



8/1/2016

**PROPOSAL FOR THE  
DEVELOPMENT OF PALALY  
AIRPORT FOR OPERATION OF  
REGIONAL COMMERCIAL  
PASSENGER FLIGHTS**



**Civil Aviation Authority of Sri Lanka**

# PROPOSAL FOR THE DEVELOPMENT OF PALALY AIRPORT, JAFFNA

## Contents

1	EXECUTIVE SUMMARY .....	2
2	INTRODUCTION .....	3
3	EXISTING INFRASTRUCTURE AT PALALY AIRPORT.....	3
4	LAND AREA OF PALALY AIRPORT.....	4
5	OBSTRUCTIONS .....	4
6	PROPOSAL FOR THE DEVELOPMENT OF AERODROME.....	4
6.1	Refurbishment of the Remaining Portion of the Runway.....	5
6.2	Runway Strip and RESA as per ICAO Requirements.....	6
6.3	Parallel Taxiway/ Connecting Taxiways in the North Western side of the Runway .....	6
6.4	Construct an Aircraft Parking Apron in the North Western side of the Runway.....	6
6.5	Resurfacing the Present Taxiway System and Parking Stands.....	6
6.6	New Air Traffic Control Tower .....	6
6.7	New Fire Station.....	7
6.8	Navigational Aids .....	7
6.9	PBN Procedures .....	7
6.10	Access Roads to airport.....	7
6.11	Runway/Taxiway Lighting System And Approach Lighting System .....	7
6.12	Terminal Building and Ancillary Facilities .....	8
6.13	Pubic Parking Facilities.....	8
6.14	Water and Electricity Supply.....	8
7	DEVELOPMENT STANDARDS AND CERTIFICATION .....	8
8	AIRPORT MASTER PLAN .....	8
9	COST ESTIMATE.....	8
10	MODE OF OPERATIONS.....	9

## 1 EXECUTIVE SUMMARY

Palaly airport played an important role in the early days of domestic air transport network of Sri Lanka. However, with the weakening of security situation in the northern and eastern provinces in early 80es, domestic air travel was curtailed and all airfields other than BIA and RMA were taken under the control of Sri Lanka Air Force. When travelling between Colombo and Jaffna by road was not feasible due to security reasons, air travel used to be the sole means of travel and connectivity between Colombo and Jaffna. However, limited facilities at Palaly airport prevented operation of large aircraft carrying more than 100 passengers from the airfield.

The Government of India (GOI) and the Government of Sri Lanka (GOSL) had concluded a Memorandum of Understanding (MoU) on 11<sup>th</sup> November 2005 for rehabilitation of the Palaly airport. GOI had agreed to undertake and complete the rehabilitation project in two phases in accordance with the project proposals made by the GOSL. During the official visit of H.E. the President of Sri Lanka to India in 2010, GOI had agreed to extend assistance for developing the Palaly airport and an understanding reached on the subject had been included in the Joint Declaration issued on 09<sup>th</sup> June 2010.

At the request of GOSL, GOI had mobilized a three member Technical Team from the Airports Authority of India (AAI) to Sri Lanka from 19-22 July 2010 to carry out a preliminary assessment to understand the scope of work and cost involved in development of Palaly Airport, Jaffna. The Report of the Technical Team of AAI had made recommendations on runway resurfacing which was ongoing under the existing contract, further strengthening of payments for A321 operations under new contract, proposed Mater Plan for development of Palaly airport.

Total cost estimate of the Project was LKR. 11,312 million (USD 109 million/INR 452.5 crores) and to be completed within 3 ½ years. The team had also indicated three possible options viz. PPP Model, Government Funding and Joint venture between two government agencies that may be considered for development of Palaly airport.

In February 2011, both GOI and GOSL had agreed that the project should be limited to Stage 1 (with 950 m resurfacing of the runway) in view of the proposed transition of the airport to a civilian airport. Accordingly refurbishment of the runway under Stage 1 was completed on 30<sup>th</sup> Mar 2011.

In June 2011, there has been an agreement in principal for use of funds under Indian Credit Line for Palaly airport development and the GOI had send a draft MoU indicating the GOI's support of USD 100 million Line of Credit facility to GOSL.

However, in terms of letter No.CA/01/03/226 dated 18<sup>th</sup> October 2011, the Ministry of Civil Aviation had informed GOI that AASL had run up substantial debt in connection with ongoing airport development project at Mattala and proposed expansion of BIA and therefore it was not in a position to take additional loans for development of the Palaly airport.

The subject of development of Palaly airport had been discussed during the Hon. Prime Minister's official visit to India in 2015 and it has been included under the Discussion Points which are being periodically reviewed by the committee chaired by Mr. R. Paskaralingam, Senior Advisor to the Hon.Prime Minister.

At a special meeting held on 21<sup>st</sup> December 2015 with Civil Aviation Authority of Sri Lanka and Sri Lanka Air Force, Mr. Paskaralingam requested the CAASL to submit a technical report containing areas that needs to be improved for the Palaly airport to be used for operation of regional commercial passenger flights. The Report following was developed by CAASL in close coordination with Sri Lanka Air Force.

## **2 INTRODUCTION**

Palaly airport is located in the Northern Province of Sri Lanka about 25 km northeast of Jaffna. It is situated closer to a major seaport at Kankasanturai and the other port at Point Pedro.

Originally the airport was built by the Royal Air Force during World War II. After the independence, the Government of Sri Lanka (GOSL) used this airport as a joint user airport for military and civil flights. This airport served as the country's second international airport and Air Ceylon operated their flights to South Indian Destinations via this airport.

However, later due to deterioration of security situation in the Northern Area, the airport operations were mainly confined to military flights up to year 2002 and thereafter limited domestic civil flights were operated, with the active patronage with Sri Lanka Air Force.

In 2011 under Palaly airport development programme with Airport Authority of India, there was an agreement to refurbish the runway in two stages. Under the Stage 1, a length of 950 m of the runway was refurbished and this portion has been linked with the remaining un-resurfaced part of the runway with a 75 m long ramp. The width of the refurbished portion of the runway has been reduced to 45 m from 75 m.

At present, the Palaly airport is operated by Sri Lanka Air Force. It is used by both civil aircraft and military aircraft. Most of the civil aircraft operated to Palaly airport are from Ratmalana airport.

## **3 EXISTING INFRASTRUCTURE AT PALALY AIRPORT**

The airport has a 2300 m long Runway. However the width of the refurbished part of the Runway (950 m) has been reduced to 45 m from 75 m. The Runway has a parallel Taxiway which is connected to the runway with four interspaced intersections. The length and width of the parallel Taxiway is 2300 m and 25 m respectively. The sitting of the runway is 05/23 with its two ends orienting in the North Easterly and South Westerly directions respectively.

Except the refurbished portion of the Runway (i.e. 950 m), the pavement of the remaining portion of the Runway (i.e. 1350 m long) does not meet the required standards for operations of commercial passenger flights. The condition of Taxiways and parking stands also requires upgrading to meet the required standards for regional airline operations. However, the Pavement Strength of the refurbished runway area to be checked for the suitability of A320 type aircraft operations.

Entire runway lighting system and some parts of Taxiway Lighting system have been removed during the refurbishing of the runway and therefore not serviceable at present.

Navigational Aids and Approach Lights are not provided for operation of aircraft into and out of the airport under Instrument Flight Rules (IFR).

The airport has Air Traffic Control Tower which is about 10 m high. It is equipped with VHF Receiver and Transmitter, Aerodrome Beacon and Military Communication Equipment.

The Terminal building is adequate for handling about 50 passengers at any given time.

#### 4 LAND AREA OF PALALY AIRPORT

The present land area of Palaly airport is about 420 Ha which have been handed over/vested to SLAF in two occasions. The major part of SLAF aviation related infrastructure and Army establishments are located on the North Eastern side of the Runway as shown in the picture below.

The land on the North Western side of the Runway is a vacant land with scattered single storied buildings which belongs to SLAF and can be relocated for airport developments. The depth of land area in this side is approximately 500 m. This area is an ideal space for the development of a parallel Taxiway coupled with interspaced intersections connected to the runway and an Apron for the parking of aircraft in lieu of the dilapidated taxiway and apron on the other side, where there are number of limitations for further development.



#### 5 OBSTRUCTIONS

There are two significant obstructions for safe operations of aircraft caused by two Communication Towers which penetrate the established Obstacle Limiting Surfaces of the Runway. These communication towers which are on the northeastern corner of the airfield needs to be relocated and there are some other obstructions which need to be marked and lighted for conspicuity.

#### 6 PROPOSAL FOR THE DEVELOPMENT OF AERODROME

In the absence of accurate and current data with regard to the potential demand that the airport would have by regular passengers/ business community and tourists, it is recommended that the Jaffna airport development be undertaken on phase basis so as to

ensure fair return on huge investment for infrastructure development. Initially the airport may be upgraded to handle minimum of two medium commercial jets viz. A320/A321/B737 type aircraft which can carry around 150-180 passengers.

The present runway dimensions are adequate for the airport to function with 4E runway which supports the operations of the above mentioned aircraft. As at present there is no requirement of extending the runway and therefore further acquisition of land is not required.

Further it is suggested that the airport be jointly used by both the military and civil with clear segregation of operations as being practiced at BIA where one side is used for civil operations and the other for military operations. This mode of operations which is practiced in several international airports around the world, in view of reducing operational costs, the perimeter security in particular, which is a vital requirement as per the ICAO standards and readily available support that could be obtained for search and rescue operation of civil aircraft in distress.

In order to develop the Palaly airport as above for regional and domestic aircraft operations the following expansions and installations are proposed;

1. Strengthen and refurbish the remaining portion of the runway for its full length
2. Establish a Runway Strip and Runway End Safety Area (RESA) clear of obstacles as per ICAO requirements
3. Construct a Parallel Taxiway and interspaced intersections to the runway in the North Western part of the Runway
4. Construct an Aircraft Parking Apron in the West of the Runway
5. Resurface the present taxiway system and parking stands to enhance parking space.
6. Construct a Control Tower with Suitable height
7. Construct a Terminal Building and provide related facilities
8. Construct a new fire station
9. Construct a Power Station with all necessary electrical installations
10. Install Runway/Taxiway Lighting System and Approach Lighting System
11. Construct a Cargo Building
12. Install a VOR and DME as homing device for aircraft
13. Provide PBN procedures charts for arrivals and departures
14. Install a Precision Approach Landing System (ILS)
15. Construct a Hanger with Aircraft Maintenance Facilities
16. Identify and develop suitable access Roads to airport
17. Develop an area for Public parking facilities
18. Provide Water and electricity supply to the airport
19. Provide Railway connection to airport – Jaffna KKS line extension
20. Provide facilities for Aviation Fuel supply
21. Provide Sufficient accommodation facilities for staff

Description of the some of the above requirements are given below

### **6.1 Refurbishment of the Remaining Portion of the Runway**

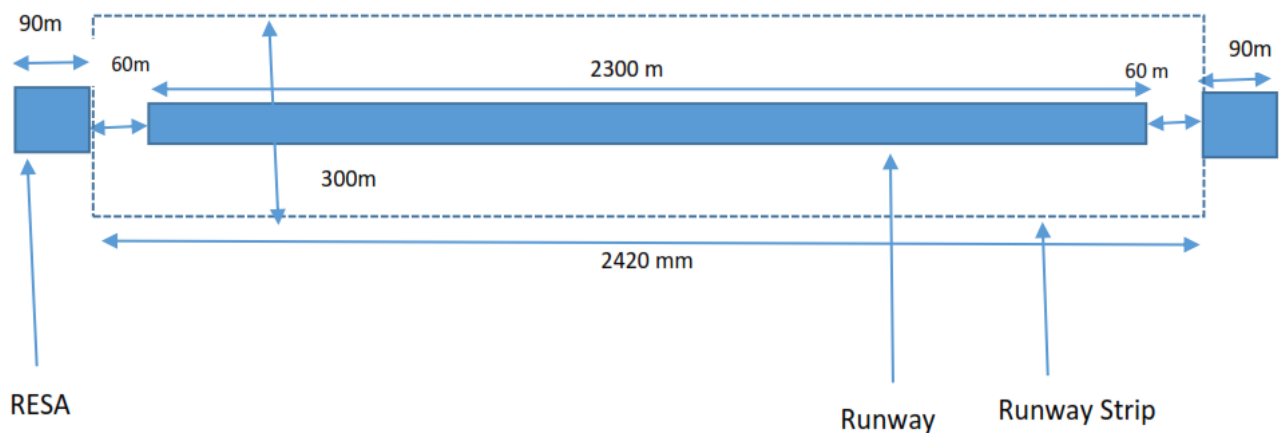
The remaining portion of the Runway which has not been refurbished is 1350 m long. The surface of this portion of the Runway is uneven and not suitable for civil aircraft operations. As such, as the initial step, it is suggested to refurbish this part of the Runway with 45m width and sufficient pavement strength to accommodate A320 type aircraft operations. It is

necessary to give due attention to the existing culvert used for drainage of water and examine whether the strength of them is adequate to take the weight of aircraft landing on the runway

## 6.2 Runway Strip and RESA as per ICAO Requirements

With the refurbishing of the remaining part of the Runway, the dimensions of the Runway will be 2300 m x 45 m. As such this Runway will be in 4E category as per ICAO Runway Classification.

Therefore a Runway Strip should be established with dimensions 2420 m x 300 m and Runway End Safety areas on either side of the runway with dimensions 90m x 90m which are obstacle free areas as shown in the diagram below;



## 6.3 Parallel Taxiway/ Connecting Taxiways in the North Western side of the Runway

As there are military establishments in the North Eastern part of the Runway, it is proposed to construct a parallel taxiway with at least three interspaced interconnection to the runway, an Apron and a Terminal Building in the western part of the Runway in order to provide access to civilian operations with least military interventions.

## 6.4 Construct an Aircraft Parking Apron in the North Western side of the Runway

Propose to construct a new parking apron in the west of the Runway adequate to park at least four category “C” aircraft with provision to expand.

## 6.5 Resurfacing the Present Taxiway System and Parking Stands.

Further it is proposed to re-surface the existing Taxiway system and parking stands in the eastern side of the Runway for the use of VIP and other aircraft which need more security. These parking stands can be used as alternate parking stands in case of a traffic congestion at the airport.

## 6.6 New Air Traffic Control Tower

The height and the space of the present Control Tower is not adequate and the location is not suitable as this Control Tower is situated in the area of SLAF aviation related infrastructure. As such it is proposed to construct a new Control Tower with a suitable height and space in the western side of the Runway and install a suitable ATM system capable of supporting the intended operations.

## 6.7 New Fire Station

A suitable building for a fire station should be constructed and facilities/equipment required for a Category 08 fire station need to be purchased.

## 6.8 Navigational Aids

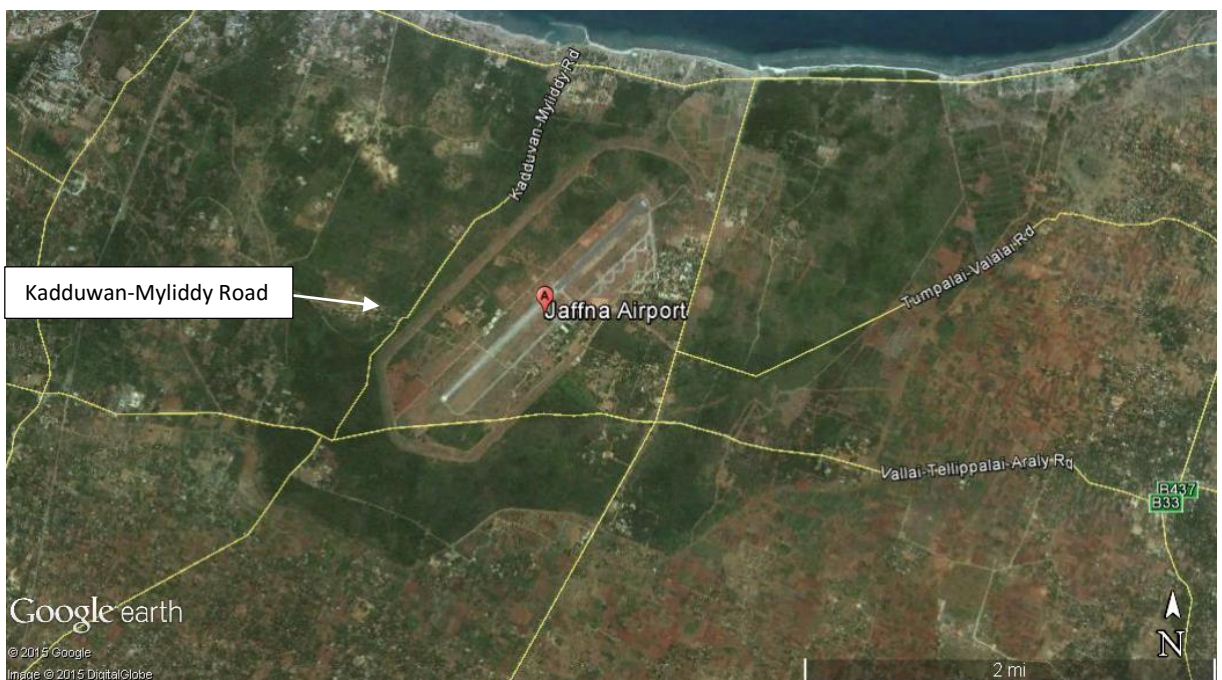
It is proposed to install a VOR/DME and a Precision Approach Landing System. Precision Approach Landing System can either be an ILS Cat. 1 system or Space Based Argumentation System (S-BARS) through “GAGAN” Satellite system which support designing Precision Approaches for two ends of the Runway.

## 6.9 PBN Procedures

It is necessary to implement approach procedures with vertical guidance (APV) (Baro VNAV and/or augmented GNSS), including LNAV only minima, for both ends of the instrument runway, either as the primary approach or as a back-up for precision approaches.

## 6.10 Access Roads to airport

It is suggested to use Kadduwan-Myliddy road as access road to airport with suitable extensions to the airport which can connect the railway road and Jaffna – KKS main road for better convenience in line with the multi-modalism transport concept. Further it is proposed to have an extension from the railway line to deliver heavy goods to and from the airport.



## 6.11 Runway/Taxiway Lighting System And Approach Lighting System

Some parts of Runway lighting system and Taxiway Lighting system have been removed during the refurbishing of the runway and therefore the Runway lights and Taxiway Lights are not serviceable at present.

New Runway lighting system, Taxiway Lighting System (for both existing and new taxiway) and an approach lighting system need to be installed. It is proposed to go for solar power lighting system to reduce operational costs.



## **6.12 Terminal Building and Ancillary Facilities**

It is proposed to construct a terminal building in the Western part of the Runway which should be capable of handling at least 250 departing passengers and 250 arriving passengers. In addition Baggage handling facilities and advanced passenger and cargo Security Screening facilities need to be installed in the terminal building.

## **6.13 Public Parking Facilities**

A parking facility adequate for parking of 500 vehicles need to be developed.

## **6.14 Water and Electricity Supply**

In addition to main power supply a standby generator with sufficient capacity should be installed in order to function as per ICAO Annex -14 “Aerodromes” requirements. Arrangements should be made to provide uninterrupted water supply to the airport.

## **7 DEVELOPMENT STANDARDS AND CERTIFICATION**

Development of Airport and Air Navigation Facilities and Services shall be in conformity with applicable international standards and the requirements published by the Civil Aviation Authority of Sri Lanka.

The prospective Airport Operator operating the Palaly airport after the proposed development shall apply and obtain an Aerodrome Certificate from the Civil Aviation Authority of Sri Lanka prior to commencement of operation of regional commercial flights.

## **8 AIRPORT MASTER PLAN**

Pursuant to Section 14, of the Civil Aviation Act No.14 of 2010, establishment or expansion of an aerodrome shall commence only in accordance with a Master Plan approved by the Civil Aviation Authority of Sri Lanka. Hence it is necessary that the requirements identified above is incorporated into Palaly Airport Master Plan and same is submitted the Authority for approval.

An approved Master Plan is required for the Minister in charge of the subject to declare the area covered under the Airport Master Plan to be a “Protected area” under the Section 23 of the Civil Aviation Act for the purposes of zoning instructions to be issued by Director General of Civil Aviation for control of obstacles within such areas ensuring protection of airspace for safe operation of aircraft.

## **9 COST ESTIMATE**

This report does not intend going into estimations of costs at this stage as it has identified broadly the basic facilities and services that needs to be available at the airport for regional commercial passenger operations. However, for planning purposes, it is advisable to use the cost estimates given in AAI’s report which is USD 109 million. Detailed cost estimate may be worked out after deciding on preliminary facilities and services to be provided at the airport.

It is important to underscore that additional cost component will have to be borne in the development new a new parallel taxiway and connecting taxiways with an apron for aircraft

parking on the North Western side of the runway, as proposed in this report. Such facilities are vital for the airport to function as a fully civilian airport independent from SLAF operations, which will occupy the other side of the runway.

## **10 MODE OF OPERATIONS**

The Air Traffic Services at Palaly airport needs to be provided by the Statutory Service Provider (Airport and Aviation Services Ltd.) as provided in the Civil Aviation Act by engaging Civil Air Traffic Controllers licensed by the Civil Aviation Authority of Sri Lanka.

Other than the airport perimeter security, the airport internal security shall be provided by the Statutory Service Provider as provided in the Civil Aviation Act.

However, if the AASL is not willing to operate Jaffna airport for some reason, the Government may strongly consider the option of operating it under Public Private Partnership (PPP). The advantage of a PPP is that the management skills and financial acumen of private businesses could create better value for money for taxpayers, when proper cooperative arrangements between the public and private sectors are used. PPP can increase the quality, the efficiency and the competitiveness of public services. It can supplement limited public sector capacities and raise additional finance in an environment of budgetary restrictions. The best use of private sector operational efficiencies can increase quality to the public and the ability to speed up infrastructure development. When considering the commercialization or privatization of airports and air navigation services providers (ANSPs), the Government should bear in mind that the State is ultimately responsible for safety, security and economic oversight of these entities. Privatization should not in any way diminish the State's requirement to fulfil its international obligations, notably those contained in the Chicago Convention, its Annexes and in air services agreements.