



# GIS for Governance

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# OUTLINE OF PRESENTATION

1. Definitions, Concepts, Role of GIS in Governance
2. Present state of implementation of GIS in AP in Government sector and private sector
3. Priority areas of implementation of GIS in Government
4. What can be done
5. Strategy for development of GIS in AP
6. Role of GIS software companies in this process of development



# Definitions - Concepts


## ***Governance***

- the **process of decision-making** and the process by which **decisions are implemented** (or not implemented) *Source: UNESCAP*
- the manner in which power is exercised in the management of a country's economic and social resources for development *Source: World Bank*

## ***Role of Government - To Govern***

**Manage, organize, define vision, goals, parameters for success, method of monitoring...**





# Role of GIS in Governance

*(Assuming Vision and goals are defined)*

## □ Planning –

- Strategic - **How** we want to achieve **what** we want to achieve
- Operational – **what** we are going to do **where** to achieve the targets

## □ Monitoring - **what** is happening **where**

## □ Etc. etc.

*(Clarity of thought and continuity in line of thinking is very important)*



# Present state of implementation in AP

## 1

### *Government sector*

- Individual efforts are in progress
- **Municipal Department** – Creation of GIS databases in several Municipalities
- **Forest Department**
  - **Forest Cover Monitoring, Offence reporting, RoFR Act, Forest Inventory, Forest Block Survey**
  - Watershed modelling, Forest fire risk zonation, Wildlife habitat mapping and corridor creation, VSS (Forest Protection Committee) information Project, Ecotourism site selection, Environmental Clearance of developmental projects, Site selection

30 JUN 2003



# Present state of implementation in AP

## 2

### **Government sector**

- **Revenue Department** – *Bhu Bharati*, Cadastral Mapping
- **Police Department** – Election policing arrangements in 2004 (ArcInfo)
- **Irrigation Department** - BAS: Basin-wide Water Accounting and Budgeting System by CMC using ArcInfo (**inoperational**), Canal water-level and Reservoir monitoring, Canal alignment
- AP Forest Development Corporation – MIS/GIS based monitoring of plantations
- APMIP – district wise area covered
- Agriculture Department – some work is done



# Present state of implementation in AP

## Government sector <sup>3</sup>

- Andhra Pradesh development monitoring system - Autodesk (*E-mail ID of the project inoperational now*) – *Planning Dept.?*
- Election Commission of India – result declaration – internet GIS, ESRI, India
- Medical and Health, School Education – Database created
- R&B, Rural Development – No info
- NIRD, ICRISAT, CGG, APSRAC, JNTU, 28, 5 2005 APARD, ESCI, WALMTRI are potential users



# Present state of implementation in AP

4

## *Private sector*

- Indigenously developed - Spinfo (<http://www.spinfosoft.com/>)
- REL project being done by ESRI
- Determination of area under Basmati rice for Agriculture Produce and Export Development Agency, Delhi
- Many private companies operational in AP

30 5 2005



# Possible Priority sectors of implementation of GIS in Government

- Municipalities
- Agriculture
- Irrigation (for agriculture)
- Industrialization and Employment generation
- Law & Order
- Health care
- Education
- Drinking water
- Forestry

30 5 2005

# What can be done – some points - 1

## *Municipal Administration*

- Geocoding all properties and monitoring Property Tax collection, glow-signs etc.
- Sale of advertisement space and hoardings
- Mapping and monitoring Water, sewerage, electric lines
- Mapping and monitoring resident information for various purposes
- Traffic regulation and planning
- Monitoring constructions and planning city expansion

30 5 2005



## What can be done – some points - 2

### *Agriculture*

- Mapping of agricultural lands, their soil-types, type of crop traditionally raised, ownership etc.
- Site suitability analysis for crops and advise to farmers
- Analyzing and predicting harvest of different crops
- Organizing marketing centers and storage locations
- Locating value-addition units
- Pest management
- Rationalization of extension services

30 5 2005



## What can be done – some points - 3

### *Irrigation (for agriculture)*

- Mapping network of existing waterways, both natural and artificial (Done)
- Estimating irrigation needs depending on cropping pattern
- Planning water supply and linking of rivers and canal system
- Day-to-day operation of network of waterways (Done)
- Flood vulnerability analysis – some work is done (LIDAR survey is in conceptual stage)

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## What can be done – some points - 4

### *Drinking water*

- Mapping existing facilities
- Estimating drinking water demand and planning its supply

### *Industrialization and Employment generation*

- Mapping of existing industrial units, SEZ's, mines
- Site suitability analysis for location of industrial units for employment generation

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# What can be done – some points - 5

## *Health care*

- Mapping existing health care facilities
- Planning location of future health care facilities
- Emergency response planning
- Identification of hot spots for disease out break and containment in time

## *Education*

- Mapping existing educational facilities, student and teacher information
- Planning location of future educational facilities
- Day-to day administration

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# What can be done – some points - 6

## *Police and Law Enforcement*

- Mapping existing facilities
- Strategic planning for tackling extremism
- Planning for law and order enforcement
- Monitoring traffic and dynamic alternate routing
- Security of VIPs

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# Strategy for development of GIS in AP

## Two stage strategy

- Pre-implementation process ( Ground work)
- Implementation process

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# Strategy - Pre-implementation process

**Identify priority areas of the Government**



**Identify key individuals in Govt. for impressing utility of GIS**



**Sensitize and Motivate key individuals**



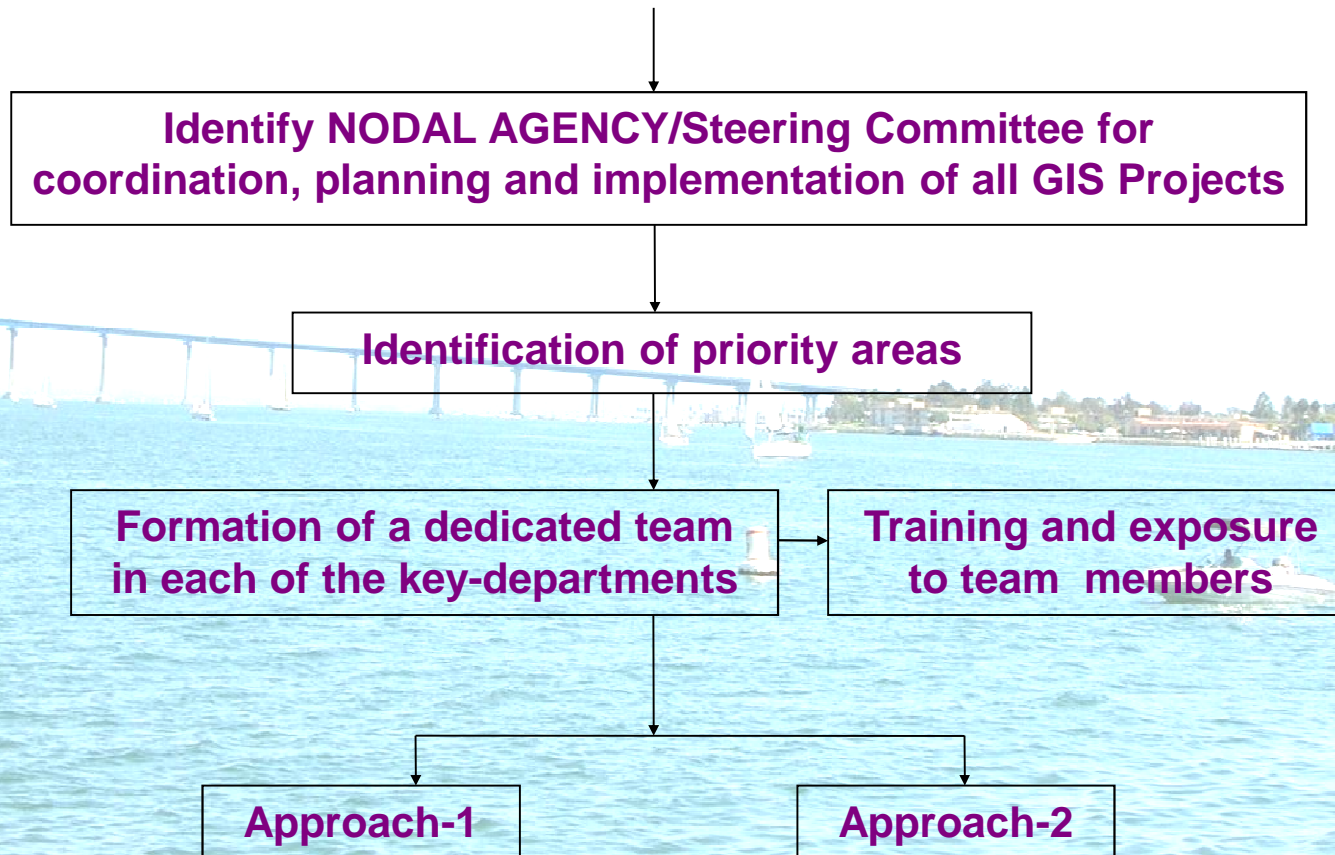
**Technology Demonstration (Pilot) Projects**



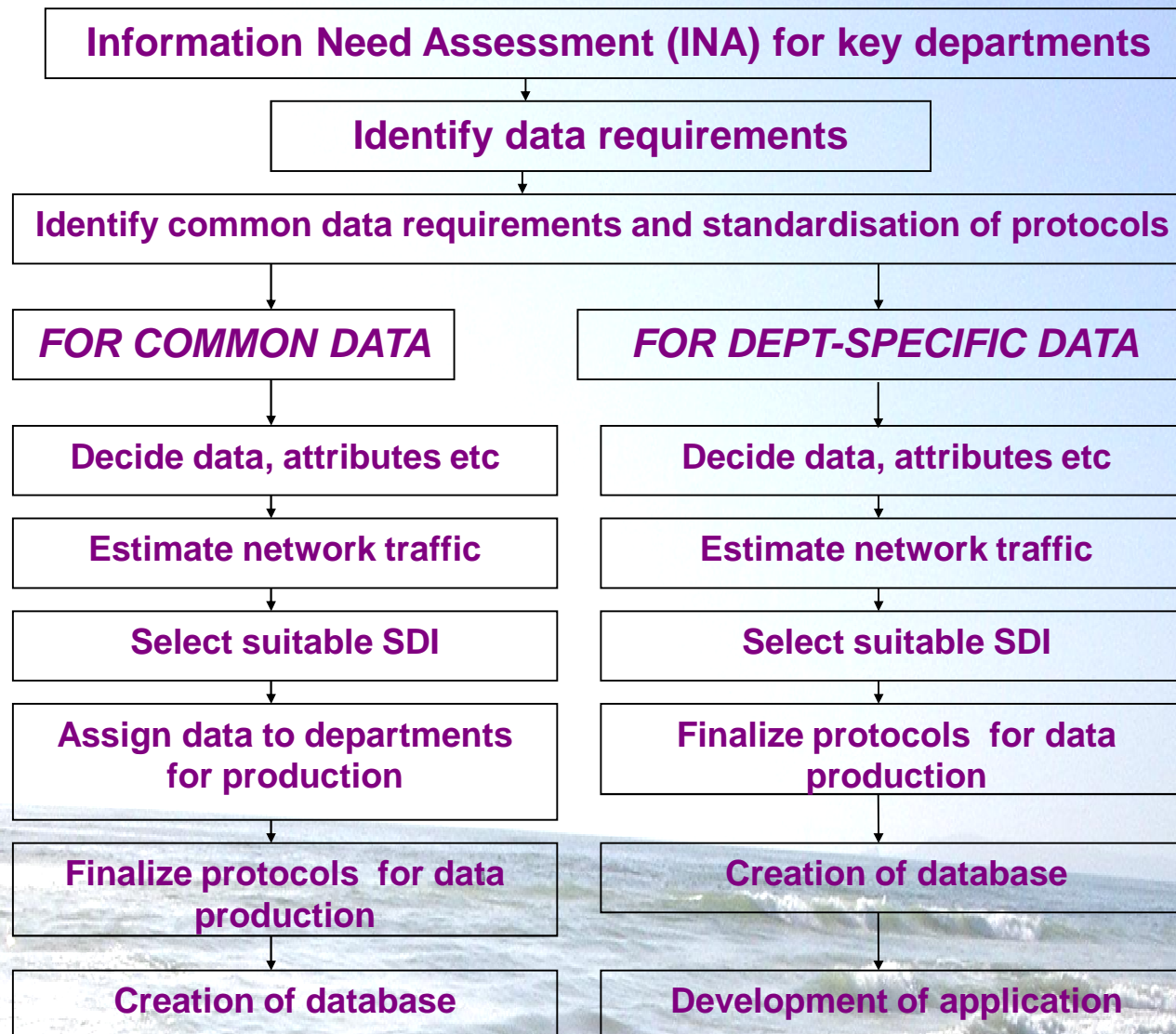
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# Strategy - Implementation process

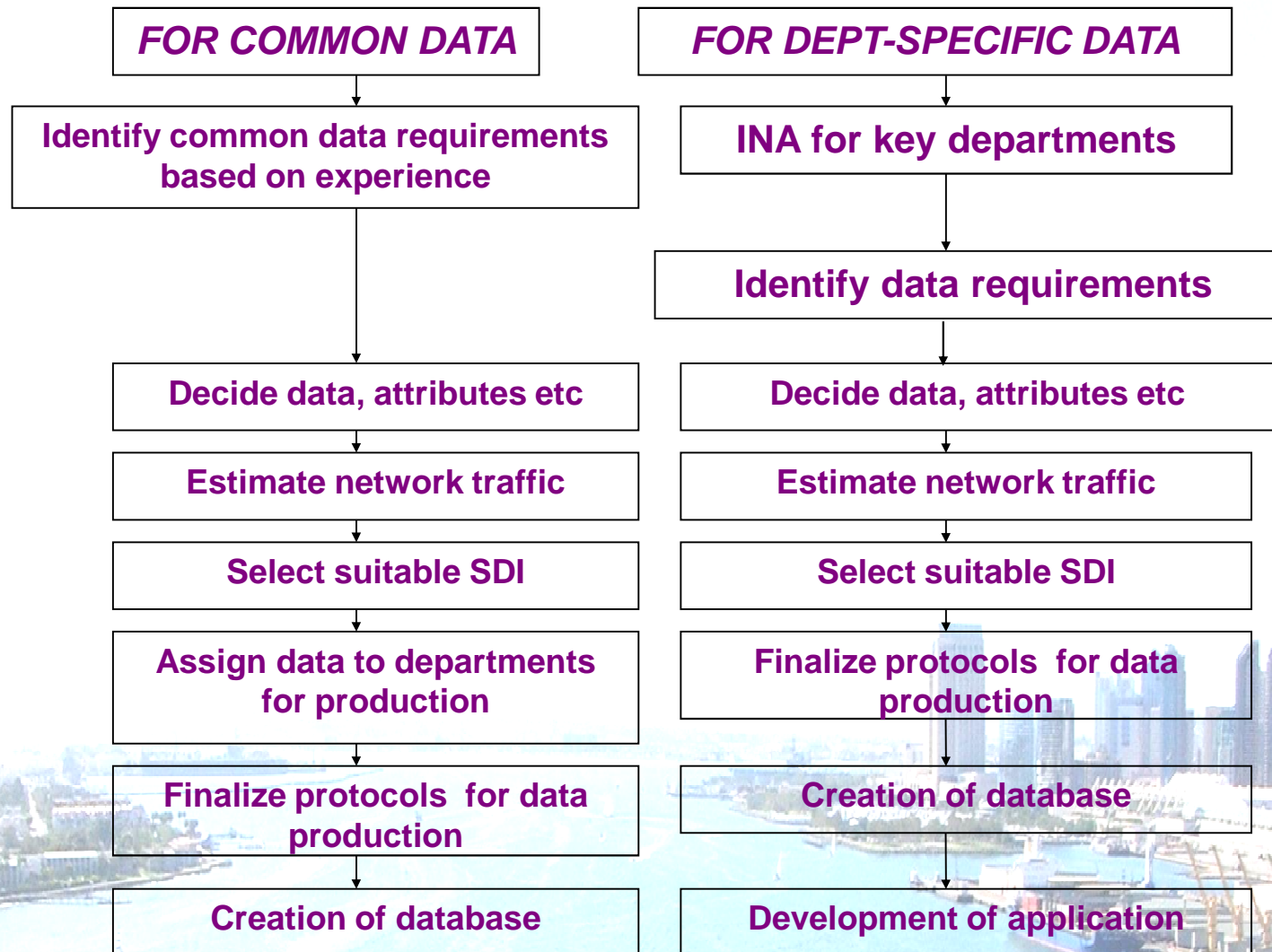


# Strategy - Implementation process – Approach 1





## Strategy - Implementation process – Approach 2



## Role of GIS software Companies in this process

- Wake-up and Identify market potential
- Catalyse the Pre-implementation process – initiatives are required
- If need be, do some Technology Demonstration Projects – creation of market
- Partner the Implementation process





# **GIS - Action Plan**

**Make Working Group**

**Visit Bangalore, Gujrat, Kanpur, Delhi**

**Identification of GIS - preferably Hyderabad based vendors**

**Prepare Vision doc and send to these companies**

**Have one-to-one meeting with these companies and take their commercial ppts**

# GIS - Action Plan

**Workshop with vendors**

**Visit to Departments of Govt. - familiarization to what they have done or want to do**

**Workshop with Departments and launch the Project (Expose Present gist of projects done by vendors, as-is report of the departments and our approach)**



THANKS