Whole-of-Country Approach to Rural Transport – Indian Experiences
Why Whole-of-country Approach

■ About a billion of World Population lacks adequate transport connectivity
  – And there are many more who have lost it due to lack of maintenance

■ About US$95 trillion needed for infrastructure to meet SDGs

■ Transport is not just about building roads, it is about
  – social and economic integration of people - for better income, jobs, SDGs
  – Providing them regular access to markets, growth opportunities, and services

■ We need a whole-of-country approach to produce impacts on scale
  – integrating transport and development, various modes, programs, funding sources, geographical regions, institutions, and stakeholders
Many challenges by there is a way forward

**Challenges**

- Implementation delays
- Congestion
- Neglect of maintenance
- Inadequate monitoring
- High Costs
- Missing Bridges
- Difficult terrains
- Land Issues
- Floods & Natural Calamities
- Outdated practices
- Limited capacity
- Big infrastructure deficit
- Scattered Population
- Lack of coordination
- Unutilized potential of waterways

**Way forward**

**Identifying 6 Focus Areas**

1. Strengthen policy and Financing framework
2. Modernize transport institutions for high performance
3. Integrated planning for optimal use of various transport modes
4. Effective delivery of transport Infrastructure
5. Maintenance of build infrastructure
6. Attention to transport services, safety, climate change and logistics
Typical Example of Whole of Country Approach

Integrated transport development Plan
Innovations in infrastructure delivery: Climate Resilience
Effective Asset Management

A well connected, efficient, good quality, transport system

Sound sector polices and financing framework
High performing institutions: Increased human capital
Efficient transport operations: Services, safety

Middle Income Meghalaya
More jobs, better income and SDGs
- Case study of PMGSY

- A US$ 40 billion national level rural roads program
  - Main source of funding diesel cess
  - Started in 2000 as part of GOI poverty reduction strategy
  - Objective: all-weather road access to all habitations above 500 (250) population
    - About 560,000 km roads delivered and 145,000 habitations connected

- Structured framework of delivery
  - Standardized procedures for project delivery
  - Three tier quality assurance mechanism
  - On-line Monitoring and Management and Accounting System
  - Five year inbuilt maintenance provision in civil contracts

- Partnership at national, sub-national, and local levels, and citizens
- Continued improvement and enhancement culture
World Bank Engagement in PMGSY

Supported many good practice examples and governance changes: core network, ESMF, Operations Manual, Procurement and contract management, maintenance, capacity building, R&D, technical documents
Policy and Financing Framework

■ Policy Effectiveness
  - *Rural Roads Vision 2020*
  - *Rural Road Policy Framework*
    ■ National and State
  - *National Maintenance policies*
  - *State Level Maintenance Polices*
  - *Road Sector Modernization Plan*

■ Financing Framework
  - Cess on Diesel and Petrol
  - *Maintenance Funds*
  - *Market Fess*
  - *Multilateral Funding*
  - Government Budgets
  - Financing framework for maintenance yet to be strengthened
Integrated Transport Network Development Plans

- Integrated transport planning for various transport modes
  - Air, railways, roads, waterways, local paths, and foot-bridges
  - Reducing logistics costs from 14 percent to 10 percent of GDP
  - For optimal performance of economy and social services
    - agriculture, industries, business
    - Social services – health, education, social welfare
    - Governance, law and order
    - Regional integration and international trade

- Optimizing network efficiency
  - Internal and national corridors
  - Primary, secondary, tertiary, and local network
  - Network is often non-coherent and fragmented
Optimal network for rural roads

PMGSY Core Network
Design Innovations to save about 20 percent Costs

IRC SP72
Guidelines for Low Cost Surface Treatment

Best Practice Guide for Design and Construction of Hill Roads

Innovative Designs of Bridges and Culverts
Design innovations

- Sand deposited due to floods
- Marble dust
- Local materials and industrial byproducts
- Kota stone
- Moorum
Pre-Cast Bridges and Culverts
Increasing Green Cover

- Road Side plantation
- Use of bio-engineering measures for slope protection and erosion control
- Preservation of top soil and rehabilitation of borrow areas
Effectively Managing the Rural Road Assets

Fund Utilisation (Rs. in crore)

Assam Public Works Department Roads Asset Management Plan
Road Data Collection - Hawkeye

- DGPS
- Digital Cameras (2)
- Pavement and R-O-W
- DMI (Distance Measuring Instrument)
- Laser Profiler (2 Wheel Paths)
# Vision, Strategy and Action Agenda for Entire State Road Network

## Annual and Multi Year Fund Requirement (INR crore), At 2016 Prices

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Effective Institutions

National and State level Rural Road Development Agencies

Partnerships between national, state, and local governments, and academic institutions and stakeholders

Grievance redressal – my sadak app

On-line Monitoring, management, and accounting systems

Human resources professional development agency

Well defined engineering and business procedures

Focus on research and new ways of doing business
Engineering and Business procedures
ROAD SAFETY ACTION PLAN
FOR RURAL ROADS IN BIHAR

2017-2022
Mainstreaming Gender

- Gender Based Employment Opportunities
- Maintenance contracts implemented through women self help groups
- Studies on Improved Rural Transport Services for Women
Challenges and possible Enhancements

- Inefficient program delivery specifically in low capacity states
  - Delays in procurement and execution of works, quality issues, low value for money
- High unit costs: Inefficient designs, behind the time technologies
- Growing but still inadequate attention to maintenance
- Low Institutional Effectiveness
- Limited coverage: exclude small habitation, major bridges, existing network deficiencies
Rural Roads Sector Evolution

Pre PMGSY

- Strong Political Support
- Inefficient sector management
- Low Value for money

PMGSY Now

- Organized framework
- Core network
- Design innovations
- ESMF
- E-procurement
- Contract Management
- 3 tier quality system
- Maintenance focus
- OMMAS
- Capacity Building
- Partnerships

Future

- Network efficiency
- Green and climate resilience roads
- Construction focus to manage the assets
- Improved institutional effectiveness
- HRD Development Strategy
- Center of excellence
- Better performance of low capacity states
- Expanding PMGSY framework to non-PMGSY roads
- Road Safety
- Transport services/agri. supply chain
- Use of IT based tools
- Strengthening partnerships
- Readiness for PMGSY III
- Harnessing private sector capacity
- Gender
A well connected, efficient, and safe transport system in a cost-effective way … unlocking underutilized growth potential … 8 percent economic growth…. high middle income Meghalaya

Currently we are only 20 percent there
THANK YOU

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