The Punjab-Haryana plain is an alluvial low land situated west of the Yamuna and north of the arid desert. Between the stony and highly broken slopes of the Himalayan mountain constituting Himachal Pradesh in the north and desert in the south, this plain stretches like a corridor and merges in the east in the rich Ganges plain. This region slopes gently westwards. Its elevation varies from 275 metres in the north to 213 metres in the southeast and 176 metres near Fazilka in the southwest. The Ravi, Beas and Sutlej drain only one-fourth of the area of this region in the north. The Yamuna drains only a narrow strip of land lying on its right bank. A large number of seasonal hill torrents leave the Shiwalik Hills and flow in the southwest direction. Except for the Ghaggar and its tributaries, the Markanda and the Sarasvati which leave the foot hill between the Sutlej and the Yamuna, all other torrents dwindle soon after they traverse a few kilometres in plains.

The south-western Punjab Haryana Plain is a region of dwindling rivers and increasing desiccation. Area enclosed by 38.1 cm. (15 inches) isohyet has at some places loose sand and wind blown fine dust.

In southern districts outliers of the Aravalli Hills break the monotony of the plains. The outliers are low in height and are separated from one another by low-level
alluvial plains. They appear in Mahendragarh and Gurgaon districts and Delhi state.

**Climate (Punjab and Haryana):** The climatic types humid subtropical with dry winter (Caw) and sub-tropical steppe (BSh) prevail in this region. A 72 km. broad strip of the plain adjacent to the Siwalik Hills and the belt east of the line connecting Delhi with Patiala have (Caw) type. Rest of the area which constitutes the major part of this region has sub-tropical steppe (BSh) climate.

Rainfall decreases to the southwest and it varies from 88.9 cm. near the Siwalik Hills to 33.1 cm. near the desert. In the southwest, continentality is characterized not only by rainfall but also by high range of temperature. This region receives major part of the annual rainfall in the months of July, August and September. The monsoon starts in the first week of July and ends in the third week of September. Western depression in winter brings a few centimetres of rainfall more in the plain adjacent to the Siwalik Hills.

**Himachal Pradesh:** It is a high mountainous region lying between Jammu and Kashmir state in the northwest and Nepal in the southeast. This comprises the Punjab Himalaya
and Kumaun Himalaya. It is a highly rugged region of high mountain ranges covered with eternal snow at some places above an elevation of about 4270 metres and with foaming torrents passing through deeply cut gorges or steep sided valleys. The Ganges, the Yamuna, the Beas, the Ravi and the Chenab have their origin and catchment areas in this region.

This part of the Himalayas consists of three mountain ranges, the Great Himalayan Range in the north, the Siwalik Range along the plains in the south and the Lesser Himalayas in between them. These mountain ranges extending in east-west direction are deeply dissected by the rivers flowing southwards or southwestward. Broad river valley bottoms are almost absent. Intermountain basins and plateaus are rare or almost absent in these closely packed and highly dissected complex mass of mountains.

The longitudinal valleys in the Siwalik Hills are, however, fairly wide. A large number of seasonal hill torrents leave the Siwalik Hills and enter into the level plain. These torrents are swollen with water soon after heavy showers in the neighbouring hills and carry with them a heavy load of course sand and silt. They are furious when rushing to the plains. They are called 'Chos' in the plain where their beds are broad, braided, shallow and sandy.
They are quite numerous and in some places every kilometre has a 'Cho'. Near the hill the sweeping beds of the 'Chos' inundate large areas of Punjab and Haryana. Some of the big 'Chos' make inroads into Chandigarh, Jullundur, Hoshiarpur, Ambala etc. In years of excessive rainfall, water stands for weeks and sometimes for months in fields with poor drainage.

Climate (Himachal Pradesh): Rising from the tropical lowlands and attaining heights towering much above the snow-line this mountain region presents a great variety of climate. Below 915 metres is the tropical zone. Above 4265 metres the climate is severely cold. Day may be warm but at night heat radiates quickly and temperature drops below freezing point. It is wind swept, extremely cold and snow bound wilderness. During winter season western depressions deposit snow which feeds valley glaciers and at some places avalanches. The zone between 2740 and 4570 metres has cold, dreary and comparatively long winters. From 1067 metres to about 2440 metres the climate is temperate with warm summers and cold winters. Rain is received during the summer months as in other parts of India. Amount of annual rainfall varies from about 305 cm. to less than 76 cm. Southern windward slopes are relatively rainy. The dry area sprawls mainly in these parts of Himachal Pradesh which lie to the north of the Great Himalayan Range,
Lahul-Spiti district. The eastern part of this region receives more rainfall than the western part.

There are a number of ditches and ponds along the banks of canals, and chos. These become flooded periodically and provide shelter to young tadpoles which ultimately grow into adult frogs and toads. The aforesaid water system contains enough anurans. Thus, the following spots were selected for the material.

Ropar: It is about 41 kilometres from Chandigarh. There are a number of 'chos' between Chandigarh and Ropar. They become profusely populated by frogs when they are inundated by the water overflowing the banks of 'chos' during heavy monsoons. Periodic collections were made from 'chos', ponds and ditches.

Pinjore: It is about 21 kilometres from Chandigarh. There is a big pond near the famous Pinjore Gardens. Beside this, there is a large 'cho' near Panchkula only 10 kilometres away from Chandigarh. Many ditches and ponds were looked for the material.

Collections were also made from the following places: Their distances from Chandigarh are given in brackets: Hissar (150 km.), Rohtak (240 km.), Jind (211 km.), Gurgaon (272 km.), Ambala (46 km.), Karnal (104 km.), Delhi (248 km.), Ludhiana (96 km.), Amritsar (230 km.), Patiala (72 km.),
Sangrur (128 km.), Kapurthala (172 km.), Gurdaspur (240 km.), Bilaspur (172 km.), Simla (117 km.), Kasauli (67 km.), Dalhousie (304 km.), Chamba (352 km.), Dharamsala (250 km.), Kulu (277 km.), Mandi (211 km.). (Fig. 1).