

Planning Roads for Rural Communities World Bank Approach

9th International Conference on Low-Volume Roads
June 25 2007



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Outline

Part I: World Bank and rural roads

1. Framework for rural roads
2. Lending program in rural roads
3. Impact of rural roads
4. Rural Access Index

Part II: Principles of effective planning

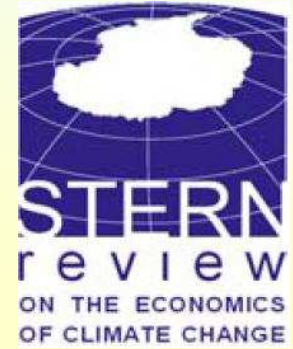
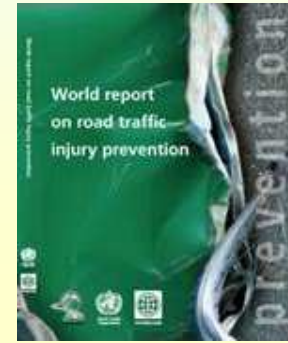




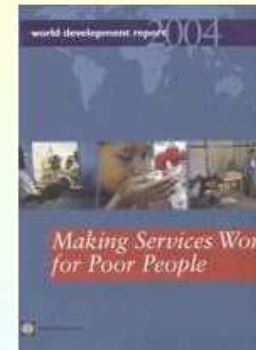
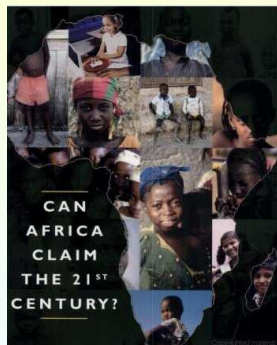
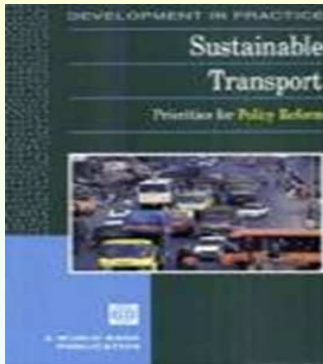
The framework for rural roads agenda



Partners, clients' work & many developments lead to “Safe, Clean, and Affordable” Transport



1990 “Rise and fall” of private sector in infrastructure **2000** Sustainable Transport >>> Safe, clean and affordable



Millenium Development Goals

do not include Transport

yet transport – especially rural – is an essential ingredient



1. Eradication of extreme poverty and hunger
2. Universal primary education
3. Gender equality and empowerment of women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Environmental sustainability
8. Global partnership for development



Not recognized

Poorly quantified

Transport has a key role in development

- ✓ Facilitate economic growth & regional integration through local & international trade
- ✓ Make cities work better for their citizens, their hinterlands, the environment & wealth creation
- ✓ Create economic, social & political opportunities
- ✓ Promote participation / inclusion
- ✓ Provide access to social service facilities
- ✓ Contribute to safer & cleaner communities



What has changed?

Broadening the agenda, securing inter-sector connections

1996 Sustainable
Transport
Economic
Financial
Environmental
Social

2007 Safe, Clean & Affordable Transport

Rural economic opportunity
Urban-rural linkage
Accessing health & education

New emerging issues

- ✓ **Public investment for transport infrastructure provision**
- ✓ **Good governance in successful development**
- ✓ **Local ownership of policies**
- ✓ **Results orientation for effective decision making**
- ✓ **Environmental concern built in climate change**



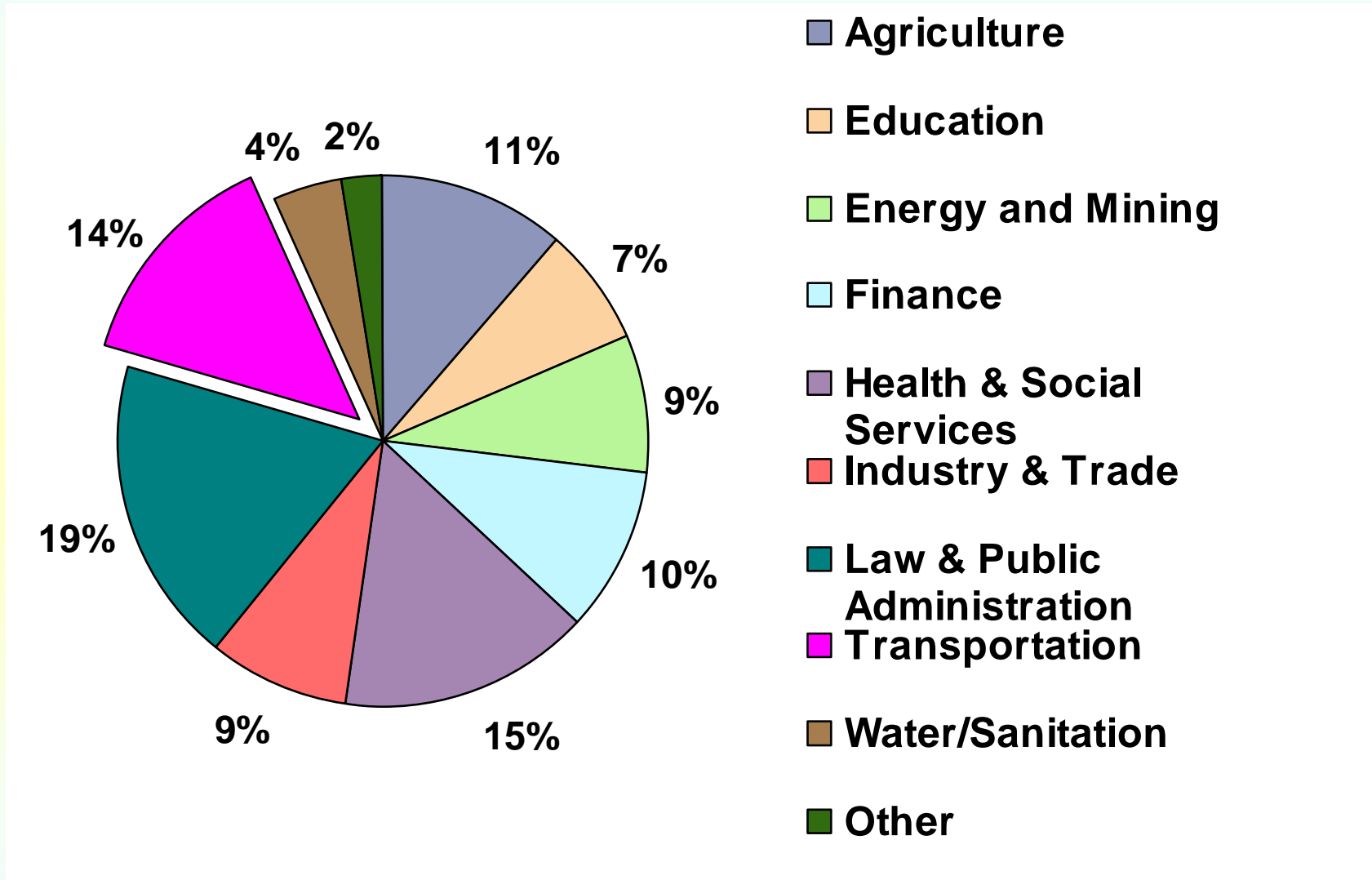
New
emphasis

The World Bank business strategy



- ✓ Strengthen coordination and knowledge sharing with partners
- ✓ Reduce transaction costs through more program lending
- ✓ Improve monitoring of transport performance and results
- ✓ Step up the fight against corruption

Transport is 14% of the total World Bank portfolio

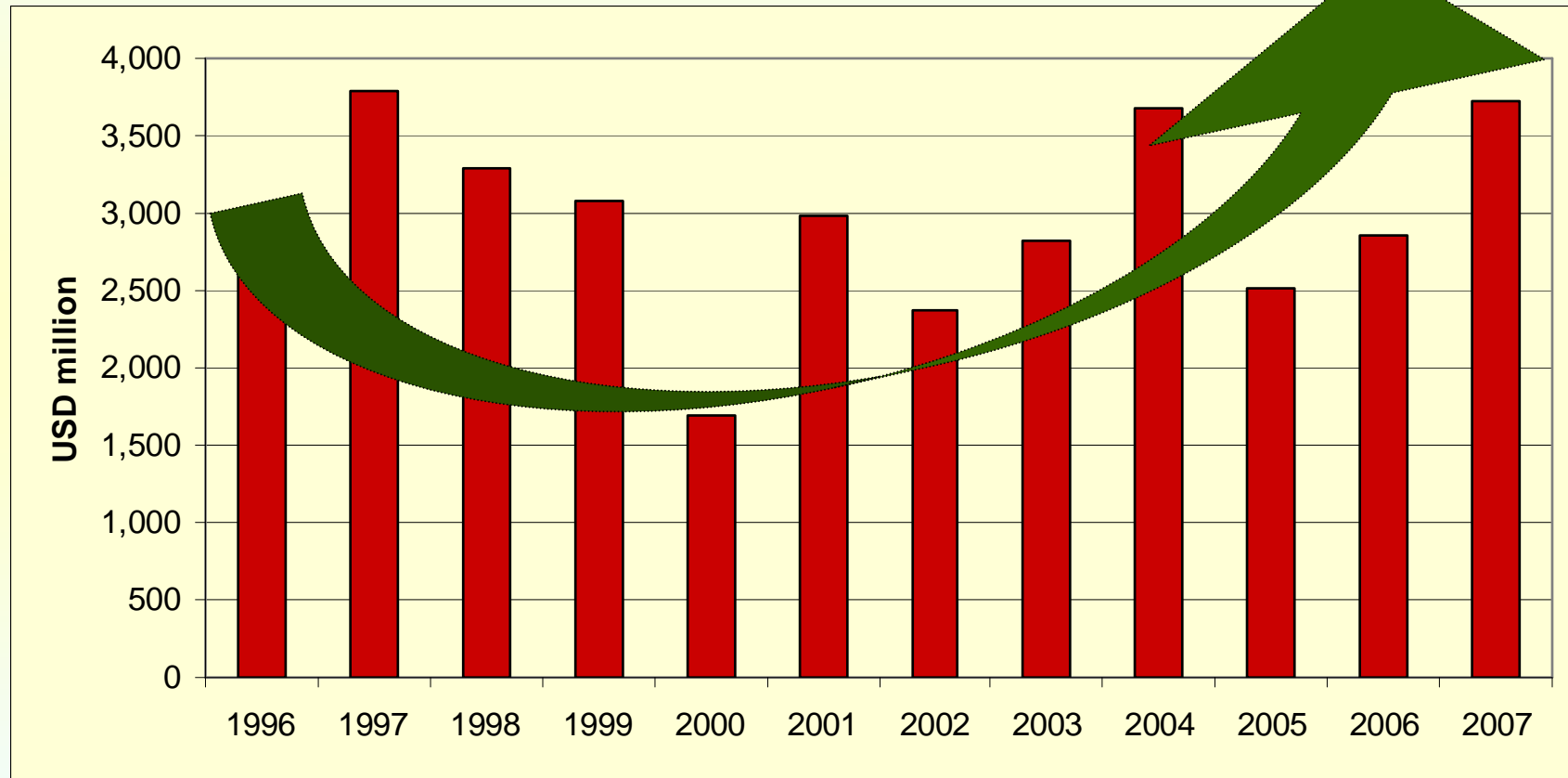


Annual average World Bank lending by major sector, 1996-2007



In the World Bank

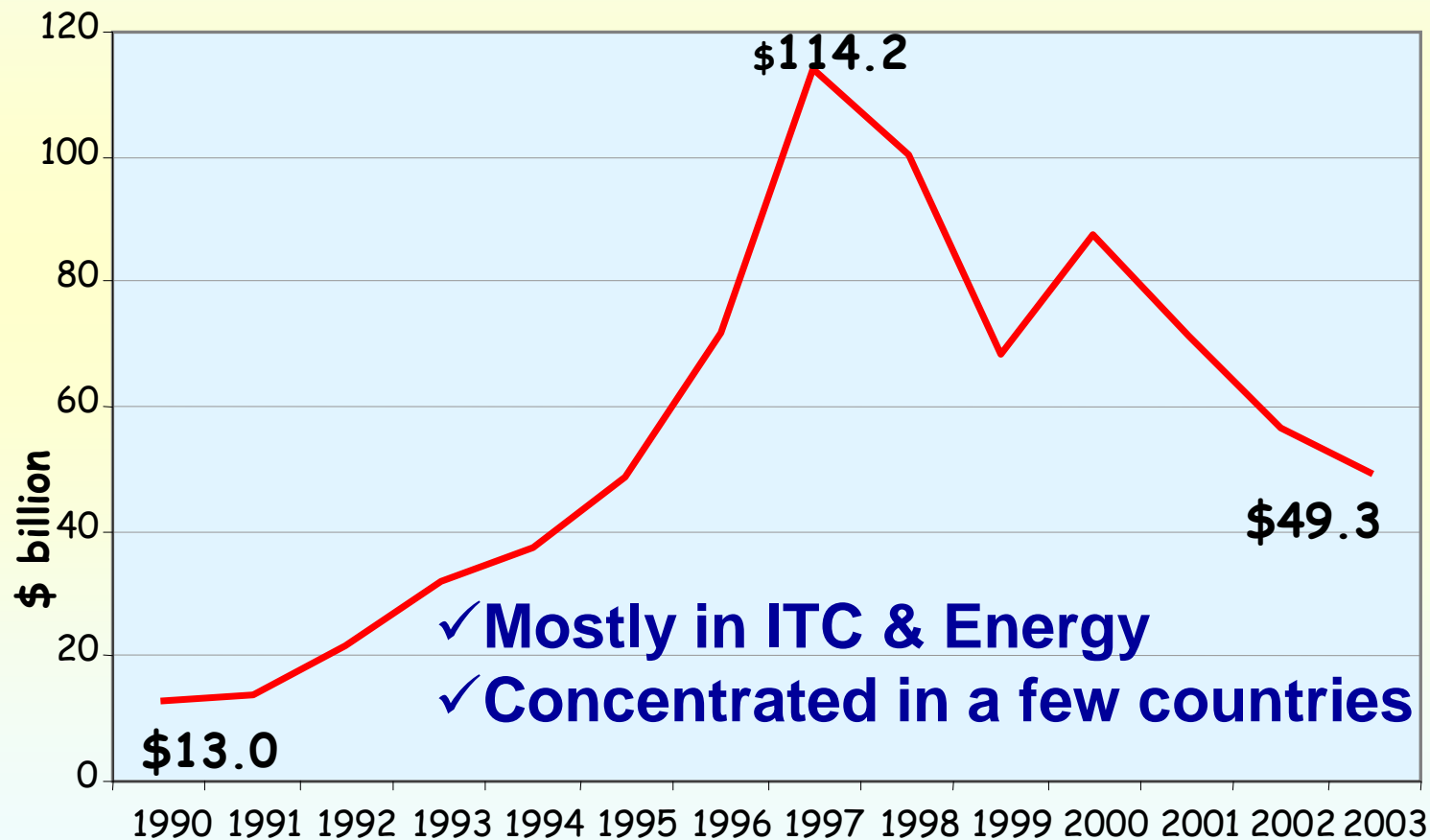
Transport lending decreased & is growing again



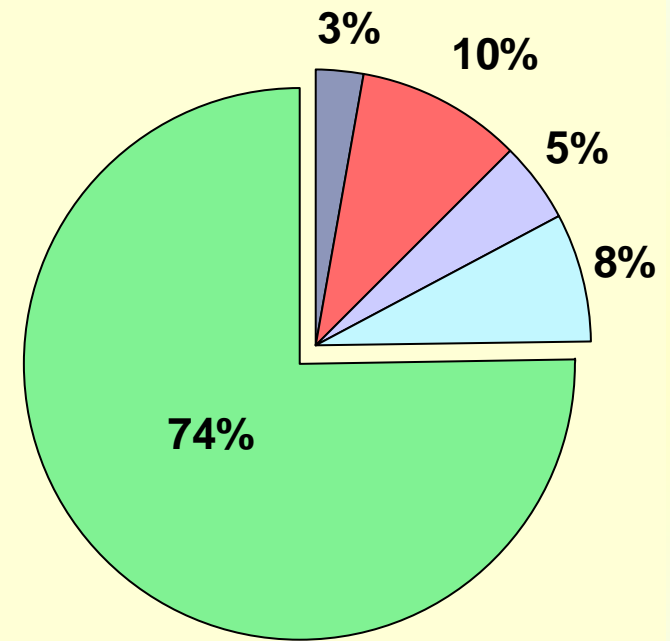
Average lending commitment/year = US\$ 3 billion



The decrease of Official Development Aid compounded the private sector infrastructure investment crash after 1997



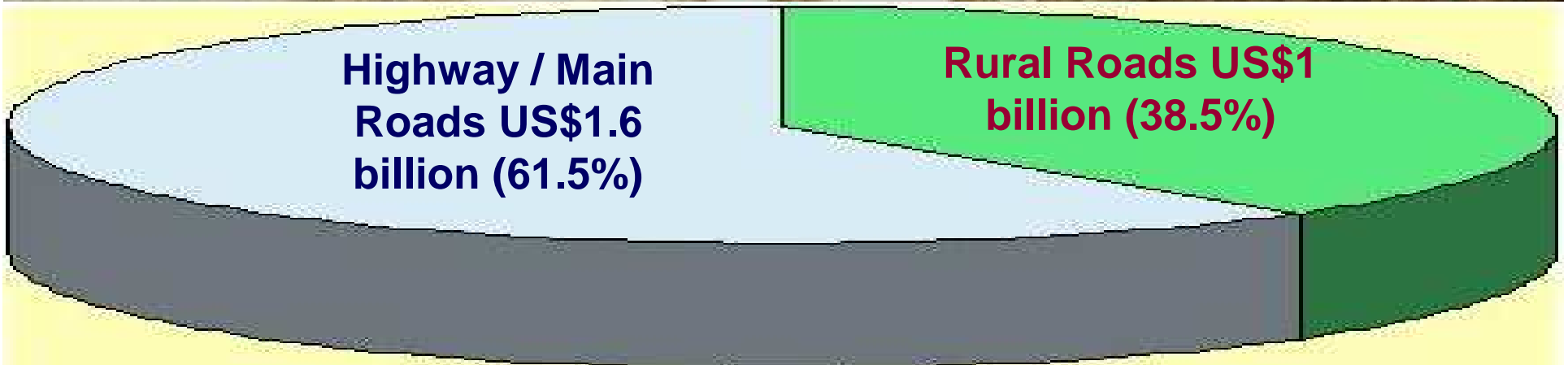
74% of transport lending is for roads



- Aviation
- General Transportation
- Ports & Highways
- Railways
- Roads & Highways

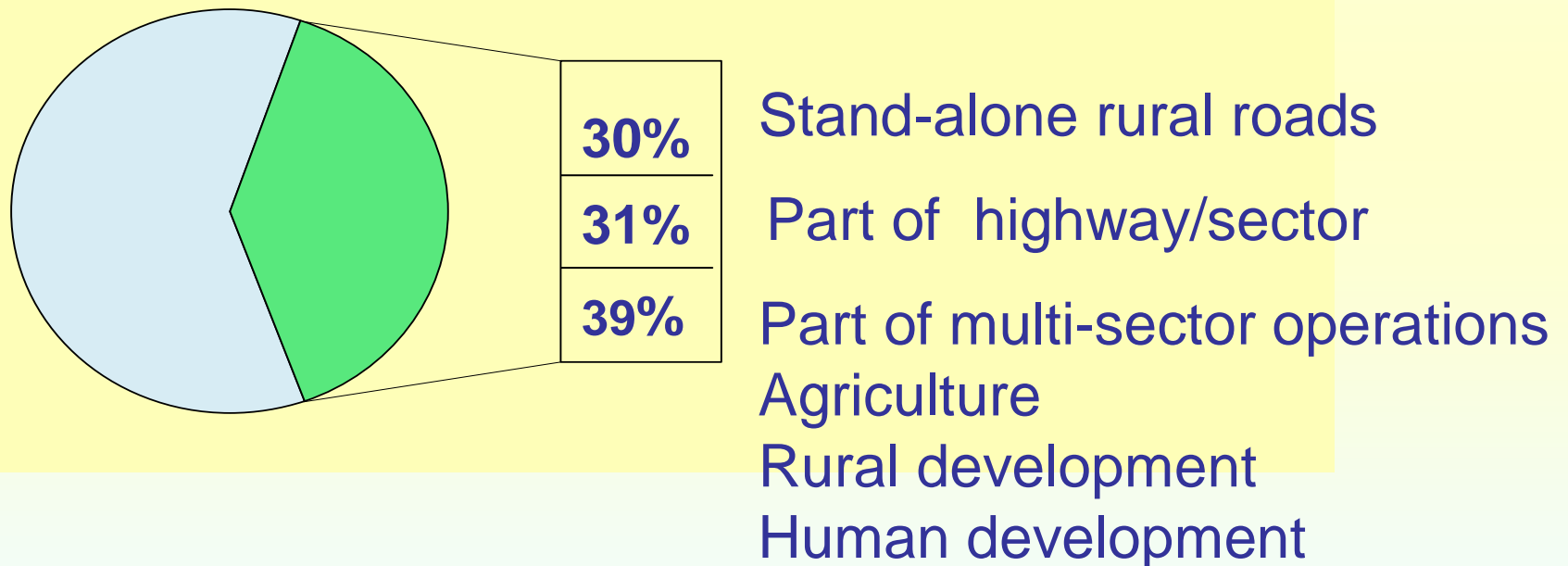


World Bank lending for roads US \$ 2.6 billion/year on average

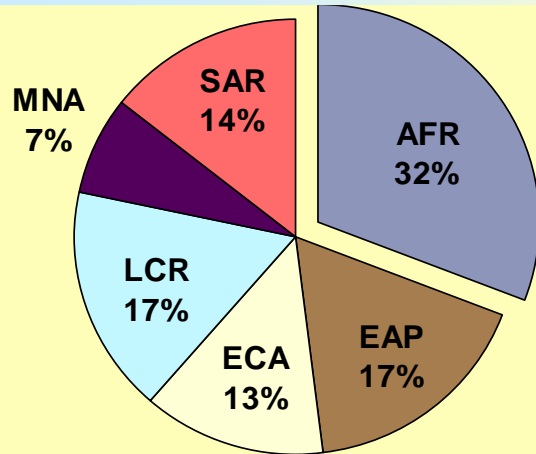


World Bank lending for rural roads US \$ 1 billion/year on average

40% of rural roads by multi-sector projects



Sub-Saharan Africa accounts for 32% of World Bank's rural roads portfolio



World Bank financed rural roads projects

A wide variety of interventions

Range of project size:

US\$16 - 400 mil. (Ave: US\$78 mil.)

Financing is for

- Roadwork (maintenance, rehabilitation, improvement, construction)
- Intermediate Means of Transport (IMT)
- Institutional support



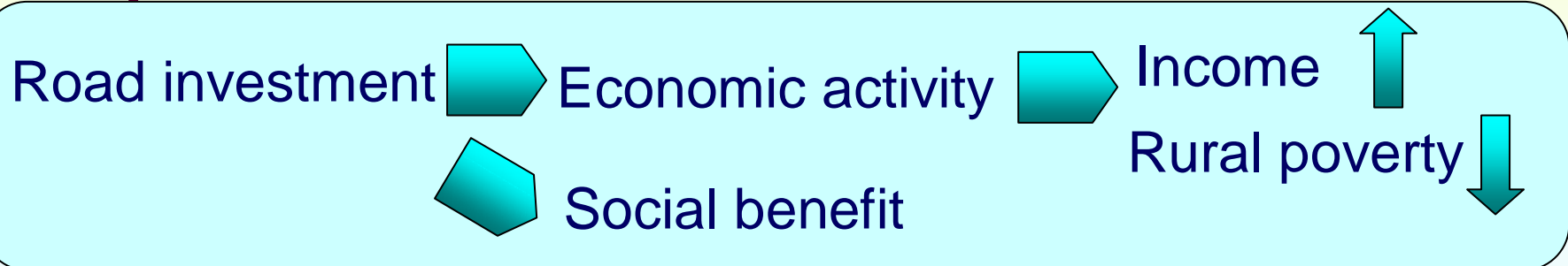
Research on the impact of rural roads

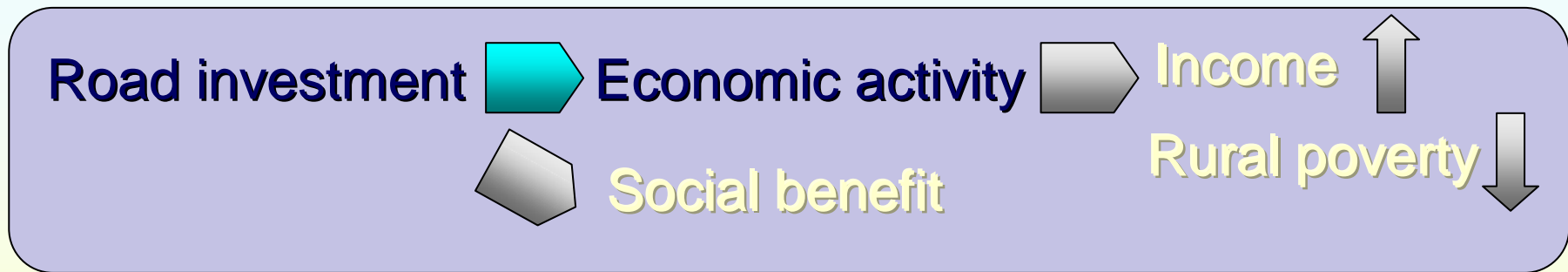
Economic theory

Road investment  **Rural development**

- IF**
- Large change in transport costs
 - Available land and labor
 - Urban markets to absorb new production

Impact studies





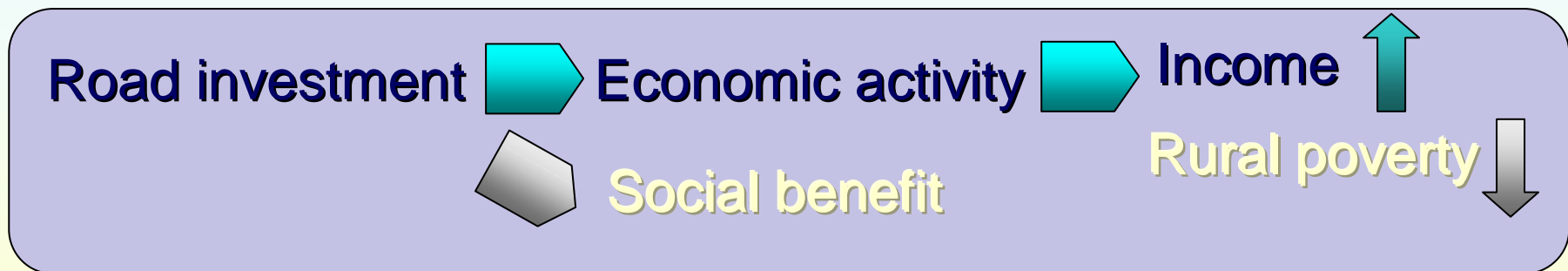
By Fan and Others, International Food Policy Research Institute

- **Vietnam: 1 invested** in rural roads
 ➡ **3.01** of agricultural production
- **China: 1 invested** in rural roads
 ➡ **1.57** agricultural GDP
 ➡ **5.68** Rural non-farm GDP

By Asian Development Bank

- **Indonesia, Philippines and Sri Lanka:** Improved rural roads ➡ Better mix of transport services /shorter travel times/increased traffic





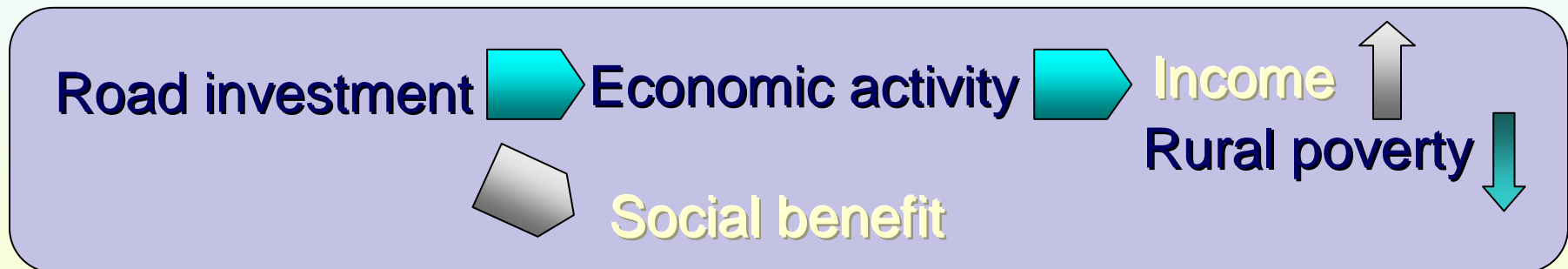
By Jalan, Indian Statistical Institute, and Ravallion, World Bank

- **Southern China:** km of roads per capita
 ➡ Household consumption growth

By Dercon and Hoddinott, IFPRI

- **Ethiopia:** Road quality
 ➡ Consumption growth rate





By Fan and Others, IFPRI

- **India:** Expenditure on roads
 - ➡ Largest impact in rural poverty reduction

By Dercon, Oxford University

- **Ethiopia:** Availability of roads
 - ➡ Major factor on poverty level





By Levy, World Bank

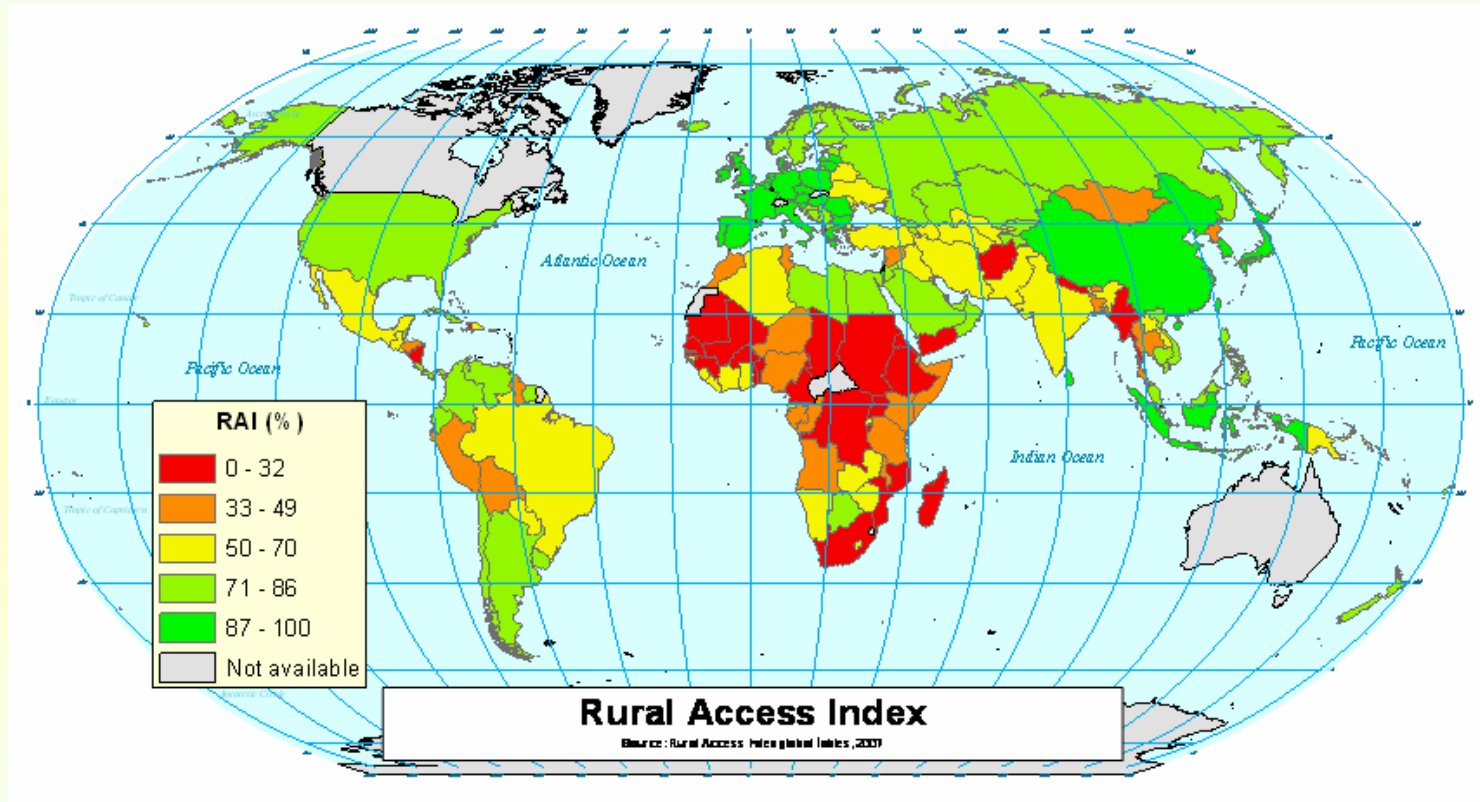
- **South Morocco:** improved roads
 - ➡ quality of education/girls' enrollment
 - ➡ health care

By Essakali, World Bank

- **Pakistan:** all-weather road
 - ➡ school enrollment rates (41% v.s. 27%)



21 Countries have over 3/4 of rural population lacking all season access



Rural Access index is an important tool for countries most in need of all-season access improvements



Part II: Principles of effective planning

- 1 - Emphasis on rural “transport”
 - 2 – Integrative development
 - 3 - Community consultation
 - 4 - Road standards
 - 5 - Better planning models
 - 6 - Maintenance decentralized, funded, commercialized
 - 7 - Results based approach
- 
- A photograph of a dirt road in a rural area. In the foreground, a person is walking away from the camera. In the middle ground, two people are walking towards the camera. The background shows a dirt road leading into a rural landscape with trees and a small building in the distance.

Emphasis on rural transport

Non-road transport infrastructure

Wharfs and jetties, footpaths and tracts, animal trails, pedestrian footbridges



Photo©Kate Czuczman

Appropriate transport service

Intermediate Means of Transport (IMT)

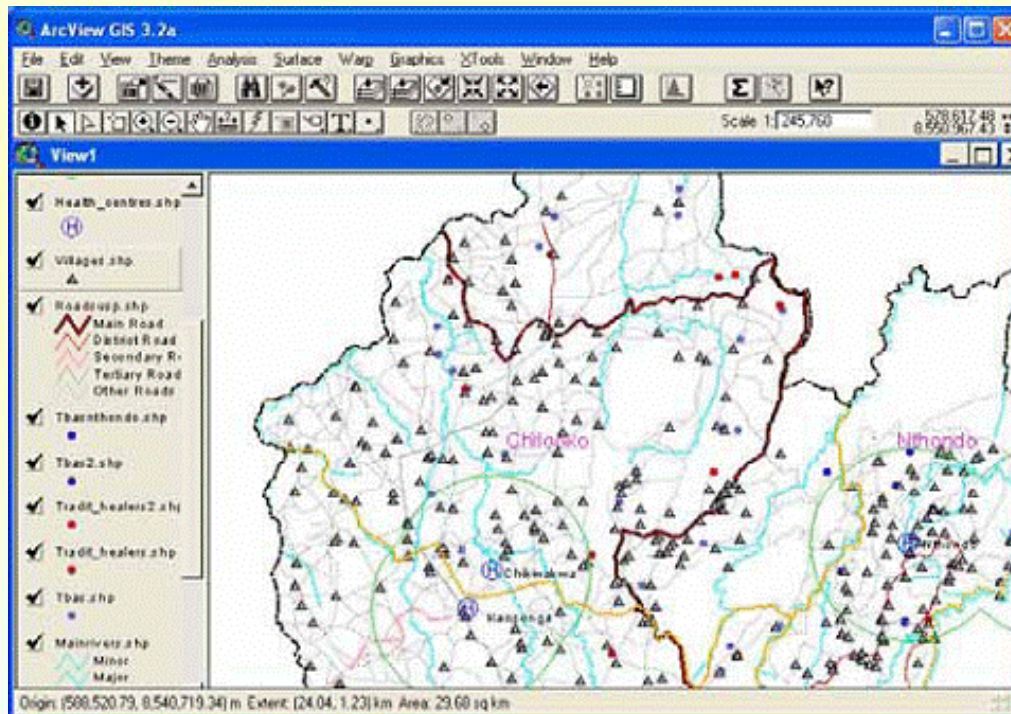


Photo©Paul Starkey



Villagers' view is integrated into the technical planning process

IRAP map of Villages and Health Facilities
Ntchisi district, Malawi



- For maximum effect from road project,
- Learn from ultimate beneficiaries
 - Plan in coordination with other infrastructure services

Source: Andreski, Kaira & Chagunda (2005) Rural Accessibility & Mobility in Ntchisi District, Malawi



Community consultation

Community prioritized rural road investment

- 
- A group of people, including women, walking along a dirt road in a rural setting. The image is slightly blurred and has a dark border. The text is overlaid on the left side of the image.
- **Women's needs**
 - **Consultation based on "wish list"**
 - **Complementary facilities**
 - **Infrastructure grants under Community Driven Development - CDD**
 - **Community involvement in road construction & maintenance**

An area of friction with clients

Road standards

The “window for gravel” is reducing as gravel becomes harder to find and new approaches are adopted



Lower traffic volume



- Spot improvements
- Better maintenance of earth roads

Higher traffic volume



- Low cost, thin bitumen surface (e.g. otta seals)



Better planning models

When rural roads are improved

The transport cost savings approach used by HDM4 and RED cannot take account and value:

- *Changes in the periods of impassability*
- *The social benefits of improved access*
- *The wider economic benefits deriving from improved efficiency in both urban and rural areas*



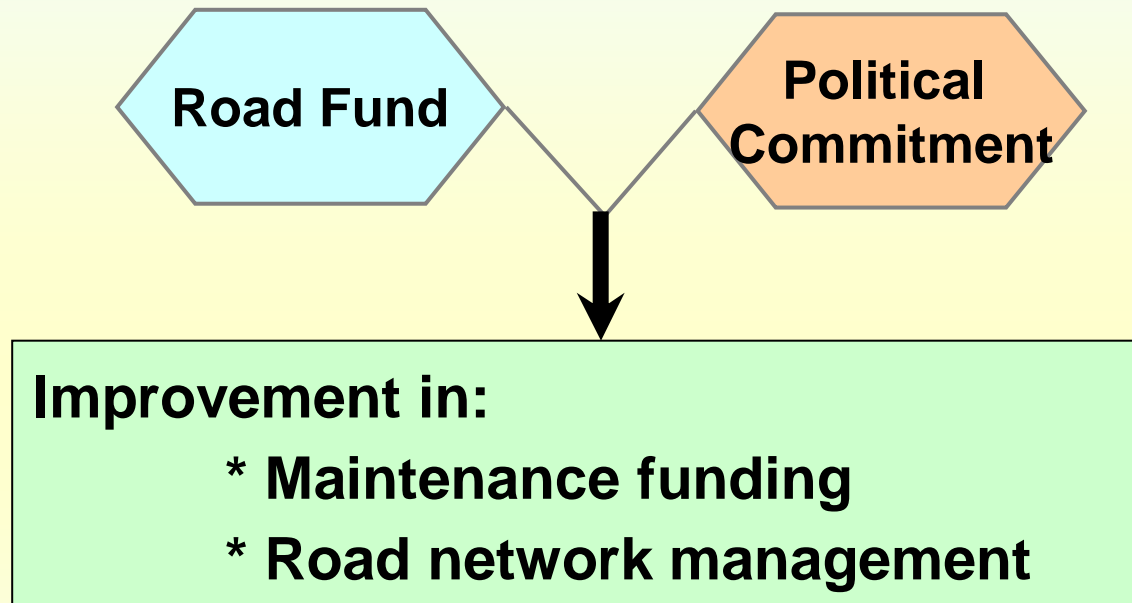
Road maintenance decentralized

Vietnam: Legal obligation for maintenance of social infrastructure

Tanzania: A new act introduces “community roads”

Nepal: Local road user committees

Maintenance financed by 2nd generation road funds



Remaining challenges:

- *Inadequate level of funding for lower volume rural network*
- *Diversion of funds away from routine maintenance towards reconstruction*

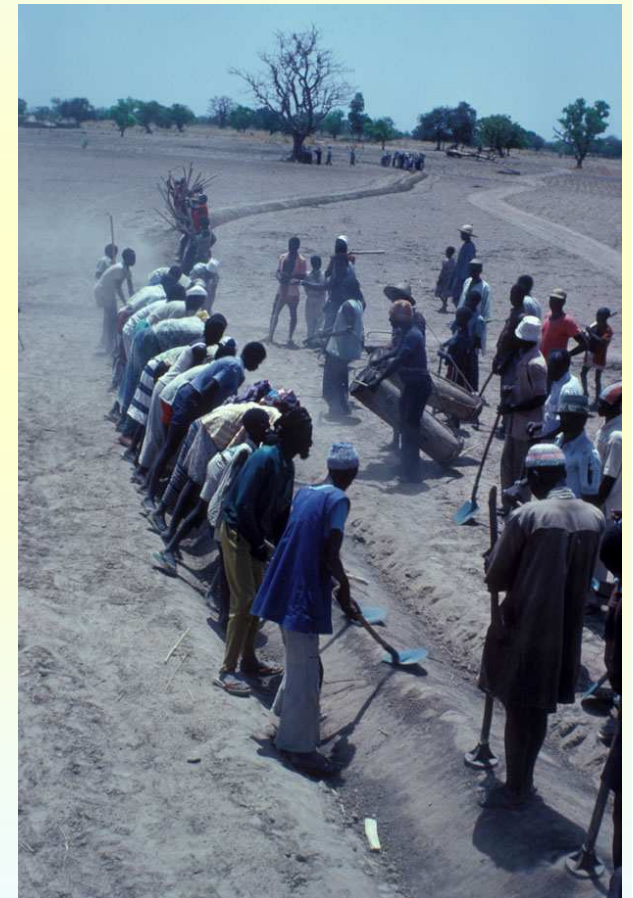


Maintenance commercialized in over 80% of contracts

Examples of performance based contracts

Chad Main gravel roads

Peru Routine maintenance by micro-enterprises



Photo©Paul Starkey



Results based approach: Transport results initiative

Transport Results: Home



This site presents many of the outputs of the Transport Results Initiative. It is intended for use by those working in or with the sector with a requirement to measure the performance or impact of transport at any level. The material is for guidance. It represents current good practice, but must be adapted to specific conditions. Comments and feedback will be welcomed from all users, including yourself.

Some of the outputs are work in progress, given as examples of current practice. The individual regional and country outputs may not be reproduced or quoted unless this is explicitly permitted.

The latest available version of all material is on the World Bank's Transport web pages.

Key Topics

 Users Guide	 Rural Access Index	 Urban Mobility
 Road Transport	 Railways	 Trade Costs

Highlights

- ▶ [Transport Forum 2007 Learning Session, March 2007](#)
- ▶ [Peru Workshop, March 2007](#)
- ▶ A CD-ROM is available upon request to transport@worldbank.org

<http://www.worldbank.org/transport/transportresults/home.html>



Lessons

- ✓ **Be less prescriptive, more results focused**
- ✓ **Widen planning procedures to capture full range of benefits**
- ✓ **Give attention to after-intervention maintenance arrangements**
- ✓ **Design projects which**
 - **have lower transaction costs**
 - **are economically viable**
 - **respond sensitively to local social & environmental conditions**
 - **achieve greater local ownership**
 - **minimize risk of corruption**





Thank you for your attention