

**PROJECT PROPOSAL FOR THE SUPPLY AND
INSTALLATION OF A RADAR SYSTEM, CONSTRUCTION
OF A MULTI-PURPOSE AIRCRAFT HANGAR, A PARALLEL
TAXI-WAY, NEW TERMINAL BUILDING AND
PRESIDENTIAL LOUNGE AT BANJUL INTERNATIONAL
AIRPORT**

PROJECT TITLE

BANJUL INTERNATIONAL AIRPORT IMPROVEMENT PROJECT PHASE III

PROJECT RATIONALE

TO REALISE THE OVERALL OBJECTIVE OF TRANSFORMING BANJUL INTERNATIONAL AIRPORT AS A HUB WITHIN THE SUB-REGION

PROJECT PURPOSE

TO PROVIDE FACILITIES FOR AIRLINE OPERATORS AND OTHER AIRPORT USERS THEREBY CREATING BUSINESS OPPORTUNITIES FOR BANJUL INTERNATIONAL AIRPORT

PROJECT DESCRIPTION

TO SUPPLY AND INSTALL A RADAR SYSTEM, CONSTRUCTION OF AN AIRCRAFT HANGAR, PARALLEL TAXI-WAY, A NEW TERMINAL BUILDING AND A PRESIDENTIAL LOUNGE

PROJECT OBJECTIVE

THE OVERALL OBJECTIVE IS TO EXPAND AND IMPROVE THE FACILITIES AT BANJUL INTERNATIONAL AIRPORT, WITH INCREASED IMPROVEMENT IN AIR NAVIGATION, SAFETY AND SECURITY IN THE COUNTRIES ENTIRE AIRSPACE IN ADDITION TO PROVIDING EFFICIENT AND QUALITY SERVICES TO MEET INTERNATIONAL STANDARDS IN COMPLIANCE WITH STANDARDS AND RECOMMENDED PRACTICES IN THE AVIATION INDUSTRY

INTRODUCTION

ORGANISATIONAL OVERVIEW

The Gambia Civil Aviation Authority (GCAA) was established as an autonomous body in July, 1991 (*under the Public Enterprise Act of 1989*) to give effect to the Chicago Convention through monitoring and regulating the aviation industry in the Gambia. In addition, the GCAA is also entrusted with the management of Banjul International Airport which includes, *inter alia*, providing and maintaining required infrastructure and facilities.

The Mission of GCAA is to provide quality airport and air navigational services in the sub-region while generating a reasonable return on investments. It seeks to achieve this objective through various strategies, including: continuously up-grade and expand navigational and related infrastructure of the airport.

DEVELOPMENT ACTIVITIES

The Airport Improvement Project (AIP), is a systematic implementation of Airport Master Plan which was developed since 1977. It is a 30 year projection of airport infrastructural development to provide adequate facility for future expansion in order to meet the forecast of traffic flow.

Financiers were approached to finance the improvement of the airport based on studies carried out by Belgian Airport Consultants (BEAC), in 1994; the economic part of which was updated by DHV Consultants in 1998. The outcome was the Banjul International Airport Improvement Project which is being implemented in different phases depending on the availability of funds.

The first Phase named the Fast Tract Component was commissioned in July 2003 with a project cost of US\$ 3.6 Million and comprised the following:

- i. Reconstruct access road to a dual carriage way
- ii. New airport internal perimeter fencing
- iii. Provide and install new DVOR and other NAVAIDS
- iv. Supply and installation of 640 KVA generator

The next phase of the implementation was tagged Airport Improvement Project, Phase I and it included the following:

- i. Complete overlay of the entire runway including the shoulders;
- ii. Upgrading of the Airfield Ground Lighting (AGL) system.

This phase is now completed and closed, and the overall project cost is US\$27 Million.

The airport Improvement project Phase II is now at the implementation stage. The Netherlands Airport Consultants B.V. (NACO) has since signed a consultancy agreement and submitted the design and drawings. The components and scope of this phase are as listed below.

1. Airside Pavements (Apron and Taxiway)
 - Rehabilitation of existing apron
 - Expansion of the parking apron
 - Construction of two new taxiways
 - Supply and installation of apron and taxiway Lighting
2. Instrument Landing system
 - Rehabilitation of the ILS but maintaining the Category
 - Change the ILS to dual system for both runway ends
3. New Fire and Rescue Station
 - Construction of a new Fire and Rescue Station for Aerodrome Cat 9
 - Design and construct the connecting road to the runway
 - Procure a new fire tender
4. Structural assessments (New Terminal and Control Tower)
 - Appraisal and structural assessment of the New Terminal and Control Tower
 - Design and Expansion of the terminal building to create more traffic space
 - Upgrading of equipment and facilities in the terminal and tower

The total budget for the project including the government counterpart funding is US\$ 35 Million and the duration of the project implementation is twenty seven (27) calendar months.

Once this phase is completed, BIA will be very close to getting the required infrastructure needed for transforming the airport into the hub for the sub-region. The airport shall have the following aerodrome characteristics.

- | | |
|---------------------|---------------------|
| i. Length of Runway | 3600m |
| ii. Width of Runway | 60m [45m + (2)7.5m] |

- iii. Apron size 150,000 sqm
- iv. Fire Fighting Classification Category 9
- v. Instrument Landing System Category II
- vi. Passenger Terminal Capacity 1 Million passenger per year

NEW PROPOSALS

1 AIRCRAFT HANGAR

PROJECT DESCRIPTION

The construction of an aircraft hangar is part of the development plans set out in the Airport Masterplan. The hangar project consists of designing and constructing an Ultra Modern, Multi-purpose Aircraft Maintenance Hangar for the largest aircraft in the industry (e.g. A380), including maintenance bays, cranes, shops, offices, aviation operations, locker room and storage areas. The works include a new aircraft hangar and aircraft parking near the hangar, and a taxiway into the hangar. The project will include information systems, fire protection/alarm systems, Energy Monitoring and Control Systems (EMCS) connection, protected distribution system (PDS), intrusion detection, surveillance, and electronic access control. Supporting facilities will include all related site-work and utilities (electrical, water, gas, sanitary sewer, and information systems distribution), lighting, parking, curb and gutter, sidewalks, storm drainage, and a toeing Vehicle. The project will include construction of the new electrical power supply from an existing substation. Special construction includes sustainable construction features complying with Leadership in Energy and Environmental Design (LEED) "Silver". Access for persons with disabilities will be provided. Comprehensive building and furnishings related interior design and audio visual design services must be included.

The size of the hangar shall not be limited to an A380 only. It is desirable that other large body aircrafts and smaller aircrafts be able to park alongside at the same time. The hangar shall be built for the purpose of maintenance, repairs and complete overall of all aircraft types and category in the industry.

SCOPE OF WORKS

The works and services shall include but not necessarily be limited to the following:

Ground works: The ground works are basically two main components

- The taxiway linking runway and the hangar
- The movement areas for the aircrafts in and around the hangar

The ground works are all civil works consisting of flexible and/or rigid pavement with their associate electrical works for taxi-way, edge lights and flood lightings. While

some elements of the material for these works are available locally, others such as basalt aggregate and bituminous tag coats shall be imported.

Cost Estimate

It is estimated that the entire work described above will cost **US\$40 Million**. This includes the cost of the prefabricated material, ground works as well as the associated ground electrical lightings.

PROJECT BENEFITS

The objectives of the project is to design and build an Ultra Modern, Multi-purpose Aircraft Hangar at the Banjul International Airport for the purpose of maintenance, repairs and overhaul of all aircraft types and categories in the industry. The hangar may also be used for storage for the Presidential jet to minimize the effects dust, heat and other environmental hazards that are exposed in the open parking.

The need for an aircraft hangar will compliment the ambitions of the airport to realize its objective of transforming Banjul International Airport into the hub of the sub-region. The Construction of the hangar will bring the following benefits amongst other.

1. Provide maintenance facilities for aircraft operators
2. Attract more airlines that require hangars as requirement for their operations
3. Generate revenue for the airport

2 PARALLEL TAXI-WAY

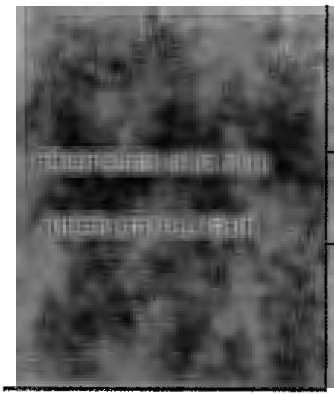
A parallel taxi-way is part of Banjul Airport Master Plan for 2020. It is expected that Airport Improvement Project Phase II will be commissioned in 2015 and the forecast traffic will increase correspondingly. The need therefore to maximize the runway by reducing the occupancy time cannot be overemphasized. This can be achieved with a parallel taxi-way having rapid exits strategically located along the run way.

Design and configuration

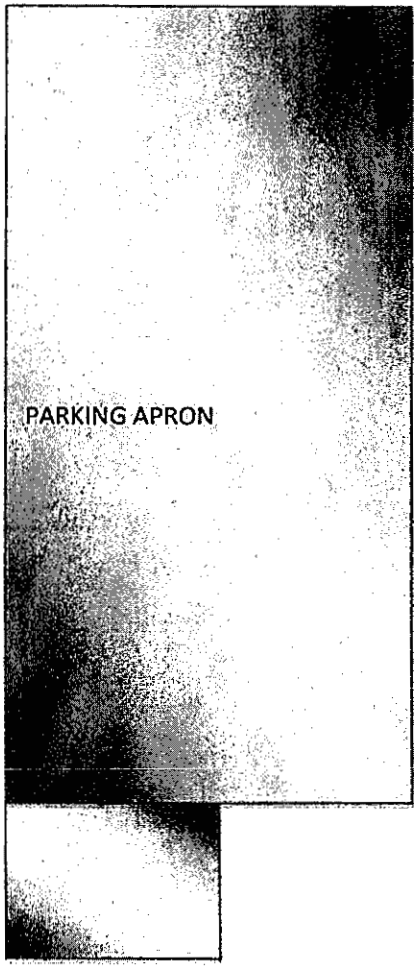
The parallel taxi-way should be designed to run the entire length of the run way with rapid entrance and exit connections. The design in the Master Plan is to have several connections between the runway and parallel taxi-way so that the runway occupancy time is reduced to the minimum.

Cost estimate

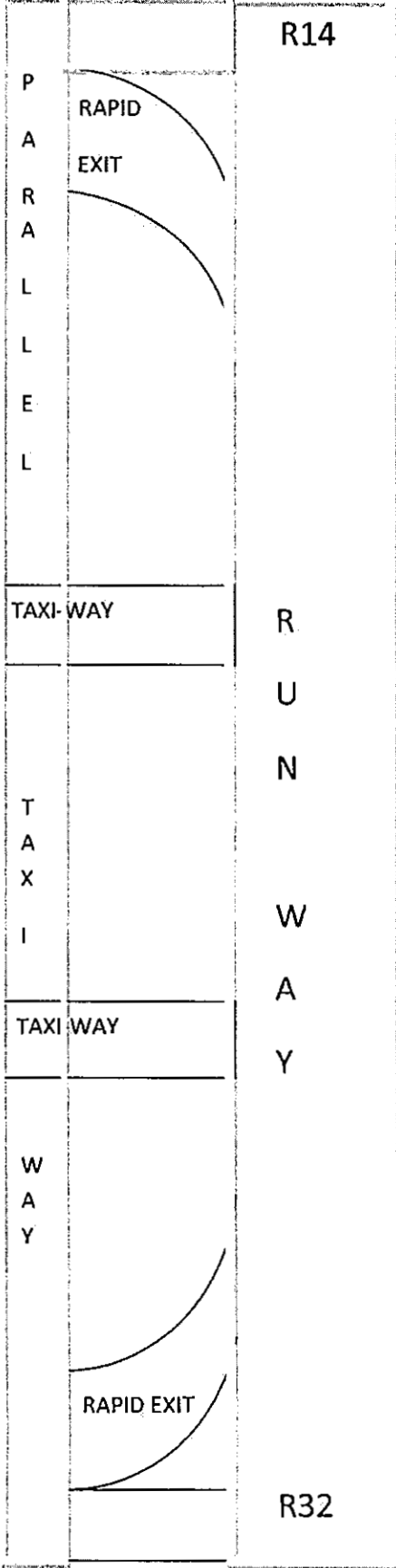
The construction of the parallel taxi-way and the connections is estimated at **US\$ 16 Million**. This cost includes all the associated lightings, signs and markings.



TAXI-WAY



PARKING APRON



3 RADAR

Radar is an object-detection system that determines the range, altitude, direction, or speed of objects. It can be used to detect aircraft, ships, spacecraft, guided missiles, motor vehicles, weather formations, and terrain. The radar dish or antenna transmits pulses of radio waves or microwaves that bounce off any object in their path. The object returns a tiny part of the wave's energy to a dish or antenna that is usually located at the same site as the transmitter.

The supply and installation of a Radar system at Banjul International Airport will have the following benefits:

- Monitor the airspace over the entire country
- Ensure safety and guidance of aircraft approaching to land at BIA
- Generate revenue for over flight aircrafts

It is anticipated that a Radar system for Banjul International Airport will include both a Primary and Secondary Surveillance Radar System. This will ensure that both the Air Traffic Control and Military requirements are met once an Air Force Unit is established.

It is estimated that the supply and installation of an ultra modern Radar system will cost **US\$ 19 Million**. This estimate is at preliminary stage and it is anticipated that an experience Consultant will be recruited for a thorough and detailed project dossier.



4. NEW TERMINAL BUILDING (TERMINAL 2)

The government of The Gambia constructed and commissioned a Passenger Terminal Building in 1997 at a cost of US\$10 million. The building has a total floor area of 10,000sqm and is equipped with modern facilities such as Flight Information Display System (FIDS), baggage carousels, security screening machines, Banks, restaurants, duty free and shopping facilities as well other services that depicts a modern international passenger terminal.

The Passenger Terminal Building is designed for a peak hour of 1000 departing and arriving passengers. Since the building was commissioned, the passenger flow in Banjul International Airport continues to grow steadily. It is important to note that at the time of commissioning, all the facilities in the building were not developed to fully handle the peak passenger forecast of 1000 passengers. Therefore, upgrading and expansion of the building is required in order to effectively handle the passenger flow.

In line with the Airport Master Plan of 2020, the Airport Improvement Project gave more attention to the aerodrome infrastructure and aeronautical facilities to ensure safety and security of the travelling passengers. Once the project Phase II is completed, all the aeronautical facilities would be fully upgraded and the aerodrome would adequately handle the increased aircraft movements. Therefore, the need to correspondingly upgrade the terminal building cannot be overemphasized, not only to compliment the other facilities but also for the safety and convenience of the travelling passengers.

In order to meet this demand, three options are being considered.

A. Upgrading of Passenger Terminal Building

Although the Passenger Terminal Building is the only one in use for the flow of the travelling passengers, it has not been developed to its designed capacity for the anticipated traffic. In the inception report of the Netherlands Airport Consultants (NACO), the structural appraisal report concluded that the building is structurally sound and there is no major concern of defects to the structure. An upgrading of the building therefore would be highly significant in order to utilize the idle spaces and meet the demands of the passenger flow.



In consideration of this upgrading, departing and arrival passengers will be located on separate floors and more facilities will be created that will generate revenue for the airport in the form of shopping centers, restaurants and duty free shops.

B. Rehabilitation of old terminal building

Since the commissioning of the Passenger Terminal Building, the old terminal is routinely used for the annual Hajj Operations. This is principally because modern security facilities are not permanently fixed in the building to allow for daily passenger operations. However, a remodeling of the building and installation of these facilities will enable daily passenger operations and thereby reduce the pressure on the main terminal building.

Furthermore, remodeling the old terminal building will restore the ancient images of Banjul International Airport so that the steady growth of economic development is recorded in the national development blueprint of the country.

C. Design and construction of a new terminal building

With the increasing demand for safety and convenience of the travelling passengers, the need for modern facilities to enhance the capacity of airport operators will always remain a fundamental requirement. At the same time, the aviation industry continues to be challenged with unprecedented security

and safety concerns. In order to realize the overall objective of transforming the Banjul International Airport into a hub in the sub-region, the design and construction of a new modern terminal building is high on the agenda.

A new terminal building shall take into consideration all the security and safety concerns such as automated passenger processing, boarding bridges and facial and finger printing and other modern facilities. The new terminal shall be design to cater for the passenger forecast in the next twenty years.

It is estimated that options A and B will cost about US\$ 8 Million while option C will cost US\$ 35 Million.

5. PRESIDENTIAL (VVIP) LOUNGE

The construction of a Presidential Lounge (VVIP LOUNGE) will not only upgrade the outlook of Banjul International Airport but also meet the standards of international protocols. Although the design for the structure is yet to be completed, it is envisaged to be located on the airside and have direct access to a secluded apron for presidential activities.

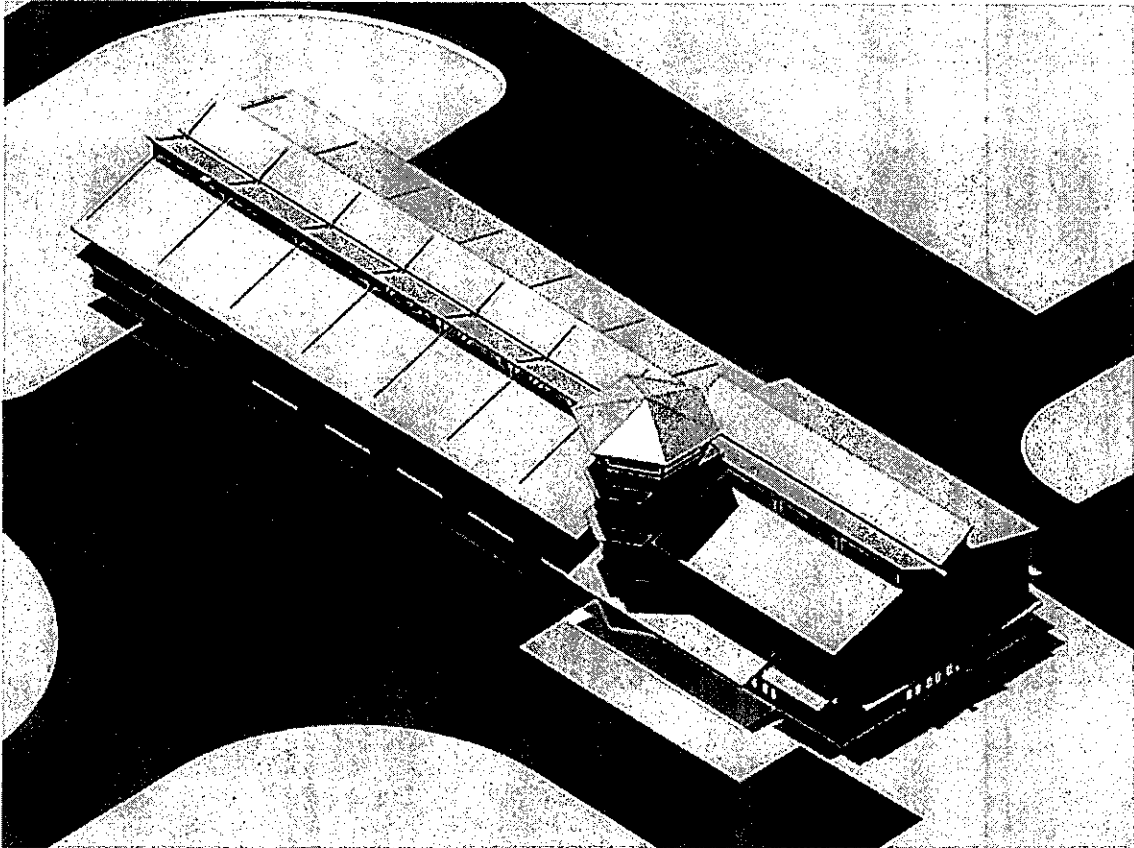
The space requirement and facilities will include the following:

- Ground Floor, 7200 sqm
- First Floor, 7000sqm
- Presidential Suite
- Ministerial Lounge
- Diplomatic and Consular Lounge
- Parliamentarians/Religious Leaders
- Security Chiefs
- Media house/Conference Room
- Facilities for security screening
- Prayer Room
- Offices
- Kitchen and dining facilities
- Cable and CCTV installations
- Parking facility
- Landscaping, etc

The total estimate for the Construction of A Presidential Lounge is **US\$ 4.5 Million**

6 EQUIPMENT

The availability of a modern day fire vehicle is a prerequisite for the operation of any international airport. Banjul International Airport is rated Category 9 according to International Civil Aviation Organization. This requires the airport at all times to maintain at least three fire tenders, an ambulance and a follow-me vehicle.



It is important to mention that a new fire and rescue station will be constructed under Airport Improvement Project Phase II (picture above) and one fire tender procured.

The required list of equipment should include the following;

- i. One (1) Fire tender; 8 x 8 Vehicle
- ii. One (1) Ambulance fully equipped with resuscitator and medical kits
- iii. One (1) Follow-me Vehicle
- iv. One (1) Command Vehicle with communication equipment

The total estimate for the equipment is US\$ 4.5 Million.

SUMMARY OF PROJECT COMPONENTS

NO	ITEM	COST ESTIMATE IN US\$
1	AIRCRAFT HANGAR	40 MILLION
2	PARALLEL TAXIWAY	16 MILLION
3	RADAR	19 MILLION
4	NEW TERMINAL BUILDING	8 MIL (options A and B) 35 MIL (option C)
5	PRESIDENTIAL LOUNGE	4.5 MILLION
6	EQUIPMENT	4.5 MILLION
	TOTAL	119 MILLION

CONCLUSION

Overall Banjul International Airport continues to develop the needed infrastructure required to attract airlines and operators, with the objective of transforming BIA into the hub for the sub-region. The government of the Gambia has invested immensely in ensuring that the Airport meets the short and medium term development policy targets. The government recently launched the Programme for Accelerated Growth and Employment (PAGE), aimed at creating economic growth and employment. The realization of this project proposal will greatly enhance government efforts in realizing the set targets not only in this policy document but also other documents such as Millennium Development Goals and Vision 2020