Methods & Tools in Contemporary Planning & Management
Urban Planning and Management

1. Urban Design – History & Criticism
3. Urban Indicators & Monitoring
4. Planning & Monitoring Approaches, Decision Support
5. **Methods & Tools in contemporary Planning & Management**
6. Low Carbon Buildings – comparative studies with other countries
7. Urban Economy & Property Markets
8. People & Organizational Management in built environment
10. Governance, Participation and Community Planning
11. **Spatial Planning – reasons for planning, development, urbanization, urban development, conservation etc.**
12. Technical Networks (water, energy, waste, transport etc) and Urban Resilience
13. Planning with Urban Poor in developed countries – case studies
Methods and Tools
Land Use Regulations
The common process for planning for an existing city

• An intention to prepare a plan is announced usually for a target year: say 2051- and the area is defined.
• Base maps are drawn up.
• Land use surveys are done- an “Existing Land Use map” is drawn.
• Statistical data is gathered and analysed.
• Current urban problems are identified
• Population projections are made and land and infrastructure requirements computed.
• A draft future land use plan is evolved.
• Land use and building regulations are made to be read with the plans.
• Draft Plan is published by law for public objections and suggestions.
• objections and suggestions are examined/hearing done.
• Local Bodies are consulted.
• Final plan is approved by the State Governments and notified by law.
aftermath

• The governments / authorities continue the exercise of relaxing the land use plan and granting exemptions to rules and regulations. (see Websites of respective governments)

• people develop their properties as usual-

• some follow the plan some do not.

• Some people build even without permission.
Urban and Regional Development and Plan Formulation Guidelines

Jan 2015

MOUD Govt of India
Earlier Guidelines of 1996.

• **Urban Development Plans Formulation and Implementation Guidelines (UDPFI)** Aug 1996

• Recommended planning systems:

  • Perspective Plan- 25 years
  • Development Plan- 5 years
  • Annual Plan
  • Projects and Schemes
Urban and Regional Development Plans
Formulation and Implementation Guidelines
(URDPFI) Jan 2015

- Perspective Plan- 20-30 years
- Regional Plan-20 years
- Development Plan- 20-30 years
- Local Area Plan-5-20 years
Present practice:

• For most cities a “Master Plan” is prepared
• Shows detailed land use and road network including reservation for other amenities and
  • zoning,
  • layout & subdivision and
  • building regulations.
• to be primarily used for Development Control.
• Some cities also make Zonal Development Plans (ZDP)
• ZDPs are in effect interim revisions and detailing of the Master Plan.
Details of URDPFI plan versions:

• Perspective Plan- 20-30 years
• Regional Plan-20 years
• Development Plan- 20-30 years
• Local Area Plan-5-20 years
# Core area of planning

<table>
<thead>
<tr>
<th>Perspective Plan</th>
<th>To develop vision and provide a policy framework for urban &amp; regional development and further detailing</th>
<th>20-30 years</th>
<th>Long Term Perspective Vision document</th>
<th>Concept plan</th>
<th>Mission statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Plan</td>
<td>To identify the region and regional resources for development within which settlement (urban and rural) plan to be prepared and regulated by DPC.</td>
<td>20 years</td>
<td>Regional Plan</td>
<td>Sub-regional plan</td>
<td>-</td>
</tr>
</tbody>
</table>

S.P.Shorey. Architect and Town Planner 13
<table>
<thead>
<tr>
<th>Development Plan</th>
<th>To prepare a comprehensive Development Plan for urban areas, Peri-urban areas under control of Development</th>
<th>20-30 years (Review every 5 years)</th>
<th>District Development Plan</th>
<th>City/ Metropolitan Development Plan</th>
<th>Master Plan City Utility (30 years)</th>
<th>Revised Development Plan</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Area Plan</td>
<td>To detail the sub-city land use plan and integration with urban infrastructure, mobility and services.</td>
<td>5-20 year (Review every 5 yrs.)</td>
<td>Town Planning Schemes</td>
<td>Zonal Plan/ Sub-city plan</td>
<td>Ward Committee Plan</td>
<td>Coastal Zone Mgmt Plan</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

S.P.Shorey. Architect and Town Planner
# Specific and investment planning

<table>
<thead>
<tr>
<th>Special Purpose Plan</th>
<th>To identify the needs of the special areas which require special plan within the framework of the development plan.</th>
<th>5-20 year (within city utilities 30 year plan)</th>
<th>City Development Plan (as per JnNURM)</th>
<th>Comprehensive Mobility Plan (as per JnNURM)</th>
<th>City Sanitation Plan (as per JnNURM)</th>
<th>Disaster Management Plan (as per NDMA)</th>
<th>Slum Redevelopment Plan (as per RAY)</th>
<th>Tourism Master Plan</th>
<th>Environmental Conservation Plan</th>
<th>Heritage Conservation Plan</th>
</tr>
</thead>
</table>

S.P.Shorey. Architect and Town Planner
<table>
<thead>
<tr>
<th>Annual plan</th>
<th>To translate Development Plan in the context of annual physical &amp; fiscal resource requirement. To monitor plan implementation with performance milestones.</th>
<th>1 year</th>
<th>Investment plan</th>
<th>Audit and monitoring plan</th>
</tr>
</thead>
</table>

S.P.Shorey. Architect and Town Planner
### Project/Research

To focus on project related investments, costing and returns & for the studies required prior to or post plan formulation. This should be a continuous process to support planning and implementation at all stages and promotes innovation in practice.

<table>
<thead>
<tr>
<th>5-20 year</th>
<th>Pre-feasibility &amp; feasibility study</th>
<th>Detailed Project Report</th>
<th>Schemes &amp; Sub-projects</th>
<th>Surveys &amp; Studies</th>
<th>Project such as: Riverfront development projects</th>
</tr>
</thead>
</table>

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What happens to the Master Plan?

URDPFI Jan 2015
• ‘Master’ Plan to be referred as Development Plan
<table>
<thead>
<tr>
<th>Type of Map</th>
<th>Scale of maps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Perspective Plan- large Regions</td>
<td>1:250000- 1:100000</td>
</tr>
<tr>
<td>2 Perspective Plan- smaller Regions</td>
<td>1: 100000- 1:50000</td>
</tr>
<tr>
<td>3 Regional Plan- Dist. Dev Plan</td>
<td>1: 50000 – 1: 25000</td>
</tr>
<tr>
<td>4 Regional Plan- Metro Region Plan</td>
<td>1: 25000- 1:10000</td>
</tr>
<tr>
<td>5 Development Plan</td>
<td>1: 10000 – 1: 8000</td>
</tr>
<tr>
<td>6 Local area Plan/Special Purpose Plan</td>
<td>1: 5000- 1:1000</td>
</tr>
</tbody>
</table>

source: URDPFI Guidelines  vol 1 page 263
<table>
<thead>
<tr>
<th>s. no</th>
<th>Satellite Sensor</th>
<th>Spatial Resolution</th>
<th>Spectral Resolution</th>
<th>Scale of Base and thematic Mapping (possible)</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cartosat 2</td>
<td>1m</td>
<td>PAN</td>
<td>1:5000</td>
<td>Merging PAN + LISS-IV images can generate 1m multi-spectral images</td>
</tr>
<tr>
<td>2</td>
<td>Cartosat-1</td>
<td>2.5m stereo</td>
<td>PAN</td>
<td>1:10000</td>
<td>2.5m multi spectral image can be generated by merging PAN + LISS-IV images</td>
</tr>
<tr>
<td>3</td>
<td>Resourcesar-1/2</td>
<td>LISS IV (5.8m)</td>
<td>multispectral</td>
<td>1:25000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Resourcesar-1/2</td>
<td>LISS III (23.5 m)</td>
<td>multispectral</td>
<td>1:50000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Resourcesar-1/2</td>
<td>/Awaifs (56m)</td>
<td>multispectral</td>
<td>1:25000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>RISAT</td>
<td>Capable of imaging 50m to 3 m in different modes</td>
<td>Microwave Sensor</td>
<td>Capable of imaging in cloud conditions, hence useful during monsoon.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Near future satellite</td>
<td>Proposed sensors 25 cm PAN 1M Multi spectral</td>
<td>1:2000 or better</td>
<td>24 cm multispectral image can be generated by merging PAN + LISS-IV images</td>
<td></td>
</tr>
</tbody>
</table>

Source National Remote Sensing Centre (NRSC) Hyderabad.
In addition to IRS satellite Data products, very high resolution foreign satellite data may be procured through NRSC, as per the Remote Sensing Data Policy 2011. Also see BHUVAN Geoportal for free data.
Some of the problems with the present system

• Plan preparation for cities has been taking a very long time.

• Often exceeding even the target year such as 2020, 2030 etc.

• Nearly 10 years to 5 years at the local body/authority level and another 5 years at the government level for ‘approval’ of the plan.

• Cut short the approval time.
Plan approval mechanism

Who approves the plans? **URDPFI suggestion for plan approving body:**

<table>
<thead>
<tr>
<th>LEVEL OF PLAN</th>
<th>Approval now by</th>
<th>Suggested by URDPFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perspective plan</td>
<td>No plans</td>
<td>State Government</td>
</tr>
<tr>
<td>Development plan</td>
<td>State government</td>
<td>Municipal Council/ Corporation</td>
</tr>
<tr>
<td>Annual plan</td>
<td>State Government</td>
<td>Municipal Council/ Corporation</td>
</tr>
<tr>
<td>projects</td>
<td>State Government</td>
<td>Official/ HOD/ planner</td>
</tr>
</tbody>
</table>
Plan Implementation

• How to implement the roads, water supply, sewerage, parks, social infrastructure and other public amenities projected in the plans?

• Requires huge investments.
Transit Oriented Development

• Multiple parallel streets- not concentric
• Multiple mode choices for ‘last mile connectivity’.
• High Density, Mixed Income development
• Focus employment & investment to Transit Serviced locations
• Social Infrastructure along public transport nodes.
• Mixed use to enable 24 X 7 activity in nodes to ensure liveliness and safety besides optimum use of infrastructure.
Sustainability guidelines

• Energy efficiency
• Green Buildings
• Recycling
• Low energy development options
Compact city

• Flexible FAR
• High density
• High rise development
### Developed Area Average Densities. URDPFI 5.3.1 page 140 vol 1 table 5.1

<table>
<thead>
<tr>
<th>Settlement Type</th>
<th>Persons per hectare (PPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plain Areas</td>
</tr>
<tr>
<td>Small towns</td>
<td>75-125</td>
</tr>
<tr>
<td>Medium towns</td>
<td>100-150</td>
</tr>
<tr>
<td>Large cities</td>
<td>125-175</td>
</tr>
<tr>
<td>Metropolitan cities</td>
<td>125-175</td>
</tr>
<tr>
<td>Megapolis</td>
<td>More than 200</td>
</tr>
</tbody>
</table>

To be based on carrying Capacity analysis- space per person, access to facilities, available piped water per capita, mobility and safety factors

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High density

- 175 PPH overall town density-
- Means around 350 PPH Residential Zone density excluding large public amenity areas, major roads, city level parks, transportation network and social infrastructure.
- Means around 700 PPH local level density
- Plot level density to be nearly 1400 PPH.
URDPFI to apply to Rural areas as well
Service Level Benchmarks- 8.47 URDPFI-moud GOI-2012

• Water Supply
• Sewerage
• Storm Water Drainage
• Solid waste Management
Suggested changes in Model Regional and Town Planning and Development Law 1985

• Replacing old Land Acquisition Act
• Mandatory implementation of 73rd & 74th CAA incl MPC & DPC
• Inter state planning
• Town Planning schemes, Land Pooling schemes, TDR & Accomodation reservation.
• Time Line of Plans
• State regulatory body
• Disaster management
• City infrastructure fund.
• Green cities
End of presentation part 1

• Thank you