

# FINANCIAL STRATEGY FOR THE NATIONAL SPATIAL DATA INFRASTRUCTURE

*Gopal N. Sarma*

**Feedback Strategic Consultancy Services (P) Ltd.**

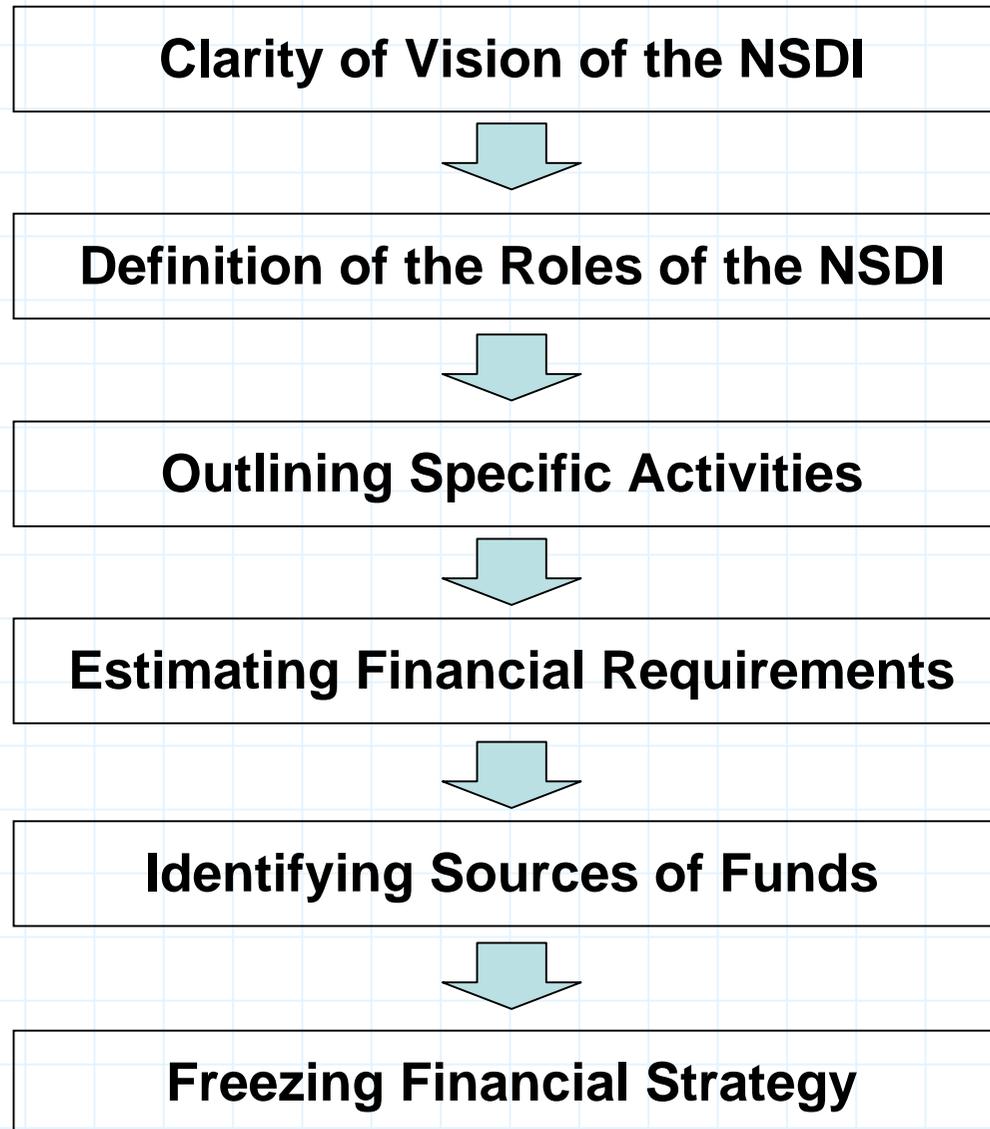
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**FEEDBACK**  
**STRATEGIC**  
Member~Feedback Ventures Group  
*Catalysing Social Infrastructure*

# Backdrop to this Presentation

- Feedback Strategic has been working with the NSDI to develop a financial strategy for the organisation
- Key methodology elements include extensive primary interactions with public and private sector organisations in India, and extensive analysis of models being followed internationally
- This presentation is intended to stimulate discussion and debate that will further the development and finalisation of the financial strategy
- We would like to place on record our gratitude to the Dept. of Science and Technology for its support for the study

# Engagement Process



# Presentation Structure

## **The NSDI in India: Vision and Objectives**

Philosophical Underpinnings and Key Drivers for  
Creating a Financial Strategy

Potential Revenue Sources

Moving Ahead – A Plan of Action

# A Backdrop: Geo Spatial Data in India

- Strong tradition of analog and paper map based data
- Multiple central organisations responsible for collection of (overlapping?) data, in many cases on specific request
- Limited common standards, and absence of coordinated efforts inhibit development of common spatial data infrastructure
- Severe budgetary and funding constraints
- Specific programs initiated towards GIS database development characterised by absence of inter-operability and focus on user needs:
  - National Resources Information System (Dept of Space)
  - Digital Cartographic Database (Survey of India)
  - National Resources Data Management System (DST)
  - Other initiatives through NATMO, GSI, CWC, FSI etc.

# Vision Elements for the NSDI

- To be the gateway for the dissemination of spatial data being generated by different Government agencies
- To create an enabling environment for the use of geo-spatial data in India across different types of applications
  - Standardisation
  - Quality and Certification
- To enhance the availability and accessibility of geo-spatial data
  - Access on demand
  - Access across user communities, with relevant pricing models
- To specifically promote the use of geo-spatial data in delivering better governance
  - Socially relevant data sets

# Roles of the NSDI

- Regulatory role
  - In definition of standards (for data, for data presentation, and ensuring adherence to defined standards)
  - In mandating the participation of various government agencies in the NSDI
- Policy-making role
- Developmental / promotional role, (stopping short of actually ‘selling’ information) likely to be achieved through the establishment of the NSDI standard as a symbol of quality in the field of geo-spatial data
- Assisting in product development and delivery, with a focus on certain well-defined and carefully selected social applications
- Quality assessment and maintenance role

***Financial Strategy will have to be in consonance with and support the vision and role***

# Key Issues in Vision Implementation

- **Awareness levels in the country about the importance and requirement of a Geospatial Data backbone**
  - Need for Geo-Spatial infrastructure to be accorded similar priority as other infrastructure elements
- **Current nature of the NSDI – a community built through voluntary participation**
  - Possibility of roadblocks in implementation of common standards, and in optimising resource utilisation
- **Size and structure of the GS data market in India, and constraints impinging growth**
  - Relatively unsophisticated market, with low spends
  - Significant investment required
- **Regulatory Issues**
  - National security and defence issues will need to be placed in perspective
- **Availability of financial resources required**
  - NSDI financing is an issue globally, not just in India

# Presentation Structure

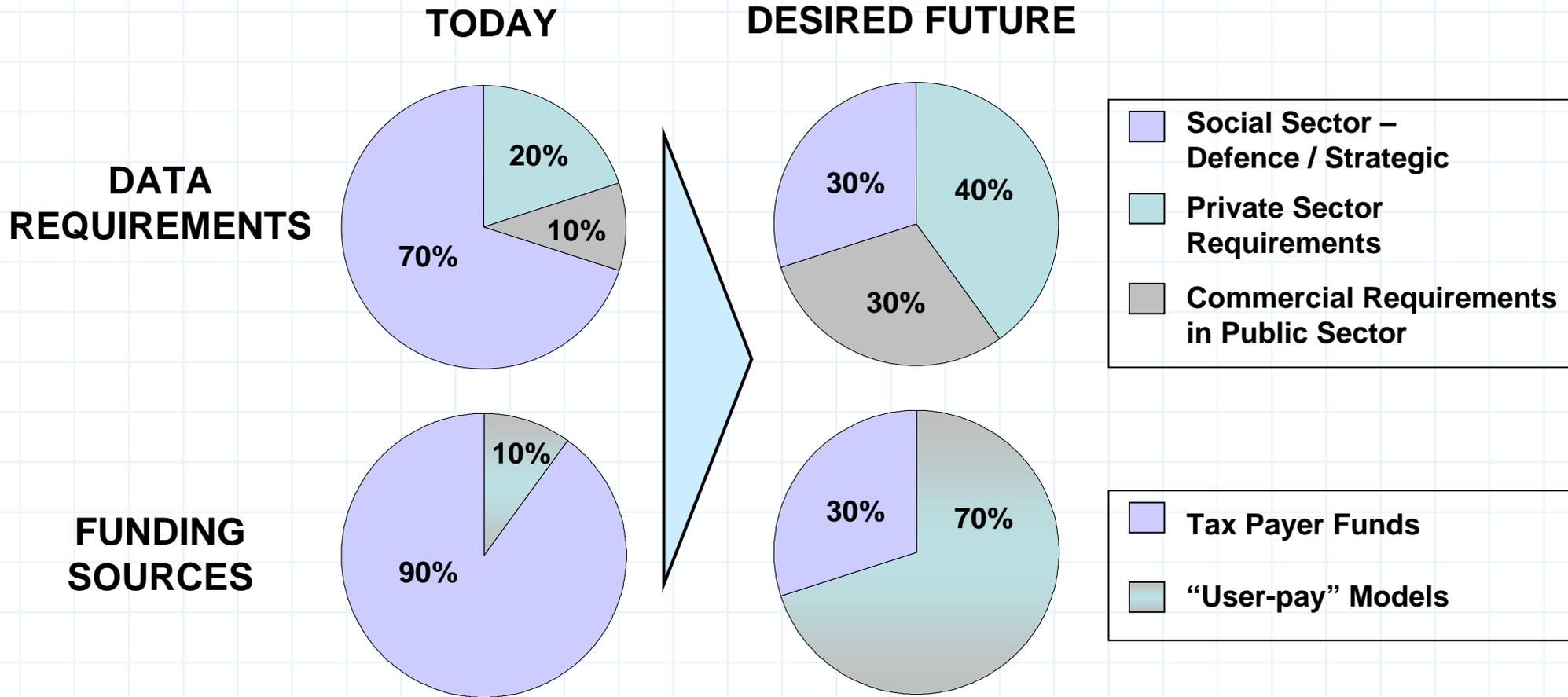
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# Typical Financing Structures for Public-Private Interface Initiatives



- NSDI to focus on*
- a) Changing the use mix of geo-spatial data
  - b) Establish clear linkages between use & funding sources

# Issues in NSDI Funding

- Data available in most cases is not of the quality / resolution or timeliness that makes it commercially exploitable – clear lag between investment spend and commercial return
- Current expenditure is spread across a number of organisations, with inevitable duplication of activities and resources
- NSDI cannot be seen to be in any form whatsoever in competition with its constituent bodies – all revenue will therefore need to be channelised through these institutions
- No clear mechanism for establishing public private partnerships either in data generation or in payment mechanisms
- Constraints on direct budgetary funding for the NSDI

# SDI Funding – Learnings from International Examples

- **US : Total expenditure on the SDI : US\$ 15 bn**
  - Federal Government expenditure : US\$ 4 bn
  - State and local government expenditure : US\$ 6 bn
  - Private Expenditure : US\$ 5 bn
  
- **UK : Total US\$ 3.3 bn**
  - Central Government expenditure : ?
  - Local Government expenditure : US\$ 1.6 bn
  - Private expenditure (primarily utility companies) : significant

***As the sophistication of data availability increases, the range of funding options also goes up***

# Drivers of the Financial Strategy

- Current public and private investment environment vis-à-vis spatial data
- Requirement for the NSDI to be “above” constituent organisation interests (both public and private)
- Need for near term, high impact results – in the government, commercial and societal sectors, to build long term commitment across interest groups
- Potential for a phased strategy – with an increased breadth of funding, once visible impact is seen

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# Typical Funding Models for SDI

## Developed Economies

- Government Funding
- Special Purpose Vehicles
- Bond Issues
- Private Capital
- Consortia Creation
- Utility Companies
- Financing from Large Users
- Customer Fees
- Relevant Combinations

## Developing Economies

- Government Funding
- International Donor Agencies
- Low Interest Loans through SPVs
- Large Public and Private Utilities
- Policy for “Soft Funding”

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***Options in the Indian context are limited***

# Proposed Options

## ■ Government Funding

- Direct allocation
- Creation of a pool of funds through relevant ministries mandating a non-lapsable annual spend (based on the DONER example)

## ■ Donor Agency Funding

- Specific project based funding
- Creation of administered lines of credit for database creation through single donors or consortia
- Mix of grant and debt funds

## ■ Utility Companies

- Creation of a NSDI cess for a specific term either on all new project investments, or on revenues or a combination of both

## ■ Policy Issues

- Classification as infrastructure to obtain all tax benefits for investments in this sector

***Creating an environment that will lead private capital to the NSDI***

# Phased Financial Strategy

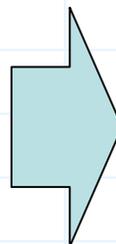
## Short Term : 0-5 Years

### ■ Financing Means

- Mix of Government support (direct and indirect) and donor agency funding
- Minimal private participation in funding

### ■ Organisation Imperative

- Focus on creating an environment and quality of information that fosters private spend



## Medium Term : > 5 Years

### ■ Financing Means

- Gradual reduction in government and multilateral support
- Increased private participation
- Internal revenue generation – e.g., NSDI “quality certificate”
- User charges sharing

### ■ Organisation Imperative

- Greater marketing orientation
- Focus on increased self sufficiency

# Funds Requirements

- No direct model to estimate total funds requirement for NSDI
- In a steady state, total annual spend (based on international models) will be Rs. 25,000 – 30,000 cr.
- Total current annual spend (private and public) on NSDI activities estimated to be about Rs. 2500 cr. – less than 10% of the requirement
- An annual total outlay of Rs. 7500 cr. proposed for the NSDI, through combinations of funding

# Benefits of NSDI Investment

- Clear multiplier effect of investments in NSDI seen in both developed and developing countries
  - Significant savings in logistics and transportation costs
  - Improvement in revenue collections
  - Significant decision support during times of natural calamity and emergency
  - Improvement in governance

***Clear economic and social benefits from these investments***

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# Organisational Imperatives for the NSDI

- Requirement to create capacity for obtaining and administering funds
- Creation of a policy for partnership development and administration, with the private sector as well as within constituent organisations
- Vehicle for quality control and administration
- Marketing capability: to propagate the NSDI concept, as well as to assist constituent organisations
- Inculcation of Product Development Process management skills
- Ensuring participation and conformance to a common code of standards and quality through a combination of regulatory control and fiscal and organisational support

***The structure of the NSDI must reflect these imperatives, to achieve financial goals***

# Action Plan – Moving Ahead

- Freezing funds requirement for the NSDI
- Identifying specific sources and initiating dialogue
- Putting in place the skill sets and capabilities required for the NSDI
- Identifying and implementing near term high impact projects (e.g., detailed mapping of large metros)

# Thank You



Feedback Strategic Consultancy Services Private Limited  
7, L.S.C. Panchsheel Park  
New Delhi 110 017, India

Tel: + 91 11 2649 5766, 2649 5871, 2649 4161

Fax: + 91 11 2649 5878, 2649 5765

Email: [fstrat@feedbackventures.com](mailto:fstrat@feedbackventures.com)

[www.feedbackventures.com](http://www.feedbackventures.com)