

# Rural Transport Training Materials

Module 1:

Policies and Strategies

## Village level Transport

Session 1.1

**Part 1**

Presentation 1.1a



The World Bank



**DFID** Department for  
International  
Development



theIDLgroup 

# The Training Modules

This Module

## Module 1. Policies and Strategies

Module 2. Planning, Design, Appraisal and Implementation

Module 3. Management and Financing

Module 4. Rural Mobility

Module 5. Social and Environmental Issues

# Module 1. Policies and Strategies

Introduction Session: Overview of Modules & Rural Transport Issues

This session

## Session 1.1 Village Level Transport

Session 1.2 Socio-economic Impact of Rural Transport Interventions

Session 1.3 Rural Transport Policy Development Process

Session 1.4 Rural Transport Safety Strategy

# 1. Introduction

## Learning Objectives

This session enables participants to:

- ③ Review the process that led to a new rural transport paradigm in low income areas
- ③ Explore the historical perspective of key institutions and conceptual and methodological changes
- ③ Examine the Household Travel Analysis

# Session Overview

- © Historical perspective
- © Household travel analysis

## 2. Historical Perspective

### Key Institutions

- © **1971:** Intermediate Technology Development Group (ITDG)
  - voluntary panel to explore new ideas
- © **1973:** World Bank's *labour substitution study* and the ILO's World Employment Programme
  - studies in new road technology
  - driven by growing concerns over employment & related poverty problems

## © Late 1970s:

- ITDG, ILO, World Bank, Overseas Development group and others
- New planning paradigm

## © 1991:

- ILO was also crucial to the setting up of the International Forum for Rural Transport and Development, with financial support from CIDA, NORAD, SDC and SIDA

# Historical perspectives in Rural Transport



## Group Activity

*Construct a timeline illustrating the conceptual and methodological changes in the provision of transport since 1960*



# An evolution of concepts

1960s emphasis on improving access = low cost roads

1970s focus shifted to low-cost vehicles

1970s + user travel demand studies

mid 1980s household travel analysis

# Search for a new rural transport planning paradigm: early criticism

- ◎ Dissatisfaction with the existing implied policy
- ◎ Reliance on infrastructure investment for:
  - conventional motorised vehicles
  - the catalyst for economic and social change
  - the prime means of enhancing accessibility and personal mobility
  - vehicle supply left to the private sector

# Further criticism

- ③ Unnecessarily **high design standards** applied to local feeder, penetration or development roads, and the resulting slow & uncertain rate of network development
- ③ **Unaffordability & non-availability** of motor vehicles to the mass of the population
- ③ **Neglect of effective policies** for the development of the local transport and vehicle systems

# From low-cost roads to low-cost vehicles

- © 1960s emphasis on improving **access**
  - This meant almost exclusively **road** access
  - Focus of investment and planning was on **low-cost roads**
  - Led to fundamental misunderstanding of the real nature of the movement demands for the majority of the rural population
- © By 1976 focus shifted to **low-cost vehicles** – prompted by the oil crisis

# Limited progress

- © Little significant development in investment policies to facilitate low-cost vehicle production or distribution
- © Continued reliance on market forces has actually suppressed low-cost vehicle use
- © However, the change in focus from low-cost roads to low-cost vehicles did broaden the debate
- © Attention was shifted away from infrastructure to travel demand characteristics of users and how these may best be met

# User Travel Demand Studies

- ◎ 1970s onwards, focus was on **user travel demand characteristics**
  - cast doubt on the benefits of conventional & motor vehicle based investments for the poor  
(from work in Bangladesh and Nepal of the Overseas Development Group)
- ◎ The reality for small farmers was
  - small loads over short distances
  - example Kenya 10 – 150 kg units over 1 – 25 km
  - motorised transport services were rarely available, affordable or even necessary

# Ten case studies in Africa and Asia

- ◎ Mid 1980s. Covered 3 broad aspects: -
  - micro-level surveys of transport patterns
  - investigations of 7 local-level transport modes
  - broader evaluations of transport policy and planning, and their implications for the rural communities
- ◎ Focused explicitly on transport activities
- ◎ Attempted to:
  - define small farmer and household transport needs
  - relate physical and other constraints

# Conclusions

## User travel studies

Type & quality of infrastructure vs. services

Limited road system

Disenfranchisement of most people

Frequent small loads over small distances

Unconventional simple vehicles used

Lack of credit

Neglect by policy makers



# Type & quality of infrastructure vs. services

- ◎ Correlation between the type and quality of infrastructure and the type and quality of transport services
- ◎ Where all-weather roads exist, motor vehicles frequently provide services
- ◎ But motor vehicles not normally available on dry season roads
  - except at premiums of 200 to 400% above those on all-weather routes
  - non-motorised vehicles sometimes fill the gap in services on dry season roads, but at high unit costs

# Limited effective road system

- ⊙ Poor prospects for extension of road system
- ⊙ A significant proportion of the population is not accessible under all-weather conditions
- ⊙ Expect slow improvement
- ⊙ But in many poorer countries economic prospects have worsened since survey

# Disenfranchisement of most people

- © Even those who do have access to all weather roads – many are unable to afford the services provided.



Credit: TRL Limited

# Unconventional simple vehicles used

- ◎ Wide variety of unconventional and simple vehicles are used on and off the road, especially in Asia
- ◎ These vehicles:
  - low cost
  - modest infrastructure needs

# Frequent small loads over small distances

- ⊙ Real nature of local level travel
- ⊙ Household travel dominated by subsistence tasks
- ⊙ The prime transport requirement = subsistence
- ⊙ Social and welfare needs = longer distance travel
- ⊙ Few households possess any form of vehicular transport
  - walking, cycling and movement by animal dominate

# Lack of credit

- ◎ Small farmer credit is a generally recognised aspect of development policy, **but**
  - simple means of transport & repair and production facilities are frequently omitted
- ◎ Where loan schemes are available the **poor are precluded** because of
  - the level of collateral demanded by local credit institutions
  - high interest rates and down payments
  - combinations of these reasons

# Neglect by policy makers

- ◎ Lack of perception of local level transport problems
- ◎ Existing policy analysis and planning procedures have evolved to deal with the more visible parts of the economy
  - exports, imports, industry, and their major investment and infrastructure
- ◎ Procedures and criteria by which investment programmes were determined ignored
  - non-users of transport services
  - local level movement needs of rural people
- ◎ Starting point of the analysis needs to be a local-level perspective

# User travel analysis was useful

- ⊙ It did destroyed the validity of the *predict and provide* infrastructure-led approach to the provision of rural transport for the majority of the population of low-income areas.

- ⊙ But!

it still did not give us a  
comprehensive picture



# Drawbacks of user travel analysis

- ⊙ No alternative method of quantifying rural travel demands that might lead to more effective policy formulation
- ⊙ The focus on farming and the categorisation of travel as *on-farm* or *off-farm* were not useful:
  - small farms comprised scattered fragments of land
  - ignored non-farming households and differences between individual household members

And .....

# Needs of the poor were also unclear

- ③ Transport demands associated with **subsistence tasks** more important for very poor households
- ③ This called for a qualitative and quantitative assessment of the nature of rural household travel characteristics:
  - magnitude, frequency, duration, purpose, gender differentiation and the modes used


# 3. Household travel analysis

- ◎ A major conceptual leap!
- ◎ Spearheaded by the 1952 and 1956 Detroit and Chicago urban traffic and transportation studies
- ◎ Planning practice changed from system-based methods to mathematical modelling of the behaviour of users
- ◎ Travel characteristics of the **household** became the fundamental unit of study and analysis

# Early use of household travel analysis

- © 1970s used mainly in urban areas of developing countries
- © One attempt in the late 1960s to use this in Kenya failed because:
  - it was based on the then-accepted notion of *transport* being limited to modern motorised vehicles
  - motor vehicle ownership levels were so low in rural areas, so household-based surveys were impractical

# First systematic use in the mid 1980s

- ◎ Broader definition of travel:   
*'travel from the home for any purpose, and by any means of movement, including walking or carrying loads on the head and back'*
- ◎ Structured interviews
- ◎ Recorded basic data about
  - a household
  - local & external travel activities of households members

# Household Survey



## Group Discussion

- A. *How would we carry out a survey to assess household transport characteristics?*
- B. *List the key characteristics that would be explored in the survey.*

## **A. HOUSEHOLD DATA BASE**

Location of Household  
Household Composition  
Household Possessions  
Sources of Cash Income  
Household Expenditure  
Land  
Farm Inputs

## **B. TRANSPORT ACTIVITIES IN THE VILLAGE**

Collection of Water  
Collection of Firewood  
Villages Activities  
Crop Production  
Crop Harvesting

# Household Survey

## **C. TRAVEL OUTSIDE VILLAGE**

Grinding of Grain  
Health  
Building Materials  
Marketing of Products  
Purchase of Food & Consumer  
Items  
Main Markets  
Travel to Other Places

# Quantification of household movements

- ⊙ Time spent traveling
- ⊙ Distance travelled to various facilities such as supplies of water, firewood, health clinics, grain grinding mills, markets
- ⊙ Tonne and tonne/km. of effort
- ⊙ Modes of transport used
- ⊙ Gender and adult/ child involvement



# Key findings of household travel analysis

- ◎ Substantial amounts of **time and effort** devoted by households just for transport activities
- ◎ Disproportionate burden undertaken by **women**
- ◎ Dominance of **subsistence tasks** over production task for the market
- ◎ Subsistence transport = bigger **constraint** on household-level productive capacity than previously thought
- ◎ **Pre-emptive constraint**
  - households do not have the option of not doing subsistence tasks; i.e. productive activities can only be carried out once subsistence needs have been met

# Significant advance as a method

- ◎ Precision in quantifying household travel demands
- ◎ Now possible to isolate differences in travel demands among villages or households
- ◎ Enabled assistance to be targeted on, and tailored to, specific requirements
- ◎ Quantify gender & adult/child contributions

# Highlighted non-transport solutions

- ⊙ Time and effort devoted to meeting household travel demands could be reduced by both:
  - more efficient transport
  - non-transport interventions = better services such as water supplies or health facilities
- ⊙ Diagnostic nature meant it could contribute to general development planning