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NINTH REGIONAL SEMINAR FOR LABOUR BASED PRACTITIONERS

Hosted by ANE

Maputo 20-24 May 2002

Eng. Graham Johnson-Jones
Programme Director
A Resident of a Mombasa Slum stated (not verbatim):

“You’re asking me what I need most, and what I can afford for it! What I really need is a Decent Job. Then I won’t be as concerned about these things, because then I could afford to ensure that I can get them all.”

SOURCE: Cyrus Njiru, WEDC, Loughborough, U.K.
THE IMPORTANCE OF THE ILO DECENT WORK AGENDA

• Communities often rely upon Cash Income to Access Basic Needs; and

• Decent Work also Impacts on Human Dignity, Security and Independence - all Important Aspects in Poverty Eradication.
EMPLOYMENT-INTENSIVE HAS MANY BENEFITS

• Increased Employment in Infrastructure, Services and Peripheral Support Activities;

• Reduced Need for Foreign Exchange;

• More Cost Effective and Sustainable Infrastructure;

• Investment in the Local Economy; and

• Development of Local Skills, Organisation and Partnerships.
THE THREE PILLARS OF ASIST

Information
Advice
Training
THE FOCUS OF THE “CAIRO STATEMENT”

- Perceptions and Policy Support;
- Education and Training;
- Procurement;
- Technical Standards;
- Ensuring Participation;
- Planning; and
- Implementation and Monitoring Capacities.
CAIRO RECOMMENDATIONS FOR THE 9th REGIONAL SEMINAR IN MAPUTO

• Review Progress on the Recommendations of the 8th Regional Seminar in Cairo, October 2000;

• Ensure more time for Discussion; and

• Define a Clear and Focused Theme.
THEME FOR THE 9th SEMINAR IN MAPUTO

“TOWARDS APPROPRIATE ENGINEERING PRACTICES AND AN ENABLING ENVIRONMENT”

Together we will find the way forward

Muito Obrigado
Towards Appropriate Engineering Practices and an Enabling Environment

Peter Roberts, DFID, UK
ILO-ASIST

Well established programme for Learning Lessons and Sharing Experience
Comprehensive portfolio of information

www.iло.org/public/english/employment/recon/eiip/asist
Using an increased range of media
ASIST - Africa

- **Participants:** Botswana, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Somalia, South Africa, Sudan, Tanzania, Uganda, Zambia, Zimbabwe

- **Purpose:** Improve access to basic services and optimise employment potential from the construction, maintenance and operation related to providing those services

- **Decent work:**
  - Fundamental principles and rights at work
  - Employment and income opportunities
  - Social protection and dialogue
  - Tripartism: Government, Employers Associations, Unions

- **Partners:** DANIDA, DFID (UK), NORAD, SIDA

- **Complementary:** Asia, Pacific and Latin America programme
Purpose:
- Access to social/economic goods and decent employment opportunities

Complementary programme
- supporters: DANIDA, DFID, Netherlands, ILO
  - also AsDB, AusAid, SIDA, World Bank

Focus:
- Local level participatory planning
- Developing small-scale enterprises
- Cost-effective labour-based technology
- Local level infrastructure maintenance
Key issues

✦ Technical standards and materials
  – initial focus of labour-based agenda

✦ Contractor development
  – building implementation capacity

✦ Institutional issues
  – establishing the enabling environment

✦ Social considerations
  – ensuring the quality of work
Technical standards + materials

✧ labour-based technologies; local resources;
  – holistic approach to achieve policy objectives
✧ generate employment:
  – political need to reduce high unemployment
✧ more effective use of local resources (skills and materials):
  – encouraging growth
✧ effective employment of poor people:
  – ensuring growth is pro-poor
Employment - Intensive Infrastructure Programmes: Capacity Building for Contracting in the Construction Sector

Peter Bentall, Andreas Beusch and Jan de Veen

International Labour Organisation: Employment Intensive Infrastructure Programmes

www.ilo.org
Contractor development

- **human resources:**
  - skill development, foremen, technical supervisors

- **technical understanding:**
  - specifications, bills, resourcing, estimating
  - professional awareness

- **management:**
  - employment principles, organising labour, incentives

- **enterprise development:**
  - financial planning, accounting
Institutional issues

✦ enabling environment
  – remove bias: legal, administrative, fiscal

✦ specifications:
  – labour-based options; codes for non-standard materials

✦ demand:
  – work for emerging contractors and consultants;
  – maintenance is mostly well suited;
  – Urban infrastructure provision

✦ financial realities:
  – ability to borrow; bank facilities; tax regime
Developed integrated approach to determining community priorities
Social considerations

✦ Local impact
  – Employment: use local labour; develop skills; local enterprise
  – Disruption: inflation; resources; services; immigration
  – social and cultural interaction

✦ Quality of work:
  – Core labour standards:
  – Freedom of association: fair representation
  – Equality of opportunity: gender
  – Health and safety: in work – in life
Zambezia Feeder Roads Project

- Led by ANE and DEP Zambezia with DFID support
- Objectives
  - promotion of labour based approaches, designs and methods
  - development of local contractor capacity
  - effective road maintenance in context of limited local resources;
- Lessons learnt
  - small project scale necessary due to limited local capacity
  - “Spot Improvement” approach can optimise resource use
  - effectiveness of spot improvements requires more trials
  - need to encourage ANE ownership, adoption and replication
  - participation in monitoring
  - Other…….
We tend to focus on access for motor vehicles …
but often non-motorised transport is more important
Markets are critical for local economy and growth.
Evolution of small enterprises is essential for technology to be introduced and sustained.
Supporting research

- Study of road standards
- Labour based work:
  - In different environments, working with local materials
- Supported by:
  - DANIDA, SIDA, DFID
- Managed by:
  - TRL – long-term base in SADC region
- Working with:
  - Roads departments in Botswana, Malawi, Mozambique, Zambia, Zimbabwe
Southern Africa Development Committee (SADC)

- Collaboration on labour based technology
- Partners (SIDA, NORAD, DANIDA and DFID)
- Related road research supported by DFID:
  - Low cost, labour-based paved roads;
  - Environmentally optimised design for very low traffic;
  - Minimising cost of basic rural road access;
  with ILO etc:
  - Engineering standards for labour-based roads
- Other transport research:
  - Operations, safety, for disabled, water-borne
Transport research newsletter published twice a year
a new information node for the Transport Sector:

locate site www.transport-links.org

password: connect
The key challenge for the World Road Association is to improve access to and sharing of good practice information.
ILO-DFID Framework agreement

✦ Medium-term agreement (2001-2005)
✦ Reduce poverty though ILO Decent Work Agenda:
  • reduction of the numbers of people living in absolute poverty
  • promotion of employment as a means to alleviate poverty
  • promotion of the ILO Declaration and Core Labour Standards
  • elimination of hazardous forms, of child labour, of forced labour and of discrimination
  • promotion of participation by civil society organisations in national social and economic activity
  • examination and effective work with the informal sector

✦ DFID to contribute £15 million to the ILO
✦ ASIST focus: health and safety; anti-discrimination etc
Social Aspects of Construction (SAC)

Global DFID initiative supporting ILO decent work agenda

✦ Objectives:
  – Improved enabling environment for protecting worker’s rights
  – Set good practice for construction industry
  – Increased productivity
  – Strengthen government’s role as employer

✦ The Ghana experience:
  ✦ Rural workers, mixed casual & permanent employment
  ✦ Partnership with Department of Feeder Roads
  ✦ Private sector construction contracts:
    – Inclusion of agreed core labour standards – at no net cost
    – Upgrading of skills and competencies

✦ SAC conference in South Africa, Dec 2001
challenges

✧ Social:
  – Do you consider the requirements of “Decent Work” to be an extra cost of employment?

  – Or is it an essential aspect of effective and sustainable operations.
challenges

✦ Institutional:
  – What opportunities do you see to set incentives for socially responsible employment?
  – Is significant reliable demand for labour based construction capacity important?
  – Is it realistic and what else can be done?
challenges

✦ Contractors:
  – How likely are contractors to respond positively to “Decent Work” criteria?
  – Requires raising awareness of contractors to importance of well organised work and of valuing skilled labour, supervisors etc.
  – Healthier employees, following safe, responsible work practices are more productive.
  – Longer-term view of enterprise and willingness to invest in human resource.
challenges

✨ technical:

– Are you facilitating working approaches and practices which are safe and responsible?

– Effective use of skills and their appropriate development is fostered by “smart” flexible application.

– Are you ready to get the enabling environment right and then to stand back from the details of labour-based technology?
Mainstreaming HIV/AIDS issues in construction

- Transport sector increases vulnerability and risk
  - Increased mobility
  - High risk behaviour
- Results in high rates of infection in the transport sector
- Reduction in productivity and profits in transport
  - Absenteeism
  - Labour costs
  - Retraining
  - Health care
  - Social benefits
The Way Forward

✨ Mainstream quality of work
  – Integrate with current technical and institutional guidance

✨ Widening support:
  – ILO mobilising Government, business, labour

✨ Strengthened impact:
  – Regional support; Government commitment/uptake; industry response
  – Strengthening multi-donor partnerships, SSATP, ILO and ASIST
  – Increased collaboration with other programmes
  – Business for Development and IFRTD
Thank you
Zambézia Feeder Roads Project
A Change of Thinking on Road Maintenance

Administração Nacional de Estradas

Department for International Development
**Introduction**

- **Project Background**
- **The move to spot improvements**
- **Existing maintenance**
- **The modified approach**

**Objective**

To develop a more effective approach to maintaining very low volume roads in rural Zambézia
Project Data

- 1996 to 2001
- Upgrading of 1000km of tertiary road
- 8 emergent local contractors trained
- Total cost about $15 million
Trim compacted gravel and spread and compact on the side-slopes of the drain

100mm (compacted) gravel surfacing

Scour checks where required

Figure 2: Typical Cross-Section – Type C (0 – 40 Vehicles per day)
Average labour-force per contractor = 200

Average production per contractor = 2.5 km/month
Cost of fully gravelled road
= $12,000/km
The Triggers for a Change of Thinking

- Weak sandy soils
- High cost of gravel
- Low traffic volumes

Aim to provide a solution appropriate to the situation
Significant reduction in the cost of construction
More road can be reopened
Maintenance Regime

- **Annual Contracts**
  - Lump sum amount to bring the road into maintainable condition
  - Subsequent monthly payment
  - Level of service contract
  - Standard contract used for all roads
  - Cost on Tertiary Roads ~ $500-$800/km/year

- **Financed by fuel levies**
<table>
<thead>
<tr>
<th>Mode</th>
<th>7-day traffic count</th>
<th>Approximate number</th>
<th>Approx. fuel usage</th>
<th>Fuel used</th>
<th>Revenue to Road Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24-31 Oct 2000</td>
<td>Per annum</td>
<td>litres/km</td>
<td>litres</td>
<td>US$/annum</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>774</td>
<td>40,248</td>
<td>0</td>
<td>0</td>
<td>$0</td>
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<tr>
<td>Bicycle</td>
<td>2149</td>
<td>111,748</td>
<td>0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>M/cycle</td>
<td>15</td>
<td>780</td>
<td>0.03</td>
<td>2,106</td>
<td>$232</td>
</tr>
<tr>
<td>Car</td>
<td>6</td>
<td>312</td>
<td>0.1</td>
<td>2,808</td>
<td>$309</td>
</tr>
<tr>
<td>Tractor</td>
<td>6</td>
<td>312</td>
<td>0.1</td>
<td>2,808</td>
<td>$309</td>
</tr>
<tr>
<td>Pick-up</td>
<td>41</td>
<td>2,132</td>
<td>0.1</td>
<td>19,188</td>
<td>$2,111</td>
</tr>
<tr>
<td>Truck</td>
<td>23</td>
<td>1,196</td>
<td>0.2</td>
<td>21,528</td>
<td>$2,368</td>
</tr>
<tr>
<td>Bus</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Fuel tax</td>
<td>$0.11/litre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total annual revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,328</td>
</tr>
<tr>
<td>Approximate cost of routine maintenance: 90km x $500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$45,000</td>
</tr>
</tbody>
</table>

**Figure 5:** “Earning potential” of a Feeder Road in Zambézia
A Continuous Presence Approach

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Permanent maintenance presence</td>
<td>• Expensive</td>
</tr>
<tr>
<td>• Local employment</td>
<td>• Need for high level of supervision</td>
</tr>
<tr>
<td></td>
<td>• Inflexible</td>
</tr>
</tbody>
</table>
## Alternative Contract Structure

<table>
<thead>
<tr>
<th>“One Hit” Contract</th>
<th>=</th>
<th>Routine maintenance</th>
<th>+ or -</th>
<th>Periodic maintenance (spot improvements)</th>
</tr>
</thead>
</table>
| • Ideally completed in a two month period but has no fixed duration  
• Payment structure:  
  25% Advance  
  Remainder upon completion | | | | • Culvert construction  
• Gravelling of critical sections  
• Raising embankments  
• Bridge deck repair  
• Lining of steep sections |

- Grass  
- Potholes  
- Drains  
- Performance specification
Proposed Annual Maintenance Cycle

- **Condition monitoring of core network and identification of spots for improvement.** (Feb-Mar)
- **Undertake maintenance contracts** (May-Dec)
- **Prioritisation of spots to be improved.** (April)
- **Preparation of one hit maintenance contracts** (April-May)
The “One Hit” Approach

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Cost effective</td>
<td>● Technical input “up front”</td>
</tr>
<tr>
<td>● Flexible - Type of work included</td>
<td>● No emergency capability</td>
</tr>
<tr>
<td>- Type of contractor</td>
<td>● Requires prompt payment of contractor</td>
</tr>
<tr>
<td>● Low supervision needs</td>
<td></td>
</tr>
<tr>
<td>● Allows for tendering</td>
<td></td>
</tr>
</tbody>
</table>
Summary

• Existing contract arrangements are inflexible and expensive
• Very low traffic volumes
• Little deterioration during dry season
• Perennial need for localised improvements
• Pay for what is needed
Zambézia Feeder Roads Project

A Change of Thinking on Road Maintenance

DFID Department for International Development
Low Cost Surfacing (LCS) Project

Guidelines for Development of Questionnaires for Monitoring of Environmental and Socio-economic Impact

Ruth Schaffner, Intech Associates
Introduction

In recent years, more holistic approach than previously used:

- Decisions by overall strategies:
  - “Poverty reduction”
  - “poverty alleviation through employment generation”
  - “Sustainable livelihood”
- People have become the priority concern and - to a lesser extent - the environment
Rural access projects

- Based on “Integrated Accessibility Planning” (IRAP)
- “Poverty alleviation through employment” is met by labor based construction and maintenance
- Environmental impact assessments (EIAs) are required, based on policy and environmental guidelines of a country
- Environmental friendly road construction methods are promoted
Rural access projects

But still:

- Decisions on standards, methods and type of construction are based mainly on technical requirements and financial constraints.
- Decisions are less influenced by environmental and sociological considerations.
Road users, transport means
Road neighbours
LCS Project investigates different surfacing options

- Gravel or laterite surface
- Dressed stone surface
- Clay brick surface
- Bamboo reinforced concrete surface
- Hand packed stone surface
LCS: laterite
LCS: laterite
(Siem Reap, Cambodia)
LCS: laterite
LCS: bamboo-reinforced concrete
LCS: hand packed stone
Purpose of LCS Project

Assess the following issues:
- How is the money utilized (during construction and maintenance)?
- Are the investments sustainable?
- What is the impact on the environment?
- What are the socio-economic/gender based requirements?
Development of questionnaires

- Little documented experience on different surfacing options
- Formulate indicators and define the criteria for sociological and environmental issues
- Develop a series of questionnaires
- Test the questionnaires
- Generate data for monitoring
Indicators and monitoring

- Indicators are tools to be used
  - for a more holistic project design and
  - to monitor the progress and impact of a project

- Indicators will be used in LCS Project to compare
  - impacts and constraints of surface options
  - benefits for stakeholders
**Indicators and monitoring**

- With indicators we can
  - assess the quality of project results
  - assess the impact on certain issues
  - monitor specific activities
  - determine results
  - record changes from a known situation (usually the baseline position)
Impacts and constraints of the different surface options

- Criteria are developed to value indicators of the LCS impact on
  - Environment
  - Socio-economic situation
  - Gender balance
- 3 questionnaires are prepared
- For each LCS option the set of questionnaires is filled in
Scaling or rating

- Technical requirements of road surfacings
  - are characterized by “hard” criteria easy to measure, such as size, number, percentage, length, etc.

- Socio-economic, gender sensitive, and environmental issues
  - provide “soft” criteria, which often can not be measured exactly
  - have to be valued by means of scaling or rating
    - e.g. 1 - 5, where 1 means a very small impact and 5 a very high impact
Questionnaire on environment: material

- What type of construction materials are required, which size?
- What is the ratio of the different materials used?
- How is the availability of materials? Scarce or abundant? How is the regeneration potential?
- What are the sources of materials: forest, private land, river, lake, etc.?
- Does the material has to be extracted?
- Does the material need processing? How is the energy consumption?
- Is reinstatement at source needed?
Bamboo: reinforce concrete
Gravel in a rocky area
Material preparation
Clay bricks: energy consumption
Questionnaire on environment

- How is the impact on fauna during excavation, construction and use?
- How is the impact on flora?
- Impact on the landscape?
- Means of transport, tools and equipment needs?
- Impact of hauling distance?
- Pollution by extracting materials and during construction at site?
- Impact of preparation for use?
- How are the health problems?
- How is the flood and erosion situation?
Pollution and labour intensity

- How high is the generation of noise, dust, exhaust, soil and water pollution with regard to
  - Labor intensive construction
  - Intermediate equipment based construction
  - Heavy equipment based construction
Health problems, air pollution
Air pollution
Dust pollution
Environment and maintenance frequency

- How often is routine maintenance required?
- How often is periodic maintenance required?
- How high are the expected emergency/recurrent maintenance needs?
LCS: laterite
LCS: hand packed stone
Access restrictions
Access restrictions / road toll
Questionnaire on socio-economic impacts

- Questions on employment and enterprise
  - Percentage of short-term and long-term employment for unskilled labour?
  - Percentage of short-term and long-term employment for skilled labour?
  - What is the origin of labour: local, provincial, national, international?
  - What is the origin of contractors?
  - Percentage of industry with regard to origin?
Questionnaire on socio-economic impacts

Questions on material and equipment:
■ Is the material locally available?
■ Is processing involved: locally, provincial, national and international?
■ Are the hand tools, intermediate machinery and heavy equipment of local, provincial, national and international origin?
Employment opportunity
Questionnaire on gender issues

- How are the employment opportunities:
  - short and long term?
  - skilled and unskilled?
  - Percentage of voluntary labour?

- Access to and control over resources
  - Who owns the land and natural resources?
  - How is access to labour in relation to gender?
  - Are the wages equal?
  - Do women, men and children have equal access to training, technology and skill as well as information?
  - Do they have equal access to health services?
Questionnaire on gender issues: needs and benefits

- How is the involvement of women, children and men in decision making process?
- What are the safety measures for labours with regard to gender?
- How safe is a certain surface during use?
- What is the impact on health during construction and use?
- How are the specific user needs met?
Decision making
Decision making
User needs:
transport
User Needs: children/rice drying
User needs: transport/farmers
Traditional oxcart, plain wheels
Adapted oxcart, wheels with tyres
Questions for working group discussion

With three work groups the following questions were discussed:

1: Are all relevant indicators covered?

2: How can these indicators be valued and rated?

3: How do we weigh these ratings in order to achieve an overall rating and a sound final rating per surface option?
A.N.E. – D.E.R.

EFFECTIVE USE OF SANDS AS ROAD BASE UNDER LABOUR-BASED CONSTRUCTION: EXPERIENCES IN MOZAMBIQUE
SHRINKAGE PRODUCT (Sp) = Linear Shrinkage (Ls) x % Pass. 0.425 mm

GRADING COEFFICIENT (Gc) = (%Pass.25mm - %Pass.2.0mm) x %Pass.4.75mm

\[ Gc = \frac{\text{(%Pass.25mm - %Pass.2.0mm)} \times \text{%Pass.4.75mm}}{100} \]
ROAD NETWORK

- Total of 27,000 Km
- Surfaced Roads - 5,000 Km
- Unsurfaced - 22,000 Km –
- (40% falling in the white area)
“SECTION” TO ASSESS WATER EROSION EFFECT

Completed “road section”
SAND ROAD

● Pavement Structure
  – 150 mm selected fine sand; CBR>35%
  – 650 mm in-situ fine sand; CBR> 15%
## EN 208: CHIBUTO - MANJACAZE

### Secção: Areia Natural

km/chainage 0 + 500

<table>
<thead>
<tr>
<th>ESPESS. CAMADA</th>
<th>mm / Pancada</th>
<th>CBR</th>
<th>UCS</th>
<th>Condições</th>
<th>Bearing Capacity $\times 10^6$</th>
<th>Traffic Class (SATTG)</th>
<th>Deflect.</th>
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<tr>
<td>Camada1</td>
<td>0</td>
<td>150</td>
<td>6.00</td>
<td>Seco</td>
<td>0.42</td>
<td>T4</td>
<td>1.1113</td>
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<tr>
<td>Camada2</td>
<td>151</td>
<td>300</td>
<td>7.89</td>
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<td>0.20</td>
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<tr>
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<td>450</td>
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<td>601</td>
<td>800</td>
<td>11.11</td>
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<td></td>
</tr>
</tbody>
</table>

**Diagrams:**

- DCP Curva Penetr.
- No. Pancadas
- DCP Curva Balanceada
- BN

**Graphs:**

- Diagra. Capacid Camada
- CBR

**Legend:**

- 0
- 20
- 40
EMULSION TREATED BASE (ETB) TRIAL SECTION

- Pavement Structure:
- In-situ fine sand 500mm C.B.R. > 15%
- In-situ fine sand 150mm C.B.R. > 35% (higher compaction)
- Selected fine sand Emulsion Treated (5,6%) 150 mm
  - 1/3 no surfacing
    - 1/3 fine sand/emulsion seal hand applied
      - 1/3 fine sand hand mixed/applied slurry seal
ETB TRIAL SECTION
CONSTRUCTION EN-208

Preparation of fine sand base
Spraying emulsion into the base
Mixing the emulsion into the base
ETB TRIAL SECTION
CONSTRUCTION EN-208

Cutting final levels
Overall view of completed base
ETB TRIAL SECTION EN-208
TESTING

D.C.P. tests 3 days after compaction
Hand mixed & applied slurry seal
ETB TRIAL SECTION EN-208
SLURRY SEAL

Finishing hand applied slurry
View with different type of seals
### EN 208: CHIBUTO - MANJACAZE

#### Section: ETB km/chainage 0 + 138

<table>
<thead>
<tr>
<th>LAYER</th>
<th>THICKN.</th>
<th>Layer Strength Diagram</th>
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<td>Layer 2</td>
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<tr>
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<td>Layer 4</td>
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<td></td>
</tr>
<tr>
<td>Layer 5</td>
<td>676</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAYER</th>
<th>THICKN.</th>
<th>LAYER</th>
<th>THERMOMETER</th>
<th>LAYER</th>
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</thead>
<tbody>
<tr>
<td>Layer 1</td>
<td>0</td>
<td>175</td>
<td>1.61</td>
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<td>325</td>
<td>2.88</td>
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<td>Layer 5</td>
<td>676</td>
<td>800</td>
<td>17.86</td>
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D.C.P. STRENGTH VERSUS TIME

**DCP Ch 0+088 2 m LHS**

- **Penetration (mm):**
  - Gr. Level 0
    - 50: 0.6
    - 100: 1.7
    - 150: 2.2
    - 210: 3.7

- **DCP N Value (mm/blow):**
  - 3 Days strength
  - 30 Days strength
  - 60 Days strength

- **Penetration (mm):**
  - Gr. Level 0
    - 50: 2.0
    - 100: 2.9
    - 150: 3.3
    - 210: 3.6

- **C.B.R. (%):**
  - 3 Days strength
  - 30 Days strength
  - 60 Days strength

- **Penetration (mm):**
  - Gr. Level 0
    - 50: 1.7
    - 100: 1.9
    - 150: 2.1
    - 210: 2.2

- **U.C.S. (KPa):**
  - 3 Days strength
  - 30 Days strength
  - 60 Days strength

- **Penetration (mm):**
  - Gr. Level 0
    - 50: 0.8
    - 100: 1.3
    - 150: 1.6
    - 210: 1.4

- **U.C.S. (KPa):**
  - 3 Days strength
  - 30 Days strength
  - 60 Days strength
## TYPICAL TRAFFIC CLASSES WITHIN MOZAMBIQUE

<table>
<thead>
<tr>
<th>% In Max Lane</th>
<th>Daily Traffic : Rural</th>
<th>Daily Traffic : Urban</th>
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<tbody>
<tr>
<td></td>
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### Design Volumes E80’s

<table>
<thead>
<tr>
<th>% In Max Lane</th>
<th>Daily Traffic : Rural</th>
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<tr>
<td></td>
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<td>Medium</td>
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### Cumulative E80’s Traffic Volume

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<th>% In Max Lane</th>
<th>Daily Traffic : Rural</th>
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<tr>
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<td>Medium</td>
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<tr>
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### Growth Rate % Year

<table>
<thead>
<tr>
<th>% Heavy Vehicles</th>
<th>Growth Rate %</th>
<th>Year</th>
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<tr>
<td>20</td>
<td>2</td>
<td>2</td>
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<tr>
<td>20</td>
<td>4</td>
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### Design Volumes E80’s

<table>
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<th>% In Max Lane</th>
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<td></td>
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<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>50</td>
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</table>

### Pavement Design Class based on assumption of:

all heavy vehicles are fully laden
## 5 YEAR CYCLE COST COMPARISON

### COST COMPARISON ON A 5 YEAR CYCLE

<table>
<thead>
<tr>
<th>INITIAL COST US$/Km</th>
<th>ACTIVITY</th>
<th>TYPE OF ROAD</th>
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<tr>
<td></td>
<td></td>
<td>SANDY (1)</td>
<td>SANDY (2)</td>
<td>PROPOS. (ETB)</td>
<td>CEMENT (CTB)</td>
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<td>15,000.00</td>
<td>15,000.00</td>
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<tr>
<td>MAINT.</td>
<td>500.00</td>
<td>150.00</td>
<td>300.00</td>
<td>150.00</td>
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<tr>
<td>RECONSTR.</td>
<td>-</td>
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<td>2 YEAR</td>
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<td>3 YEAR</td>
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<tr>
<td>MAINT.</td>
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<td>300.00</td>
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<td>150.00</td>
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<td>5 YEAR</td>
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<tr>
<td>MAINT.</td>
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<td>150.00</td>
<td>300.00</td>
<td>150.00</td>
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<tr>
<td>TOTAL COST US$/Km</td>
<td>24,500.00</td>
<td>45,750.00</td>
<td>43,000.00</td>
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<tr>
<td>RESIDUAL VALUE US$/Km</td>
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<td>37,500.00</td>
<td>90,000.00</td>
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</tr>
</tbody>
</table>
CONSTRUCTION/MAINTENANCE COSTS - RESIDUAL VALUE

Present Solution Being Used:
- 90% of 1997
- 50% needed maintenance
- 60% needed reconstruction
- 10% of 1997

Proposed Solution:
- No further work
- 1st year, low maintenance

5 Year Cycle - Rehab + Maintenance Costs
Equipment finance for small contractors in public work programmes
Contractors have difficulty accessing finance for equipment, because of:

- Lack of collateral
- Informality
- Risk
- High transaction costs
What are the options to facilitate access to equipment?

- Pre-payment of equipment by the programme
- Equipment pools
- Bridge financing
- Credit guarantees
- Leasing or hire-purchase
What are the criteria to choose between these options?

- Contractors should be faced with a “real-life situation”;
- Arrangement should be tailored to contractors’ reimbursement capacity;
- Arrangement should be simple;
- Maintenance-issues should be taken into account.
Option 1: pre-payment of equipment by the programme

- Simple solution
- Maintenance by the contractors
- No “real-life situation”
- Provided that the reimbursement capacity of the contractors is taken into account, pre-payment of equipment is a valid option.
Option 2: Equipment pools

• No “real-life situation”
• Maintenance problems
• Contractors don’t build up their asset-base
Option 3: Bridge financing

- Simple
- “Real-life” situation
- Maintenance by contractors

But:
- Usually not available
Option 4: Credit guarantees

- Helps contractors to establish relationships with banks
- Moral hazard
- Complicated
Option 5: Leasing

- “Real-life situation”
- Flexibility regarding repayment capacity
- Simple
- Maintenance by the contractors

But:
Need a financial institution that offers leasing!
What is leasing?

Leasing is a contractual arrangement in which the owner of an asset (the lessor) allows someone else (the lessee) to use it, in exchange for specified periodic payment.
Leasing: advantages

- Simple collateral arrangement
- Simple evaluation process
- Low down-payments
- Tax incentives
Leasing: steps

- Contractor selects equipment;
- Lessor purchases the equipment;
- Contractor uses the equipment and makes periodic payments;
- Contractor owns the equipment at the end of the lease term.
ILO programme to explore the potential of leasing in employment intensive investment programmes

• Training materials
• Assess the local landscape
• Selection of financial partners
• Advise both contractors and financial partners
Contact info:

osei-bonsu@ilo.org
winsvold@ilo.org
deelen@ilo.org
RECOGNITION OF THE LABOUR BASED CONTRACTOR: THE CASE OF TANZANIA

By: Eng. Albert G. Uriyo,
Contractors Registration Board - Tanzania
The Labour-based Contractor

- Labour-based Technology traces roots since ancient times
- Formal recognition of LB Contractor is still an issue of debate
- Different approaches of LB to scale
- LB remains being seen project-oriented, externally influenced, non-sustainable initiative
- CRB has initiated RECOGNITION & CLASSIFICATION of LB Contractor
The LB Contractor Then; The Case of Tanzania

- Structured Application of LB Technology promoted in 1970’s
- LB Contracting introduced in 1990’s
- Achievements
  - Year 2000; More than 70 LB Contracting Firms trained
  - Establishment of ATU
  - LB Promotion Statements
  - Creation of Capacity for Training
  - Adoption of LB Curriculum
  - LB Roadworks Technical Manual
LB Technology has not been applied to Scale

15 years of application; network of 6000 km (out of 10,300 km trunk, 24,700 km regional, 20,000 district and 27,550 feeder roads) 7% of network maintained or constructed

Operating Environment not conducive

Result: majority of contractors frustrated, some closed business, moved into other lines of business

Why:
- Absence of formally documented policy
- Fragmentation
- Duplication of Efforts
- Lack of effective national co-ordination
- Lack of recognition of LB Contractor
Recognition of LB Contractor

- CRB's Functions:
  - Registration, Regulation & Development

- CRB introduced Category for LB Contractors as Specialist Contractors in July 2000 based on potential and importance:
  - Large road network
  - Low wage levels
  - High unemployment
  - Limited capacity to sustain equipment-based options

Acknowledged; Other Institutions Register
Why Recognition

- Act requires all Contractors Operating in Tanzania must be registered with the Board
- Reason; Safeguard Potential Clients and General Public
- Benefits:
  - Operating in regulated environment
  - CRB’s Promotional activities
    - Training,
    - Dissemination of Information
    - Research
    - Promotion of Co-operative Approach in addressing issues of policy, credit and equipment
CRB’s Contractor Regulatory & Development Model
REGISTER & REGULATE

REGISTRATION
Safeguard Potential Clients and General Public against Bogus & Incompetent Contractors. Register and Classify Contractors according to Staff, Plant/Equipment/Tools, Finance, Experience.

REGULATION
Ensure Contractors abide to Contracting Laws and Regulations and Safety Regulations affecting Workmen and the general public.

SUSTAINABLE DEVELOPMENT STRATEGY

DEVELOPMENT STRATEGY
Empower through:
- Training in Construction Business
- Access to Information
- Advocacy/Cooperative Approach through Associations in addressing Problems
- Research
- Promotion of Partnerships/Joint Ventures
- Access to Credit

CONDUCTIVE ENVIRONMENT

Exposure through Real Life Market Conditions & Environment:

CONTRACTOR USES SKILLS GAINED & ADVOCACY TO INFLUENCE ENVIRONMENT

Competent Contractor with the ability develop and operate in Real market Conditions.
The Labour-based Registration Criteria

- **Principal Requirements**
  - Contractor should have received appropriate training, have necessary staff, set of hand tools/equipment, control/measurement aids
  - Contractor should have permanent office and a registered Business Name or Limited Liability Company certified by the Registrar of Companies

- **Three classes for LB Contractors**
- **Lenient requirements**
- **Class Limits indicate capability**
### Staff
- Head of Organization
- Labour Board Trained Engineer
- Labour Board Trained Supervisor
- Arbiters

### Hand Tools
- Axe
- Trowel
- Plumb Line
- Ear Protector
- Safety Vest
- Pick Up Van
- Pouch
- Bicycle

### Plant & Equipment
- Concrete Mixer
- Diesel Generator
- Road Roller
- Pedestrian Roller
- Dead Weight Roller
- Plate Compactor
- Plough
- Power Cut-off Saw
- Forklift
- Crane
- Excavator

### Control/Measurement Aids
- Reflecting Target
- Tripod Stands
- Laser Level
- Spirit Level
- Hinged Spirit Level
- Tally Board
- Bubble Level
- Target
- Alignment Rod
- Line Bore
- Driving Rod
- Propagation Rod
- Taper

### Safety Gear
- Helmet
- Safety Shoes
- Reflective Jacket
- Reflective Vest
- First Aid Kit

### Land & Office
- Office
- Workshop
- Store

### Financial Requirements
- Average Annual Turnover (TSH):
  - Class One: 30,000,000
  - Class Two: 15,000,000
  - Class Three: N.A.
- Liquidty (Cash, Stock & Bank): N.A.
- Fixed Assets: 10,000,000

### Experience
- Years of Practice in the field of application
- Minimum number of projects executed
- Average size of projects

### CLASS LIMITS
- Class One: TSH 100,000,000
- Class Two: TSH 60,000,000
- Class Three: TSH 30,000,000

### Fees
- Registration: TSH 60,000,000
### CRITERIA FOR REGISTRATION OF LABOUR BASED ROAD SPECIALIST CONTRACTORS

#### REGISTRATION REQUIREMENTS FOR TECHNICAL PERSONNEL, PLANT & EQUIPMENT, HAND TOOLS, CONTROL AIDS, SAFETY GEAR & OFFICE SERVICE FACILITIES

<table>
<thead>
<tr>
<th>RESOURCE</th>
<th>CLASS ONE</th>
<th>CLASS TWO</th>
<th>CLASS THREE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. KEY STAFF</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Head of Organisation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2 Labour Based Trained Engineer*</td>
<td>1</td>
<td>1**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3 Labour Based Trained Supervisor/ Technician</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4 Artisans</td>
<td>2</td>
<td>1</td>
<td>1</td>
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<tr>
<td><strong>B. PLANT &amp; EQUIPMENT</strong></td>
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<td>1**</td>
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<td>1**</td>
<td>-</td>
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<td>1</td>
<td>-</td>
<td></td>
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<tr>
<td>6 Pedestrian Roller</td>
<td>2</td>
<td>1**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>7 Dead Weight Roller</td>
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<td>1</td>
<td>-</td>
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</tr>
<tr>
<td>8 Plate Compactor</td>
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<tr>
<td>9 Pick-Up/ Van</td>
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<tr>
<td>10 Motor-Cycle</td>
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<td>11 Bicycle</td>
<td>**</td>
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<tr>
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<td>CLASS ONE</td>
<td>CLASS TWO</td>
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<td>-----------------------------------------</td>
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<td>6 Earth Rammer</td>
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<td>5</td>
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<td>10</td>
<td>5</td>
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<td>5</td>
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<td>2 Profile Boards</td>
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<td>2</td>
<td>1</td>
<td></td>
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<tr>
<td>4 Spirit Levels</td>
<td>10</td>
<td>5</td>
<td>2</td>
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<tr>
<td>5 Ditch Templates</td>
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<td>10</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6 Side Sloping Templates</td>
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<td>3</td>
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<tr>
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<td>5</td>
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<tr>
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<tr>
<td>10 Tape Measures (5m)</td>
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<tr>
<td>RESOURCE</td>
<td>CLASS ONE</td>
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<td>CLASS THREE</td>
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<tr>
<td><strong>E. SAFETY GEAR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Helmets</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2. Gum Boots (pairs)</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Gloves (pairs)</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4. Reflective Jackets</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5. Reflective Cones</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6. First Aid Kit</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>F. LAND &amp; OFFICE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Office (m²)</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2. Repair Workshop/ Store (m²)</td>
<td>50</td>
<td>30</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>G. FINANCIAL REQUIREMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Average Annual Turnover (TShs.)</td>
<td>30,000,000</td>
<td>15,000,000</td>
<td>N.A</td>
<td></td>
</tr>
<tr>
<td>2. Liquidity [Cash, Stock &amp; Bonds] (Tshs.)</td>
<td>10,000,000</td>
<td>2,000,000</td>
<td>N.A</td>
<td></td>
</tr>
<tr>
<td>3. Fixed Assets (Tshs.)</td>
<td>40,000,000</td>
<td>10,000,000</td>
<td>N.A</td>
<td></td>
</tr>
<tr>
<td><strong>H. EXPERIENCE</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year of Practice in the field of application</td>
<td>4</td>
<td>2</td>
<td>N.A</td>
<td></td>
</tr>
<tr>
<td>2. Maximum size of any single project executed in the years of practice or since last upgrading (TShs.)</td>
<td>80,000,000</td>
<td>40,000,000</td>
<td>N.A</td>
<td></td>
</tr>
<tr>
<td>3. Average size of at least 3 projects executed in the years of practice or since last upgrading (TShs.)</td>
<td>30,000,000</td>
<td>7,500,000</td>
<td>N.A</td>
<td></td>
</tr>
</tbody>
</table>

* Must be Registered with Professional Board.
** Recommended but not Mandatory
*** Experience shall apply to applicants for upgrading only.

| CLASS LIMIT | Unlimited | Tshs. 100,000,000/= USD 100,000 | Tshs. 50,000,000/= USD 50,000 |
| FEEs - Registration | Tshs. 60,000/= USD 60 | Tshs. 40,000/= USD 40 | Tshs. 30,000/= USD 30 |
| - Annual Subscription | Tshs. 50,000/= USD 50 | Tshs. 40,000/= USD 40 | Tshs. 30,000/= USD 30 |
Current Status of the LB Contractor

- 21 Registered LB Specialist Contractors
- 21 Registered Civil Works Contractors executing LB Works
- 2nd in number among Specialist Contractors
- Civil Contractors do not feel obliged to register as LB Contractors as category allows greater opportunities
Table 1. Registrations Statistics of Labour-based trained Contractors

<table>
<thead>
<tr>
<th>S/N</th>
<th>Type</th>
<th>LB Class</th>
<th>Civil Class</th>
<th>Gender</th>
<th>Total</th>
<th>% of Reg. Contr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I</td>
<td>IV</td>
<td>M</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specialist Labour-Based Civil Contractors trained in LBT</td>
<td>1 20</td>
<td>2 2 13 5</td>
<td>15 6</td>
<td>21 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>37 6</td>
<td>43 2%</td>
<td></td>
</tr>
</tbody>
</table>
Critical Analysis of the Impact

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity</th>
<th>Percentage of Contractors Benefiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participation in CRB Workshops and Seminars</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Regulatory/ Enforcement Services</td>
<td>92%</td>
</tr>
<tr>
<td>2</td>
<td>Training</td>
<td>77%</td>
</tr>
<tr>
<td>3</td>
<td>Dissemination of Information</td>
<td>92%</td>
</tr>
<tr>
<td>4</td>
<td>Advocacy/ Support to Associations</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Increased Work Opportunities</td>
<td>77%</td>
</tr>
</tbody>
</table>

Note: Ranking of Importance of Activity is independent of Percentage of Contractors benefitting.
Work Opportunities

Performance

Table 2. Turnover of Contractors executing Labour – Based Works

<table>
<thead>
<tr>
<th>Activity/ Year</th>
<th>1998 (Tshs.)</th>
<th>1999 (Tshs.)</th>
<th>2000 (Tshs.)</th>
<th>2001 (Tshs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour Based Works</td>
<td>105,146,079</td>
<td>408,737,462</td>
<td>941,519,347</td>
<td>1,823,045,750</td>
</tr>
<tr>
<td>Other works</td>
<td>152,907,140</td>
<td>300,929,521</td>
<td>390,311,042</td>
<td>221,000,000</td>
</tr>
<tr>
<td>Total</td>
<td>258,053,219</td>
<td>709,666,983</td>
<td>1,331,830,389</td>
<td>2,044,045,750</td>
</tr>
</tbody>
</table>

1 USD is approx. Tshs. 1000/=

- 25% Other works
- Gradual Increase in Works executed by Registered Contractors
- Increased allocation of works
- Increased participation of regional & district authorities in LB programmes
- Increased registration of contractors has given contractors a legal status
Performance Trends

Figure 4. No Jobs Comparison Indicator

Figure 5. Average Number of Contracts

Figure 6. Comparison of Average Turnover
- Kilimanjaro Contractors
- Rufiji
- Mtwara and Lindi Contractors
- Mwanza Contractors

The Policy Issue
- Presidential Statement
- TANROADS
  - 30 contractors trained on LB technology
  - 20% of regional contracts to be done using LB
  - Operational Plan
- PORALG
  - 50% of District and Feeder roads should be done by using LB Technology
- Agreements are not enforced
Regulation
- Compliance in issues of safety, observance of By-laws, Rules of Conduct is high

Promotion
- Key feature to Board’s promotional activities is a sustainable approach, which is not donor dependent, depends on its own resources and aimed at addressing contractor problems.

Figure 7. Labour-based Contractor Problems

- No Problem: 14%
- Working Opportunities: 18%
- Need for Training: 18%
- Lack of Equipment: 14%
- Lack of Skilled Personnel: 11%
- Working Capital: 25%
- No Problem: 14%
Promotional Strategies

- Training
  - 11 LB Contractors trained in various modules of CRB SSTP

- Dissemination of Information & Networking
  - "The Contractor" Newsletter

- Research on Construction Business

- Promotion of Advocacy, Co-operative Approach in addressing issues of Policy, Credit and Equipment
  - Promotion of National Association and Chapters
  - Participation in Forums

- Access to Credit Facilities
  - Establishment of Contractors Assistance Facility
  - Support for Construction Industry Development Fund

- Access to Equipment
  - Exploring sustainable approaches
  - Promoting contractors to pool resources
Lessons Learnt

- Registration has given contractors legal status to participate effectively in the market
- Recognition has resulted in promotion; Classification and Recognition plays role in mainstreaming
- CRB Recognition is sustainable as self-initiated, does not depend on donor-support
- Contractors have access to development initiatives such as training, access to credit, advocacy promoted sustainably by CRB
- Contractors are exposed to the market environment
- Not many client organizations have taken advantage of this window
Lessons Learnt (Continued)

- Compliance and participation in Board’s activities by trained LB Contractors is high
- LB Contractors are benefitting from the Board’s activities including classification, regulation, training and information sharing
- LB Contractors have created partnership with CRB
- General public is ensured of competent services
- Comments on performance range from good to very good
- Response for registration is encouraging
- Registration criteria is well accepted
- LB Contractors are not being invited to participate in bidding for maintenance on pretext for civil contractors, while LBT is just mode of execution.
The Way Forward

- LB Contracting should be institutionalized and mainstreamed

- LB Contractors should be empowered through recognition and training in real-life environment to advocate for their causes. Advocacy should be demand-driven and not supply-driven.

- Registered LB Contractors should be allowed to participate in the procurement process for maintenance works in the mainstream environment.

- More intervention required by advocates of LBT in embracing the LB Contractors registration.
The Way Forward

- Board needs to explore how to promote LB Contracting in other fields such as irrigation, water supply, agriculture, forestry and soil and water conservation
- Promotion of LB registration criteria by a National LBT coordinating body that transcends all sectors would significantly promote the adoption of LB technology
- Board needs to sensitize potential clients, especially local government authorities on the benefit of using LB contractors
- Need to take into consideration, particular requirements and capabilities of LB specialist contractors in classification and recognition, and should have a sustainable structure.
The End

Ahsanteni
Thank You
Obrigado
Paper Title

Decentralisation form of Governance as an enabling environment for the Labour-based Technologies in Uganda.

Theme: “Towards appropriate engineering practices and enabling environment “

Presented at: The 9th Regional Seminar for Labour-based Practitioners

Hotel Rovuma, Maputo, Mozambique

(20th -24th May 2002)
- Introduction regarding LBT application in Uganda
- An overview of the types of decentralisation form of Governance
- Opportunities arising from decentralisation form of governance favouring the use of LBT in Uganda
- General benefits, disadvantages and challenges of decentralisation form of governance
- Conclusion
Introduction

LBT Application in Uganda

- Uganda had been involved in these technologies since before its independence in 1962.
- A better focused LBT application started three years after the National Resistance Movement (NRM) Government took over power by establishing a Road Maintenance Initiative (RMI) drive in 1989.
- Under the RMI, routine maintenance of rural and urban roads is supposed to be carried using LBT.
- Innovations to improve access to basic socio-economic goods and services are being adopted e.g. the introduction of IRAP tool into the local level planning framework into which LBT practices are to be encouraged during rural access project design and implementation processes.

Note: The question still is “how far reaching is the LBT being utilised in Uganda?”
Types of decentralised forms of Governance

Definition: Decentralisation is a democratic reform aimed at devolving responsibility for planning, management, resource allocation and utilisation, political and administration from the Central Government to Local Governments Councils (Regional, District, Lower Local Councils)

Note: The amount of power/responsibility transferred to the Local Governments councils accounts for the type of decentralisation in place. Mainly four types:-

- **Deconcentration** (Administrative)- The Administrative workloads are shifted from CG headquarters to staff in regions, districts and other lower levels. Staff remain employees of the CG. All guidelines and controls are set out by the CG Ministries and Agencies.
Delegation - CG transfers responsibility of decision making and administration of public functions to semi-independent organisations not wholly controlled by it but accountable to it. e.g. marketing boards, regional planning authorities, Non-Governmental Organisations etc.

Devolution - CG transfers authority for decision making, financial and human resource management to independent units of Local Governments with corporate status (Districts, City, Municipal, Sub-county, Town Councils, Divisions etc.)

Privatisation - Delivery of certain key public services is left to the private sector. Specifically, for the implementation of LBT in Uganda, an NGO called LAPPCOM mainly funded by Danida was allowed an opportunity to implement LBT pilot projects in some districts. Considerable progress has been made in getting some KMs of roads built using LBT although there are still some prejudices that LBT is slow, compromises quality and lack of transparency in tender awards, let alone resistance to change by some personalities!

LBT awareness creation, training, transparency mechanisms are being carried out to foster its implementation.

23 August, 2002
Opportunities under decentralised governance favouring LBT in Uganda

Note: Uganda is implementing both devolution and privitisation decentralisation forms of governance.

(The Constitution of the Republic of Uganda, 1995, Page 117, section 2(a-e), Page 120 section 1 and the Local Governments Act, 1997 gives authority to the lower Local Councils i.e. sub-county and divisions, to raise revenues and initiate development projects) and many other powers.

Specifically the opportunities include:

- Increased local level participation in development planning and management, decision-making, implementation, monitoring and evaluation of projects and programs. Participatory bottom-up planning is a must for the success of decentralisation policy reforms (provided for in the Constitution of the Republic of Uganda, 1995 and the Local Governments Act, 1997). The Constitution Article 176 (1) – 2a-e and the LGA, 1997 Sections 36-38 and 78, give the planning and budgeting powers to the LGs. This planning approach and the powers have provided opportunities for the LBT implementation.
Obligation by the Central Government Ministries and Agencies to inspect, monitor, and where necessary offer technical advice, support supervision and training within their respective sectors in the Local Governments. LBT application compliance under the routine maintenance of roads in the LGs is being achieved through policy advocacy and coordination, support supervision and training by the CG Ministries and Agencies like Ministry of Works, Housing and Communications, Local Government, Finance, Planning and Economic Development etc.

Political structures and organisation (Local Governments and Administrative Units)

Local Governments: Districts, City, Municipal Councils, Town Councils, Sub-counties, Divisions.

Administrative Units: County, Parishes and Village Councils.
Note: The Constitution, 1995 and the LGA, 1997 provides for two or more LGs to co-operate in areas of culture and development e.g. construction of feeder roads using LBT, sharing equipment, human resources etc.

- The District Local Council is the Planning Authority with the following functions and powers:

- Preparation of comprehensive and integrated development plans (where LBT and other tools are adopted during implementation)
- Monitoring and evaluation of implementation of the plans
- Approval of the district budgets and;
- Approval of the mid-term, annual and quarterly workplans

- With these functions and powers, some districts in Uganda like Kibaale, Masindi, Kabarole, Kyenjojo and Rakai have considerably implemented LBT to some appreciable levels. The success in these districts is coupled with the existence of donor funded programmes, support from the top District Administrators, Engineers and availability of the human resources. LBT has created a significant impact in terms of improved rural accessibility and economic empowerment of the local communities.
Establishment of institutions of management and control in the Local governments for purposes of public accountability and transparency.

- The Local Governments Tender Boards
  - The Local Governments Public Accounts Committees
  - Public Information Systems

Financial (Fiscal) Decentralisation

  - In addition to local raised revenues, Local Governments access funds from the CG in form of grants to implement projects and programs i.e. unconditional, conditional, and equalisation.
  - Others e.g. donors, NGOs etc.
Benefits, disadvantages and Challenges of Decentralisation form of Governance

Benefits
- Transfer of powers, functions and services
- Encourages local level participatory bottom-up planning
- Promotes financial accountability and transparency
- Community ownership of projects and programs
- Public-private sector partnerships
- Takes services nearer to the people

Disadvantages/Challenges
- Local people compelled to pay fees for basic services
- Limited financial, human and material resources to run the decentralised services
- Resistance to change
Conclusion

- If decentralisation implies dumping of responsibilities onto Local Governments “LOAD SHADING”, by the Central Government, it can be done fairly quickly!
- But if it implies strengthening democracy, “EMPOWERING DECENTRALISATION”, it takes some time, considering the amount of human, material and financial resources required.

This explains why the use of LBT has achieved some minimal success in Uganda although steadily being adopted as the decentralisation reforms get fully entrenched in the Government.

- There is a need for a real rather than rhetorical commitment of Governments and Donors if LBT are to realise their potential in poverty reduction.

Thank you.
Ghana Feeder Road Prioritisation

ILO 2002

Simon Done
TRL
Prioritisation

Context

- Consultation
- Poverty
- Appropriate standards
- Accessibility
- Maintain existing roads
Prioritisation

- Background
- Other prioritisation procedures
- Requirements
- Road users needs
- Prioritisation procedure
- Key points
- Trial
- Outcomes since the trial
- Conclusions
Prioritisation

Background

- DFID investment in rehabilitation of feeder road network
- Ethnic conflict
- Not enough money to rehabilitate all roads to high standard
- Need to:
  - prioritise roads
  - select an affordable standard
Prioritisation

Earlier Procedures

• Consumer surplus - road user savings
• Producer surplus - agricultural output up

• Problems
  • No stakeholder involvement
  • Questionable predictions
  • No social benefits
Prioritisation

Requirements - DFR & DFID

- **Focus on road users**
  - Their needs
  - Led by road users
- **Address poverty and gender**
- **Equity across communities**
- **Decentralised decision making**
- **Transparent**
- **Simple & repeatable**
- **Economically rational**
- **Technically justifiable**
Prioritisation

Road users needs

- Removal of isolation
- Year round accessibility
- Needs of women
- Widespread benefits
- Non-motorised transport
- Access to market and clinics
  - But not to schools
- Opportunities for income
Prioritisation

Procedure

- 50% of funds equally to all Districts
- Each District
  - Consultations - meetings - 3 levels
    - Public ranking
  - Technical analysis
    - Prioritisation index & technical ranking
    - Coherence check
  - Consultation - **final decision** is made
- Remaining 50% across all Districts
Prioritisation

Technical analysis

- Prioritisation Index

\[ = \text{Benefits from improvement} - \text{Costs of improvements} \]

- 1. Spot improvements
- 2. Rehabilitation
Prioritisation

Surveys

- Multi-modal traffic count
- Catchment population
- Isolation from key facilities
  - Markets and clinics
- Road condition
Prioritisation

Costs of improvement

- Access Categories
  - A - Access lost or dangerous
  - B - Access unreliable or at risk
  - C - Access reliable and stable
- Divide road into sections
- Section: Treatment + Access Category

- Spot improvements = A + B
- Rehabilitation = A + B + C
Prioritisation
Category A
Prioritisation
Category B
Prioritisation
Category C
Prioritisation

Benefits from improvement

- Motorised traffic
  - Change in Roughness
  - Change in Traffickability
  - Change in Passability
- Non-motorised transport
  - Impact of improved condition
- Social benefits - weighting factors
  - Population, poverty & isolation
- Spots = Benefits from Access
- Rehab = Benefits from Access + roughness reduction
Prioritisation

Technical analysis

- Prioritisation Index
  \[ \text{Benefits from improvement} - \text{Costs of improvements} \]

- 1. Spot improvements
- 2. Rehabilitation

Rank roads by Index
Prioritisation

Procedure

- 50% of funds equally to all Districts
- Each District
  - Consultations - meetings - 3 levels
    - Public ranking
  - Technical analysis
    - Prioritisation index & technical ranking
    - Coherence check
  - Consultation - final decision is made
- Remaining 50% across all Districts
Prioritisation

Key points

- Gradual network improvement
- Poverty and gender
- Clear definition of road condition
- Clear definition of improvements
- Consultation - before and during
Prioritisation

Trial

- $900,000 available for rehabilitation
- District ranking
  - 55 km 8,383 people
- Prioritisation index
  - 95 km 17,650 people
- Avoids expensive roads
- Focus on areas of high population
- Only spot improvements
- Roads in reasonable condition not selected
Prioritisation

Outcomes since the trial
- Selection was widely accepted
- Used for rural electricity
- May be used for urban roads

But
- Spot improvements discontinued
Prioritisation

Conclusions

- Meets most requirements
- Follows economic findings
- Specific to local situation
- Only nominated roads
- Fits the current context
Prioritisation

Questions?

Spreadsheet is available
## Prioritisation

Percentage increase in farm-gate price of maize with improved access

<table>
<thead>
<tr>
<th>Length of access to be upgraded</th>
<th>5 km</th>
<th>20 km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade from earth to gravel road</td>
<td>0.08</td>
<td>0.29</td>
</tr>
<tr>
<td>Upgrade from path to earth road</td>
<td>11.4</td>
<td>70.6</td>
</tr>
</tbody>
</table>
COMMUNITY INITIATED COST SHARING ROADS PROGRAMME IN ZAMBIA

Presenter: Raphael Mabenga
(Coordinator - Highway Engineering)
National Roads Board
Introduction

- Community Initiated Cost Sharing concept is a 50/50 Smart Partnership between a Community and National Roads Board.
- Objective is to address poverty and backlog of maintenance.
ROADSIP is a 2 phased 10-year program
- Phase I 1998 - 2002
- Phase II 2002 - 2007

THE GOAL
“...To facilitate economic growth and diversification (particularly in the agriculture sector) through a sustainable system for the financing and management of the road network.”
Poverty Levels

- Population is about 10.5 million and 50% live in rural areas.
- In 1998 about 83% of rural population was classified as poor.
- Women comprise more of the poor, 29% had no education as compared to 24% for men. 12% is in employment as compared to 88% men.
- HIV/AIDS has also aggravated the situation as some “bread winners” have died.
Bridging the Poverty Gap

- Government to reduce poverty to 50% by 2015 through various interventions outlined in the 2002 Poverty Reduction Strategy Paper
- ROADSIP is to create wealth through 30,000 new jobs, to-date, 14,500 jobs have been created
- Community Initiated Cost sharing projects is also bridging the gap in a small way
- HIV/AIDS awareness campaign is on course.
Gravity of Road network

- Roads improve accessibility
- Roads improve mobility
- Roads reduce Transport cost
- Roads link People to opportunities, resources and Markets for self development
- No sector can deliver without roads.
- Roads create the enabling environment for economic growth to eradicate poverty.
Road Network Conditions

- Road network is 67,000 Km of which 32,000 Km is core. Asset is US$3 billion
- In 1995, 20% of roads were in good condition, 29% in fair and 51% poor
- In 2001, 45% good, 25% fair and 30% poor
- Programme is to have 50% good, 40% fair and 10% poor by 2007
- We have a backlog of maintenance.
Objectives of 50/50 Smart Partnership

- Address back log of maintenance and limited funds
- Create employment
- Poverty alleviation
- Awareness of HIV/AIDS
- Promote mobility and access to markets
- Enhance ownership awareness
- Promote community participation and togetherness for self development
Eligible Communities

- Churches
- Schools
- Group of farmers
- Group of residents
- Group of commercial entities
- Cooperatives
- Should form a committee
Eligible roads

- Roads considered to be of high importance by the Community:
  - Trunk
  - Main
  - District
  - urban Roads
  - Feeder
  - Rural Roads
  - Community roads
Project Guidelines

- Member of Parliament must initiate and oversee the project
- Community must elect a Chairperson, secretary and Treasurer
- Must fill out an application form, BOQ and unit rates worked out by a Road Agency owning the road
- Form must be submitted to NRB by a Road Agency
Implementing Agencies Role (Provincial Engineers & Councils)

- Assisting communities in project preparation
- Submission of project proposal to NRB
- Enter into contracts with communities
- Supervise the works
- Certify the works
- Signatory to bank account
- Oversee, monitor and evaluate
Interventions

- Road rehabilitation
- Drainage clearance
- Culverts construction
- Timber bridges Construction and maintenance
- Deepening of canals
- Spot improvement
- Pothole patching
- Road surfacing
- Combination of the above
Due to a gigantic number of applications, screening became inevitable.

Network considerations:
- Road must link with another all-weather road
- Should form a “loop”
- No duplication or conflict with other road projects
Screening of applications (contd)

- Social Factors
  - Presence and intensity of social infrastructure
  - Traffic Volume
  - Employment creation potential
  - Capacity of community to handle the project
Screening of applications (contd)

- Economic Factors
  - Current/historical agricultural surplus
  - Potential agricultural production
  - Planned development activities

If the project is selected, the community will be required to open a Bank Account in the name of the community.
50% Community input

- Supervision by Road Agency and community providing labour
- Road Agency providing labour and machinery and community providing labour
- Community providing Labour, machinery and materials
- Community meeting 50% of cost in cash
50% Community input (Contd)

- Community engaging a contractor at reduced price
- Government or other agencies providing 50% of cost in cash
Working culture and rewards

- Subgroup or man-length is given a task to complete per day and get a “salary” at month-end.
- The “salary” (average US$20) is enough to buy 50Kg of mealie meal or a bag of fertiliser or 3 bags of 50Kg cement.
- Sometimes the community is paid a lumpsum after completing their project.
- Minimum wage is US$1.25 but each person is only paid 50% of this wage. The other 50% is their contribution.
- 50% wage prevents migration of people.
Disbursement of funds

- Funding to community on imprest basis in trances
- Payments to community for work certified either by Provincial Engineer or Council
- NRB’s contribution not to exceed 50% of total cost
- Progress report and Bank statement to accompany retirement vouchers
Banking & Accounting

- Dedicated project account in name of the Community
- Signatories:
  - 2 Panels
  - Community leaders (Panel A)
  - Agency representative (Panel B)
- Satisfactory retirement of imprest to NRB
HIV/AIDS Awareness

- Communities are encouraged to discuss about HIV/AIDS at projects
- Prevalence rate is in the 15-49 years
- It is higher among females than males
- The aim is to reduce the rate from the current 19.5% to 18% by 2010
Gender Issues

- Inequality exists between men and women
- Education - women constitute 65% of the illiterate population
- Women constitute only 8% of wage earners
- Women’s Unit was established in the National Commission for Development Planning in 1984 - coordinate gender mainstreaming in National Development
- Programme encourages employment of at least 50% of workforce to be women.
Typical examples: 1. Chingola Community Project, Copperbelt

Community contributed:

- Materials
- Equipment
- Cash
- Labour
- Supervision
- Mayor involved
2. Ngwerere Community Project, Lusaka

Community contributed

- Materials
- Equipment
- Cash
- Labour
- Supervision
3. Shiwang’andu Community Project, Northern Province

Community Contributed

- Reduced labour rates
- Supervision by the Council
Comparison of unit costs for rehabilitation of feeder roads and pothole patching was made and is given on slide below:
## Unit Costs (Contd)

<table>
<thead>
<tr>
<th>Description</th>
<th>World Bank</th>
<th>Road Fund</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>RehabCost/Km</td>
<td>7,600.00</td>
<td>6,200.00</td>
<td>2,272.00</td>
</tr>
<tr>
<td>Pothole Patching (m2)</td>
<td>6.31</td>
<td>8.50</td>
<td>3.13</td>
</tr>
<tr>
<td>Light Bush Clearing</td>
<td>375.00</td>
<td>350.00</td>
<td>215.00</td>
</tr>
<tr>
<td>Labour Rate</td>
<td>5.60</td>
<td>4.00</td>
<td>1.10</td>
</tr>
</tbody>
</table>
From the above, Cost sharing method has been found to be more cost effective than traditional ones because:

- Overheads are not costed
- Gravel/Laterite is free in most cases
- “Consultancy” is free
- Wear and tear/ profit are not taken into account
- No need to compact to refusal density in rural areas
Sustainability

- The programme is in ROADSIP budget
- All rehabilitated roads will be put on annual maintenance programme to preserve asset
- Communities are lust for work
- Political will is very high
Impact on communities

- 200 Km of road works have been done
- Poverty alleviation is being addressed
- Over 1,500 villagers have been employed
- Many areas have been opened up to market opportunities
- Accessibility to clinics, schools, churches, markets
- Farming areas opened - easy to get fertilizer, and produce
- Roads have been put on annual maintenance programme
Impact (Contd)

- Multiplier effects like communications enhanced
- Some people bought bicycles and other means of Intermediate Means of Transport
- Some people bought oxen and ploughs
- People paid school fees and bought uniforms for their children
- Demand for projects is very high and people want to maintain the roads regularly.
### Summary of Projects

<table>
<thead>
<tr>
<th>Province</th>
<th>KM done</th>
<th>Amount (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lusaka</td>
<td>22</td>
<td>215,604.33</td>
</tr>
<tr>
<td>Eastern</td>
<td>74.9</td>
<td>116,121.07</td>
</tr>
<tr>
<td>Copperbelt</td>
<td>30</td>
<td>47,118.75</td>
</tr>
<tr>
<td>Luapula</td>
<td>17</td>
<td>22,623.25</td>
</tr>
<tr>
<td>Northern</td>
<td>48</td>
<td>46,350.00</td>
</tr>
<tr>
<td>Southern</td>
<td>7</td>
<td>4,070.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>198.9</strong></td>
<td><strong>451,887.40</strong></td>
</tr>
</tbody>
</table>
Problems encountered

- Cost estimates - Projects either over/under estimated
- Retirement of imprest - insufficient information and receipts
- Monitoring of projects in rural areas difficult
- Demand exceeding Supply - Political pressure
Way forward

- To continue with the programme but with modifications in financing and implementation strategies
- On-the job training - to ease pressure on Road Agencies
- Monitor effect of road improvements by measuring traffic, purpose of trips, type and volume of products transported
- Poverty audit to be done
Conclusion

From the above, it is evident that:

- Back log of maintenance is being addressed
- Wealth creation is being addressed
- Employment opportunities being generated
- Local inhabitants have taken ownership of rehabilitated roads
- More applications countrywide have come
- Politicians are in forefront
- Women in forefront to improve accessibility to link people to opportunities, resources & markets
Conclusion (contd)

- Roads - the life line of economic growth to eliminate poverty for the realization of the NEW DEAL in Zambia

- We welcome suggestions in order to improve on our initiative.
Thank you
The Management and Financing of Non-Classified Roads

Marcus Wattam
Transport and Development Specialist
I.T. Transport Ltd.
Consultants in Transport for Development

ILO 9th Regional Seminar for Labour Based Practitioners hosted by Administração Nacional de Estradas
May 2002, Maputo, Mozambique.
Presentation structure

- Introduction
- Policy
- Planning
- Execution
- Conclusions and points for discussion
Non-classified roads

- Non-gazzetted, village roads, tracks, paths – lower end of network
- Provide access to essential social and economic services
- High levels of non-motorised traffic, low motorised
- Often in poor condition
- Significant impact on peoples lives
We are at a Junction
Policy
Institutional Decentralisation

- Responsibility

- Authority in physical decision making power

- Authority in financial decision making
Policy goals and objectives

- More poverty focused and joined up goals
  - PRSPs and specifically RTTP

- Economic objectives for growth give taxable returns for maintenance
  - Low taxation on non-motorised transport – majority of traffic on NCR

- More social issues addressed – employment conditions, AIDS, etc.

- Practical issues – contractor registration, targets for labour based
Finance sources

- Central government and donor funds
  - Development budgets to road fund,

- Local government funds
  - Central government allocations to local road funds

- Community contributions
Classification and Standards

- NCR need to be classified and put into an inventory
- High standards = High costs
- Focus on access based standards rather than speed based standards
Conventional approaches

- Cost benefit analysis
  - NCR have less than 50 vpd
  - No significant benefits

- Innovative approaches in benefit estimation
  - Value of time
  - Impact of road condition on bicycle use
Other methods for planning

- Need for simple and usable planning methods
  - Screening
  - Cost effectiveness
  - Multi-criteria analysis
  - AP or IRAP
  - Mixture of above
Execution of works
Modes of improvement

- Small contractors
- Community contractors
- Community groups
Contract supervision and monitoring

- Local authority
- Contracted supervisors
- Local users groups
Conclusions

- More realistic decentralisation
- Re-orientation of Central government as enablers in the development of NCR
- Rethinking fiscal policy for NCR financing
- The use of simple objective based planning methods
- More locally managed, resourced and supervised construction
Enabling environment to enable good access for these people......
THE USE OF PROCUREMENT TO ATTAIN LABOUR-BASED AND POVERTY ALLEVIATION OBJECTIVES

Ron Watermeyer

Institution of Structural Engineers
PUBLIC SECTOR PROCUREMENT IN SOUTH AFRICA EXPRESSED AS A PERCENTAGE OF GDP

- National: 11%
- Provincial: 5%
- Local authorities: 2%
- State owned enterprises: 6%

24% of GDP
Public Sector Procurement

Public sector has a demand for:

• Supplies
• Services
• Engineering and construction works

Procurement is the process which creates, manages and fulfils contracts
Public Sector Procurement

Public sector has a demand for:
• Supplies
• Services
• Engineering and construction works

International best practice objectives:

Procurement is:
• Fair
• Equitable
• Transparent
• Competitive
• Cost effective
USE OF PROCUREMENT AS AN INSTRUMENT OF POLICY.

To stimulate economic activity;
To protect national industry against foreign competition;
To improve the competitiveness of certain industrial sectors;
To remedy regional disparities;
To achieve certain more directly social policy functions eg creation of jobs; promotion of fair labour conditions, use of local labour, and increased utilization of the disabled in employment; prohibition of discrimination against minority groups; improvement of environmental quality; and encouragement of equality of opportunity between men and women.
OBJECTIVES ASSOCIATED WITH THE REDUCTION OF POVERTY

• provision of work opportunities to vulnerable groups;

• increasing the quantum of employment generated per unit of expenditure through the promotion of small scale enterprises and usage of labour-based technologies and methods; and

• the provision of business and/or work opportunities to groups of people who are socially and economically marginalised in order to address inequities in a society.
LABOUR-BASED AND POVERTY REDUCTION PROGRAMME CONSIDERATIONS

Focus on the targeting of enterprises and labour with defined characteristics.

POLICY INSTRUMENT: A PREFERENTIAL PROCUREMENT POLICY

A preferential procurement policy promotes objectives additional to those associated with the immediate objective of the procurement itself.
METHODS OF POLICY IMPLEMENTATION

(Public Procurement Research Group)

Model 1: Product/service specification
Model 2: Set asides
Model 3: Qualification criteria
Model 4: Preferences at the short listing stage
Model 5: Award criteria
Model 6: Offering back
Model 7: Contractual conditions
Model 8: Design of specifications, contract conditions and procurement processes for the benefit of particular suppliers
Model 9: General assistance
GOOD GOVERNANCE CONCERNS

• Loss of economy and inefficiency in procurement
• The exclusion of certain eligible bidders from competing for tenders
• Lack of competition
• Unfair and inequitable treatment of contractors
• Lack of integrity, fairness and public confidence.
• Lack of transparency in procurement procedures.
• Failure to achieve socio-economic objectives through procurement
## IMPLEMENTATION METHOD

<table>
<thead>
<tr>
<th>CONCERN</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
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<td>Failure to achieve objectives</td>
<td>?</td>
<td>x</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>2</td>
<td>?</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award criteria</td>
<td>3</td>
<td>?</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractual condition</td>
<td>4</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>?</td>
<td>?</td>
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</tbody>
</table>

**Notes:**
- '?' indicates uncertainty.
- 'x' indicates the concern is addressed by the implementation method.
TARGETED PROCUREMENT PROCEDURES

Developed in South Africa to implement preferential procurement policies using a combination of methods viz:

• Methods 5 (award criteria);
• Method 7 (contractual conditions) and
• Method 8 (design of procurement for the benefit of particular contractors)

in a procurement regime which required procurement to be fair, equitable, transparent, competitive and cost effective.
TARGETED PROCUREMENT PROCEDURES

Can be used to implement most of the methods including Method 2 set asides.

Facilitates the setting of targets or goals in a definable; measurable; quantifiable; verifiable and auditable.

Facilitates the measuring, monitoring and evaluation of policy outcomes.
TARGETED PROCUREMENT - THE VEHICLE FOR ATTAINING SOCIO-ECONOMIC OBJECTIVES
BASIC OUTCOME OF THE SOUTH AFRICAN DEPARTMENT OF PUBLIC WORKS' AFFIRMATIVE PROCUREMENT POLICY

AVG. AFRICAN INDEX: 27.1%
DIRECT FINANCIAL PREMIUM: 0.6%

AVG. STATISTICS PERIOD AUGUST 1996 TO DECEMBER 1998
Defining target enterprises and targeted labour
Goals associated with targeted procurement procedures
Resource specifications
Incentives for contractors to embrace goals
Third party management support
Electronic rotating data bases (rosters)
Equity in tendering entities
Financial penalties
SABS 0396

Provides guidance on the formulation of preferential procurement policies and the development and use of implementation mechanisms.

Describes techniques for the monitoring and evaluation of the outcomes of a preferential procurement policy.
DRAFT SABS 1914 TARGETED PROCUREMENT PROCEDURES (PARTS 1 TO 6)

Part 1: Participation of targeted enterprises

Part 2: Participation of targeted partners in joint ventures

Part 3: Participation of targeted enterprises and targeted partners in joint ventures

Part 4: Participation of targeted enterprises and targeted labour (local resources)

Part 5: Participation of targeted labour

Part 6: Participation of targeted enterprises in concession contracts
EXAMPLE: APPLYING TARGETED PROCUREMENT PROCEDURES IN EMPLOYMENT INTENSIVE WORKS

There are two alternative procurement approaches:

**Method A:** Specify the use of specific employment-intensive technologies and methods of construction/manufacture to be used (method #1 - product/service specification)

or specify the minimum amount of wages which are to be paid in respect of a particular contract (method #7 - contractual conditions);
**Method B:** Allow tenderers the opportunity to choose the technology/construction method/method of materials manufacture which they wish to use in order to maximise the participation of labour in construction works and in so doing win bids. (method #5 – award criteria and method #7 – contractual conditions)

Resource specifications (SABS 1914-5) can be used in both methods to ensure that the deliverables are attained.

The economic viability of Method A is dependent on the ability of the designer/specifier to forecast cost. Any potential price premium in Method B can be readily assessed during the evaluation of bids.
Procurement regime

Regime for implementing preferences

Targeted procurement procedures
Preparatory phase

Procurement review

Regulatory review

Pre-implementation phase

Implementation phase

Evaluation phase
Preparatory phase

Procurement review

Regulatory review

Pre-implementation phase

Implementation phase

Evaluation phase

Supply side measures
TARGETED PROCUREMENT PROCEDURES / PREFERENTIAL PROCUREMENT POLICIES

Create the demand (access to markets) for targeted labour and the demand for services and products of targeted enterprises.

Supply side interventions are required to ensure that the demand is balanced by the supply.
SMALL SCALE ENTERPRISES

Interventions should address:

• skills development;
• access to information;
• legislative and regulatory impediments;
• availability of appropriate and labour-based technologies; and
• access to finance difficulties in hiring / purchasing plant and small equipment.
CHOICES IN TECHNOLOGY

Specifications, codes of practice and standards establish a framework of acceptable and recognised engineering practice within which engineers can arrive at solutions.

The use of procurement to attain labour-based and employment objectives presupposes that appropriate labour-based methods and technologies are readily available to those engaged in construction works as designers and constructors.

Absence leads to use of those technologies for which there is adequate design information or to use labour based technologies circumspectly and conservatively.
QUALITY

Quality may be regarded as conformance to stated requirements (specification) rather than fitness for purpose.

Small scale entrepreneurs have particular problems in achieving quality, depending upon how quality is measured and defined.

Failure by a small scale manufacturer to comply with one of the requirements of these specifications means that compliance cannot be claimed.

Many of the current specifications present a barrier to entry to indigenous small scale entrepreneurs and exclude their participation in particular markets.
PERFORMANCE SPECIFICATIONS CODES OF PRACTICE

Performance specifications and building codes / regulations can permit technological choices which impact on both cost and socio-economic deliverables to be made eg

the use of local resources, the increase in employment opportunities per unit of expenditure, or the provision of business opportunities to targeted enterprises.

In order to facilitate the greater use of indigenous materials in buildings it will be necessary to quantify performance levels for different user requirements
Assessment of the Performance of Housing Units in South Africa

The South African Institution of Civil Engineering

The Institution of Structural Engineers

JUNE 2000
THE CHALLENGE FACING ENGINEERS

The challenge facing engineers is:

• to understand the potential which construction projects have for delivering socio-economic deliverables;

• to use their skill, knowledge and creativity to realise these deliverables.
WHAT IS NEEDED

• dissemination of technical information to enable informed design decisions to be made;

• development of suitable on-site/point of manufacture acceptance tests;

• the development of fitness for purpose criteria for innovative labour-based technologies and the methods and instruments by which such criteria can be met for given performance levels; and

• research and development to enable innovative labour-based technologies to become accepted as conventional technologies.
BEST PRACTICE GUIDE FOR LABOUR BASED METHODS AND TECHNOLOGIES FOR EMPLOYMENT INTENSIVE CONSTRUCTION WORKS

labour based construction methods for earthworks, precast concrete products, brick and block making, labour-based open channel flow technology, rubble masonry concrete dam construction technology, rubble masonry concrete arch bridge construction technology, foamed bitumen gravel, cast in-situ block pavements, emulsion treated gravel, waterbound macadam, and slurrybound and composite macadam construction.
Urban infrastructure

Dams
WHAT NEEDS TO BE DONE

Governments need to establish:

• the institutional arrangements to develop technical standards; and

• a technical assessment organisation to assess innovative labour-based technologies (eg Agreement Board)
Learned societies and professional associations have a role to play in establishing:

• appropriate best practice guides, codes of practice, specifications and test methods, and technical manuals.

• a procurement regime which facilitates the participation of indigenous and / or local contractors in the provision of engineering and construction works.

• performance standards and user performance levels for human settlements which facilitate the use of indigenous technologies and materials.

• point of manufacture tests for the acceptance of construction materials.

• ways in which information can be shared and disseminated.
Ensure, as a social responsibility, that appropriate technologies are disseminated in areas where it is most needed, and indigenous construction technologies which constitute best practices in the locality in which they are utilized are given due recognition and are promoted.
CONCLUSIONS

It is possible to attain labour-based and poverty alleviation objectives using procurement as a policy instrument without compromising internationally accepted objectives associated with the procurement itself.

Appropriate supply side measures are essential to the success of any programme.

Learned societies and professional associations have a role to play in the development and dissemination of appropriate technologies and standards.
A disciplined approach to the formulation of policy, the selection of implementation mechanisms, enforcing contract compliance and the gathering of data to evaluate programmes is necessary.

There is a case for amending the UNCITRAL Model law on Procurement of Goods, Construction and Services to make provision for the use of procurement for attaining secondary objectives.
ANE-Unidade de Assuntos Sociais
ADMINISTRAÇÃO NACIONAL DE ESTRADAS

Unidade de Assuntos Sociais

A Integração das componentes Género e Prevenção das DTS/HIV/SIDA no Sector de Estradas
• O contexto Moçambicano

  • Género e Prevenção do HIV/SIDA
  • Políticas Governamentais
  • Estratégias da ANE
  • Objectivos
  • Acções específicas
Porquê é importante falar destes assuntos

- População Total 16,841,000
  - Homens 48% (8,083)
  - Mulheres 52% (8,758)
- Esperança de vida 42,3
- Índice de Desenvolvimento Humano 0,344
- Índice de Pobreza Humana 60%
- Índice de Prevalência do HIV 12,2%
- Taxa de analfabetismo nas mulheres 74,1%
- O nível de pobreza é mais alto entre as mulheres
Impacto sócio-económico das Estradas

- Facilita a construção de infra-estruturas como escolas e centros de saúde;
- Encurta as distâncias e reduz os custos dos transportes;
- Melhora a comercialização agrícolas;
- Gera emprego temporário para um número significativo de pessoas, particularmente quando se praticam os métodos de uso intensivo de mão-de-obra.
Políticas do Governo

• Existe por parte do governo uma preocupação em reduzir as desigualdade de género;

• O maior propósito da estratégia do governo na área do género é promover a participação das mulheres no processo de desenvolvimento;

• Envolver as mulheres rurais nos programas de uso intensivo de mão-de-obra;

• Foi estabelecida uma percentagem mínima de 25 % de mulheres a contratar nos trabalhos de uso intensivo de mão-de-obra.
Estratégia da ANE

• Aumentar a participação das mulheres no sector de estradas;
• Promover a formação das mulheres para a sua maior participação na tomada de decisões;
• Consciencializar a população rural da necessidade da participação feminina na construção de estradas através do método de uso intensivo de mão-de-obra.
Quais são os Planos da ANE

- Aumentar a cobertura e qualidade das estradas primárias, secundárias e terciárias;
- Certificar que a estratégia do sector de estradas incorpore as componentes de redução da pobreza, género, combate as DTS/HIV/SIDA e preservação do meio ambiente.
Actividades do Género no Sector de Estradas Terciárias

• Envolvimento das mulheres nos trabalhos de estradas, através de campanhas de sensibilização;

• Formação dos Núcleos Provinciais do Género;

• Realização de Seminários e Palestras, provinciais e nacionais de Género para os membros dos Núcleos, para dirigentes (Direcções Provinciais, Delegações da ANE e outras instituições do governo), empreiteiros, líderes comunitarios e trabalhadores da ANE.
Actividades do Género no Sector de Estradas Terciárias

Resultados

• Aumento da participação feminina nas brigadas de uso intensivo de mão de obra, de 11% em 1997 para 19% em 2001;

• Formação de tractoristas, motoristas, operadoras de máquinas, supervisoras, mecânicas, topógrafas, encarregadas de obras, etc;

• Participação em cursos de formação e aperfeiçoamento no exterior, para o pessoal da Unidade.
DADOS ESTATÍSTICOS SOBRE HIV/SIDA NO MUNDO
Adultos e crianças estimadas que vivem com HIV/SIDA nos fin do 2001

Total: 40.000.000 million

Source: UNAIDS, 2001
DADOS ESTATÍSTICOS SOBRE HIV/SIDA EM MOÇAMBIQUE
Situação de Moçambique em relação aos outros países de Africa Sub-Sahariana, referente as taxas de contaminação de HIV/SIDA entre os adultos (15 a 49 anos). (Fonte: UNAIDS, 2000)
Taxas por Províncias
Taxas por Regiões

Norte: 5,7%
Centro: 16,5%
Sul: 13,2%
Taxa Nacional

12,2%
SECTOR DE ESTRADAS & HIV/SIDA
Quais são os Objectivos da ANE

✓ Contribuir para uma mudança de actitude dos trabalhadores do sector de estradas em relação às DTS/HIV/SIDA;
✓ Proteger a força laboral e as suas famílias da epidemia do HIV/SIDA;
✓ Criar consciência entre os trabalhadores dos efeitos negativos do HIV/SIDA no desenvolvimento económico e social do país.
Quais são os Objectivos da ANE

- Promover a educação sobre DTS/HIV/SIDA e prácticas de sexo seguro
- Assegurar, através de meios legais (contratos) a incorporação de medidas de prevenção das DTS/HIV/SIDA, em todos os trabalhos de construção, reabilitação e manutenção de estradas.
Actividades

✓ Realizadas e Continuas
- Formação de activistas em todas as províncias e na ANE;
- Produção e distribuição de panfletos e cartazes para os trabalhadores de estradas e população que vive nas áreas circunvizinhas;
- Actividades de informação, educação, comportamento e conhecimento;
- Distribuição de preservativos.

A UASMA deve acompanhar o cumprimentos das cláusulas sociais incorporadas nos contratos.
VAMOS FALAR DE SIDA

SIDA é uma doença causada por um vírus (micróbio) chamado HIV, que enfraquece o corpo, e assim não podemos lutar contra as doenças. O SIDA ainda não tem cura.

Como se apoio o vírus do SIDA?
- Apoio-se através de relações sexuais e pessoas infectadas.
- Não se apoiar em pessoas que usam drogas.

Como se evita?
- Fidelidade mútua. Ter uma(s) única(s) personalidade(s) sexual(s) e serem fidel(as) um ao outro.
- Usar preservativo nas relações sexuais.
- Aprender e observar os sinais de infecção.
- Isolamento e tratamento de pessoas infectadas.

SINAIS DE DTS

DTS é uma doença causada por um bactéria (micróbio) chamado Chlamydia, que pode ser contraído através de relações sexuais.

Como se detecta DTS?
- Feces retidas
- Feces frias
- Feces infecções
- Feces sem médicos

Como se evita DTS?
- Práticas sexuais seguras.
- Evitar relações sexuais com pessoas que têm DTS.
- Seu parceiro tem DTS?
- Solicite teste.
- Se o resultado for positivo, procure cuidados médicos.
- Se o resultado for negativo, procure cuidados médicos.

Notas:
- DTS é uma doença que pode ser evitada através de práticas sexuais seguras.
- DTS pode ser detectado através de exames físicos e laboratoriais.
- DTS pode ser tratado através de medicamentos e medidas de cuidados.
Zambézia Feeder Roads Project
Community Monitoring and Social Aspects
O Processo

- Contacto com comunidade
- Recrutamento dos trabalhadores
- Criacao dos grupos de monitoria
Esquema do Recrutamento de Trabalhadores com Envolvimento das Autoridades do Governo e das Comunidades

ADMINISTRADOR (A) DISTRITAL

CHEFE DO POSTO

PRESIDENTE DE LOCALIDADE

AUTORIDADES LOCAIS / LÍDERES COMUNITÁRIOS

AUTORIDADES LOCAIS / LÍDERES COMUNITÁRIOS

AUTORIDADES LOCAIS / LÍDERES COMUNITÁRIOS

FAMÍLIAS

FAMÍLIAS

FAMÍLIAS
Recrutamento

• Inscricao de todas mulheres presentes
• Inscricao de homens ate o numero desejado
Criacao dos grupos de monitoria

• Igual numero de mulheres e homens
• Escolhidos pelos trabalhadores
• Trabalho voluntario e nao remuneravel
• Reunioes quinzenais com encarregado da obra
Objectivos da criação dos grupos

• Resolução de problemas dos trabalhadores
• Ligarção entre trabalhadores e o encarregado
Proportion of Unskilled Employment Obtained by Women

Month May 1996 to November 2001
Zambézia Feeder Roads Project
Community Monitoring and Social Aspects

AN

DFID Department for International Development
Labor Content
A Comparative Study Among Different Infrastructure Types

The Social Fund for Development, Egypt
SFD & PWP Funding & Mandate
• Over $300 million in grants
• 6,500 subprojects
• Covering all 27 provinces in ten years

Infrastructural Types
Potable Water, Sanitary Sewer, Irrigation, Public Buildings & Roads
Potable Water
• 337 Wells
• 5,400 km. Pipe Networks
• 270 Elevated & Ground Tanks
• 11 Treatment Plants
• 10 Pump Stations
• 152 km. Pipe Networks
Canal Pitching
• 330 km. Canal Pitching
Canal Covering

- 160 km. Canal Covering
Public Buildings
• 473 Schools
• 368 Clinics
• 474 Social Centers
Rural Roads

1,800 km. of Roads
Conclusion
• 18 governorates, $85 million worth of projects

• Canal Pitching & Roads (Cut & Fill - Wearing Surface)
  Potable Water Tanks & Canal Covering
  Wells & Public Buildings
  Potable Water & Sanitary Sewer Networks
  For Treatment Plants, Pump Stations & Pressure Lines, results are in conclusive

• Labor Based may be achieved by ratio of labor to plant (Daily labor wages - $3.3/wells to $4.7/roads)

• Job Opportunity Cost (SS Lines & Wells at $12-Roads at $17)

• There is LIFE beyond roads
QUESTIONS