

MAP: NUMERO UNO GEOGRAPHICAL SOURCE OF INFORMATION**Arvind V. Hadap * Dr. Mangala Anil Hirwade ****

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ABSTRACT: - *Information is the most important resource for progress and so, libraries which collect, share and make it available for use of all types of information sources for wide range of users, is considered as ‘engine of progresses’. In the present article, authors emphasize on the importance of Geographical Sources useful for every man in the society and the nation. Among the other valuable geographical sources, ‘MAP’ is the most important and primary Geographical Information Source used by all Government Departments, authorities such as District Administrative, Natural Resources Mapping Institutes, Census, Forest, Mining, Water Resources, Irrigation, Land Records, Rural and Urban Development, Railways, Tourism, Election Commission, Postal authorities, and n-number Non-Government Organisations for supporting and implementing government projects at Village and Block level. Authors claim that behind all social and economic development processes and in disaster affected as well as disaster prone areas, may it be flood or earthquake affected area; map is the source which gives true and detail Geographic Information of the region for the government / semi - government agencies.*

KEY WORDS – Information, Library, Geographical Information, Geographical Sources, Map, Thematic Maps.

1. INTRODUCTION

Information is a vital resource. Man has always been curious to know about the world he lives in. People become more interested to know more information about the places and would like to visit the same. This resulted in an increasing demand for geographical information. Libraries

are the store house of knowledge and conserve the resources to pass information, knowledge from generation to generation to educate the people with an opportunity to effect on the social , economic, moral and spiritual development through dissemination of specialised knowledge and skill. Libraries play a pivotal role in education

and their functions enable us to get clear perceptive of contemporary world. In order to serve to the needs of the users, especially academic and public libraries were endeavouring to develop extensive collections of geographical sources of information.

1.1. GEOGRAPHICAL SOURCES

Geographical Sources consist primarily of graphic representation. They provide detailed description of different places, landforms and people. Geographical enquiry is concerned with information about places (latitude - longitude) such as cities, number of villages, hills, rivers, lakes, forests and their locations from the city, distance from other cities and other details. For e.g. location of Nagpur, distance between Nagpur to Aurangabad, population of Mumbai, etc. Such questions can be asked in various forms and can be answered from sources is called “Geographical sources”. (Kulkarni, 2006)

In other words, the thirst for knowledge or intellectual curiosity of man to know the places; to establish routes; to record and to map the geographical features; physiographical, sociological, political features of a region or place led to the development of different class of reference material is called “Geographical Sources”.

1.1.1. Types of Geographical Sources

The geographical sources of information include:

1. Globes
2. Maps

3. Atlases
4. Gazetteers
5. Guidebooks
6. Information Digests

1.1.1.1. The Globe

A globe is a three-dimensional scale model of the Earth or other round body. Because it is spherical, or ball-shaped, it can represent surface features, directions, and distances more accurately than a flat map.

1.1.1.2. Maps

A map is a systematic distribution of the nature and phenomenon in space.

A map is defined as a ‘a representation of a part of the whole of the surface of the Earth or of a celestial body, delineated on a plane surface, each point in the drawing intended to correspond to a geographical position’.

The map is the graphical and true representation of varied information regarding the earth surface on a piece of paper in reduced form. (Saha, Pijusjkanti and Basu, Partha, 2010)

According to the International Cartographic Association, a map is a representation, normally to scale and on a flat medium of a selection of material or abstract features on, or in relation to, the surface of the Earth. (<http://ibis.geog.ubc.ca/courses/klink/gis.notes/n cgia/u02.html>)

1.1.1.3. Atlases

ALA Glossary of Library Terms defines an atlas as 'A volume of maps, engravings, tables, etc. with or without descriptive letter press. It may be an independent publication or it may have been issued to accompany one or more volumes'.

Atlas is a term commonly applied to the collection of maps or charts usually bound together.

E.g. Forest Atlas of India published by National Atlas & Thematic Mapping Organisation (NATMO).

1.1.1.4. Gazetteers

Gazetteers are encyclopaedias of geographical information. They provide information concerning the names of the geographical places such as cities, rivers, lakes, mountains, etc. They often include details of population often with brief history.

Gazetteer is dictionary of geographical places (arranged alphabetically). In addition, it furnishes historical, statistical, cultural and other relevant information about these places. The economic growth or decline of a city or town as indicated by data on population, the number of industries and so on will often be shown by the brief facts given in the gazetteers over a period of years.

According to the scope of geographical area, gazetteers are categorized as follows: (Kulkarni, 2006)

1. World Gazetteer , e.g. The Columbia Lippincott Gazetteer of the world
2. National Gazetteer, e.g. Gazetteer of Indian Union
3. State Gazetteer, e.g. Maharashtra State Gazetteer
4. District Gazetteer, e.g. Nagpur District Gazetteer
5. Local/Regional Gazetteer, e.g. Pune Gazetteer

1.1.1.5. Guidebooks/ Travel Guide

ALA Glossary of Library Terms defines a guidebook as 'A handbook for travellers that gives information about a city, a region, or country or a similar handbook about a building, museum, etc.'

Guidebooks are complementary to gazetteers. Though intended primarily for the travellers and tourists, they are very serviceable for ready reference. Guidebooks mainly contain wealth of local information.

E.g. Fodor's India

1.1.1.6. Information Digests

There are number of useful sources which generally cover all the important day - to - day events taking place in geographical areas. It provides weekly/ fortnightly news summary of

the current events happening in all countries of an area for example - Asia.

E.g. 1) National Diary (Fortnight), Calcutta, This digest contains record of Indian events with index.

2) Asian Recorder (Weekly) gives weekly summary of happening in Asia as well as outside Asia.

1.2. THINKING ABOUT MAP

Map is representation of features on the surface of the earth drawn to scale. It is a tool of communication and information right from the days of primitive man who was required to move about constantly in search of food and shelter. He therefore, resorted to some method of recording surroundings and used symbology to depict various features relevant to him. This resulted in the idea of map and the symbols as means of expression. (Ahuja, 1993)

Earth being large and there is no way to view it as a whole except through a map or a globe. On one hand although globe is exact approximation of the earth, it helps only in understanding relative shapes and sizes of continents, countries, at the same time it is difficult to handle. On the other hand as the development process progresses, more maps are needed to record and plan it. A Map is a picture of three dimensional curved surface on a two dimensional flat surface which is the most convenient means to pursue in its correct perception as it depicts the over view of the area. Maps are therefore useful to visualize large area of the Earth at a glance and bring out natural

relationships between different elements of the environment. It the finest means of communication containing information of tremendous magnitude which cannot be put in words even in large volumes/books. Maps are repository of information and provide useful general knowledge to user.

The map of Earth which we use today is better and plentiful than at any time in the history. Mapping and re - mapping proceed apace. Standards continuously keep on improving. (Gupta, 1992)

In the 20th century, we are observing the increase of information on maps concerning descriptions, statistics and spatial information (Aerial Photography and Satellite Images) which caused the expansion the scope of interest on the part of both geographers and cartographers. Also the scopes of map users have increased. (Babik, 1999) The other substitutes of map like Aerial Photography and Satellite Imageries which also helps in visualization of Earth surface but they cannot replace maps.

Map contains specific type of knowledge. For the needs of knowledge representation, language has been created it is called Map Language. The amount of knowledge/information represented on the map depends on:

- i. Scale
- ii. Projection
- iii. Conventional Signs
- iv. Skill of Draftsman
- v. Methods of Map making

1.3. CLASSIFICATION OF MAPS

A map is a graphic representation and visualises of selected natural and manmade features of the whole or part of the earth’s surface on a flat sheet of paper on a definite scale and in their correct relative geographic positions and elevations. Symbols, colour differentiations and contours help to show the physical features-mountains, valleys and plains – in their true relationship to the land and to manmade features. In a way, map is an inventory of the physical features of and on the surface of earth. They are a living testimony and record of humanity’s achievements and a modern blue print for planning and the future.

1.3.1. Maps are classified as under:

1. On the basis of Scale
2. On the contents and purpose

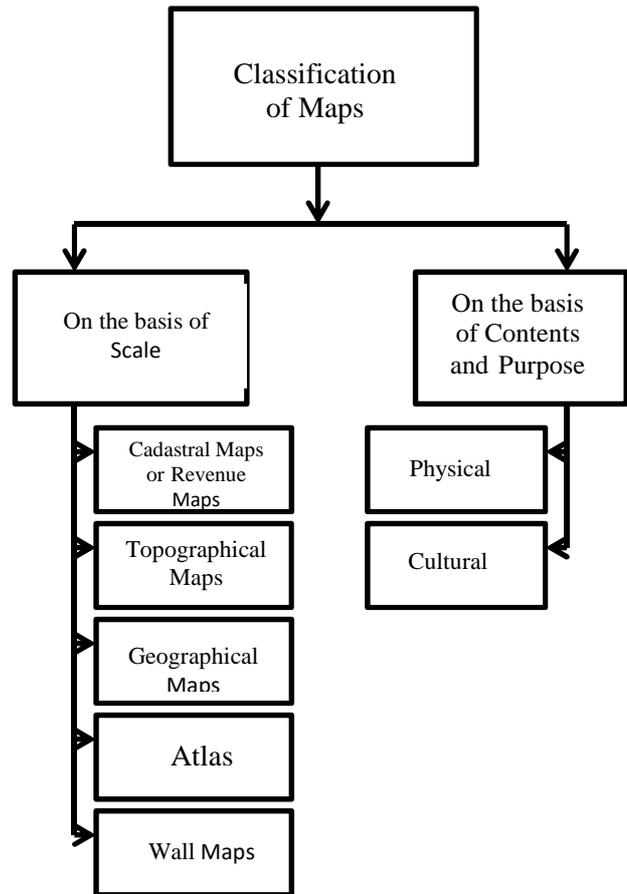


Figure 1: Classification of Maps

According to requirement of scale maps are often classified as Large - Scale and Small - Scale.

- a. **SMALL - SCALE MAP** - Geographer use the term Small - scale to describe the amount of area on the ground covered by map. Small - scale map shows less detail but covers a large land area.
- b. **LARGE - SCALE MAP** - These shows small land area in great details.

Unless the scale is mentioned, maps cannot be identified as Large - scale or Small - scale. In general, map in the scale 1:10, 00,000 shows large area and therefore it is called Small - scale map. On the other hand map in the scale such as

1:25,000, 1:10,000 are called as Large - scale map

. MAP AS A SOURCE OF INFORMATION

Geographical data play a key role in deriving information on natural resources. The geographical information cannot be mapped in words but it can be mapped with the help of map through the artistic view of cartographer very legibly which can be understood by general public or by a layman who may not have the knowledge of geography.

as it shows great details
On surveying various mapping institute of India like Survey of India, Geological Survey of India and others as listed in the following table, it is observed that n - number of maps produced by this institutes to serve the general purpose, educational purpose, research purpose, administrative purpose, planning purpose, etc. and theme - wise also which are widely used all over India by different people depending upon their requirement.

Table 1: Names of Mapping Institute and their URL

Sr. No.	Name of the Website	URL	Remark
01.	Survey of India	http:// www.surveyofindia.gov.in	The National Survey and Mapping Organization of the country
02	Geological Survey Of India	http://www.portal.gsi.gov.in	GSI is the prime provider of basic earth science information to the government, industry and the general public.
03	Forest Survey of India	http://www.fsi.nic.in /	A premier national organization under the union Ministry of Environment and Forests, responsible for assessment and monitoring of the forest resources of the country.
04	Indian Bureau of Mines	http://ibm.nic.in	The primary mission of Indian Bureau of Mines is to promote systematic and scientific development of mineral resources of the country
05	National Bureau of soil Survey & Land Use Planning	http://www.nbsslup.in	NBSS&LUP has emerged as a pioneer user of Geographic Information System (GIS) to manage the soil resource data.
06	Indian Society of Soil Survey and Land Use Planning (ISSLUP)	http://www.isslup.org	An Institution which generates Soil survey map, Watershed maps, Perspective plans for all states in India

The above survey outcome is tabulated in the following tables in order to emphasise the importance of map, its content and information can be retrieved from the same.

The Table 2 shows various maps and their utilization of information by users.

Table 2: Classification of Maps on the basis of Scale (Khan, 1998)

Classification of maps on the basis of Scale		
Sr. No.	Type of Map and Scale	Content and Usage of Map for Retrieval of Information
1	Cadastral Map or Revenue Map; Scale: 1:10,000	To demarcate the boundaries of fields and buildings, To register ownership of landed properties, Used for revenue and tax purposes by government agencies. Records of Rights (ROR)
2	Topographical Map; Scale: 1:250,000 and larger	To show the general surface features in detail like natural landscape, cultural landscape. It depicts the topographical forms like relief drainage, forests,rivers,hills,roads,towns,village,railways,bridges,telegraph lines, etc. Individual features shown on the map can be identified on the ground by their shape and position. These maps are useful to engineers, scientists, soldiers and geographers.
3	Geographical Map; Scale: Smaller than 1:250,000	A geographical map is intended to give pictorial information of an area or a country as a whole. These maps are compiled from topographical maps on various scales to meet different requirements. These maps are further classified as follows: 1) International map of the world (IMW) Series - A map of this series provides, a document which enables a comprehensive study of the economic development planning and also intended to satisfy diverse needs of specialists in many disciplines. It also provides a base map for preparation of thematic maps e.g. geology, population, vegetation, soil, administrative limits and other statistical data. 2) World Aeronautical Charts - These series is mainly used for civil aviation purpose which covers India and neighbouring countries. The main map contents are rivers, lakes, roads, railways and important villages, heights, Aerodromes with connected information. 3) State Maps - Maps of different states of India fall under this series for the use of administration, general public and educational institutions. The main map contents are rivers, lakes, rail/road communication, cities and towns, boundaries of districts and sub-divisions/ Tehsils with their headquarters, etc.

		<p>4) Indian and Adjacent Countries - It is the large scale single map covering whole of India. All States and Union Territories are shown by distinct colours. The map contents are rivers, lakes, reservoirs, sea routes with distance between ports, important roads with classification (NH, SH, etc.), cities and important towns, railway junctions. International, State and District boundaries with administrative headquarters up to district levels.</p> <p>5) Political Map of India - These maps give information about political divisions of India by distinct colours. Main contents are International, State and District boundaries, with administrative headquarters, main rivers, lakes seas , principle railways, NH, SH and other important roads, industrial and other important towns.</p> <p>6) Physical map of India - These maps are especially designed for depicting natural product or god gifted things such as heavenly body, soil, vegetation, relief, International, State and District boundaries, with administrative headquarters, main rivers, main rail and road communications in the country, names of mountain ranges and hills of important peaks.</p> <p>7) Road Map of India - These maps provides information about important tourist centres and other places of tourist interest, Archaeological sites, Government offices, industrial towns, and places where boarding and lodging facilities are available. In addition motorable in whole of India. The roads are classified according to importance. All these information is provided with a single map on a large scale.; Scale : 1:2.5M</p> <p>8) Railway Map of India - The purpose of this map is to provide the Railway Board / Government Offices and the general public with a map showing a railway network in India on a single sheet of paper. Zonal Railways are shown in contrasting colours and states are given distinct colours with their administrative headquarters. Other details shown on this map are rivers, lakes, canals, international and state boundaries, etc. No hills are shown on this map. Scale: 1:3.5M</p> <p>9) Relief Map - These are designed to show the configuration of the country in three dimensions. The vertical scale of this relief map is exaggerated to bring out relief to the desired degree. These are designed for use by educational institutions, researchers and students. Scale: 1:15M</p>
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		10) Tourist Map - Tourist Map shows all type of information a tourist need i.e. all railways, national and state highways, other roads including those providing motorability in fair weather, rest houses, museums, hotels, aerodromes, hill resorts, religious places, monuments, tourist offices, etc. Map also shows rivers and lake. Scale: 1:1M
4	Atlas Map; Scale: :90,000,000	The contents of these maps are principal natural features, such as important hills, plateaus and rivers as well as the major towns and main railways are shown. These maps are represented on a single sheet as a whole country, continent or even the world. Other features like vegetation, types of soils and mineral resources of a country or continent, or the world can be brought out conveniently on this type of map. Atlas maps are very useful for educational purpose.
5	Wall Map; Scale:	These are generalised and broadly drawn maps to represent large areas. Wall maps are prepared for keen observation for quick information. Map shows mainly various natural and man-made features like relief, climate, vegetation, population, trade routes, important towns and cities, etc. Its scale is larger than atlas maps but smaller than topographical maps, It is generally used in a classroom.

The Physical Maps are classified or modified on the basis of their contents and purposes and so are called as 'Thematic Maps'. 'Theme' means 'specific purpose'. A Thematic Map is therefore a type of map especially designed to show particular information about a single factor, connected with a specific geographic area. These maps can portray physical, social, political, cultural, economic, sociological, agricultural, rainfall, temperature, air pressure, minerals, crops, forests, soils, tourist map showing spot that can be visited, population, etc. or any other aspects of a city, state, region, nation or continent; are thematic maps.

Table 3 shows various types of Thematic Maps.

Table 3: Classification of Maps on the basis of Contents and Purpose (Khan, 1998)

On the basis of Contents and Purpose		
Sr. No.	Type of Map	Usage of Map
1	Physical Map (Thematic Map)	<p>It is especially prepared for the natural product such as soil, forest, vegetation, relief, etc. It is further sub - classified according to needs.</p> <ol style="list-style-type: none"> 1) Astronomical Map - It is prepared to show heavenly bodies. It may be either on large or small scale. 2) Relief Map - It is also known as chorographic map. It is prepared to show the actual forms of the surface. It indicates the slopes, river systems, mountains, plateaus, plains, etc. 3) Geological Map - This type of map is prepared to show the types of rock, its occurrence and depositions. 4) Climate Map - It is prepared to show the average weather condition of a long period, e.g. 15 years. 5) Weather Map - It is prepared to show the average condition of temperature, pressure, wind and precipitation over a short a period, which may range from a day to a season. 6) Soil Map - It depicts the different soils of the area by the different shades or colours. 7) Vegetation Map - It is prepared to show the types as well as distribution of the various species of vegetations. 8) Bathymetrical Map - Depths of seas and oceans are shown on this map.

2	Cultural Map	<p>This type of map is prepared to show the cultural patterns, which come into existence due to the interaction of activities of human beings with nature. Due to differential nature, cultural maps are further sub - classified as follows:</p> <ol style="list-style-type: none"> 1) Political Map - This type of map represents the boundaries between different political units. It may be a village, block, districts, states, countries or continents. 2) Military Map - It is prepared to show the strategic points, routes, etc. for the convenience of military. 3) Historical Map - This type of map is used to show the past events. 4) Social Map - This type of map depicts social organism (Tribes and races), their languages, their religions, etc. 5) Land Utilization Map - The nature and the character of land - use are represented by this type of map. 6) Population Map (Demographic Map) - It shows the distribution and density of population. 7) Linguistic Map - The distribution of the various languages spoken are given in such maps. 8) Economic and Commercial Map - Production centres and trade routes are shown on such maps. 9) Industrial Map - It depicts the zones of industries and their centres. 10) Communication Map - This map contains roads, railways, oceans and air routes. 11) Agricultural Map - It shows agricultural production, etc.
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1.4. THE ESSENCE OF MAPS (Value of MAs)

Maps are the unique means of recording and communicating media for geographical information about the location and spatial characteristics of the natural world and of society and culture. Maps are used not only by geographers but it is being universally used by anybody and everybody. Millions of maps are produced and used annually throughout the world by planners, social scientists, scientists, scholars, governments, and businesses to meet environmental, economic, political, and social needs. The important role played by maps in society since every map has an Author, a Subject and a Theme and works by serving interest of the user to best of his information need and usage.

1.5.1. VALUE OF MAP CAN BE MEASURED AS FOLLOWS:

1. A tool for recording and storing information

Governments, businesses, and society as large must store large quantities of information about the environment and the location of natural resources, capital assets, and people. Included are plat, parcel, and cadastral maps to record property, maps of society's infrastructure or utilities for water, power, and telephone, and transportation, and census maps of population.

2. A tool for analyzing locational distributions and spatial patterns

Maps let us *recognize* spatial distributions and relationships and make it possible for us to *visualize* and hence *conceptualize* patterns and processes that operate through space.

3. A tool for presenting information and communicating findings

Maps allow us to convey information and findings that are difficult to express verbally. Maps can also be used to convince and persuade, or even propagandize.

1.6. CONCLUSION

In today's era, information is a key word for development. Geographical sources plays pivotal role in management of natural resources. Land is

most precious resource for mankind and so the natural resources on which entire population sustain and develop the country vibrantly. Map is a basic geographic tool which gives true and authentic information about natural resources. Map is a storage tool for natural phenomenon as well as map is a cartographic tool which is an effective means of communication which provide useful ways of displaying information in meaningful way. It is useful in analysing the information, environmental relationship and makes the user to understand the environment. Since the map contain very valuable and vast variety of information, its uses are also varied and unlimited. Therefore, MAP is a Numero Uno Source of geographical information.

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