



global Transport
Knowledge Partnership



Sustainable Access and Resource Solutions

Smart Planning Leads to Smart Decisions

**Doekle Wielinga
Sr. DRM Specialist**

**GFDRR - Global Facility for Disaster Reduction and Recovery
The World Bank**

**Presented by:
Robert Petts**

This Presentation

Shares experiences of applying Integrated Rural Accessibility Planning (IRAP) in Cambodia and Sri Lanka

Clarifies IRAP planning procedure

Identifies the need to link IRAP to implementation and monitoring

The way it is (most of the times...)



The way it is supposed to be



The way to get there



Integrated Rural Accessibility Planning: IRAP

Integrated Rural Accessibility Planning: IRAP

- Participatory planning tool
- Use of GIS, maps and indicators
- Focus on Rural Transport Infrastructure
- Integrated in that it includes economic and social sectors
- Prioritization in Investment Planning
- Includes rehabilitation as well as maintenance
- → roads?/other infrastructure?/services?

Rationale of Using IRAP

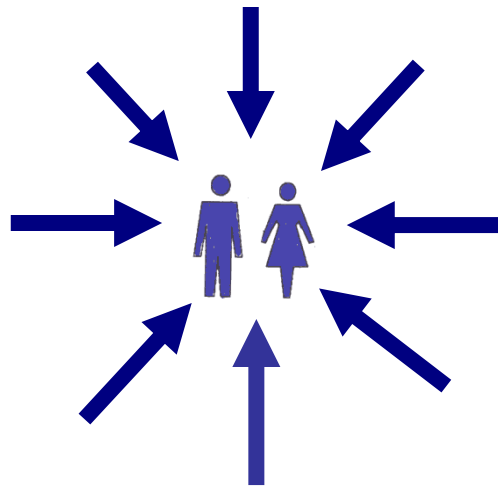


Lack of access of rural people to goods and services is one of the fundamental constraints to development

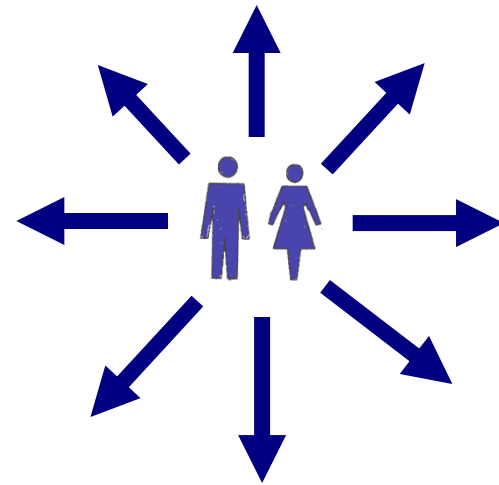
Improvement to access is a major tool in poverty alleviation



Realizing Access*



LOCATION
of Services and Facilities



MOBILITY
Improved Transport System

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

The Utility of IRAP

- It allows local population to take part in decision making of infrastructure
- It helps local authorities envision how to develop their territory
- It provides maps, inventories and accessibility data that is used by a wide variety of users at the local level
- It strengthens co-ordination mechanisms between local and central level
- It produces generic integrated and prioritized investment and supports sustainable development

T1: Data Collection

- * Primary data gathering
- * Secondary data gathering
- * Asset Assessment
- * Transport Infrastructure Inventory
- * Accessibility Assessment

T2: Data Analysis

- * Data management
- * GIS mapping
- * Data Book preparation
- * TII preparation
- * Accessibility Indicator building
- * District Accessibility Profile preparation
- * Accessibility Analysis

T3: Accessibility Planning

- * Sector Identification and Prioritization
- * Sector integration
- * Investment Planning
- * Pre-feasibility study
- * Technology Choice recommendations
- * Submission of Accessibility Action Plan
- * Presentation to Decision makers
- * Incorporation into annual planning process

T4: Implementation, Monitoring and Evaluation

- * Project proposal Preparation
- * Fund sourcing
- * Project Implementation
- * Monitoring and Evaluation

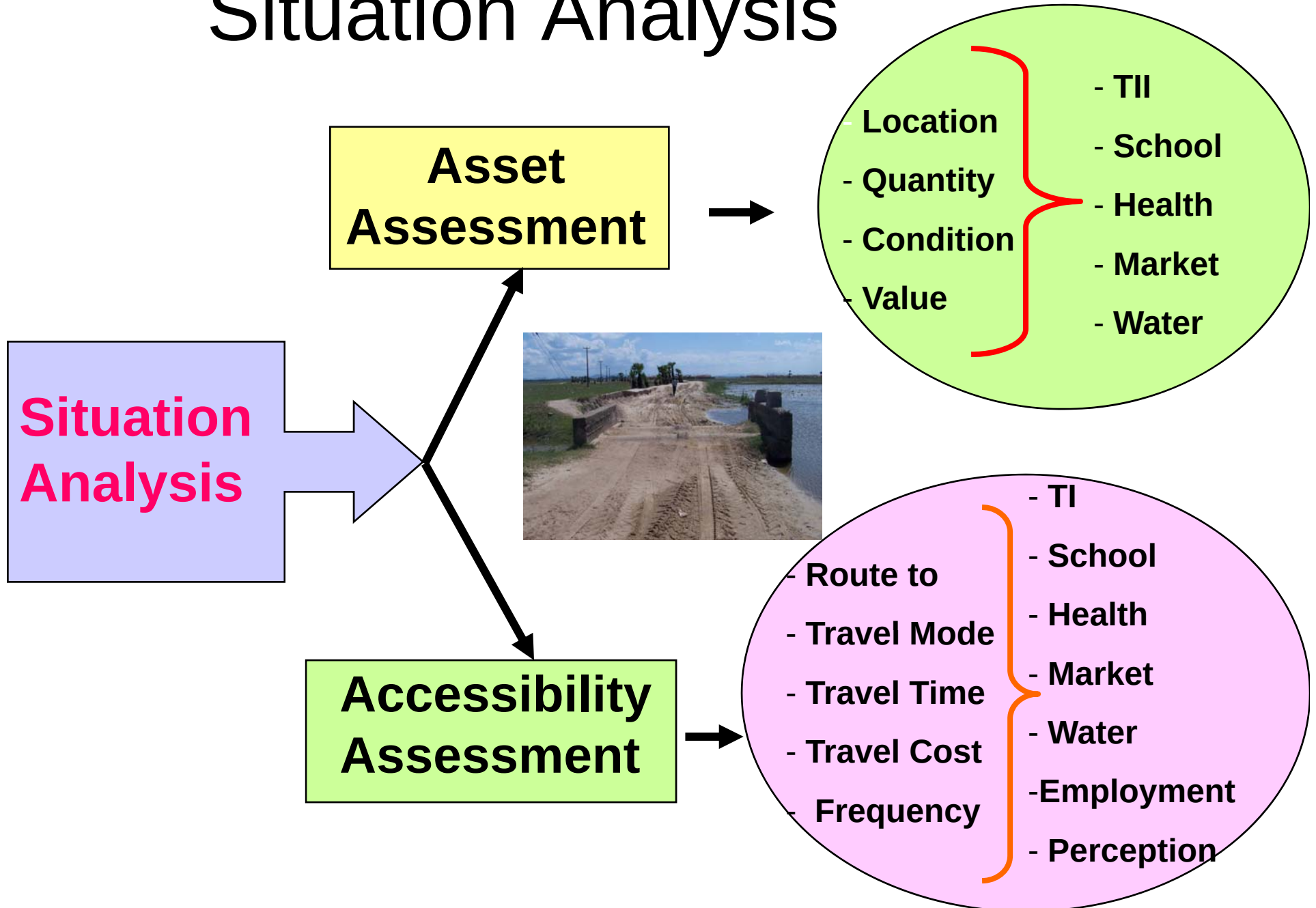
**IRAP
PLANNING
CYCLE**

Data Gathering Tools

- GIS (base maps)
- Asset and TII Forms
- Accessibility Forms
- Workshops
- Reference Documents
- Field verification
(PDA/GPS receivers)
- Key informants



Situation Analysis



Accessibility Assessment

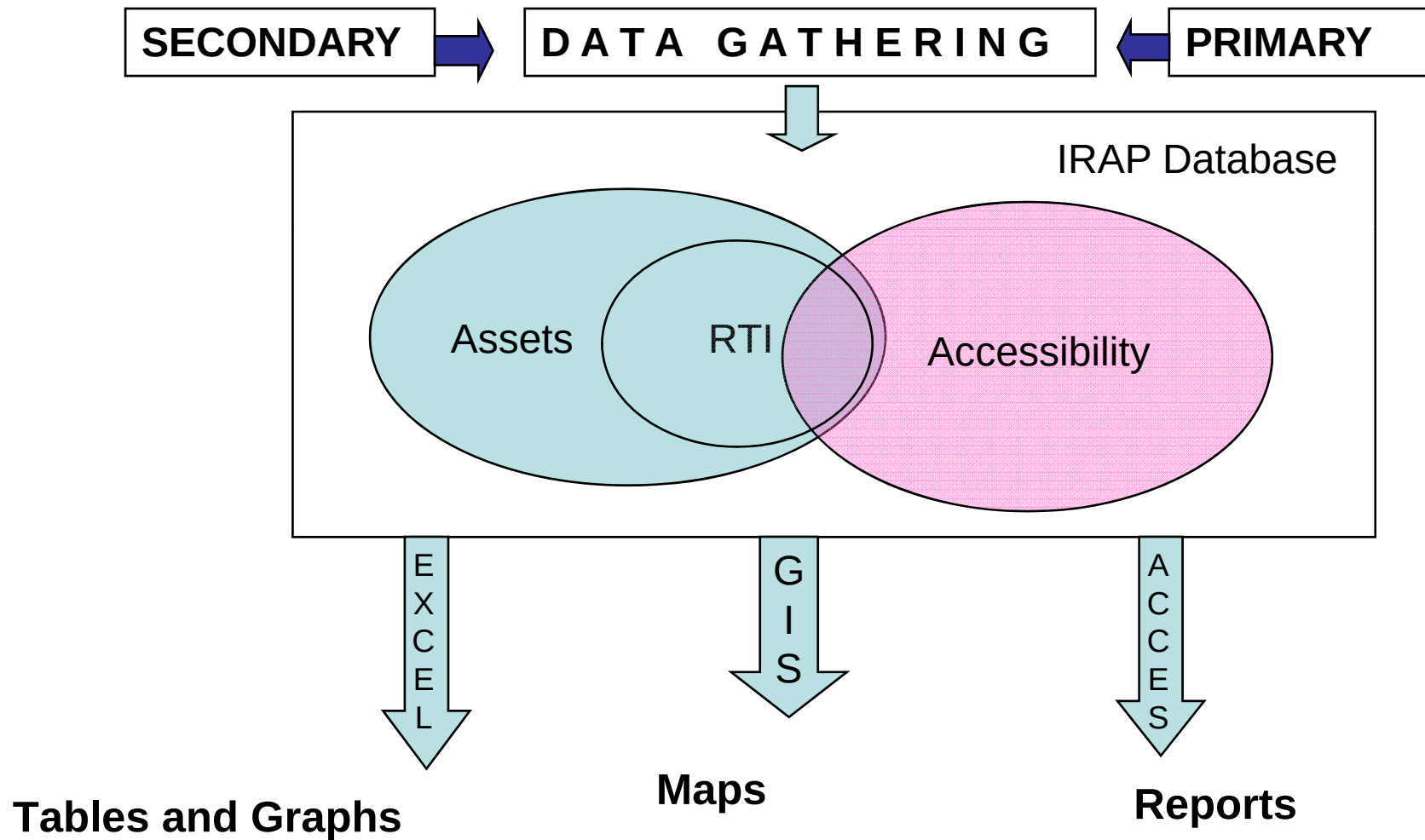
- ✓ *Safe Drinking Water*
- ✓ *Schools*
- ✓ *Health Care*
- ✓ *Markets*
- ✓ *Transport Infrastructure*
- ✓ *Employment*
- ✓ *(small scale irrigation)*

Accessibility Analysis

Accessibility Classification

Poorest (25%)		(RED)
Poor (25%)		(ORANGE)
Average (25%)		(YELLOW)
Above Average (25%)		(GREEN)

IRAP Data Analysis

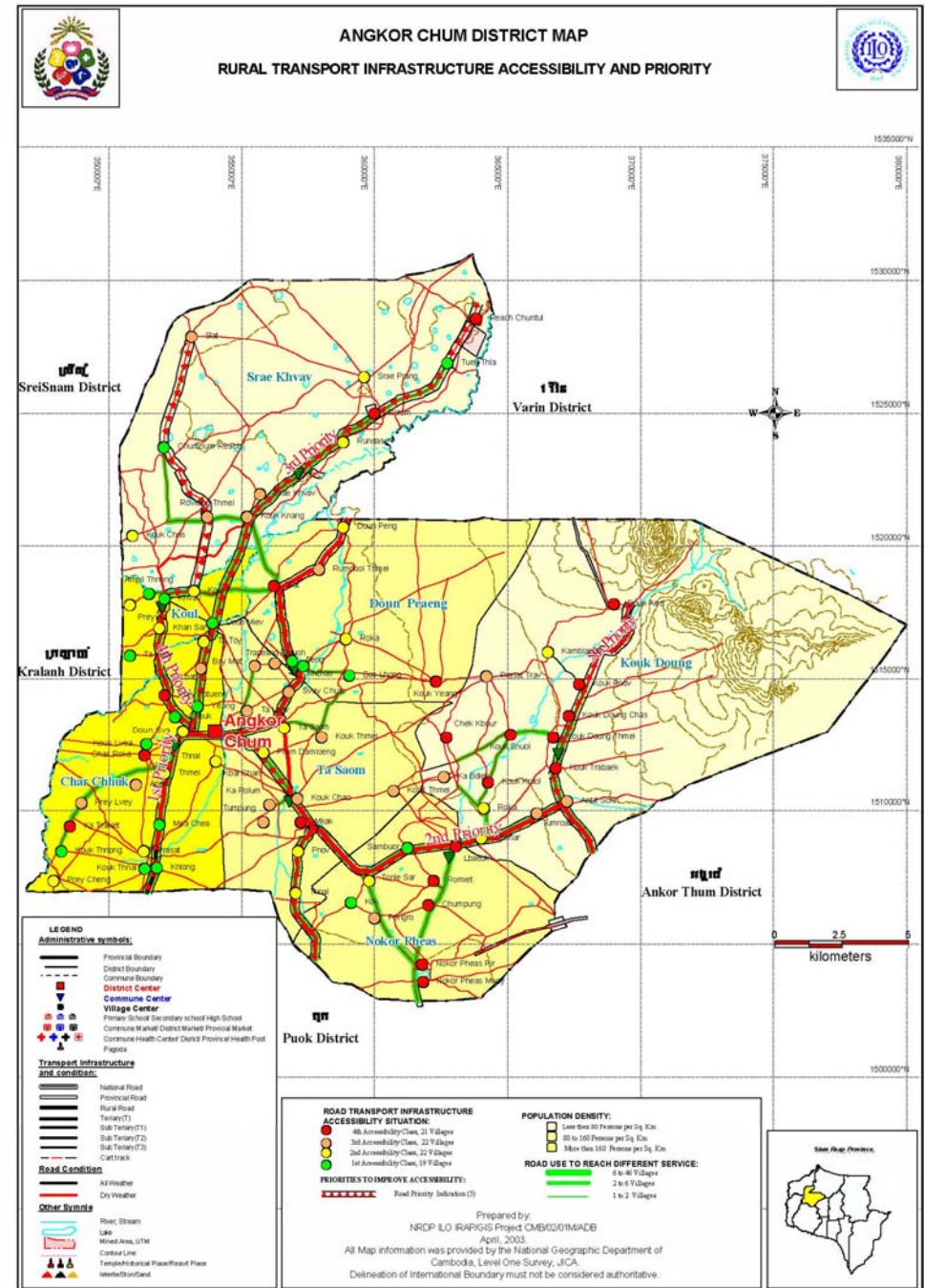


Accessibility Map

Travel Time
Travel Cost
Frequency
Route

Accessibility Classification

- Poorest
- Poor
- Average
- Above Average



Transport Infrastructure Inventory

TII Steps

1

Collecting Secondary data

2

Preparing the draft of Transport Infrastructure (TI) base map

3

Identifying the road link and road

4

Preparing the field survey form

5

Verification of the network in a 1st cluster workshop

6

Verification of the existing network in the field by PDA/ GPS

7

Redrawing of Transport Infrastructure map (GIS)

8

Second verification of the updated TII map in the 2nd cluster workshop

9

Presentation the updated TII map to local officials

10

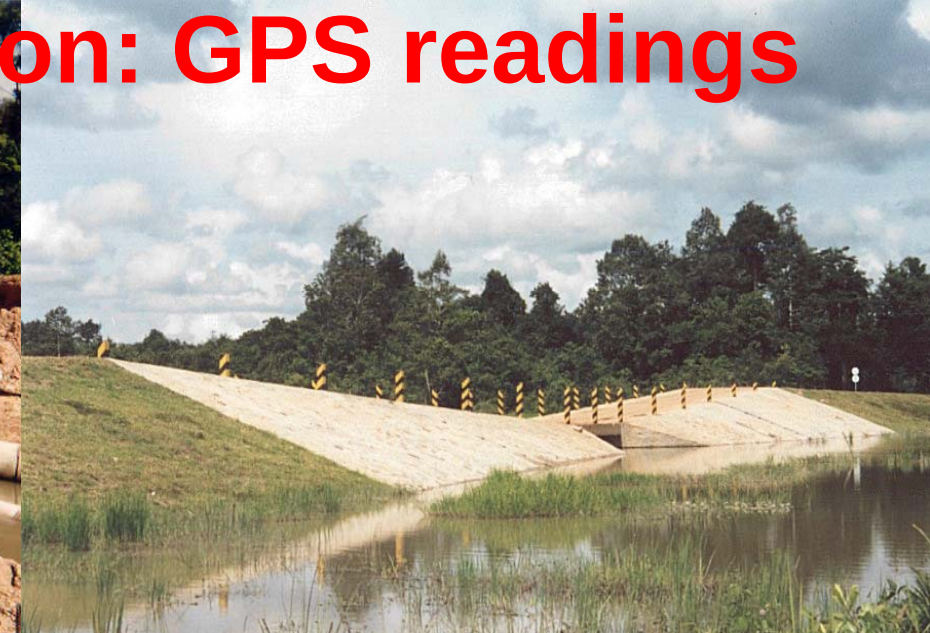
Publication and distribution of final TII map

Field Verification: Workshops





Field Verification: GPS readings



RTI Presentation and Verification



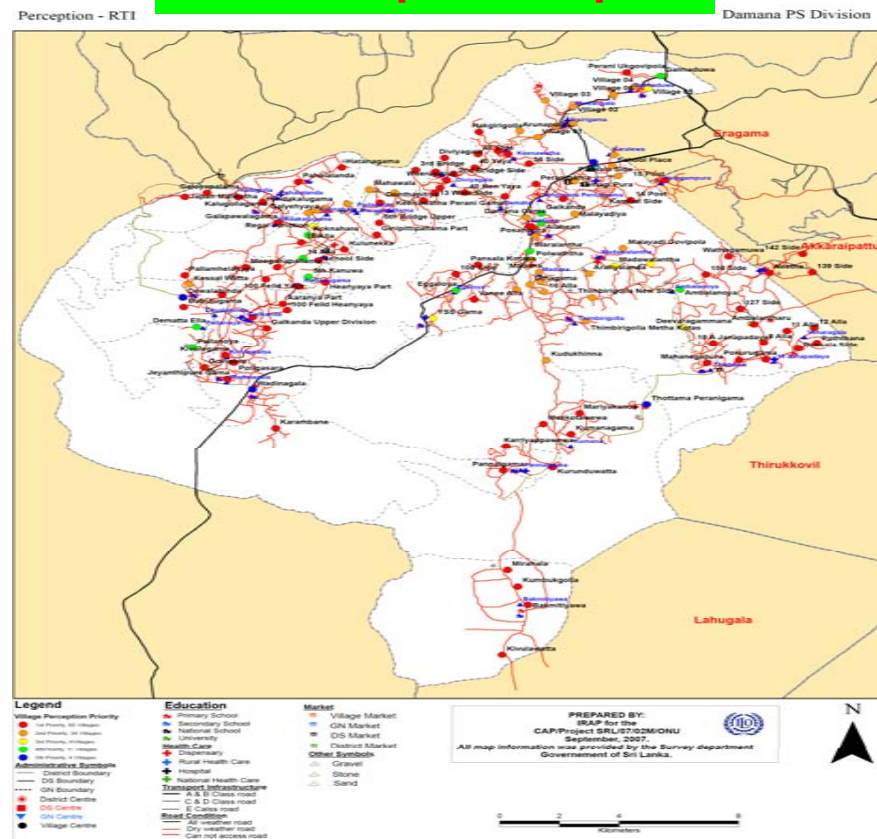
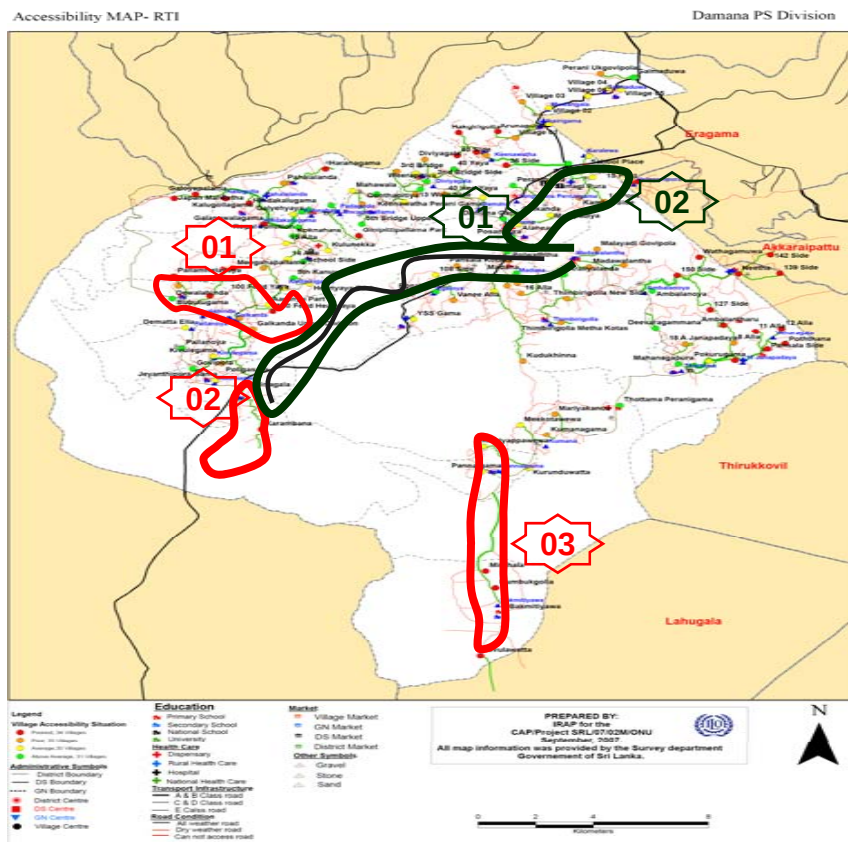
Investment Planning



Example of road prioritization

RTI Accessibility Map

RTI Perception Map



Criteria for Road Sector

- Accessibility Classification
 - Perception Situation
 - Route uses
 - Buffer Zone (rehabilitation)
 - Population Served or village Served
 - Economic potential: agricultural, tourist
 - Connectivity to the DS Division or GN centre
 - Connectivity to bordering DS Division or to the district centre
 - Negative environment impact
 - Local resource availability
2. Km from all-weather road
2. Km from both road sides

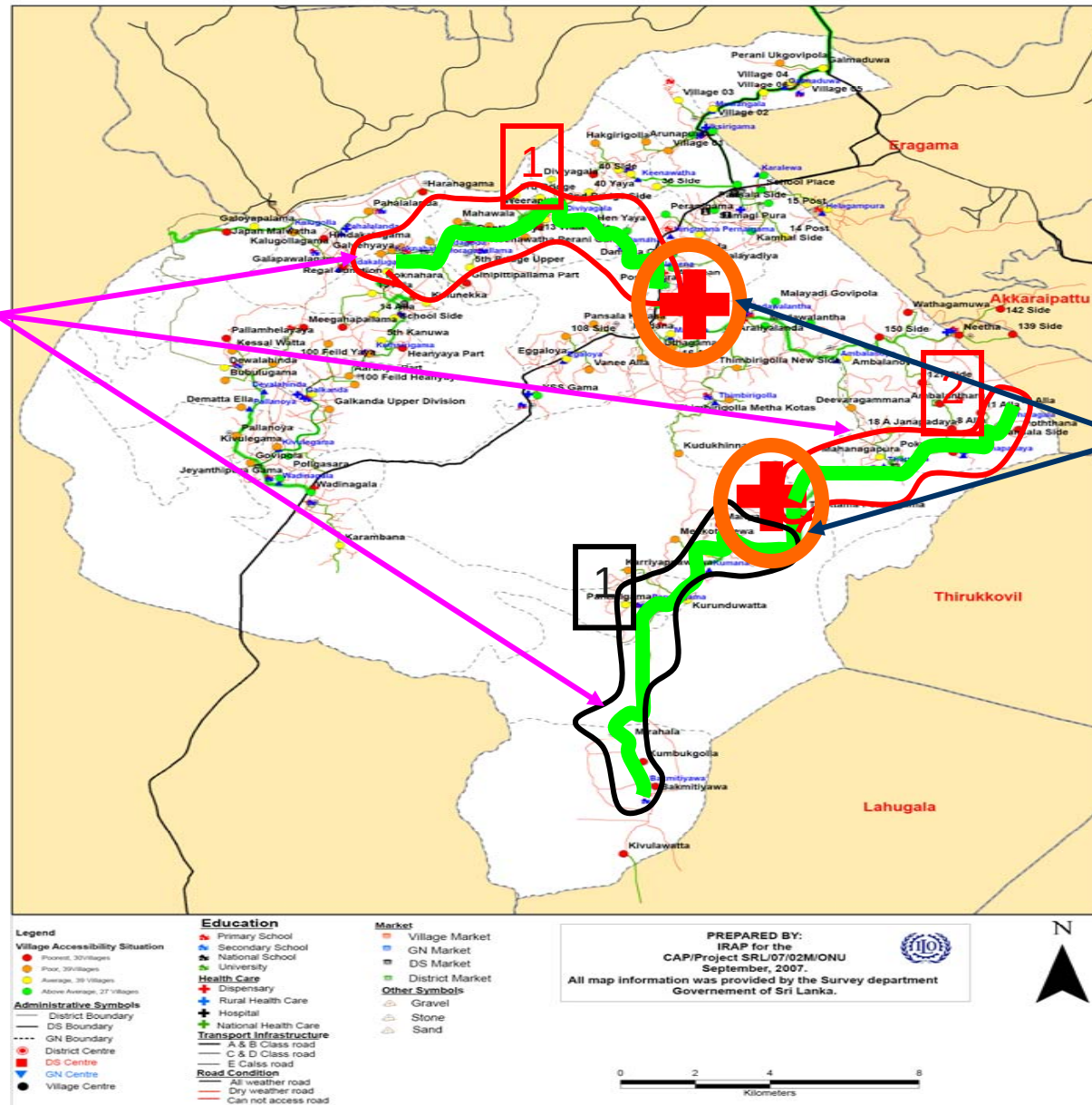
Example of health sector prioritization

Proposal:

Improving
road access
to health
facilities

Accessibility MAP- Health

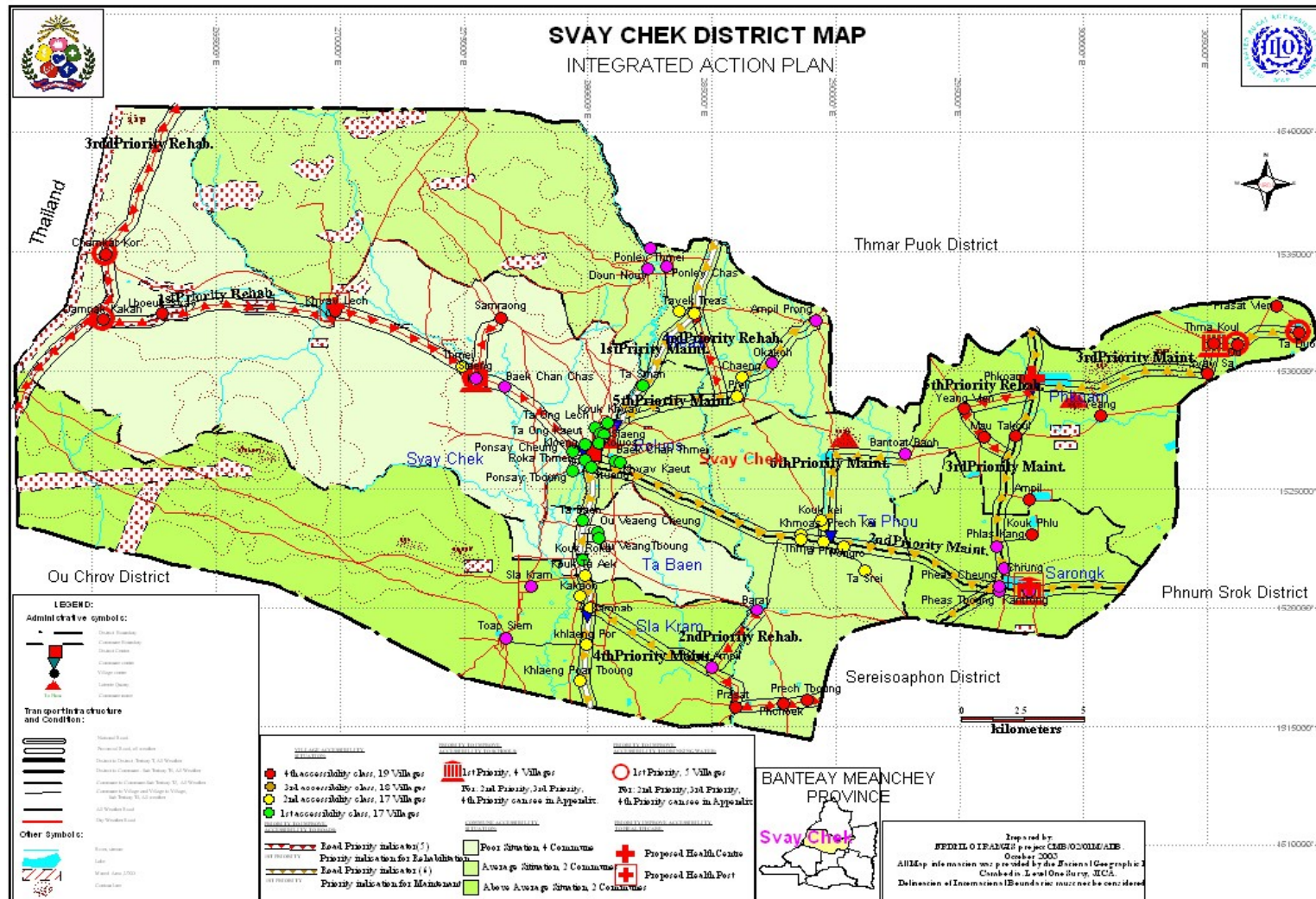
Damana PS Division



Proposal:

Improving
the existing health
facilities
or new
construction

Integrated Action Plan Map



Products of the Planning Process

⇒ **Maps**

⇒ Accessibility Database

⇒ District Accessibility Profile

⇒ **Transport Infrastructure Inventory**

⇒ Accessibility Action Plan:

**Integration of transport sector investments
with other sector priorities**

Cost Estimate of investment requirements for RTI

Implementation Recommendations

Labour and Local Resource Availability for Priority Roads 1, 2 and 3

Road Priority	Labour Availability/km	Local Resource Availability	Recommendations	
			Technology Choice	Surface Option
1	139	Latente	LBAT/MB	Laterite
2	269	Laterite	LBAT	Laterite
3	110	Latente	LBAT/MB	Laterite

Cost Effectiveness Analysis for Priority Roads 1, 2 and 3

Road Priority	Road Category	Population served/km	Rehabilitation Cost (US\$/km)	Financial CE Ratio (US\$/pop)
1	T	345	14,410	42
2	T	691	11,007	16
3	ST3	311	21,456	69

Doekle Wielinga: dwielinga@worldbank.org