E-content
for
M. A. Semester III
CC-13
Land Use and Agriculture Geography

LAND USE AND ITS CLASSIFICATION IN INDIA

Land use is the surface utilization of all developed and vacant land on a specific point, at a given time and space. According to the FAO concept, land use defines the human activities which are directly related to land, making use of its resources, or having an impact on them. In that context the emphasis is on the function or purpose for which the land is used and particular reference is made to "the management of land to meet human needs".

Jasbir Singh and Dillon define land use of an area as "the cumulative outcome of the historical events, the interaction of the economic forces with the natural environment and natural value of the society". Land use thus automatically involves the concepts of optimizing the land use potential, land evaluation for example, and of land use planning. A distinction should be made here between present land use (the way in which the land is used at present) and potential land use (how it could be used with or without improvements).

Land utilization statistics provide the area figures showing the distribution of the total geographical area of the country into its various uses. Detailed statistics of land utilization which mainly give area of land put to different uses are almost continuously available since 1884. In the year, 'the returns of Agricultural Statistics of British India", gave details of area cultivated and uncultivated, crops cultivated and irrigated. Separate statistics of land cropped and under current fallows, land available for cultivation and of area under forests were also collected.

The geographical coverage of land use statistics has continuously increased up to 1884-85 to 1922-23, but there has been no substantial change during the subsequent years, until after the World War II. Due to the continuous increase in the coverage as also changes in the territory comprising India on account of separation of Burma, the partition and subsequent reorganizations of the State from time to time, comparable figures of land utilization are not available over a long period of time.

ICAR NINE FOLD CLASSIFICATION (1951)

Out of the total geographical area of 328 million hectares, the land-use statistics are available for roughly 306 million hectares, constituting 93 percent of the total. Before 1950-51, in India, the land utilization statistics were available under five categories. They were:

(i) Forest

(ii) Area not available for cultivation

(iii) Other uncultivated land excluding current fallows

(iv) Fallow land and

(iv) Net area sown.

This fivefold classification was merely a broad outline of land use in the country. It was found to be insufficient to meet the needs of agricultural planning. The States were also finding it difficult to present comparable data according to this classification owing to the lack of uniformity in the definitions and scope of classification covered by these five broad categories.

To remove the no comparability and to break up the broad categories into smaller constituents for better comprehension, the Technical Committee on Co-ordination of Agricultural Statistics was set up in 1948 by the Ministry of Food and Agriculture. They classified the land use into the two basic types – agricultural and non agricultural land uses. Agricultural land use includes Permanent pastures and other grazing lands, Land under miscellaneous tree crops, Cultivable waste, Fallow other than Current fallow, Current fallow and Net area sown. Non agricultural uses are classified as Forest, Land put to non-agricultural uses and Barren and uncultivable land. Thus the committee recommended a 'Nine fold' land use classification and also put forward standard concepts and definitions for each land use class to be followed by all States in the country (Parthasarathy et.al, 2012). This nine fold classification was widely used in all scientific studies in the last century. Details of the nine types are given in Table.

ICAR Nine Fold Land Use Classification (1951)

Sl no	**Category**	**Definition**
1	Forest	All area classed as forests under any legal enactment or administered as forests, whether State- owned or private.
2	Land put to non-agricultural uses	All lands occupied by buildings , roads, railway, or under water e.g. rivers , canals, etc
3	Barren and uncultivable land	All barren and uncultivable land which cannot be brought under cultivation like mountain, desert, etc
4	Permanent pastures and other grazing land	All pastures and grazing lands permanent or not
5	Land under miscellaneous tree crop	All cultivated land which is not included under 'net area sown'
6	Cultivable waste	Include all lands available for cultivation whether not taken up for cultivation or taken up for once, but not cultivated currently.
7	Fallow other than current fallow	All lands which are taken up for cultivation but are temporarily out of cultivation for a period of less than one year but not more than five years.

8	Current fallow	Comprises cropped area which are kept fallow during the current year
9	Net area sown	Area sown with crops and orchards, counting area sown more than once in the same year only once.

The ICAR land-use classification is primarily based on whether a particular area is cultivated, grazed or forested. Its main purpose is to show the distribution in detail of the existing land according to its actual use and not how a particular piece of land can be potentially utilised. Thus, the area under culturable wasteland does not represent the area which is really culturable, as it may not be possible to bring under cultivation large part of the area, except at huge cost. Thus the potential land-use classification is beset with several difficulties, as this classification would depend upon the suitability of different areas for different uses, taking into account their natural as well as cultural endowments.

USE OF REMOTE SENSING DATA IN LAND USE CLASSIFICATION

We need information on land use/cover changes with considerable spatial accuracy and extent as well as historical depth. Many land use databases and maps exist in various places and in diverse forms but they are far from being sufficient for current world needs. Without adequate information on change, it is difficult to identify drivers, nor is it possible to pursue geographically explicit study of land use/cover changes and their effects. The role and significance of remote sensing techniques are to be discussed in this context. Man's conquest of space started in late 1940s. Data from remote sensing satellites has become vital in mapping the Earth's features and infrastructures, managing natural resources and studying environmental change.

In situations of rapid and often unrecorded land use change, observations of the earth from space provide objective information of human utilization of the landscape. In the last three decades, the technologies and methods of remote sensing have evolved dramatically to include a suite of sensors operating at a wide range of imaging scales with potential interest and importance to planners and land managers. Coupled with the ready availability of historical remote sensing data, the reduction in data cost and increased resolution from satellite platforms, remote sensing technology appears poised to make an even greater impact on planning agencies and land management initiatives involved in monitoring land-cover and land-use change at a variety of spatial scales. So many attempts have been made all over the world to classify land use based on remotely sensed data collected from aerial and satellite platforms. Among them the salient features of USGS classification (USA) and NRSA classification (India) are discussed here.

Source: Shodhganga