ask for consultation with their counterparts in UAE so as to explain their views and *enforce standards* designed to ensure a "fair and equal opportunity … to compete" and *balanced opportunities* to provide the agreed services. To achieve these objectives is a matter of negotiations.

  - Developments in the EU are not and cannot be isolated from developments elsewhere in the world. Consequently, a *step-by-step* approach towards a more liberal environment as exemplified by the mentioned Open Skies agreements appears to be indicated. From the most restrictive regime of double approval of tariffs by aeronautical authorities of the two sides, the following steps can be taken:
    - *country of origin* pricing, to protect the own market;
    - *double disapproval* tariff regimes with home state approval;
    - *free pricing* subject to the application of competition regimes (see Open Skies agreements), while:
    - *price leadership* remains reserved to third and fourth country carriers

The most suitable and efficient approach cannot be recommended in general terms. Choices depend upon the existing bilateral relationship and surrounding market conditions and developments, while due attention must be paid to domestic circumstances, including but not limited to economic parameters and the interest of protecting the flag carrier Air Mauritius. Hence, such recommendations can only be made on a *case by case* basis, taking into account a step by step move forward in order to smoothly adapt the current balance between airline, government and services providers and producers on the island.

Together with the policies related to air access, there are a number of issues that need particular attention. One of these issues is the institutional framework, for which specific recommendations are made in Chapter 11. These may include:

- limiting government interference with air transport related undertakings such as airlines and airports by reducing government's ownership and control of those undertakings, which can be realised by the implementation of *corporatisation* and *privatisation* (as to which see Para 11.1.2)
- enacting a *competition regime* which will attract foreign investors as it creates transparency, neutrality and non-discrimination with respect to treatment of foreign investors, if properly applied;
- setting up an unbiased *enforcement* system.

The government of Mauritius can decide to do nothing - and keep the *status quo*. It seems to us that the government intends to enlarge access into the island, while paying due attention to the interests of the domestic economy; the position of Air Mauritius and worldwide liberalisation tendencies.

Hence, the government has a choice between the above tools. We will come up with further suggestions for the choice of such tools in this Chapter 7, while realising that a step-by-step approach when changing policy directions will in most, but perhaps not all, instances be a preferable strategy.

7.3 Policies Related to 3rd and 4th Freedom Rights

This section addresses specific issues related to 3rd and 4th Freedom rights or in slightly more general terms: adding capacity to particular routes. There are distinct ways of adding more capacity to a route. The least far going is to add capacity by the incumbent carriers, provided that the current BASA's allow for this. The other option is to change the single designation clauses into double or even multiple designation clauses, which is currently the request from France. This together with the introduction of the community air carrier clause. An alternative is to apply a selective charter policy at particular routes. Finally, we will address in this section possible new routes that may provide access to Mauritius.

7.3.1 Capacity and Pricing for Incumbent Carriers

This is the easiest way of adding capacity to a route. However, there are several options of doing this. Currently – at most routes - Air Mauritius has a code share agreement with the partner airlines at the respective route. If only capacity is added within this context, this does not imply more competition. This has potentially adverse effects for the Mauritian economy, which have already been dealt with in Section 3.3. The main obstacle is – in such a context - the lacking incentive for Air Mauritius to become able to operate in a competitive market, which it has to do anyway in the future, regarding the developments outlined in Section 5.1.

Therefore it is suggested – if it is still decided to stick to single designation – to relax capacity and price control step-by-step. This will gradually increase competition between Air Mauritius and its partner airlines, and provide Air Mauritius the incentive to turn into a more cost effective airline being able to face the future challenges.

An analogous development took place in the EU during the late 80's, when the system of bilateral pooling agreements with strict capacity (generally 50-50%) allocation, together with price control, was gradually abandoned, until after ten years there were no more of such agreements.

7.3.2 Double / Multiple Designation

The other way is to change the single designation clauses of some BASA's into doubles ones and – in the case of France – in the further future in a multiple one. It is remarkable that some BASA's, notably the ones of Germany and the UK have already multiple designation clauses, although the rights have not been exercised until so far. However, the decision of LTU taken in September 2004, to fly from Munich to Mauritius seems to be the first case where multiple designation is going to be exercised. [88]

The other case is France, which has – unlike Germany and the UK – still a single designation clause in the BASA with Mauritius. However from France a strong pressure is building up to revise this BASA into a double and even multiple designation clause, as is the case with Germany and the UK. Meanwhile there are currently two candidates to exercise the traffic rights that would emerge by such a revision: Corsair from Paris and Star Airlines from Paris-Nice.

France is also required to insist on the introduction of the Community air carrier clause into its bilateral agreement with Mauritius, which may, at least in law, provide opportunities to all Community air carriers, which have an establishment in France to enter the France-Mauritius market.[89]

It is clear that – in the case of France - the immediate transition into a multiple designation regime (which implies the admission of both airlines) would imply a shock to the competitive environment on the route from France to Mauritius. Whereas today Air Mauritius still operates in the protected non-competitive environment, the eventual entrance of two competitors in its largest market would create such circumstances that it would probably not be able to survive. We will address the challenges for Air Mauritius in some more detail in Chapter 8, but it is relevant to note here that, to our view, the routes to Paris (and possibly also London) are the only profitable routes of Air Mauritius. If it would loose substantial market shares on the Paris route, which seems likely by the entrance of Corsair, it would be hurt in its core route, with inherent risks for its further existence.

[88] Air Mauritius pointed on the following recent developments. Dual/multiple designation has been agreed by the Mauritian side during recent talks with Australia, Singapore, and Italy. Even with France, the principle of dual designation has been agreed during discussions in January 2004. The discussions on the introduction of the Community clause in the relevant BASAs may explain that these discussions have remained inconclusive until now.

[89] See Sections 5.3.3 and 5.2.4

Therefore, to address the request from France, it is advised to apply again here a step-by-step approach, and to follow the line that seems now to be followed on the routes to Germany. Firstly, to change the single designation clause in the BASA with France into a double designation clause. Within the context of this double designation clause, it is still possible to impose restrictions on the second French carrier. However, these restrictions should be relaxed gradually in step-by-step approaches. There are two ways of taking such an approach.

Firstly Star-Airlines could be allowed to operate the Paris-Nice-Mauritius route with limited frequencies. Such a decision would have, to a limited extent, an impact on the competitive picture at the route to Paris. Although a long haul flight Paris-Mauritius with an intermediate stop at Nice will be less attractive than a direct flight, this new product may affect the market shares of Air Mauritius and Air France at the Paris route. It would on the other hand also provide the necessary incentives to Air Mauritius to take measures to be better able to survive in a competitive environment.

There are also possible generation effects that can be expected from such a decision. As both airports (Paris and Nice) serve different catchment areas, new markets can be targeted. However, there are some doubts to which extent this is the case. Nice is primarily a tourist destination in itself and it would seem that the region is less able to generate significant demand for travel to Mauritius.

The second step that – after a while - could be taken is to make the transition to multiple designation and to allow Corsair to directly operate from Paris. This step has probably a larger impact than only allowing Star-Airlines to operate the Paris–Nice-Mauritius route. It may even be seen as somewhat overdone, if this would be considered together with the operation of STAR-Airlines. However, despite of its potential adverse effects for Air Mauritius, it would significantly benefit the number of tourist arrivals at Mauritius, with its effects described in earlier chapters. Paris is the largest tourist market for Mauritius, and limited airfare decreases at this route would – in competitive tourist markets vis-à-vis other destinations - already generate significantly more tourist arrivals. If – using an illustrative example – the entrance of Corsair would decrease all airfares (also those of Air France and Air Mauritius) by 10%, this would decrease the costs of a holiday (depending on the daily expenditure level and stay length) at least by about 3 percent. This under the assumption that the share of the airfare in the total package tour costs is about 30%. This would very likely – regarding the high cross-price elasticities[90] in these competitive markets – increase the tourist arrival numbers from France by more than 10%, corresponding with more than 20.000 additional arrivals, with significant economic benefits.

However, using this approach, it should be used with care. Today, Corsair has the intention to operate Paris-Mauritius with one flight per week only. Compared with the frequency of Air Mauritius and Air France together, the impact is small. Clearly it cannot be ruled out that the airline has more frequencies in mind for the future, but the government has still the competence of restricting the frequency levels of Corsair, as well as those of Star-Airlines.

The above has illustrated that there are several possibilities to adopt a step-by-step approach to such an extent that the effects to the operations of Air Mauritius can stay limited. Nevertheless it is important to take such steps not only in the

[90] Such a high cross-price elasticity is also confirmed by AHRIM

light of providing more capacity, but also providing Air Mauritius an incentive to turn into a more cost effective airline, which seems inevitable in the longer term.

7.3.3 A Selective Charter Policy[91]

Multiple designation has the intention to allow more competing scheduled carriers from one country to the air routes from that country. The characteristic of scheduled airlines is the year-around service. The strong seasonal pattern of tourist demand in Mauritius may be an obstacle for the entrance of a second carrier. In Chapter 3, some strategies have been outlined how to cope with this un-even seasonal pattern at the demand side. Should such a strategy not (or only in a limited way) be chosen, selective “charters”, operating only in particular seasons is another solution to escape from the seasonality problem. It would even enable the incumbent airlines to improve their year-around load factors, as they may be able to keep seat capacity unchanged, while (off-peak) demand increases over time.

There is however in Mauritius a strong reluctance to allow charter operations. Chapter 4 has however argued, that the distinction between scheduled and charter operations is blurring anyway. In Mauritius, the perception exists that charter operation would bring a ‘lower willingness-to-pay’ market segment that Mauritius is not particularly targeting to. On the other hand, gradually relaxing the restrictions with regard to competition would bring the little lower yield segment anyhow, as – in an eventual absence of charters – this segment would travel with the scheduled airlines. This is probably already the case today. The decision of relaxing the ‘no-charter policy’ can however not be seen in isolation with the question how Mauritius wants to see the role of tourism for the economy. Regarding the need for more tourist arrivals, as well as above arguments, the relaxation of the no-charter policy seems unavoidable.

Regarding such a relaxation we have argued in Chapter 4, that combining these “charters” with package tours would prevent the ‘back-packers influx’ that seems to be associated with “charters”. In relation to this, it is still possible to impose restrictions to such “charters” regarding:

- Year around services at least – say – once per week
- Maximum weekly frequencies

7.3.4 Air Access to Europe

In the above paragraphs some contours of the air access policy to Europe are already indicated. Europe is the main tourist market for Mauritius, and if a tourist policy of more arrivals is adopted, Europe is the backbone of such a policy. As more tourist numbers can only be expected at competitive prices (hotel as well as airfares), a gradual increase of the competition level is recommended, however taking modest steps for this. From the point of view of tourist development only one would recommend faster steps, as Mauritius seems – regarding competition levels on its routes to Europe - to be still more restrictive than other tourist

[91] Which is being introduced, as to which the point made in Chapter 5.1 in this regard

destination countries. The comparison with destinations as the Seychelles and the Maldives is probably less relevant, as in Mauritius 1.5 million inhabitants must depend in their living for a significant part from tourism, whereas in the two destinations mentioned this is significantly less.

More relevant is the competitive picture at the routes from Europe to slightly more massive destinations, such as the Caribbean (dominated by quasi-charters), Florida (from most of the European countries an open skies destination) and South East Asia (strong competition by scheduled 6th Freedom operators via hubs en-route). Seen from the point of the European tourist, at least the long haul “beach tourist”, there is in general choice in air access, and consequently competition and a pressure on airfares. This is (practically) not the case at the routes to Mauritius and therefore even major steps would in the long run be recommended. Such major steps would – in the case of France - ultimately include fully allowing Corsair and Star Airlines.

The only reason why in the short term more modest steps are recommended is the existence of Air Mauritius, which – as appears from the general opinion – also is the backbone in air access. If on the routes to Europe such a major step would be taken, it would very likely result in the collapse of Air Mauritius. However it is recommended that after a while – say five years, but likely even less – the described major steps should have been taken, if Mauritius does not want to loose market share to the other tourist destinations mentioned. This implies two types of policies: the gradual relaxation of the current restrictive air access policy and a major ‘refurbishment’ of Air Mauritius. The latter is dealt with in Chapter 8, whereas the gradual relaxation of air access restrictions to Europe is addressed in this chapter.

For air access to Europe, we see a concept of Air Mauritius – together with its partners – serving a limited number of “gateways” in Europe. These are – to be more concrete – London, Paris and Frankfurt. From these gateways the partners (British Airways, Air France and Condor) may provide further access to other points in Europe for which it is also proposed that Air Mauritius will not serve these other points directly. The other element of this concept is that “quasi-charters” (such as STAR, Air Europe and LTU) may serve other points than these gateways directly (respectively Nice, Milan and Munich).

The gateways are located in the three major originating countries in Europe: France, the United Kingdom and Germany. This implies with respect to France (the prime market with 200.000 arrivals) in the first phase the allowance of STAR and ultimately also the allowance of Corsair at the routes from Paris-Nice and Paris respectively. Air Mauritius would retain the current code share agreement with Air France at the route to Paris, which would enable air access further up in Europe. For the other two countries, the markets are smaller (80.000 from the United Kingdom and little over 50.000 from Germany), and at these routes Air Mauritius can – as is similarly the case on the routes to Paris – try to conclude on similar code share agreements with British Airways and Condor respectively. The agreements with all these three airlines (alliances) are crucial, as they can provide access to other destinations in the rest of Europe. The way competition is introduced at the routes to these two latter countries is by allowing (‘quasi’)-charter operations from cities other than London or Frankfurt. A good example for this is the planned connection by LTU from Munich. A more flexible solution is found in series of charter flights allowed to be operated by Air Slovakia and Malev Hungarian Airlines[92].

Regarding air access from other major European tourist markets including Italy, the Benelux and Scandinavia, there are two ways of providing air access, which two ways also imply more competition. One way is via the three major alliances, for which it is strongly recommended that Air Mauritius keep the current code share agreements with them. Rather than trying to have direct connections to destinations other than Paris, London and Frankfurt, it is recommended that access to these other destinations (such as Brussels, Amsterdam and further up to Scandinavia) be provided by the hub-and-spoke networks of these alliances.

The other way of providing (competing) access is the allowance of quasi-charters, which seems the case already today with Air Europe (Milan) and Lauda Air (Vienna).

It is recommended that such a policy be followed in the next five years – again – in modest steps. It is likely that it will bring higher tourist numbers (provided that the hotels take their steps, which are outlines in Chapter 3). It also creates the incentives for Air Mauritius to take such measures (for which it should take major steps in the next couple of years) that it is able to survive in the next decade.

7.3.5 Other and Potential New 3rd and 4th Freedom Routes

Whereas Europe is the main market for Mauritius, the others may as well not be insignificant (such as Reunion, South Africa and India) although there are specific reasons why from some other areas little potential is expected.

Starting with North America, despite of its prosperity and market size, the potential for Mauritius is very little. Currently, there are only 4,000 tourist arrivals (not even 100 per week). It is a large distance, and there are moreover sufficient competing destinations in its own backyard: Hawaii, Florida and the Caribbean. Mauritius should therefore not seek direct connections with this continent, but however ensure indirect access, which it can realise by the agreements with the three alliances, indicated above. This also implies that charter operations are not expected, at least not for the foreseeable future.

The other market is India, a major market for Mauritius. It is not only tourism, but there are also strong ethnic ties with the country. Currently, there are little over 20,000 tourist arrivals per year, whereas the arrivals from the ethnic traffic add to this number. It is moreover a very large (the second populous country in the world) and a strong, growing market. Moreover it is relatively nearby.

Air access to the country is important, and for the reasons indicated above, there is also increasing competition. Nevertheless, while modest steps are recommended at the routes to Europe, this even more is the case at the routes to India. Currently Air Mauritius serves three destinations (Mumbai, Delhi and

[92] The current (and possibly new) code share agreements are important, as they can provide access to the rest of Europe, particularly to points where direct flights are not feasible. On the other hand the same code-share agreements restrict competition. At the same time, one would stimulate competition by allowing more (and other) airlines serving the routes to Mauritius, for which examples have been given.

Chennai). To the latter two cities the frequencies are low and therefore hardly competitive. Taking all routes to India together, the load factors are – regarding our analysis - too low. Whereas those on the routes to Mumbai and Delhi may be close to 70%, the ones to Chennai reach merely 50%.

Therefore a network consolidation of Air Mauritius to Mumbai should be considered, while suspending – for the time being - operations to Delhi and Chennai. A daily connection to Mumbai would be the result, and the rest of the country can be served in cooperation with Air India. This is a similar "gateway" model as is recommended for Europe. The gateway for India is in this concept Mumbai, whereas the other destinations are served by indirect access in co-operation with Air India (or any other local partner). The difference with Europe is that quasi-charter operations to other points in India do not seem feasible. In this respect India is a significant different market. Whereas Europeans are lured by the sun-sand-sea concept, this seems less the case for the residents from India.

Furthermore there is East Asia, for which a distinction in South East Asia and North East Asia seems relevant. Starting with North East Asia, mainly Japan, Korea and China. This may be a large market, however – as it the case with the USA – probably too small and too far to support large-scale direct connections from and to Mauritius. Nevertheless it is – unlike the USA - a market that may have some potential for Mauritius. This potential may however only little be exploited by the sun-sand-sea concept only. This product is widely available nearby, such as in South East Asia, as well as in the Pacific (notably Polynesia). It is the combination of 'beach and bush', by which the North East Asians may be able to be lured to Mauritius: a combination of a beach holiday in Mauritius and a safari in continental Africa. This however requires a slightly more complex air access policy for which some steps have to be taken.

The Mauritius-Chinese market may receive an extra impetus from a Memorandum of Understanding, which the governments of the two countries concluded on 25 June 2004. This memorandum is designed to organise air travel between the two countries through designated travel agencies, and to facilitate immigration procedures and visa applications for tourists travelling with designated travel agencies.

As direct connections to North East Asia do seem less likely (let alone charters), access should be provided by indirect (scheduled 6th Freedom) operations. For this a major 6th Freedom operator seems necessary, that currently is lacking. There are four candidates for this. The major one is Singapore Airlines. It is a typical and also very strong 6th Freedom operator, with frequent connections to Japan, Korea and China. However a connection from Singapore to Mauritius is lacking, which however existed before. It seems that Singapore Airlines wishes to operate the route only is together 5th Freedom rights to South Africa are granted, which Mauritius has in the interest of Air Mauritius refused to do. We will deal with the issue which airline should provide the indirect access to North East Asia further in this chapter.

The conclusion is that for air access to North East Asia the same 'gateway-model' is used as proposed for Europe and India. Which airport constitutes this gateway depends on the 6th Freedom carrier that is chosen. This may however be closely related to the issue of granting 5th Freedom rights, which issue is dealt with in the Section 7.4.

Next, there is Australia, also of a relative minor importance for Mauritius. Its market is small, but Air Mauritius serves nevertheless three points in the country: Perth, Melbourne and Sydney. According to our analysis, the load factors of the airline are close to 70% on the Sydney/Melbourne route, but significantly below break even on the route to Perth. Therefore it is suggested to apply also for Australia such a ‘gateway’ concept. As the gateway Melbourne would be – seen from the point of view of Mauritius – the optimal point, from where the rest of Australia (mainly the South East coastal area, including Sydney) could be served indirectly. Perth, a minor market anyhow, may still be served by an intermediate stop, although there is a trade-off with the quality of service to Sydney. If Perth were chosen still to be served, there would be two stops between Mauritius and Sydney.

7.4 5th Freedom Rights

Regarding the dilemma sketched above, for which the example of Singapore Airlines is used, we now have addressed the issue of granting 5th Freedom rights, that seems to be a major topic in Mauritius today. More specifically, 5th Freedom rights would be granted to an Asian carrier to serve the route beyond Mauritius to South Africa, most likely Johannesburg. It should be noted that Mauritius pays a price if it would grant such rights to one of the Asian carriers: competition on the route Mauritius – Johannesburg with Air Mauritius. This price may be potentially high. Johannesburg is one of the key routes of Air Mauritius and if it would loose too much market shares in combination with the lower yields that can be expected, the draw-back for its revenues are potentially strong. As there are potentially more candidates to whom these rights can be granted, it is strongly advised to grant such rights to one single airline only. If more competing carriers would serve the route to Johannesburg, the risks for Air Mauritius would be too big[93].

Nevertheless, there are also potential benefits that can be expected from such a move. These benefits accrue however not all to Air Mauritius but also to the economy. Taking the example of Singapore Airlines again, it would potentially bring new markets to Mauritius from North East Asia, if possible in combination with a ‘beach-bush’ product. The airline has an efficient hub in Singapore, it is a strong 6th Freedom carrier, and it would well be able to attract these markets to Mauritius. The benefit to Air Mauritius is that it may benefit from the code share agreement on the route Singapore-Mauritius, as well as from the revenues from the trips from Mauritius to the ‘bush’ destinations in mainland Africa (South Africa, Zimbabwe or Kenya). Main risk for Mauritius is that Air Mauritius looses large market shares on the route to Johannesburg, while Singapore Airlines would insufficiently bring tourists from Asia.

It has however not to fear the negative experience that – regarding some views - it has with Emirates, where this 6th Freedom carrier competes with the direct routes to Europe. There are no such routes in the case of Singapore Airlines, in which case a further exploration of the opportunities is strongly recommended. However it is advised only to grant such fifth freedom rights, if there are reasonable expectations that Singapore Airlines will feed the new North East Asian markets to Mauritius.

[93] Despite of earlier precedent clauses that have existed.

We have used the example of Singapore Airlines in this context, but it is noted that the government of Mauritius has a choice. It is advised that 5th Freedom rights only are granted if similar opportunities with the other likely candidates are fully explored. These are in particular: Malaysian Airlines, Thai International Airways and Cathay Pacific. It is important to ascertain the extent to which these airlines would require 5th Freedom rights, as is the case with Singapore. There are moreover other advantages to the other candidates mentioned. All three are efficient 6th Freedom carriers with efficient hubs and well able to bring the additional 'beach-bush' markets to Mauritius. However, as they are strong, the competitive impact on the route to Johannesburg may also be large, if the 5th Freedom rights need to be granted. There are specific advantages to consult Thai or Cathay, as their hubs are almost on the straight line between Mauritius and – say – Japan. The additional advantage of Cathay is that it is well able to target specifically the Chinese market. There are also specific disadvantages with some of the airlines. Thai Airways (or particularly its government) may not be to keen on stimulating the tourist market in Mauritius, as Thailand is a competing tourist destination in itself. Similar arguments may be valid for Malaysian Airlines and Malaysia.

All such factors should ideally be brought together in a cost benefit framework, in which the costs (competition to Air Mauritius) and benefits (more tourists) are estimated, to decide on the optimal choice for a South East Asian hub carrier. This requires however extensive market analysis, which goes beyond the scope of the Terms of Reference.

In conclusion, there seem to be therefore two contradicting interests here: the potentially attractive North East Asian market, together with their impacts for the economy, and the interest of Air Mauritius. If however Air Mauritius would better be able to face the potential competition on the routes to South Africa, notably Johannesburg, Mauritius would find less conflict in targeting the North East Asian market with this new 'beach and bush' concept. Therefore it is – again – strongly recommended that Air Mauritius undergo a strong cost reduction and yield improvement program, which enables the airline facing the competition on the Johannesburg route. Such a restructuring provides the government more degrees of freedom to negotiate with these Asian carriers and their governments in attracting the new Asian markets.

7.5 Passenger Hub Perspectives for Mauritius (6th Freedom Traffic)

Another issue is the extent to which SSR Airport may develop as a hub. Although in some views good opportunities for SSR for hub development are reported, the interviews have revealed that the general opinion is that SSR have little opportunities in this direction.

Nevertheless not only the airport and its home carrier could benefit, but also the whole island of Mauritius. This benefit is that large airports are generally attracting new businesses to their regions. These are mostly high value service sectors, also of the type that Mauritius is specifically targeting as a compensation for its declining traditional sectors. However, these businesses have specific requirements to the airport, as they use the airport frequently. Clearly, they require easy access to the airport, in case these are located at some distance from the airport. The other requirement is that from the airport places elsewhere in the world can be reached frequently by air and at reasonable costs.

However, the local market potential of Mauritius is limited and not large enough to support connections by air to a variety of places in the world. It has currently about 800,000 incoming travellers per year, of which most are tourists. In addition to this, there are about 200,000 outgoing travellers, mostly Mauritian residents. Based on this potential, the airport can serve a number of destinations in Europe, Africa and Asia, in some cases daily (France), in other cases a few times per week.

If however SSR could develop into a hub, the airport could serve more destinations and frequencies than on its local market potential alone. In such a case there would be an increased likelihood that businesses could be attracted to the island by the level and quality of air services from and to Mauritius.

Therefore, regarding the potential benefits that can be derived from such a development, in this paragraph, the opportunities for hub development are addressed somewhat more systematically.

7.5.1 Analysis of Success Factors for Hub Development

Before addressing the success factors, the concept of hub development is illustrated by an example. Mauritius is located geographically between South Africa and India. It has connections to several places in South Africa (notably Cape Town, Johannesburg and Durban) as well as several places in India (notably Mumbai, Delhi and Chennai). If arrivals from South Africa can be connected conveniently to departures to India (and vice versa), the airport can serve as connection point between these airports in South Africa and India. Therefore, flights from – for instance – Cape Town to Mauritius can not only be filled by passengers from Cape Town to Mauritius, but also by passengers from Cape Town to – for instance – Chennai. This increases the load factors at the flights from Cape Town to Mauritius, as well as the revenues at its flights. In case load factors would increase above unity, the airline would even be able to increase frequencies from Cape Town to Mauritius, which would again increase the likelihood that more passengers would use the indirect connection via Mauritius. If furthermore not only departures to Chennai, but also the departures to Mumbai, Delhi and even other places would be connected to the arrivals out of Cape Town, even more passengers could use the flights between Cape Town and Mauritius.

From this example the main success factors can now be understood. One prime factor is the geographical location. A good geographical location minimises the detours on indirect connections via Mauritius. Passengers using the indirect connections via Mauritius are already faced with longer travel times, and extra detours only add to travel time. Moreover, for the airline taking passengers via Mauritius on long detours (for instance between India and Singapore) would increase their costs, whereas the airfares cannot be justified on these detours.

The location of Mauritius in between South Africa and India may be excellent, the market potential between South Africa and India is probably not large enough to develop Mauritius into a larger scale hub. For such a development Mauritius should be located in between more markets. In conclusion, in developing connecting markets, Mauritius should seek more, however only those markets where are located good enough.

The other requirement is the existence of a home carrier with an extensive network. From the example above it can be argued that only Air Mauritius can offer such connections, as it is the only carrier that serves both legs of the connection (i.e. Cape Town – Mauritius and Mauritius - Chennai). For hub development, the existence of Air Mauritius is therefore indispensable. Moreover, the airline has to compete with other airlines (potentially) offering the same connections. The most relevant competitors are the ones offering direct connections between the two points. There is in such a case a competitive disadvantage for Air Mauritius, if it would offer such a connection via Mauritius, as the travel time is longer and there may be even a risk for the passenger of missing the connection or its baggage. Therefore Mauritius' home carrier can only offer such a connection competitively, if the airfare is lower than the direct connection. Generally – at the large hubs elsewhere in the world – airfares of indirect connections <u>via</u> the hub are significantly lower than direct connections <u>bypassing</u> the hub.

However, on most of the potential indirect connections via Mauritius there are no competing direct alternatives. Returning to the example of Cape Town to Chennai, there are no direct flights between these cities. Consequently there is less need for Air Mauritius to offer this connection at lower fares, in the sense of the argumentation above. Nevertheless, there may be indirect competitors, who may follow the same strategy as Air Mauritius can do. Possible candidates are South African Airways, Kenya Airways, Air Seychelles and Air India, who may offer similar connections via Jo'burg, Nairobi, Mahe and Mumbai (or Delhi). If this were the case there is again a need for Air Mauritius to offer competing fares, at least low enough to beat the indirect competitors. There are of course differences in travel time (detours) as the geographical location of all the hubs mentioned is different. Clearly these differences may be reflected in the airfare, at least if the passenger has a perception of such differences. Potentially the most attractive indirect connections for Air Mauritius are those, where no indirect competitors are present in this market, or unlikely to enter. Returning again to the example of the market between Cape Town and Chennai, there are no other airlines than Air Mauritius offering indirect connections, in which case there is no need to offer low fares in the sense as argued above. In this particular market Air Mauritius has substantial market powers. Nevertheless, one has still to observe the characteristics of such markets, as there is still price sensitivity, although lower than in the markets where it has to compete.

The table below examines the characteristics of the nine city pair markets between South Africa and India that Air Mauritius could potentially offer via Mauritius. Before looking to the table in more detail, it is worth mentioning that the number of potential indirect markets can be potentially large. Clearly in some cases the size of such markets may be small (such as Cape Town – Chennai), but there are numerous of such markets. As Air Mauritius offers three places in South Africa, and three in India, by combing them, it can serve nine indirect markets. It is easy to be seen that the number of potential indirect connections is adding up quadratically and that – by serving one single new destination – there are many new potential indirect connections.

The table lists all nine potential markets between South Africa and India. The column to the right lists the number of direct connections per week in these markets. Only between Johannesburg and Mumbai, there are 4 flights per week[94]. Air Mauritius is furthermore the only airline offering indirect connections in this market. It has 5 flights (from Mauritius) to Johannesburg and 3 to Mumbai, and if the two connections could be coordinated well in terms of connecting time, there would be 3 potential indirect connections per week. However it seems that entering in this market as a 6th freedom carrier is not attractive, as it can offer only 3 indirect connections against 4 direct ones of a competitor. Achievable yields in this market would therefore be low.

		Indirect Frequency by airline and hub					
	Direct frequency	Air Mauritius (Mauritius)	South African (Jo'burg)	Kenya Airways (Nairobi)	Air Seychelles (Mahe)	Air India (Mumbai)	Air India (Delhi)
Cape Town – Mumbai		2-3				n.r	
Cape Town – Delhi		2-2					n.r.
Cape Town – Chennai		2-1					
Jo'burg – Mumbai	4	5-3	n.r.[95]			n.r	
Jo'burg – Delhi		5-2	n.r.				n.r.
Jo'burg – Chennai		5-1	n.r.				
Durban – Mumbai		2-3				n.r	
Durban – Delhi		2-2					n.r
Durban – Chennai		2-1					

However, the perspectives in the other eight markets are more buoyant. In none of these markets, there are direct connections. The only competing indirect connections are the ones between Cape Town and Durban via Johannesburg to Mumbai. In the markets to Delhi and Chennai Air Mauritius is the only airline and coordination of arrivals and departures may be considered, as the potential yield to be achieved may be acceptable.

The other success factor of hub development is the local market potential itself. Once – from this potential – already a significant air network can be build, there is better network competitiveness of the potential indirect connections, which gives the potential hub a better starting position. In this respect Johannesburg is an excellent hub to connect Cape Town and Durban to the rest of the world. The (domestic) market potential from Jo'burg is enormous, as there are more than 100 weekly flights between Jo'burg and the other two South African cities.

It is moreover observed – regarding the methodology provided in the above table – that Air Mauritius has better competitiveness in indirect connections via its hub,

[94] Based on the schedule of September 2003.
[95] n.r. means "not relevant". Johannesburg can be no hub in the Jo'burg-Mumbai market

if it serves combinations of places in other countries that few (or no) other airlines serve. Returning to the above table, this seems to be the case for the secondary (smaller) markets. If Air Mauritius would be willing to develop the airport as a hub, the government should - in its air access provision – pay particular attention also to secondary destinations, as there is increasing likelihood that Air Mauritius can build up a competitive position in these indirect markets.

Frequency levels to the destinations indicated are however not sufficient to build up a competitive market position in indirect markets. Coordination between arrival and departures are another issue that should be taken care of. Here it is not only the airline Air Mauritius, but also the airport SSR, that has a particular role in this. If a large number of arrivals should be connected with a large number of departures at moments not much later, it sets specific requirements to capacity and lay-out of the airport. The current capacity and layout is not meeting these requirements, and this capacity issue is addressed in an earlier paragraph of this chapter. Examples of such secondary destinations are Delhi and Chennai, where there is increased likelihood that Air Mauritius faces little competition in connecting markets.

In conclusion, there are the following critical success factors for hub development of SSR Airport:

- Geographical location between main air transport markets.
- Large home market potential.
- Existence of home-carrier operating flights from the hub.
- Air access for the home-carrier to a variety of destinations, including the secondary ones.
- Suitable airport capacity and layout.

The following paragraph presents an analysis on the extent to which SSR-airport and its home carrier can meet these requirements, and whether SSR-airport has the potential to develop as a passenger hub. In the subsequent paragraph recommendations in this area are made.

7.5.2 Analysis on Hub Perspectives for 6th Freedom Operations in Mauritius

From SSR Airport, Air Mauritius has connections to Europe, mainland Africa, Madagascar, India, South East Asia and Australia. In principle, it could serve as connecting point between any combinations of these areas, but only in a few combinations it has a favourable geographical location. It could in principle connect Europe and Africa, including Madagascar. However from Europe (particularly from most of the points Air Mauritius serves) direct connections exist to most of the points Air Mauritius serves in Africa (Durban may be an exception). Only it could connect Europe with particular points in Madagascar, but these markets are small. Moreover, there are many hub carriers (such as Air France, Kenya Airways or South African Airways) and hubs in between who have more frequencies to connect Europe with Africa. Furthermore, there is in the route via Mauritius still a significant detour that may turn off passengers to its competitors. The conclusion is therefore that from Europe, there is little potential for hub connections via Mauritius to other areas.

More promising however is the potential connection between Africa (including Madagascar) at the west side and India, South East Asia and Australia at the northeast side of Mauritius. Mauritius is therefore a potential hub for east-west traffic (and vice-versa) in the Southern hemisphere. These potential connecting markets are represented in the following table.

The rows in the table represent the 14 (fourteen) potential points at the northeast side of Mauritius. These include the points Air Mauritius serves (Mumbai, Delhi, Chennai, Hong Kong, Kuala Lumpur, Singapore, Perth, Sydney and Melbourne), as well as potential new points in this area (Beijing, Shanghai, Seoul, Tokyo and Bangkok). These points are particularly potential, as most of the cities (except Bangkok) have more than 10 million inhabitants, and can therefore generate large – and fast growing – markets.

		Served by Air Mauritius					**Not served by Air Mauritius**	
		JNB Jo' burg	**CPT Cape T'n**	**DUR Durban**	**NBO Nairobi**	**TNR T'rivo**	**HRE Harare**	**MPM Maputo**
Served by Air Mauritius	**BOM Mumbai**	SA (4)			KQ (7) AI (2)			
	DEL Delhi							
	MAA Chennai							
	HKG Hongkong	SA (5) CX (5)						
	KUL K. Lumpur	MH (3)						
	SIN Singapore	SQ (7)						
	PER Perth	SA (5)						
	SYD Sydney[96]	QF (5)						
	MEL Melbourne							
Not served	**PEK Beijing**							
	PVG Shanghai							
	ICN Seoul							
	NRT Tokyo							
	BKK Bangkok	SA (3)			KQ (3)			

The columns in the table represent 7 (seven) points at the west side. The points that Air Mauritius serves are Johannesburg, Cape Town, Durban, Nairobi and Tananarivo. Potential new points are Harare and Maputo. These are not so much potential in the sense that – as in Asia – their cities are large; on the other hand their cities are the capitals of two nearby African states that are not yet connected to Mauritius. Together, this results in 98 potential markets (6^{th} Freedom) connecting markets for Air Mauritius. There are only few direct connections between these areas, as the table below shows

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This analysis refers to September 2003. At that time Air Mauritius did not serve Sydney. It is however noted that from spring 2004 Air Mauritius serves Sydney

The attractiveness for Air Mauritius to serve these markets indirectly via its potential hub SSR depends largely on the level of competition it can expect. There are in this respect four types of markets, each with different levels of competitiveness.

- Markets with two competing airlines offering direct connections. There are only two of such markets: Bombay-Nairobi (served directly by Kenya Airways and Air India), and Johannesburg Hong Kong (served directly by South African and Cathay Pacific). In these two markets Air Mauritius has little chance to compete effectively. These may be relatively large markets, but the yields achievable by Air Mauritius as the 6th Freedom carrier may be low, as two factors contribute to this. Firstly achievable airfares on indirect connections are lower than on direct connections. Moreover, airfares on the direct connections may not be high anyhow, as there is competition between the two direct carriers. The latter is not the case for:

- Markets with only one airline offering direct connections. On only seven (7) markets there is only one airline serving the market directly. These are:
  - Mumbai – Johannesburg (South African)
  - Kuala Lumpur – Johannesburg (Malaysian)
  - Singapore – Johannesburg (Singapore Airlines)
  - Perth – Johannesburg (South African)
  - Sydney – Johannesburg (Qantas)
  - Bangkok – Johannesburg (South African)
  - Bangkok – Nairobi (Kenya Airways)

  Compared to the market with two competing direct carriers, these are for Air Mauritius potentially more attractive, as the direct carrier has a monopoly and may therefore charge higher fares. Consequently Air Mauritius, as the 6th Freedom carrier, does not need to discount so deep as in the markets with two competing carriers.

Only nine (9) city pairs in the Indian Ocean hemisphere are served directly. However, these are the relative large markets. Johannesburg, the largest market in this part of Africa, has direct flights to several points in Asia. Also Nairobi, the other large market, has direct flights to some points in Asia (Mumbai and Bangkok). The secondary (smaller) cities, such as Cape Town, Durban and Tananarivo are not connected to Asia. Nor are Delhi and Chennai connected directly to Africa.

Apart from these nine, the other 89 markets lack direct connections. Not all of these markets are small. Shanghai, Tokyo and Seoul, all very large conurbations, lack direct connections with the southern part of Africa. Most of the 89 markets however are relatively small, but there are on the other hand many of such markets. Therefore these markets are even more attractive for Air Mauritius in the sense that it does not need to compete with the inherently better direct connections. Particularly they are attractive if no other airlines offer 6th Freedom connections in these markets.

Nevertheless, if there are potential other 6th Freedom airlines, Air Mauritius must compete with them on:

- travel time (determined by geographical location of the hub and coordination between arrivals and departures at the hub;

- frequency (determined by the two distinct frequencies from the hub to the end points).

The table[97] below lists the same 98 markets, and the airlines that serve these markets, either directly, either by 6th Freedom operation via their respective hubs.

It appears from the table[98] that there are still many city pairs where Air Mauritius, as a potential 6th Freedom carrier, has to compete with other 6th Freedom carriers. South African Airways is the most important competitor in this area. Its hub Johannesburg is very well connected to its two domestic markets Cape Town and Durban, with more than 100 weekly flights. Moreover, it has from its hub daily flights to Singapore and several others to the other Asian cities. Therefore South African Airways can offer frequent services from its hinterland (notably Cape Town and Durban) to the rest of Asia. Coordination of arrival and departures are not critical for this airline. There are so many flights between Jo'burg and the hinterland, that there is practically always a connecting fight after an arrival out of Asia (or before a departures to Asia). Such a feature cannot be offered by Air Mauritius. It has less than 7 weekly flights to all three South African cities, and even less than that level to the Asian cities, in which case the coordination becomes very critical.

The other two potential competitors are Malaysian and Singapore Airlines. These airlines are well able to connect Johannesburg with South East Asia (including Australia), at higher frequency levels than Air Mauritius can offer. These airlines offer also indirect connections between Africa and North East Asia (Korea and Japan), but it would appear that the geographical location is somewhat inconvenient. The contrary is the case for Cathay Pacific, the other potential competitor of Air Mauritius. Its hub Hong Kong has a less convenient location to connect this part of Africa with South East Asia and Australia, but it is excellently located to connect Africa with North East Asia.

China (Shanghai as well as Beijing) is an interesting new destination for Air Mauritius as a 6th Freedom operator between China and Southern Africa. There are practically no competing 6th Freedom operators (the detour via Kuala Lumpur and Singapore is too long, as has been argued). Cathay Pacific has no connection from its hub Hong Kong to the two main cities in mainland China. Therefore, if Air Mauritius would be able to open (preferably) daily flights to these two cities, it would be well able to establish 6th Freedom connections to Southern Africa, provided it would connect the arrivals and departures conveniently. The other advantage is that it would be (for the time being) the only 6th Freedom operator, and consequently it would be able to generate high yields from this (probably) fast growing market.

Japan (Tokyo) and Korea (Seoul) are the other potential new destinations, potentially interesting from the point of view of 6th Freedom operations. Unlike Shanghai and Beijing, on the markets between Japan/Korea and Southern Africa, there is one 6th Freedom competitor: Cathay, however only on the Johannesburg route. On the routes from Japan/Korea to Cape Town and Durban, Air Mauritius

[97] The table lists only the major 15 city pairs Air Mauritius serves. Actually Air Mauritius serves more (26 totally) routes, including domestic ones.

[98] The frequency of indirect connections is represented in the table as follows: in the market between – for instance - Jo'burg and Mumbai Air Mauritius has 5 weekly flights to Jo'burg and 3 to Mumbai. The potential indirect service is denoted as MK(5,3)

	JNB Jo' burg	CPT Cape Town	DUR Durban	NBO Nairobi	TNR Tananarivo	HRE Harare	MPM Maputo
BOM Mumbai	SA (Dir 4) MK (5,3) SQ (7,7) MH (3,4)	SA (137,4) MK (2,3)	SA (117,4) MK (2,3)	KQ (Dir 7) AI (Dir 2) SA (9,4) MK (2,3)	MK (3,3)	SA (14,4)	SA (10,4)
DEL Delhi	MK (5,2) SQ (7,7) CX (5,4)	MK (2,2)	MK (2,2)	AI (2,22) MK (2,2)	MK (3,2)		
MAA Chennai	MK (5,1) SQ (7,7) MH (3,7)	MK (2,1)	MK (2,1)	AI (2,10) MK (2,1)	MK (3,1)		
HKG Hongkong	SA (Dir 5) CX (Dir 5) MK (5,2) SQ (7,35) MH (3,7)	SA (137,5) MK (2,1)	SA (117,5) MK (2,1)	SA (9,5) MK (2,1)	MK (3,1)	SA (14,5)	SA (10,5)
KUL K. Lumpur	MH (Dir 3) MK (5,2) SQ (7,42) CX (5,14)	MK (2,2)	MK (2,2)	MK (2,2)	MK (3,2)		
SIN Singapore	SQ (Dir 7) HM (3,1) MK (5,1) CX (5,25) MH (3,35)	MK (2,1)	MK (2,1)	MK (2,1)	MK (3,1)		
PER Perth	SA (Dir 5) MK (5,1) SQ (7,14) CX (5,3) MH (3,9)	SA (137,5) MK (2,1)	SA (117,5) MK (2,1)	SA (9,5) MK (2,1)	MK (3,1)	SA (14,5)	SA (10,5)
SYD Sydney[99]	QF (Dir 5) MK (5,0) SQ (7,21) CX (5,14) MH (3,11)	MK (2,0)	MK (2,0)	MK (2,0)	MK (3,0)		
MEL Melbourne	MK (5,1) SQ (7,14) CX (5,9) MH (3,10)	MK (2,1)	MK (2,1)	MK (2,1)	MK (3,1)		
PEK Beijing	SQ (7,14) MH (3,3)						
PVG Shanghai	SQ (7,21) MH (3,7)						
ICN Seoul	SQ (7,17) CX (5,21) MH (3,4)						
NRT Tokyo	SQ (7,14) CX (5,21) MH (3,12)						
BKK Bangkok	SA (Dir 3) SQ (7,40) CX (5,35) MH (3,14)	SA (137,3)	SA (117,3)	KQ (Dir 3) SA (9,3)		SA (14,3)	SA (10,3)

would be the only one, provided it would be able to open flights to Japan and Korea.

There is however some doubt whether it can competitively offer indirect connections via the SSR-hub. It has been argued above that – for being an effective hub – it is often necessary to offer service at lower fares than direct connections. Until today, Air Mauritius has very limited been exposed to competitive environments, as has been argued in Chapter 2. Therefore there has been also no main incentive to be cost effective as is shown by (for instance) its European competitors. If Air Mauritius wishes to play a significant role in the east-west indirect markets in the Southern hemisphere, it should benchmark itself with the airlines that offer connections (direct as well as indirect) in the same markets. Such airlines include South African Airways, Kenya Airways, Air Seychelles, Air India and (not to the least) Malaysian and Singapore Airlines. Particularly the latter two have been exposed to intensive competition and thus there have been incentives for cost savings at least with these two airlines.

The development of a variety of destinations is the other weak point for Mauritius. Today Air Mauritius serves only fifteen destinations, and most of the destinations are offered not every day. Therefore it seems – with such low scale operations – difficult to combine many arrivals with its departures, and consequently there are – even after careful coordination – few indirect connections left where Air Mauritius can have a competitive 6th Freedom product. Moreover, most of the destinations Air Mauritius serves are primary destinations in the sense that these are larger markets. The airports at these destinations may – if they have no direct connections today – very likely develop direct connections tomorrow, in which case the opportunities for Air Mauritius are limited.

Last but not least, there is the airport, which seems currently not to be able to handle several flights within relatively short time periods. This in particular is the characteristic of hub airports, where a large number of arriving flights in a limited time span is followed by a large number of departures in a short time span only little later. Not so much the runway capacity is limited (there are more single runway small hubs), but it is the terminal capacity and the specific ability to establish the connections process, including baggage handling.

8. THE FUTURE ROLE OF AIR MAURITIUS

In the earlier chapters – at several occasions – it has been argued that the environment for Air Mauritius may change significantly in the near future. Firstly there is the international environment that is changing (see Chapter 5), with inevitable impacts for Mauritius. Ongoing liberalisation and deregulation bring along opportunities but also threats to airlines, including Air Mauritius. Furthermore, in Chapter 3, recommendations have been made regarding the future development of tourism in the light of the current and future state of the Mauritian economy. One of the requirements of the new tourist development is a fundamentally more competitive environment, in which Air Mauritius has to operate. Finally in Chapter 7, recommendations have been made on the future air access policy of Mauritius, including recommendations on the structure of the air network to Mauritius. It is clear that in the latter recommendations Air Mauritius has a central role.

This chapter identifies the implications of all these issues described in the previous chapters for Air Mauritius. There are some areas in which the position of Air Mauritius (MK) might be strengthened to deal more effectively with these changing market circumstances as well as the potential challenges of tomorrow as to contribute to the economic development of Mauritius.

We will provide a checklist of issues with respect to revenue and costs that might be important for improving the competitive position of Air Mauritius in the light of future developments. The operating performance is crucial in this respect and it is the result of complex interactions between decision about output, cost arising from output decisions, demand, the volume of output that is sold and the yield earned by serving the demand. One should note that we do not present a detailed analysis of the performance of Air Mauritius itself. Such an analysis is outside the scope of this report, but is an important subject on the agenda for follow-up investigations.

Four areas can be identified for on which Air Mauritius can focus for a development into a more cost effective airline, to be able to face the challenges resulting from the factors described above. Two of them are related to revenues, two others to costs. If one focuses on the revenue side, the two areas are: market scope (sales) and yield/revenue management. At the cost side the airline may focus on capacity management as well as cost management.

Firstly, in Section 8.1, we focus on issues on the revenue side. Secondly, in Section 8.2, we shift our intention to cost related issues.

8.1 Revenues: Sales and Yield

There are two main areas where Air Mauritius may particularly focus on in increasing overall revenues: identifying specific markets, such as the seat-only market, that it seems to overlook, as well as improved yield-management, that seem to have – regarding the low overall load factors – still some potential.

8.1.1 The Seat-only Market

One of the described trends is that consumers, including those traveling to 'beach destinations, are increasingly inclined to buy seat-only tickets. This "unbundled seat-only" market is not unimportant: as already today almost 40% of tourists to Mauritius travel on non-package tour arrangements. The Internet has stimulated this development. Airlines all over the world increasingly use their websites as a cheap outlet to sell their tickets while the role of the travel agents diminishes, i.e. the so-called disintermediation.

Not only the relative size of this market justifies a dedicated marketing and pricing by the airlines, but also the consideration that the seat-only market has inherent higher yields. Higher yields are possible by the absence of a tour operator. In case tickets are sold via Internet, there is also the absence of a distributor of tickets, mostly travel agencies.

The seat-only market is therefore an attractive segment for an airline like Air Mauritius, that seems currently to be overlooked by the airline, at least when is comes to pricing. This has two negative effects. Firstly, this segment travels today with the code-share partner (such as Air France), who is specifically dealing with the seat-only segment. Secondly, while Air Mauritius is primarily focusing on the package tour market, it has on the average lower yields than could be achieved, if it would more aggressively target the seat-only market. In other words, the larger the share of the package tour passengers in the total passenger mix, the lower the yield and the higher the break-even load factor of Air Mauritius.

This should be an important incentive for airlines operating in these types of markets to strongly market their product in the seat-only passengers segment. In the case of Air Mauritius it is evident from Figure 8.1 below that the opportunities of direct selling have not fully been exploited yet.

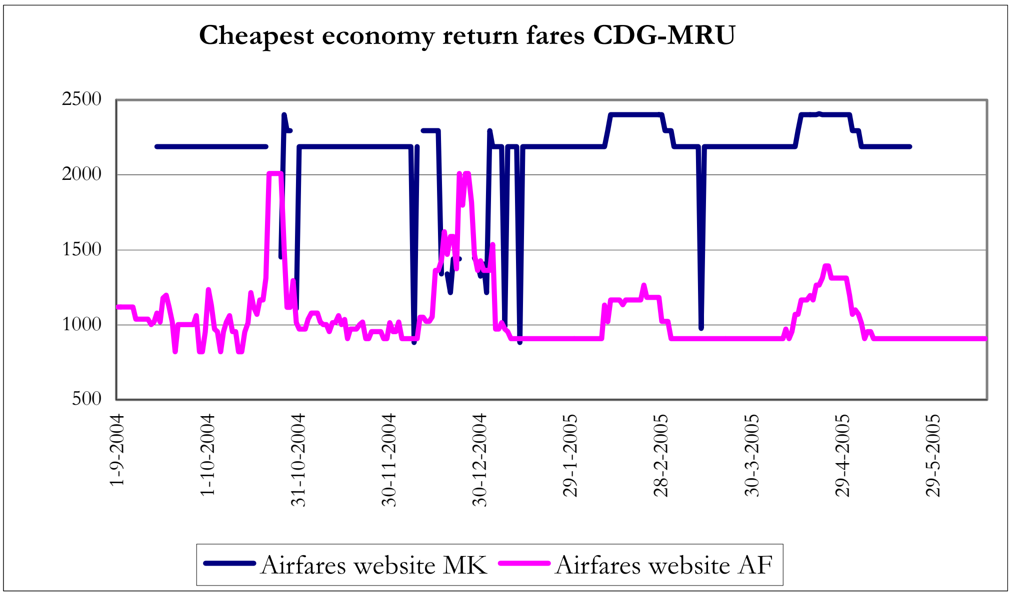

Figure 8.1: Cheapest economy return fares CDG-MRU

Based on the fare differences in Figure 8.1 one may expect that seat-only passengers to Mauritius will book their tickets at the Air France website. Whereas in most of the year an Air France ticket may be purchased at € 1,000, Air Mauritius charges generally over € 2,000. Besides, the Air Mauritius website is slow, user-unfriendly and unable to handle direct credit card payments. Finally, there seem to be very few different fares with Air Mauritius, which indicates a lack of flexibility to change fare structures over the seasons. Based on the limited number of fares offered by Air Mauritius compared to the wealth of fare classes offered by Air France, it is also likely that its yield management system is too rigid to adequately optimise the yield from the seat-only market segment. Another important issue is the fact that even several months before the departure date ‘no seats available’ is frequently indicated for example in the New Years holiday peak season. The opportunities for yield management are further dealt with in the subsequent section.

8.1.2 Yield Management

One of the evidences that yield management in Air Mauritius is not yet fully exploited can be found in the overall load factors. These are overall about 70%, although there are discrepancies between the routes and the seasons. One may conclude that this is not far from the “overall industry benchmark”, but for a typical long haul carrier as Air Mauritius operating in predominantly leisure markets one would expect higher load factors, even between 80 and 90%.

It should be borne in mind that the marginal costs involved between “an empty seat” and “taking a passenger on this seat” are close to zero. There are some marginal costs involved in handling and frills on board, but most of the costs are fixed and are made even with empty seats.

While marginal costs are low, it can be concluded that there is still large scope for yield management with a wide range of flexible airfares. Yield management is focused on trading-off yield against traffic, while exploiting the price elasticity to maximize revenues. The primary objectives of yield management are (1) to ensure that the number of empty seats per departure is minimized and (2) to ensure that each passengers pays as much for the ticket as he or she is prepared to pay.

The critical elements in a yield management system are:

- a database compromising historical records of booking patterns, cancellations, no-shows, and achieved load factors;
- a capability to track advance booking profiles for the next twelve months;
- decision support software that incorporates demand forecasting, revenue optimisation, and simulation capabilities. The fundamental of such software is to guide the establishment of booking limits, the management of inventory between fare classes as demand comes gradually forward over time and the setting of overbooking parameters;
- an in-house or external CRS for the distribution of seats available and booking of demand;
- an experienced team of yield analysts.

We will not further analyse to which extent these components are already operational within Air Mauritius' marketing department. It has moreover appeared that many detailed data could not been made available, due to the confidential status of much of the information. Nevertheless, in case of further analysis of the issues related to yield management the above critical elements are the issues to be addressed in particular.

8.1.3 Frequent Flyer Programs

Another item that may substantially affect the yield in the seat only segment is the effectiveness of the frequent flyer program of Air Mauritius. Mauritius is an attractive holiday destination from France, which may result in a strong redemption of the perks on the routes to Mauritius. However this will primarily affect the foreign carriers on their routes to Mauritius. It is however recommended to assess the cost-effectiveness of the FFP of Air Mauritius in terms of customer retention versus free seats.

8.2 Costs: Unit Costs and Productivity

Unit costs of Air Mauritius are currently € 0.25 per ATK against € 0.27 in 2003 and € 0.28 in 2000/2001. One may conclude from this that in the recent three years, unit costs have decreased by 10%, which is indeed a significant reduction. There are however two factors to be taken into account before to optimistic conclusions are drawn. One of the factors is that most of the costs are not Euro-related. Local costs, such as labour, are measured in Rupees, and regarding the depreciation of the Rupee, the unit cost reduction is not so significant as it looks. Moreover, despite of the limited interaction with US-Dollar countries, still some costs are Dollar related. Some capital costs are, but mainly fuel prices are related to Dollars, which also have significantly depreciated against the Euro.

Unit costs of Air Mauritius are influenced by the level of input prices and by the productivity of the inputs used. The ability to control input costs and maximize productivity of the inputs is an important source of competitive advantage. The downward pressure on yields in competitive markets will bring about yield erosion if an airline is not sufficiently able to control costs. A number of unit cost issues are discussed here, which are likely to be highly important for the survival of Air Mauritius in the long run.

It is however important that this analysis is executed in a consistent framework of cost management, i.e. a continuous search for cost-effective solutions in correspondence with the product quality chosen. Otherwise we would simply discuss cost cutting techniques that ultimately undermine the product quality level.

8.2.1 Labour Costs

Labour costs are currently large cost elements for airlines and a major determinant of airline's unit costs. Labour costs as a percentage of total operation costs generally range between 15% in East Asia/Pacific to 40% in North America. According to the Annual Report of Air Mauritius, staff costs accounted for almost 17% of all operating costs in 2003.

From this, it cannot yet be concluded that labour costs are low enough. Not so much the relative shares count, but rather the absolute cost levels. Although Air Mauritius is close to the Asian/Pacific benchmark, there are specific factors why the comparison cannot directly be made. These are particularly related to the market that the Asian airlines serve (business as well as leisure) in comparison with Air Mauritius (predominantly leisure). A better benchmark is the type of airlines, which earlier in this report are indicated as 'quasi-charters' such as LTU etc.

In a regulated environment – as in the case of Air Mauritius - there is moreover limited incentive to control labour costs. Moreover, the major shareholder pays labour costs, which is the government of Mauritius in the case of Air Mauritius. It should be born in mind that the airline should not be a pool where superfluous workers can be allocated, but much more labour allocation should be based on entrepreneurial principles.

Labour is a cost item suitable for cost reductions since it is perceived to be one of the most controllable cost drivers. From the interviews it became clear that measures to reduce labour costs might be possible for Air Mauritius in order to improve its competitive strength. This is particularly the case for the volume part of the labour. Regarding the price part, the wage rate, there are specific issues with regard to general wage rates in the home country of the airline as well as the social charges that have to be met. Nevertheless there are also specific cost reduction measures possible in relation to the wage rates. Salary levels depend to a large extent on the level of cockpit crew salaries. Although pilots are only a small part of the airline's total work force, they account for a large share in total salary expenses. Controlling pilot salaries is therefore an important issue in strategic cost management.

Other potential sources of labour costs reductions and productivity gains include:

- Reduce staff numbers. A combination of productivity improvements by the remaining staff, automation of certain labour-intensive processes, outsourcing non-core activities and multi-skilling of back-office staff can do this.
- Replace seniors with new recruitments in lower scales.
- Increase job flexibility: use of part-time and contract employees. In addition, employment terms and conditions may be renegotiated.
- Use of subsidiaries with lower scales.

8.2.2 Fuel Costs

Fuel is the most important single cost element for Air Mauritius. In 2004, fuel costs accounted for 21% of the carrier's total operating costs. This is primarily related to the fact that Air Mauritius is primarily a long-haul operator. Given the continuing increases in fuel prices, the fuel cost element should be a major concern for the airline in strategic cost management.

At the same time, fuel costs are also one of the least controllable airline input costs. Because fuel prices are highly volatile, they are particularly harmful for the thin operating margins of airlines. There may be nevertheless opportunities for Air Mauritius to further manage fuel costs. Such management will have to be aimed at both the purchase price and the consumption of fuel.

Purchase price:

- Contract negotiation: when purchasing fuel jointly with other airlines, Air Mauritius may be able to negotiate significant discounts from the posted prices.
- Hedging: hedging can be used to reduce the exposure of fuel price volatility. Air Mauritius does have an effective fuel hedge program as part of its risk management policy, including options and swaps.
- Tankering: 'economic tankering formulae' can be used to provide guidance to the aircrew regarding the optimal fuel purchasing location on a given route.

Fuel consumption:

- Fleet composition: Obviously, older aircraft have a lower fuel-efficiency and push up fuel costs in comparison with airlines with younger fleets. Air Mauritius has a modern fleet however. Other operational practices can be pursued to further control fuel consumption. These include, but are not limited to:
- Enforcement of economical take-off climb, cruise, and descent procedures.
- Use of minimum number of engines required for taxiing.
- Reduction of aircraft empty weight by cleaning and using less paint if possible.
- Use of ground power units rather than APU's.
- Monitoring of fleet performance to identify aircraft with above average fuel burn.
- Maximisation of the use of simulators for flight training.

8.2.3 Maintenance Costs

Maintenance costs currently account for about 17% of total operating costs for Air Mauritius. Together with labour expenses and fuel costs, maintenance cost is one of the largest single cost elements for Air Mauritius. The maintenance costs are considerable but, in contrast to fuel costs, they are manageable. The fundamental decision that has to be made is about the amount of maintenance work that is outsourced and the amount of work in-house with respect to maintenance.

Maintenance lower than C-checks is indispensable to locate on SSR International Airport from an operational point of view. With respect to C- and D-checks, it is advised that Air Mauritius should investigate to what extent the outsourcing of these checks would provide cost reductions. We refer to Section 12.2 for a more detailed discussion on the possibilities of cost reductions in maintenance.

Additional cost reductions in maintenance might be found in:

- automated inventory control;
- pooling spares at a limited number of stations;
- more fleet commonality to reduce inventory (see Paragraph 8.2.4).

8.2.4 Fleet Commonality

Air Mauritius currently operates several distinct aircraft types: 5 Airbus A340-300, 2 Boeing 767-200ER, 2 Airbus A319, 2 ATR 42, 1 ATR 72 aircraft and 3 Bell Jet Ranger Helicopters. Variance in aircraft types is needed since the sector distances, traffic densities on routes and passenger characteristics vary within Air Mauritius' network.

A carrier such as Air Mauritius may then benefit from having a family of related aircraft models. Fleet commonality may give rise to significant day-to-day cost savings. The advantage of fleet standardization and the family concept is for example that aircrew courses can be reduced from several weeks to several days. Another example is the cost savings in maintenance and spares inventory overheads.

In the light of the fleet commonality issue, it is advisable to investigate to what extent the replacement of the two Boeing 767-200ER by a comparable aircraft from the Airbus family would provide reductions in the day-to-day operating costs.

Furthermore future network rationalisation (see also Chapter 7) may enable a better fleet commonality as well.

8.2.5 Seat Pitch and Configuration

A major source of cost advantage for Air Mauritius is the reduction in seat pitch. Currently it has more seat pitch in the economy class than – for instance - Air France. Reduced seat pitch has also appeared to be one of the main sources of cost advantage for low-cost carriers. Higher seat density resulted in a 16% cost reduction of low-cost airlines. As a high-quality long-haul carrier, seat-pitch is obviously of much more importance for Air Mauritius' passengers. Nevertheless, the interviews made clear that some seat-pitch reductions are possible, when comparing the Air Mauritius product with other long-haul full-service airlines. A somewhat higher seating density would bring down unit costs.

Another issue is the three-class configuration in most of the Air Mauritius long haul aircraft. During the interviews it has been made clear that – despite of the leisure character of the market - there is still some potential for the business or even first class product. However, while we do not know load factors in the distinct classes, a clear monitoring of the load factors in the higher classes is also necessary. Distinct break-even load factors for the distinct classes should be developed and be compared with the actual development of these load factors. Specific attention to the first class load factors should be paid in an analysis to what extent the first class product contributes to the financial performance of the airline.

8.2.6 Network Rationalisation

In Chapter 7 recommendations have been made on the network structure of providing air access to Mauritius in the future. Partly these recommendations transpired from the load factors of Air Mauritius on the distinct routes.

Load factors of the airline on the distinct routes are important information in the assessment of the airline's performance with respect to capacity utilisation. Nevertheless this information has not been made available to us, due to the confidential stats of the information. Nevertheless by combining two data sources, the monthly demand data by route of Air Mauritius and the weekly schedules of the distinct airlines of SSR-airport, indications of load factors of Air Mauritius by route could be obtained.

Figure 8.2 shows these load factors on routes to various destinations for a period of 8 months between November 2003 and June 2004. As different – and possibly inconsistent data set were used – the obtained figures should however be taken with care. However from the data, an overall load factor of about 70% resulted, which was confirmed by Air Mauritius. We have used therefore the orders of magnitude to evaluate network rationalisation measures.

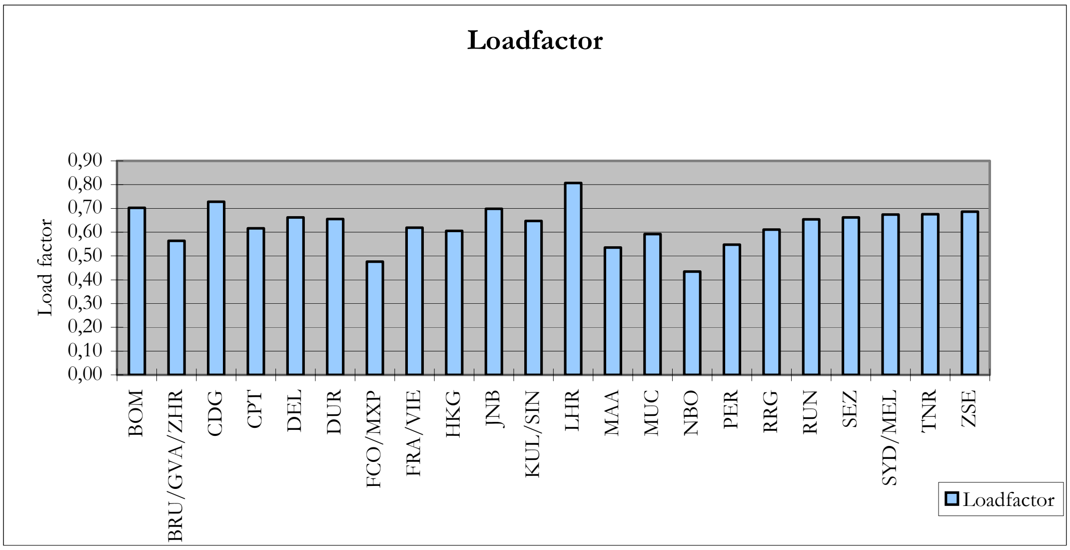

Figure 8.2 Average load factors and passenger numbers

The figure clearly shows that there are – regarding the relatively small overall profits of the airline - indications that at a number of routes the average load factors are likely to be well below the break-even-load factor. Paris, London, Mumbai and Johannesburg are likely to be the best performing routes. Perth, Nairobi, Rome, Chennai and the Brussels/Geneva/Zurich route on the other hand show low load factors. This leads us to the conclusion that one part of the network cross-subsidises the other part.

Rather than cutting just the un-profitable part, we propose a rationalization of the network, of which the contours are already sketched in Chapter 7. Although services on some routes are suspended, all destinations in the new network concept will still be served, although some only indirectly.

It is proposed to determine a limited number of “gateways”, that Air Mauritius keeps direct connections to, in principle every day. Services to destinations at levels less than 7 times per week are generally considered as not competitive, so a minimum of 7 would be required. As gateways have been suggested in Chapter 7: London, Paris, Frankfurt, Mumbai, Melbourne and one of the four Asian hubs (Singapore, Kuala Lumpur, Bangkok or Hong Kong). Which Asian airport is chosen depends on considerations, also outlined in Chapter 7. It is furthermore suggested to retain the three South African destinations (Jo’burg, Durban and Cape Town), as the load factors seem to be acceptable, although with significant scope for improvement. Daily frequencies to all three South African destinations would therefore seem too optimistic for the time being. Finally, it is suggested not to suspend the service to Nairobi, despite of its extremely low load factors. If the route would be suspended there would be no competitive indirect service. We however suggest taking all necessary measures to improve the load factor to Nairobi, for which we would see possibilities while the ‘beach-bush’ concept is developed. Nairobi would therefore be the gateway for the ‘bush’ part of this concept.

All other parts in the world that have been indicated as relevant and with some potential for Mauritius, can furthermore be served indirectly with the code-share partner Air Mauritius has on most of the routes. The rest of Europe will be served via one of the three European gateways. It should furthermore be investigated which part of Europe can be optimally served via which gateway. All other destinations in India are served via Mumbai, North East Asia (including Tokyo, Seoul and the Chinese East coast) via the South East Asian hub that will be chosen for this. Finally most of Australia, including New Zealand would be served via Melbourne.

8.2.7 Impacts for Air Access to Mauritius

In the earlier chapters the importance of adequate air access to Mauritius has been addressed. This in respect to quantity (enough seats), as well as to the quality (range of destinations and competition levels). However for Air Mauritius a simple ‘gateway model’ has been proposed that is significantly decreasing the number of points Air Mauritius serves directly. This clearly affects the quality of air access to Mauritius directly.

One of the ways this could be handled, are agreements Air Mauritius has with the local airlines at its destination points, for which the current agreement with Air France is the most clear example. New agreements may be established. However, for Air Mauritius, commercial criteria should be prevalent and not the criteria of air access to Mauritius. In this context, commercial principles, relevant for Air Mauritius, should be kept separate from principles of air access to the island, which are only relevant from the government and society point of view.

If such agreements cannot be established on sound economic principles, and air access to the island is not reaching the desired levels, the government may decide to make specific requests to Air Mauritius to serve particular routes, even if these routes cannot be served economically. The other condition is that any airline from the counterpart state is not willing or able to serve Mauritius. In return, the operation of such routes needs government contribution.

In effect, this implies a split of Air Mauritius into two divisions: one part that operates routes that are economically sustainable, and well able to resist competitive actions from counterparts. The other part is operated under government control, as well as its financial involvement if competition rules allow for that. Such models are seen elsewhere in the world. In most cases in domestic air (or even rail) transport, as to serve remote areas. In such circumstances the airline operates under so-called “public service obligations” (PSO).

Such government-controlled operations can be maintained until the moment that enough critical mass is reached that the route can be served at sound economic principles. One important issue that the financial performance and efficiency on the routes involved of Air Mauritius is clearly monitored by the government.

8.3 Conclusions and Recommendations

Regarding specific developments in the airline industry as well as the desire to stimulate the economy through tourism, while together safeguarding the position of Air Mauritius, the airline has to take fundamental measures to become more able to survive in a competitive environment.

These measures refer to the revenue as well as the cost side. With regards to the revenue side it is suggested to target specifically the seat-only market. Together with this more direct sales via its website should be handled as well as to improve the yield management of the airline. Cost measures refer to wage costs, fuel, but particularly to its network structure. It is proposed to decrease the total number of destinations, but - where possible - to increase the frequency to at least the level of 7 per week. The destinations that keep being served by the airlines are gateways through which the relevant part of the rest of the world is served. Those destinations that are not commercially viable can only be served on special request by the government on clear operating criteria.

The measures proposed here are not based on detailed quantitative data of the airline. Most of the necessary material is confidential and could not be made available. We have however indicated in which areas the measures should be sought. If the necessary data can be made available a more detailed and also better-suited cost reduction and yield improvement program could be designed.

9. CARGO DEVELOPMENTS

Europe is Africa's largest air trade partner. Approximately 70% of all African air cargo air trade is with Europe. The Middle East (12%), North America (8%) and Asia (3%) together form the majority of the other trading partners. In general, African air exports tend to be dominated by perishables and apparel to Europe and the Middle East. Air imports tend to be industrial machinery, computers and telecommunication goods, oil and gas exploration and extraction equipment and pharmaceutical goods.

A high level forecast of African/European air trade has been developed in 2004 by aircraft manufacturer Boeing. Base, high and low models were developed to determine the projections. The main findings of this forecast are:

- Northbound flows (see Figure 9.1) from Africa will continue to grow at a steady pace, with an average of 5.3% per year

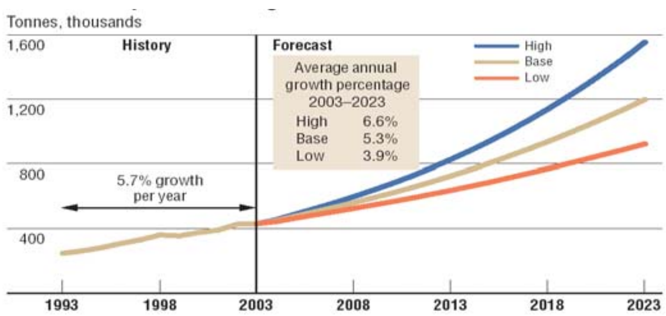

Figure 9.1 Northbound Africa-to-Europe Air Trade Will Average 5.3 % Growth per Year through 2023 Source: Boeing

- Southbound air trade shows lower average growth figures than Northbound. The estimated annual long-term growth is 5.1% (see Figure 9.2).

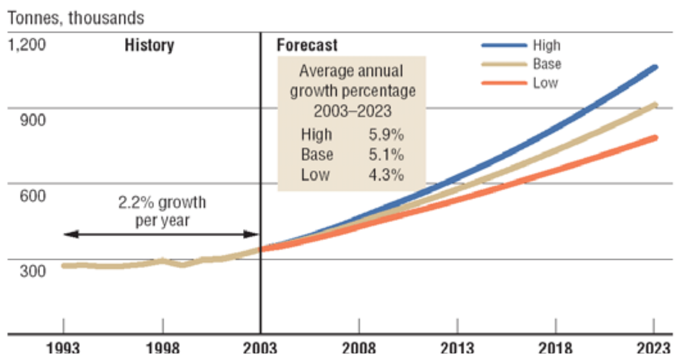

Figure 9.2 Southbound Europe-to-Africa Air Trade Will Average 5.1 % Growth per Year Through 2023 Source: Boeing

9.1 Air Cargo Development

9.1.1 Air Cargo Market of Mauritius

The air cargo market of Mauritius showed an average annual growth of 4.6 % over the last eight years (see Figure 9.3). During this period outbound traffic had an average annual growth of 5.3%, well above the average growth of African air cargo exports. Air cargo imports increased during this period annually by 4.2%; twice as much as the average growth for the whole region.

The total amount of air cargo through SSR airport in 2003 was 44,366 tons. Of which 20,028 was outbound traffic and 24,338 inbound traffic. The total air cargo volumes showed a minimal growth in 2003 compared to the previous year. This seems to be a correction of the exceptional growth of outbound traffic in 2002, when due to the political crisis in Madagascar, production of textiles was shifted to Mauritius.

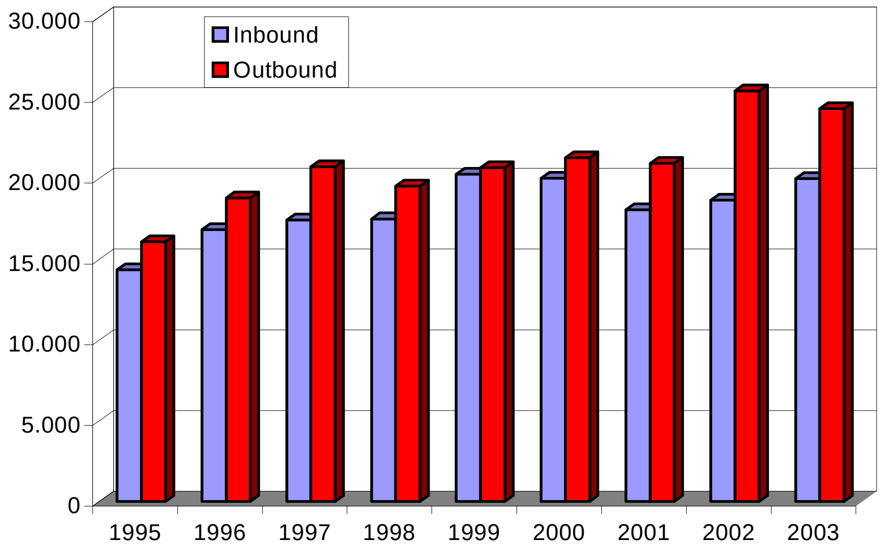

Figure 9.3 Mauritius' air cargo capacity Source: AML

The outbound market is predominantly made of textiles and material related to the textile industry. According to representatives of the Export Processing Zone Development Authority around 15,000 tons (62%) of these goods originate from the Export Processing Zone. The contribution of the Mauritius Freeport to the total amount of air cargo is far less significant. In 2003 approximately 1,500 tons of air cargo exports originated from the Freeport, accounting for 6% of the total air cargo exports.

9.1.2 Air Cargo Network and Carriers

Air Mauritius Cargo is by far the largest cargo carrier connecting Mauritius with the rest of the world. It has a capacity share of approximately 65% and is followed by Air France Cargo (18%), Emirates SkyCargo (7%) and British Airways WorldCargo (6%) The overall air cargo capacity is illustrated in Figure 9.4 illustrating the importance of European destinations, France and United Kingdom in particular.

The large majority of capacity is provided by the passenger flights. There are only two airlines, which service Mauritius -on a structural basis- with a full freighter operation: Air Mauritius (DC-8F) and Air France (B-747F). Whereby the latter recently announced that it would stop its operation as of the Winter-schedule 2004. Even though the air cargo market was liberalised in 1997 no new structural full freighter operators entered the market. Some carriers made inquiries but none actually started flying. Overall perception in the market is that it is commercially not attractive (for new entrants) to service Mauritius with wide-body freighters. The two main reasons are the limited size of the air cargo market and the strong position of Mauritius, especially to Europe.

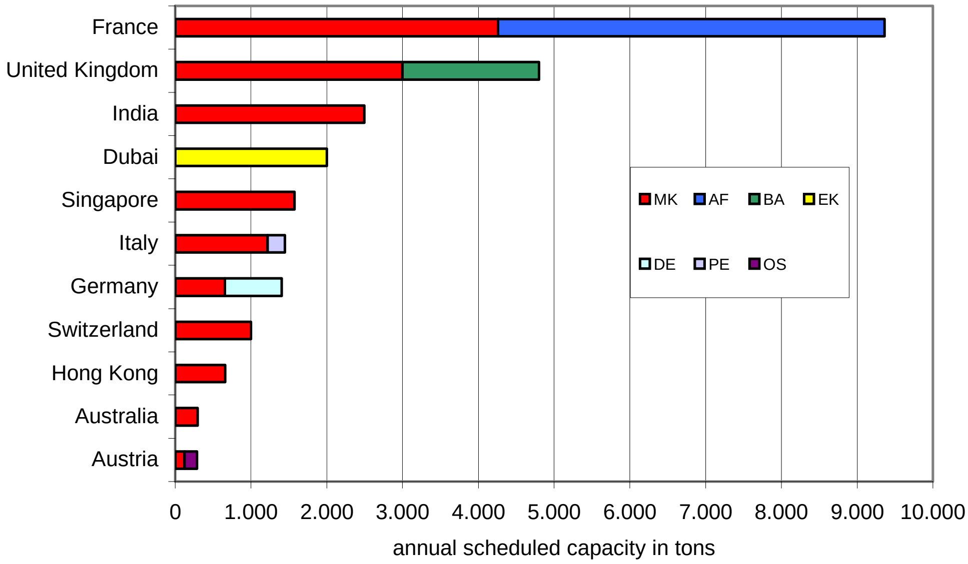

Figure 9.4 France and United Kingdom account for 50% of scheduled cargo capacity Source: AML and Districon analysis

9.1.3 Ground Handling and Customs at SSR International Airport

Although there are formally two air cargo handling companies at SSR airport, Air Mauritius and Servisair, there is actually only one player. Air Mauritius takes care of the cargo handling for all airlines with the exception of Air Europe. Although the entrance of Servisair has put some pressure on the prices of Air Mauritius the effects are still minimal. Illustrative is the case that an airline recently agreed to switch to Servisair, but that the latter was not able to deliver the desired services, as it did not have the required equipment. Hence the airline stayed with Air Mauritius.
The cargo facilities at the airport are basic but the ground handling services provided by the two companies are at par with industry standards, according to the stakeholders who were interviewed. The Airports of Mauritius is planning to

further increase the ‘cool storage’ capabilities at the airport to cater for the expected increase of perishable goods.

The average ‘clearance time’ of shipments by Customs is too long according to representatives of the air cargo industry. This process can become very time-consuming, especially regarding import flows. It is their estimate that close to 50% of all import shipments are physically checked. This figure is however not consistent with the information provided by the Customs authorities. They indicate that ‘only’ 25% of all shipments are checked. Either way, the overall amount of checks has a significant effect on the overall throughput time of the air cargo chain.
Solutions to create a more efficient (=faster) clearance process are undertaken by Customs by means of Electronic Data Interchange. Further, it has set up a training together with the University of Mauritius to improve the knowledge at the various Customs Brokers. Goal is to minimise delays caused by incomplete / inaccurate customs documents.

9.2 Effects of ‘One Airline Policy’ on Air Cargo Tariffs

A frequently heard comment during the several interviews with producers and forwarding companies is that they perceive the total costs for moving cargo by air from / to Mauritius as (too) high. In their opinion, Air Mauritius keeps the air cargo rates artificially high. Thereby limiting the market mechanism of demand and supply.
We were therefore requested to conduct a ‘quick scan’ whether they could find an indication for an obstruction of the market mechanism at Mauritius.

We have taken a two-way approach to this request. Firstly, Air Mauritius was requested to provide an overview of its tariffs over the last years to determine how the tariffs have developed. On our request, Air Mauritius has provided documentation, which illustrates that it has recently lowered its air cargo *tariffs* from Mauritius to Europe to the current level of 50.60 MRU per kg. However, the *total charges* for the freight forwarders and shippers have remained at the same level. This is a direct result from the fact that in the same period that the tariffs were decreased Air Mauritius increased its fuel surcharge, just as all major cargo carriers. It therefore seems at first glance that the perceived obstruction does not occur. The level of air cargo tariffs remain constant due to the increasing global oil price which all cargo airlines forward on to their customers. It is expected that these overall charges will decrease the moment that the fuel charges are lowered.

Secondly, a benchmark has been executed to investigate whether the air cargo tariffs from and to Mauritius differ in such a manner from the other countries that obstruction could be expected. Several air cargo parties (forwarders and airlines) on both continents provided their air cargo tariffs from specific African countries to Europe and vice versa. All involved were requested to provide the net air cargo tariffs for a 1,000 kg shipment on a specific origin / destination combination. All surcharges as fuel and security have been left outside the equation. The research was conducted between August and September 2004. It has to be mentioned that was difficult to obtain detailed information on tariffs for smaller markets as they may vary significantly per week. Consultants are however convinced that the results show a reliable indication of tariffs in the various African markets.

9.2.1 Analysis of Annual Capacity and Number of Providers

A brief analysis of the air cargo market in the various countries needs to be made before the tariffs may be compared. Two characteristics of each market have been investigated: the annual scheduled capacity to Europe and the amount of significant air cargo capacity providers. Our experience shows that the height of the tariffs in the air cargo market is related to these characteristics. The higher the annual capacity and number of providers, the lower the tariffs. Figure 9.5 displays the result of this analysis.

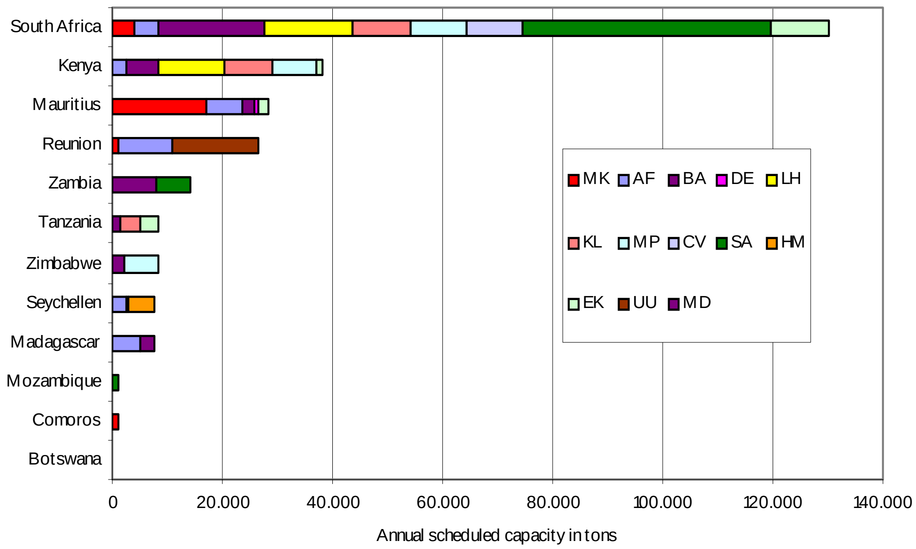

Figure 9.5 Annual capacity and number of providers differs significantly per country Source: Schedule airlines, Districon analysis

9.2.2 Analysis of Tariffs from Europe to Mauritius

The results of the benchmark study in to the tariffs from Europe to Africa are displayed in Figure 9.6. It illustrates that the selected countries can be roughly divided into three groups: High, Medium and Low. The High group consisting of Comoros, Réunion, Madagascar and Botswana shows a significantly higher rate than the other countries. Except for Madagascar and Reunion, this is most likely a direct result of the (very) limited air cargo capacity to these specific destinations.

The height of the market rates to Madagascar and Reunion are not caused by the limited capacity. Air Madagascar, Air France Cargo (to both) and Air Austral (Réunion) operate several flights a week to these destinations. The limited competition from other airlines seem to enable them to keep the market rates at a premium

The countries from the Medium group: Zambia, Mozambique, Seychelles, Tanzania, Zimbabwe and Mauritius have in common that the air cargo uplift is either higher or that there are more air cargo capacity providers servicing these destinations than the High group. The Low group is formed by South Africa and Kenya, which have a large trade imbalance between (Northbound >> Southbound flows) resulting in relative low market rates to these countries from Europe. Fortified by the numerous carries, which service these countries.

9.2.3 Analysis of Tariffs from Mauritius to Europe

The air cargo tariffs from Africa to Europe show a similar pattern (although the difference in tariff levels are less) as the tariffs for the Southbound flows.

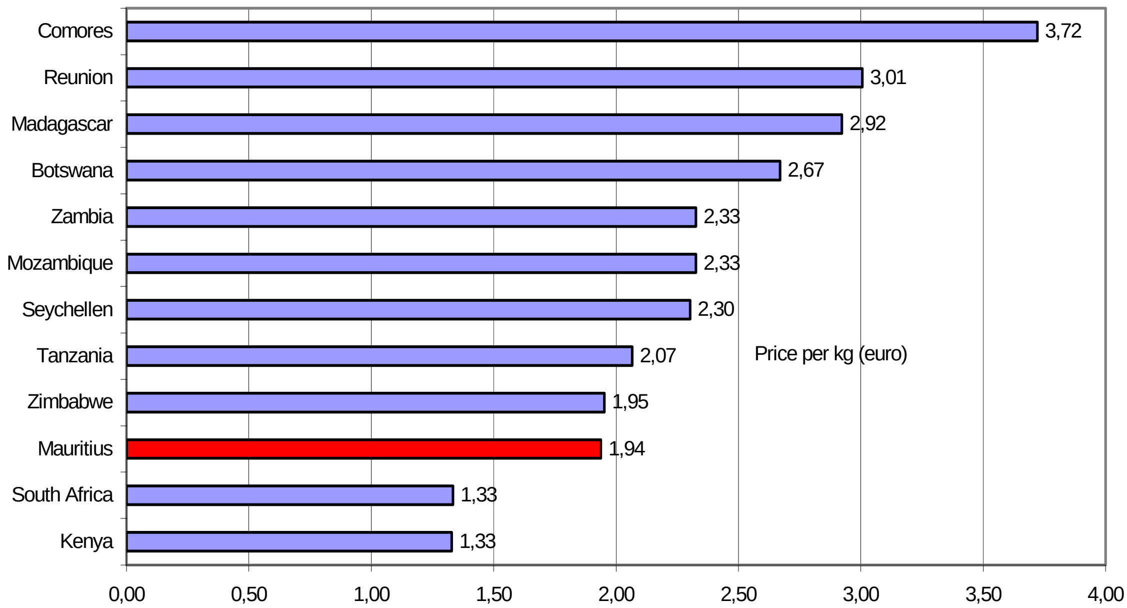

Figure 9.6 Tariffs from Europe to Mauritius in line with dynamics of other African markets
Source: European and African airlines and forwarders, Districon analysis

Countries with a limited annual cargo capacity and number of providers have a higher average price level than the other countries as is displayed in Figure 9.7.

The countries where one would expect competition to be the strongest based on the annual capacity and number of capacity providers (South Africa, Kenya and Mauritius) have the lowest tariff levels.

9.2.4 Conclusions

The results of the benchmark study illustrates that the rates to Mauritius are at par with the price dynamics in other African markets. There seems to be a correlation between the total amount of air cargo capacity, airlines servicing the country and the average market rate. The market rates at Mauritius (to and from Europe) seem to be in line with this correlation. The amount of annual scheduled cargo capacity is third in line, after South Africa and Kenya. The same applies to another important factor, the number of operating airlines. Four airlines (with significant air cargo capacity) operate in to Mauritius: Air Mauritius, Air France, Emirates and British Airways. Based on these facts and the results of the benchmark study, Consultants have the opinion that there is no indication of an obstructed market mechanism when it comes to air cargo tariffs at Mauritius.

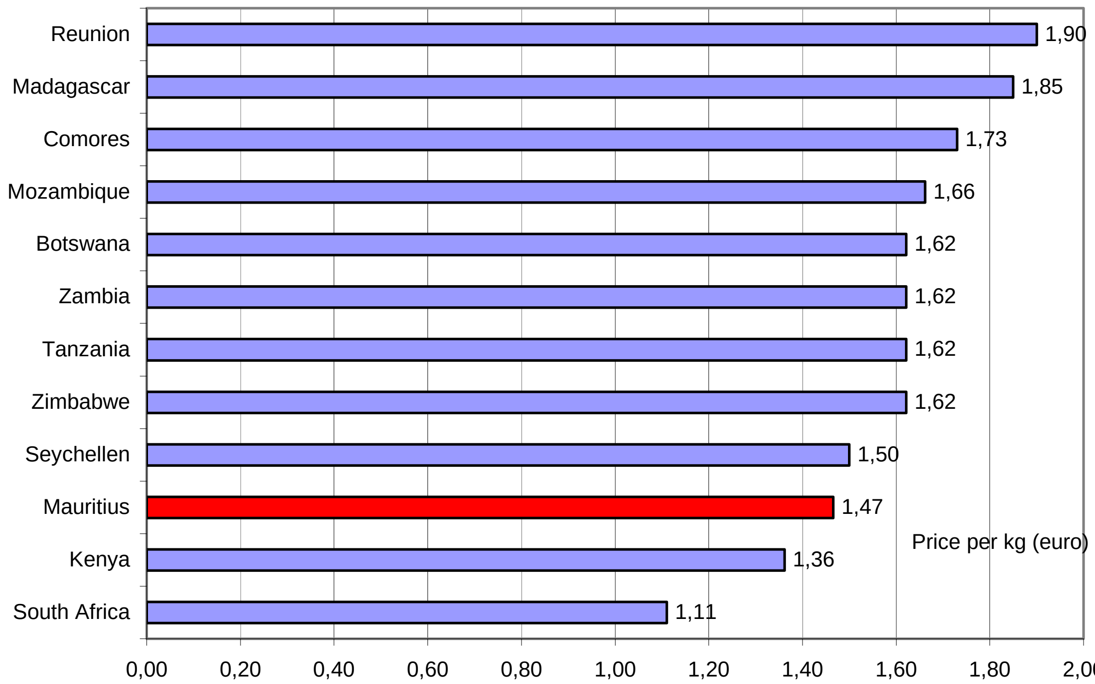

Figure 9.7 Tariffs from Mauritius to Europe show a similar result as Figure 9.6

9.3 Growth Scenarios for the Air Cargo Industry at Mauritius

The economy of Mauritius is going through a transition phase. The advantages of the past are disappearing quickly. The preferential treatment obtained via international treaties (e.g. Lomé) will cease to exist in the short to medium term. As a result of which the competitive position of Mauritius will decrease and hence the exports of textiles. The impact the changing textile industry of Mauritius has on the air cargo market cannot be easily overestimated. Up to 80% of all goods moved by air are textiles or textiles related equipment. And as many of the raw materials are sourced from third countries the import flows will also be affected. An example is the recent is the re-location of (Asian) manufacturers to 'new' low-wage countries as China, Pakistan and India.

Furthermore, the basis of the Mauritian air cargo market is volatile. Most of the textiles are air lifted ‘by accident’ and not ‘by choice’. Representatives of the textile industry mentioned that most of the goods are only transported by air due to production and or logistic problems. In other words, the better the producers will have organised their logistic chain the more the demand for air cargo will decrease. This process is fortified by the fact that the margin on many of the commodities becomes negative in case they are shipped by air. Although several successful initiatives have been taken to move in to the more value added services in textiles, their overall share in the total amount of air cargo is still minimal.

We have been requested to describe potential growth scenarios, which indicate potential air cargo volumes for the next twenty years. Two main strategies have been identified:

- Business as usual: autonomous growth mainly through macro economic developments and passenger aircraft movements.
- Business Development; active pursuit of new cargo flows focussing on three areas: infrastructure, industry policy and Mauritius Air Cargo.

9.3.1 Business as Usual

The long term forecast made by Internists for the Airports of Mauritius in October 2003 predicts an average annual air cargo demand growth of 3.8% for the next 20 years leading up to an expected annual tonnage of 89,000 tons in 2022. This estimate is highly related to the autonomous macro economic growth and the projected growth of the passenger aircraft movements.

This projection implies a decrease in growth compared to the previous eight years when the average annual growth was 4.6%. Although these estimates are conservative compared to the average air cargo growth rate for the whole African region presented by Boeing (see Figures 9.1 and 9.2), they seem realistic. The current pressure on the textile industry of Mauritius will most likely have a downward pressure on the future development of the local air cargo industry. Experience shows that the air cargo volumes increase 1.5 - 2.0 times the growth of the GDP of a country. An economic growth of 1.8 – 2.4% should therefore the minimum.

On the supply side Internists provided a forecast on large and medium passenger aircraft movements. All cargo flights are not included, but the forecast remains a clear indicator for the future air cargo capacity. Currently close to 90% of all traffic from Mauritius is moved on passenger flights and it is expected that this will not change significantly. The forecast shows a decreasing annual growth in capacity from 4.5% in the period 2003-2007 to 2.6% in the years from 2017-2022.

Both the demand and supply forecasts are set out in Figure 9.8, illustrating the fact that the expected growth in air cargo capacity on passenger flights will be sufficient to accommodate the growth of the Mauritian air cargo market.

The role of the government in this scenario should focus on enabling the industry to operate efficiently. Areas of attention are:

- Facilitating improved quality and efficiency standards on air cargo handling.
- Further improving current Customs process via EDI.
- Maintaining attractive landing fees.

9.3.2 Business Development

The success of Dubai in becoming the regional air cargo hub for the Middle East has inspired several air cargo stakeholders at Mauritius to obtain a similar role in the African region. They envision that by creating an efficient air cargo logistic environment on Mauritius it will generate significantly higher cargo volumes than the 'business as usual' strategy.

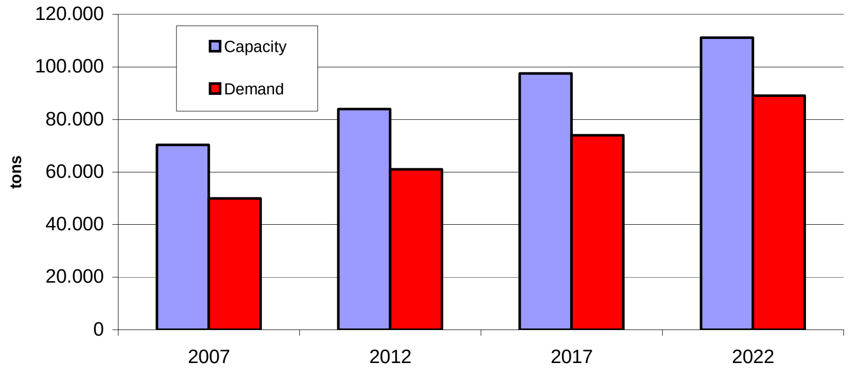

Figure 9.8 Business as usual: Capacity passenger aircraft sufficient to meet future growth
Source: InterVISTAS and Districon analysis

There are three focus areas, which could contribute to higher volumes:

- Superior air cargo infrastructure.
- High-end industries.
- Transit cargo through Air Mauritius

9.3.2.1 Superior Air Cargo Infrastructure

The vision of attracting additional air cargo flows through a superior infrastructure at Mauritius is energised by the success of transiting mainly sea cargo through the Freeport at Port Louis. By creating a Free zone operation, which has no regional equal, the Mauritius logistic industry has been able to capture numerous new clients. The success is also driven by the favourable position of Mauritius on the shipping routes between Asia and Europe. Proven by the fact that major shipping lines as P&O Nedlloyd, Maersk and Evergreen operate in to Port Louis.

The significant growth figures over the last ten years are illustrated in Table 9.3.1.

And the projections for the years to come are positive. Recently published figures for 2004 show that the total tonnage of goods has increased by 40% when compared to the previous year.

There are extensive plans to copy the success story the Freeport and to expand the current limited Freezone operation at the airport. This facility measures 2,500 m^2. Its annual throughput of air cargo however is minimal according to the Freeport Authority.
We have discussed this opportunity with various stakeholders at Mauritius and conducted an extensive desk research in to the success factors in attracting logistic service providers. Both activities have lead to the conclusion that a superior air cargo infrastructure will marginally impact the performance of for the air cargo industry at Mauritius. The foundation for this conclusion is formed by three elements.

	1993	2003
Freeport zones	1	10
Freeport zone total area	2 ha	50 ha
Infrastructure available	5,000 m2	80,000 m2
Direct investment	< 1 m USD	> 60 m USD
No. of logistic providers	1	7
No. of Freeport operators	10	350
Local companies using Freeport	0	180
Value of goods (FOB USD)	< 1m USD	>500m USD
Tonnage of goods	70 tonnes	230,000 tonnes
No. of containers handled	5	10,000

Table *9.3.1* *Source: Mauritius Freeport Authority*

Firstly, air cargo is less supply driven than its passenger equivalent. Research in to the rise of low cost carriers has shown that creating new supply in the passenger business can create new demand. Cargo flows are primarily driven by trade and less by air cargo capacity. A clear example hereof is the fact that no significant new all cargo operators were attracted to Mauritius event though the skies were ‘open’.

Secondly, the geographical position of Mauritius limits the opportunities for transiting and consolidating air cargo shipments and therefore the attractiveness for logistic service providers. As mentioned earlier part of the success of the Freeport is the extensive shipping network, which is being served out of Port Louis. Which makes it an efficient stop between Asia and Europe. The opposite applies when regarding the air cargo industry. The majority of air cargo shipments are transported directly between these two continents, or with a short stop in the Middle East. Mauritius is too far off to be an interesting transit point for these flows, regardless the efficiency and costs for the ground handling.

Thirdly, experience shows that air and sea cargo flows badly mix. The different nature of the goods requires a completely different handling to secure an efficient logistic chain. Although airport and seaport operators often address the potential of ‘sea-air services’, we are not aware of significant air-sea services. Practise shows that after a short period of air-sea movements, the goods are transferred to either air or sea. It is therefore unlikely, that the current success at the Freeport will generate additional significant air cargo volumes. This is confirmed by the fact that the Freeport currently generates around 6% of the total air cargo volumes at Mauritius.

Mauritius is not alone in its strive to become a (regional) transit point for air and sea cargo. Countries on all continents are applying a pull strategy to attract more service providers and cargo flows. Representatives of the logistics industry of Singapore published a report in 2003 stating their multi level approach to remain one of the logistic centres of Asia. Figure 9.9 displays the several focus areas of this strategy.

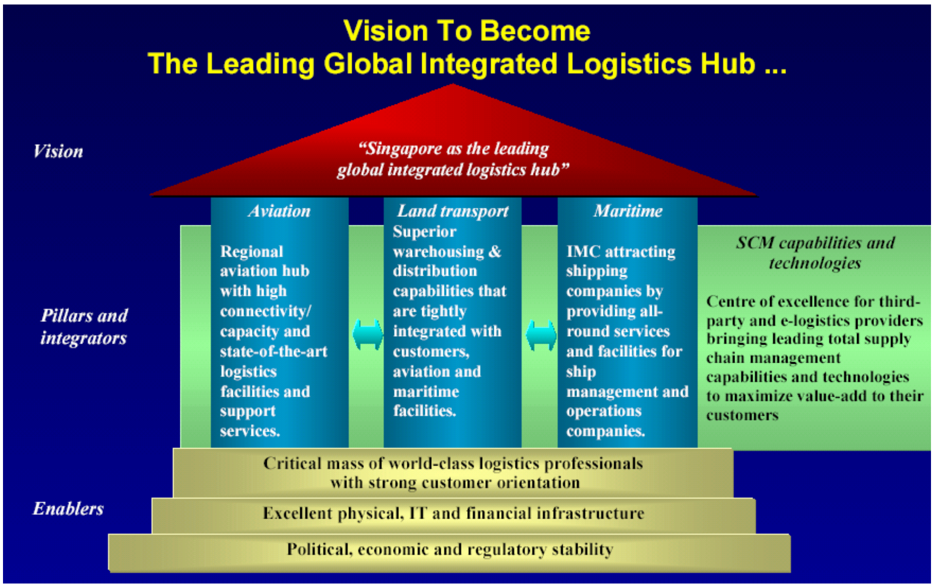

Figure 9.9 *Source: International Entreprise Singapore*

9.3.2.2 High- end Industries

In the previous sub-paragraph it is stated that air cargo flows are primarily driven by air trade and less by air cargo capacity. In other words, an important path to increased volumes is to create higher air trade volumes. It is the most effective process to stimulate the air cargo industry on the long-term, but also the most difficult to accomplish. A combined effort from the total Mauritian industry as well as the government is essential to reach this goal.

Industries that are most attractive on the long term are high-end production industries. The attractiveness lies with two elements. Firstly, high-end production companies often transport their goods *by choice* through the air cargo chain. The frequent limited 'Time to Market' and the high value of the goods make it economically viable to use air transport. Thereby creating a sturdier base under the air cargo industry than the current textiles industry, whereby air transport is avoided as much as possible and used predominately in case of production difficulties.

Secondly, the attracted companies are less footloose as the earlier logistic service providers. As a rule of thumb, sectors with high educational levels can be regarded as less footloose than sectors with low educational levels. The same applies to the level of capital; sectors with a high invested capital are less footloose than sectors with low capital levels.

Attracting these type of companies is difficult due to their often demanding requirements. Not only financially, but also regarding skilled labour force, availability of suppliers etc. To increase the chance of success, Mauritius should focus on a specific sector or group of companies. As Puerto Rico has focussed on the pharmaceutical industry and it has done in the past regarding the textile industry.
Crucial to such success is to create a ‘snowball effect’. The more a specific industry sector is developed, the more attractive it becomes for other companies to relocate.
For this reason it might be of interest to invest substantially in attracting a major player in this industry to start the process. The build up of such a cluster area may take substantial effort and time, but a cluster is much more sustainable than facilitating companies of different sectors.

9.3.2.3 Transit Cargo Through Air Mauritius

Air Mauritius is by far the largest air cargo capacity provider, providing approximately 65% of the total capacity. By the winter season of 2004 it will also be the only scheduled provider of main deck capacity through its DC-8 freighter operation, as Air France will terminate its B-747F services. It is therefore safe to say that the development of Air Mauritius Cargo is synonymous for the development of the total air cargo industry at Mauritius.

The annual cargo revenues for Air Mauritius were 45 million euro for the fiscal year 2003 and therefore accounts for 13% of the overall turnover of Air Mauritius. Although a significant part of the total turnover it is envisioned that the Cargo Department will have a minor say in the network development of Air Mauritius, as it is the fact at many other airlines that have limited freighter operations. Consultants therefore see limited room for independent growth for Air Mauritius Cargo.

This independent growth can only be obtained through the continuation and expansion of the current full freighter service in to Southern-Eastern Africa. Information provided by Air Mauritius indicate that this service will result in an additional growth of approximately 8,000 tons annually, nearly 20% of the total cargo throughput at SSR International Airport. Further expansion of these transit flows is (partly) constrained by the lower deck capacity on passenger aircraft of Air Mauritius. Once a critical mass is reached however, a freighter service in to Europe (via other African countries) could be effectuated. Especially since the freighter operation of Air France Cargo will be terminated at the start of the winter schedule.

9.3.2.4 Estimated Additional Flows Through Business Development

The three focus areas of ‘business development’ strategy could increase the projected growth figures of the ‘business as usual ‘strategy dramatically. This is mainly a result of the relative low volumes at SSR International Airport. For example, an additional daily operation of a DC-8 freighter (with an average load factor of 70%) would increase the current volumes by 20%. In other words: an individual success through business development will likely have a significant effect on the overall performance. Although further research is required to determine the exact potential, it seems that this active approach would bring the annual growth levels on the long term back to at least the 5.2%, which Boeing predicts, for the total African region. Overall expectation is that on the short term growth levels of 5 - 7% could be reached.

10. AIRPORT DEVELOPMENTS

10.1 The Tourist Development Plan and the Other Airport Projections

The Ministry of External Communications has in the recent past, commissioned several studies to address the future development of air transport and tourism. It has in 2000 commissioned a master plan study for SSR-airport to Aéroports de Paris (AdPi). This study included a forecast for the airport. This study was followed in mid-2001 by a second opinion by British Airports Authority on the AdP forecasts. After the attack on 11 September 2001, BAA has made an addendum in November 2001, to address the impact of this event. Furthermore, in 2003, the airport operator (AML) has commissioned another study to InterVISTAS (Canada), where again a forecast for SSR Airport is made.

The current study does not include a new forecast again on top of the three existing ones, for reasons explained hereafter. However, it does contain a second opinion on these three forecasts. Prior to this, criteria are developed on the assessment of these forecasts. These criteria refer mainly to the role and use of forecasts in the decision making process.

10.1.1 The Role of Forecasts

Forecasts are often seen as ‘predictions for the future’. Such predictions create a sense of certainty with the decision maker. “Once the future is determined, one can easily define further plans and make the appropriate decision on these plans”.

However, also in the case of Mauritius, the future changes frequently. New circumstances or even external shocks create another future. This may have been the background behind the fact that within a three-year period three consecutive long-term forecasts have been established. This, furthermore, has created additional uncertainty: “Which forecast is the right one?”

It should be realised that the future is uncertain, and that – precisely for this reason - predicting the future is impossible. This may seem an obvious statement, but too often the quality of a forecast is judged on the extent to which this forecast deviates from actual development. “How good has the forecast predicted actual development?”

The role of forecasts however should not be seen as “predicting the future development”, but as helpful tools in “assessing the risks that are related to certain decisions”. By using ‘the most likely” future development, there is a high likelihood that the most important risks stay out of scope. By using a ‘low’ or a ‘high’ forecasts, there is however a better chance that the risks related to particular decisions become within scope[100].

Therefore, in such an approach, scenarios are used to address possible risks attached to these decisions. A scenario is a set of assumptions concerning the factors determining the development of the airport. In most cases GNP-development is taken as the most important indicator, but in the case of Mauritius there are a few factors that are probably even more important. These include factors related to tourist development such as the capacity and quality of the tourist infrastructure and the price of the ‘Mauritius product’. This price is furthermore depending of two main elements: the airfares and the hotel rates. Airfares cannot be seen in isolation with the air access policy: the current restricted one or a new open policy with more competition. Average hotel rates can furthermore not be seen in isolation with the tourist strategy of Mauritius: keeping up-market profile or a policy towards a diversified profile.

Adequate airport forecasts can therefore only be made if – prior to this – a distinct set of assumptions has been made with respect to its main determining elements: the described demand and supply factors. The demand factors are world GNP (or GNP of relevant regions, such as France) and Mauritian GNP, whereas the supply factors include airfares, hotel rates, air access policy and tourist strategy. It would seem that the uncertainties for Mauritius come mainly from the supply factors and much less from the described demand factors.

Therefore in the assessment on the three available forecasts the following criteria are used:

- Have the underlying assumptions on the above identified demand and supply factors been made explicit?
- Have several and sufficiently distinctive scenarios been considered to address the risks adequately?
- Which forecasting methodology has been chosen, and is this methodology well funded?
- What are the results of the forecasts?

10.1.2 Second Opinion of the Existing Airport Forecasts

Demand and supply variables

The Table 10.1 below shows to which extent the three forecasts have included the identified factors.

The AdP forecast mainly depends on the relevant world GDP-growth and on the provision of adequate supply of tourism infrastructure in Mauritius to cope with the tourism increase. To a smaller extend on the growth of Mauritius GDP, for example to forecast the route Réunion – Mauritius. This world GNP-focus seems consistent, as the largest part of the airport traffic depends on the regions elsewhere in the world. The supply of tourism infrastructure does however not seem an adequate indicator to analyse tourist arrivals and the corresponding airport traffic, as one has seen in the recent years, when the tourist arrivals were not able to stay in line with the hotel room capacity. The other lacking element in de AdP-forecast is the price of a holiday in Mauritius, where none of the two underlying elements (airfares and hotel room rates) have been addressed.

Variables:	AdP	BAA	InterVISTAS
Demand			
Relevant world GNP	x		x
Mauritian GNP	x	x	x
Supply			
Airfares			
Hotel rates			
Air access policy		x	x
Tourism policy	x	x	x

Table 10.1 Overview of demand and supply factors used in varies forecasts

BAA has – more than AdP – taken supply factors into account. Explicit assumptions on the air services have been made. Services to Dubai – for instance - are foreseen to grow as a result of an agreement between Air Mauritius and Emirates. Concerning the tourism policy the expected room expansion up to 2005 is taken into account. The extent to which this expansion corresponds with actual tourist arrivals is – as with AdP – not addressed. Assumptions on hotel expansion after 2005 are not made explicit. Another lacking element is that only Mauritian GNP is taken into account as demand factor, and not the much more relevant world GNP (or GNP for the relevant world regions).

InterVISTAS uses different approaches for different market segments. It uses the GNP of Mauritius to forecast the number of travelling Mauritius residents, which seems consistent. The estimation of tourist traffic is based on a combination of IATA and World Tourism Organisation forecasts for specific regions relevant for Mauritius. The long-term economic forecasts are based on forecasts developed by the World Bank and by Boeing. It seems therefore that tourist arrivals in Mauritius have been estimated, using only demand factors, leaving un-addressed how Mauritius is dealing with price-related supply factors, airfares and hotel rates. InterVISTAS has however – unlike AdP and BAA - analysed in detail the implications of specific levels of service (frequencies) on specific routes.

None of the forecasts have addressed the price element in the supply factors, which seems, as has emerged from Chapter 2 and 3, one of the main factors behind the current stagnating tourist arrivals and the corresponding airport traffic.

Alternative Scenarios

Regarding the use of scenarios to address the uncertainties, all three forecasts have to some extent distinguished alternative growth patterns. AdP and BAA have only made distinct assumptions on demand factors, such as higher and lower economic GNP-growth rates. However, on the longer term, the uncertainty resulting from the (world) economic environment is relatively limited compared to the uncertainty resulting from the way how Mauritius deals with tourist development. Should other policies be adopted, much more tourists could be welcomed as well as more corresponding air traffic to the airport.

Adequate risk analysis, by addressing the main uncertainties, can only be made if the implications of alternative tourist policies (airfares, hotel rates, air access policy and tourist strategies) are analysed, which in none of the three has been done. However, the exception is InterVISTAS. In their business case an analysis has been made of alternative air service provision on specific air routes. Alternative tourist strategies have however also left un-attended also by InterVISTAS.

Methodology

Regarding the methodology, AdP has adopted a top-down approach. Only total passenger numbers have been subject to an econometric trend analysis. For the shares of each route specific assumptions have been made, mainly based on existing trends. We would advise, particularly in a Mauritius-type of market, where main structural changes can be expected, not to adopt such a top-down approach, as it ignores completely the underlying structural changes.

In this context, the BAA forecast has made more route and market segment specific assumptions, although the methodology adopted is not transparent. There is no specification of a model.

The alternative for the AdP-methodology, a bottom-up approach, has been followed by InterVISTAS, which seems more appropriate for the type of problems Mauritius is faced with. It has an individual approach for each of the segments, although – as has been argued before – not all relevant variables have been included.

Results

Although the methodology is different for each of the forecasts, they surprisingly produce similar results, as is indicated in Table 10.2 below.

Forecast from:	Made in:	Time horizon	Range (*000 passenger-movements)
Aéroports de Paris	Dec 2000	2015	3400-4700
British Airports Authority	Nov 2001	2015	3400-5500
InterVISTAS	Oct 2003	2017	3200-4500

Table 10.2 Results of various forecasts

Around 2015, or in the case of InterVISTAS two years later, passenger numbers range between orders of magnitude of 3.5 and 5 million passengers per year.

However, all three methodologies have common elements, and therefore the similarity in the results is probably less surprising. All three forecasts are dominated by demand variables, such as GNP, either world or Mauritius GNP. Most GNP-forecasts are extrapolated on existing trends, which would lead to similar results. The fact that low or high GNP-forecasts are used does not give to a large extent value added to a risk analysis.

The real risks for the airport development result not from alternative macro-economic development in the world or in Mauritius, but from the way the country addresses the challenges related to tourism. It would seem that the ranges that result from alternative tourist strategies are much broader than the ones indicated here.

This study will not go into another new forecast. However a second opinion is provided here. The current tourist strategy should be adapted, as is advised in earlier chapters. If the current strategy is maintained, it may be very likely that the tourist arrivals keep stagnating. The other segments are too small to bring significant growth and even the lower ranges from the three forecasts (little over 3 million passenger movements) may in such case be too ambitious.

If – on the other hand - strategies are adopted that lead to significantly more tourists, where Mauritius has a competitive product vis-à-vis competing destinations, leading to even market share growth of the island, the high end forecasts of 5 million passenger movements may be even at the low side.

It is realised that the above statements do not add to the possible desire of certainty with the airport related policy makers. It should however be realised that tourist and airport development depends to a large extent on the adopted policies. On the other hand, airport planning should be as flexible as possible in this dynamic market.

10.2 The Master Plan of SSR International Airport

The capacity of Sir Seewoosagur Rangoolam (SSR) International Airport, the gateway to Mauritius is an important element in establishing the capacity of the entire access system of the country. A lack of capacity in the gateway airport will have a negative effect on the development of the entire aviation sector and, because of its gateway function, on the national economy. This is certainly the case for Mauritius where the development of the island heavily depends on access by air.

For longer term planning, the capacity of an airport should not so much be expressed in the capacity of the existing facilities, but rather in whether the existing facilities can be feasibly expanded to such an extent that the airport and its facilities can serve the traffic anticipated until the planning horizon. The anticipated traffic shall not only be expressed in numbers of air passenger and aircraft movements and air cargo tonnage, but also in the capability of handling specific aircraft types, like New Large Aircraft, if an airline would consider it operationally attractive to employ such an NLA on their route to or through Mauritius. Furthermore, environmental aspects, like aircraft noise, may be a reason for inducing limitations to the capacity of an airport.

The Master Plan of December 2000 was reviewed in February 2004 and was based on a reviewed traffic forecast that was completed in October 2003. The traffic forecast includes a low case, a base case and three higher scenarios out of which Scenario 3 was the highest. Scenario 3 combines the effects of Scenarios 1 and 2, in which for Scenario 1 a development of MK air services to/from Asia, in particular China and India, is assumed and Scenario 2 adopts a consolidation of the MK routes system to/from Europe.

Year	Low Case	Base Case	Scenario 3
	Air Passenger Movements per Year		
2002	1 897 000	1 897 000	1 897 000
2012	2 761 000	3 102 000	3 640 000
2022	3 590 000	4 555 000	5 317 000
	Air Cargo (Tonnes per Year)		
2002	44 129	44 129	44 129
2012	55 000	61 000	65 000
2022	70 000	89 000	95 000
	Aircraft Movements per Year		
2002	18 705	18 705	18 705
2012	24 600	26 900	30 000
2022	28 500	34 600	38 500

Table 10.3 Low, base and high forecasts   Source: ADPi

It should be noted that the present passenger throughput is in the order of 2 million passengers per year.

The master plan concludes that the airport, after some corrections of the airport boundaries, will be capable of accommodating the facilities necessary for handling the passenger, cargo and aircraft movements forecast for 2022 according to the highest forecast scenario and even beyond that date. The master plan includes a reserve area for future terminal area developments north of the runway as for the case that - in the far future - the existing, southern, terminal area would reach capacity limits. According to the master plan the airport will be capable of handling NLA's like the A380 and provides for ample space for such activities as aircraft maintenance and cargo handling, but also for the development of a major freeport facility.

A mountain of 670 m height at a distance of some 16.5 km (9 NM) west of the airport is an obstacle to aircraft approaching on RWY 14 or departing from RWY 32. Departures in westerly direction seldom occur because of the governing wind direction and the obstacle free departure path over sea. The mountain has always been a hindrance for approaching air traffic until an ILS was installed. Though the ILS provides guidance on a glide path at a slope of 3.5°, whereas 3° is usual and this is within the tolerances set by ICAO for CAT I approaches, such a slope is not permitted for CAT II approaches. A precision approach category I is an operation with a decision height not lower than 60 m (200 ft) and either a visibility not less than 800 m or a runway visual range not less than 550 m. A precision approach category II is an operation with a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft) and a runway visual range not less than 350 m

An important feature of the master plan is the provision of a second runway, north of, and parallel to the existing runway The second runway is designated to landings, because of which the length can be less than for the existing runway which will serve mainly takeoffs. In view of its reduced length, the west threshold of the new runway can be located more east – so more remote from the obstacle - than the existing RWY 14, because of which the approach slope can be reduced to the standard.3° which is a condition for Category II approach procedures.

Furthermore, though less important, advantages of the second runway are the following:

- Provided the parallel taxiway will be constructed as planned in the master plan, the existing runway will be capable of handling the traffic at least until the planning horizon. A second runway may allow for segregation of arriving and departing traffic. Though arriving traffic will have to cross the departure runway, this traffic pattern may have preference to ATC above the traffic pattern where all traffic is handled on one runway. This will particularly be true during peak hours. The dual runway system will have a slightly higher capacity than the single runway system.
- In the case of an accident on one of the runways or maintenance works on one of the runways, there will be a possibility of diverting all traffic to the other – if not closed - runway. A second runway will provide an assurance to airlines that they can operate on Sir Seewoosagur Rangoolam International Airport at all times, even in the case of extraordinary conditions.

The master plan report also has examined the environmental aspects as a result of the airport developments and its related aviation activities. The report concludes that, according to Mauritian legislation, only a limited number of houses are affected by unacceptable noise, particularly during night hours.

It was reported that the Government is in the process of approving the revised master plan and that, in the approved status, the master plan will form the basis for the development of the region of the airport.

Airports of Mauritius Ltd. have made the first step in implementing the master plan. The company is selecting a consultant for designing an expansion of the terminal building, which is presently capacity-wise the bottleneck at the airport and forces Air Mauritius to coordinate flights during busy parts of the day in consensus with other airlines to avoid congestion in the building. When completed, the terminal building will have a capacity of 3.1 million annual passengers, which is the number of passengers forecast for 2012 according to the “base case”.

10.3 Economic Development and Airport Capacities at the Outer Islands

10.3.1 Rodrigues

The authorities responsible for developments at Rodrigues Island pursue an economic development, which has as a guideline the preservation of the ecology and the quietness at the island. The economy of the island, which has currently 36,000 inhabitants, is mainly based on tourism – mostly eco-tourism -, fishery and some homemade produce. In 2003, 63,649 tourists visited the island, which constituted an increase of 5.4 % over number of the year 2002. The existing room capacity is about 350 rooms, out of which 257 are hotel rooms. Permits have been recently granted for the construction of 5 more hotels which would increase the hotel capacity by 50 % and the total rooms capacity to 600 rooms in three years time. The authorities are of the opinion that, after the milestone of 600 rooms has been reached, a further expansion of the capacity should be handled with care because it might lead to disturbance of the character and ecology of the island. The capacity is spread over different categories, but grand luxury rooms are not available as are beach resorts. The authorities aim on the market of eco-tourism and mountain tracking. They expect that the production of homemade ware may increase at the increase of the number of visitors, but that the ware, like the fishery products can continue to be transported by ship as it is done now.

The airport of the island, named Plaine Corail, has a paved runway of a length of 1,250 m, is equipped with lighting and a terminal building. This allows the airport to handle major turbo-prop aircraft like the ATR 72 during day and night hours. Plaine Corail currently handles125,000 passengers per year, out of whom 30,000 are international passengers on flights to/from Réunion.

As is stipulated in the New Master Plan of Airports of Mauritius, dated December 2000, an extension of the runway to allow jet aircraft to serve Rodrigues is possible only at high cost. An extension to the west into the sea or to the east across a valley with rare species of vegetation would involve massive earthworks and would be ecologically detrimental. Furthermore, there seems to be local opposition against the employment of jet aircraft at the airport - if it would have been feasible - in view of environmental reasons.

Sufficient access capacity to Rodrigues can be created by using the ATR 72 and ATR 42 or similar turbo-prop type aircraft, which are currently employed by Air Mauritius on the routes to Rodrigues. At rising passenger demands, the frequency of flights may increase resulting in an increasing probability of coincidence of flights to be handled at Plaine Corail. This may on the longer-term result in a requirement to expand the capacity of the terminal building.

10.3.2 Agalega

Agalega consists of two islands, which are divided by shallow water, which falls dry during low tide. The islands accommodate 300 residents, who make their living out of coconut plantations and fishing and are largely self-providing in food.

The North Island has an airstrip of which the 1,300 m long runway is made of compacted coral. There are no regular flights to Agalega. The only way of travelling to and from Agalega is by using the occasional coastal guard flights or by vessel, which occasionally addresses North Island.

In order to create jobs on the islands, the Outer Islands Development Corporation intends to set up a small scale hotel, which will initially have 15 chalets an which number may be gradually increased according to demand. The hotel development aims on tourists interested in deep-sea fishing and who are conscious of the fragility of the eco-system at Agalega.

The most suitable aircraft to maintain an air connection between Agalega and Mauritius will be a smaller type of aircraft, which has a capacity of 15 to 20 seats. It may initially make a return trip several times per week and perhaps even daily in busy periods, whereby it transports, apart from tourists, also residents and goods, like consumables for the hotel, which are not produced by the residents. The Beech 1900, as proposed by IBL Aviation, an operator that has applied for developing facilities at the proposed corporate/general aviation facility at SSR International Airport, meets the above requirements. Apart from IBL Aviation, Air Mauritius may have interest in operating the route depending on the economic feasibility study for which the anticipated traffic demand, competition of other operators and operational cost of a newly to be acquired commuter type aircraft will be input data.

The airstrip of 1,300 m is long enough to handle the Beech 1900, like all other turboprop aircraft of similar seating capacity. Many turbofan-propelled aircraft of similar capacity need a 500 to 700 m longer runway. Though most of these aircraft are designed to operate on non-paved runways, dust formation during take-offs and landings and consequent formation of ruts may make it advisable to provide the runway with a light bituminous pavement. With one flight daily, the flight can easily be scheduled to take place during daylight hours. However, a simple aeronautical ground lighting system would augment the perceptibility of the runway from the air and a Precision Approach Path Indicator, a visual landing aid, will assist pilots in following the appropriate approach path.

A simple terminal facility would be needed to handle the passengers and their baggage and provide a waiting room for departing passengers. Furthermore, adequate rescue and fire fighting facilities shall be provided. If international flights from the Seychelles would be handled, the terminal facility should have facilities for passport and custom control. As long as the international flights do not coincide with domestic flights, the international and domestic passengers can use the same routings and facilities as the international passengers with the passport and custom control posts only occupied at international flights. It is our opinion that, as long as the number of daily flights is low, no air traffic control services are required and that field information services may be sufficient.

The aerodrome shall be properly fenced to avoid incursions of animals and unauthorised persons.

10.3.3 St. Brandon

The conditions and the demands at the St. Brandon archipelago are such that the provision of facilities for handling air transportation should be considered infeasible.

10.4 Observations on Airport Development at Plaine des Roches

It is understood that the reservation of Plaine des Roches for potential, future airport development has created an atmosphere of uncertainty about the development of the area. Entrepreneurs in Rivière du Rempart therefore are hesitant in setting up commercial developments in the area. The continued designation of the Plaine des Roches area for potential airport is based on a number of arguments, each of which will be discussed hereafter.

- *Plaine des Roches shall be maintained as a site designated for a replacement of SSR International Airport at Plaisance in view of the unsafe west approach*.
  As has been explained in Paragraph 5.1.2 above, after the installation of an ILS, Category I approaches can be safely undertaken and are - though marginally - within the tolerances of the ICAO. If, as presented in the current master plan, a designated landing runway will be constructed next to the existing runway, even Category II approaches, which fully comply with ICAO standards, will be possible. The argument should therefore be considered obsolete.

- *Plaine des Roches shall be maintained as a site designated for a future replacement airport if SSR International Airport at Plaisance would ever prove to provide too less capacity to serve aviation in Mauritius.*
  The master plan for SSR International Airport shows that SSR Airport offers a substantial capacity, which will fulfil the requirements of Mauritius not only until the planning horizon of the year 2022, but also many years beyond that date. This argument should be considered obsolete therefore as well.

- *Plaine des Roches shall be maintained as a site designated for developing a future airport supplementary to SSR International Airport.*
  This argument should be considered as obsolete as the previous argument for the same reason mentioned for the previous argument.

- *Plaine des Roches shall be maintained as a site designated for developing a new international airport because it would be situated at a location, which is closer, and therefore more convenient for the tourists who have their destination in the main tourist area of Grand Baie and surroundings.*
  Though this argument looks as a strong one, one should consider that aircraft to Mauritius transport, apart from tourists with Grand Baie and surroundings as destination, also many tourists with other destinations, ethnics and business travellers. It is estimated that more than half of the number of passengers will not experience considerably shorter travelling times if the airport would be situated at Plaine des Roches. The difference in travelling time from Plaisance as compared to Plaine des Roches for passengers with Grand Baie as destination is not more than half an hour, in particular after the main road along the East coast will have been opened. When weighing the comparatively little difference in average travelling time with the very high cost of constructing a new airport, or in the case of a supplementary airport, the high construction cost of the supplementary airport and the increased cost of operating two airports instead of one, it should be concluded that the argument cannot last. The air traffic on Mauritius has not the mass to sustain two airports.

- *Plaine des Roches shall be maintained as a site designated for a potential emergency runway.*
  Once SSR International Airport will have its second runway, there will be no requirement for an emergency runway at Plaine des Roches. Even if the construction of the second runway at SSR International Airport would not be constructed, an emergency runway would be not only costly to construct, but also costly to operate. Because such a runway should preferably be ready for operation at all times, the airport facilities shall be properly maintained so as to be ready to receive aircraft in the case of an incident at the runway of SSR Airport. Because rescue and fire fighting trucks and some of the apron servicing vehicles are not permitted to use public roads because of their size and weight, it may be necessary to have a minimum required number of such vehicles available in serviceable condition at the emergency airport so as to be able to receive aircraft in the case of an blockage of the runway at SSR Airport. It will be clear that at SSR Airport all such equipment is available and that a second runway at SSR Airport would not only serve as an emergency runway, but also as a landing runway with CAT II capability. Therefore, if Mauritius would opt for an emergency runway, it should be constructed at SSR International Airport, not at Plaine des Roches.

- *Plaine des Roches might be designated for establishing an aerodrome for general and corporate aviation.*
  As will be explained in Section 12.2, it is expected that general aviation has little potential for development in Mauritius. The master plan of SSR International Airport includes ample space for corporate aviation activities. Helicopters 'that are used for transportation of tourists from the airport to their hotels (and vice versa) shall be based at SSR, where the tourists arrive from and depart to their overseas destinations.

10.5 Ground Handling Issues

For a long time Air Mauritius' ground handling services held a dominant position at SSR Airport. In the nineties, MK more or less doubled the handling charges. After a complaint on the resulting charging levels made by BA (see also footnote 85), a new competitor was allowed in the market, called Servisair. Thereafter the MK charges were cut back substantially. Until now the threat of a new competitor has sufficiently influenced the behaviour of the incumbent provider. However the actual market share of the second ground handling company is still very small. This situation may improve if air access is stepwise liberalised in the future. Servisair is targeting on new entrants to further expand its market share. For the time being there is no reason for government intervention, as long as there is some competition in the ground handling services. It is however recommended to let the new AAP Unit (see our recommendations under 11.3) monitor the handling charges, since market conditions can rapidly change as well as the handling charges. In that case the competitive position of Mauritius may be affected in a negative way, as BA illustrated.

10.6 Conclusions and Recommendations

The Master Plan for Sir Seewoosagur Ramgoolam International Airport shows that the airport has the capability of serving the aviation traffic of Mauritius in the future. The governmental authorities shall, however, restrict any urban and other noise sensitive developments in the close proximity of the airport and its related flight paths to ensure that SSR International Airport will not be hindered in its development by complaints of neighbouring people.

No further extensions to Plaine Corail Airport at Rodrigues are foreseen. The large turboprop aircraft, which presently serve Rodrigues, are expected to be able to handle the traffic to the island while meeting the requirements in terms of noise as set by the population.

Once a limited hotel accommodation has been established at Agalega, there will be sufficient demand to open a regular connection with Mauritius and perhaps even with the Seychelles. The service, which may be operated by a commuter type of aircraft, will begin with a frequency of several times per week. The runway may receive a light pavement to avoid dust formation, a simple terminal facility and rescue & fire fighting facilities and equipment shall be available.

It is our view that there is no requirement for reserving the Plaine des Roches for future airport development. If the Government shares this view, the Government should issue a decree that any restrictions to developments in Rivière du Rempart and other communities in the vicinity of Plaine des Roches in view of a possible airport development in Plaine des Roches are lifted.

The ground handling services at SSR airport seem to be sufficiently competitive for the time being. It is however recommended that the new Air Access Policy Unit (to be discussed in Chapter 11) should monitor the developments in this market.

11. INSTITUTIONAL FRAMEWORK

11.1 Institutional Trends

11.1.1 Privatisation of Airlines

Traditionally, airlines are owned and controlled by nationals of the country where they are established. These requirements prevent airlines from becoming global enterprises. World wide there is a trend towards privatisation. Governments sell their state in airlines, fully or partly. The driving force is the creation of greater efficiency of the airline by subjecting it to market forces. Airlines can be owned by financial institutions such as banks, by other airlines, or by (anonymous) individuals.

A point of concern could be that private investors may be interested in short term profits rather than serving broader and long term interests. From that point of view, governments are more reliable investors, because they look at the broader interest of the airline for its national economy and international trade. Such a potential conflict can be resolved by the airline wishing to attract private funds, and/or by the law a policy of the country hosting the airline. The hosting country could specify conditions for foreign ownership because it wants to maintain and expand long-term international air links. For instance, the hosting country could keep a "*golden share*" in the privatised airline, protecting its airline from undesired takeovers and too great interference with the control of the airline. Several EC Member states have a golden share in companies, which are vital for the national economy, such as airports.

In Africa, most flag carriers are government owned, with Kenya Airways (23 per cent government ownership) as a relative exception. The state owns more than 50 percent of MK through direct and indirect ownership. Other shareholders are Air France (7.67%), British Airways (10.59%) and Air India (7.06%).

A gradual sale of the state's share of MK to private parties, and a clearer separation between the management of MK and government policies, would contribute to a healthy development of MK as a market player. Such moves would create transparency with respect to the position of MK as a market player, contribute to its efficiency and hence to its profitability. Obviously, such a move must be accompanied by a sound business plan, and regulations assuring MK's Mauritian identity.

The government could keep a golden share, and/or a minority of the shares.

For the time being, we do not expect that MK's traffic rights - which are linked to its nationality in terms of ownership and control - will be comprised as a consequence of a possible privatisation, as long as third states can clearly see that MK is a "citizen of Mauritius", which may be evidenced by:

- designation as the "national carrier" of Mauritius, and backing of the government in a bilateral, regional and world wide context;
- the principal place of business of MK in Mauritius;
- the grant of operating license and Air Operator's Certificate by Mauritius;

- its name and logo,

as privatisation of an airline along the above lines would match with liberalisation efforts in other parts of the world.

11.1.2 Corporatisation and Privatisation of Infrastructure

The effect of corporatisation has been to convert the state departments into public companies and interpose commercial boards of directors between the shareholding ministers and the management of the enterprises. To some extent, this model has enabled efficiencies to be gained without ownership of strategic organisations being transferred to private investors.

Corporatisation has been used in the aviation sector. It has been applied to airports and to entities providing air navigation services. When corporatisation moves into the direction of privatisation, governments have kept, in some instances, "golden shares" in order to protect the company from foreign dominance. An example is the British Airports Authority (BAA Plc), owning and controlling major airports in the UK.

Closer to Mauritius, South Africa "commercialised" its airports and air traffic and air navigation services in the mid-1990s. The establishment of a regulatory framework, drawing up economic regulation, designed to regulate charges, competition law, designed to regulate abuses of the inherent (to the position of airports and air navigation service providers) dominant positions as well as the regulation of service standards, must accompany privatisation.

As the Competition Act of Mauritius does not apply to services rendered by airports and providers of air navigation services, we believe it is premature to further examine corporatisation and privatisation of these assets.

11.2 Institutional Framework of Mauritius

11.2.1 Analysis of the Existing Legal Framework

Overview of Current Aviation Regulations

The following regulations were made available to us:

- The *Civil Aviation Act* (1974, as amended), regulating:
    - aviation personnel licences;
    - liability of the air carrier;
    - patent claims;
    - the competencies of the Minister responsible for aviation;
    - offences;
    - jurisdiction over such offences;
    - the legal basis for regulations based upon the Civil Aviation Act;

- the delegation of powers by the competent Minister;
- repeal of the Act.

Since the above matters do not affect air access, which is the principal subject of this study, we will not further examine this act.

- The *Civil Aviation Regulations*, of 1986, regulating principally safety of aviation. Again, since these regulations do not directly affect air access, we not discuss these regulations.

- *Civil Aviation* (*Hijacking and other Offences*) *Act* (1985) – same remark as made for the previous acts (not relevant for this study).

- *Civil Aviation* (*Transfer of Undertaking*) (*Rodrigues Act* 2001) – same remark as made for the previous acts (not relevant for this study).

- The *Competition Act* (2003), and the *Fair Trading Act*, as to which see further below.

- Sections of the *Code de Commerce*, dealing with the liability of the air carrier under national law and under the Warsaw Convention - same remark as made for three other acts above (not relevant for this study).

- The *Civil Aviation* (*Sir Seewoosagur Ramgoolam International Airport Fees and Charges*) Regulations 1999, as to which see further below.

- *Civil Aviation* (*Passenger Service Charge*) *Regulations* 1999, as to which see further bellow.

Airport charges and competition regimes are liable to affect air access. That is why we briefly discuss the current regulations below.

11.2.2 Competition

We received two regulations, namely:

- The *Competition Act*, 2003 (Act No. 6 of 2003).
  This act regulates anti-competitive behaviour such as the abuse of dominant positions and concerted actions designed to reduce or eliminate competition.
  The operation of international air services is excluded from the scope of this act because it does not apply to aviation services.[101]
  We note that agreements between members of, and recommendations to members by, a professional or trade association are excluded from provisions relating to collusive agreements.[102]
  The question can be asked, whether:
  – agreements among suppliers of hotel services, grouped in hotel chains, fall under this exception, and, *if so*:
  – whether such a "special treatment" is justified.

  It appears that the Competition Act, 2003, is not yet in force.

- "Fair Trading" (1982), amended 12/98, containing 15 articles plus a Schedule.[103] We are not certain how this regulation is related to the Competition Act 2003, as they appear to regulate the same matter. However, the Competition Act 2003 does not refer to the regulation of Fair Trading.

11.2.3 Subjects not Dealt with under Current National Aviation Law

Air access may be affected by national rules pertaining to:

- slot allocation (see Para. 11.2.4 below);
- provisions on ownership and control of carriers applying for a licence (as to which see Para. 5.1.3.3);
- pricing of air services, in so far as this issue is not subject to competition law (see also Para. 6.2.1, above).

However, we did not find provisions made under national law on any of the above issues.

11.2.4 Slot Allocation

SSR Airport is not truly congested but is looking at ways and means on how to co-ordinate flights at peak periods in the day. From this perspective, we briefly explain the system, which is currently applied in the European Community.

The basic Regulation is EEC Regulation 95/93 *on the allocation of slots*, as variously amended. The main features are the following:

The term *slot* refers to the scheduled time of arrival or departure available or allocated to an aircraft movement on a specific date and time at an airport co-ordination under the terms of the Regulation.

The regulation makes a distinction between "co-ordinated" and "fully co-ordinated" airports. Most of the provisions of Regulation 95/93 apply to fully co-ordinated airports.

A *co-ordinated airport* is an airport where a slot co-ordinator has been appointed to facilitate operations from and to that airport. Regulation 95/93 only marginally applies to such co-ordinated airports. For instance, AML may want to organise SSR as a co-coordinated airport.

EC Member States decide whether they appoint an airport located in their territory as *co-ordinated* or *fully co-ordinated*. Designation as a fully co-ordinated airport takes place upon a *thorough capacity analysis* with respect to the airport in question.

If a Member State designates an airport as co-ordinated or as fully co-ordinated it must take into account the principles of:

- *transparency* with respect to procedures (of slot allocation;

- *neutrality* of the process of and the slot co-ordinator (see below);
- *non-discrimination* with respect to the allocated slots.

A Member State, which has fully co-ordinated airports in its territory, must see to it that a *slot co-ordinator* is being appointed. The slot co-ordinator must be “independent” that is, independent from the government, airport authorities and airlines. It is not always possible to find *independent* slot co-ordinators, as especially smaller countries do not have the required qualified people to carry out the job. The slot co-ordination bureau at Amsterdam Airport Schiphol employs 4 to 5 people who are paid by the main users of the airport.

Airlines file slots with the slot co-ordinator according to *procedures*, which are established, inter alia, by IATA. The slot co-ordinator assigns slots during periods at which there is a shortage of slots according to criteria, which, again, are based upon IATA Guidelines.

Important criteria for allocation of slots to air carriers are the following:

- respect for so called *grand father rights*: an airline which holds a slot during a traffic season is allowed to keep it for the next traffic season;
- the *Use it or loose* rule – if an airline does not use a slot at least 80 percent of the time for which it had been allocated (therefore also known as the *80/20 rule*) during a traffic season it is not entitled to hold that slot in the next traffic season, and the slot(s) will be returned into the slot pool.
- Returning unused slots into the *slot pool*. Such slots are again distributed by the slot co-ordinator to applicants. Under EC law, new entrant airlines have priority rights in order to promote market access in the EU.

Subject to certain conditions, slots may be freely *exchanged* between airlines. Any slots transfers of this type must be transparent and be agreed by the co-ordinator. In principle they may not be traded, although the question has been answered in an equivocal manner by a court in the UK. The US is introducing a system of slot trading. The UK appears to follow this, but again, the question is whether this is and will be allowed under EC law.

Amongst others, an *exchange of slots* between airlines will *not be approved* in the following situations:

- the slot co-ordinator believes it will prejudice airport operations;
- the slot exchange will breach limitations placed on the slot by a Member state in light of the priority for the operation of regional air services.

Regulation 95/93 has been *amended* as a consequence of "9/11", and is *currently under review*, whereby the exchange and possible trade of slots, as well as the issue of grandfather rights, play a central role.

11.2.5 Economic Regulation of Airport Charges

Par. 11.1.2 already stated that economic regulation must accompany privatisation of an airport. This necessity is based on the monopoly power of larger airports. National airports usually have a dominant position in their respective catchment areas and travellers as well as airlines are captive customers to the airport facilities and services involved. An island economy even more clearly demonstrates the monopoly power of the national airport. Especially in a privatised status there is an even stronger incentive for the airport operator to improve the annual financial results by simply increasing airport charges instead of increasing the efficiency.

It should be emphasised here however that the monopoly power of the national airport does not fundamentally differ between a corporatised and a privatised airport. Only the incentives for a privatised airport are stronger to abuse its monopoly power. Therefore most major international airports are operating nowadays under a regulatory regime irrespective of their status as either a corporatised or a privatised airport.

For a long time already many states have included some regulatory rules on airport charges in their national aviation legislation and regulations. (See also the The *Civil Aviation* (*Sir Seewoosagur Ramgoolam International Airport Fees and Charges*) Regulations 1999, referred to in Par. 11.2.1.)

Such a regulatory framework makes usually reference to art. 15 of the Chicago Convention, stating that contracting States should apply non-discriminatory airport charges to aircraft registered in different countries. Besides this non-discrimination aspect ICAO [104] also recommends to carefully consider the aspect of cost-relatedness, the transparency of the charging structure and the careful consultation between airport operators and airport users.

At the same time an increasing number of states introduces more explicit structures to safeguard competitive conditions in individual economic sectors.[105] As a consequence the public issue of the regulation of airport charges is nowadays increasingly becoming a subject of the competition law regime and less of the air transport policy regime.

Since the new master plan of AML for SSR has to financed partly or completely by the future airport charges and given the corporate status of AML and the monopoly power described, we recommend to develop a more explicit regulatory framework and explicit procedures for consultations, approval and appeal for future airport charges. Another factor that more and more underlines the necessity of an explicit regulatory system for airport charges is the increasing cost efficiency of airlines. In their cost reduction programmes airport charges emerge more and more as ever increasing cost components. As a result airlines and especially IATA become outspoken countervailing powers in airport charges consultations.

Against this background we recommend to introduce a light-handed regulatory system containing the right carrots and sticks but without creating a heavy regulatory burden on the shoulders of the public authorities.
The introduction of a more explicit regulatory framework will require a few fundamental decisions on the regulatory principles. Primarily these decisions relate to:

- the choice between Rate of Return regulation versus RPI-X regulation.[106] Although RoR regulation can be easily introduced it seems to be less effective on the longer run. Price cap regulation however requires a much more elaborated system that requires an extensive analysis of the airport business. Therefore a careful and thorough evaluation is recommended before introducing the basic principles of regulation.

- The airport activities to which the regulatory system are applied. This refers to the decision on a single till or dual till approach, which is more or less comparable to the residual, cost approach versus the compensatory costs approach as the basis for the airport charges in the USA.[107] It is important to realise that a choice in favour of a dual till will require a full cost allocation system between for common costs to be assigned to aeronautical activities versus non-aeronautical activities.

After an elaboration of the content of the regulation a specification of the procedures to be followed has to be specified as well as the authority that will take the final decision on the new airport charges.

The procedures for the introduction of new airport charges have to contain the details in the consultation procedure between the airport operator and the airport users, the information to be provided by the airport and the scheduling of the procedure. The role of the regulator has to be specified, criteria for approval or disapproval have to be elaborated and the possibilities to the airport users for appeal if they disagree on the charges proposed by the airport. The organisational consequences to enforce this economic regulation are discussed in the next paragraph.

Furthermore it is recommended to also consider the possibility to extend the regulatory framework to the ATC organisation, depending on the future status of the ATC centre. Although consultation procedures should only be included where relevant and possible, it is important to separate responsibilities to provide Air Navigation Services at the one hand and to regulate the charges for these services at the other hand. We discuss this in more detail in relation to the organisational structure of the public and semi-public aviation system in the next paragraph.

11.3 Public Tasks and the Appropriate Organisational Structure

Different States have developed different solutions to shape the organisational structure in which the public interests with regard to the national aviation system have been implemented. So there is no unique organisational solution to adequately cover these organisational issues. Every state develops its own public organisation based on the national circumstances and conditions. There is however one main trend that can be recognised in the government's role towards the aviation industry in an increasing number of countries. The government's interference with the interests of the individual undertakings in the aviation industry is diminishing via steps to more corporatised and privatised entities. At the same time the government more clearly underlines the public interests and seeks to enforce these interests in an independent and transparent way. From this background we will discuss further recommendations for the future organisation of the government's tasks in the aviation sector.

The public interests in the aviation sector encompass the following issues:

- The availability of adequate and competitive air services; i.e. the consumer interest, either as the passenger or as the shipper.
- The availability of a safe and secure aviation system.

- The availability of a sustainable aviation system that reflects environmental and physical planning interests.

The availability of an aviation system that corresponds with these interests does not imply that the actual provision of these services should also be laid down in the hands of the government. In a market oriented society the actual provision of the services involved is taken care of by individual private, public or public/private bodies. It is the government's task to enforce and safeguard the public interests within the context of the provision of these services.

To enable the enforcement of such a policy an absolute separation of responsibilities and interests of the service providers (airlines, airport, air navigation services etc.) and the public authorities is indispensable. For example an Air Access Policy Unit in the Ministry of External Communications has to decide independently on future air access and future BASA's. The national carrier should base decisions on the policy principles laid down in this report without any interference. These service providers are only given the opportunity to express their individual interests. It is the government's task to outweigh these interests against the public interest before taking its own decision on air access.

The state of Mauritius has already progressively taken steps to restrict the direct government interference with air transport related undertakings vice versa. Steps have been taken to corporatise SSR airport into AML and foreign stakes have been allowed in the ownership of the national airline Air Mauritius. It is recommended to continue along this road by corporatising the Air Navigation Services Centre and Civil Aviation Department as separate public bodies. This will assure an independent and competent safety regulation and economic regulation in the future.

Since the state holds a majority stake or is even the only shareholder in the various undertakings mentioned above, conflicts of interests between the individual interests of these service providers and the public interests remain inevitable. This potential conflict of interest can be illustrated as follows. As the only AML-shareholder the state has an explicit interest in an optimal annual financial result of the airport. At the same time the government has the public responsibility to approve the airport charges from the point of view of the public interest. This might weaken the enforcement of the economic regulation. Therefore we recommend to clearly describing the responsibilities of the state as the owner of public bodies in the aviation sector, to allocate the responsibilities of that ownership -where possible- to independent representatives of the state (for example for the member of the supervisory board the Minister can appoint an independent adviser.)

We recommend maintaining the safety and security regulation in a separate and independent, corporatised Civil Aviation Authority with adequate financial flexibility to recruit, train and retain the required personnel to enforce the safety requirements in relation to Annexes 1, 6 and 8 of ICAO pertaining to Personnel Licensing, Operations of Aircraft and Airworthiness of Aircraft. The international coordination of these issues within the ICAO framework and multilateral settings has to be included here as well. Aviation security also requires a broader setting and coordination within the national security policy covering all other security aspects. This department of civil aviation should provide coordination responsibilities from the aviation perspectives.

Furthermore we recommend concentrating the competition policy concerning aviation, the economic regulation concerning the airport and air navigation services and the air access policy within a new Air Access Policy Unit to be established in the Ministry of Training, Skills Development, Productivity and External Communications.

The *objectives* of this new Air Access Policy Unit can be summarised as follows:

- determination of the demand for annual seat capacity based on international and national economic developments;
- the development of an air access policy plan for the next five years period in which a step-by-step liberalisation of air access to Mauritius is elaborated and carefully coordinated with Air Mauritius' cost management programme to increase cost effectiveness and yield levels (see recommendations in chapter 8). This plan should be approved the Cabinet before implementation. It should contain measurable milestones for the consecutive years.
- This policy plan will reflect the main changes in the network structure to be served by the designated carrier, the level of competition allowed on the routes involved, the level of tariff regulation, the air access principles for foreign carriers on routes not to be served by the designated carrier in the future (among these principles are the type of carrier allowed, the minimum seat capacity and frequencies required and the product quality involved; this was formerly inadequately named as selective charter policy.)

The *activities* of the Air Access Policy Unit should include at least but not exclusively:

- the coordination of international obligations in the context of ICAO and other international conventions and protocols with respect to international air transport policy and economic regulation;
- the negotiations with foreign governments in the review of existing air service agreements and the drafting of new air service agreements;
- the airline tariff regulation based on the existing air service agreements (filing, approvals disapprovals);
- the regulation of airport charges and air navigation charges as far as these air navigation charges are not subject to international tariff regimes;
- the monitoring of inclusive tour prices, seat-only ticket prices and room-only prices at Mauritius;
- the monitoring of the 'selective charter' policy criteria if applied to specific routes;
- the conducting of research studies on the demand for air transport and tourism, airport regulatory issues, airline network developments and cost reduction policies for airlines.

It is recommended to create short communication lines between this Unit and the Cabinet with the exclusive involvement of the Minister of External Communications and his Permanent Secretary. If this new Air Access Policy Unit will be well equipped and staffed (see below), we would advise against the establishment of a separate Air Access Advisory Council. We expect a lot of turbulence and confusion between the two bodies from the beginning onward. A quick start of the Unit is however urgently recommended and the AAP Unit should operate on full scale with the time span of a year. A part of the role of the AAAC can be taken over by the AAP Unit, where it concerns the public involvement in air access issues. To that end we recommend to let the Unit organise public hearings on topical air access issues at the relevant moments.

Concerning *staffing and equipment* we recommend a small unit consisting of about five highly qualified experts. Since this expertise may not be readily available, an alternative selection approach to be chosen could be to partly select young qualified native experts with an adequate academic background and to send them abroad for intensive specialised training in the field requested. This training can be followed by one or more internships in air transport policy departments of other states. This is however a less costly but time consuming approach. Since a fast take-off for the AAP Unit is strongly recommended a blended approach may be considered as more realistic.

We recommend a staffing of the unit in the following way:

- Unit Head: legal expert, preferably in air law, familiar with the international bodies relevant for the aviation industry, extensive experience in bilateral negotiations, affinity with economic issues in the airline industry; management capabilities.
- Aviation Economist, academic level, familiar with competition and pricing issues in the airline industry and regulatory aspects of airports.
- Financial Expert, MBA level, expertise in the airline industry is recommended;
- Data analyst, familiar with computer systems, able to collect data and to design monitoring systems for tariff filings, inclusive tour pricing, seat capacity and frequencies etc.
- Research analyst, to develop and accompany research projects to support the policy development. (A research budget has to be included in the financial planning.)
- Office manager, to provide administrative support and to take care of the daily management of the automated filing and monitoring systems.

11.4 Conclusions and Recommendations

Our principal conclusion is that the Civil Aviation Act of 1974, as amended, is too concise. This basic act should lay down the principles on the organisation of civil aviation, on safety matters and for the operation of air services from, to and via Mauritius. We believe that the mentioned civil aviation act does not meet the requirements of an up to date aviation act.

We also made a few remarks on the competition regime. Inevitably, air services will fall under the scope of a competition regime, whether domestic or foreign. Reference is made to the competition regimes made by South African and the European Community, affecting the operation of international air services operated by Mauritian air carriers. The Mauritian authorities may want to anticipate the application of foreign competition regimes to air services operated by their own carriers by drawing up and enforcing a competition law on their own.

Earlier, we discussed the option of giving the following subject matters a sound basis in national law, namely:
- the conduct of a ‘selective charter’ policy;
- the establishment of a pricing regime.

We also made recommendations for the enactment of a regulation on slot allocation, if the (physical) need be for such a regulation and the economic regulation of airport charges and (if applicable) the air navigation charges.

We further recommended the corporatisation of the Air Navigation Services Centre and the allocation of the full air security and safety regulation and enforcements in the hands of a corporatised Civil Aviation Authority, i.e. the former Department of Civil Aviation.

Finally a detailed recommendation was provided to establish a new Air Access Policy Unit within the Ministry of External Communications. The value added of a separate Air Access Advisory Council is no longer self evident if the new AAP Unit is well staffed and equipped.

12. OTHER ISSUES

12.1 Market Analysis for an Aircraft Maintenance Hub

The maintenance of aircraft is organised in various levels of intervention. To keep the airworthiness certificate of an aircraft valid, the various checks of various levels of intervention shall be executed within the periods prescribed by the manufacturer of the aircraft and approved by the appropriate authority in the country in which the aircraft is registered. Such periods are usually expressed in flight hours. Such periods may vary per aircraft type or manufacturer. To give an explanation about the various types of maintenance checks, hereafter follow the characteristics that are generally used by us in an initial planning stage of an aircraft maintenance facility:

A-Checks Visual check before each departure; takes place at the apron.

B-Checks Light repairs, some of which may be performed at the apron, some require a short stay in a hangar.

C-Checks Medium maintenance, which shall take, place each 5,000 flight hours and requires a stay of some 5 working days in a hangar.

D-Checks Heavy maintenance, which shall take, place each 25,000 flight hours and requires a stay of some 20 working days in a hangar.

DCA maintains the following maintenance characteristics for the fleet of Air Mauritius:

A-Checks: Inspections at intervals of 400 to 700 flight hours. They take one working day.

B-Checks are not applicable to any aircraft of Air Mauritius for the time being

C-Checks: There are various types of C checks, which vary in duration between 5 working days for a 1C check to around 40 working days for an 8C check. The frequency is generally measured in numbers of calendar months, not in numbers of flight hours.

D-Checks are conducted every 25,000 flight hours or 10 years, whichever comes first, and take 20 to 30 working days.

The aircraft maintenance centre of Air Mauritius has the capabilities for doing up to C-Checks and for performing light C-Checks, though it reports to be not self sufficient to perform these checks. Heavier C-Checks and the D-Checks are outsourced. Air Mauritius tries to reinforce its position by developing qualifications for performing also heavier C-Checks, but the process has been delayed for two years because of a lack of sufficient financial resources. Because the process of reinforcement mainly consists of training maintenance personnel, the lead time of the process is long. Full training of maintenance personnel takes as long as 6-7 years, after which only the process of reinforcement could be put in place.

Moreover, the facts that the outsourcing of these checks e.g. to Asian countries is found cost wise to be so attractive and the performance of the maintenance in-house to deliver a negligible cost reduction, presently do not constitute an incentive for a fast upgrading of the maintenance base. The performance of in-house D-Checks is not envisaged in the coming years in view of the too low demand for such maintenance, which would not justify the high investments in tools and equipment.

Third party aircraft maintenance by Air Mauritius is very limited. The competitive advantage of having aircraft maintenance done by Air Mauritius for third parties is the low labour costs, though these costs are presently quickly rising at Air Mauritius and quite a number of costly Air France maintenance personnel are presently assisting in Air Mauritius Maintenance Department.

The competitive disadvantages of third party maintenance by Air Mauritius are:

- The geographical location. Airlines not operating at Mauritius have to make extra flight costs as compared to the situation that there would be a maintenance base closer in the neighbourhood. Most East- and South African Airline fleets could be potential customers for third party service, but use aircraft maintenance bases either at their own home base or close to their home base or at airports where they have more frequent flight connections to.
- A commercial C-Check should have a duration of about one week. Air Mauritius is only able to execute a C-Check in two weeks time due to the limited capacity of its maintenance department. Any time an aircraft is standing longer idle in view of maintenance than strictly necessary means a loss of revenue for the airline.

A- and B-Checks on SSR International Airport are indispensable for Air Mauritius from an operational point of view. C- and D-Checks could be fully outsourced. As is discussed it might be advisable for Air Mauritius to investigate whether the outsourcing of C- and D- Checks would provide a cost reduction. An outsourcing policy should be weighted against a loss of employment on Mauritius and an increased amount of foreign currency expenditures. Also an outsourcing policy would conflict with the government drive to save and create employment in Mauritius.

12.2 Perspectives for General Aviation, Air Tourism and Pilot Schools

This paragraph aims at investigating whether there is in Mauritius a potential for general aviation, developing air tourism and one or more pilot schools.
General aviation is generally defined as all flying done other than by commercial airlines. This includes business, commercial flying, instructional flying and personal flying.
Air tourism can be described as the possibility for a tourist or tourists to rent an aircraft for personal flying, rents an aircraft plus pilot to let them him/them fly or taking pilot lessons.

At present, there is little activity with respect to general aviation in Mauritius. Two helicopters make occasional flights between SSR International Airport and helipads close to hotels to transport tourists. These helicopters may also be available for search and rescue operations if need might occur. Furthermore, there are some 300 general aviation aircraft movements at SSR International Airport undertaken by foreign aircraft. Apart from Air Mauritius Helicopter Service, two general general/corporate aviation companies have applied for space in the proposed business / general aviation area at SSR International Airport. One of them intends to start business as Fixed Base Operator (FBO) at SSR and use aircraft like Dassault Corporate Jet and even A319 size corporate jet aircraft for charter operations. The other rather intends to use commuter aircraft for opening air connections on “thinner” routes, like to Agalega.

The main reasons that the general aviation sector in Mauritius is little developed are the limited land area of the Island of Mauritius, that abroad private and instructional flying is largely done in single engine aircraft and that flying with single engine aircraft is in Mauritius not permitted beyond land areas. The reason that in the world single-engine aircraft are so widely used for general aviation is the prohibitive investment and operating cost of twin-engine aircraft as compared to those of single engine aircraft. Does a light single engine aircraft in the range of US$ 100,000 or less, a twin engine aircraft is generally larger and heavier and costs in the range of US$ 500,000 for a 4-6 seater light twin piston engine aircraft, US 2,000,000 for an 8-10 seater twin turboprop aircraft and US$ 5,000,000 to US$ 10,000,000 for a light type turbofan jet aircraft. . It may be assumed that the rental rates are more or less proportional to the investment cost. The rental rate for a light single engine aircraft in the Netherlands is already prohibitive enough to many people: US$ 160 to US$ 250 per hour, excluding pilot or instructor. It goes beyond saying that a lesser of an aircraft will only be able to charge tariffs of such a low rate as above if his aircraft is used at a regular basis.
It is our’ opinion that the market for general aviation in Mauritius is so limited that a lesser will not be able to maintain an aircraft at “bearable” tariffs unless he would use the aircraft also for other commercial activities. Such an activity might be the conducting of commercial flights to Agalega or other destinations. As has been said before, such flights, which are largely across sea areas, are only possible with twin-engine aircraft, so the rental prices will be a multitude of the abovementioned rental rate.

The following is added about instructional flights and pilot courses. Hereafter reference is made to the regulations as per the Joint Aviation Rules (JAR) of the European Union, which are based on, and have great similarity with, the rules defined in Annex 1 of ICAO.
An applicant pilot begins with instructions on the ground and in the air for his Private Licence Aeroplane - PPL(A) or Helicopter - PPL(H). When confining ourselves to PPL(A), the licence can, for instance, only be obtained after a total flight time of at least 45 hours (JAR) or 40 hours (ICAO). Because pilot schools use generally close supervision, systematic and continuous courses of training conforming to a planned syllabus or curriculum, it is unusual that a student pilot switches over – for one or more lessons – to another school than the one at which he is taking his regular lessons. In other words, it is unlikely that tourists who follow a pilot training in their home country feel inspired to take lessons in Mauritius. If such a service would exist in Mauritius, any flight experience gained by a student pilot during flights in Mauritius will not contribute to his student status in his home country. .
It is further questionable whether the following of a complete course for PPL(A) by Mauritians is attractive. Though the lessons could be taken in a less expensive single engine aircraft for local flights and touch and goes on SSR, there remains a problem with the cross-country flights of which not less than 5 hours flight time as solo cross-country flight as shall be executed according to

JAR and ICAO rules. One of the solo cross-country flights shall be not less than 270 km in the course of which two full stop landings shall be made at two different aerodromes. A flight is according to JAR considered a cross-country flight only if the aerodromes are at a greater distance than 15 NM (28 km). Plaine des Roches would meet this condition, as does the former aerodrome close to Cap Malheureux. To make the course attractive to student pilots, they should build up experience at more than two aerodromes. The only possibility for getting such experience is flying to Réunion, where are two airports, and Rodrigues, which is perhaps at a too large distance for a solo flying student pilot. However, for such flights an expensive twin engine aircraft will be needed, which he has to learn operate, and he will need be in an advanced state of his instrument rating to cross the sea.

Because single engine aircraft are not permitted to over fly sea areas, so consequently are not permitted to leave Mauritius, a team licensed to maintain the particular type or types of aircraft shall be available be on Mauritius, or shall be available to be called from abroad to perform the required maintenance works. For multi-engine aircraft the same is valid, but for major maintenance works the aircraft can be flown to a licensed maintenance base abroad, like also Air Mauritius is doing.

Weighing all above, we are of the opinion that Mauritius has too limited a market for a pilot school. Given the topographical conditions of Mauritius with its limited land area, the only attractive aircraft to fly are multi-engine aircraft, which are expensive to fly. To make the rental price of multi-engine aircraft bearable, a general aviation operator could make available one or more of his aircraft for rental during off hours. If there would be sufficient demand for instructions, which is doubted by us, one of the pilots having a commercial pilot rating could apply for a flight instructor rating.

ANNEXES

ANNEXE A: TERMS OF REFERENCE

REPUBLIC OF MAURITIUS

PREPARATION OF A MASTER PLAN FOR AIR TRANSPORTATION

TERMS OF REFERENCE

1. Information on Mauritius

1.1 Mauritius is a volcanic island situated in the middle of the Indian Ocean, some 1,100 km from the east coast of Madagascar. It has a landmass of 1,865 km^2 and a population nearing the 1.2 million mark at end December 2001. The Republic of Mauritius consists of the main island, Mauritius, and a group of small islands scattered in the south west Indian Ocean, namely Rodrigues, Agalega, Tromelin, the Chagos Archipelago (Diego Garcia), and the Cargados Carajos Group (St. Brandon).

1.2 The country has emerged from a traditional producer of cane sugar to one where Manufacturing (Export Processing Zone), Tourism, Offshore and Freeport activities are increasingly becoming the main generators of income and employment in the economy. Government is now giving much emphasis to the development of an Information and Communications Technology (ICT) sector on the island. The new economic trajectory of Mauritius is being geared towards the production of high-value added goods and services.

1.3 Given the remoteness of the island from the African and Asian continents and Europe (2,000 km from Durban, 4,700 km from Mumbai, 9,500 km from Paris), the efficiency of the air transport industry has a relatively high impact on the economic development of the country – from business travel to tourism to delivery of finished products.

1.4 Mauritius has only one international airport, Sir Seewoosagur Ramgoolam (SSR) International Airport, situated at Plaisance in the south-eastern part of the island, and one national airline - Air Mauritius Ltd. Civil aviation matters fall under the purview of the Ministry of External Communications, Prime Minister's Office. The Airports of Mauritius Ltd manages the SSR International Airport, whereas Plaine Corail Airport in Rodrigues falls under the purview of the Department of Civil Aviation. The Mauritian skies are serviced by no less than 15 international airlines, including Air Mauritius, with about 150 weekly flights in and out of the country.

1.5 Since the early 1980's, SSR International Airport has undergone successive phases of infrastructure development. The current phase of expansion includes refurbishing of the passenger terminal building, installation of two new gates and two new passenger-loading bridges with a view to upgrade the standards of service to meet the increased demand. The "New Master Plan for Airports of Mauritius", completed by Aéroport de Paris in 2000, has looked into the development of infrastructural facilities for a 25-year horizon. A second study

"Feasibility Study of the Mauritian New Airport" was completed by the China Airport Construction Corporation in 2001.

1.6 Passenger traffic at the airport has been expanding at about 5.6 % a year during the past five years. It rose from 1,528,028 in 1998 to 1,890,549 in 2002. The growth in passenger traffic was due to the increase in tourist arrivals (which account for more than 70 % of total passenger traffic) originating from Europe, Asia-Oceania and South-Eastern Africa, as well as to the growth of traffic originating from Mauritius generated by the business sector and the growing propensity of Mauritian nationals to travel. A new Tourism Development Plan for Mauritius was completed by Deloitte & Touche in February 2002. The Plan presents a twenty year vision which sees the tourism industry growing but ensuring that environmental and social issues are addressed to the benefit of the people of Mauritius.

1.7 Tourism is a fast expanding sector and an important foreign exchange earner for Mauritius. It is the third largest employer. More than half of tourist arrival originates from Europe, of which over 50 % are from France. Tourist arrivals from Réunion and South Africa make up the balance. Tourist arrivals reached 681,648 in 2002, up from 536,125 in 1997. The tourism industry is being geared up to be more dynamic within the next decade. The target is to cross one million mark by 2010. Adequate infrastructure such as airport facilities, surface transport and air links should be put in place in support of the increased tourism activities.

1.8 Between 1997 and 2000, air cargo traffic rose annually by 1.96 per cent a year. In volume terms, total cargo handled at the airport for EPZ and freeport activities went up from 38,200 tonnes in 1997 to 44,129 tonnes in 2002. The rise reflects a tendency towards a gradual diversification within the EPZ sector towards low-volume, high-value added products which could easily be exported by air.

2. Economic Development and Strategies

2.1 Mauritius enjoyed sustained growth for over two decades, with the economy expanding at an average annual rate of 5.5 %. Maintaining this growth momentum would be a formidable challenge in the wake of the intense competition which the country faces following the gradual liberalization and globalization of international trade. These developments threaten to undermine the growth prospects of the traditional activities, namely sugar and textile manufacturing, which have been the driving force behind the country's economic success. On the national front, key obstacles to further growth in output include labour and skills shortages which are driving up wages and production costs thus eroding the comparative advantage of Mauritian export products, and low labour productivity compared to countries competing for the same export markets.

2.2 Government's response has been to rethink its development strategy which now lays more emphasis on economic diversification and the development of international financial services and business activities, including tourism, insurance, banking, ICT and international transport and trade. Central to this strategy is the promotion of Mauritius as a regional trade and business hub. The promotion of Mauritius as a logistic base and transit point for sea/sea, sea/air and air/air transhipment of goods between Europe and Asia/Pacific to the African countries stands high on the agenda.

2.3 Mauritius is well poised to take advantage of the favourable developments on the regional and international scene. It offers a well-developed and modern business environment, a network of support institutions, an attractive package of incentives and a pool of multilingual and skilled work force, combined with political and social stability. The movement of passengers / businessmen in the region hinges on the availability of a fast and reliable air service to sustain the development of the new sectors of activity.

2.4 Over the years, considerable investments have been made to develop vital infrastructure. Today, Mauritius can boast of a modern harbour, an efficient international airport, a good road network, excellent telecommunications and an adequate supply of water and electricity. Improvement in infrastructure is an on-going process.

3. Air Transport Policy

3.1 Air transport has played a vital role in the development of Mauritius. Over the years Mauritius had adopted a pragmatic approach to air access. The policy has so far enabled Mauritius to establish regular air links with the outside world, and has fostered the development of the national airline. It has also promoted Mauritius as an upmarket tourist destination and provided necessary air cargo facilities for the manufacturing sector.

Bilateral Air Services Agreements

3.2 The general policy of Government has been to keep the air transport operations within the ambit of scheduled services governed by Bilateral Air Services Agreements (BASA's). BASA's provide for single designation of airline and reciprocity of rights except for BASA's with the United Kingdom, Germany and Italy which provide for multiple designation. These agreements are based on the market potential and traffic forecasts of the destinations, and include specific clauses as regards type of aircraft, seat capacity and frequency of service. Although Mauritius has signed Bilateral Air Services Agreements with 29 countries, Air Mauritius is operating to only 16 of these countries. A Memorandum of Understanding has been signed with the United Arab Emirates (UAE), and Emirates Airlines is operating 4 weekly services on the Dubai/Mauritius route under a code share Agreement with Air Mauritius.

3.3 In April 2002, Government gave its agreement to the operation of two on-demand business jet services at the SSR International Airport to cater for the needs of tourists, businessmen, air courier and for medical evacuation in the region. The operation of on-demand business jets is in line with Government's policy to transform Mauritius into a Business and Financial Services Centre where time is of the essence, and to uphold the image of the country as an upmarket tourist destination.

No-Charter Policy

3.4 The main objective of a non-scheduled (charter) carrier is to operate on a short-term perspective with a view to tap commercial opportunities without assuring a regular service. With excessively high loads, charter operators are able to offer lower fares to the detriment of scheduled operators. Government has so far maintained a "No-Charter Policy" with a view to protect its upmarket tourism profile, to prevent massive environmental degradation, and to provide a certain degree of protection to Air Mauritius in the national interest.

4. *Air Access Advisory Council*

4.1 In the recent past, serious concern had been expressed regarding:

- the lack of cargo space experienced by EPZ operators,
- the non-responsiveness of freight carriers to service Mauritius in the wakeof the liberalisation policy adopted by Government since 1997, and
- the unavailability of seats during the tourist peak seasons.

To this effect, an Air Access Advisory Council (AAAC) was set up in January 2001, under the Chairmanship of the Prime Minister's Office, to provide a convenient platform for consultations with stakeholders on air transport issues and advise Government accordingly. One of the Council's priority has been to look into short-term issues and make recommendations. The recommendations made to Government in March 2002, include, amongst others,

- in-house capacity building to deal with air access related issues,
- appropriate planning to ensure that seat capacity is available throughout the year,
- air services in primary markets to continue to be governed by bilateral air services agreements, and look into the possibility of allowing charter operations on a selective / ad-hoc basis,
- explore the possibility of increasing flights in secondary markets, including charter operations, and explore new markets with a view to stimulating fresh initiatives,
- cargo operations, including chartering of wide bodied aircraft, to be promoted to assist the EPZ industries,
- inject competition in provision of ground handling facilities at the airport,
- airline pricing to be rationalized,
- to re-look at the package being offered to tourists in relation to competing destinations, and
- examine the implications of granting 5th Freedom Rights.

5. *Reorganisation of the Department of Civil Aviation*

5.1 Up to 1995, the Department of Civil Aviation was responsible for both the operation and regulation of civil aviation in the country. In 1995, two companies, Airport Management Services Ltd, (AMS) and Airport Development Corporation Ltd. (ADCO) were established. Whereas, AMS was responsible for aerodrome and airport services, ADCO was involved in infrastructure planning and development. In 1999, a new company, Airports of Mauritius Ltd. (AML), was incorporated and took over the operational functions of AMS and ADCO at the SSR International Airport. The Department of Civil Aviation continued with the following responsibilities

(i) regulating and licencing of aircraft and airport operations,
(ii) providing air traffic services within the Mauritian Flight Information Region (FIR), and
(iii) monitoring of aviation security.

In the meantime, a new Area Control Centre (ACC) has also been constructed to upgrade air traffic control services. The new ACC has become fully operational on 05 March 2003.

6. International Standards

6.1 The Convention on International Civil Aviation (Chicago Convention), signed on 7 December 1944, established certain principles and arrangements for the safe, orderly, efficient, economic and sound development of international civil aviation. Mauritius is a signatory to this Convention and a Member State of the International Civil Aviation Organisation (ICAO). The Standards/Recommended Practices and policies laid down by ICAO in various spheres of civil aviation hold considerable importance for member states and it is our endeavour to follow them as far as possible.

7. Regional Developments

7.1 The Yamoussoukro Decision which was adopted at the OAU Summit held in Togo in July 2000, provides for the operation and liberalisation of air services between African States. The liberalisation programme will be detrimental to the tourism and air transport industries. Hence Mauritius has withdrawn from the Decision.

8. Objectives of the Master Plan for Air Transportation

8.1 Government is conscious that an efficient transport system is fundamental for the sustained development and prosperity of the country. The air transport policy of Government has so far served its purpose reasonably well. However, with the dismantling of apartheid in South Africa, the emergence of trading blocs on the African, Asian and American continents, and the new sustained interest of the US with the region as illustrated by the Africa Growth and Opportunity Act (AGOA), the US-Africa economic relationship is undergoing profound changes. These have been supplemented on the local front with investments in airport infrastructure and the privatisation of the airport operations which have given new impetus to the air transport industry. It is felt that a parallel review of the institutional and regulatory framework in the sector is now overdue to respond to the economic imperatives of the country.

8.2 In this context, a Master Plan for Air Transportation for Mauritius will be prepared and carried out to address issues relating to the institutional aspects of air transport for the medium- and long-term. The ultimate objective of the Master Plan is to identify alternative strategic policy options and propose best solutions to regulate the air transport. It will also provide decision makers with pertinent information on the strategic policy options to enable enlightened decisions as regards institutional and legal frameworks, policies and programmes taking into account:

(i) the trend towards worldwide liberalisation and deregulation of the air transport industry,
(ii) the development of new air links on the US – Africa – Asia axis,

(iii) the demands on Mauritius for greater liberalisation resulting from its membership of regional trade organisations (e.g. COMESA, SADC and African Union),
(iv) the impact on the operating environment resulting from the privatisation of airport operations in Mauritius,
(v) the aftermath of the September 11th events, and
(vi) the General Agreement on Trade in Services (GATS) Air Transport Annex,

the Master Plan shall identify the existing institutional and legal constraints which need to be addressed and propose a new framework which will provide the needed institutional support and a strategy which will serve the best interests of Mauritius for the period upto 2020 in a safe and sustainable manner. Such a framework shall include environmental, economic, consumer, social and safety considerations compatible with international practices.

9. Scope of the Study

9.1 With the over-riding objective to endow Mauritius with a regular, reliable, efficient and safe air transport system, the consultants shall

(i) assess the relevance of the current air access policy followed by Mauritius, bearing in mind the need to strike a balance between the requirements of the various economic sectors of the country, the interest of the national carrier and the growing pressure within Africa and also globally for moving towards a deregulated environment in air transport, and advise whether it is suitable for meeting the needs of the new economic trajectories of Mauritius and for positioning it in the international market as a unique place for business and leisure. The traffic forecasts made by Aéroport de Paris (ADP) in the context of the “Master Plan for Airports of Mauritius and Outer Islands” may be used by the consultants and they may also comment on the forecasts of ADP, if they so wish,
(ii) with regard to the national and foreign carriers, assess the adequacy (including frequency and quality of service) of seat and cargo capacity offered to meet the development needs of the country,
(iii) advise on the best ways and means of effectively operationalising the liberalisation of air cargo traffic effective since 1997, and for developing Mauritius as a cargo hub,
(iv) with regard to tourism development in the main island and outer islands,
  (1) advise on ways to have air links with new destinations identified in the new Tourism Development Plan for Mauritius, and
  (2) advise regarding adequacy of policy, capacity, and the effects of international flights to Rodrigues and Agalega in the drive to enhance the development potential of the islands as an eco-tourism destination,
(v) study the socio-cultural, economic, and environmental effects of“ selective charter” policy, and the impact of liberalisation/deregulation of air passenger operations on the national airline and its costs and benefits for the air transport industry, as well as its impact on other economic sectors.
(vi) advise on the relevance of Strategic Alliance for the air transport industry, and how Mauritius can benefit from it,
(vii) propose a structure for building in house capacity in the Ministry ofExternal Communications to advise the Government on critical issues such as air traffic rights, air access policy, pricing, marketing and on air transport in general,

(viii) with regard to passenger fares and cargo tariffs

- advise on the ways to rationalise pricing policy for passenger and cargo; and
- assess the economic effects of the "one-airline" policy on the range and price of air services (fare structure) available to/from Mauritius, and within its territories.

(ix) examine the required framework for the development of "air tourism" in Mauritius which should include the general aviation industry (eg. use of private landing strips and private planes/helicopters) as well as the possibility of setting up Fixed Based Operators (FOBs) for pilot training,

(x) look into the advisability of turning Mauritius into a regional hub for the maintenance and repairs of aircraft, and

(xi) advise on the efficiency of ground handling operations in Mauritius with a view to improving the level of service and creating competition.

10. Study Organisation

10.1 The Consultants shall obtain all necessary data whenever required. For the purpose of the Study, the consultants shall hold consultations with all parties presently providing air transport services, with organisations representing the interests and/or operating in the areas of industry and trade, in particular the Mauritius Export Processing Zone Association, the Mauritius Chamber of Commerce and Industry, the Joint Economic Council, the Board of Airlines, the Association Professionelle des Transitaires (APT), the Association of Inbound Operators, and the Association des Hoteliers et Restaurateurs de l'Ile Maurice (AHRIM).

10.2 Consultations shall be held with Government agencies involved in the administrative control, approval and facilitation of transport functions relating to export of manufactured or processed goods from Mauritius. For this matter, the consultants shall, among others, consult the Prime Minister's Office, the Ministry of External Communications, the Ministry of Finance, the Ministry of Industry and International Trade, the Ministry of Tourism, the Ministry of Economic Development, Financial Services and Corporate Affairs, the State Law Office, the Department of Civil Aviation, Airports of Mauritius Ltd, Air Mauritius Ltd., the Board of Investment, the Mauritius Freeport Authority, the Mauritius Industrial Development Authority, the Export Processing Zone Development Authority, the Mauritius Tourism Promotion Authority, the Customs & Excise Department, the Air Access Advisory Council, and any other relevant organisations.

10.3 The consultants shall examine previous studies, reports and statistics relating to air transport. They shall also examine treaties, conventions and agreements to which Mauritius is a signatory and which encompass trade and commerce.

ANNEXE B: SUBJECTS STILL TO BE STUDIED

This annexe contains a listing of subjects with respect to which the Consultants have found that the information was either not available or not available in a usable format. Although such subjects were related to the issues dealt with in this Master Plan study, further investigation on the subject was considered to be beyond the scope of the Terms of Reference. Many of the studies listed below will be required for the implementation of the Master Plan; others will lead to tools that will facilitate the decision taking in aspects related to the issues of the Master Plan.
NACO and the consultancy firms with which it has associated itself for the preparation of the master Plan have the knowledge and expertise to provide the Government of Mauritius with assistance in performing the studies.

Legal Issues

- Review of the Draft Civil Aviation Act of 2000 and of the Aviation Act f 1974 as amended;
- recommendations for the establishment of a new Civil Aviation Act;
- regulation of competition in relation to the operation of air services;
- regulation designed to control pricing;
- regulation designed to control charters;
- policy vis-à-vis the European Community;
- overview and implications for Mauritius of European Community air transport legislation.

Regulatory Issues

- The design of a price monitoring system within the Air Access Policy Unit comprising seat-only fares, room-only fares and package tour prices for relevant market segments in Mauritius on a weekly basis to enable better price coordination between the hotel sector, the airline sector and the tour operators.

Airline Related Issues

- The development of a dedicated strategic cost management programme based on the future envisaged product quality of MK. This programme entails analysis of cost and revenue structures, cost reduction programmes, outsourcing considerations, efficiency improvement programmes, HRM strategy, more sophisticated yield management techniques, etc. in a coordinated time framework (See the recommendations in Chapter 8).

Airport Related Issues

- The development of an operational regulatory framework for the airport charges to be applied by AML. This framework encompasses:
  - the principles on which future airport charges can be based in relation to the cost-revenue structure of AML, be it either as a price cap or a rate of return regulation
  - the consultation procedures for the involvement of the airport users (Airlines) in approving the new charges;
  - principles for including or excluding various cost and revenue categories: single till versus dual till;
  - procedures for the approval process of airport charges by the public authority.

Tourism and Environment Related Issues

- Strategic Environmental Impact Assessment in order to judge the physical planning and developments on a national level
- Formulate an implementation plan for environmental and physical planning.
- Draw up a program to reinvest to improve the environment.
- Develop a communication plan for tourist in order to inform them about their behaviour and the influences on the natural, maritime and social-cultural environment.
- Involve landscape architecture and design-specifications in order to guide the hotel developments
- Developing a good water management system.
- Develop balanced social programs in cooperation with local population.

Commercial Aspects

- Marketing study for SSR Airport to further develop is commercial strategy.
- Organisational development programme for MK focussing on commercial aspects as: revenue management, sales training etc.
- Economical analysis as input for an industry policy, to attract new types of high end industries to Mauritius

ANNEXE C: THE INTERVIEWS WITH THE STAKEHOLDERS

STAKEHOLDERS INVOLVED

Members of the Consultants' team held interviews with the main stakeholders in the period between 21 June 2004 and 2 July 2004. Most of them were already listed in the Terms of Reference. The Consultants themselves because of their affinity with the air transport or tourism sector have added a few others to the list. Stakeholders stem from the private sector as well as in governmental and other public bodies. A letter of invitation was sent to each stakeholder, followed by a questionnaire based on the individual interests of the stakeholder involved.

1 THE PRIVATE SECTOR STAKEHOLDERS

1.1 Inbound Sectors Related to Tourism and Other Non-Aviation Sectors

The following stakeholders were consulted:

Joint Economic Council (JEC)
The objectives of the JEC focus on the promotion of the private sector interests in Mauritius. The council liaises with the government and other bodies on matters relating to the socio-economic development of Mauritius. Members of the Joint Economic Council are: Mauritius Chamber of Commerce and Industry, Mauritius Chamber of Agriculture, Mauritius Employers' Federation, Mauritius Bankers' Association, Mauritius Sugar Producers' Association, Mauritius Export Processing Zone Association, Association des Hôteliers et Restaurateurs de l'île Maurice and Insurers' Association.

Mauritius Chamber of Commerce and Industry (CCI)
The CCI represents the members of the Joint Economic Council and its main responsibility is comparable to JEC, i.e. to serve and promote the interests of the business community in playing a leading role in the economic development of Mauritius.

Association Professionelle des Transitaires (APT)
The APT represents the majority of the sixty forwarders and customs brokers in Mauritius, in sea- as well as air cargo.

Association of Inbound Operators (AIO)
The AIO represents all local tour operators working for the inbound market. In fact they act as the local representatives of the main overseas tour operators.

Mauritius Association of IATA Travel Agents (MAITA)
The MAITA is an association of travel agents ensuring access for local residents to overseas destinations.

Association des Hôteliers et Restaurateurs de l'Île de Maurice (AHRIM)
The AHRIM represents the majority of hoteliers in Mauritius (66 out of the 102 hotels, 8,000 out of 10,000 rooms).

Mauritius Export Processing Zone Association (MEPZA)
The MEPZA is a private organisation that bundles the interests of companies operating in the export-processing zone. It acts as a consultative and advisory body on issues of interest to its members, such as budget proposals, industrial relations and long-term industrial strategy.

Mauritius Freeport Development (MFD)
The MFD owns an area of the Freeport and the facilities constructed on this area. The MFD leases the facilities, or parts thereof, and provides also other services to entrepreneurs who operate in exports.

Mauritian Wildlife Foundation
The Mauritian Wildlife Foundation is a non-governmental organisation, concerned with the conservation of the endemic species of the island and its territories. The foundation promotes ecotourism.

1.2 Economic Sectors Related to Aviation

Airports of Mauritius Ltd (AML)
Airports of Mauritius Co Ltd (AML) was set up in 1999 and is managing SSR Airport. AML employs 330 people. The airport handles some 1.8 million passengers, both in-coming and out-going, per year.

Air Mauritius Ltd (MK)
Air Mauritius was incorporated in June 1967; the airline serves around 30 destinations. MK is Mauritius' flag carrier. The government directly or indirectly owns 51% of the shares. Other shareholders are for example British Airways, Air France en Air India.

Board of Airlines (BoA)
The BoA consists of seven member airlines (including Air Mauritius) and four associate members. Its objectives are collection of information, sharing news between members and undertaking common action.

Halcrow John Smith
Halcrow John Smith is a consultancy firm, involved in regional planning on Mauritius Island, amongst others for the areas of Plaisance and Plaine des Roches.

2 THE GOVERNMENT BODIES

Ministry of External Communications
The Ministry of External Communications, in full the Ministry of Training, Skills Development and Productivity, External Communications Division, is responsible for the formulation and implementation of policies pertaining to Civil Aviation among others.

Ministry of Finance and Economic Development, Economic Development Division
The Ministry of Finance is responsible for the financial soundness of the governments' economic policy and for the proper control of public revenue and expenditure. It advises government on issues of national development and on policy reforms to enhance overall economic efficiency and improve growth.

Ministry of Industry, Financial Services and Corporate Affairs
This Ministry aims to act as a facilitator for sustained industrial development and for the smooth integration of the manufacturing sector into the global economy.

Department of Civil Aviation (DCA)
The Department of Civil Aviation is responsible for the safety and economic regulation of the Mauritian Civil Aviation. The department also provides air navigation and air traffic services, advises the government on technical issues affecting aviation policy and provide an operational link between Government and ICAO.

Ministry of Environment
This Ministry is responsible for the legal framework and the mechanism to protect the natural environment; it plans for environmental management and coordinates the inter-relations of environmental issues.

Mauritius Tourist Promotion Authority
The Mauritius Tourism Promotion Authority (MTPA) has been established with a view to promote Mauritius abroad as a tourist destination, to conduct research into market trends and market opportunities and disseminate such information and other relevant statistical data on Mauritius and to advise the Minister on all matters relating to the promotion of tourism.

Ministry of Tourism and Leisure
The Ministry coordinates the developments in the tourism sector and implements the adapted Tourism Development Plan.

State Law Office, Attorney General's Office
This office is involved in legislative processes, also concerning legislative acts and secondary regulations concerning the air transport sector.

Board of Investments (BOI)
The Board of Investments is a part of the Ministry of Finance, providing incentives for investments regarding to tax relieves.

Ministry of Shipping, Rodrigues and the Outer Islands, Rodrigues and the Outer Islands Division
While specific competences, particularly on execution level, have been decentralised to Rodrigues and the outer islands, this division is responsible for general policy development concerning Rodrigues and the other outer islands.

Ministry of Public Infrastructure, Land Transport & Shipping
The Ministry of Public Infrastructure, Land Transport and Shipping is among other things responsible for the implementation of the Integrated National Transport Strategy Study.

Outer Islands Development Corporation
The corporation is responsible for the management and development of the Outer Islands and advises the minister on the development of such activities as may lead to a more economic exploration of the Outer Islands.

Mauritius Freeport Authority
The Mauritius Freeport Authority (MFA) was established in 1992 to set out the legal framework of the Export Processing Zone (EPZ) and thereby to provide for further diversification of the economy by strengthening and consolidating the services sector.

Mauritius Industrial Development Authority (MIDA)
The MIDA is the focal point for the promotion of goods and services from Mauritius to overseas markets. MIDA also constructs and manages industrial estates in Mauritius.

Export Processing Zones Development Authority (EPZDA)
EPZDA is the facilitator and catalyst in forging the competitive edge of all export development activities for producers, service providers and business enterprises in general.

Customs and Excise Department
The Customs and Excise Department of the Ministry of Finance mainly collects duties and taxes on imported goods and on certain locally manufactured goods and the department facilitates trade.

3 VIEWS OF STAKEHOLDERS ON SPECIFIC ISSUES

In this chapter, the different views of the stakeholders involved on a number of specific issues have been collected to illustrate the spectrum of opinions related to the problem of future air access.

3.1 Sectoral Economic Development

There is a shared view among the stakeholders in Mauritius, that the country is facing an era of transition, and that the economy has to be diversified. Tourism is widely accepted as an economic sector with strong potentials for Mauritius. Other sectors have potentials too. The financial services, conference/events sectors were mentioned in some of the interviews specifically. Regarding the IT-services it was observed that labour costs in Mauritius are already too high for the lower type of IT-services, such as call centres. Software development was mentioned as an area with potential for Mauritius.

A similar remark was made on the textile sector. In the lower quality end of this sector strong competition is seen from the cheap labour countries (China etc.), but for the higher quality end in this market, potentials for Mauritius are still observed. Speed, and therefore the availability of cargo capacity are keys to the development of this higher quality end of the textile market.

It was also widely believed that Dubai and/or Singapore are no precedents for the development of Mauritius. These two countries have developed their airports to hubs, which largely stimulated the economic growth and diversified the economic structure. Mauritius is seen as different in this respect. Two arguments were mentioned for the irrelevance of a similar development in Mauritius. Firstly, its local market is smaller than Dubai and Singapore and moreover its geographical location is much more remote.

Mauritius would therefore need to seek economic activities, with low transport cost intensity. This requires among others a cost competitive air transport sector.

3.2 The Tourism Sector

Tourism is seen as one of the pillars for the Mauritian economy. Some stakeholders stated that the sector is introvert and doesn't mean much for the island Mauritius itself (only for the inner economy of the resorts). The resorts are self-providing and there is no need for tourists to leave the resort. These stakeholders suggest opening up the sector, in order to stimulate the Small and Medium size Enterprises (SME) and generate more turnover inland. Mauritius should be redefined as a tourist destination and not a set of beach resorts.

From 1982-2002, the growth rate was healthy, but in 2003 the sector had to face a zero-growth. At this moment (low season), there is an overcapacity in the hotels. Some stakeholders are of the opinion that this is due to the high airfares in low season and a lack of seat capacity in high season. However, since 1991 the average ticket prices (yield) have fallen: 20% down for France nominal. Other stakeholders note that the hotel rates are exorbitantly high. Some stakeholders state that tourists prefer to fly economy, but stay in 4/5 star hotels.

Some stakeholders noted the 'Maldives-effect'. This and other destinations (e.g. Caribbean, Seychelles, Bali, Malaysia, South Pacific) seem to be much cheaper in the competition with Mauritius. Besides that, Mauritius is a Euro market rather than a $-market, which is a competitive disadvantage because of the expensive Euro.

La Réunion is a holiday alternative for the French holidaymaker. Some stakeholders think that the decline in tourism is due to the low exposure of Mauritius. They point at the government for the promotion and marketing of Mauritius as a holiday destination. According to most stakeholders the 20 Euro tax on tourism will feed the government budget, but will have a negative impact on tourism.

Every stakeholder confirms that the *beach* is the main tourist product in Mauritius. It is also notified that the main markets in Europe are saturated. In the last few years the supply has been diversified with deep-sea fishing, diving, golf, spa, etc. This can be seen as features to attract new customers. The segment *ecotourism* is (globally) increasing. In that respect Mauritius is attractive and ecotourism is injected as a feature. The understanding of 'eco' has a broad scope: from adventurous to preserving the environment.

Tourism at Rodrigues is different from that at Mauritius. The island is much smaller and more focused on eco-tourism and mountain tracking. Beach resorts are absent. The room capacity is now about 350 rooms, but will increase in the next three years to about 600 rooms.

3.3 Air Access Policy

According to some stakeholders air access in terms of aircraft seats, and aircraft capacity, should be co-ordinated with the available hotel capacity. In practice, such a co-ordination is lacking. During certain periods of the year, there is an imbalance between the seat capacity and hotel capacity. It was felt that Air Mauritius dictates the aircraft capacity.

The alleged monopoly position held by Air Mauritius was questioned. At the same time, the contribution made by Air Mauritius to tourism was confirmed. Most stakeholders appear to promote a cautious liberalisation of economic provisions restricting air access.

Another yet open question is whether air access should be relaxed by allowing charters. This is a multifaceted issue, affecting the chore of the aviation and tourism policy conducted by Mauritius. It was acknowledged that allowing more charters might be detrimental to the quality product Mauritius aims to offer.

Another impetus for liberalisation may come from EU Member States which are under an obligation to introduce Community air carrier clauses, by virtue of which all Community air carriers established in a Member State should be allowed from that country to Mauritius and vice versa. In the same context, attention should be paid the extra territorial enforcement of the EU competition law regime, subjecting Air Mauritius to its provisions.

From a market perspective, it was advanced that there is a potential for growth from certain EU countries, including but not limited to the UK (potential of 2 flights/day), the introduction of daily flights from Germany and Italy, and increase of frequencies of flights coming from France.

Also, it was advanced that restrictions on the operation of flight freedom rights should be lifted as SQ and CX ceased operations because of lack of 5th Freedom rights from/to Mauritius.

The position of Emirates was seen as somewhat harmful to the interests of Mauritius, as this airline is extracting traffic from Air Mauritius through 6th Freedom operations via its Dubai hub. The pricing policy of Emirates was a point of concern.

The role of the government was perceived as being not always supportive of the above constraints and dilemmas affecting the air access policy. Stakeholders appear to have their doubts on the co-ordinating, let alone the monitoring, role the government can play in this respect. There was great support for expanding capacity of the Ministry and its divisions, including the civil aviation authority.

Stakeholders were reluctant to make statements on the AAAC, as it is not yet operational. There were no views on how to proceed from here.

Mention was made for the liberal cargo regime, which only applies to *all cargo* flights. Cargo carried in combi-aircraft is still subject to the restrictive bilateral agreements protecting, inter alia, Air Mauritius as a flag carrier.

On the institutional side, the point was made so as to split the Civil Aviation Department into two departments, which function independently from each other. One body would regulate safety of civil aviation, including technical aspects thereof, whereas the other one would provide air traffic services. The conduct of bilateral air agreements and the air access policy could remain at the ministerial level. The allocation of economic regulation, now formally under the supervision of the Civil Aviation Department, could be reconsidered.

3.4 Airport Development

Various stakeholders were of the opinion that traffic at SSR Airport has not the critical mass to become a passenger or air cargo hub.

Most airlines were of the opinion that at present there are no congestion problems at SSR Airport, nor that there is a necessity for slot assignment procedures, though it was understood that Air Mauritius has to coordinate flights in consensus with other airlines during parts of the day in order to avoid congestion in the terminal building.

The installation of an ILS at the western runway end (RWY 14) of SSR Airport has improved the safety in such a way that the high grounds west of the airport no longer provide danger to approaching aircraft. To achieve this, a non-standard Category I approach procedure has been established, which is however still within the tolerances set by ICAO. A future parallel runway as per the new master plan may even allow for ILS approaches up to Category II weather conditions.
Apart from some complaints about aircraft noise from Flic en Flac, some 30 km from SSR Airport under the main approach path to the airport, and about noise produced by low flying helicopters close to hotels, environmental issues are not considered to be a constraint to aviation.

The charging system at SSR Airport lacks transparency and the proposed increases of the charges are not adequately explained according to some of the stakeholders. The charges are not controlled by any authority, but plans exist to change the situation as per the aviation regulations, which can only be set into force after amendment of the Aviation Act.

The two providers of ground handling at SSR Airport give sufficient choice. There is, however, a lack of cooperation between the two ground handlers. For example, Air France on behalf of Air Mauritius may only handle cargo from Réunion destined for Mauritius if Air Mauritius is not able to do that, according to stakeholders.

In view of the improved safety of aviation at SSR Airport, the main motive for moving the operations, or part thereof, to a new airport at Plaine des Roches is no longer valid. Because the master plan of SSR Airport indicates that the airport will have adequate capacity during at least 20 years to come, the plans for a new airport at Plaine des Roches are said to be shelved for at least 20 years.

Expansion of the runway of “Plaine Corail”, the airport of Rodrigues, would be very costly due to topographical limitations. The current paved runway of 1,250 m length is long enough to handle domestic and international ATR 72 flights, which are considered to fulfil the requirements at present and in the future. There are international flights to Réunion. The ATC section of DCA performs air Traffic Control. A private state-owned company operates and owns the airport. The airport currently handles 125,000 passengers per year, out of which 30,000 are international passengers.

Agalega has a 1300 m compacted coral strip and only handles non-scheduled flights of a Coastal Guard’s Islander, which transports passengers at request. The location of Agalega is beyond the point of no return for Islander flights from Mauritius, in view of which the escape airport in the case of anomalies at Agalega Aerodrome is the airport of the Seychelles, which is closer to Agalega than Mauritius. It is suggested by some stakeholders that, once there will be a hotel accommodation at Agalega, a scheduled air service with a small aircraft will be required for transporting persons and limited cargo. A business aviation company at Mauritius might possess the appropriate type of aircraft to implement such a service. A scheduled air connection with the Seychelles was considered less opportune, but the aerodrome should have facilities to handle international flights.

St. Brandon Archipelago has no permanent residents. The construction of a facility for handling aviation, like rescue flights or flights in view of maintenance of the automatic weather station has been considered infeasible.

General aviation is currently limited to operations with helicopters between SSR Airport and hotels and overseas flights with business aircraft, generally business jets. Possibilities for leisure general aviation are frustrated by the lack of Avgaz at the airport due to a high tax regime. Flights with one engine aircraft outside land areas, for example to Réunion, are prohibited in view of search and rescue reasons.

Air France has considered the possibilities for a heavy maintenance and overhaul centre that could be competitively based on the low wage level in Mauritius. This, however, requires a dedicated market study by private stakeholders. Also an Arab and a German company have filed applications.   .

3.5 Cargo Development

The air cargo market of Mauritius is dominated by Air Mauritius. Its capacity share is up to 60% and therefore it can significantly influence the air cargo rates according to some stakeholders. The capacity predominately concerns ‘belly’ capacity on passenger aircraft. The main competition comes from Air France Cargo and Emirates SkyCargo.

Furthermore Air Mauritius is seen as the only significant cargo handler at SSR airport.
Despite this perceived market power several stakeholders mentioned that there is a situation of overcapacity both inbound as outbound. Although the cargo market –at least for full freighter operations- is liberalised for some years now, no new entrants on a (semi-) permanent base could be welcomed. Air Mauritius is focusing more and more on transit cargo, supported by the operation of a wet-

leased DC-8F. Due to its lower yield, transit puts even more pressure on the already thin margins according to some stakeholders.

The main air cargo stakeholders are far from optimistic that that Mauritius can be developed as a cargo hub like e.g. Dubai.

It was mentioned that close to 80% of the air cargo volumes is textiles. Mainly 'low value' materials, which are only sent by air in case of irregularities. A substantial part of the demand therefore concerns air cargo by accident, not by choice. As a result the demand for air cargo will decrease as the producers improve their total supply chain. This decrease will be aggravated by the fact that companies are re-locating their business to other countries (e.g. China).

Air cargo rates have decreased by more than 10% over the last year. But the costs for the forwarding and shipping community did not decrease as such due to the instalment of fuel and security charges.

It became clear that Customs physically checks 25-50 % of all inbound shipments at the airport. This procedure has a negative impact on the transit times for a large number of shipments. Plans have been developed to upgrade the current customs procedures with new hardware (scans etc.) and EDI links. The Customs' cooperation is however indispensable to make this project a success.

3.6 Environmental and Tourism Issues

Many stakeholders agree that Mauritius has a fragile ecosystem. Up till now Mauritius has managed to sustain the environment despite of increased tourism capacity. The views about the environmental quality diverge from 'status quo' to 'improvement'. The Ministry of Environment is seen as the most important stakeholder to safeguard this interest. Next to that, the Mauritian residents themselves are seen as a silent force: critical on new developments.

Strict regulations are applied to building new accommodations. New projects have to be assessed on environmental impacts, like use of water, use of fertilizer, solid waste, affecting natural resources, landscape. In case of more than 100 rooms, it is obligatory to have sewage treatment. Also social, economic and cultural effects have to be assessed. The Environmental Impact Assessment (EIA) has to be approved by the Ministry. In the development of the island Rodrigues a strong ecologically focused policy is important. Sweet water resources are limited and hotels are committed to build their own desalination plants.

Despite these strict regulations, some stakeholders think the biggest environmental impact of an increase in tourism will be on the marine life. Therefore marine parks have been allocated to protect coral life. In these areas jet skiing is forbidden. Other stakeholders stated that these marine parks are allocated incorrectly. An interesting view is that tourism will not be a threat for the environment, also not the amount of tourists will be a problem, but the air transportation itself can be a threat. Problems arise as a result of careless follow-up to pests taken along on the aircraft. It is difficult to control this.

A few stakeholders foresee impacts on the social-cultural environment as a result of increase of tourism. As yet it is not clear whether this will be positive or negative. The economic growth over the last two decades has caused a social change in Mauritius. Extended families are an exception now; more and more residents live in coastal areas. Also the demand for leisure has grown. At this moment the beach is the most important leisure facility for Mauritian residents. Hence, there will be an increasing competition between tourists and residents in the coastal areas. This possibly can cause social tension. To some extent, this can be controlled by the development of different leisure sites, like national parks and public beaches.

One stakeholder noticed that the package tours have been protecting the social fabric up till now. The tourism product was directed to the sea and kept its back to the inhabitants who are mainly living in the centre of the island. If (eco) tourism is developed in the central parts of the island tourist density may become an issue. That is why most of the stakeholders admitted that it is impossible to expand tourism without zoning. Another view is that tourism inland can be a stimulus for small shops and restaurants. It could be a locomotive for improvement of the whole environment: funding for flora & fauna; investments in SME, etc.

The ‘Tourism Environment Charter’ is developed to suggest actions for eco-friendly enterprising. Interested hotels will be checked on different issues and if approved they will be certified. One stakeholder has doubts about the value of this initiative, because it was not independent, there was not any ongoing training for management and staff and it is not a self-regulatory mechanism.

ANNEXE D: THE FREEDOMS OF THE AIR

FIRST FREEDOM
To over fly one country en-route to another
Ex.: MK flies from SSR Airport over Nigeria to Egypt.

SECOND FREEDOM
To make a technical stop in another country
Ex.: MK makes a stop for fuelling purposes in Nairobi on a flight between SSR Airport and Paris

THIRD FREEDOM
The carriage of passengers and cargo from the home country to another country
Ex.: MK carries traffic from SSR Airport to Singapore

FOURTH FREEDOM
The carriage of passengers and cargo to the home country from another country
Ex.: MK carries traffic from Singapore to SSR Airport

FIFTH FREEDOM
The carriage of passengers and cargo between two countries by an airline of a third country on route with origin and/or destination in its home country
Ex.: MK carries traffic from SSR Airport to Rome and then on to London, picking up traffic in Rome with destination London

SIXTH FREEDOM
The carriage of passengers and cargo between two countries via the home country of the airline
Ex.: MK flies from Bangkok via SSR Airport to Johannesburg, exercising traffic rights between Bangkok and SSR Airport, and between SSR Airport and Johannesburg

SEVENTH FREEDOM
The carriage of passengers and cargo between two countries by an airline of a third country on a route with no connection with its home country
Ex.: MK carries traffic between New Delhi and Sydney, without connection of that flight with a point in Mauritius

EIGHTH FREEDOM
The carriage of passenger's cargo between two points in a foreign country on a route with origin and/or destination in the home country of the airline
Ex.: MK carries traffic between Johannesburg and Cape Town, on a flight SSR Airport-Johannesburg-Cape Town

NINTH FREEDOM
The carriage of passengers and cargo between two points in a foreign country with no connection with the home country of the airline
Ex.: MK carries traffic between Johannesburg and Cape Town, which service is unrelated to a service between that point and a point in Mauritius.

ANNEXE E: DOCUMENTS AND DATA USED AS REFERENCES

Aéroports de Paris	New Master Plan for Sir Seewoosagur Ramgoolam International Airport – February 2004
Aéroports de Paris	New Master Plans of Airports of Mauritius - Final Report - December 2000 – 3 Volumes plus Executive Summary
Air Mauritius Ltd	Annual Report 2002/2003
Airports of Mauritius Co Ltd	Scheduled Aircraft Arrivals and Departures – Winter Schedule 2004
AHRIM	Tourism Environment Charter
BAA	Sir Seewoosagur Rangoolam International Airport Mauritius – Air Traffic Forecast Review - July 2001
Central Statistics Office	Annual Digest of Environment Statistics 2002
Central Statistics Office	Digest of international travel and tourism statistics, volume 29- November 2003
Central Statistics Office	Digest of public Finance Statistics2002, volume 14- April 2003
Central Statistics Office	Economic and Social Indicators International Travel and Tourism 1st quarter 2004
Central Statistics Office	Economic and Social Indicators Population and vital statistics/road transport and road traffic accident statistics, 2003
Central Statistics Office	Economic and Social Indicators External trade 4th quarter 2003
Central Statistics Office	National Accounts of Mauritius 2002 volume 20- June 2003
China Airport Construction Corporation/CAAC	Feasibility Study of the Mauritian New Airport – Final Report – June 2001
Deloitte & Touche	Tourism Development Plan for Mauritius – February 2002 - Volume 1 of 4: Summary and Final main Report
George J. Grundig & Associates	Analysis of the Economic Impact of Alternative Air Access Policies on Tourism in Mauritius - June 1982 (Volumes)
Government of Mauritius	The Integrated National Air Transport Strategy Study
Government of Mauritius	Fact sheets dated 2001 showing: List of Countries with which Mauritius has Bilateral Air Services Agreements, Air Links, Air Access Council, Composition and Functions
IBL	Outline Development Plan for Commercial Activities at Agalega Island - January 2001

InterVISTAS	SSR International Airport - Air Traffic Forecast – October 2003
Joint Economic Council	Report of the JEC Task Force – The Economic Transition of Mauritius - February 2001
Mauritius Freeport Authority & Mauritius Freeport Development	The Mauritius Freeport, A World Class Sea Food Hub in the Indian Ocean – Brochure
Mauritius Freeport Development	Mauritius Freeport Development – The Power of Global Logistics – Brochure
Michael Kellaway International Group	The Mauritius Freeport Authority – Study to assess the need for liberalising the regime of air cargo traffic in Mauritius – December 1996
Ministry of Economic Planning & Development	Airport development and Future Economic Growth – July 1982
Ministry of Environment	Small TDP on Rodrigues incl. Air transport needs
Ministry of Environment	The Environment Protection Act
Ministry of Tourism	Handbook of statistical data on tourism 2002, 22
Ministry of Tourism & Leisure	Survey of outgoing tourists 2000
Ministry of Public Infrastructure, Land Transport & Shipping	CD ROM of the INTSS and a brochure of the Ministry of Public Infrastructure
Unidentified	Annex 2 – Runway Capacity Calculations – November 1999
	Statistical data on economic structure

ANNEXE F: ORGANISATIONAL ISSUES – THE TEAM OF CONSULTANTS

Working Practices

The organisation of the Consultants' team engaged in the Master Plan study for Air Transportation was as follows:

All correspondence and other communication with and from the Client was channelled through the Project Manager / Liaison Officer. In many cases, the information and data flows went through the Resident Project Manager. No exchange of information took place directly between the individual consultants and the Client and vice versa. Occasionally, individual consultants had direct contact with stakeholders, but mostly such contacts took place through mediation of the Resident Project Manager.

Thee Project Manager / Liaison Officer was responsible for forwarding information from the Client to the individual Consultants and vice versa.

The Project Manager / Liaison Officer was also responsible for the monitoring of the time schedule and, as far as was within his capabilities, assisted the individual consultants in timely completing the reports and was responsible for the final editing, and for printing, binding and dispatching the reports to the Client and the individual consultants. The individual consultants were held responsible for maintaining acceptable standards in reporting the matters assigned to them, using the latest information available to them and reporting in legible and understandable English. The Project Manager / Liaison Officer ensured that the reports had an acceptable layout and appearance.

Because the team of consultants have their offices at locations all over the Netherlands, at a number of occasions, meetings were held between the team members. Such occasions included a briefing by individual consultants who had just visited Mauritius for holding discussions, a review of a report in preparation to identify which actions still had to be taken and other important matters that made a meeting desirable.

Though in principle all contacts between the individual consultants took place through the Project Manager / Liaison Officer, direct contacts took also place when this was considered practical, but always with consent of the Project Manager.

The Project Manager / Liaison Officer was further responsible for the financial administration of the project in the name of the individual consultants. He took care that invoices were submitted to the Client at the times stipulated in the Contract and was responsible for making payments to the individual consultants as laid down in the individual, mutual agreements.

In all matters, the Contract, the various correspondences about the Contract and the Terms of Reference were governing.

Updated Planning Scheme

As a consequence of a better insight in the nature of the project, the initially proposed time schedule has undergone the following amendments:

- As soon as the starting date of the project was known, the activities could be indicated in real time indications instead of time indications after the beginning of the project..

- As was approved by the Client, the course of activities during the Inception Phase has been modified in that the consultants conducted discussions with stakeholders after a thorough study of the available reports and data as stipulated in the Contract.

- Mr. Niall van de Wouw has replaced Mr. Frits Bisschop as the Logistic Analyst during the interviews in Mauritius. Mr. Bisschop remained responsible for the activities in the field of cargo handling, freeports and similar issues.

- On request of the Client, Mr. Derek Byrne was incorporated into the Consultant's team as an Airline Marketing Analyst.

- The Consultants felt privileged by the agreement of Mr. Durhamcing Dussaye to act as the Resident Project Manager. Much to their grief, Mr. Dussaye passed away during the final stage of the project.

- Contrary to the initial approach of the project, the Consultants have decided that a delegation of the team should not only have discussions with the Steering Committee after the submission of the Final Draft Report, but also after the submission of the Preliminary Report. It was found that this approach would facilitate the communication about the contents of the report between the Client plus the Steering Committee and the Consultants.

The time schedule hereafter includes above amendments.

THE TEAM OF CONSULTANTS

The consultants who cooperated in the study were employees of the following consultancy firms respectively:

Mr. Reinout Heering – Project Manager and Liaison Officer
NACO, Netherlands Airport Consultants B.V.
The Hague, The Netherlands

Mr. Jaap de Wit – Transport Economist
Mr. Jan Veldhuis – Scenario Building and Forecasting Analyst
Stichting Economisch Onderzoek (SEO) – Amsterdam Aviation Economics (AAE)
Amsterdam, The Netherlands

Mr. Pablo Mendes de Leon - Legal Analyst
University of Leiden - International Institute of Air and Space Law
Leiden, The Netherlands

Ms. Harriët Walinga – Environmental Analyst
DHV Unit: Environment and Sustainability
Amersfoort, The Netherlands

Mr. Frits Bisschop - Logistic Analyst I
Mr. Niall van de Wouw - Logistic Analyst II
Districon Management Consultants BV
Maarssen, The Netherlands

Mr. Derek Byrne - Airline Marketing Analyst
Private Consultant
Dublin, Ireland

Mr. Durhamcing Dussaye - Resident Project Manager
Private Consultant
Vacoas, Mauritius

Hier tijdschema invoegen