

National Workshop
Planning, Pavement Design and Overloading Prevention

Participatory Infrastructure Planning: IRAP

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Cambodia

“I leave around four o’clock in the morning with one bunch of rattan on my head. Around eight I arrive at Puok market. I sell my rattan to some of the local traders, buy some fish at the market, buy some medicines if necessary and leave around noon. Normally I am back home around four o’clock in the afternoon.”

HOUSEHOLD TRAVEL & TRANSPORT ANALYSIS

A case study in Puok District

ILO Upstream, Bas Rozemuller, Thou Panha and Yan Samrith

“About 110 villagers in Phnom Penh’s Dangkao district on Saturday blocked heavy dirt-filled trucks from traveling through their newly paved road, built with money raised from their own community, local authorities said....”

Cambodia Daily, 10 November 2004

Improving Accessibility

- 1960ties: Large Scale Infrastructure
Primary Network
Urban Oriented
- 1980ties Change of focus:
Away from the Highway/car solution
Needs Oriented
Rural Areas
Appropriate Technology

Imported Machines or locally produced equipment



**Vib-Roller (100 kW)
US\$ 75,000:-**



Pedestrian Roller US\$ 7,000:-



**Motor Grader (135 kW)
US\$ 200,000:-**



Towed Grader US\$ 3,000:-



**Tipper Truck (6 m³)
US\$ 35,000:-**



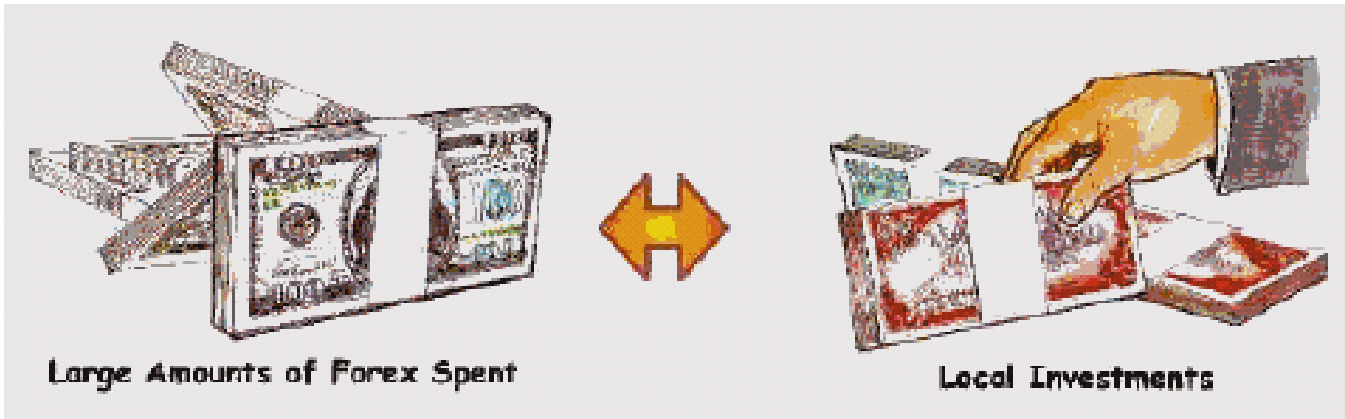
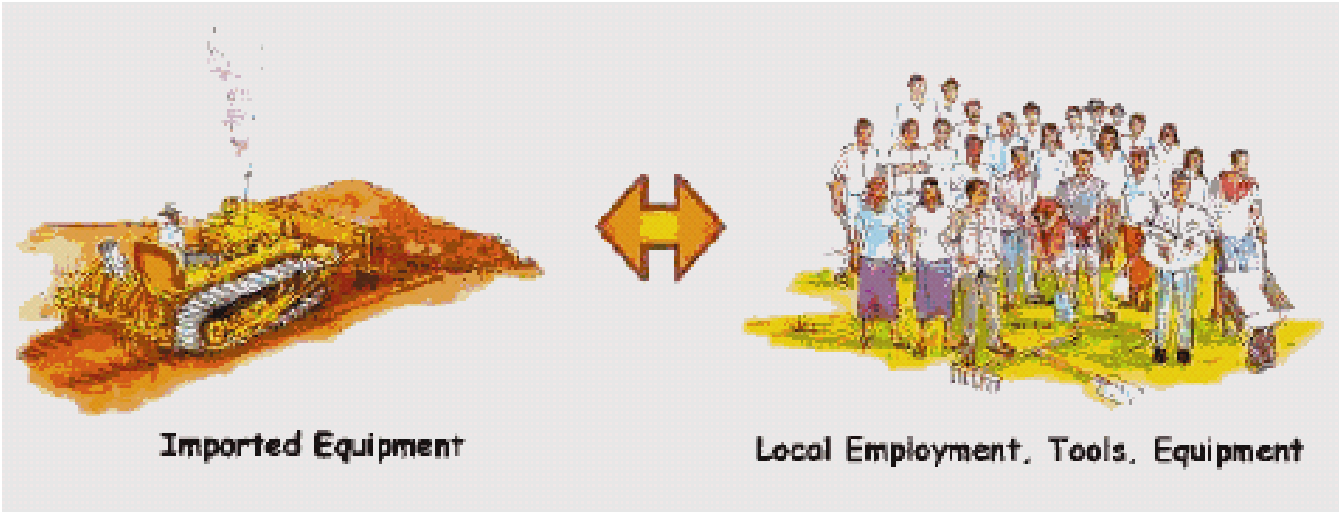
**Tractor \$ 15,000:-
Trailer \$ 2,500:-**



Wheel barrow \$ 30:-



Light truck \$ 5,000:-





Foreign Contractors



Local Contractors



Foreign Employment



Local Employment

Employment and Investment Impacts of technologies

Gravel roads	Equipment-based	Labour-based
Total cost (index=100)*	100	70-100
Foreign exchange requirement (index=100)	100	40-90
Employment generated per unit of investment (index=100)	100	200-400
Equipment cost as % of total cost	80-85	30-40
Labour cost as % of total cost	10-15	40-60

** wage rates between \$1 and \$3 per day*

Employment Intensive Infrastructure Strategies

Private Sector Development

- Small Scale Contracting
- Community Contracting
- Low Cost Surface Options

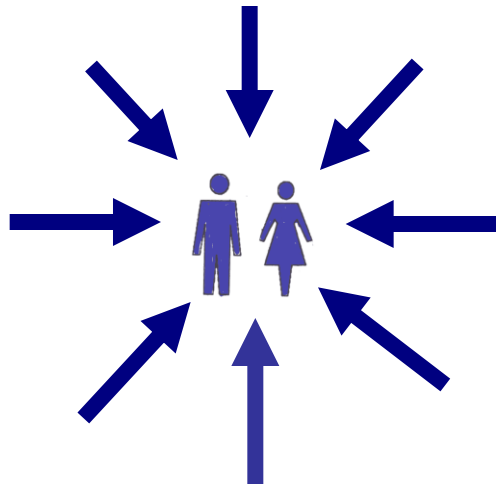
Community Involvement

- IRAP
- Rural Access Development

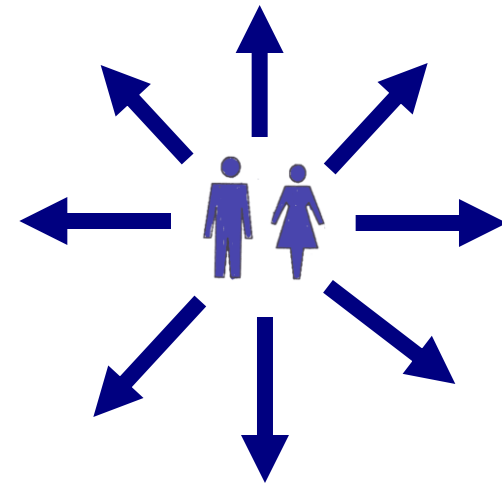
Accessibility Planning



REALIZING ACCESS*



LOCATION
of Services and Facilities



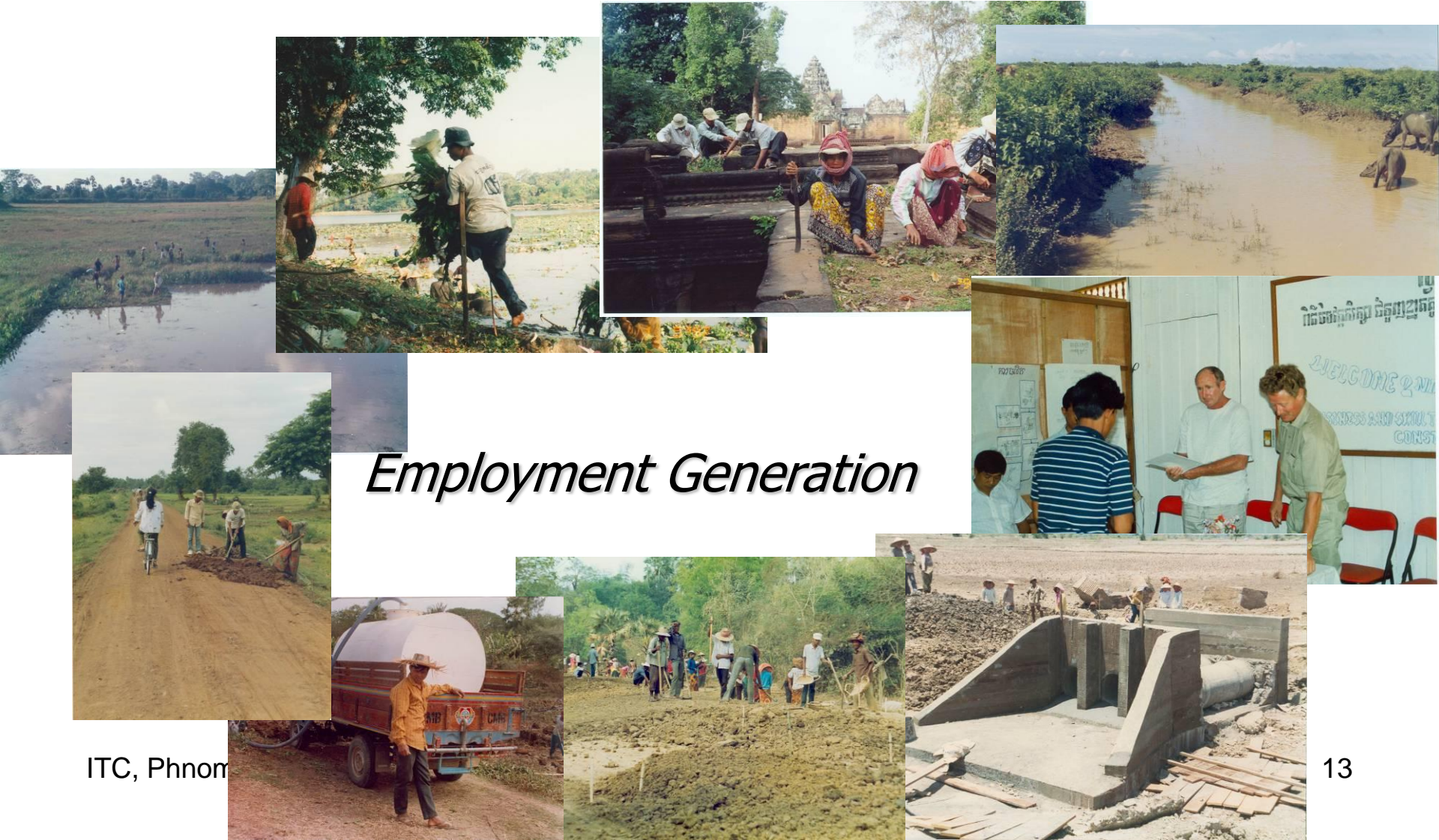
MOBILITY
Improved Transport System

****access means 'the opportunity to reach, use or visit'***

Cambodia

- Phase I 1992 – 1997 Post Crisis
- Phase II 1998 – 2003 Reconstruction
- Phase III 2003 – Sustainable
Development

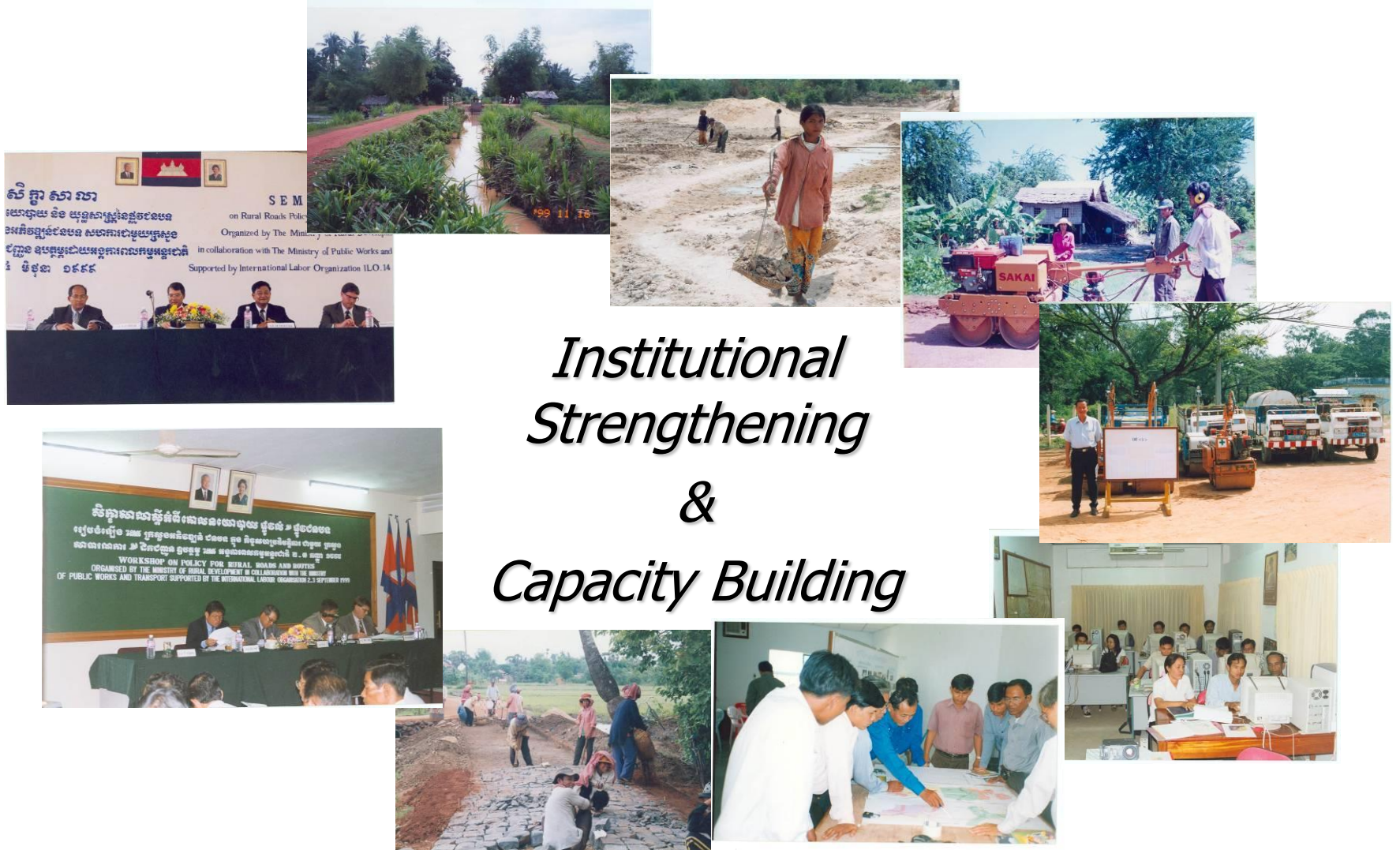
Cambodia Phase I



Employment Generation

ITC, Phnom

Cambodia Phase II



IRAP



Integrated Rural Accessibility Planning

Planning outputs

- District Accessibility Action Plan
- Districts Data Book
- Asset and Access Data base
- Transport Infrastructure Inventory
- Mapping
- Recommendations on Technology Choice and Surface Options

Cambodia Phase III



*Institutionalization
&
Mainstreaming*



ITC, Phnom Penh

Adopted Infrastructure Development Strategies in Cambodia

Institutional Strengthening

- Rural Roads Policy
- Rural Road Department
- IRAP
- Research and Development: surface options
- Curriculum at ITC

Private Sector development

- Small scale contractors
- Maintenance committees
- Professional Associations (EIC)

***Decent
Work***

Institutionalization and Mainstreaming

Prime Minister Hun Sen:

“MRD has the responsibility to prepare local plans aimed at addressing the delivery and management of rural infrastructure through improved accessibility using the methodology of Integrated Rural Accessibility Planning as a survey instrument.”

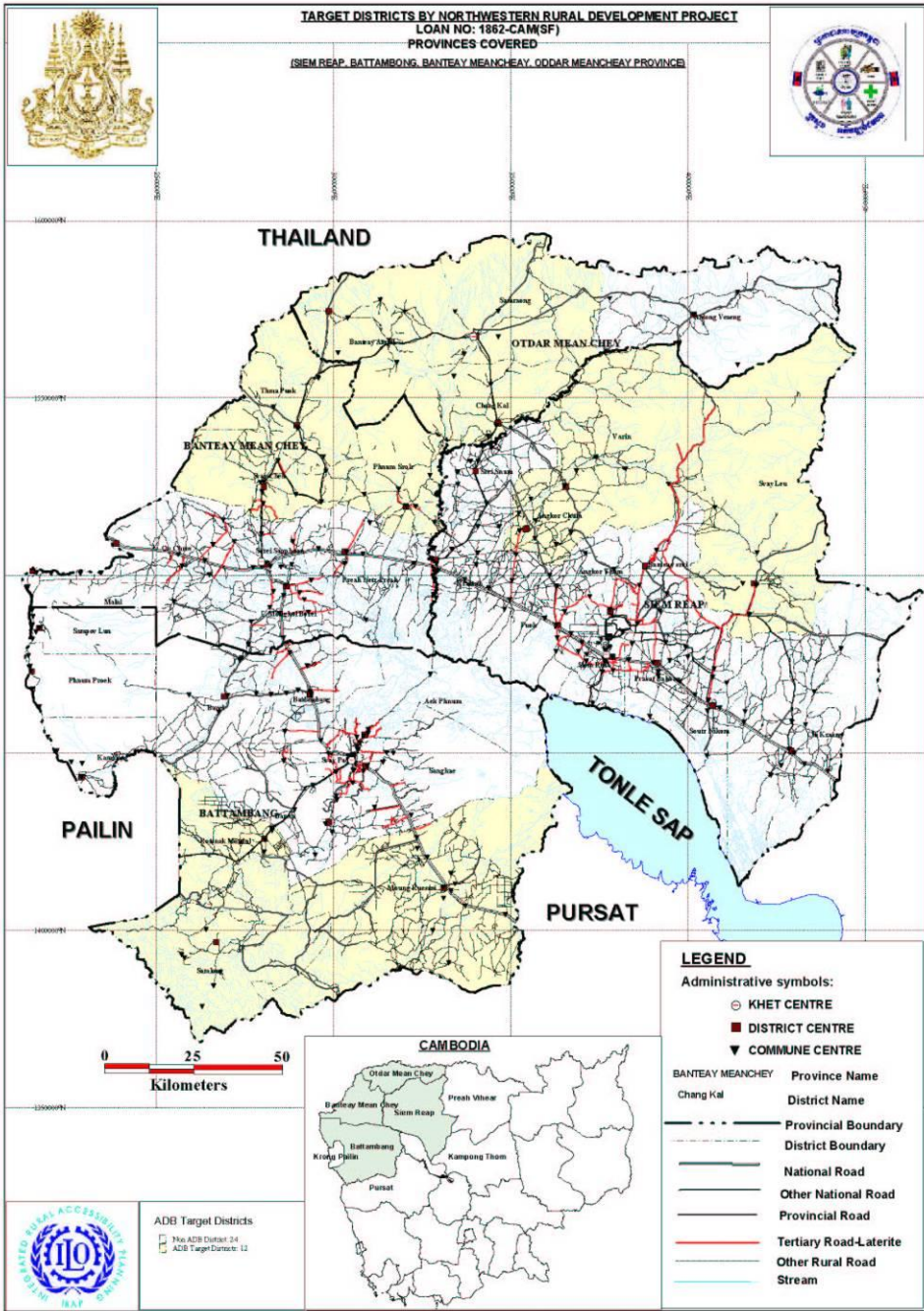
(Closing speech of the annual conference at MRD, February 28, 2001)

Institutionalization and Mainstreaming

MRD Second Socio-Economic Development Plan
2001-2005:

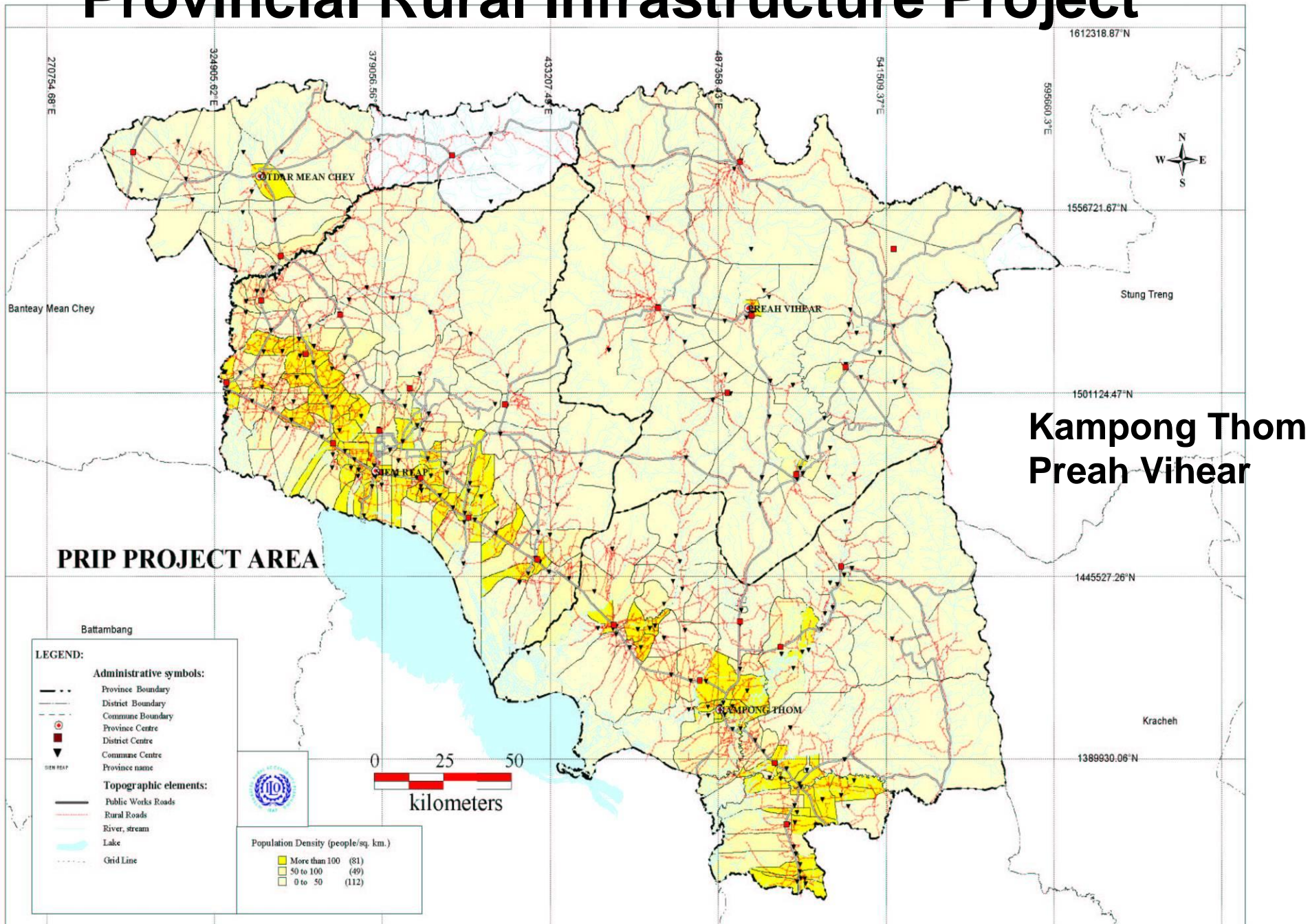
*“Basic Minimum Needs and Indicators will be researched
through Integrated Rural Accessibility Planning”*

NRDP



North-Western Rural Development Project: Siem Reap Battambang Banteay Meanchey Oddar Meanchey (Pailin, Pursat)

Provincial Rural Infrastructure Project



Planning Recommendations

- To include a dialogue on traffic generation identification of roads susceptible to overloading (haulage/special purpose routes)
- *Incorporate the range of surface options (based on investment and maintenance costs for the various conditions in Cambodia*
- Further develop Technology Choice Matrix
- *Further develop a maintenance management system based upon accessibility, traffic and road condition*

Mainstreaming Recommendations

Public Investment Plan

Infrastructure Projects

- Tertiary Road Improvement Project
- Tonle Sap Sustainable Livelihood Project
- Ecosorn
- Mainstream Project

A core donor to guarantee sustainability of the institutionalization

Institutionalization Recommendations

Central Level:

Co-ordination and information exchange with Mol, MoP, MoEYS, MoH

Co-ordination with MPWT Location and Reference data base

Local level:

Integration into provincial planning process

Capacity building at district/provincial level

Synchronization with Seila planning process

Appropriate Technology is a Development Choice that benefits all

