

Rural Transport Training Materials

Module 5:

Social and Environmental Issues

Transport and Sustainable Rural Livelihoods

Session 5.3

Part 1

Presentation 5.3a



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

Session 5.1 Social benefits of rural transport

Session 5.2 Women and rural transport in Africa and Asia

This session

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

This session enables participants to:

- ③ Describe the components of the SL framework
- ③ Explain how transport affects livelihoods, especially of the rural poor
- ③ Analyse how transport policies and institutions affect livelihoods issues

Session Overview

- ③ Background to livelihoods approaches
- ③ The Sustainable Livelihoods Framework
- ③ Impact of transport on livelihood capitals (assets)
- ③ The role of policies, institutions and processes (PIPs)

2. Background to livelihoods approaches (2001)

⊙ Department for International Development (DFID) of UK

- commitment to the elimination of poverty
- in line with international development targets

⊙ Strategy

- Policies and actions which promote sustainable livelihoods
- Better education, health, opportunities the poor
- Protection and better management of the natural and physical environment

A sustainable livelihoods (SL) focus: -

- ③ **People centred**
- ③ Builds on the existing assets of poor people - community and individuals
- ③ Aims to strengthen the sustainability of the poor people's livelihoods
- ③ Is underpinned by a core set of principles
- ③ Uses a framework for holistic analysis

The SL framework developed by DFID intended to:

- ③ Define the **scope** & analytical basis for the analysis of livelihoods
- ③ Assist in understanding the **complexity** of rural livelihoods
- ③ Become a shared point of **reference**
 - enabling the complementarity of contributions
 - trade-offs between outcomes to be assessed
- ③ Provide the basis for developing concrete intermediate **objectives**
 - which DFID should pursue with its partners

3. The Sustainable Livelihoods Framework

What is a livelihood?

What makes a livelihood sustainable?

A livelihood is

- © the capabilities, assets (material & social resources) and activities required for a means of living.

A livelihood is **sustainable** when ...

- © 'it can **cope** with and **recover** from stresses and shocks,
- © and maintain or **enhance** its capabilities and assets both now and in the future,
- © while **not undermining** the natural resource base.'

(DFID 1999)

Components of the SL framework

Capital
(or assets)

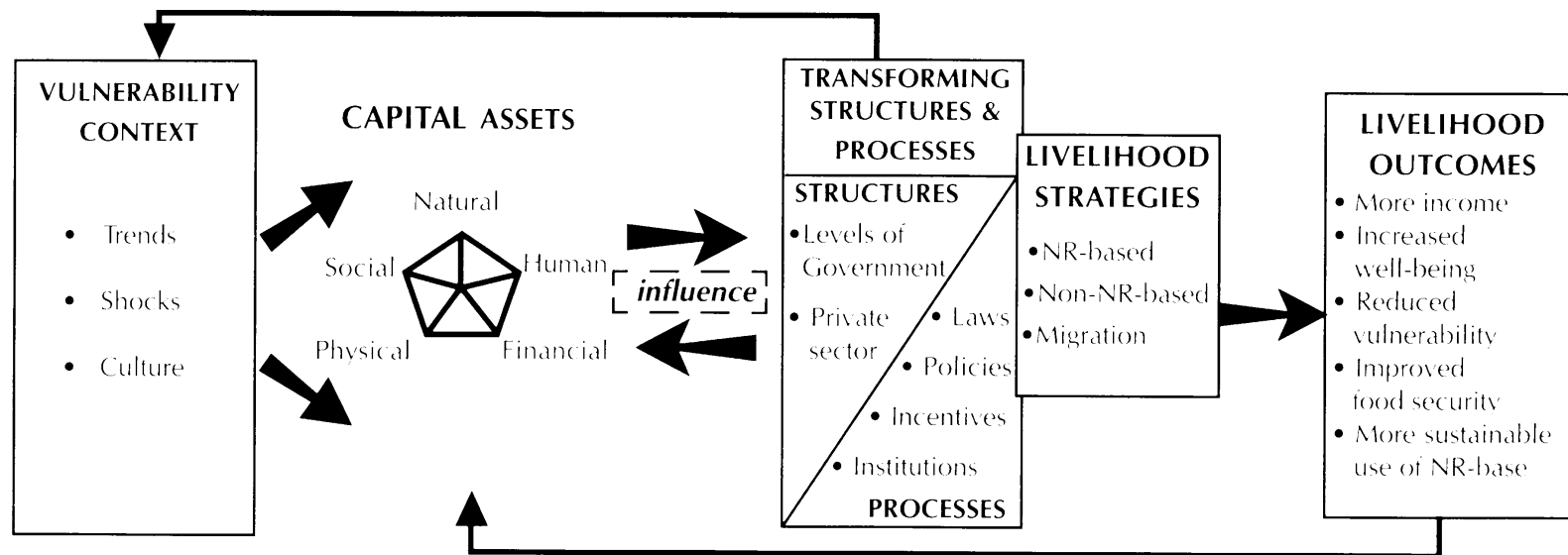
Livelihood
strategies

Policies, institutions
& processes (PIPs)

Vulnerability
context

Livelihood
outcomes

Figure 1: Sustainable rural livelihoods: Framework



“Transforming Structures and Process” became more commonly referred to as: *policies, institutions and processes (PIPs)* by 2002

Capital (or assets)

Used by people
to pursue livelihood
strategies

⊙ Natural Capital

- land, water, wildlife, biodiversity, environmental resources

⊙ Social Capital

- networks, membership of groups, relationships of trust, access to wider institutions of society

⊙ Human Capital

- skills, knowledge, ability to labour and good health

⊙ Physical Capital

- basic infrastructure - transport, shelter, water, energy and communications, production equipment

⊙ Financial Capital

- savings, credit, regular remittances, pensions

Livelihood strategies

- ③ The **choices** people make to build their assets:
 - increase agricultural production
 - cultivate more land
 - diversify into off-farm income-earning activities
 - migrate temporarily or permanently
- ③ Combination of activities = **livelihood portfolio**
- ③ A portfolio will be diversified over **time**
 - between households, communities and generations
 - livelihood strategies are **dynamic**
 - requires a **historical** and **holistic** analytical approach

Policies, institutions & processes (PIPs)

- ③ Used to be known as “*Transforming Structures and Processes*”
- ③ The PIPs component describes
 - policies
 - laws, legislation (formal institutions)
 - norms, beliefs, culture (informal institutions)
 - organisational structures
 - the change taking place in policies and institutions
- ③ PIPs
 - define poor people’s livelihood options and strategies
 - determine who gains access to assets
 - influence the effective value of each asset

Vulnerability context

© Trends

- change over time in such factors as: commodity prices, employment levels, population growth rate, global warming

© Shocks

- floods, earth quake, sudden illness, civil unrest

© Analyses poor people's ability to **cope** with the impact of these trends and shocks

Livelihood outcomes

- © The result of strategies used by people to build their asset base, e.g.
 - More income/ sustained income
 - Increased well being
 - Reduced vulnerability
 - Improved food security
 - More sustainable use of the natural resource base

A livelihoods approach the implications

- ◎ Requires the active **participation** of **all sectors** which have a vested interest in increasing the capital assets of communities
- ◎ For the **transport** sector
 - how should it be perceived within this analytical framework?
 - what sorts of contributions can it make towards the promotion of sustainable livelihoods?

The transport sector and livelihoods

- ③ Transport sector associated mainly with improvements in **physical capital**
- ③ But **access** to transport and other services (schools, health clinics, markets)
 - is integral to the development of all the capital assets
- ③ Transport **practitioners** have a significant role to play in
 - understanding and supporting sustainable livelihoods
 - part of a multi-sectoral analysis of communities and their livelihoods

Impact of transport on livelihoods of the rural poor



Group Activity

- A. *What is the impact of transport on livelihood capitals (assets)?*
- B. *How do policies and institutions associated with transport affect livelihoods?*

4. Impact of transport on livelihood capitals (assets)

The context for analysis

- ③ Characteristics of a typical rural transport environment:
 - low population densities
 - low levels of economic activity - low incomes
 - low vehicle ownership levels
 - inferior provision of roads (quality & quantity)
 - near absence of regular transport services
- ③ Travel takes place at very low levels compared with urban communities

The impact of transport on the following livelihood capitals:

Natural capital

Social capital

Human capital

Physical capital

Financial capital



Natural capital

- ◎ Transport development may bring environmental degradation
- ◎ Urban areas
 - high volumes of traffic (air pollution, noise)
- ◎ Rural road construction
 - ill-effects on slope stability, erosion, natural drainage patterns
- ◎ Erosion = a major environmental impact

Natural capital

© Measures to **control** erosion

- **Design** of roads
 - e.g. appropriate drainage channels, culverts
- **Implementation** of road works
 - e.g. quickly establishing vegetation on exposed slopes
- **Labour-based** (as opposed to heavy machinery) methods have more precision and sensitivity of application

Natural capital

⊙ **Indirect** environmental impacts

- less easy to predict, as likely to be long-term

⊙ Changes in **land-use**

- from greater accessibility
- roads used to 'open up' tropical rain forests of Brazil
- encouraged settling of farming communities
- at the expense of indigenous peoples' livelihoods
- at the expense of the natural ecology

⊙ Roads also **improve** livelihood outcomes:

- better access to natural assets
- better management of forest resources

Social capital

- © 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’

Social capital

- ◎ Travel is an essential component of the livelihoods
- ◎ Main means for communities to access the outside world
 - selling their output (produce and labour)
 - provisioning their needs
 - access facilities and services
 - social bonding and development
- ◎ Cost benefit analysis not well suited to capturing these benefits

Social capital

- © Transport development improved the condition of the **poor**
- © But the **very poor** - **unlikely to be affected**
 - do not have a sufficient standard of living to take advantage of transport improvements
- © Zambia - the very poor
 - owned little livestock and little land
 - could not take advantage of reduced marginal transport costs to grow more cotton

Social capital

© In Tanzania **women**

- undertake **75%** of all **transport tasks**
- less likely to take advantage of rural transport improvements (e.g. better public transport services)
 - as they rarely have independent sources of income
- are **socially excluded**

© Transport improvements must consider needs and **social responsibilities** of women

- to avoid the benefits of programmes going disproportionately to men

Human capital

- ③ Development of rural transport infrastructure & services
 - improves **access** to human assets: health, education
 - **stimulates** agricultural production, marketing potential
 - increasing **income** generation and surplus capital – to spend on essential services
 - provides employment - **labour based** techniques for road construction and maintenance
- ③ **But!** – transport development also
 - raises exposure to traffic and traffic **accidents**

Human capital

⊙ Road safety issues

- account for **1-2%** of **gross national product** in lost output & commitment of medical, police resources
- **fatality** rates higher in poorer countries
- lack of insurance, free health-care, other government support
- households **lose earnings** of productive members incapacitated by accidents

⊙ Poor affected disproportionately

- less able to meet medical expenses
- less resources to fall back if incapacity is prolonged
- more at risk on the roads - more likely to be walking

Physical capital

⊙ Roads and transport - a **key** element of a country's infrastructure

- typically **20%** of total investment is spent on maintenance

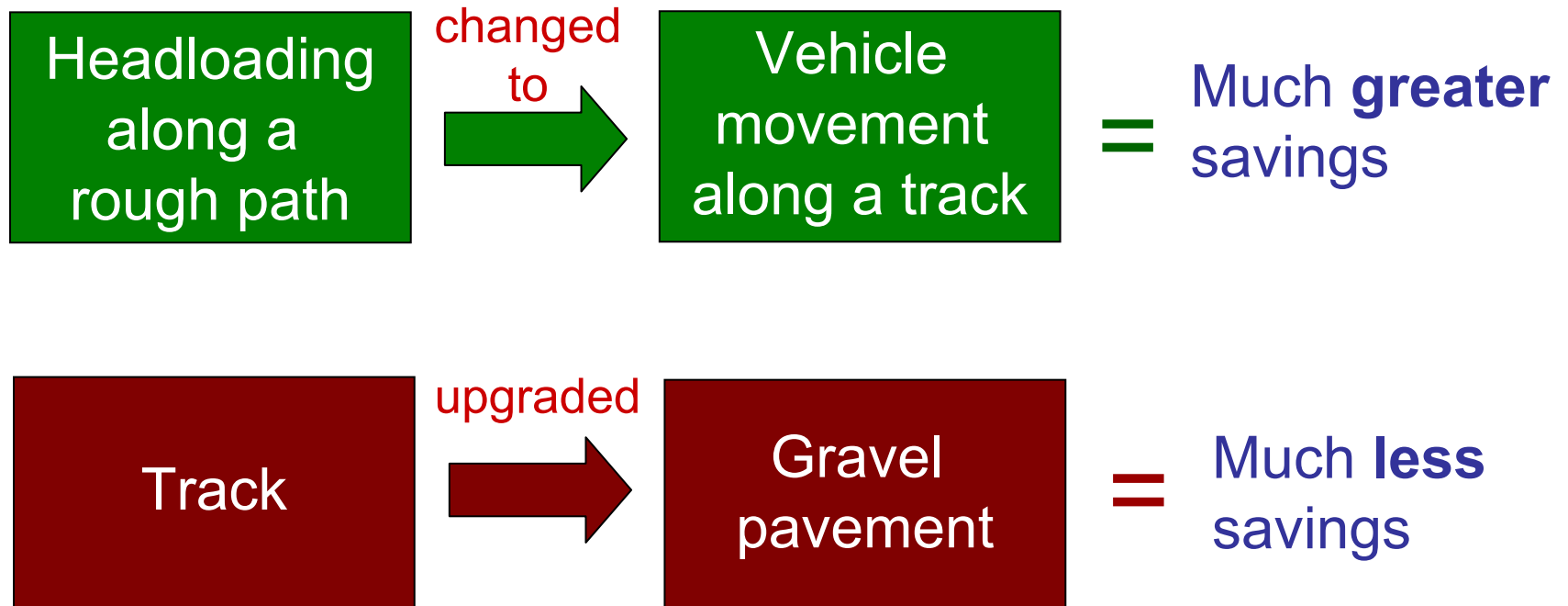
But!

⊙ ... **over-design** of roads in rural context

- led to **small** measurable **benefits** (vehicle operating cost & time savings) compared to construction costs
- improving **vehicle access** using simple methods gives **100 times more benefit**
 - ... than upgrading a earth track to gravel standard
 - ... from the viewpoint of farmers

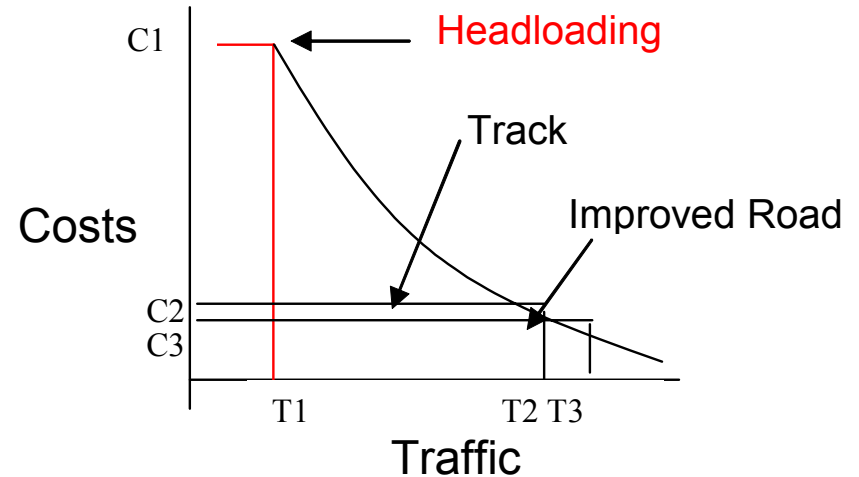
Physical capital

Study in Ghana examined the effect of **access standards** on farm gate prices and transport cost savings



Physical capital

	Length of access to be upgraded	
	5 km	20 km
Upgrade from earth to gravel road	0.08	0.29
Upgrade from path to earth road	11.4	70.6



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

Graph of **cost effectiveness** of upgrading to a motorable track

Financial capital

- © In the past - main goal of transport investment = reduce transport costs
 - contribute to more **efficient economy**
- © **Urban context:** congestion is a key problem
 - main savings from transport investment (traffic management, public transport services, road widening) = **reduced travel times**
 - improved labour productivity
- © **Rural context**
 - main savings = **vehicle operating costs**
 - lower farm input and produce prices

Financial capital

- ③ Improving efficiency & reducing costs of the transport sector
 - Important contribution to sustainable development

But! ... may not yield tangible benefits for the rural poor

For example ...

- ③ Constructing an all-weather road may be of little value to a rural community
 - if **transport operators fail** to provide services along the new road

Financial capital

- © There is a **vital and inextricable link** between the transport sector and other sectors
 - services
 - e.g. health facilities require effective means of access: both roads and transport services

5. The role of policies, institutions and processes (PIPs)

previously - *transforming structures and processes*

- ◎ Transport sector is relatively **well organised**
 - long established body of law, regulations, standards
 - organisational frameworks

But!

- ◎ Many of these instruments are **out of step** with current practices and thinking
 - evasion is common
 - enforcement is weak and often corrupt
- ◎ Resources for implementing and monitoring the laws often **insufficient** and **unavailable**

Institutional developments

© ...Take

- lot of time, continual supervision
- detailed planning, training, management
 - ... to bring about changes in attitudes, working habits, and resource use

© These elements are often **missing** or **ill-conceived**

- result = many schemes are badly served in implementation

Education and training

☉ ... are key processes

- offer real opportunity for beneficiaries to participate

☉ But: resources required are not readily available

- e.g., teaching driver skills and road safety education - very low priority
- embryo organisations trying to promote these activities ... but they are poorly resourced, and lack the appropriate materials

Capacity building

☉ Strong development in **domestic construction** capacity

- encouraged by Ministries
- e.g., Ghana's Ministry of Roads and Transport runs regular support courses for local labour-based and other local contractors

☉ **Consulting industry** developing rapidly

- several highly successful local firms
- undertake road feasibility and detailed design work
- provide supervision services

Limited resources - require new funding mechanisms

- ◎ **Private participation** with associated risk and profit sharing
- ◎ **New ways of funding public bodies:**
 - car insurance levies to fund road safety programmes
 - road taxes and tolls to fund road investment programmes
 - driver examination fees to cover the cost of the driving test provision
- ◎ ... **sustainable mechanisms** - align the users with the costs which they incur

Concluding Remarks

- ③ Transport **impacts** on livelihood options
- ③ Analysis of transport development requires a **holistic understanding** of development opportunities and priorities at the community level
- ③ Poor farmers might not appreciate the **benefits** of better access without additional extension facilities to help
 - e.g., taking up cash crop production

Concluding Remarks

© A livelihoods analysis

- does **not provide a definitive answer** to the development problem
- assesses possible **outcomes** of the project in terms of impacts on stakeholders
- can suggest **policy** and **institutional changes** needed to help support livelihoods and associated development of the transport sector
- captures some **qualitative impact** of transport development
 - usually outside conventional cost-benefit analysis
 - traditionally applied to the assessment of transport schemes

Concluding Remarks

© A livelihoods analysis

- can identify appropriate **entry points** for transport development
 - because of transport's key supporting role to other sectors, it is likely to feature in many livelihoods programmes

Concluding Remarks

The livelihoods approach reminds us that transport is a service industry:
a means to an end - not an end in itself

- ③ Development of transport must be seen in the **wider context** of
 - individual, household, community development
- ③ Impacts of transport need to be addressed **beyond** the basic level of **economics**
 - must consider **social** and **environmental** concerns and aspirations

Concluding Remarks

- © **Policies** and **actions** for sustainable livelihoods should contribute to:
 - sound **policies** and **pro-poor** economic growth
 - development of efficient, well regulated **markets**
 - **access** of poor people to land, resources and markets
 - good **governance** and the realisation of human rights
 - the prevention and **resolution of conflicts**
 - the removal of **gender** discrimination