



Module 5: Social and Environmental Issues
**Towards the mainstreaming of an approach to
include social benefits within road appraisal:**
Uganda

Session: 5.1

Part 2 – Case Study #3

Presentation: 1.2b (#3)

1. Introduction

Learning Objectives

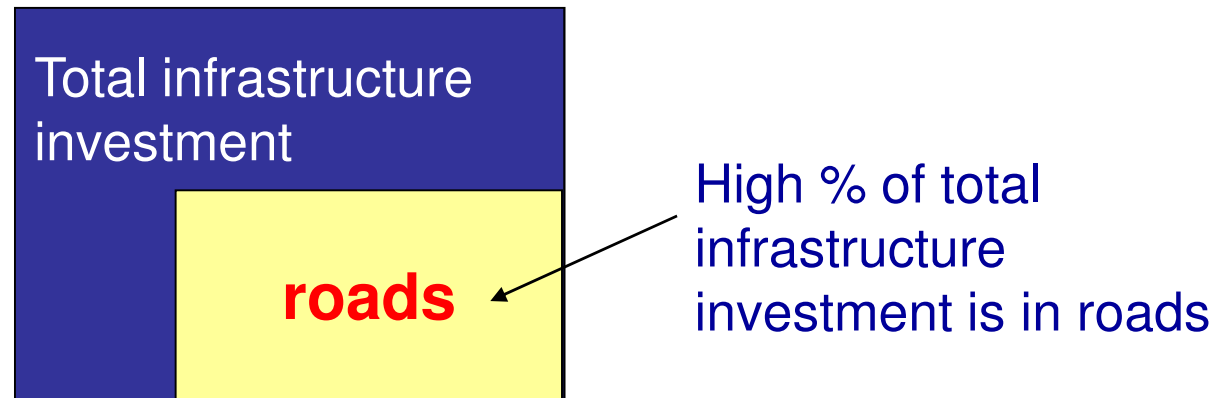
By the end of the session participants will be able to:

- ③ Explain the context and key issues of traditional road investment appraisals from a poverty and social perspective
- ③ Analyse the methods and results from using a multi-criteria analysis (MCA) approach in Uganda
- ③ Describe the limitations, policy implications, and requirements for further studies

Session Overview

- © Context
- © Aims and Methods
- © Results and Conclusions
- © Limitations, policy implications, requirements for further studies

2. Context



- MDGs → increasing emphasis to justify road investments' contribution to **poverty reduction** → increasing attention to **low volume** rural roads

The issue

Poverty

- ❑ Poorest live in remote rural areas
- ❑ Improved access to social, economic services = key to raising living standards

Road appraisal frameworks

- ⌚ Traditional road appraisal frameworks ignore the impact of social benefit and poverty reduction
- ⌚ Past attempts to overcome these problems lacked consistency
- ⌚ Need for a framework that is:
 - consistent
 - systematic
 - able to address poverty and social benefit aspects of road appraisals

3. Aims and Methods

© 2003-04 in Uganda

© Study aims:

- Create a **consistent, systematic framework**
- Improve the Highway Development and Management **Model** (HDM-4) + Social Benefits Software **Tools**
 - to address issues of road investment related to poverty and social factors

Field testing of the model and software tool
- **MCA** (multi-criteria analysis)

Methods

- ③ Field study ~ Acholi & Bugisu sub-regions, Uganda
 - sub-regions were different in terms of demography, poverty, transport intensity
- ③ Data collected at 3 levels

Strategic (national)

- from decision makers

Program (district)

- from decision makers

Project (community)

4 communities =
2 remote + 2 with
good access

Qualitative methods

- semi-structured interviews
- focus group discussions

Quantitative methods

- open & closed questionnaires

◎ Main responses sought

- benefits/costs from road development
- pair-wise comparison between different types of costs and benefits

◎ Data analyzed

- using specialized MCA software²

4. Results & Conclusions

Types of benefits/costs

1. Economic
2. Environmental
3. Social

Social benefits

Increased access to:

- health facilities, clean water, education
- information, new knowledge, modernity
- markets

Social costs

Increased:

- road accidents, insecurity, crime, diseases
- negative cultural influence
- loss of land, property
- mud, dust pollution
- social consequences of environmental degradation
- resettlement problems

Top social benefits ranked in order of importance (1 = highest) – by communities

| Social benefit | Rank |
|---------------------------------------|------|
| Increased access to health facilities | 1 |
| Increased access to clean water | 2 |
| Increased access to education | 2 |
| New knowledge & modernity | 3 |
| Increased access to firewood | 4 |
| Increased access to employment | 4 |

© Contrary to common belief ...

- communities did not identify access to markets as a key social benefit
- ... possibly because access to markets was seen as an economic benefit rather than a social benefit

Top social costs ranked in order of importance (1 = highest) – by communities

| Social cost | Rank |
|------------------------------|------|
| Increased road accidents | 1 |
| Increased insecurity & crime | 2 |
| Increased risk of disease | 3 |
| Loss of land & property | 4 |
| Mud & dust pollution | 4 |
| Negative cultural influence | 4 |

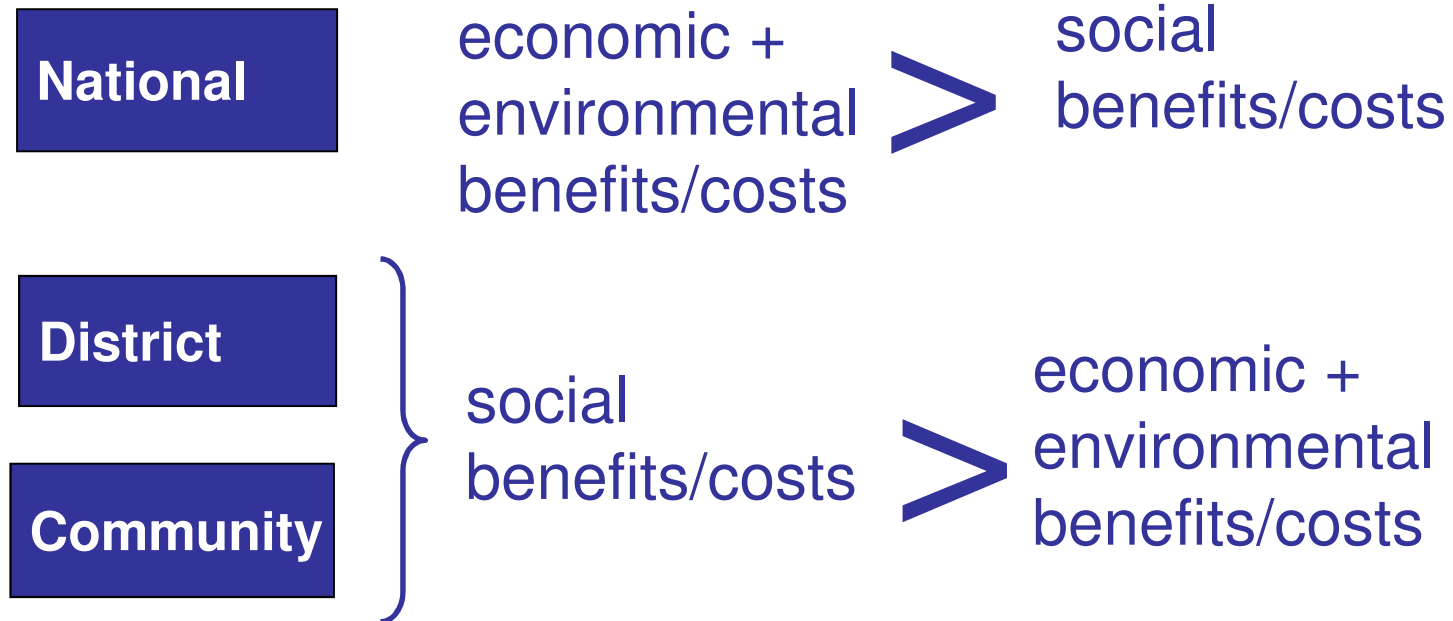
© Mud and dust pollution

- high social cost although it is categorized often as an environmental cost
- ... but the immediate consequence of mud or dust has a significant social impact ~ dirty clothes

© Environmental consequences of mud or dust pollution = medium - longer term

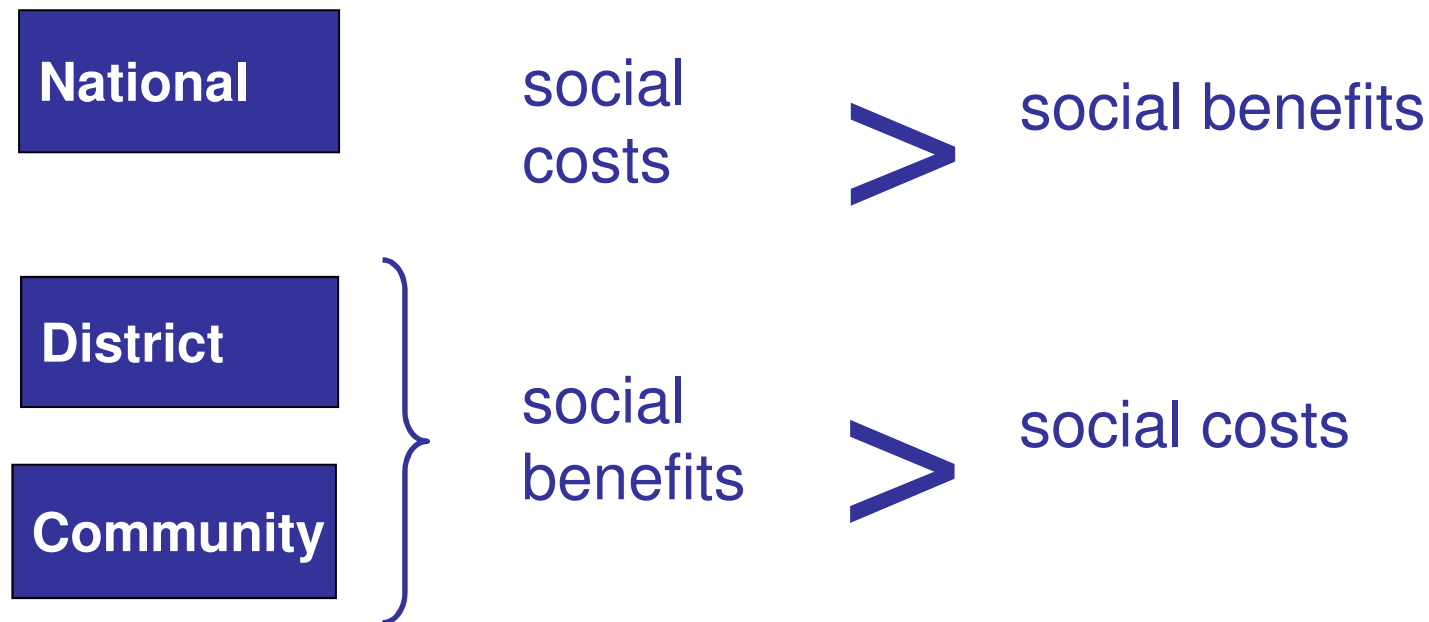
Differences between national, district, community levels

Relative importance placed on ...

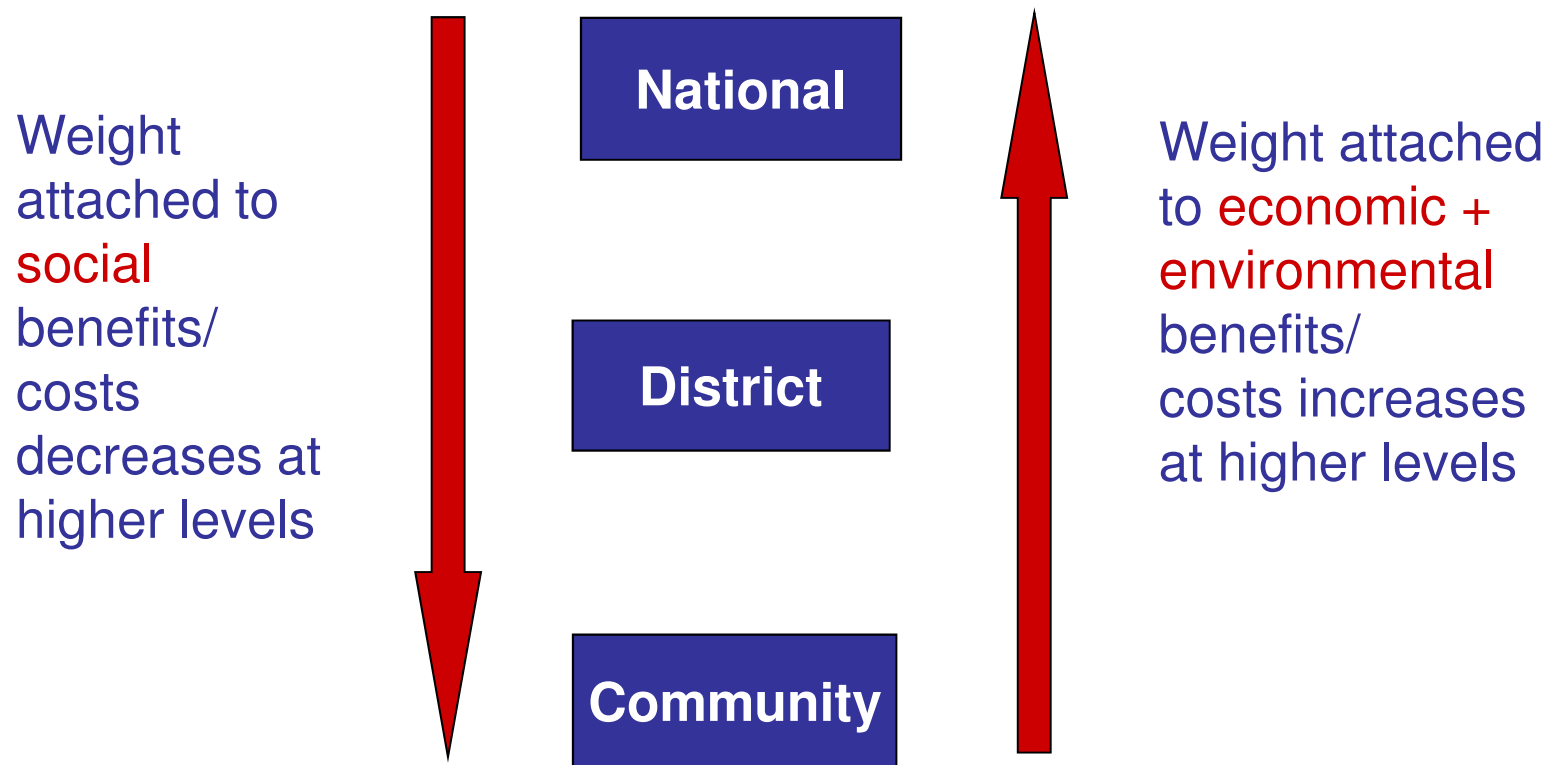


Differences between national, district, community levels

Relative importance placed on ...



Differences between national, district, community levels



5. Limitations, policy implications, requirements for further studies

- © Conclusions from this study only valid in the context of rural Uganda
 - conduct similar studies in the context of a particular country of interest
- © This study
 - provides general guidance, if time & financial resource constraints do not allow context specific studies

© MCA (multi-criteria analysis) ~ flexible

- combines qualitative and quantitative data into a single analytical framework
- ... a major requirement for including non-monetized benefits, especially social benefits, into road appraisal

© MCA

- potential to be one of the main approaches for the appraisal of rural roads
- computerized software tool that can be used alone or within the framework of globally accepted appraisal models

- ③ Key problems highlighted by the study of a cost-benefit approach framework
 - ✓ identification
 - ✓ separation
 - ✓ measurement
 - ✓ forecasting
 - ✓ valuation of social benefits

Important knowledge gaps

④ Indicators

- Would the indicators identified by rural residents in Ugandan be different in other African, Asian, Latin American countries?

④ Social, economic, environmental benefits/costs

- How rural residents in other countries compare social, economic and environmental costs and benefits?

Important knowledge gaps

⦿ Techniques

- Would techniques similar to those used in Uganda work in other developing countries?

⦿ Weights - in the real world

- How would the weights work in a real appraisal situation?
- How would rural residents' react when presented with a list of roads prioritized using the approach?

Comparing social benefits and costs of road investments



Group Activity

Working in groups discuss: -

- A. *How does the list of benefits and costs from road investment identified by rural communities in Uganda compare with those of rural communities in other countries?*
- B. *What would be the advantages and limitations of using the MCA approach in your country context?*