



## **Module 5: Social and Environmental Issues**

# **Social benefits of Rural Transport**

**Session: 5.1**

**Part 1**

**Presentation: 5.1a**

# The Training Modules

Module 1. Policies and Strategies

Module 2. Planning, Design, Appraisal and Implementation

Module 3. Management and Financing

Module 4. Rural Mobility

This Module

Module 5. Social and Environmental Issues

# Module 5: Social and Environmental Issues

This session

Session 5.1 Social benefits of rural transport

Session 5.2 Women and rural transport in Africa & Asia

Session 5.3 Transport and sustainable rural livelihoods

Session 5.4 Environmental impact assessment and management

Session 5.5 Concepts of rural transport surveys

Session 5.6 Role play on rural transport

# 1. Introduction

## Learning Objectives

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

- ③ Design a check list of questions for SIA
- ③ Explain the role of Social Impact Analysis (SIA)
- ③ Describe the social impact of transport and how different socio-economic groups are affected
- ③ Analyse various methods that may be used to evaluate social benefits of rural transport developments

# Session Overview

- © Social dimension of rural transport development
- © Social Impact Analysis (SIA)
- © The social impact of rural transport
- © Distribution of social benefits
- © Evaluating social benefits

## 2. Social dimension of rural transport development

© **Social development approach** - **behaviour** of individuals is determined by:

- economic rationalism
- society, culture, the times in which we live
- structures and networks of social relationships and obligation
- knowledge and values

© “Only by **shared respect** between indigenous knowledge and values, and technical skills can **sustainability** be achieved.”

# Most development goals have strong social development elements ...

- ◎ **Poverty** reduction strategies
- ◎ Promoting the status of **women** in society
- ◎ Promoting **human** development
  - e.g. through better health and education
- ◎ Promoting good **governance**
  - particularly through the encouragement of participatory and accountable processes

# Other development goals may have social development content

## ⊙ **Economic** reform

- provides the framework for poverty reduction, and
- increased allocation of resources to health and education programmes

## ⊙ Addressing **environmental** concerns

- outcome may be better community management of natural resources - more sustainable livelihoods



# Transport: the *positive* social dimensions of change

## ◎ Better **access** to basic **social needs**

- food, water, health, education
- security, justice, enfranchisement and human rights

## ◎ Better **access** to the means for poor people to enhance their **productive capacity**

- markets, suppliers, employment, health and education

# Transport: the *negative* social dimensions of change

- ◎ Impact can be on the social well-being of communities, or individuals within the community
  - e.g., during road construction there may be **disruption** and inconvenience
  - after completion of the road there may be an increased **risk of accidents** due to higher exposure to traffic

# The role of social analysis

- ◎ To identify all potential **social impacts** on all stakeholders
- ◎ Effects on the '**socially excluded**'
  - the very poor
  - those with 'less voice' e.g. women, children
- ◎ Where social **dis-benefits** are apparent
  - assessment of how these effects can be minimised, and/or
  - if proposals for mitigation or compensation are acceptable to the affected community

### 3. Social Impact Analysis (SIA)

- ◎ Should be seen as an **integral part** of the general project development cycle
- ◎ During project identification SIA **screens out**
  - projects which have indirect, limited or neutral social effects
  - ... and which then do not need further social appraisal

# SIA check list (DFID)

1. **Which populations** are intended to **benefit** from the project?
  - how will project benefits flow, and what may impede benefits reaching target population?
2. Does the target population **need the project**?
  - if not, can the project be justified?
3. Are other, more needy, members of the population **excluded**? How could they be included?
  - transport projects rarely poverty focused
  - social benefits could be increased by marginal changes in design

# SIA check list (DFID)

4. Will any group be **negatively affected**?  
What mitigating design changes could be effected?
5. Will **women benefit** as well as men?
  - requires thorough understanding of gender roles
6. What level of **participation** by the target population in planning and implementation is possible and appropriate?
  - project more effective if designed and administered at local level
  - does the community need the project?

# SIA check list (DFID)

## 7. Is the project technically and culturally **appropriate**?

- existing land tenure rights
- division of labour
- cultural traditions

## 8. Does the project require that the beneficiaries must change their **behaviour**? Is this feasible?

- strategies to optimise 'take up' should be designed at an early stage

# SIA check list (DFID)

9. Is the project **affordable** to the beneficiaries?

- likely to be some inequity in the distribution of costs and access to benefits

10. Are **social issues** adequately reflected in judgements on project viability?

- social impacts difficult or impossible to value.
- economic analysis may 'miss' the distributional impact on beneficiaries - only the affluent may benefit from a high-return project



# The SIA check list is used to ...

## ③ Develop a **social appraisal**

- used as evidence in the overall project appraisal

## ③ Confirm the main social issues have been **identified**

- and comprehensive answers to the key questions have been provided
- ...based, where possible, on field experience

## ③ Confirm the **social objectives**

- are reflected in project design
- consistent with economic, technical, and environmental objectives

# The SIA check list links into ...

- ③ Development of methods to **evaluate progress** in achieving social objectives
  - needs to be written into the project framework
  - monitors social indicators
  - ... which reflect nature of the project and participants' criteria for judging progress

# Social Impact of Rural Transport



## Group Discussion

*What is the social impact of rural transport?*

## 4. The social impact of rural transport

Education

Health

Access

Empowerment

Access to markets  
& towns

Increased  
production



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# Education

- ◎ Attendance levels at schools are affected by the **lack of access** to schools: for pupils and teachers
  - difficult to attract teachers to remote locations
  - in Zambia a road bridge enabled children to get to school **throughout** the year
- ◎ **Girls'** education affected by the need to collect water and firewood
  - take up to **25%** of every day

# Health

## Kenya study

- health provision - major concern of **all income levels**
- showed a strong **correlation** between income and journey frequency
  - **except in the case of health**
- once lower income groups began to use the hospital, they continued to use it even during economic downturn

## Better roads increase the ease of use of mobile health centres

- especially true for extremely scattered rural populations

# Access

## ③ Improve paths or water crossings

## ③ Intermediate means of transport (**IMTs**)

- bicycles and carts - can be used on rural paths
- reduce travel time for all basic needs

## ③ But!

- **limited availability of IMTs** - especially to women
- **not technically suitable** for collecting water from many natural sources

## ③ IMTs reduce burden of firewood collection

- but could seriously exacerbate **deforestation** by encouraging increased consumption

# Access

- ③ Transport **planning** should take into account benefits of locating the sources of basic needs nearer to people, e.g.,
  - community schemes for woodlots
  - also increased sustainability by preventing overuse of resources
  - provision of running water and grinding mills
- ③ Need for an **integrated approach** to development



# Empowerment

- ◎ Most research supports the **decentralisation** of development
  - planning and implementation (including community participation)
- ◎ **Labour-based** methods for road development
  - **technically effective** for construction of rural roads, small structures, and routine maintenance
  - **supplement income** of local employees
  - But, involves **training** (technical skills) local people over a long period of time (typically several years)

# Empowerment

- ③ Strengths of community-oriented approach: communities can
  - **control supply** of resources
  - have a sense of **ownership** of resources
  - acquire **skills** to establish and manage their own facilities and
  - ... **reduce dependence** on governments whose resources are becoming increasingly stretched
- ③ **Zambia study**
  - strong **positive correlation** between high levels of community participation in rural water programmes and
  - ... long-term maintenance of well equipment

# Empowerment

## Laos study

- people were **willing to pay** amounts related to their wealth to finance a communally-built road
- used a method known as ***Contingent Valuation*** to assess villagers' financial valuation of the worth of an access road
- a project using this 'pricing' strategy would have **more chance** of being maintained effectively by means of local labour

# Access to markets & towns

- ③ Development plans used to **assume**
  - agriculture was the only activity of the rural poor
  - ... so development should focus on improving agricultural performance - including access to local markets by motorised transport
- ③ Such plans **failed to appreciate** the diversity of economic activities of the rural poor
  - most **supplement** agricultural income with basket-making, cash crops, piece-work, fish-trading ...
  - ... and these benefit from access to urban areas

# Access to markets & towns

## 🌀 Urban access

- more **opportunities** for paid work
- greater **diversity** of consumer goods
- more involvement in the cash economy can have affect on rural villages – raise economic **expectations**
- improve access to **credit** – encourage small enterprise

## 🌀 Provision of regular motorised transport

- **quicker** transport of **more** goods to urban markets
- marginal **savings** on transport costs

# Access to markets & towns

## Kenya study

- road improvement led to greater **competition**, and
- **falling fares** on private bus/ goods transport services

## Zambia study

- passenger travel was negligible due to the extreme **remoteness** of the region and
- the **poor road system**
- **regular goods transport** service to take large quantities of goods for sale in towns was of more concern

# Increased production

## 🌀 Zambia study

- Lonrho operates transport to dozens of small cotton producers ...
  - to take cotton to central depots for processing
  - enable farmers to obtain inputs (seeds, fertilisers)

## 🌀 Lonrho estimated

- production of cotton in the southern province of Zambia could be increased up to **3 times** ...
  - if **feeder roads** were improved
  - to allow **more** cotton and inputs to be transported in **larger vehicles**

# Increased production

## ⊙ Laos study

- building a road to villages would increase growing of cash crops
- .. with more reliance on outside trade

## ⊙ Poor transport on poor roads

- goods often destroyed en route to market

## ⊙ Reasons for wanting a new road

- 90% said: the potential to increase household income
- better accessibility to schools and health service



## 5. Distribution of social benefits

The poor and *very* poor

Women and transport

Other groups

# The poor and *very* poor

## ③ Improvements in transport

- improved the condition of the poor but **not the very poor**

## ③ The very poor

- often do not have a sufficient standard of living to take advantage of transport improvements

## ③ **Zambia** - the very poor

- owned little livestock and little land
- could not grow more cotton
- could not take advantage of reduced marginal transport costs

# The poor and *very* poor

## 🌀 **Kenya** - the very poor

- could not afford bus fares
- did not own bicycles

## 🌀 Transport improvements did **not** have an equalising effect

- **exception to this rule = health care**

## 🌀 One problem with **econometric methods**

- they easily **miss such variation** within populations

# Women and transport

- ③ Female headed households tend to be **poorer** than male headed households
- ③ Women responsible for family care
  - travel more for children's health care and fetching water, firewood
- ③ Men work away or tend the farmland
- ③ **Tanzania study**
  - **women** undertook **75%** of all rural transport tasks
- ③ **Kenya study**
  - **men** *more likely* to make *more trips* as a result of good roads

# Women and transport

© Women **less likely** to take advantage of rural transport improvements

- less likely to possess independent source of income

© Planners need to ensure

- transport improvements take into account the needs of women and their social responsibilities
- they avoid the benefits being enjoyed only by men

## Other groups

© The effects of improved transport on **young people** are largely associated with

- improved access to education
- making healthcare more readily available

© Effects on **old people**

- more pronounced benefits as elders command considerable respect and economic power within traditional rural societies
- ... they have control and rights over livestock – can improve their marketing of livestock

## 6. Evaluating social benefits

Cost benefit  
analysis

Social  
indicators

Econometric  
calculations

Case studies

## Cost benefit analysis

- ③ Difficult to value social benefits in monetary terms using cost-benefit analysis
- ③ Where local people live at subsistence level
  - large-scale development programmes missed the people they were intended for, or
  - can cause immense disruption to communities they were intended to serve
- ③ Such low-level impacts may not show up on standard economic balance sheet
- ③ Social investment
  - justified even if people affected never contribute to the cash economy



## Social indicators

### Evaluate social benefits. Examples:

- ③ Number of families in acute poverty
  - defined as the inability to meet even their basic needs
- ③ Number of hours spent on transporting water and firewood from source to home
- ③ Number of livestock owned
- ③ Number of children regularly attending school
- ③ Infant mortality and disease rates

# Econometric calculations

## In Laos:

- ⊙ Econometric calculations indicate a financial level of social (i.e. community-wide) benefit
  - social benefits are grouped under the heading of “human capital”
  - although road-building contributed to an increase in educational levels
- ... it did not lead to greater wealth or productivity

## Case studies

- ③ Use as guidance for **assessing similar benefits** from other roads improvements in **similar areas/regions** in the **same country**
  - considered with the methods usually used to estimate transport cost savings
- ③ May involve considerable field data collection and analysis
- ③ **But!** care must be taken to ensure that there is no double-counting of benefits

# Case studies

## Bhutan

- ◎ Education benefits were estimated from increased school enrolment levels (due to improved access)
- ◎ Used estimates of the incremental life earnings of the children who would have otherwise remained unskilled
- ◎ Health benefits were assessed based on
  - reduced sick days away from work
  - net increase in income due to more days at work
  - other health savings from better access to health centres



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