

Rural Transport Training Materials

Module 4:

Rural Mobility

Rural roads: a market approach with concepts for finance and organisation

Session 4.4

Part 2

Presentation 4.4b



The World Bank



DFID Department for
International
Development



theIDLgroup 

1. Introduction

Learning Objectives

This session enables participants to:

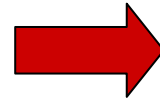
- ③ Describe the financial concept for rural road maintenance
- ③ Explain the role of subsidies in supporting rural road development
- ③ Analyse the impact of the Bangladesh project on poverty
- ③ Reflect on lessons that may be applied to other countries

Session Overview

- ③ Rural transport chains
- ③ Financing concepts
- ③ Classification and financing of farm to market tracks
- ③ Bangladesh case study

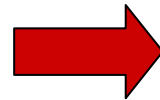
2. Rural transport chains

Agricultural fields



Local markets

Local markets



Main highway

⊙ Agricultural fields to local markets

- low daily traffic
- non-motorised transport
- no public ownership
- no division of labour between owner of the load, owner of the vehicle, owner of the track
- responsibility of farmers

⊙ Local markets to main highway

- higher traffic
- considered 'rural roads' by government
- responsibility of government

3. Financing concepts

© Main **criteria** for priority setting in the rural transport network:

- size of the market
- population of adjacent villages
- size of the rural production of the surrounding area

'normal roads' vs 'rural roads'

⊙ Normal roads

- 100 - 1000+ vehicles per day
- road costs average 10% of vehicle transport costs
- can be financed by the road user

⊙ Rural roads

- up to 25 - 40 vehicles per day
- road costs 100%+ of vehicle transport costs
- not self-financing
 - other principles apply – must be **subsidised**

Degree of subsidisation - issues

③ Rural roads are **unprofitable**

- cost-benefit analyses for individual roads is fruitless!

③ Finance **globally**

③ General **budget constraints**

- Central government decide which sector should bear the cost for the rural roads

③ **Split the rural roads financially into 2 parts:**

1. highway to market road - financed by

- highway network. National Road Sector's responsibility

2. farm to market tracks - financed by

- farmer/ land owner, or
- Ministry of Agriculture where production is subsidised

4. Classification and financing of farm to market tracks

- ◎ **Change** from the subsistence to cash crop economy is necessary
 - double the harvest output
 - generate the funds for new means of transport

Transport costs lowered by

◎ **IMTs**

- pack animals and animal drawn carts cost $\frac{1}{3}$ of head loading
- pick-ups more expensive yet useful for long distances
- agricultural vehicles

◎ **'Bulk transport'**

- 7 tons + by truck
- but requires a **different** and **costly** infrastructure of gravel & asphalt roads

General rule:

The level of **mechanisation** of agriculture should correspond to the mechanisation of transport on farm to market tracks/ roads.

Also ...

Level of **labour** use in agriculture may correspond to the level labour use for rural roads, and maintenance of the higher class of market to highway roads.

Correlation of Mechanisation of Agriculture and Rural Transport

Equipment	Agriculture	Rural road construction and rural transport
I. Subsistence Agriculture Hoes Wheel barrows, shovels	(fields of up to 1 ha per family) Hoes Harvesting small fields, hoes, shovels, hand trailers	Hoes, shovels Earth distribution for cross-section of earth
II. Cash Crop Agriculture Oxen Bicycle	(up to twice the area and 2-4 times the harvest of subsistence agriculture) Ploughing by Oxen Transport to and from the field by bicycle trailers	Transport by ox-cart Transport to and from the markets, road transport by ox-cart
III. Mechanised and Partly Motorised Agriculture Tractors Tractors and trailers Motorcycles and motorcycles trailers	Ploughing (with hired tractors) Transport to and from the field Motorcycles and motorcycles trailers	Compacting (with rollers) torn by hired tractors or motor-compactors Transport to and from the market Motorcycles and motorcycles trailers
IV. Industrialised Agriculture Motorisation and automatisaton	(in Europe on more than 30 ha plots) Fully motorised and partly automated harvesters etc.	Fully motorised road construction equipment and heavy trucks

5. Bangladesh case study:

infrastructure development in Tangail district

Project launched in **1992**

Objectives

- improve market access
- increase marketing of agricultural and commercial goods
- sustainably enhance the attractiveness of rural regions
- promotion of 'destitute women'
 - project offered temporary employment opportunities
 - training programme

Current progress

- 152km of rural roads
- 12 economic centres/ markets
- 800,000 man days of direct employment
- several thousand permanent jobs generated indirectly

Infrastructure development in Bangladesh



Case Study

- A. *In what way was this project able to address poverty issues?*
- B. *What lessons that can be drawn from this project that may be applied to other countries?*

Impact on poverty reduction over 3 years

- ③ **Income** generating opportunities
- ③ Targeted destitute **women**
- ③ Increase in number of **road users**
- ③ Increase in **visits** to markets
- ③ Increase in market **sellers** and stands
- ③ Increased **volume** of transported goods
 - diminishing costs
 - reduced time spent on transportation