Challenges and Opportunities for Small and Emerging Airports in the 21st Century

Culture of Sustainability and Innovation

Submission for ACI Asia-Pacific Young Executive of the Year 2017

SURABHI RANA
Mumbai International Airport Pvt Ltd
India
Challenges and Opportunities for Small and Emerging Airports in the 21st Century

Introduction

Air transport is a major catalyst to the global economy. As per the report of ATAG, “Aviation Benefits beyond Borders (July 2016)," in 2015, 52,964 routes were served globally of which, 17,370 were unique pairs. If aviation were a country, it would rank 21st in size by GDP. With such an enormous prominence of aviation, small and emerging airports offer improved connectivity to the unexplored, regional places.

Small airports have been defined in various manner across the globe. As per the report “Smaller Airports, Ninth Report of Session 2014-15” by House of Commons Transport Committee, a small airport has been defined as one with fewer than 5 million passengers per annum. Report of the Air Issues Task Force on Small Airports Viability, September, 2006 highlights that airports with scheduled air services with less than 200,000 passengers annually are categorized as Regional/Local airports. There are reports that state that airports without any scheduled air service are classified as Small airports. OAG has mentioned that small airports are the ones that have deployed seats below 10 million per annum. Airports Council International (ACI), Asia-Pacific categorises airports with less than 5 million passengers per annum as small airports. In this research paper, definition of ACI Asia-Pacific has been used.

Section I: Role of small and emerging airports in economic development

Small and emerging airports offer a unique value proposition in the overall economic development of the region and the country. These airports become more important in a country where the air travel penetration is quite low but the customer base is spread over a very large area and further scope of developing primary or secondary hubs is minimal. The best example in this case is Indian market where there are two major hubs (Delhi and Mumbai airports), followed by six other airports, totalling to 73% of all India traffic. However with 1.2 billion population, air travel penetration is just 0.08 air trips per capita (2015), implying the necessity of developing small and regional airports for the overall air travel development.

Small and emerging airports contribute significantly to the overall economy, as enlisted below:

1. **Improving air travel penetration:** Small and emerging airports help in developing air connectivity to the regional and remote areas, thereby improving the overall air travel penetration. E.g. in 2015-16, Indian aviation market grew at a rate of 17.6% compared to previous year, however, the airports below 5 million grew at a higher growth rate of 20.5%. It is projected that India will be third largest aviation market by 2026 and the growth will majorly come from tier II/III cities.

2. **Alternate option compared to busy airports where delays are expected:** Small airports have the benefit of less passenger and ATM throughputs, leading to congestion free, faster processes and quicker turnaround time. This is beneficial for the passengers who would like to avoid queues at busy airports and would prefer reaching on time. As per the statistics published by FlightStats, regional airports have better On Time Performance (OTP) compared to the global hubs. This is clearly evident from the data compiled for Asia Pacific region from April to September, 2016, wherein the average OTP for regional airports is 76% whereas the hub airports have witnessed average OTP of 69%.

3. **Improving tourism prospects:** Small and emerging airports are definitely a source of improving the tourism prospects of the potential regions, especially in remote areas. Globally, there are examples of small, regional and remote airports that have helped in exploring the pristine tourist spots, leading to increase in tourist footfalls. A case of Indian market has been taken where 4 states/Union territories, namely Andhra Pradesh, Assam, Goa and Nagaland have been considered and a comparison has been drawn on the basis of:
   a. Growth in domestic and foreign tourist visits in 2015 versus 2014, and
b. Growth on airline frequencies from the respective airports of the 4 State/Union territories in 2015 versus 2014. It has been observed that wherever there is an effort to increase the airline frequencies, a growth in domestic and foreign tourist visits has been witnessed. However, the magnitude of growth is varying due to the travel penetration. E.g. Nagaland has seen a growth in domestic and foreign visits of 10% in 2015 compared to 2014, while, the airline frequencies have increased by 97%. This is due to the fact that Nagaland is not much explored as a tourist destination (ranking at the lowest in terms of tourist numbers) and it may witness gradual increase in tourists over a period of time due to the enhanced air connectivity. Nonetheless, it has been established that small and emerging airports do assist in improving the tourism prospects.

4. Job creation: It is a well-known fact that aviation industry has stimulated the employment generation world over. As per the study of ATAG “Aviation Benefits Beyond Borders” (July 2016), there are 62.7 million jobs supported by aviation worldwide. Thus, small and emerging airports are also an important source of job creation, especially in the regional markets. Small airports have employees between 1,065 and 1,223 on airport site per 1 million passengers (source: ACI Airport Economic Report, 2015).

5. Business generation by accelerating economic growth: Air connectivity has a positive correlation with economic growth. Oxford Economics has conducted several studies to compute the impact of air transport on the economy of various countries. In the Philippines, aviation sector contributed 0.4% to its GDP in 2009 (source: Economic Benefits from Air Transport in the Philippines by Oxford Economics, 2011) while in Australia, the contribution was 2.6% (source: Economic Benefits from Air Transport in Australia by Oxford Economics, 2011).

6. Major source of passenger throughput for hub airports: Small and emerging airports assist in building the transfer traffic for hub airports. They act as feeders for the passengers travelling on destinations not having a non-stop connectivity to these small airports.

An example of Brisbane (BNE) has been considered below to analyse this pattern. Brisbane is located in Queensland and handled 22.47 million passengers between July 2015 and June 2016. 3 small airports have been analysed to validate that small and regional airports are major source of passenger throughput for Brisbane.

<table>
<thead>
<tr>
<th>Airports</th>
<th>Frequencies/week</th>
<th>Total traffic per annum (million)</th>
<th>% of transfer traffic via BNE</th>
<th>Transfer passengers from 3 airports as % of total BNE transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Townsville (TSV)</td>
<td>254</td>
<td>1.7</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>Mackay (MKY)</td>
<td>98</td>
<td>0.9</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Rockhampton (ROK)</td>
<td>96</td>
<td>0.6</td>
<td>26%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Centre for Asia Pacific Aviation, IATA, Flightstats

7. Impetus to aircraft manufacturing companies: Small and emerging airports encourage use of smaller, less than 100 seater aircraft. This helps in increasing the business potential of these aircraft manufacturers. Some prominent names in this domain are ATR, Embraer and Bombardier. With the vast opportunities in global aviation market, ATR, the leading regional aircraft manufacturer has forecasted that the turboprop fleet will grow from existing 2,100 to 3,900 by 2035, depicting a growth of 86%. Majority of this growth is from the developing countries like India, where the regional air connectivity is expected to increase tremendously in the coming future.
Section II: Common interests and concerns of small and emerging airports

The common interests and concerns of small and emerging airports are:

1. **Sustainable operations**: Small airports have a peculiar challenge of higher costs with less reliability on revenues derived from passengers. Airports are asset intensive businesses with high sunk costs, thereby costs may not be proportionate to the revenues generated.

   a. **Expenses**: Though small airports handle less throughput, however their operating expenses per passenger are higher compared to the global average. The reason for it is though the airport is small, fixed costs have to be borne for operating the airport. As per ACI Airport Economic Report, 2015, airports with less than 1 million passengers have average operating expense of USD 13 per passenger whereas the global average is USD 11 per passenger. Airports handing 1-5 million passengers have average operating expense of USD 9 per passenger. Personnel expenses, administration expenses are some of the costs that need to be carefully looked into. **Number of employees on airport site per 1 million passengers** is very high at airports with less than 1 million passengers i.e. 1,223 employees. However, the number is 1,065 for airports with 1-5 million annual passengers while global average is 924 employees.

   b. **Revenue generation**: The global share of non-aeronautical revenue (excluding non-operating revenue) is 40.4%. However, airports with less than 1 million and 1-5 million passengers have non-aeronautical revenue as 26.7% and 32.9% respectively. In terms of per passenger value, global per passenger non-aeronautical revenue is almost twice the airports handling less than 1 million passengers (source: ACI Airport Economic Report, 2015).

   c. **Profitability**: As highlighted in ACI Airport Economic Report, 2015, smaller airports with less than 1 million annual passengers tend to have negative margins (as depicted in below graph), thus giving less confidence in them as going concern.

   d. **Funding**: Majority of small and regional airports depend on subsidies to finance their operations. Attracting investors is also challenging, given the scenario of no profitability as indicated above. This may severely dampen the airports’ future, ambitious plans, requiring investments and aggressive marketing. Even with the investments, there is no surety on the going concern of small and regional airports and worldwide there are examples where the airports could not have a single flight even with huge investments.

2. **Route sustainability and airline traction**: Small, regional and remote airports cater to smaller market size with very less or almost negligible catchment area. This poses a challenge in terms of attracting airlines to operate to such airports as the route may have to be operated with certain specific type of aircraft (e.g. aircraft with less than 80 seater or less) and which may not be available with all the airlines. Also, the airport may not be able to attract more frequencies and multiple airlines due to smaller market size. This may have impact on airfares being high, compared to routes with competition, and over reliance on a particular airline. Linked to it, is the competition from other modes of transport, e.g. rail and road, where it may be convenient for the passengers to connect to other nearby destinations with multiple options to travel by rail or road, thereby further impacting the future development of the air transport in and around that region.
3. **Subdued growth due to the small airport’s location near busy, hub airports:** Small and emerging airports may have a challenge of achieving their true potential due to their location of being near to the hub airports. An example to support this statement is Chandigarh Airport (IXC) which is a small airport handling approx. 1.5 million passengers per annum. Chandigarh, a Union territory of India, is the capital of States of Haryana and Punjab and is located in North India. Chandigarh Airport operated as a Civil Enclave since its inception, however, a new terminal building was constructed in 2011 and the airport was declared as a Customs Airport, making it eligible to handle international flights. However, no international flights operated from the new terminal, despite having a significant large catchment of Chandigarh, Haryana and Punjab, with the population of approx. 54 million as per 2011 census. In 2015, a new international airport was developed with the joint collaboration between the Government of Punjab, Government of Haryana and Airports Authority of India.

Chandigarh Airport is in close proximity to Delhi Airport (DEL) at a distance of 127 nm. Given such a close proximity and Delhi being a major gateway in North India, markets of Chandigarh, Punjab and Haryana are major feeder and traditional catchment to Delhi Airport. Punjab and Haryana also do not have major airports, Chandigarh and Amritsar (ATQ) (located in this region) handled 2.8 million passengers in FY 15-16. Ludhiana (LUH) does not have any commercial airline operations. As per the estimates of Punjab Government and Mohali Industries Association, 40% of international passengers boarding or landing at Delhi Airport are from Punjab, Haryana and neighbouring areas who may like to use the facility at Chandigarh Airport. Also, road journey between Chandigarh and Delhi is approx. 5 hours. There are close to 23 daily bus services from Chandigarh to Delhi Airport. However, overall daily frequencies to Delhi city is more than 4 times the services deployed to the airport. For connectivity to Western, Central and South India, Mumbai, which is 725 nm away from Chandigarh, is also a major gateway. Of the total Chandigarh’s air traffic, 11% of the passengers connect over Mumbai (BOM). Due to the influence of major hub airports around Chandigarh, the airport has not been able to build its international connectivity. After much protests from the trade bodies and travelling community, international operations to Dubai (DXB) and Sharjah (SHJ) have commenced from Chandigarh recently.

4. **Dilemma of passenger experience versus footfalls/safety and security infrastructure:** In the current scenario, airports have been focussing significantly on the customer experience and garnering their loyalty. Though the processes at smaller airports are not complex and tiring as compared to the hub/busy airports, however, today’s passengers look for better travel experience in terms of minimal human intervention, fast tracking of processes and better ambience. This entails a minimal level of continuous investment from the airports which may need to be correlated with the passenger footfalls. This equation, most of the times, may be a misfit and may lead to a conservative approach by the airport operator in terms of improving and augmenting the passenger experience. Also, smaller airports may not have the required infrastructure to mitigate the safety and security of the passengers, including deployment of sufficient manpower related to sovereign functions.

5. **Capacity crunch:** Small airports may not have sufficient capacity to handle the air traffic and the infrastructure upgrade may take time. India is a classic case where most of the small airports are either on the verge of getting saturated or have already saturated. 10 airports across India have been randomly picked and 7 out of these 10 airports have already saturated.

<table>
<thead>
<tr>
<th>Airports in India</th>
<th>Adjusted Capacity (million)*</th>
<th>Capacity utilisation in FY 15-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agartala (IXA)</td>
<td>0.6</td>
<td>154%</td>
</tr>
<tr>
<td>Amritsar (ATQ)</td>
<td>1.6</td>
<td>78%</td>
</tr>
<tr>
<td>Lucknow (LKO)</td>
<td>2.6</td>
<td>125%</td>
</tr>
<tr>
<td>Bagdogra</td>
<td>0.6</td>
<td>181%</td>
</tr>
<tr>
<td>Bhopal (BHO)</td>
<td>0.9</td>
<td>74%</td>
</tr>
<tr>
<td>Bhubaneswar (BBI)</td>
<td>2.4</td>
<td>79%</td>
</tr>
<tr>
<td>Calicut (CCJ)</td>
<td>2</td>
<td>115%</td>
</tr>
<tr>
<td>Jammu (IXJ)</td>
<td>0.4</td>
<td>279%</td>
</tr>
<tr>
<td>Trichy (TRZ)</td>
<td>0.6</td>
<td>216%</td>
</tr>
<tr>
<td>Mangalore (IXE)</td>
<td>1.2</td>
<td>140%</td>
</tr>
</tbody>
</table>

*Source: Centre for Asia Pacific Aviation (Report on India’s Airport Capacity Crisis, 2015), Airports Authority of India*
6. **Conducive regulatory environment:** For any airport worldwide, conducive regulatory environment is of utmost importance for its sustainability and future growth. The regulatory environment includes the airport pricing mechanism, the policies and the overall operating framework. Pricing regulation is one of the important aspects of the overall regulatory environment and it varies from country to country and the type of airport. E.g. India did not have a specified norm of pricing mechanism for airports. However with the release of its National Civil Aviation Policy in 2016, the tariffs at all the airports will be calculated on ‘hybrid till’ basis, leading to uniformity and clarity in the regulatory policy. Recently introduced Regional Connectivity Scheme by Ministry of Civil Aviation, India has given a major boost to the regional connectivity, including small and emerging airports.

Section III: Culture of Sustainability and Innovation - Key to success of small and emerging airports!

As detailed in the section of concerns and interests of small and emerging airports, these airports have the scope to translate their challenges into opportunities through a holistic approach. Small and emerging airports have a challenge of competition, small market size, less interest levels from airlines, etc. However, small airports can transform themselves into an active small business units, instead of just being an infrastructure provider for the passenger processing and airline operations. Having said that, the below structure reflects a holistic approach that is suggested to be considered by small and emerging airports for their overall sustainability and growth. The approach is a reflection of the fact that these airports have to concentrate on all the aspects, e.g. operations, customer care, human resource development, etc.

![Culture of Sustainability and Innovation Diagram](image)

The core pillars of the above model are **sustainability and innovation**. Sustainability is a key aspect for small and emerging airports, considering their vulnerability due to external factors. This includes continuous passenger footfalls, revenue generation with growth, fair rate of return, etc. Small and emerging airports also need to analyse and if need be, adopt best practices of bigger airports. To have this sustainability, it is important to include the ingredient of innovation which will encompass passenger satisfaction, new sources of revenue generation, inclusive strategy where all the stakeholders are engaged and partnered with. All these aspects have been detailed out in the subsequent section.

1. **Passenger satisfaction**

Passenger satisfaction is of utmost importance, whether an airport is big or small. For small airports, passenger satisfaction mechanism has to be emphasised, considering passengers have the option to travel from other airports and they may not be inclined to travel from an airport that does not provide a good travel experience through the available facilities and required infrastructure.
Airport Service Quality (ASQ) Survey conducted by ACI is a valuable tool in ranking the global airports that provide maximum passenger satisfaction. Some of the small and emerging airports that have been ranked best in their respective categories in 2015 are Jaipur (India, Asia), Sochi (Adler District, Europe), Grand Rapids (USA, N. America), Upington (Africa), etc.

Passenger satisfaction is expected at every touch point of passenger’s journey and increases with enhanced passenger experience. Moreover, it is an established fact that higher passenger satisfaction is proportional to higher passenger spend at the airport. As per the study conducted by J.D. Power and Associates in 2010 (North America Airport Satisfaction Study), average retail spend of a delighted passenger is USD 20.55 compared to USD 14.12 of a disappointed passenger, depicting an increase of 46%. Thus, small airports should look into various passenger touch points, e.g. cleanliness, retail options, assistance, queuing time, etc.

2. Air service development
Hub airports are the main gateways for the flight connections and they have to have sufficient connectivity to the major airports around the globe. Conversely, small and emerging airports also need to have well established air connectivity to serve the passengers of their own market. Though they are not the major gateways but they have to either feed the hub airports for onward connections or serve bare minimum, point to point airports for the tourism or business purposes. The relevant examples have been shown in the previous sections. It is imperative to have sufficient air connectivity at small and emerging airports with good mix of airlines and routes. There are examples of airports that relied either on specific type of airlines or just one airline and had to ultimately shut down the operations due to the airline(s) withdrawal. In India, Nanded, Kolhapur and Solapur are currently non-operational after Kingfisher Airlines stopped operations from these cities. Other airlines tried connecting the airports with regional aircraft but also had to stop.

Airlines may feel difficulty deploying resources to small and emerging airports, hence the airport operators have to build a conducive environment for them to sustain and grow. It is highly recommended that a value proposition should be created along with the local tourism authorities, travel agents and related associations that may assist in giving a comfort factor to the airlines.

It is evident that small airports have a unique challenge of smaller or negligible catchment and do not get priority over hub airports. Despite the fact, small and emerging airports should provide a unique proposition over major airports in the region. The foremost important aspect for small airport is to develop a strategy plan which should include:

a. USP of small/emerging airport over other airports in the region;

b. Identification of risks and opportunities;
c. Identification of potential routes and the targeted airlines, depending on fleet mix, future aircraft delivery, etc;
d. Partnership opportunities.

Some of the initiatives that can be undertaken by small airports are:

a. Operate airport 24x7 where the neighbouring hub airport has operating restrictions.
b. Position airport as a cargo/general aviation airport, considering hub airports may prefer having scheduled passenger traffic instead of freighters and smaller jets.
c. Tie up with local and national tourism bodies, including joint road shows and promotions. This may involve identify and promote the various forms of tourism (e.g. leisure tourism, adventure tourism, medical tourism, etc).
d. Partnership with travel agents to promote the small airport and region for passenger travel by developing packages that can serve the need of passengers beyond airport boundaries.
e. Incentives for the traffic development to airlines or guarantee on seats, either with the State or along with the industry associations, with clear short term and long term goals.

f. Government support to provide reduced applicable taxes or subsidies.
g. Regular discussions and workshops with potential carriers on the probable routes and projecting growth with the introduction of direct services. The airport should refrain from relying on just one or two airlines. Instead, it should work closely with a pool of potential airlines.
h. Partnership with medium sized or big airports to feed traffic via them.

The above activities should not be just one time but have to be executed on a routine basis to see the results.

3. Technology inclusion
Technology unarguably holds the future wherein passenger self-service processes will be used. Hub airports are technologically more agile to combat congestion and queuing. Though small and emerging airports have less passenger throughput with reduced complexities, fast travel options will significantly enhance the passenger travel experience with less turnaround time. ‘Common use’ and ‘Self Service’ are two important aspects and should be on top priority for small airports. Basic operational effectiveness should be delivered at the small airports, including inline baggage screening systems, passenger communications, etc. For meeting the capacity constraints, additional technological advancements should be looked into, e.g. queue management systems, etc. Technology inclusion will also help the airports in reducing the manpower expenses. Moreover, all the related stakeholders can be integrated for further automation.

Cloud based passenger processing system could offer a plug and play option to small and emerging airports for passenger processing, check-in, bag drop, security and boarding services without any major investment by airports/airlines. E.g. a smart airport with such technology could offer bag drop check-in in 10 seconds using tagged box against 25 seconds for conventional, untied bag.
4. Revenue innovations

Small and emerging airports have huge potential to look into innovative revenue sources. Some of the suggestions are:

- **Promotion of local business**: Travellers look for authentic, local handicrafts, delectable cuisine of the region and this can be promoted inside the airport.

- **Advertising opportunities**: A small airport in a region can become a major advertising spot, considering the visibility it could offer to the brands for engaging the target audience, as compared to other out of home advertisement efforts. Many regional airports worldwide rely on advertising revenue.

- **General Aviation, trip and fleet management solution** for business aviation operators.

- **Developing fuel facility and associated reward programs** for ensuring maximum fuel uptake by aircraft operators.

- **Parking revenue** (can be further differentiated based on general and premium parking space): The proposition can be made lucrative by including loyalty program (for both passengers and the community), discount vouchers, happy hours, etc.

- **Revenue from airport visits**: This is an interesting revenue earning opportunity wherein the community can be taken around the airport on chargeable basis and can be engaged in knowledge sharing sessions.

- **Use of available land bank**:
  - Creation of Maintenance, Repair and Overhaul (MRO) facility for getting the aircraft or maintenance from the nearby regions. This proposition can be explored in partnership with such agencies.
  - Flight training school
  - Aviation training school (impacting non-technical courses)
  - Real Estate development by exploring Aerotropolis model
  - Leasing of property, e.g., business centres, parking, industrial setups, freight forwarders, fuel and aircraft servicing, etc
  - Development of sports centre, golf club, etc
  - Development of movie theatre.

Small and emerging airports should look into all the possible modes of revenue generation to improve their viability.

5. Stakeholder engagement

Another critical area for small and emerging airports is **stakeholder ‘engagement’ and not ‘management’**. Stakeholders include media associates, community, local institutions, sovereign functions, internal stakeholders, investors, etc. Stakeholder engagement is required for the overall sustainability and growth of the airport. As indicated by International Finance Corporation (IFC), spectrum of stakeholder engagement ranges from communication strategies to partnerships. However these synergies can be built only when an airport identifies its stakeholders clearly. Below table plots various airport stakeholders, depending on their short or long term impact.
As defined by IFC, there are different strategies to engage these stakeholders as per the below structure, depending on their quantum and the intensity of engagement. Also, the probable stakeholders have been grouped.

### Some of the key highlights in stakeholder engagement are:

- **Sustainability Reporting** is a potential tool that is being used by the airports these days to brief the stakeholders, at large, about their business, related risks and opportunities.
- Partnerships with other airports will assist in developing the air services, knowledge sharing in the fields of operations, human resources and best practices, and exchange programs. Such partnership may also bring in use of shared services, equipment sharing, etc.
- Regional airports are closely working with the Ministry of Aviation/Transportation in securing air services rights for international operations.
- Media is used for developing a positive environment for the airport, including reputation management.
- Small and medium airports are involved in direct communication with the community and other stakeholders through platforms like their website and social media handles.

Thus, stakeholder engagement is an important aspect for small and emerging airports in achieving their business objectives.

### 6. Manpower development

Quality manpower adds to the success of a business. The same goes with small and emerging airports. It has to be one of the objectives to maximise the human capital potential (including the manpower of concessionaires and other stakeholders at the airport). As indicated in the beginning of the research paper that employee cost is a concern at small and emerging airports. Therefore, this concern should be addressed appropriately in the development plan. Some of the aspects that can be considered while charting the development plan are:

- Development of employees as ‘multi-taskers’;
- Function wise **career path progression** analysis;
- Identification and roadmap for **young, performing employees**;
- **Assessment of training needs and development of training plan** across all levels, covering both technical and non-technical training needs;
- **Welfare schemes**, including work life balance;
- **Partnerships** with other airports, involving **knowledge sharing** and **employee exchange programs**.

### 7. Profitability

Profitability is a concern for small and regional airports, as detailed out in Section II (1) (c). However, there is a scope to reduce costs and target ancillary revenues to improve the return on investments. Expenses can be reduced by:
a. **Construction cost**: Fabric buildings can be evaluated for airports with less than 1 million passengers

b. **Bringing in energy efficiency**:
   i. Alternative sources of energy, both at the terminal and airside.
   ii. Develop zones that can be shut down during non-operations
   iii. Use of electric vehicles

c. **Employee cost**: use of ‘multi-taskers’, increased automation.

8. **Funding**

Apart from the government support and favourable regulatory policies, the airports should look into engaging with other airport operators and investors for the funding. The airport should look into developing a conducive environment and attractive opportunities for the investors. Section IV details out the opportunities and benefits that can be looked by the foreign investors and airport operators.

**Section IV: Opportunities and benefits for foreign investors / airport operators**

Smaller and emerging airports offer a range of opportunities for foreign investors and airport operators for collaboration. As highlighted in the adjacent figure, stable political and regulatory environment with attractive market outlook and potential for enhanced revenue sources (either based on passenger numbers or on commercial activities) will be lucrative for foreign investors and airport operators group. There are reports stating that small and emerging airports, typically having less than 1 million annual passengers, do not hold a positive outlook among the investors, however, airports should not be looked from the perspective of just the passenger processing units and a holistic approach has to be created to make them lucrative.

Below are the opportunities and benefits for the investors in small and emerging airports:

1. **Potential to grow faster compared to big, saturated airports**: Airports with a mix of the above 4 ingredients normally show a better potential and faster growth rate compared to big, saturated airports. This fact has been validated in this paper at the beginning. However, exploring on individual airport level, India’s small and emerging airports have shown such a trend. Small and emerging airports are growing at a higher growth rate compared to the big, hub airports.

<table>
<thead>
<tr>
<th>Growth Trend in India</th>
<th>Small and emerging airports (examples)</th>
<th>Big airports (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airports</td>
<td>Passenger numbers in FY 15-16 (million)</td>
<td>% variance YoY</td>
</tr>
<tr>
<td>Jaipur (JAI)</td>
<td>2.9</td>
<td>31%</td>
</tr>
<tr>
<td>Guwahati (GAU)</td>
<td>2.8</td>
<td>25%</td>
</tr>
<tr>
<td>Lucknow (LK0)</td>
<td>2.5</td>
<td>28%</td>
</tr>
<tr>
<td>Bhubaneswar (BBI)</td>
<td>1.9</td>
<td>27%</td>
</tr>
<tr>
<td>Vizag (VTZ)</td>
<td>1.8</td>
<td>64%</td>
</tr>
<tr>
<td>Mangalore (IXE)</td>
<td>1.7</td>
<td>28%</td>
</tr>
<tr>
<td>Patna (PAT)</td>
<td>1.6</td>
<td>32%</td>
</tr>
<tr>
<td>Chandigarh (IXC)</td>
<td>1.5</td>
<td>27%</td>
</tr>
<tr>
<td>Varanasi (VNS)</td>
<td>1.4</td>
<td>36%</td>
</tr>
<tr>
<td>Imphal (IMF)</td>
<td>0.8</td>
<td>25%</td>
</tr>
<tr>
<td>Udaipur (UDR)</td>
<td>0.7</td>
<td>55%</td>
</tr>
<tr>
<td>Bhopal (BHO)</td>
<td>0.7</td>
<td>59%</td>
</tr>
<tr>
<td>Vijayawada (VGA)</td>
<td>0.4</td>
<td>72%</td>
</tr>
</tbody>
</table>

*Source: Airports Authority of India*

2. **Small airports attract higher Earnings multiple**: The existing examples of investments done in small airports reflect higher earnings multiple (EV/EBITDA), compared to bigger airports. As per a study done by PWC in European market, earnings multiple is 14-18 times for regional airports with higher growth and 10-14 for larger airports. London City deal in 2006 had earnings multiple of 27.7 times, while Leeds-Bradford deal in 2007 had earnings multiple of 30 times.

3. **Ambitious, unique business plan and diversification benefits**: Airports are developing new revenue mediums and the focus is more on diversification, instead of core business, for generating ancillary revenues. The best example in this case is Andal Aerotropolis, India’s first Aerotropolis project, located in West Bengal, India. With a very limited scope for the
existing air traffic development, the focus is to utilise the land bank of approx. 2,182 acres and generate revenues. Andal Aerotropolis, project announced in 2007, is being developed by Bengal Aerotropolis Projects Limited (BAPL) which includes the prominent investors, namely Changi Airport International (CAI) and IL&FS Airports Ltd. The airport, as part of the project, has a capacity of just 1 million passengers per annum; however, the project is more focussed on developing business, IT and industrial park, education and health city, township and logistic hub. Thus, it is evident that the investors are ready to explore business plans which are ambitious and have the possibility to drive value in the future. London City Airport (LCY), which is located 19 nm from London Heathrow Airport has positioned itself as an airport with unique proposition of General Aviation Business. The airport handled 4.3 million passengers in 2015 against 3.7 million in 2014. The airport does aggressive marketing, claiming to reach the airport within 15-20 minutes from any part of the city. It also offers ‘Speed of Transit’ facility, enabling the passengers to pass through the airport in around 20 minutes from door to departure gate and 15 minutes from tarmac to arrivals. Airport’s revenues have seen a substantial growth of 9% CAGR between 2011 and 2014. The airport constantly looks for new opportunities to increase its value. It purchased fuel facility within the airport in 2013 to drive revenues. Jet Centre (wholly owned subsidiary of LCY) focused at providing services to business aviation discontinued peak pricing in 2014 thereby increasing overall revenue from business aviation by 16% YoY. Given the overall performance and positioning of LCY, it has emerged as a preferred option for interested investors.

a. GIP acquired its 75% interest in London City Airport through two successive transactions in 2006 and 2008. Since its initial investment in London City Airport, GIP has implemented a program of investment and operational improvements aimed at increasing capacity, improving the facility’s operating efficiency and service quality, developing airline relationships and strengthening and expanding the airport’s network. The shareholders of the company are Global Infrastructure Partners (75%) and Highstar Capital (25%).

b. In Feb 2016, Global Infrastructure Partners (GIP), has agreed to sell its 75% interest in London City Airport to a consortium comprised of AIMCo, OMERS, Ontario Teachers’ Pension Plan and Wren House Infrastructure Management Limited, the infrastructure investing arm of the Kuwait Investment Authority. Thus, LCY has positioned itself as a lucrative business to the investors, thereby raising the investment opportunities.

4. Improved bargaining power by aggregating airports of the region: In case of multiple airports in a region, the Government can look into the possibility of considering privatisation or foreign investment of group of airports in a region, instead of a single airport. E.g. two airports (a large and a small airport) can be bundled together for investment. This may help in providing a large portfolio to the investor and reap benefits due to the economies of scale derived from the large airport. In 2015, the Philippines bundled airports under 2 packages for PPP tendering. One of the packages included Davao, Laguindingan, and New Bohol (Panglao) airports. As per 2013 statistics, their traffic range was from 0.79 million to 2.76 million which projected a better proposition for both the investors and the Government.

<table>
<thead>
<tr>
<th></th>
<th>Davao</th>
<th>Laguindingan</th>
<th>Panglao</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passengers in 2013 (million)</td>
<td>2.76</td>
<td>1.79</td>
<td>0.79</td>
</tr>
<tr>
<td>% Domestic</td>
<td>98.8%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>% Int'l</td>
<td>1.2%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Project Cost (PHP B, current)</td>
<td>40.57</td>
<td>14.62</td>
<td>4.57 (Phase2)</td>
</tr>
</tbody>
</table>

Source: Airports Council International

5. Favourable government policies: A commitment from the Government will significantly boost the confidence of investors. Example of National Civil Aviation Policy (NCAP), 2016 of India provides a comprehensive way forward plan for the regional airport development. It has been proposed to develop no-frills airports at an indicative cost of USD 7-15 million, without insisting on its financial viability, either directly by government bodies or through PPP mode.

6. Support framework from State Government: A support framework from State government to encourage air traffic will boost the confidence of investors. This can be in the form of rebate in airport charges or reimbursement to the airlines by giving seat guarantee. Apart from the financial support, State government should involve all the related stakeholders to chart out an aggressive and sustainable aviation growth plan, including commitments from the tourism bodies, travel agents, hotels, etc.

7. Positioning of small and emerging airport as a catchment to the hub airport: The examples have been given in the beginning of the research paper that most of the small airports are feeding hub airports. Thus, for improving the positioning of small and regional airports, collaboration with hub airports is needed for gradually increasing the traffic base.
Section V: Case Studies of Airports

Case Study I: Mildura Airport, Australia

**General Information:** Mildura Airport is a public, regional airport located 5 nautical miles southwest of Mildura, Victoria, Australia. The airport is just 453 nautical miles away from Sydney Airport. Key statistics of Mildura Airport as on 30th June, 2016 are:

- 214,426 passengers (3% increase compared to previous year)
- Connected to 4 destinations: Melbourne, Sydney, Adelaide and Broken Hill
- Handled approx. 146 flights per week with 7,730 seats each week

**Air service development:**

- Encouragement to general aviation business (air freight services, charter flights)
- Proposed runway extension ($4.7 million), allowing landing of large aircraft (B737; A320) in all weather conditions

**Passenger satisfaction:**

- The airport runs its own satisfaction survey on the website. The survey has been categorised into departures, arrivals and meters & greeters.
- “Book on the Fly” concept: a library or “book swap” has been created for the passengers to either read a book or take it with them on their journey. In case passengers are carrying any extra books which they no longer need, they can leave those books behind for someone else to read.

**Revenue innovation:**

- Landside: Creation of a multipurpose building “Tandou Building” of 208 sq metres, comprising of reception, 11 offices, meeting facilities, parking, etc for the purpose of leasing.
- Promotes the locality’s Mildura Chocolcate Company by having outlets inside terminal building.
- Advertising business: the airport offers contractual and casual advertising packages.
- Parking revenue
- Hangars on lease
- Website as a source of revenue generation through advertising
- General aviation business (recreational aviation, flight training, bank charter services, air ambulances)

**Stakeholder engagement/partnerships:**

- Mildura Tourism promotion along with the charter operator, Pearson Aviation, by offering tourism packages.
- Installation of solar panels; water harvesting expansion program
- Engagement with local community through drawing competitions, social media activities updates
- Tree plantation activities
- Regular airport visits planned for the local community
- Participation in community competitions
- Airline promotions on the website and social media

**Funding:**

- Airport has access to funding from Federal Government, Victorian State Government and its municipal council.
Case Study II: Ottawa Macdonald–Cartier International Airport, Canada

**General Information:**
- The Airport handled 4.66 million passengers in 2015 and is projected to reach 5.4 million passengers by 2020.
- Located only 197 nm from Toronto Pearson Airport and is an alternate airport.
- The airport has developed pillars of growth: 1) to grow strategically; 2) to increase economic footprint; 3) to optimise operational performance, ensuring safe and secure operations.

**Air service development:**
- Closely works with Porter Airlines
- Partnered with Consultants to understand the travel needs and pattern of local businesses for providing the needed information to the prospective airlines for enhancing route connectivity.
- Free landing for flights to new destinations for a minimum duration of one year.

**Passenger satisfaction:**
- Ranked 2nd best airport in North America as per 2015 ASQ survey.
- Proposed multi modal transport access.
- Free wi-fi for passengers.
- The Airport Authority and US CBP collaborated towards a pilot program that would locate APC capability in Authority-managed common use check-in kiosks outside of the U.S.

**Revenue innovation:**
- Parking revenue growth of 60% over 2014 by bringing in automation (mobile application ‘FlyCANADA’), on-line purchasing.
- Loyalty and incentive programs such as CAA (North and East Ontario members) discounts were leveraged to further increase the online customer base and stimulate revenues.
- Recently completed new and improved baggage handling system, doubling the capacity of the previous system, including self-bag drop stations.

**Stakeholder engagement/partnerships:**
- Commitment towards environment: Level 1 Airport Carbon Accreditation by ACI recently.
- Social media engagement (publicising airport as a place for the couples; contest of naming airport dog).
- Donated more than $100,000 to charitable projects through ‘Project Clear Skies’.
- Participation in City of Ottawa’s environmental assessment project.
- Awarded National Capital Region’s Top Employer (2015) for 3rd consecutive year.
- Infoguide Volunteers Excellence program in customer service wherein 80+ volunteers are there at the airport to assist the passengers, including tracking the baggage, answering the queries over phone, etc.

**Profitability:**
- Though traffic grew by modest 0.5% in 2015, total revenues were higher by 5.3% (increase in landing/terminal fees/new food and beverage concessions)

**Funding:**
- Completed a $300.0 million Series E Bond issue on June 9, 2015, to take advantage of the low interest rate environment and secure favourable terms in its long-term financing strategy.
Conclusion

The business of small and emerging airports is challenging and also exciting, exposing these airports to plethora of opportunities that can be experimented and adopted by them. It is utmost essential for these airports to operate in 21st century, given their criticality in the regional development and air travel penetration. Some of the considerations for these airports are:

- Adoption of ‘SUSTAINABILITY and INNOVATION culture’.
- These airports should adopt a holistic approach to position themselves as lucrative business units.
- Being a capital intensive industry, small airports should look into innovative ways to minimise their capital and operating costs.
- The airports should engage its stakeholders effectively to maximise values.
- Small and emerging airports should offer a unique business proposition to attract investments.
- Partnership opportunities should be explored at all levels for cost sharing and reduced overheads.

The above approach can help these small and emerging airports in effectively tackling their inherent challenges and sustain their operations, thereby benefiting the economy as a whole.

References

**Websites:**
www.aci.aero
www.iata.org
www.aai.aero
www.flightstats.com
www.tourism.gov.in
www.centreforaviation.com
www.gcmapper.com
www.bengalaero.com
www.censusindia.gov.in
www.pwc.com

**Reports:**
Airbus Global Market Forecast (2016-2035)
Connecting the Future-Turboprop Market Forecast 2016-2035 by ATR
Aviation Benefits beyond Borders by ATAG (July 2016)
National Civil Aviation Policy, 2016 (India)
Regional Connectivity Scheme, 2016 (India)
ACRP Synthesis 1, Innovative Finance and Alternative Sources of Revenue for Airports
ACRP Synthesis 19, Airport Revenue Diversification
ACRP Report 16, Guidebook for Managing Small Airports
Annual Reports of Mildura Airport (Australia), Ottawa Macdonald-Cartier International Airport (Canada), Sunshine Coast Airport (Australia), Salt Lake City (USA), Newcastle Airport (UK)
Economic Benefits from Air Transport in the Philippines by Oxford Economics (2011)
Economic Benefits from Air Transport in Australia by Oxford Economics (2011)
North America Airport Satisfaction Study by J.D. Power and Associates (February, 2010)