

1. BRIEF OUTLINE OF THE PROJECT

Name of the Project: Rehabilitation of Makuyuni-Ngorongoro Gate Road (77Kms)

Name of the Client: The Government of the United Republic of Tanzania through Ministry of Works

Contract Amount: JY 3,109,000 (Equivalent to 23.0Bio Tshs) out of which 1.6 Bio Tshs is for Consultancy and 21.30 Bio Tshs for works

The traffic volume: 220 vehicles/day before the project start up (2001)
477 vehicles/day (current)

Contract duration:
Contract signature: 12th September 2001,
Official inauguration ceremony: 23rd November 2001,
Substantial completion: 31st December 2004,
End of defect liability period: 31st December 2005

Contractor: Konoike Construction. Co Ltd.

Consultant: Japan Engineering Consultant Co. Ltd in association with Oriental Consultant Co. Ltd.

2. SCOPE OF THE WORKS:

The upgrading of the gravel road to a two (2) lane Asphaltic Concrete standard with 6.5-6.0m wide carriageway and 1.5-0.5m wide shoulders on each side for the project road with total length of 77 km between Makuyuni and Ngorongoro,

Construction of 7 (seven) structures: 1 bridge & 6 box culverts,
Miscellaneous facilities i.e. 3 Public toilets, road humps, bus bays and side walks,
Provision of 5 drifts,

3. OBJECTIVE OF THE PROJECT

- a) To promote agriculture and tourism potential of the area along the project road.
- b) To promote accessibility to and from neighboring Regions, Towns and other economical/social potentials.
- c) To upgrade the Makuyuni – Ngorongoro road from gravel to paved road in order to provide smooth traffic flow throughout the year.

4. ROAD GEOMETRY

The Road starts at Makuyuni Town (80kms west of Arusha City) off the Great North road (Cairo – Cape Town Road). It passes over flat terrain where it is crossed intermittently by migrating wild animals to Mto wa Mbu (about 35 km). It goes up the Great Rift Valley escarpment north tip of Lake Manyara National Park to highland plateau upto Ngorongoro Gate (total road length. 77 km).

5. DESIGN INFORMATION

a) Subgrade

- > In some stretches, the road was constructed over natural pozzolanic subgrade about 20 kms between Makuyuni Junction and Mto wa Mbu.
- > Imported improved material for subgrade on areas with weak natural subgrade. (2 km)
- > The rest is lateritic clayish material.

b) Subbase (250 mm)

- > Natural pozzolana mixed with lime and sand.
- > Pozzolana 61.5%
- > Lime 2%
- > Sand 36.5%
- > Sand was available from about 45 kms away.

c) Base course

- > Crusherrun (thickness 150 mm)

d) Binder course (thickness 40 mm)

e) Surface wearing course

- > Asphalt concrete (thickness 30mm)

6. Environmental Considerations

- Surface finish as flush as possible with the natural ground to allow wild animals to cross easily. Deep cuts and high embankments were avoided as much as possible.
- Borrow pits were left uncovered and trimmed to be used as water ponds for wild animals and cattle.
- Trees used by birds as breeding places were specially identified and left untouched.
- The use of drifts rather than culverts on migration corridor to act as convenient crossing areas, speed humps as well as normal drainage structures.
- Toilet facilities and waste bins provided at various points along this road.

7. SITE AREAS:

Borrow pit for embankment/ Subgrade and natural pozzolan: Borrowpit materials was established along the project road. The pits have now been shaped and converted to water ponds and are functional, being used both by wild animals upon their migration and locals to water their cattle.

Public Toilets and parking construction: Toilets have been built on three sites: Esilalei (17.3kms from Makuyuni junction), Manyara viewpoint and Ngorongoro gate. This is the first road in the country to take into consideration this provision.

Safety structures – drifts: Five drifts have been constructed in the Esilalei animal migration corridor. The drifts serve as drainage as well as speed control facility in the wild animal corridor.

Gabions protection works and guardrails have been provided along the Manyara escarpment to protect the road and it's users from landslides and falling loose boulders.

8.0 OTHER ATTRACTIONS:

- a) Esilalei Maasai Women Cultural Boma: Located on the first public toilets area, this is an opportunity for delegates to get a glance on the cultures of the Maasai, and buy some souvenirs as well.
- b) Lake Manyara National Park – 325 sq.km: Encompassed between the Great Rift Valley wall and the Lake Manyara, this park was once known as the 'emerald of Africa'. It is heavily forested, therefore it hosts a variety of birds as well as wildlife such as: buffalos, giraffes, elephants, hippos – often seen on the Lake, tree climbing lions, etc.

9.0 ROAD MAINTENANCE:

After substantial completion the road was handled over to TANROADS who started to execute Routine Maintenance activities using Road Fund. During 2004/05 F/Y some Tshs. 12.9 Mio was spent for execution of Routine Maintenance. For 2005/06 F/Y TANROADS earmarked TShs. 11.04 Mio for Routine Maintenance.

In addition the Ministry of Works engaged National Construction Council to conduct technical audit.

The summary of technical audit recommendation includes:-

- providing lined side drains especially along the slopes.
- providing additional cross drainage structures at some toad stretches and around Mto wa Mbu area.
- Improving road safety by providing additional guardrails and road signs.

Addition funding to cater for the above recommendations shall be made available.