Sustainable Access and Resource Solutions

Smart Planning Leads to Smart Decisions

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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

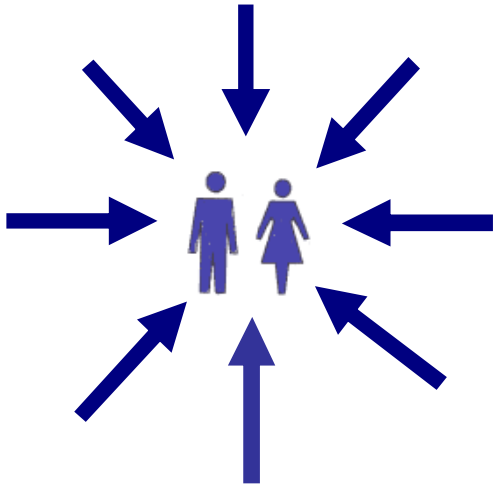
- Participatory planning tool
- Use of GIS, maps and indicators
- Focus on Rural Transport Infrastructure
- Integrated in that it includes economic and social sectors
- Prioritization in Investment Planning
- Includes rehabilitation as well as maintenance
- ➔ roads?/other infrastructure?/services?

Rationale of Using IRAP

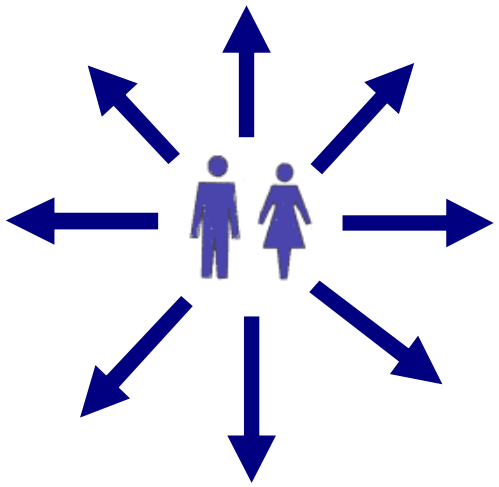
Lack of access of rural people to goods and services is one of the fundamental constraints to development

Improvement to access is a major tool in poverty alleviation

Realizing Access*



LOCATION
of Services and Facilities

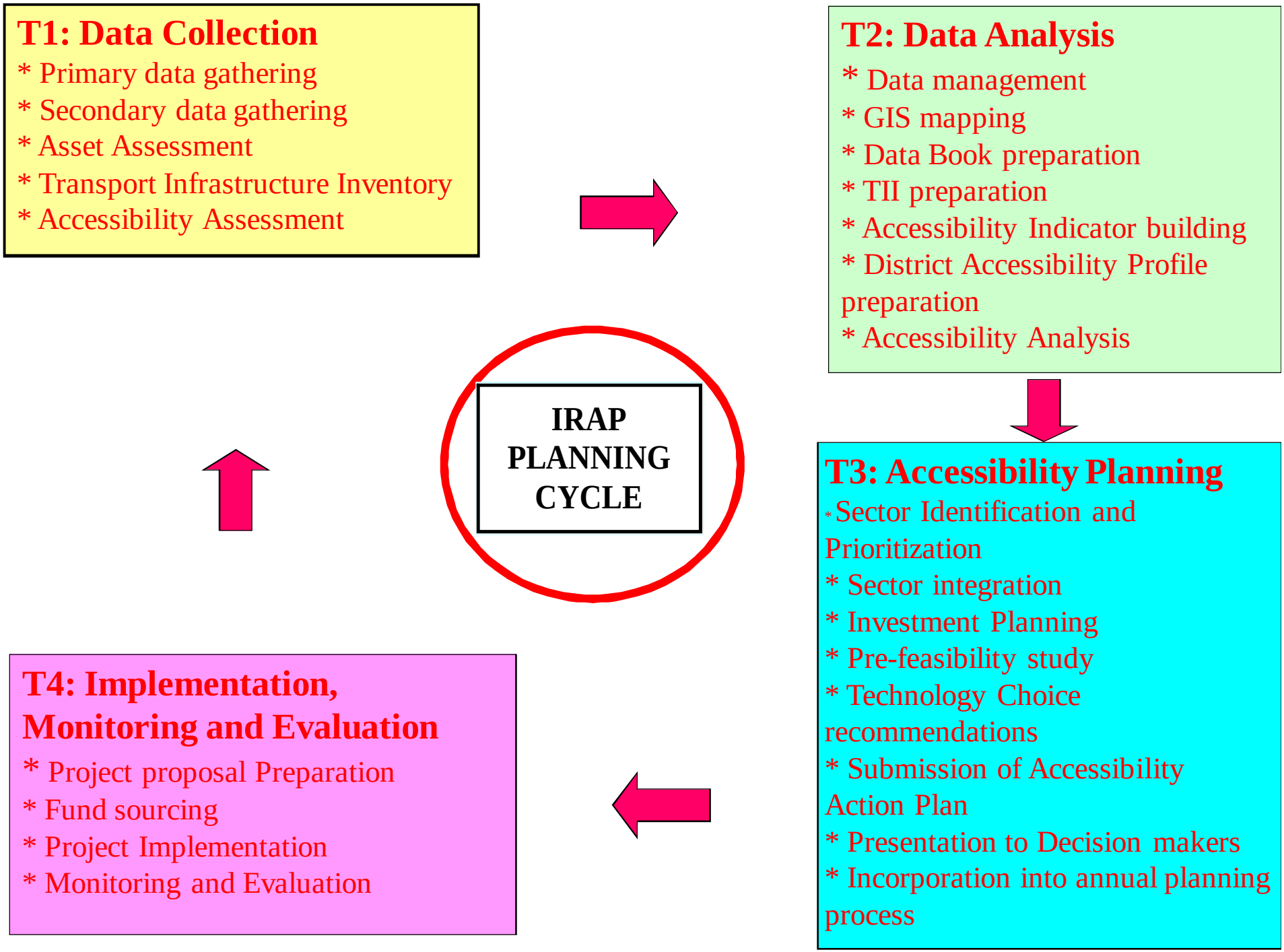


MOBILITY
Improved Transport System

***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
IRAP PLANNING CYCLE
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

Data Gathering Tools

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

Situation Analysis

Situation Analysis

Asset Assessment

- Location
- Quantity
- Condition
- Value

- TII
- School
- Health
- Market
- Water

Accessibility Assessment

- Route to
- Travel Mode
- Travel Time
- Travel Cost
- Frequency

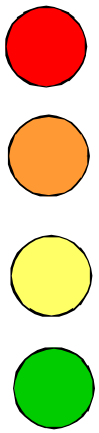
- TI
- School
- Health
- Market
- Water
- Employment
- Perception

Accessibility Assessment

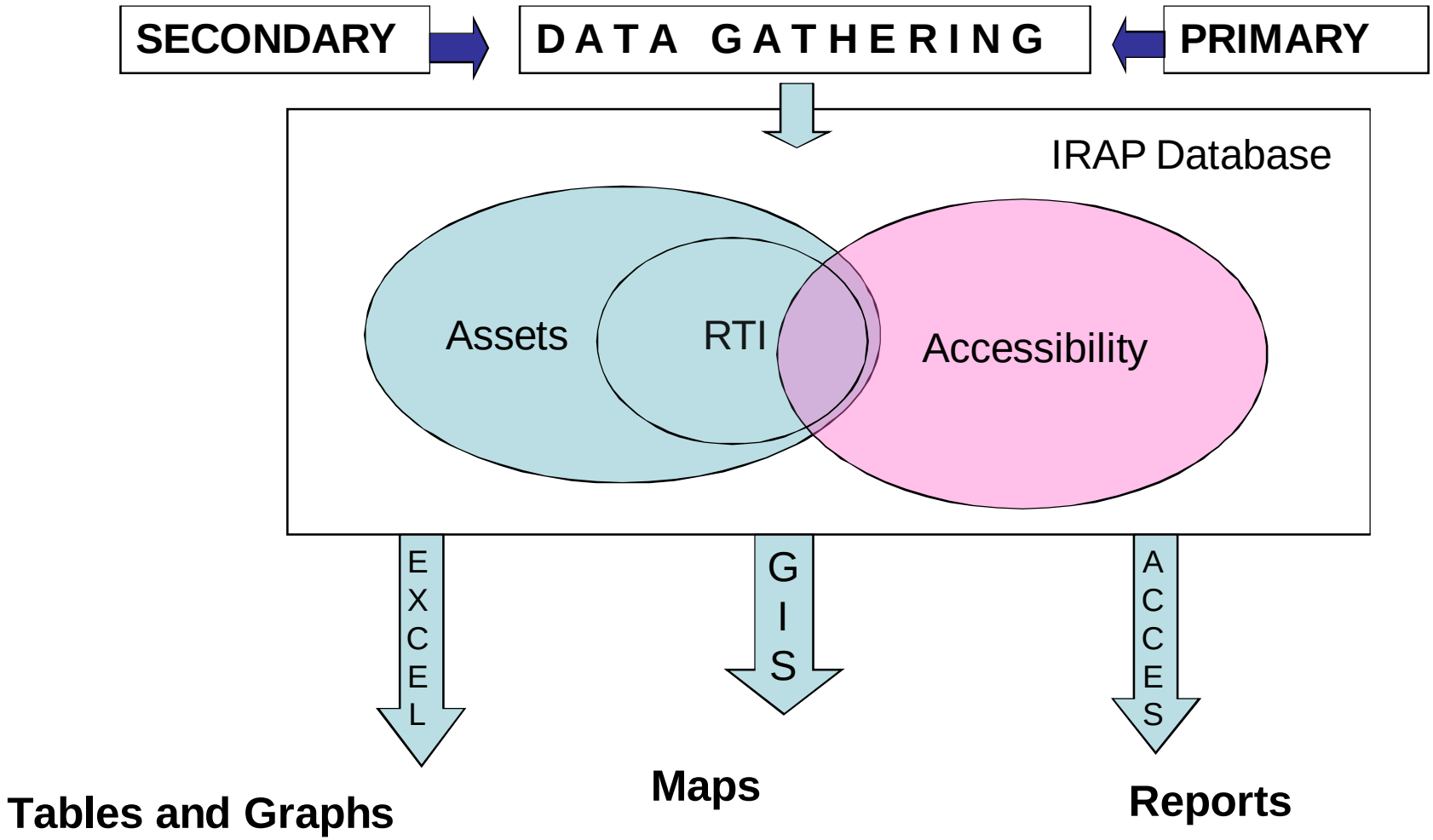
- ✓ ***Safe Drinking Water***
- ✓ ***Schools***
- ✓ ***Health Care***
- ✓ ***Markets***
- ✓ ***Transport Infrastructure***
- ✓ ***Employment***
- ✓ ***(small scale irrigation)***

Accessibility Analysis

Accessibility Classification

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

IRAP Data Analysis

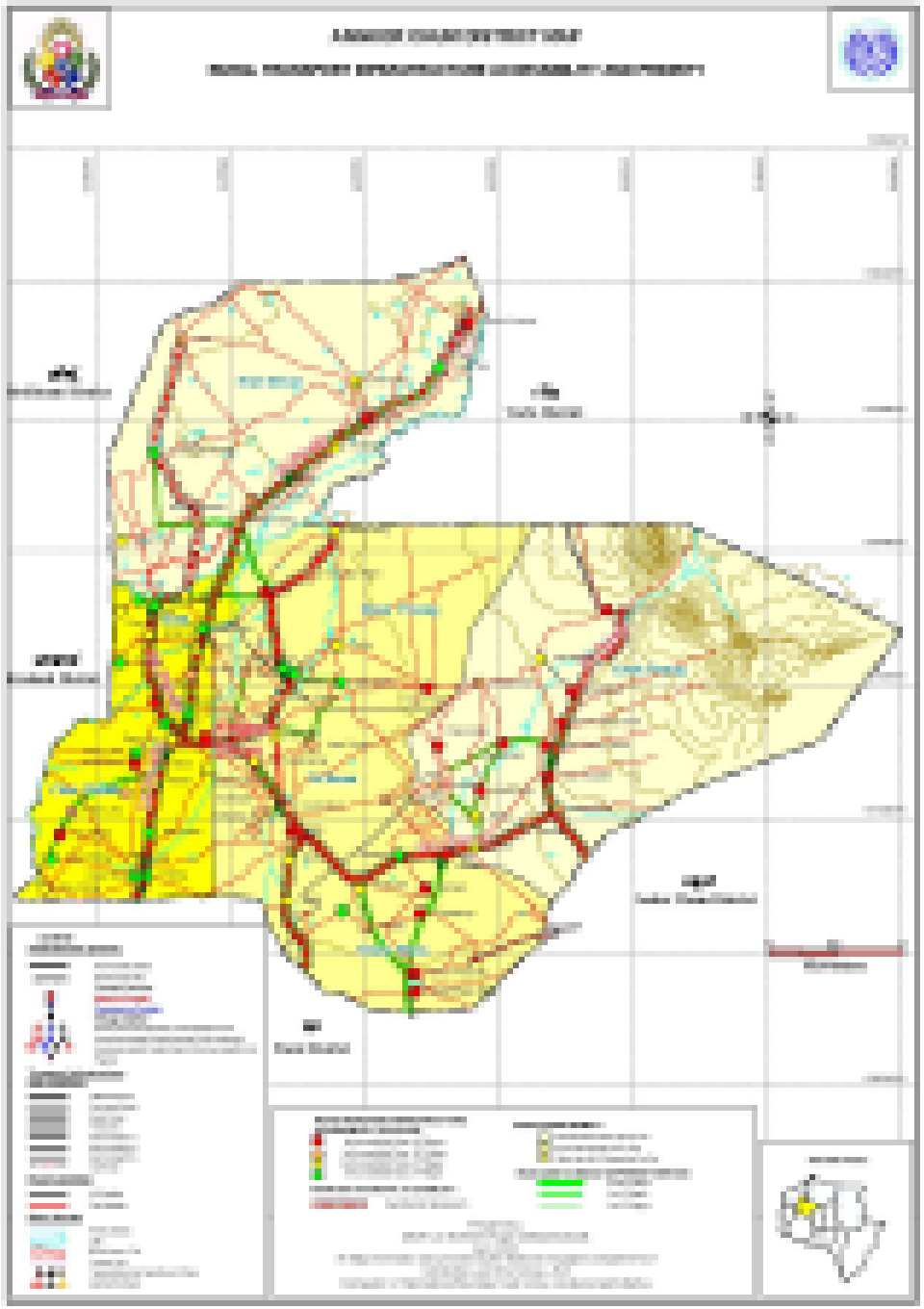


Accessibility Map

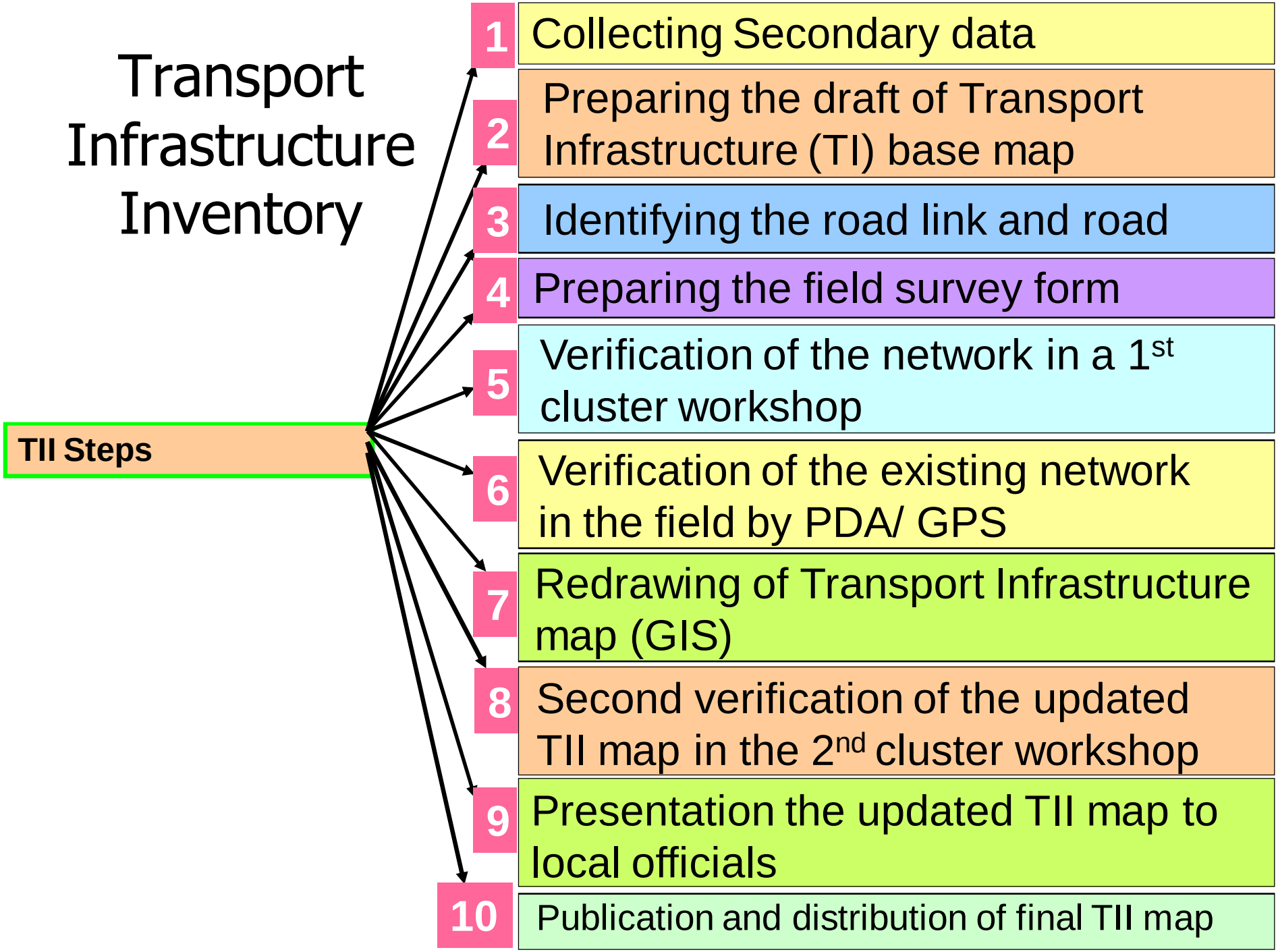
Travel Time
Travel Cost
Frequency
Route

Accessibility Classification

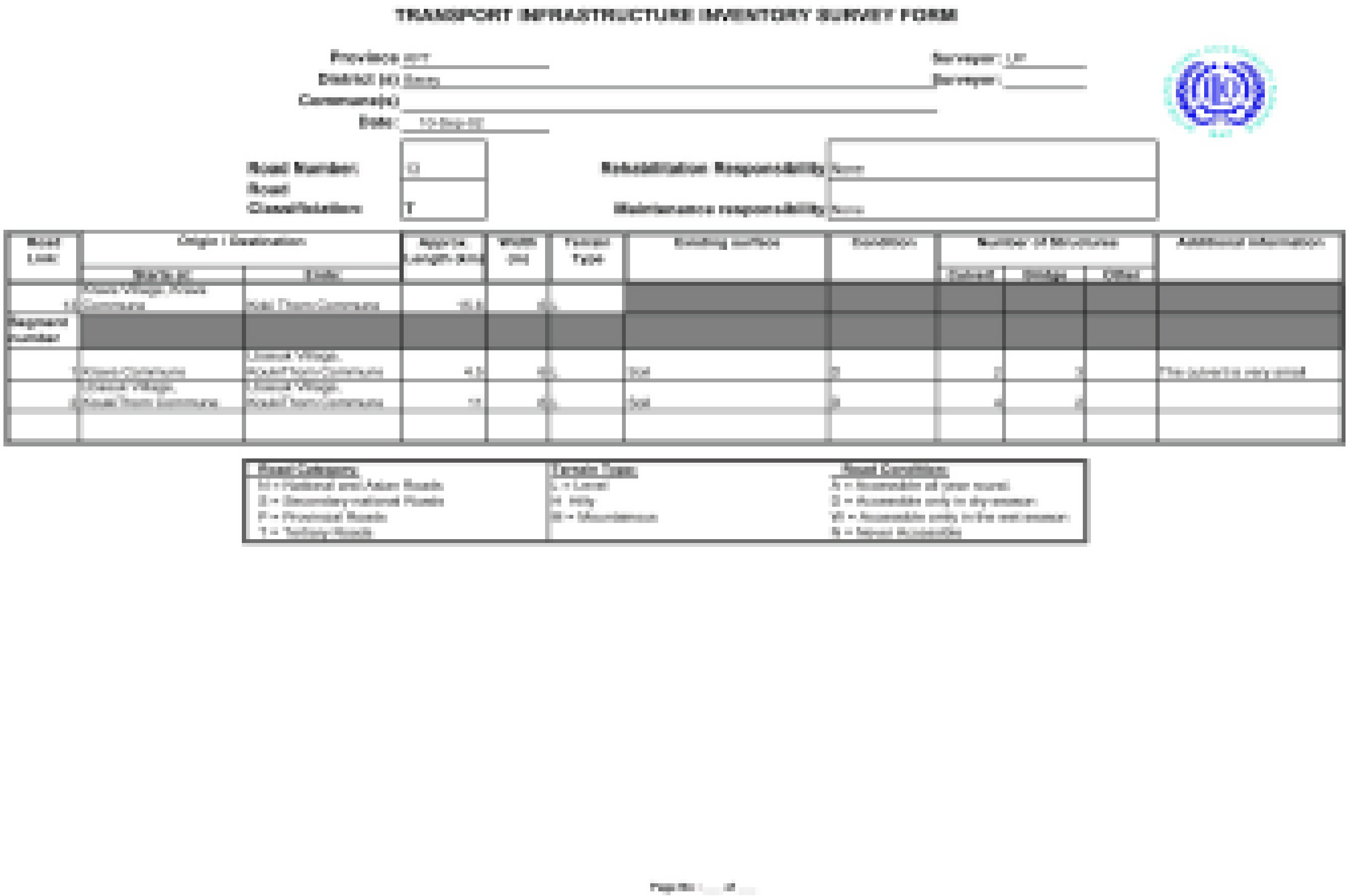
- **Poorest**
- **Poor**
- **Average**
- **Above Average**



Transport Infrastructure Inventory



TII Survey Form



TRANSPORT INFRASTRUCTURE INVENTORY SURVEY FORM

Province: [illegible]
District (s): [illegible]
Commune(s):
Date: [illegible]
Surveyor: [illegible]
Surveyor:

Road Number: [illegible]
Road Classification: T
Rehabilitation Responsibility: None
Maintenance responsibility: None

Road Link	Origin / Destination		Approx. Length (km)	Width (m)	Terrain Type	Existing surface	Condition	Number of Structures			Additional information
	Starts at	Ends						Culvert	Bridge	Other	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]							
Segment number											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Soil	[illegible]	[illegible]	[illegible]		The culvert is very small
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Soil	[illegible]	[illegible]	[illegible]		

Road Category:	Terrain Type:	Road Condition:
N = National and Asian Roads	L = Level	A = Accessible all year round
S = Secondary national Roads	H = Hilly	D = Accessible only in dry season
P = Provincial Roads	M = Mountainous	W = Accessible only in the wet season
T = Tertiary Roads		N = Never Accessible

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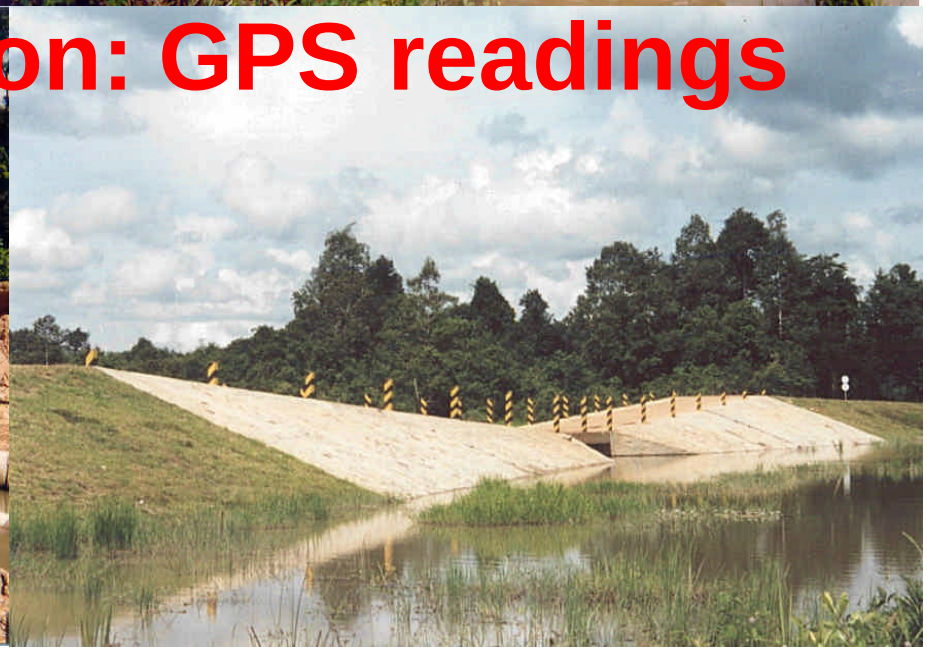
Field Verification: Workshops

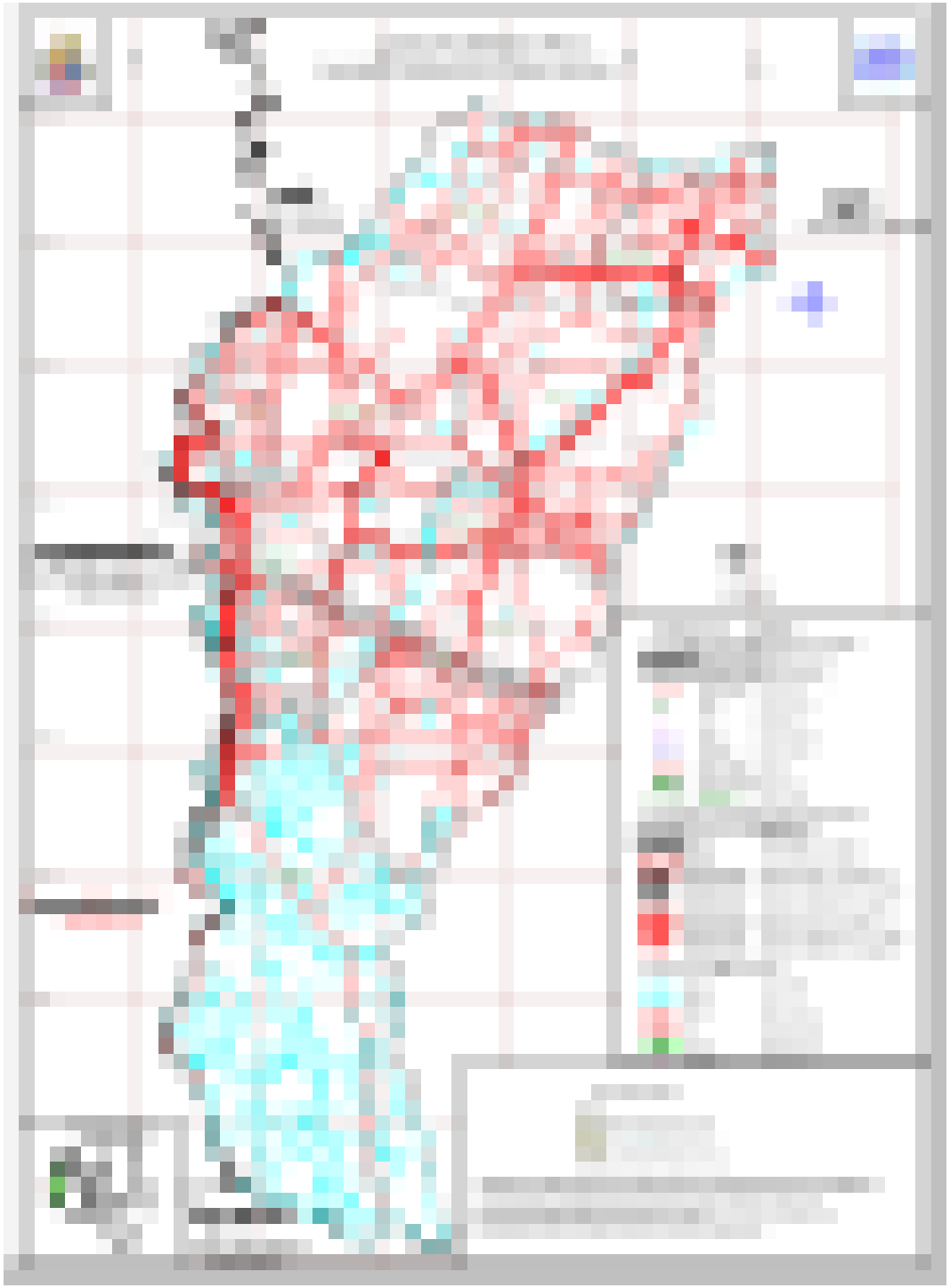
Field Verification: GPS readings



RTI Presentation and Verification

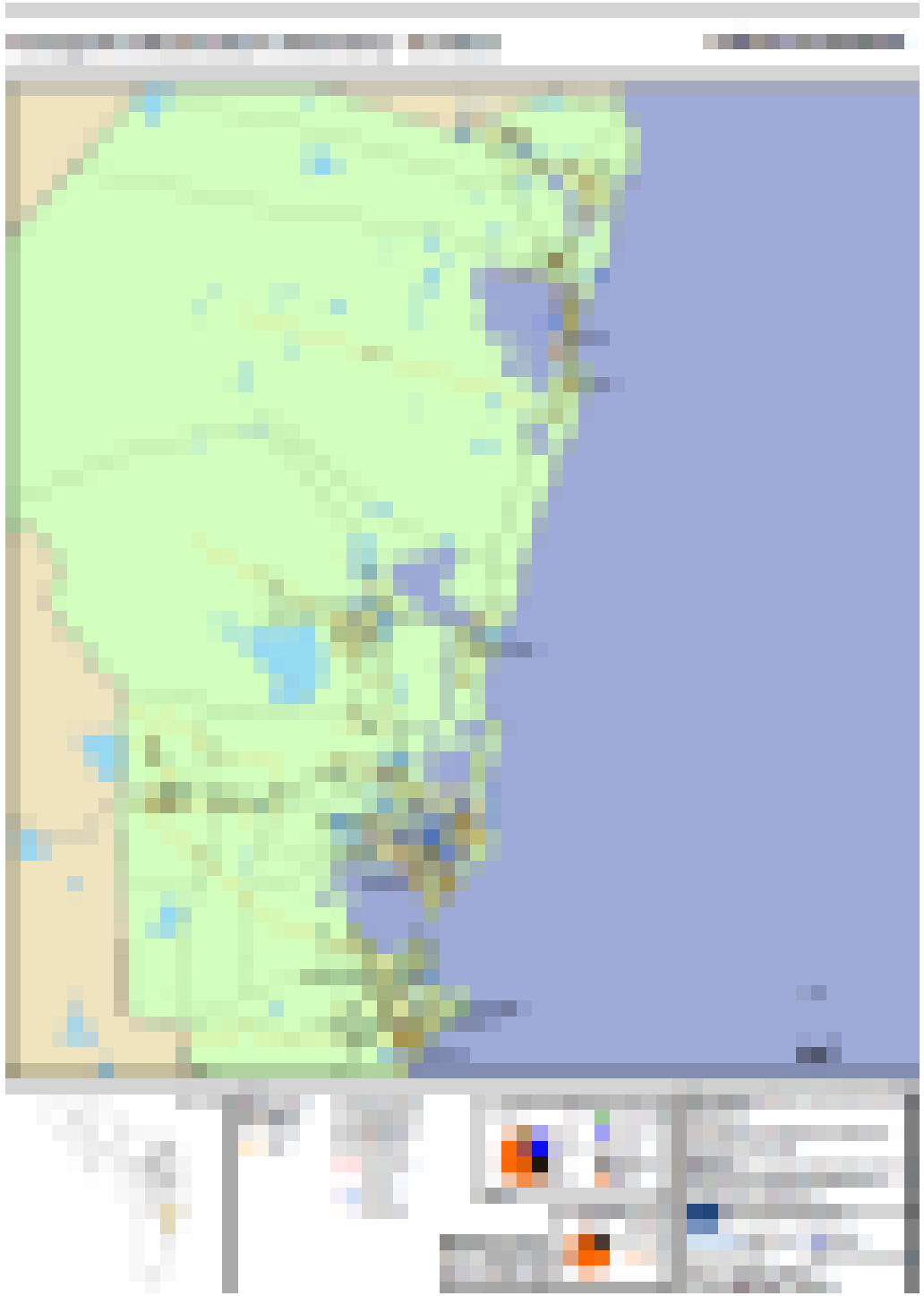
Example:

Kralanh District
Cambodia

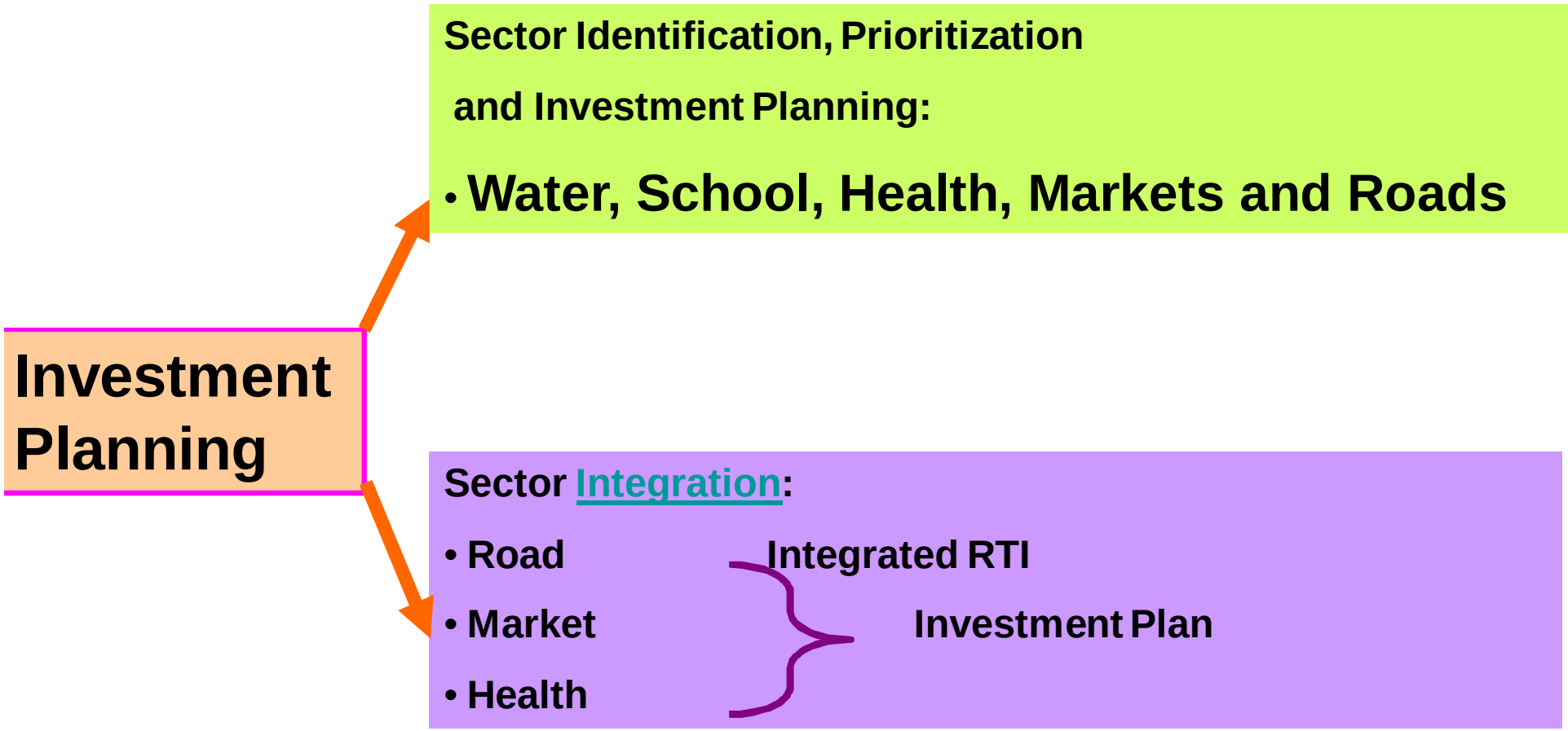


Example:

Pothuvil PS
Sri Lanka

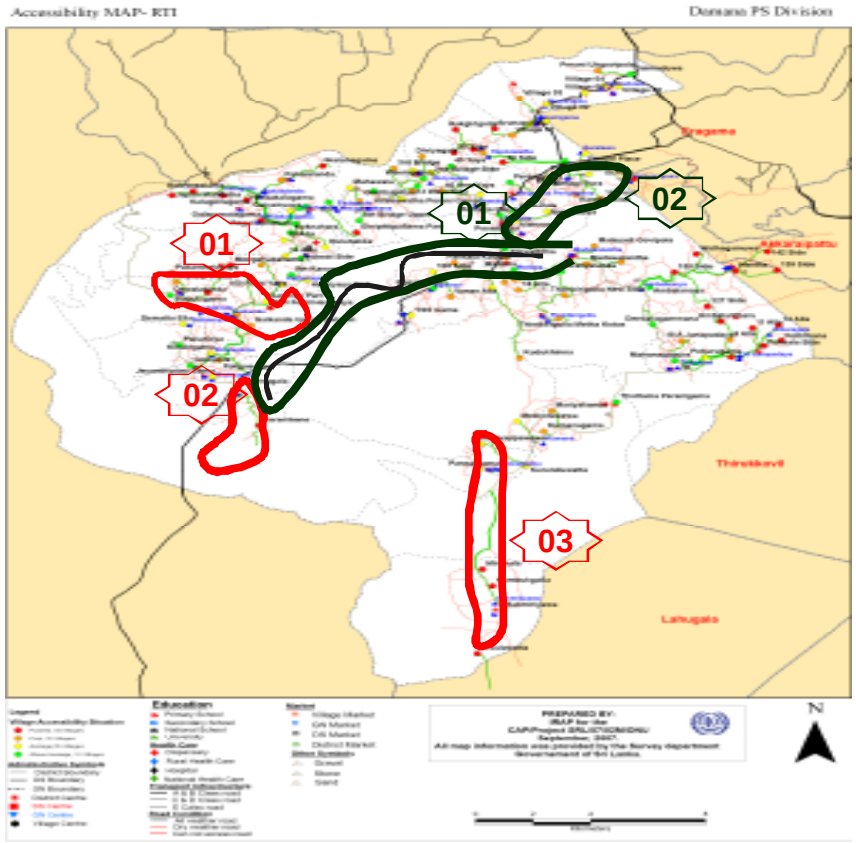


Investment Planning

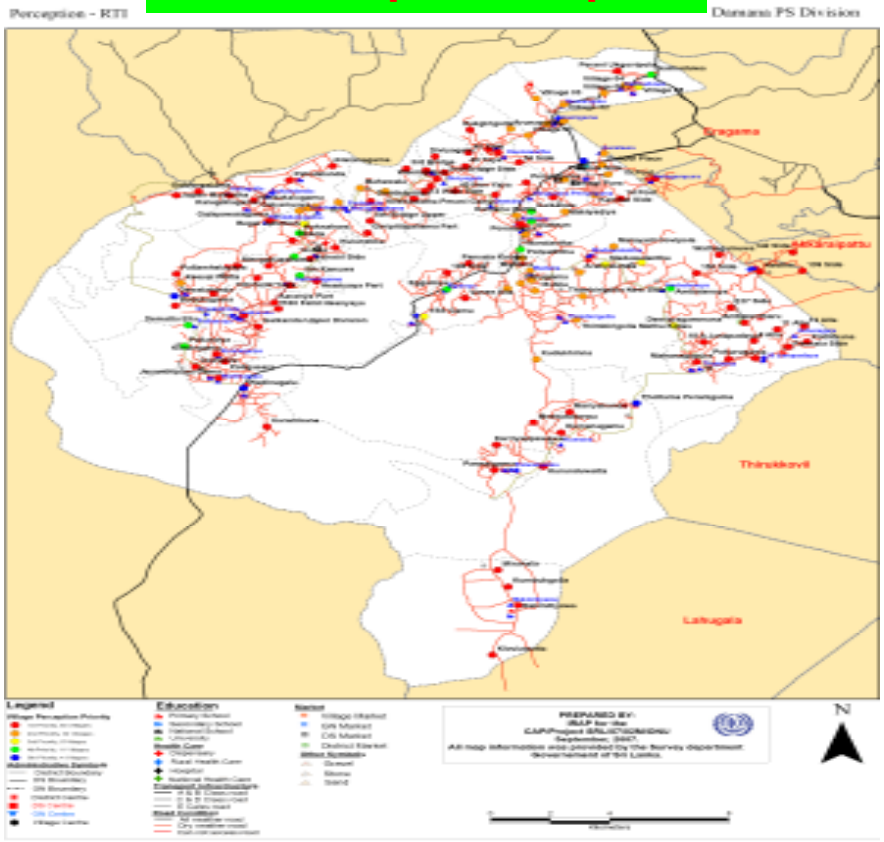


Example of road prioritization

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

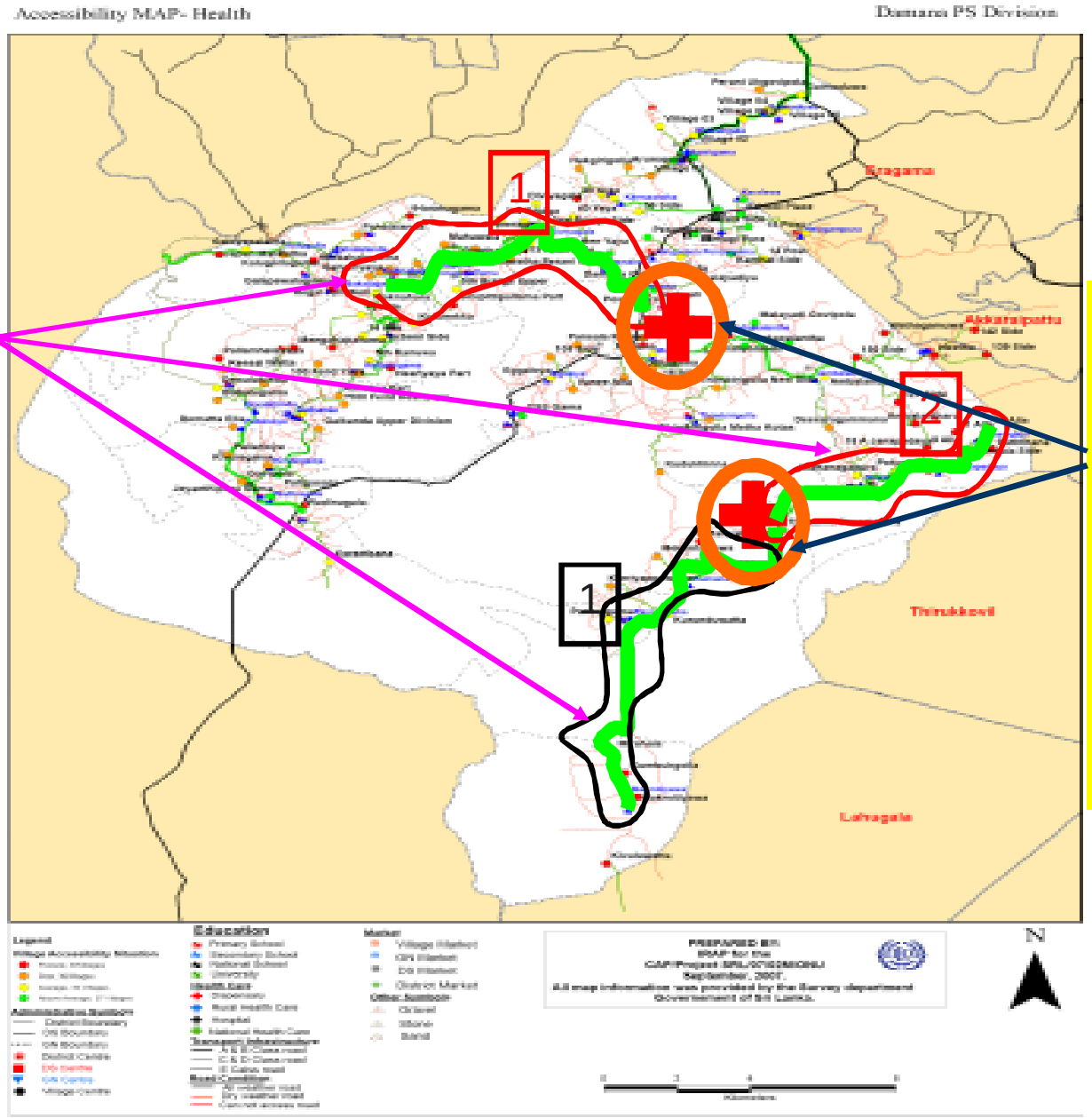
Proposal:

Improving

road access

to health

facilities



Proposal:

Improving

the existing

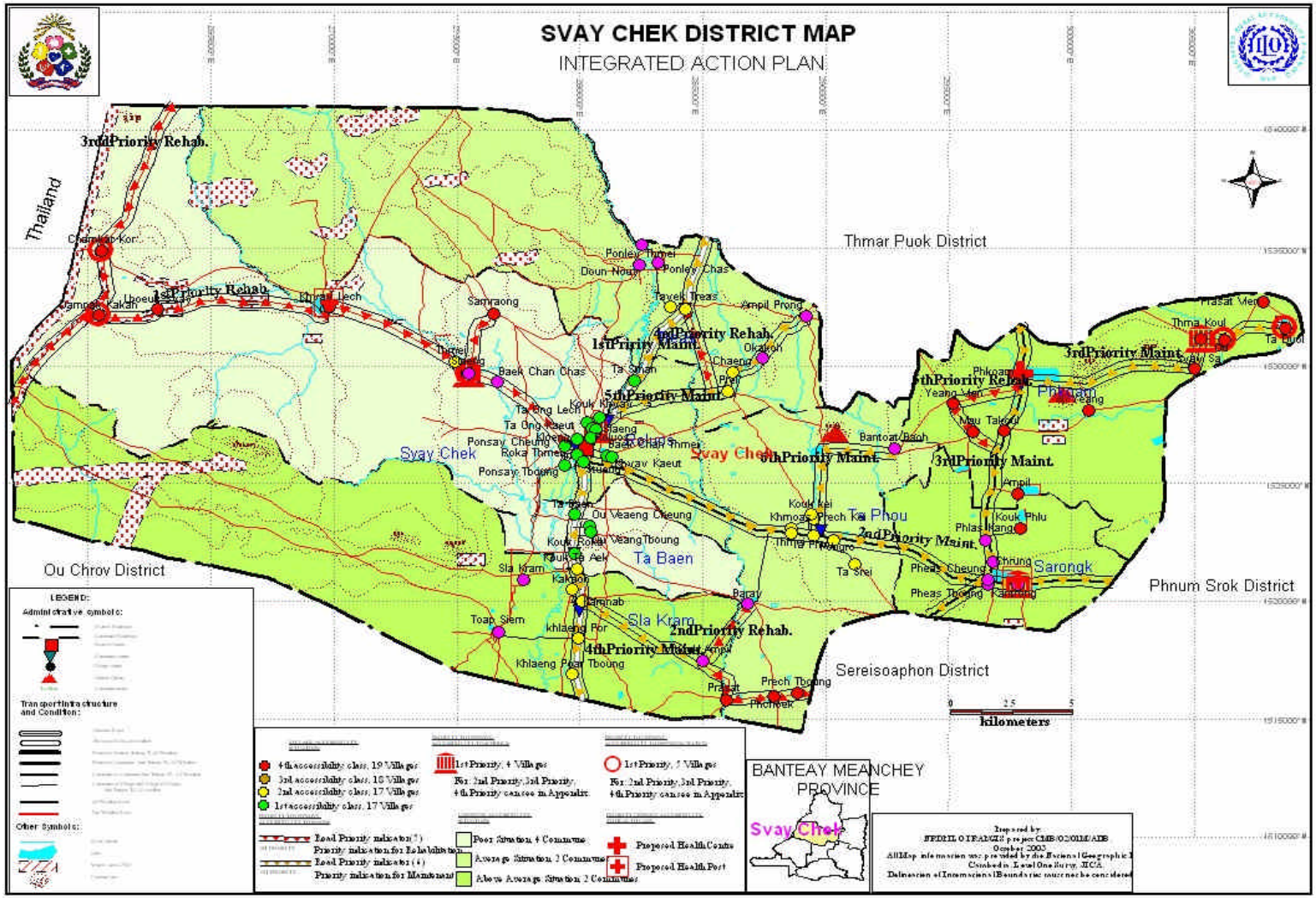
health

facilities

or new

construction

Integrated Action Plan Map

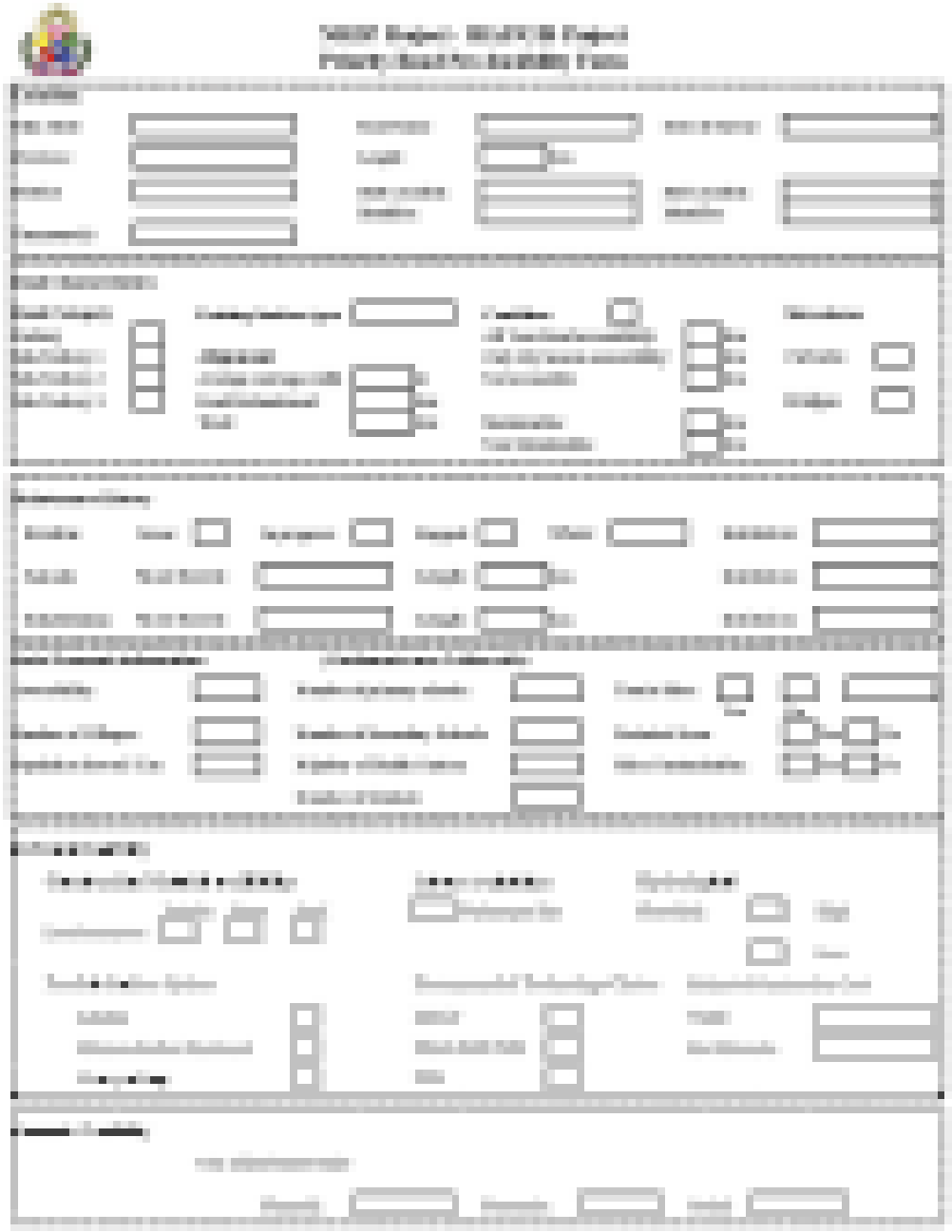


Products of the Planning Process

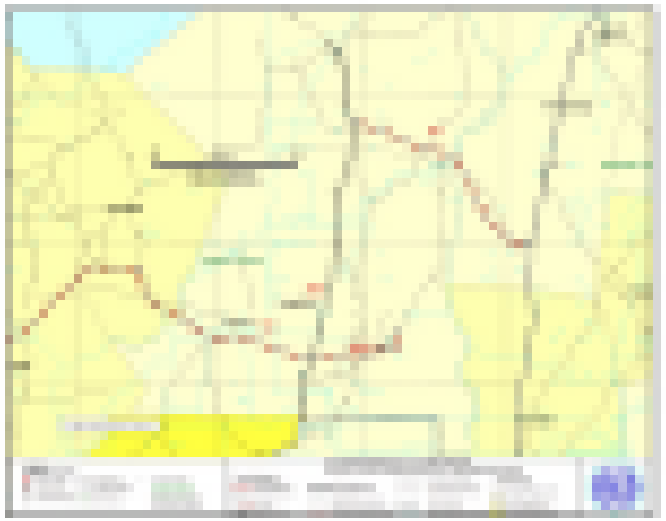
- Maps
- Accessibility Database
- District Accessibility Profile
- **Transport Infrastructure Inventory**
- Accessibility Action Plan:
  - **Integration of transport sector investments with other sector priorities**
  - *Cost Estimate of investment requirements for RTI*

Transport Infrastructure Inventory and Prioritization

- Road Network Classification
- Road Network Analysis
- Local Resource Analysis
- Maintenance and Rehabilitation Prioritization



Pre-Feasibility Study



Priority Roads
1,2 and 3

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	Laterite	LBAT/MB	Laterite
2	269	Laterite	LBAT	Laterite
3	110	Laterite	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

The Way Forward:

IRAP addresses the planning part of the development cycle

This is only part of the solution

Efforts needed to work towards a sustainable Transport Infrastructure Management System (TIMS)

TIMS = Comprehensive System to manage transport infrastructure that includes (capacity to manage):

- Planning
- Budgeting
- Financing
- Local Resource Based Implementation
- Standards
- Monitoring

Rationale of TIMS - 1

- To involve rural communities in the prioritisation of rural transport and other rural infrastructure investments (IRAP role);
- To provide a rational prioritisation between road and other rural infrastructure investments and services within investment and recurrent budgetary constraints;
- To ensure that local-resource-based approaches are properly considered, to the optimum benefit of the communities and to ensure sustainability;
- To mobilise community, government and other contributor's resources equitably and effectively;

Rationale of TIMS - 2

- To monitor rural transport infrastructure expenditures to all stakeholders in a transparent and cost effective way;
- To allocate transport infrastructure maintenance resources rationally and cost effectively to rural roads;
- To prioritise and provide cost estimates for candidate road locations and sections for upgrading (effectively a "spot improvement" basic access approach to maximise the impact of limited resources);
- To provide confidence to stakeholders that all expenditures are cost-effectively administered;
- To monitor and evaluate the impact of TIMS.

Thank You!