

# DEVELOPMENT OF REGIONAL AIR SERVICE NETWORKS



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**SUBMITTED BY:**

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# TITLE OF THE STUDY

## DEVELOPMENT OF REGIONAL AIR SERVICE NETWORK

### Executive Summary

#### Market size : Projections

Analysis of past trends of growth in the economy, the proposed investments in various states and also opinion of the experts have lead to the assumption that the growth of the economy in the North-East is likely to around be 3% p.a., while that for India is likely to be around 6% p.a. Under such a scenario, the estimate of the projected market size in RPK and FTK is shown.

#### **Projected Market Size**

<b>Particulars</b>	<b>2001-02</b>	<b>2006-7</b>	<b>2011-12</b>	<b>CAGR</b>
<b>Passenger (RPK in million)</b>				
<b>Within</b>	60-65	75-80	85-90	3.7%
<b>Outside</b>	700-800	1200-1300	1500-1600	7.3%
<b>Total</b>	760-845	1275-1380	1585-1690	7.4%
<b>Cargo (FTK in lakhs)</b>				
<b>Within</b>	19	23	27	3.9%
<b>Outside</b>	50	64	78	5.1%
<b>Total</b>	69	87	105	4.75%

#### **Phases of Phased Development**

Total air route network development in one go would not only call for a very large financial outlay but would also not yield adequate revenues as passenger volumes at the very outset are predictably low. This would build up to sustain a full fledged development of the network over a period. Therefore a three-phase development has been proposed, wherein places to be connected have been identified for each phase depending on the existing traffic volume, availability of infrastructure, need for additional infrastructure and overall economic viability of operations.

## OPERATIONS OF THE PROPOSED AIRLINE

### City Pairs to be connected

Identification of city pairs to be connected by the regional network has been done primarily by considering the projected traffic potential including the likely switchover to air traffic from other modes of transport and the status of infrastructure including the investments involved.. Other parameters, like need for inter capital connection and providing air connection to places with tourism, border trade and industrial potential have also been given due weightage.

### Summary of Cities Identified

State	Places considered for air connection		
	Phase I	Phase II	Phase III
Arunachal Pradesh	Itanagar, Bomdilla, Daporijo, Ziro, Along, Passighat, Tezu, Rupa	Sepa, Anini	-
Assam	Guwahati, Jorhat, Silchar, Lilabari, Tejpur	Dibrugarh	Dhubri, Kokrajhar
Manipur	Imphal, Ukhrul	-	Churachandpur, Moreh
Meghalaya	Shillong	Tura	-
Mizoram	Aizwal, Lunglei, Lwangtlai, Champhai	-	-
Nagaland	Dimapur, Kohima	Mokokchung, Tuensang	-
Tripura	Agartala, Kailasahar	-	Udaipur

The cities outside the region proposed to be connected to the North-East are shown below

### City pairs Outside the Region Proposed to be connected

Particulars	Phase I	Phase II	Phase III
Outside the region	Delhi, Kolkata, Bagdogra	Port Blair	
Outside the country			<ul style="list-style-type: none"> <li>• Bangladesh-Dhaka, Sylhet, Jessore, Chittagong</li> <li>• Myanmar-Mandalay</li> <li>• Thailand-Bangkok, Chingmai</li> <li>• China-Hong Kong</li> </ul>

### Routes

Based on the city pairs selected, various route options were evaluated. The final selection was done considering the overall load factor on each route, flying time available, etc. Other issues like total flying hours available and capability of the aircraft to operate in short haul routes with higher landing ratios were also assessed.

### Selection of Aircraft

The guiding factor behind the aircraft selection has been to optimise financial outlays for economic viability taking into account the potential traffic. Towards this objective, criteria like utilisation rate, ease of availability in the used market, maintenance facility, availability of expert personnel to handle the aircraft and status of existing airports were carefully evaluated before arriving at the final selection. The final phase wise selection of number of aircraft is shown.

Phase	Type of aircraft				
	100-120 Seater	70 Seater	50 Seater	19-20 Seater	Combi version helicopter
I	-	2	3	1	1
II	-	1	3	2	2
III	2	-	-	-	-

As can be seen, heavy reliance has been placed on 70 / 50-seater fixed wing aircraft operation within the region. This is on account of the nature of traffic in the region - on some routes, the traffic is very high (over 100 per day) while on others, it is low (20-30 per day). Further, infrastructure availability in the region has also played a role in aircraft selection. Larger aircraft have been considered for out of the region operation providing direct connection for passengers to metros in the country. Also, combi-verison helicopter has been selected as it offers lot of flexibility in operations in terms of the mix of passenger and cargo.

A 100-120-seater aircraft has been selected in phase III for proposed international operations of the regional airline.

The fleet selected gives a load factor of about 80% in the first two phases of operations.

In addition to the above, a 4-5 seater fixed wing aircraft and a 4-5 seater helicopter is proposed for charter operation in Phase I.

Based on the market size, the routes connecting the cities and aircraft that have been selected, the coverage of the estimated market size within the region in the three phases is shown.

Particulars	Phase I	Phase II	Phase III
% age of RPK-within region	80%	90%	95%
% age of FTK-within region	50-60%	60-70%	60-70%

It may be noted from the above that even if the projected traffic growth rates do not fully materialise, the viability of the project is not significantly affected. This is on account of the fact that the market size projected in the phase I of the operations through 70/50-seater aircraft is larger than the capacities being created. As a result, even if the demand in the region were to fall by 20-30%, the viability of the network is not significantly

threatened. In addition, there are capacities available for service outside the region.(e.g. Kolkata-Agartala) Thus, the market size is not a constraint for the viability of the network.

## INFRASTRUCTURE REQUIREMENTS

A review of the available airport infrastructure at most of the existing airports has been carried out. Based on that, suggested modification required of the existing infrastructure has also been recommended. For airports nominated as hubs for the regional airlines, certain additional infrastructure that would be required has also been mentioned. The summary of the additional infrastructure required is shown.

<b>Additional Infrastructure</b>		
<b>Locations</b>	<b>Additional infrastructure</b>	<b>Investment</b>
Guwahati	<ul style="list-style-type: none"> <li>• 1 hangar with an annexe of about 2500 square metres covered area</li> <li>• A corporate office</li> <li>• An operational office at the terminus</li> <li>• 6 commercial counters</li> </ul>	<ul style="list-style-type: none"> <li>• Cost : Rs 36 million</li> <li>To be provided by AAI/funded by NEC</li> </ul>
Agartala	<ul style="list-style-type: none"> <li>• 1 hangar with an annexe of about 1500 square metres covered area</li> <li>• An operational office at the terminus</li> <li>• 4 commercial counters</li> </ul>	<ul style="list-style-type: none"> <li>• Cost : Rs 25 million</li> <li>To be provided by AAI/funded by NEC</li> </ul>
Itanagar	<ul style="list-style-type: none"> <li>• 1 hangar and an annexee of approximately 2000 square metres</li> </ul>	<ul style="list-style-type: none"> <li>• Existing space</li> <li>To be provided by AAI/funded by NEC</li> </ul>

In phase I, thus the total proposed investment in up-gradation is Rs 61 million. This is on account of the fact that Guwahati and Agartala, which would be acting as the regional hubs for the airline, do not have suitable hangars that can be leased to the airline. Thus an additional outlay of Rs. 61 million will be necessary by AAI/NEC to establish this facility. In respect of Itanagar, it has been assumed that AAI and Arunachal Government would provide the hangars. Accordingly, no investments have been accounted for in Phase I.

It may also be noted that in phase II and phase III of operations, the investments proposed are minor provided Airport Authority of India and the respective state governments work towards operationalisation of some of the airports within the region. In addition, no significant investment is envisaged for helipads in places connected by helicopter. Upgradation/operationalising of helipads should be taken up by the local State Government within its own resources.

## Other Issues Considered

While assessing the technical feasibility other issues like availability of skilled personnel, environmental consideration and earlier studies carried out for review/upgradation of airport infrastructure in the North-East have also been considered.

## INVESTMENTS

Considering the market size, the option of leasing the aircraft has been found to be most appropriate. To bring down the project cost further and in compliance of DGCA guidelines, it is proposed to lease 10-year old aircraft. Accordingly, the total project cost of the regional airline has been estimated at Rs 1143 million. The investments in the three phases come to Rs. 824 million in phase I, Rs.194 million in phase II, and Rs. 125 million in phase III .

## FINANCIALS

The projected profit and loss account for the first phase of operations is shown

### Projected Profit and Loss Account-Phase I

*(all figures in Rs million)*

Particulars	Year 1	Year 2	Year 3
Revenue	1228	1518	1518
Operating cost	780.6	802.5	802.5
Leasing	388	388	388
PBIDT	23	287	287
Depreciation and amortisation	2.9	2.9	2.9
PBIT	20	285	285
Finance cost	50	58	58
PBT	-31	226	220

**Note: In the first year, the airline makes a loss on account of low load factor that has been assumed at 65%**

As can be seen from the above, the proposed network is viable. However, seen in the context of exclusively within the region operations, the proposed network would not be financially viable. This is on account of two factors: low yield in the region (approximately Rs 3.50/RPK as compared to about Rs 5/RPK for rest of India) and lower utilisation of the aircraft because of limited scope of night operations at most of the airfields within the region. Thus operations of aircraft by the airline outside the region becomes a prerequisite for viability. The operations outside the region are contributing over 50% of revenue of the airline. The break-even load factor taking into account outside the region operation is 68%.

## Suggested Policy Changes

The suggested policy changes are being made keeping in view the size of the market, the flying hours available within the region, the viability of the airline, etc. The primary objective of these policy changes would be to encourage and foster an expeditious growth of regional airline in the North-East. Thus, the project would have to be made attractive to the potential investors. This could be in the nature of measures that lowers investments or cost of operations so as to compensate for the factors associated with geographical spread, flying conditions, etc. that could have impact on the economic growth of the network. These measures could be some of the following.

- (1) The 3% Customs Duty on import/ leasing of aircraft, which has been introduced recently, could be removed in the long run, and leasing without any duty reinstated, to make the acquisition and leasing of aircraft possible without additional financial burden of such a high and perpetual nature. Retention of this duty will make regional airline establishment reel under avoidable perpetual overhead, cutting into yield of the network.
- (2) The exemption of withholding tax could be restored for financial relief and incentive for the development of a regional airline.
- (3) Customs duty holiday for a period of 5 years on all spare part imports for the regional airlines to stabilise and become financially sound to meet this financial outgo.
- (4) Aviation Turbine Fuel (ATF) could be supplied at bonded rates to the North East Regional Airline. At bonded rates, ATF could be exempt from sales tax and surcharge.
- (5) Sales tax holiday for the aviation sector for a minimum period of 15 years
- (6) Landing & Parking rates prevailing prior to 1992 may be levied in the North- East.
- (7) Landing & Parking fees may be exempted for 19 seater aircraft and helicopters at all stations within the North-East.
- (8) No Landing, Parking and RNFC charges may be leviable for operations on AAI airports which are neither manned by them nor any facilities are provided by way of Navigational Aids, communication facilities etc. The outbound and inbound legs ex airfields also could be exempted from RNFC for such operations.
- (9) Indian Air force could be prevailed upon to exempt regional airline from payment of landing, parking and navigational charges, at Air force airports.
- (10) AAI could be asked to put up and upgrade all infrastructural facilities like runways, taxitracks, hangars, maintenance annexe, office accommodation, fire fighting and safety services on all airfields handling 19-seater and above aircraft.
- (11) Helipads and landing strips to be beefed up by the respective state government and minimum communication aids established. Extensive use of portable sets should be permitted for this purpose.
- (12) There could be no landing, parking, and RNFC charges for operations to and from landing strips and helipads that are either maintained by the state governments or the operators.

- (13) State Governments of the region could underwrite 60% of the seats deployed on the routes covering the state capitals by making it compulsory for all government officials, officials of the local bodies, government corporations, public sector undertakings and concession voucher travellers to travel by the regional air lines. This is well within the realm of possibility since 65-70% of the air traveller at present are Govt/semi-Govt officials and business/corporate traveller.
- (14) GPS operations could be made standard procedure for the NorthEast.
- (15) Helipad operations should be made autonomous at all helipads with safety and regulatory functions made the responsibility of the operator.
- (16) Subsidies on fare for travellers within the NorthEast would be necessary to make air travel affordable by the local population. This could be in the form of reimbursable discounts, specially for the commuters from the inaccessible areas travelling on medical/educational grounds.
- (17) All cargo loads for the local governments, police and paramilitary forces could be carried by the regional airlines as a first charge.
- (18) Arunachal Pradesh should establish a state-of-the-art Heliport at Itanagar, Rupa and Bomdila. Helipads at all other locations should be provided with communication, meteorological and navigational facilities, although GPS should be made an essential navigational aid.
- (19) Central / State Governments, Public sector undertakings, Defence and para- military forces, local bodies and corporate could be prevailed upon by the North East Council to lower the entitlement of their employees to facilitate their travel by air. While the organizations will gain by way of efficiency, time saving and availability of the employees it will help bring the load factors closer to the break-even factor to make the operations sustainable.
- (20) The Ministry of Civil Aviation could grant subsidy to the regional airlines from the Civil Aviation Development Fund to provide relief for operating on loss making routes for better connectivity of the region.