II. STATE MAP OF CHHATTISGARH WITH BLOCK BOUNDARIES

2.1 Administrative Boundaries

The primary unit of analysis is the block. Data from Census and most other government departments were available at this level.[15]

A primary requirement of the overlay analysis was to prepare a block level map of the state. The most precise maps of administrative boundaries are the Survey of India Toposheets, but unfortunately they do not mark block boundaries. Nor does the Census of India.

Therefore, we built upon 16 separate district level maps, with latitudes and longitude collected from each headquarter. The maps were separately computerized and then joined. This gives rise to a number of errors, each adding to a fairly significant cumulative error, and hence imprecision.

The sources of errors are as follows:

1. Incorrect latitudes and longitudes
2. Approximations in block boundaries
3. Inaccurate demarcation of newly formed blocks/districts
4. Non-compatibility and indication of scales
5. Map joining

Hence, a great deal of caution is required while interpreting the resultant block map.

GIS differs from the usual data base management system (DBMS) as every data element is directly associated with a map object— a location on the earth's surface expressed as co-ordinates[16] with respect to some predefined co-ordinate system. Thus each block's polygon was assigned a unique identity and the adjoining polygon attribute file also reflects this same set of identities (IDs), since it is on the basis of this ID that the external attributive database is attached to the spatial database. The non-spatial database (descriptive attributes associated with non spatial features) is designed so that any relational database query can be carried out across the tables.

[15] We faced problems in getting revenue department data (Crop failure, land distribution, etc.) below the *Tahsil* level: therefore for decentralised planning even at the Block level, data should be made available at this block level.

[16] Pairs of numbers expressing horizontal distances along orthogonal axes, or triplets of numbers measuring horizontal and vertical distances, or n-numbers along n-axes expressing a precise location in n-dimensional space. Co-ordinates generally represent locations on the earth's surface relative to other locations.