

Capacity Building for Standards in India's Transport Sector

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Surface Transportation Sector

- Roads & bridges – National Highways, state & district roads, urban roads, rural roads
- Railway system – tracks and bridges
- Inland water transport – ports, jettys
- Coastal water transport – ports, jettys, other coastal structures
- Infrastructure is developed under tremendous variations in conditions
 - Himalaya
 - Desert
 - Coastal, etc.

Requirements

- To **conceptualize** infrastructure projects considering various factors – Technical, financial, social, etc.
- To **plan** infrastructure projects – Considering technical, financial, etc.
- To **implement** infrastructure projects – Considering technical, financial, legal, etc.
- To **monitor, maintain & upgrade** infrastructure – Considering technical, financial, social, etc.

Capacity Requirement



Current Status – Conceptualization & Planning

- Conceptualization & Planning of major infrastructure projects in India mainly politically-driven decisions
- Other factors such as technical, financial, social, environmental play supporting roles
- The leadership roles in conceptualization & planning are almost entirely with political system
- Technical and financial leaderships provide supporting role

Conceptualization and planning of infrastructure can be further improved through capacity development among technical and financial leaderships

Current Status – Project Implementation

- Project implementation has several stages
 1. Preparation of Detailed Project Report (DPR)
 2. Development of financial model
 3. Preparation of detailed design based on DPR
 4. Implementation of detailed design
 5. Quality assurance and quality control during project implementation
 6. Maintenance and upgradation during project life cycle

Standards cover only some stages

- *Mainly pertain to engineering aspects*

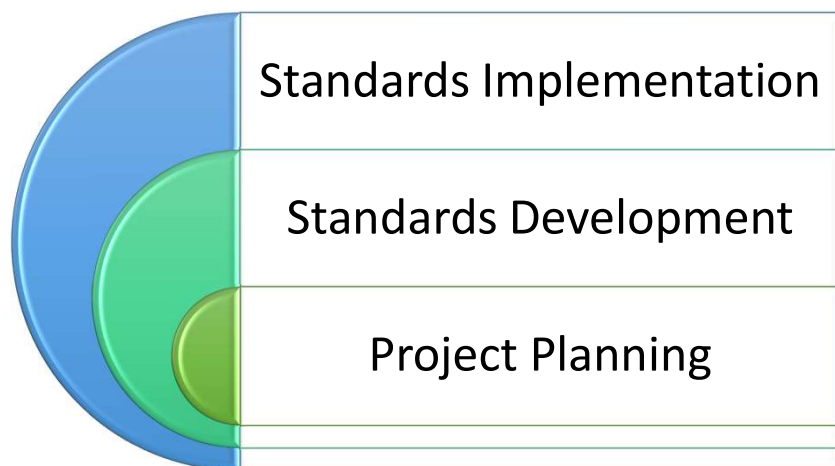
Standardization Successes

- A number of standards have been developed by various bodies on technical aspects of transportation infrastructure
 - Bureau of Indian Standards
 - Indian Roads Congress
 - Research Designs & Standards Organisation
 - Automotive Research Association of India
 - etc.

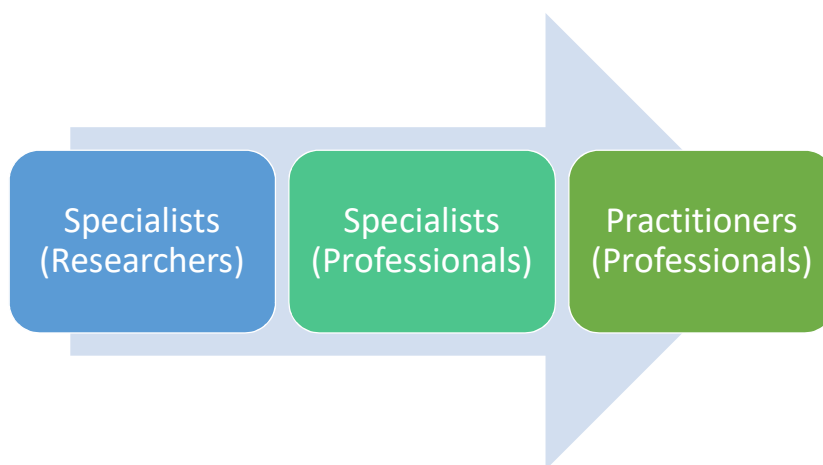
Capacity Development Challenges

- Whose capacity development?
- On what aspects?
- Global domain knowledge vs local conditions
- Standards development & updation capacity
 - Localization for Indian conditions
- Capacity to implement standards
 - By professionals
 - By skilled workmen
 - By semi-skilled and unskilled workmen

Capacity Development Requirement for Standards

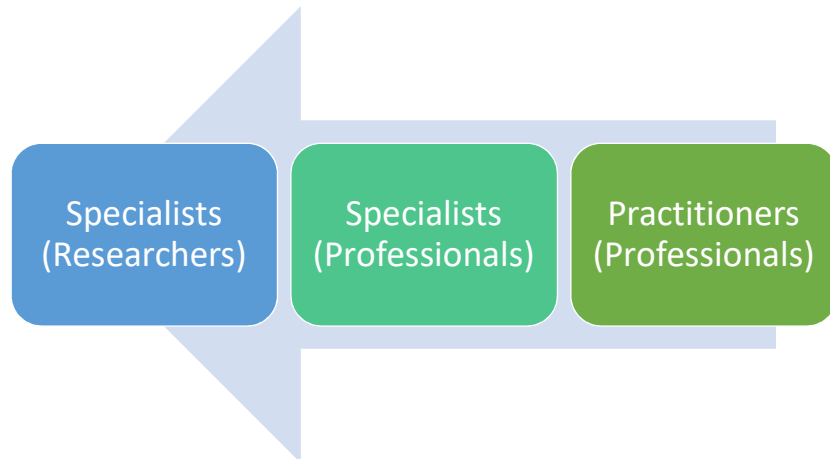


Standards Development



Standards development requires active involvement of all three

Standards Implementation



Involvement direction reverses to provide feedback on Standards

Key Questions for Capacity Development

- How can technical and financial factors be mainstreamed in project conceptualization and planning?
- Who should be involved in Standards development and their implementation for Transportation Sector?
- What professional development strategies are required to improve Transportation Sector planning and implementation ecosystem?

Thank You