RURAL TRANSPORT
TRAINING MATERIALS

## Module 5: Social and Environmental Issues

# Environmental impact assessment: Mkuze river crossing to Phelendaba, South Africa

## Session: 5.4

## Part 2 – Case Study

**Presentation: 5.4b**

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itt
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# 1. Introduction

## Learning Objectives

By the end of the session participants will be able to:

- Explain South Africa's EIA system in design and practice
- Critique the environmental costs and benefits of a specific road project
- Describe the role of participation in environmental decision making
- Analyse the key lessons learnt and how they might be applied to other settings

# Session Overview

- Background & South African EIA regulations
- Background and context to the proposed development
- Environmental issues
- Conclusions of EIA

# 2. Background & EIA regulations

- In South Africa, EIAs are compulsory on development proposals
  - result of1997 Environmental Conservation Act
- Applies to construction or upgrading of
  - national roads
  - toll roads
  - provincial, arterial and municipal roads
  - any road in a sensitive area

# Also…

- South African Constitution
  - upholds right of individuals to environment that is not harmful to their health and well-being
- Environmental Management Act
  - seeks to ‘provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment’

# South African EIA regulations

## Three major components

- Scoping
  - determines scope of assessment
  - consultation with ‘interested and affected parties’
- Assessment
  - explores impact, magnitude, duration and significance
- Decision
  - relevant authorities, coordinated by ‘lead agent’

# 3. Background & context to proposed development

- Last gravel section of tourist access from Hluhluwe to Mozambique border
- Proposal
  - tar existing road
  - construct new crossing over bottom of Mozi Pan
  - upgrade bridge at lower Mkuze Crossing
  - upgrade the crossing over Mseleni River

# Context

Biophysical environment

Development

Social environment

# Biophysical environment

- Biodiversity ‘hot spot’
  - many lakes (e.g. Lake St. Lucia)
  - many endemic plant species
  - 112 reptile species (20 inadequately protected, 7 threatened with extinction)
  - 102 mammal species
  - 462 bird species (47 of which need protection)

# Development

- Project area part of Spatial Development Initiative (SDI)
  - programme to encourage rapid investment in designated areas
- Area of high eco-tourism potential
- Road upgrade provides infrastructure to
  - unlock area's economic potential
  - improve access for local people, tourists and commercial activities
  - effect a direct link between northern KwaZulu-Natal and Mozambique

# Social environment

- Maputaland among poorest and underdeveloped areas of South Africa
  - 38% unemployment
  - most rely on subsistence agriculture
- Tourism has potential to increase development

# 4. Environmental issues

Two alternative routes for the road:

1. Existing (eastern) alignment and upgrading Mozi Swamp crossing

2. Alternative (western) alignment

# Eastern (existing) alignment

- Benefits
  - roadway already cleared
  - shorter and cheaper
- Negative impacts
  - passes through Sodwana State Forest thereby creating hazards for game and hazards for traffic

# Upgrading Mozi Swamp crossing

- Benefits
  - removal of barriers to fish migration
  - improved access to Kwa-Jobe
  - increased frequency of water exchange
  - reduced salinity in Lake St. Lucia
  - improved fish yields
- Negative impacts
  - constricting water movements
  - possible embankment collapse in floods
  - reduction in hydrologic pressure on Mkhuze Swamp during floods

# Western (alternative) alignment

- Proposed by KwaZulu-Natal Nature Conservation Service
- Benefits
  - expanded width of migration corridor
  - no need to cross Mozi Swamp
  - easier access for eco-tourists to Mozi and Yenguenie Pans
  - avoids Sodwana State Forest
  - provides better access to poverty stricken Kwa-Jobe Tribal authority
- Negative impacts
  - need to clear 140 HA of mature sand forest
  - easier access to woodcutters → potential deforestation

# Weighing the evidence: which road alignment should be selected?


## Group Activity

*Given the benefits and negative impacts outlined above, which road alignment should be selected and why?*

# 5. Conclusions of EIA

- Existing (eastern) alignment was selected
- Due to:
  - environmental considerations
  - vehement opposition to alternative route by tribal authorities
- Recommended stringent Environmental Management Programme (EMP)
  - to mitigate negative impact of upgrade
  - especially for Mozi Swamp crossing

- Highlights complexity of EIA in terms of dynamics of social and natural systems
- Indicates importance of public participation
- Extended scoping study (not full EIA) was adequate for decision-making
  - EIA regulations therefore 'development friendly' without compromising environmental protection
- Indicates types of issues typical of road building in rural and ecologically sensitive setting
- Emphasises importance of EMP to ensure that EIA recommendations put into practise