EXECUTIVE SUMMARY

DETAILED PROJECT REPORT (April 2012)

KANNUR INTERNATIONAL AIRPORT

(i) Project Background

The Govt. of Kerala has proposed to build an International Airport at Kannur keeping in view the current aviation scenario, the potentiality of trade development and last but not the least, tourism development. Kannur town, earlier known as Cannanore, is the headquarters of Kannur district, located on the seaside in the northern part of Kerala. It is one of the most important seacoast towns of Kerala and lies about 140 km south of Mangalore (Karnataka) and about 100 km north of Calicut (Kozhikode). To the Northeast of Kannur district, about 70 kms away is the hilly region of Coorg, which is well known for its beautiful countryside, pleasant climate and some of the most exquisite flora and fauna found nowhere else in South India.

With its scenic beauty and salubrious climate, Kannur is one of the most pleasant places on the Kerala coast. Kannur is also a town of great historical importance as compared to other cities/ towns on Malabar Coast. Marco Polo, the celebrated historic traveller of the 13th century has referred to Cannanore as a great "Emporium of Spice trade".

Kannur and the suburbs have a number of important temples, churches and mosques which are linked to the Rajas of medieval ages and the historical development of Kannur district. Due to the unique location and architectural features, in addition to the geo-historical importance, the temples, mosques and churches are places of pilgrimage and attraction for tourists visiting the area.

From the very early days, Kannur has been famous for its handloom fabrics and it is one of the most important industrial centres of the state. Very

large proportions of handloom fabrics or readymade garments manufactured in Kannur are exported to various countries. In addition to handloom, Kannur is also a centre for the manufacture of Beedi and Cigars which are also exported to foreign countries.

During the last three decades a large number of Keralites have gone abroad; mostly to the Middle- East countries and South Asia. A sizeable proportion of Non-Resident Indians who are a source of substantial foreign exchange earnings for the state, are from Northern districts of the state, Kannur being one such district.

Kannur has over 80 km of beach line with silver sands and clean waterfronts, which can be developed and expanded into first rate leisure parks, tourist attractions and for water sports. The development of an International airport will therefore be the catalyst for tourism growth. The backwaters of the district and its lush green, rain soaked forests provide opportunities for business in textiles, spices, handicraft etc. and also high potential for export of perishable and non- perishable cargo. The region offers unlimited scope for the growth of tourism, trade and commercial activities. An international airport can provide a tremendous boost to all these activities and can be a nucleus for development of trade, commerce and tourism in the State.

(ii) Consultant's Vision of The Role of This Airport

The consultants M/s Cochin International Airport Ltd (CIAL) feel that this airport is much more than a world class international airport serving foreign tourists and NRIs. This project development is perceived as a new modern mini city which promotes economic activities such as processing and packaging of spices, cut flowers, food products, ware housing of sea foods and fresh vegetables/fruits at correct temperatures and humidity, handicrafts and textile units, electronics industry, computer hardware and software units, facilities for tourists to promote leisure and health tourism, tourist attractions such as a golf course, display centres for exquisite handicrafts and other local products etc. An international airport with state of the art facilities and multimode transport interconnections is proposed to be the life line of this economic giant which will usher in a new era of employment opportunities, rapid growth and prosperity of this region. With this concept, the airport will develop its own catchment area and exploit untapped business potential of the region without seriously under –mining the traffic and revenues of existing airports in the region and particularly in Kerala State.

(iii) Airport Site – Its Physical Characteristics

In view of the aviation scenario, trade potential and tourism development in the northern part of Kerala, the Government of Kerala had proposed to build an international airport at Kannur and identified two prospective sites. However, the site at Moorkhanparambu with its topographical and environmental merits made Airports Authority of India to select this location after their survey.

The Kannur district lies between the latitudes 11º - 40' to 12º - 48' north and longitudes 74º - 52' to 76º - 07' east. The district is surrounded by the Western Ghats in the east (Coorg district of the Karnataka state), Lakshadweep Sea in the west, Kozhikode and Wayanad districts in the south and Kasargode district in the north.

CIAL has conducted Geotechnical Investigations of the proposed site through Cochin University of Science and Technology (CUSAT). The soil investigation and the laboratory studies were carried out in February - March 2012

In general, it can be observed from the profile that the top stratum consists of very hard laterite upto a depth of 8 to 10m. Below that level the soil is mostly clayey silt with compressibility varying from low to high. As it goes down, percentage of sand increases and soft weathered rock or soft rock is found at 30 to 40m depth in general. The depth of weathered rock / soft rock layer varies from 4 to 14m in general and after that hard rock is encountered.

Planning and designing the length of a runway is critical for ensuring that the forecasted critical design aircraft can safely use the runway for take–off or landing. Designing a runway to accommodate a given aircraft has an element of variance, given the fact that an aircraft's required runway length will vary based on aircraft weight, as well as several ambient conditions. Aircraft today operate on a wide range of available runway lengths. Various factors, in turn, govern the suitability of those available runway lengths, most notably airport elevation above mean sea level, temperature, wind velocity, aircraft operating weights, take- off and

landing flap settings, runway surface condition (dry or wet), effective runway gradient, presence of obstructions in the vicinity of the airport, and if any, locally imposed noise abatement restrictions or other prohibitions. Of these factors, certain ones have an operational impact on available runway lengths. For a given runway the usable length made available may not be entirely suitable for all types of airplane operations. It is recommended to have effective zoning laws to restrict natural growth and manmade obstructions to avoid displacement of runway thresholds reducing the effective runway length.

Critical Design Airplanes

The airport design runway length is found for the **forecasted critical design airplanes**. It is the aircraft which flies the greatest nonstop route segment from Kannur Airport, at least 500 operations /year (i.e. daily one aircraft movement) and requires longest runway. Considering the fleet of the probable carriers from proposed Kannur Airport, history of operations of these carriers from nearby airports like Trivandrum, Cochin, Calicut, Mangalore, the passenger demography and travel profile of the catchment area assessed during the survey conducted-reveals that the following aircrafts are the most probable users

i) Boeing 777- 300 ER.
ii) Boeing 747-400
iii) Boeing 737-800
iv) Airbus A-320
v) Embraer Q-400
vi) ATR-72

Calculation of Runway Length Data

A. Aerodrome Elevation-100M
B. Aerodrome Reference Temperature 31.57 ^{0} c
C. Runway slope 0%

(iv) Traffic Forecasts

CIAL has adopted a combination of various methods to forecast the traffic of Kannur International Airport. Since each of the alternative methods has its own limitations and suitability, various factors have been considered in the development of forecast.

It is assumed that Kannur Airport will be operational by 2015. In the absence of any historic traffic data, we have adopted a combination of econometric and qualitative models for projecting the future Air traffic at Kannur.

In a new Airport, the traffic will be mainly by way of diverted traffic, that is traffic diverted from nearby airports and induced/ generated traffic that is the traffic that materializes from the catchment areas of the airport after the investments are made and depending upon the regional economy, tourism, trade, commerce, employment of the -people abroad or in other states and alternate transport facilities. Diverted traffic will be depending on factors like airport facilities, time and cost savings, and increased conveniences. In order to analyse the potential international traffic of Kannur, we have analysed the historic international air traffic of three existing airports in the state of Kerala as well as Mangalore Airport, which is the nearest airport which also caters to the traffic generated from the catchment areas of the Kannur Airport. For the purpose of computing the traffic forecast under the Linear, Log Linear and Log Multivariate

methodologies, the GDP projections, historical traffic data, NRI distribution data and tourism data were used. As the result of Log multivariate model better resembles the traffic forecast made under the Techno Economic Feasibility report made for Kannur Airport, we would prefer to conclude the International traffic forecast made under this model as the most likely scenario and an optimistic and pessimistic scenario with a 10% margin under this model is also computed and given below:

Year	Optimistic	Most Likely	Pessimistic
2015	1.45	1.32	1.19
2016	1.58	1.44	1.30
2017	1.70	1.54	1.39
2018	1.82	1.65	1.49
2019	1.95	1.77	1.59
2020	2.08	1.89	1.70
2021	2.23	2.03	1.82
2022	2.38	2.17	1.95
2023	2.55	2.32	2.09
2024	2.74	2.49	2.24
2025	2.93	2.67	2.40
2026	3.14	2.86	2.57
2027	3.37	3.07	2.76

The result of Linear Model better resembles the domestic traffic forecast made during the Techno Economic Feasibility study for

Kannur Airport, we would prefer to conclude that domestic traffic forecast made under Linear Model as the most likely scenario and an optimistic and pessimistic scenario with a margin of 10% under this model is also computed and given below:

Projected Kannur Domestic Traffic (In Millions)

Year	Optimistic	Most Likely	Pessimistic
2015	0.67	0.61	0.55
2016	0.73	0.67	0.60
2017	0.78	0.71	0.64
2018	0.83	0.76	0.68
2019	0.89	0.81	0.73
2020	0.94	0.86	0.77
2021	1.00	0.91	0.82
2022	1.07	0.97	0.87
2023	1.13	1.03	0.93
2024	1.20	1.09	0.99
2025	1.28	1.16	1.05
2026	1.36	1.24	1.11
2027	1.45	1.32	1.19
2028	1.54	1.40	1.26
2029	1.64	1.49	1.34
2030	1.75	1.59	1.43
2031	1.86	1.69	1.52
2032	1.98	1.80	1.62

Airport Master Plan

Master Plan proposed for KIAL consists of Code 4E runway of 3400 m having a full length parallel taxi track with rapid exits and intermediate taxi links. Consultants had examined the runway alignment suggested in the TEFR which was subsequently validated by Airports Authority of India with runway end co-ordinates of 11054'31"N-75031'50"E and $11^{0}55'16"N-75^{0}33'34"E$. On a detailed investigation, after establishing the co-ordinates on the ground, it was found that this alignment results in the additional acquisition area for approach lighting will be fouling with about 35 houses in that locality and also few rehabilitated houses in the KIAL land. Therefore another alignment with a slight shift was examined on the suggestion of KIAL .Thus the alignment of the Runway is proposed as 07- 25 after carefully analysing the data obtained from the obstruction survey, wind rose diagram, topographical survey etc. By this alignment houses in the additional acquisition area for approach lighting is avoided however rehabilitated houses in the KIAL land will still remain in the approach lighting area. Care has been given to site the location of the main runway in such a manner that the maximum length will be available in cutting and only areas beyond the touchdown on either side will be in filling. Care has also been given in finalizing the reduced level of runway for balancing the overall cut and fill of the operational area of the airport. From the lie of the land and details of the topographical survey after examining different options it is noticed that the terminal complex and other facilities such as cargo terminal, ATC Block etc. can be positioned only on the Kannur side of the project site. Hence Master Plan has been prepared accordingly with a four lane road connecting link from the present Kannur road to the terminal; and cargo complex positioned on this side of the project site. Space for necessary commercial complexes /hotels, shopping malls etc. has been identified by the side of the main

approach road to the passenger terminal. On the southern side of the project site, space has been earmarked for various non –aero activities such as MRO/general aviation, Cyber Park, industrial park, logistics centre, handloom village, Gem/Jewellery park etc. Space has been provided for a residential accommodation for airport employees on this side of the project site. A dedicated area has been reserved for the use of defence as advised by the client on the side of runway as shown in the Master Plan. The proposal in this Master Plan is to provide an offset DVOR since acquisition of land in the extended centre line for placing a DVOR was said to be difficult at this stage. An isolation parking bay and the location for a radar was also planned on the south side of runway. It is proposed to have a reciprocal ILS with CAT I lighting on either end of the runway in view of the natural obstructions all around in the proposed airport site. This requires additional land acquisition on either end of the runway beyond the area in the possession of KIAL. The same is shown hatched in the Master Plan attached. It is informed by the client that Government of Kerala has a proposal for a greenfield road and a new railway line from Kannur to Mattannur connecting the airport site .In the Master Plan, necessary care has been given for identifying a location for railway station for the airport project.

KIAL has informed that Govt of Kerala has given administrative clearance for acquisition of 783 acres of additional land for this Airport project. Out of this, the major portion of the acquisition will be on the northern side of the Kannur road for setting up a commercial area. KIAL has advised the consultants to study the technical feasibility of positioning a secondary runway in that location. Since this exercise needs a topographical survey, obstruction survey etc, before arriving at a concrete proposal, it will take some time for a conclusion. Hence this report does not carry the details

about the development proposed on the northern side of the Kannur road .The same can be captured in a supplementary report after conducting the necessary surveys later.

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Planning

The consultant has specifically planned the airport facilities by following the published and formalized standards and recommended practices and specific criteria developed for Kannur International Airport.

The planning philosophy was also guided by the norms and standards for capacity of airport terminals published by Planning Commission of India with hither to sets forth.

1) At least 10 year capacity planning period for non-metro airports
2) Requirements of airport development plans
3) Establishment of requirements in support of demand generated at National level
4) Relationships with competing airports.

Similarly the general design objective was also framed based on the following recommendations.

1) Capacity to meet the projected demands
2) Practical functional and feasibility
3) Maximizing use of facilities
4) Flexibility to meet requirements beyond planning horizon
5) Environmental issues
6) Adaptability to implement innovation in aviation technology.

The Kannur International Airport is being totally planned from scratch on a hilly land in Kannur District of Kerala with no existing component tying down the free flowing concepts of an Airport Planning work. Hence the consultant was appointed to finalize the planning work of the new Airport. The consultant has kept in view the land already available with KIAL and which could be acquired by them in the future. With this land made or to be made available, optimum utilization of the space has been planned to accommodate all the facilities needed at an international airport. For this the consultant has used the latest information on the aircraft industries trend and predication available with them.

The airport master plan has been prepared on the basis of traffic projections of Trivandrum, Cochin, Kozhikode and Mangalore airports. The airport is planned to be commissioned for operations in 2015 with the following features.

a) Total No. of passengers in 2015.
    i. Pessimistic scenario 1.74 million
    ii. Most likely scenario 1.93 million
    iii. Optimistic scenario 2.13 million
b) No. of aircraft movements: 20333
   (Domestic + International)
c) Cargo movements: 15684
   (Domestic + International)
d) Peak hour aircraft movements - 6
e) Type of design aircraft A -320, B-737-800, B-777, A-330 and Boeing 747

The airport development has been divided into 3 phases. Phase I, II, & III.

Phase I: - Development is planned to operationalize the airport by installing capacities up to the year of 2015 for 10 year period where we anticipate the operational features of the airport be as under.

a. Projected traffic 2025 (International + Domestic)
    i. Optimum scenario 4.09 million
    ii. Most likely scenario 3.72 million
    iii. Pessimistic scenario 3.35 million
b. Total no of aircraft movements
    International - 24502
    Domestic - 155668
c. Cargo movements 35310 metric ton
d. Peak hour Air traffic movements 12
e. Projected traffic growth rate 7.11% (CAGR)

The initial phase of the master plan named as Phase I concentrates on the operation with the capacity of 4 million passengers per annum. The **ultimate development** presented in the master plan caters for 20.39 million passengers in the year 2045.

The phase wise capital expenditure is as follows: -

Phase I Rs.1400 crore

Phase II Rs.363 crore

Phase III Rs.1444 crore

The detailed breakup of the capital expenditure is given in the financial analysis.

DESCRIPTION OF THE INITIAL PHASE OF THE AIRPORT

1. Location

The Site for the proposed international Airport is situated in the Moorkhanparambu area of Kannur district which lies between latitudes 11-40 to 12-48 North and longitudes 74-52 to 76-07 East, The district is surrounded by western ghats in the East (Coorg district of Karnataka state), Lakshwadeep sea in the west, Kozhikodu and Wayanad districts in south and Kasargode, to the North.

2. Master Plan

The Master Plan has been developed using the forecast prepared by consultants. The initial Phase of the Master Plan named Phase I concentrates on the operation with a capacity of 4 million passengers per annum. The ultimate development presented in the Master Plan caters for 20.39 million passengers per annum. The development of Master Plan is foreseen to follow the traffic demand.

3. Runway

A single runway is proposed for this airport in the land available now on the southern side of Kannur Road the runway is designed for wide bodied aircraft in the land available on the southern side of Kannur Road. In view of the limitations with respect to natural obstructions and topography of the land, a possibility of locating a runway in the land proposed for further expansion on the northern side of kannur road will be examined after conducting necessary topographical and obstruction surveys. The runway is of 3400 metres length, width 45 metres,

pavement type is flexible, runway strip width is 300 metres, orientation is 07/25 with turning pads 07& 25 (rigid)

The taxiway system proposed between the runway and the apron will enable aircraft to travel with minimum of delay and permit the runway to operate to its maximum capacity. In the initial phase the airport taxiway system will include the following:

4. Parallel Single taxiway

Phase 1

Length: 1000, width: 44m (23m pavement + 2x10.5m shoulders) Separation distance between the centreline of runway and parallel taxiway: 190 m.The general characteristics of the taxiway specification, other than the parallel taxiway, are summarized below:

Width	23m
Pavement type	Flexible

5. **Apron**

The aprons are rigid pavement and the layout is designed to reflect international standards. The objectives of the apron design include to minimise taxiing distance to / from the runway, to provide sufficient taxi lanes to avoid delays when entering and departing the aerobridge / contact stands, to provide airside roads and equipment parking areas, to ensure that the ground handling support for aircraft is sufficient and efficient and also to ensure that operations can be conducted safely.

6. Airside Service Roads

The main road connecting the various terminals and aprons and catering /maintenance center has a width of 10m. Other airside roads are 2-lane roads, 7.5 m width.

7. Main Access Road

The main access road from Kannur Road to main passenger terminal is a 2-lane dual carriageway.

8. Air Traffic Control Tower

An air traffic control ("ATC") tower will be placed adjacent to main passenger terminal building. The ATC tower will have height of 45meters from the ground level.

9. Airfield Ground Lighting

The runways and taxiways will be provided with marking, lighting and signage in accordance with the recommendations of ICAO Annex 14, Volume 1: "Aerodrome Design and Operations".

10. Rescue and Fire Fighting Facilities

The airport shall be equipped to provide a level of protection corresponding with aerodrome category 9. The fire station is located such that the response time complies with the ICAO recommendations. A watchtower is located above the main fire station.

11. Water Supply

Potable water shall be supplied by Kerala Water Authority and to the service area shown on the Master Plan in sufficient quantity and pressure. Basic treatment on Site is planned and potable water storage tanks for an average daily demand of one day and raw water storage tanks for two days' demand for fire-fighting including distribution networks to the airport facilities are planned.

12. Sewage Disposal

The sewage and storm-water drainage are planned as separate systems. The sewage system will include a collection network, pump pits, a sewage treatment plant, etc. Sewage water of the terminal building and other Airport-related facilities will be collected by means of a piped system .A sewage treatment plant will be constructed.

13. Storm Water Drainage

The design of the drainage system is determined by the topography, finished formation levels, surface run-off from paved areas and building roofs.

a : The storm water from aprons, taxi-ways and runway, shall flow into open drains.

b : Open drains; inlets and pipe culverts shall be constructed to collect the storm water from buildings, parking areas and roads for discharge to the natural terrain drainage system.

14. Telecommunications and IT

An airport community network including LAN (IT backbone) will be

provided as an open facility allowing statutory authorities, K IAL Airport management, the airlines and all other users / concessionaires direct access to vital airport information and the internet. Ground service radio communication will be provided for all ground service groups, security, and fire and rescue services.

15. Electrical

The power supply to the airport shall be provided by Kerala State Electricity Board. The electrical power system includes transformer sub-stations, a distribution network, and emergency power supply. The distribution network will be planned with ring mains, so that power supply is always possible from two different sources. An auxiliary power generator system will be installed in the DG-power station which will supply the essential consumers and airfield ground lighting of the airport in case of power supply failure.

16 (a) Layout Concept

The passenger terminal is designed as an integrated terminal for domestic and international operations. There will be full segregation between arriving and departing passengers and between international and domestic passengers.

There is a built-in flexibility of using selected gates and contact stands for both international and domestic traffic

16(b) Capacities of the Terminal Building

In the initial development, the terminal building shall be designed for the peak hour number of passengers (2000). The design standards proposed would reflect the best industry practice and operating standards. The

design will cater to 24 hours operations under all weather conditions. The total floor area planned is approximately

5, 00,000 sq ft including service cores, circulation areas and inner walls.

Modular expansion of terminal with traffic growth is possible without disturbing the operations and matching the existing facade. The terminal building will be fully air- conditioned.

The terminal equipment proposed includes:

I. Check-in counters including CUTE, manual as well as computer kiosks for self-check-in
II. In-line X-Ray baggage scanner for hold baggage
III. Flight information display system (FIDS)
IV. CCTV surveillance and PA (public address) system access control system
V. Fire alarm and detection system
VI. Baggage handling system
VII. Escalators, elevators and automatic doors
VIII. Counters for immigration, customs and security
IX. Passenger seating / public furniture
X. Signage
XI. Baggage trolleys on both landside and airside (small model)
XII. Fire suppression system
XIII. Passenger boarding bridges
XIV. Security equipment like X-rays scanner for hand baggage. DFMD and HHMD

17. Aircraft Fuelling Facilities

Provision of a fuel hydrant system to transport fuel from the fuel tank farm to the aircraft is included in Phase 1 works. Fuel tanks, booster pumps and other technical equipment will be supplied by the fuel farm operator.

18. Passenger Terminal Parking

For all phases of development car parking in front of the terminal building at ground level is planned. A multilevel car parking can be considered in the 2nd phase depending upon the requirement. A designated bus terminal for local and regional buses is located suitably in the parking area close to the terminal building.

19. Ground Services Equipment (GSE) - Maintenance Building

Maintenance facilities are required for Airport vehicles including ground handling equipment, electrical and mechanical equipment and for other uses. The GSE building module measures an area of approximately 15000 sq ft. It can be laterally expanded in modules to cater for increased requirements.

20. Security Wall / Security Fence

The security wall or security fence separating the land side and air side facilities will be constructed to BCAS specifications. In addition a boundary wall will also be constructed to protect the KIAL property in the 2nd phase.

21. General Aviation

General aviation includes such diverse activities as transportation of personnel and cargo by privately owned aircraft, air taxi, agricultural flying, etc. The various types of aircraft comprising the general aviation fleet

range from single engine aircraft to multi- engine turbo jet and helicopters.

(v) Financial Analysis

A comprehensive financial feasibility study was carried out to study the financial viability of the airport project. The analysis considered all the projected capital expenditures, revenue expenditures, incomes of the proposed project during the assumed project life period of 30 years. The present cost of the project for three phases is: Phase I (2012- 2015) – Rs 1400 Crore; Phase II (2016 – 2025) = Rs 363 Crore and Phase III (2026 – 2045) = Rs 1444 Crore. Phase I cost of Rs 1400 Crore include cost of land of Rs 204 Crore made available to Kannur Airport by way of equity. Phase I cost includes high cost of earthworks due to the nature and terrain of the site and state of the art facilities for a world class airport. The DPR has forecasted an FIRR of 14%. The FIRR ranges from 10.44% to 14.75% according to the sensitivity analysis carried out for the project. In purely financial terms the project is viable with tremendous growth potential resulting in innumerable indirect economic benefits from tourism, exports, development of several industries connected with tourism and exports and creation of employment.

For conducting the financial feasibility the following assumptions were made:

1) Airport tariffs and scale of charges for various activities and services were considered strictly at par with the existing rates prevailing in other international airports in Kerala State and India.
2) The catchment area for passenger and cargo traffic can be considerably enlarged by starting several activities on the periphery of the airport like amusement parks, ports complexes, convention centers, hospitals, hotels and resorts, etc.

CONCLUSION

The Detailed Project Report has been prepared for the establishment of an airport at Kannur, meeting international standards and operating a world-class airport. The study has produced a master plan for the airport preliminary design and cost estimates for all the facilities necessary for establishing an international airport. Even though the site needs movement of large mass of earth for leveling the site, nevertheless the site can be made suitable for establishing an airport with a clean and healthy environment. The study has also indicated conclusively that the establishment of this airport will in no anyway effect the volume of traffic handled by the other three airports in Kerala. This is due to the fact, that by establishing certain activities at the airport, the planners have tried to enlarge the catchment area, thus not affecting the traffic and growth at the other three airports namely, Trivandrum Airport, Cochin Airport and Calicut Airport. Secondly, there is absolutely no operational risk of Kannur and Calicut airports operating simultaneously within a distance of about 150 Km. The Nav/Com aids available these days and the operational procedures at the two airport will ensure that there is no risk of operating the two airports within a distance of 150 Km.

The very fact that airport is going to be developed on PPP concept gives further strength to the case that investment is coming from private sources, the government is equally involved by equity participation in the form of land and government's role is that of a regulatory authority and a facilitator for economic development activities.

The Financial Analysis carried by highly experienced Transport Economists indicates that for various combination of investment the FIRR varies between 10.44% to 14.75%. These figures are arrived using very conservative approach to the analysis namely the charges made at the airport, revenues generated, growth rates of traffic, passenger and cargo are based on the conventional system operating at airports in the country. Innovations in marketing of airport facilities, real estate management, and flexibility in tariff/pricing policies, progressive HRD policies and management techniques would give a substantially higher rate of return that reflected in this financial analysis. However, even the FIRR of 10.44% to 14.75% is concerned satisfactory from the point of view of the investment to be made by the prospective investors.