

## **LAND USE AND LAND COVER IN INDIA**

The land use / land cover system adopted by almost all concerned organizations and scientists, engineers and remote sensing community who are involved in mapping of earth surface, is a system derived from the United States Geological Survey (USGS) land use/ and cover classification system. This system was designed on the basis of the following criteria ( Lillesand and Kiefer 1999 ) :

- The minimum level of interpretation accuracy using remotely sensed data should be at list 85 percent.
- The accuracy of interpretation for the several categories should be about equal,
- Repeatable results should be obtainable from one interpreter to another and from one time of sensing to another,
- The classification system should be applicable over extensive areas,

- The categorization should permit land use to be inferred from land cover types,
- The classification system should be suitable for use with remote sensing data obtained at different times of the year,
- Categories should be divisible into more detailed sub –categories that can be obtained from large scale imagery or ground surveys,
- Aggregation of categories must be possible,
- Comparison with future land use and land cover should be possible, and
- Multiple uses of land should be recognized when possible.

The basic USGS LU/ LU Classification system for use with remote sensor data has been shown : In principle, levels VI and III are designed for local level or very large scale mapping whereas level II and I are meant for small scale mapping.

LEVEL \_I      LEVEL II

1 .Urban or  
Built –up land

- 11. Residential
- 12. Commercial & service
- 13 .Industrial
- 14. Transportation, communicat-  
ion complexes
- 15. Industrial & commercial  
Complese
- 16. Mixed urban or built –up  
Land
- 17. Other urban or built –up  
Land

LEVEL II

LEVEL III

11 . Residential

- 111.Single –family
- 112. Multifamily
- 113. Group quarters
- 114. Residential hotels

115. Mobile home parks

116. Transient lodgings

## CASE STUDY OF HYDERABAD CITY

### Introduction :

Hyderabad registered a decadal growth rate of 57.48 % . All this rapid and haphazard growth of urban sprawl and increasing population pressure is resulting in deterioration of infrastructure facilities, loss of productive agriculture lands and green open spaces, loss of surface water bodies and depletion of ground water aquifers zones, causing air pollution, contamination of water, health hazards, and micro climatic changes.

In Hyderabad , remotely sensed of high spatial resolution along with multispectral resolution data were used for detailed urban survey for the area under municipal corporation of Hyderabad.

### Growth and Development of Hyderabad :

According to 1991 census , Hyderabad is the fifth largest metropolis of India with a population of 4,334,437. The population of Hyderabad has increased from 0.448 million in 1901 to 1.28 million in 1951 ( 52 .5 % increase ) . between 1981 and 1991 the population went up to 4 .34 million and rate of growth the highest so far, is 67 .04 %

Land Use :

The land use of this metropolitan city shows a pattern of diversified functions, which are well distributed all over the city and its region. Historical, economic, and cultural factors have direct influence over the land use pattern, beside the topographical and transportation factors.

Existing land use –Hyderabad Development Area

Land use	Area (Het.)	% Area TDA
Residential	12824.24	8 .36
Commercial	1043 .12	0.68
Industrial	4341 .22	2.83
Agriculture	45667.18	29 .77

Vacant land	50161.80	32 .70
Pub .& Semi Pu	10507.90	6 .85
Hillocks /Rocks	12072 .58	7 .87

Source – Reddy ,M.A. (2006).p.407

Estimation of loss of Agriculture Lands & Water bodies due to urban spread in Hyderabad Metropolitan area

Year	Built up area (Sq.km)	Agricultural lands (Sq.km)	Waterbodies ( Sq . km)
1927	99.75	-	-
1973	245.13	785.14	117.98
1983	354.98	740.01	114.63
1991	522.49	684.71	112.01
Growth/loss	+277.36	-100.43	-5.97
1973-1991	(113.20%)	(-12.8%)	(-5.11)

Source – Reddy, M.A.(2006) p 407