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MINISTRY OF COMMUNICATION AND TRANSPORT (ZANZIBAR)

**ENVIRONMENTAL ASSESSMENT  
FOR EXTENSION OF RUNWAY FOR  
ZANZIBAR AIRPORT**

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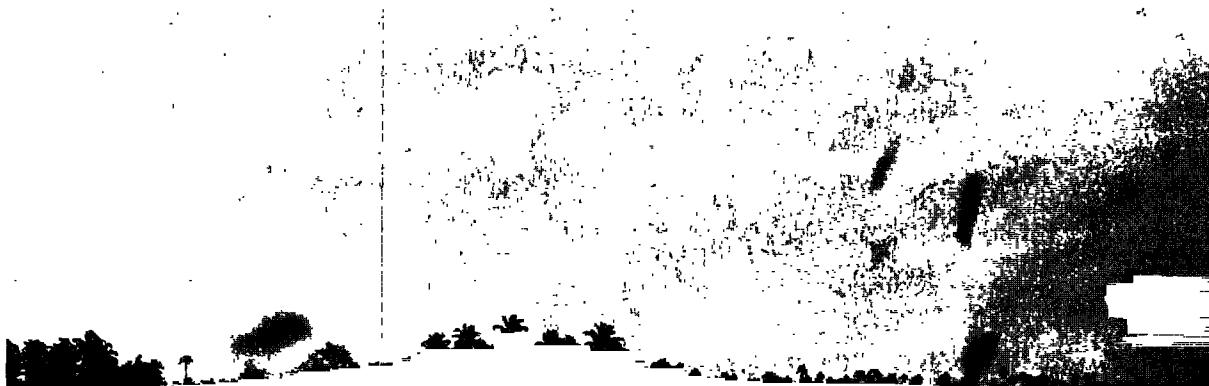
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## 1.0 INTRODUCTION

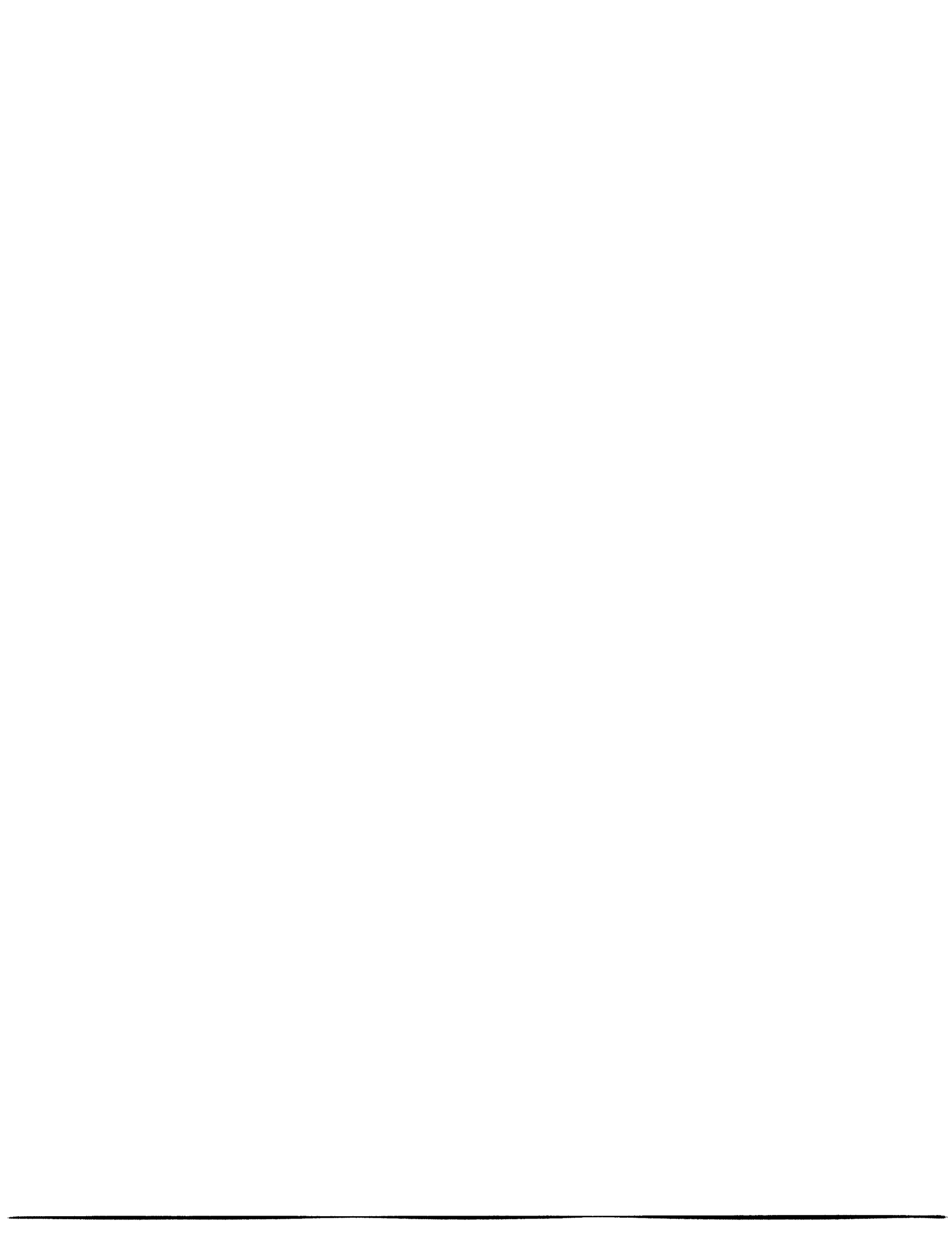
The Government of United Republic of Tanzania, through the Ministry of Communication and Transport (Zanzibar), intends to extend the runway of the International Airport of Zanzibar, which is located a bout 7 km from Zanzibar town. The airport was constructed in 1974 and later upgraded in 1990/1991. The runway is to be extended approximately 560m to the south (Figure 1).

The rehabilitation works was commissioned to the Contractor (CHECO) who started the rehabilitation in August, 2004, however due to non-performance the Contractor was terminated in April 2005. The Government of United Republic Tanzania intends to request more funds from the Development Partners to accomplish aforementioned rehabilitation works. Again in order to ensure that the implementation of the proposed undertakings has no adverse environmental impacts, environmental assessment has to be carried out

The main objective of this assessment is to address environmental issues related to the construction and operation of the runway. The assessment provides mitigation measures to prevent or minimize adverse environmental impacts which may arise due the implementation of project.



**Figure 1: Runway Extension**



## **2.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **2.1 Loss of Vegetation and Landscape effects**

The construction of airport runway will require substantial amount of excavated construction materials like sand, gravels and aggregates for earth fill, sub grade, gravel surfacing and drainage structures. In the process of excavating these construction materials, the contractor will affect the landscape of the sites where these materials area taken from.

Land clearance to obtain construction materials particularly in the borrow pit will involve uprooting trees and crops which fall within the borrow pit area as well as displacing huge masses of topsoil. The construction of the runway will also entail considerable vegetation loss, including trees and grasses along the runway.

Clearance of vegetation which will take place in the borrow pits and quarry sites may lead to soil erosion and loss of important plant species.

The contractor is therefore required to restore the borrow pit and quarry sites where gravel and aggregate will be collected. Also sand mining should be avoided along the river banks as it will exacerbate erosion of the river banks. For the restoration of disfigured areas, the mitigation measures will include leveling, re-vegetation by tree and grass planting. Close supervision of earthworks shall be observed in order to confine land clearance within the airport boundaries.

### **2.2 Disease infenction and transmission**

Transient workforce (i.e labourers working on the construction projects) and truck drivers have been consistently associated with the spread of STI/HIV/AIDS, through their interaction with the local people. Thus one of the significant impacts resulting from the implementation of project will be an anticipated rise in the incidence of sexually transmitted infections and HIV/AIDS.

Borrow pits sites provide good environments for disease vectors and thus posing serious public health hazards. Abandoned pits filled with rainwater harbour disease vectors responsible for malaria, schistosomiasis, cholera, dysentery etc which may bring threats to the communities. The abandoned pits also when filled with rainwater, they become dangerous to children and animals as they may get drawn.

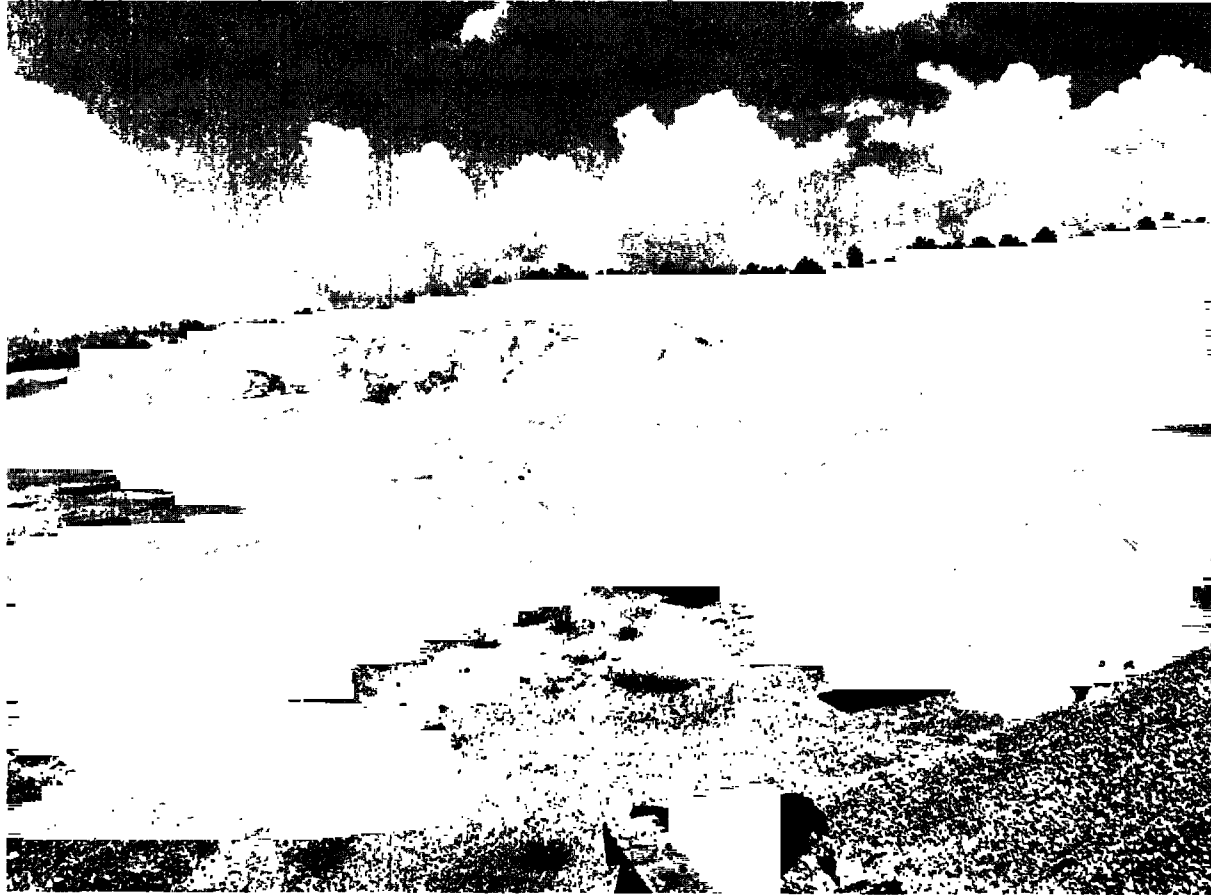
An awareness campaign must be initiated to sensitize the workforce as well as local communities on the risks of STD and HIV/AIDS. Apart from that condoms should be distributed to the workforce.

The borrow pits should be restored by leveling and be re-vegetated.



### 2.3 Waste Production

At the campsite and batch plant a lot of solidwaste will be produced. This includes packaging materials and drums of bitumen (Figure 2). During decommissioning the contractor has to dispose all these solidwastes and clear the camp. The remaining bitumen should be sold to other contractor for reuse. Other solidwaste should be disposed off at the land fill. Besides these wastes, stock pile of construction materials like aggregate and gravel may further impose visual impacts. These materials may be disposed off by reusing for construction of infrastructures like roads or buildings. Unwanted materials should be leveled and be covered by top soil to encourage re-vegetation



**Figure 2: Stockpile of aggregate and drums at the campsite**







**Figure 3: Stockpile of Gravel materials**

#### 2.4 Encroachment

Currently the airport is surrounded by human settlements. If the developments of settlement are not controlled, they may encroach the airport boundaries. In order to avoid the encroachment, the boundaries of the airport should be provided a permanent beacons and be fenced.

#### 2.5 Occupational health and safety

Construction safety to the workers will also be an issue of concern since accidents may cause injury and loss of life. The probability of injury is probably high for mechanics involved in the construction and servicing of heavy equipment especially where workshop lack proper bays, winches and hoists for repair earth-moving machine. Other risky activities include borrow pit operations, batch plant operation, operation of earth-moving equipment and trucking of construction materials.



The contractor will ensure that the construction activities are not interfered with other traffic flow. The contractor shall deploy a person responsible for traffic safety. The workers should also be provided working gears like gumboots, groves and googles to minimize the impact.

### 2.6 Increased Noise and Vibration

Noise is one of the most obvious negative impacts in the construction of the runway and operation of the airport. The discomfort caused by noise includes auditory fatigue and temporary lessening of hearing ability. However, perceived noise is related to background noise level.

To the large extent the nuisance of noise and vibration will be mitigated by application of good work practice. The impacts of noise and vibration will further be minimized by proper choice of plant and machinery (i.e. fitted with noise silencers or reducers).

It also recommended that the workers should also use working gears like ear masks to mitigate noise.

### 3.0 CONCLUSION

The speculed impacts which may result from the construction and operation of the airport are considered to be negligibe and can be mitigated. In this case, it is concluded that the project should proceed for construction taking into account the proposed mitigation measures.

