



**The peninsular rivers:** The main water divide in Peninsular India is formed by the Western Ghats. These run from North to South close to the Western coast. The major rivers of the Peninsula are the Godavari, the Mahanadi, the Krishna and the Kaveri. They flow Eastwards and drain into the Bay of Bengal. These rivers make deltas at their mouths. There are numerous small streams flow Western Ghats. The Tapi and the Narmad long rivers which flow West and make drainage basins of the Peninsular rivers small in size.

The important basins of Peninsular rivers are:

**The Narmada Basin:** The Narmada rises in the Amarkantak Pradesh. It flows towards the West in a rift valley formed due to a geological fault. It creates many picturesque like the Marble rocks near Jabalpur where flows through a deep gorge, and Dhuandhar river plunges over steep rocks. All the tributaries of the Narmada are very short in length. Most of its tributaries join the main steam The Narmada basin covers parts of Mad Gujarat.

**The Tapi Basin:** The Tapi rises in the Satpura ranges in th Madhya Pradesh. It flows in a rift valley Narmada but it is much shorter in length. Madhya Pradesh, Gujarat and Maharashtra between Western Ghats and the Arabian S Hence, The coastal rivers are very short. flowing rivers are Sabarmati, Mahi, Bharathpuzha Periyar. The length of river is about 724Km.

**The Godavari Basin:** The river Godavari rises from the slope the Western Ghats in the Nasik district of Maharashtra. It is the longest river (about 1500 km), having the largest drainage basin and the largest delta of the Peninsular rivers. It is also known as the Dakshin Ganga because of its length and the area it covers. More than 50% of the basin lies in Maharashtra. The Godavari has many tributaries. Manjra, Wainganga and Penganga are the largest, while the Purna, the Wardha and Pranhita are smallest tributaries. The Godavari basin covers parts of Maharashtra, Madhya Pradesh, Odisha and Andhra Pradesh. It drains into the Bay of Bengal

**The Mahanadi Basin:** The Mahanadi rises in the highlands o flows through Odisha to reach the Bay of Bengal. The length of the river is about 860 km. Its drainage Maharashtra, Chhattisgarh, Jharkhand and Odisha.

**The Krishna Basin:** The Krishna river rises from the Western Ghats near Mahabaleshwar. It flows into the Bay of Bengal before forming a large delta. Its length is out 1400 km. The Tungabhadra, Koyana, Ghatprabha, Musi and Bhima are some of its tributaries. Its basin covers parts of Maharashtra, Karnataka and Andhra Pradesh.

**The Kaveri Basin:** It rises in the Brahmagiri range of the Western Ghats and flows into The Bay of Bengal South of Cuddalore in Tamil Nadu. The length of the river is about 760 km. Its main tributaries are the Amravati, Bhavani, Hemanavati and Kabini. The Kaveri drains in the parts of Karnataka, Kerala and Tamil Nadu,

**LAKES:** Lakes are useful to human beings in many ways. Dal Lake in Kashmir valley is an attractive tourist destination famous for its house boats and shikaras. Other than tourism, lakes are also used for sporting activities like boating, swimming, water sports, etc.

**Lakes in India:** India has many lakes. These differ from each other in their size and other characteristics. There are permanent as well as seasonal lakes. Seasonal lakes contain water only during the monsoon season, e.g. the lakes found in the inland drainage basins of semi-arid regions, i.e. the Sāmbhar salt lake in Rajasthan. (Its water is used to produce salt).

Lakes in India are formed by different processes. e.g. some are formed by the action of glaciers and ice sheets, while the others have been found by wind, river actions or human activities.

A meandering river across a flood plain forms cut-offs that later develop into Ox-bow lakes. Spits and bars form lagoons in coastal areas, e.g. the Chilika, Pulicat and Kolleru lakes.

### **Fresh Water Lakes**

Fresh water lakes are formed when glaciers dig out a basin,

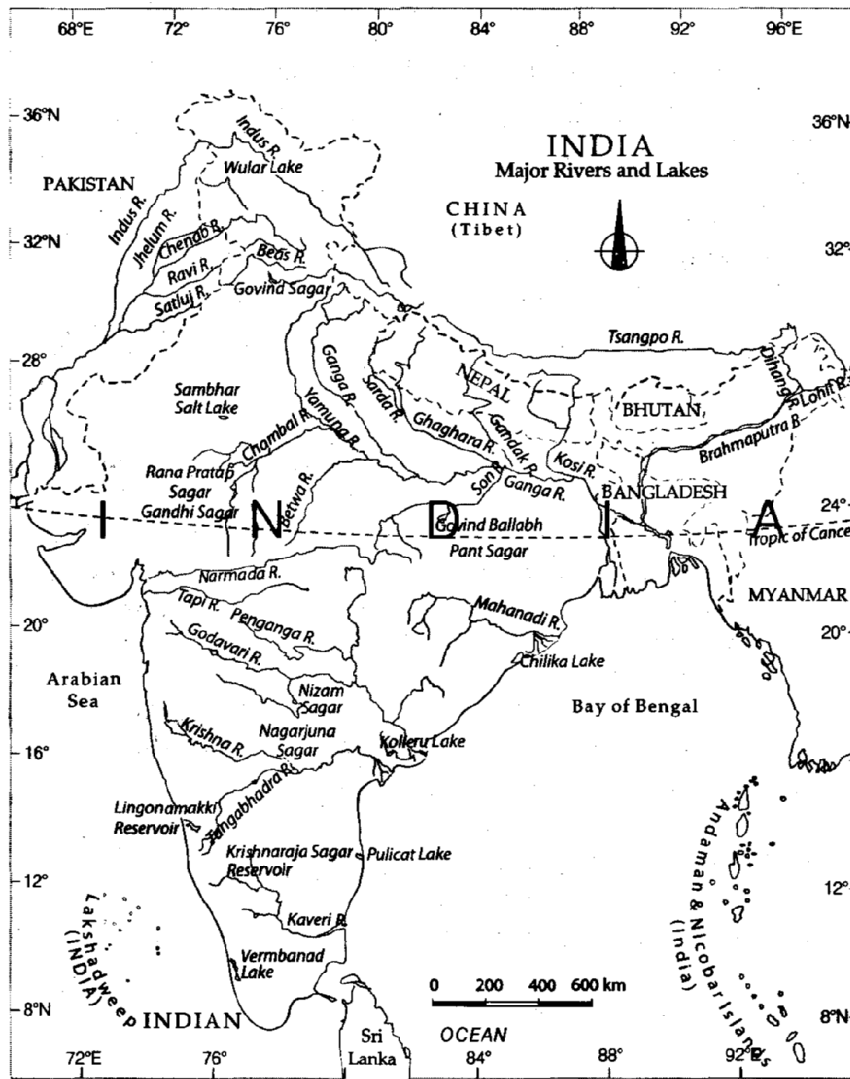
## 9<sup>th</sup> - Drainage II

which is later filled with snowmelt. Most of the fresh water lakes are in the Himalayan region, being formed by the action of glaciers.

The Wular lake in Jammu and Kashmir is the result of tectonic activity. Wular lake is the largest fresh water lake in India.

The Dal lake, Nainital, Bhimtal, Loktak and Barapani are some other important fresh water lakes.

Apart from natural lakes, the damming of the rivers for the generation of hydel power has also led to the formation of lakes such as Guru Gobind Sagar (Bhakra Nangal Project) formed by damming the Satluj.



Major rivers and lakes

### Importance of Lakes

Lakes are of great value to human beings. A lake helps to regulate the flow of a river. During heavy rainfall, it prevents flooding and during the dry season, it helps to maintain an even flow of water.

It can also be used for developing hydel power. It moderates the climate of the surroundings, maintain the aquatic ecosystem,



enhance natural beauty, helps develop tourism and provide recreation.

71 per cent of the world's surface is covered with water, but 97 per cent of that is salt water. Of the 3 per cent that is available as freshwater, three quarters of it is trapped as ice.

Lakes of large extent are called the seas, like the Caspian, the Dead and the Aral seas.

The role of rivers in the economy is stated in the points below

- (i) Rivers provide water for irrigation.
- (ii) They provide facility for navigation.
- (iii) They provide water for domestic use like washing, cooking, drinking, etc.
- (iv) They help to generate hydroelectric power.
- (v) The river banks have attracted settlers from ancient times and these settlements have now become big cities.
- (vi) They help to moderate the climate of the surrounding area. (vii) They help to promote fisheries.

### **RIVER POLLUTION**

Growing domestic, municipal, industrial and agricultural demand for water from rivers naturally affects the quality of water. Due to this demand, more and more water is being drained out of the rivers, reducing their volume.

Heavy loads of untreated sewage and industrial waste are emptied into the rivers. This affects the water as well as the self-cleansing capacity of the river. Thus, polluting rivers badly.

For example, given adequate flow, the Ganga water is able to dilute and assimilate pollution loads within 20 km of large cities.

### **ROLE OF RIVERS IN THE ECONOMY**

Rivers have played an important role throughout human history.

Water from the rivers is a basic natural resource essential for various human activities.

But the increasing urbanization and industrialization does not allow it to happen and the pollution level of many rivers has been rising. Concern over rising pollution in our rivers led to the launching of various action plans to clean the rivers) .....

### **National River Conservation Plan (NRCP)**

The activities of Ganga Action Plan (GAP) Phase-I, initiated in 1985, were declared closed on 31st March, 2000. Steering Committee of the National River Conservation Authority reviewed the progress of the GAP and necessary correction was made on the basis of lessons learnt experiences gained from GAP phase-I. These have been applied to the major polluted rivers of the country under the NRCP.

The Ganga Action Plan (GAP) Phase-II has been merged with the NRCP. The expanded NRCP now covers 152 towns located along 27 interstate rivers in states.

Under this action plan, pollution reduction works being taken up in 57 towns. A total of 215 schemes pollution abatement have been sanctioned. So 69 schemes have been completed under this action plan. A million litres of sewage is targeted to be intercepted, diverted and treated every day in programme.

