

Potential of High-resolution Satellite Data and other Geo-ICT for Land Valuation in Urban Areas

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Revised guidance values are a mix of fair and unfair rates. Where high networth individuals are benefited, and middle class, lower middle class, poor have to bear the burden. -- Deccan Herald, Friday, August 06, 2004

The Karnataka Government's decision to raise the guidance value of properties will hike the city's property rates. Since the guidance value is far below the market value at present, the revision will have a big impact on the real estate scene. -- The Hindu, Business Lines, Saturday, Sep 24, 2005

New Guidance Value is a blow to common man -- Deccan Herald, Friday, October 21, 2005

The government has a social obligation to provide affordable shelter to its citizens. By frequent abnormal increase in guidance value, the poor and the middle class are finding it difficult to purchase the houses and are destined to what the government provides. The government itself is subverting its social obligations. Real estate investment is becoming the exclusive domain of rich and influential. The government's duty is not to fuel the price rise. Deccan Herald, Friday, October 28, 2005

Land valuation is the process of assessing the characteristics of a land to determine value

- **Guidance Value (GV)**
- **Market Value (MV)**

Guidance values are those fixed by the Department of Registration and Stamps. These are the minimum values that a property in specified areas is supposed to fetch and on which stamp duty and registration charges are to be paid.

Market value is the most probable sale price of a real-estate property in terms of money assuming a competitive and open market. A buyer would purchase the land / property with market value, not as per guidance value.

When $GV > MV$

the stamp duty and registration charges are collected as per guidance value.

When $MV > GV$

the stamp duty and registration charges are to be paid on the purchase value as mentioned in the sale deed

Vicious circle: When, government increases the guidance value, the prices of property begin to soar, when the market value increases, the government enhances the guidance value; the guidance value and market value both trying to catch each other, which never happens

Parameters considered for Guidance Value



(For house / sites)

- The general value of house sites in the locality
- Proximity to road / railway station / public transport
- Distance to market shops and the like
- Amenities available in public offices, hospitals and other educational institutions
- Development activities and industrial improvements in the vicinity
- Land tax and valuation of sites with reference to taxation records of the local authorities concerned
- other features having a special bearing on the valuation

Market Value

1. Nature of the land like BDA, Housing Co-operative Society, Converted, CMC, Gramathana.
2. Availability of basic services
3. Permitted number of floors
4. Permitted construction area
5. Landscape, view
6. Access to street
7. Environment
8. Parcel location within block (corner, middle)
9. Street frontage
10. Available utilities
11. Distance from nuisances
12. Neighborhood quality
13. Land parcel shape
14. Currently usable area
15. Distance to city center
16. Commuting time to the working place
17. Distance to educational centers
18. Distance to health services
19. Access to bus stand / railway station / airport
20. Access to highway
21. Distance from noise
22. Distance to shopping center
23. Soil condition
24. Topography
25. Distance to recreational areas
26. Distance to religious place
27. Distance to play garden
28. Distance to fire station
29. Distance to police station
30. Finance availability
31. Incentives / tax benefit

Cartosat-1

Launch : PSLV-C6: May 05, 2005

- 2.5 m resolution, 30 Km Swath
- Stereo mission; +26° / -5°

Aft view

5 days

Back Stereo viewing -
as kind in the world



Part of Italy



P5 – PAN + P6 - LISS-4

Large Scale Mapping

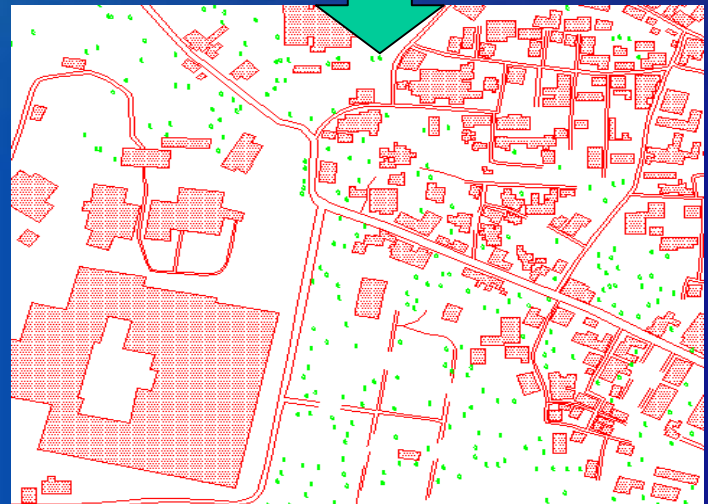
Preparation of 1:10,000 scale Cartographic quality maps using space borne imagery and GPS control

Pilot Stage

- Studying efficacy of large scale mapping for different terrain types
- Standardization of mapping procedures including accuracies
- Designing Geospatial database

Operational Stage

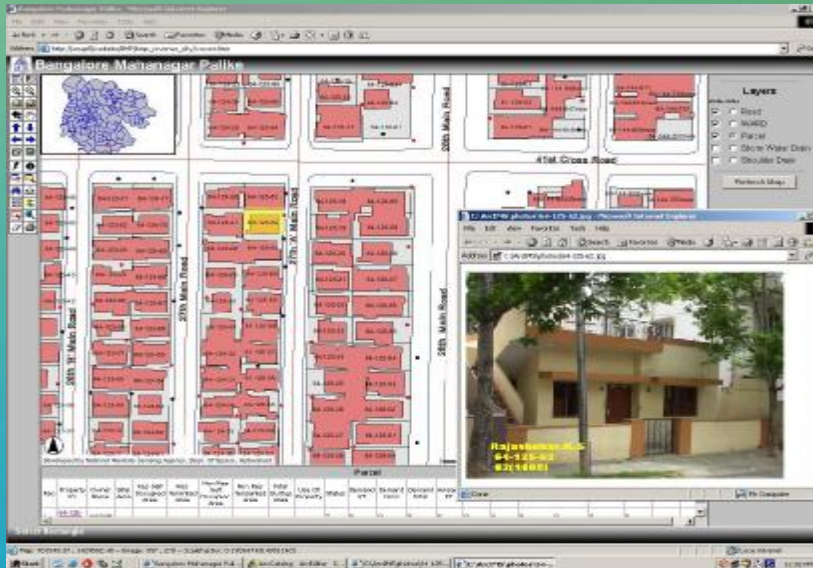
- Generation of large scale maps using Cartosat-I & II satellite data.
- Generation of operational Geospatial database.



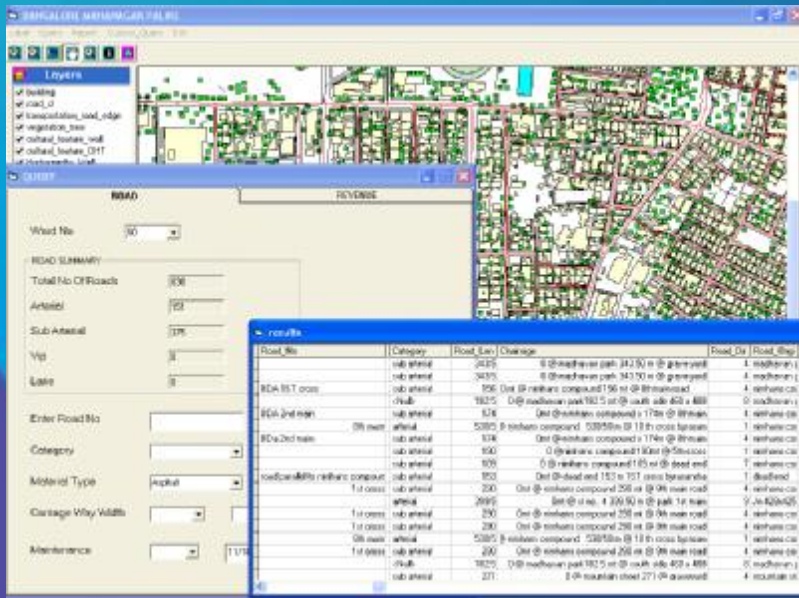
OUTPUT

- Vector Map data layers
- DEM
- Ortho Image/Geo-rectified image
- Value Added Products

Large Scale Mapping – Value addition



Property Information



Query – Road type (asphalt)

- Facility Management (Power, Gas, Water, Sewage and Telecom)
- Location based services (industries, education, health etc.)
- Corridor mapping for infrastructure, development (transport connectivity, road alignment, power line, pipeline alignment)
- Disaster management (floods, landslides, earthquake)
- Developmental activities (watershed management, wasteland reclamation)
- Visualization models, 3 D fly-through Buffer zones for EIA studies

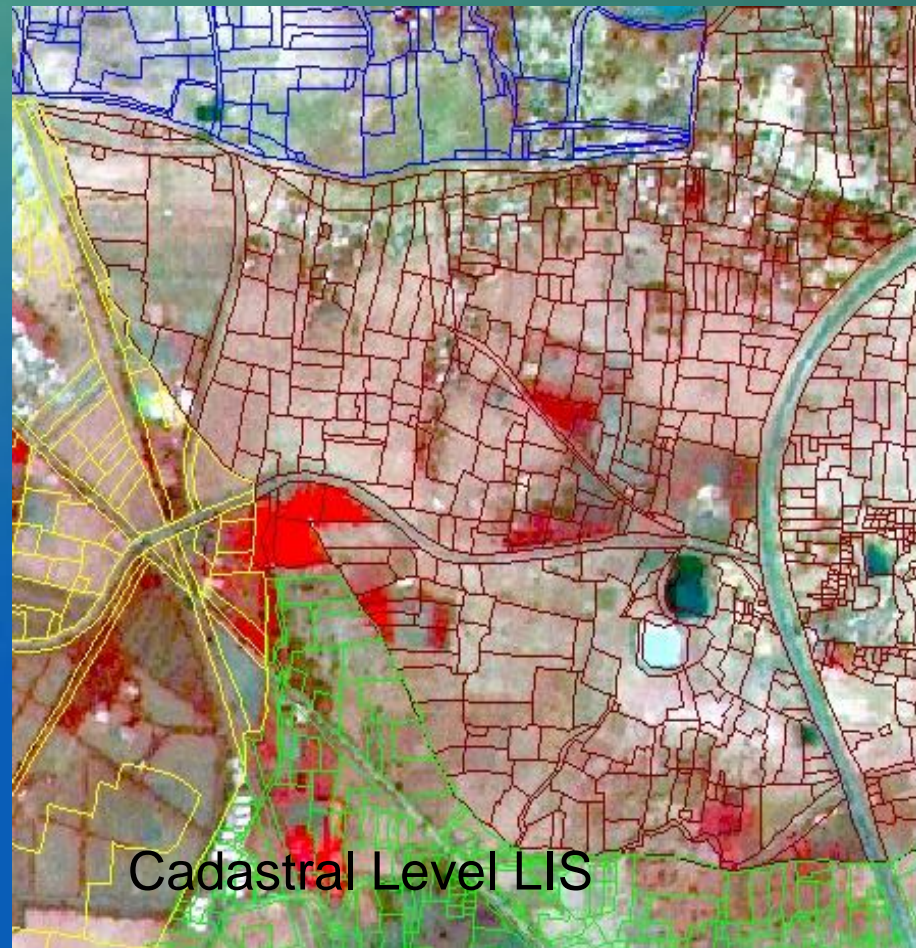
Cadastral Referencing Database

Digital database of Cadastral maps for village referencing of IRS images and thematic maps

**State level seamless
Cadastral database**

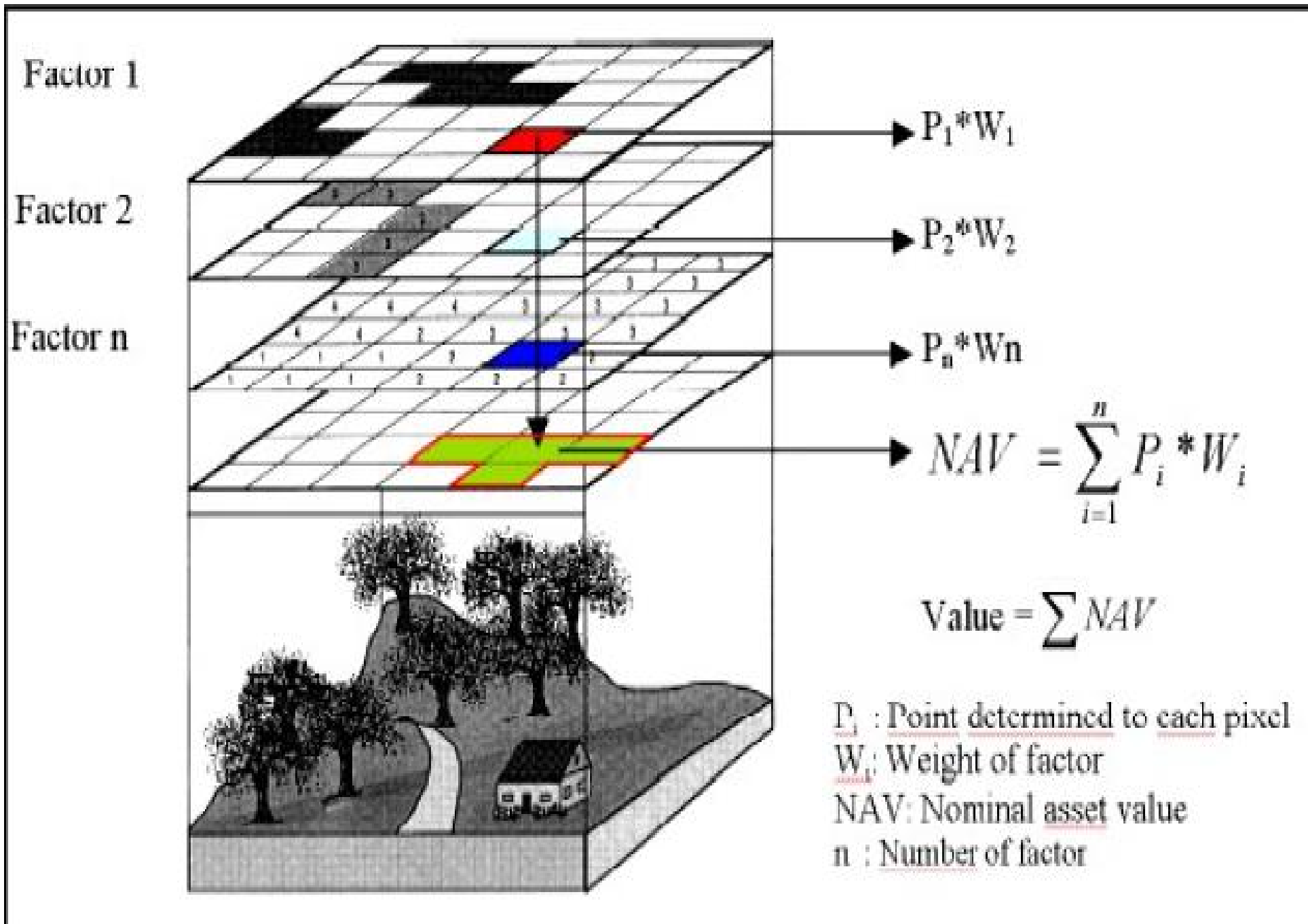
- Land Information System
- Monitoring of implementation of developmental activity
- Social and Environmental Impact Assessment

**Karnataka and Gujarat
State – in progress**



GEOREFERENCING OF VILLAGE MAPS





Advantages

- **Guidance value map**
- **Market value map**
- **Previous years land value map as a base**
- **Compare Guideline value map and market value map**
- **A visual land valuation model**
- **Easy for public to participate valuation**
- **Transparency in the system**
- **SDI in LA Domain could serves a large variety of users**

Thank You



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