Chapter I
Introduction

Archaeological research in India, in its true sense, was started as early as in 18th century. About two hundred years of research conducted on various aspects of Archaeology by the Government agencies, private organisations, individual researchers and other Indian and foreign academic institutions, have unravelled a number of startling facts about our ancestors, their material culture, history, customs, traditions and religion right from the pre-historic times upto the modern times.

Influence of certain important factors such as the environmental conditions and great diversity in topography on the cultural developments in this vast country is so much that, they vary from region to region. The peninsular India characterised by 'Archaeans' - the oldest geological strata - is one such major region which on the geographical and topographical features may be divided into further sub zones. Karnataka "a table land situated in the angle where the eastern and western ghats converge towards the Nilagiri hills" (Krishnan, 1956) forms one such important zone.

The present study is aimed to bring to the focus essentially the pre and proto-historic cultural aspects of the 'Malnad' region of Karnataka which is hardly known. Sporadic explorations resulting in the discovery of a Lower Palaeolithic site here or a Megalithic site there seem to indicate the potentiality of the region in pre-historic remains.

Pre-historic investigations in the archaeologically rich Karnataka state was begun by Robert Bruce Foote in the last quarter of 19th century. Since then as many as five scholars have systematically explored and studied several pre-historic sites in different river valleys and other regions in Karnataka. The most noteworthy studies are by Joshi in Malaprabha river (1955), Seshadri in some parts of southern Karnataka (1956), Banerjee in Bagalkot region (1957), Paddayya
in Shorapur doab (1968), Pappu in Krishna basin (1974) and recently again by Paddayya in Hunsgi (1982). These studies have basically contributed to the understanding of the pre-historic cultures as well as the Geomorphology of the region from a simple systematic field survey. They also indicate application of the advanced techniques in the study of the sites and materials that in course of time enable to extract more meaningful information about the pre-historic man and his environments most scientifically, as for example, Dr. Paddayya's work on Hunsgi (1982).

Excavations of Neolithic habitational sites and ashmounds such as Brahmagiri (Wheeler, 1948), Sanganakallu (Subba Rao, 1948), (Sankalia, Ansari, Nagaraja Rao, 1969), Tekkalakota (Nagaraja Rao, 1965), Kupagal (Majumdar and Rajaguru, 1966), Hallur (Nagaraja Rao, 1971), etc. indicate that the area of research in this field is centered mostly in northern Karnataka. Research on Iron Age Megalithic cultures has also been taken up extensively in this region. Particular mention may be made of the work done by Sundara (1975) on the Megalithic culture of northern Karnataka, opening new vistas in understanding the beginning and spread of this culture.

The problem: With this background, if we look at the progress so far made in the Archaeological research, particularly from the point of view of pre and proto-history of southern Karnataka, no problem oriented or systematic research seems to have been attempted except the pioneering work of Dr. Seshadri. As already noted, but for a few Lower Palaeolithic sites reported such as at Nyamti, Nidaghatta, Lingadahalli, Kadur (Bruce Foote, 1901), Kibbanahalli, Biligiri (Sampath Aiyangar, 1924), etc., not much is known about the pre-history. T. Narasipur (Seshadri, 1971), Hemmuge (Hanumantha Rao & Nagaraju, 1974) both in the Upper Kaveri valley in Mysore district and Banahalli (IAR, 1983-84) in Kolar district are the only three Neolithic sites systematically excavated so far in this region though numerous sites have been reported.
As far as the Megalithic problem is concerned, a number of burial sites are reported from various districts. However, only three sites namely Jadigenahalli (Seshadri, 1960) near Bangalore, Heggadahalli and Koppa (1977) in Coorg and Mysore districts respectively have been excavated so far. Subbaiah's (1972) recent work on Coorg Megaliths also does not provide a comprehensive picture of the Megalithic culture in the southern Karnataka as the study is restricted to Coorg district only.

From the above observations, it is clear that the area in and around Krishna and Bhima valleys are comparatively better investigated and a wealth of meaningful material is available on the development and expansion of various cultures and bearing on their chronological sequences so far as the northern Karnataka is concerned.

Chronological sequence of the Palaeolithic cultures of southern Karnataka has not been ascertained due to lack of sufficient problem oriented surveys, essentially of the river valleys, as has been done in the river valleys of northern Karnataka. However, it is gratifying to note that recently teachers of the Ancient History and Archaeology and Geology of Mysore University are trying to examine the Kaveri valley with an inter-disciplinary approach (Gururaja Rao and Shivarudrappa, 1989). Archaeological investigations particularly in the upper Kaveri valley, though reveal certain peculiarities in the material culture of the Neolithic people, they do not furnish evidence about the mutual contacts, if any, with the sites reported from northern Karnataka. Coming to the Megalithic culture, we have sufficient information about the chronology and spread of Megalithic burial types in so far as the eastern, northern and a part of southern Karnataka. However, their chronology and spread in the remaining part in relation to the above said areas have not been attempted so far.

Hence, in order to understand the range and cultural diffusion from northern Karnataka to southern Karnataka, if any, on the one hand and the regional peculiarities on the other, a detailed study...
archaeologically little known intermediary region comprising Shimoga, Chikmagalur and Hassan districts forming the south western part of Karnataka is necessitated. This intermediary region 'Malnad' or 'High land' with distinct geographical features and climatic conditions seem to have played a vital role in the movement and spread of the culture right from the beginning of human existence. With this study it is believed a grand picture of the outline of the pre-historic cultures of Karnataka becomes almost entirely known.

**Previous work done in the 'Malnad'.**

With the exception of the general notes on the Megalithic burials by Mackenzy (1873) and a descriptive note on the Palaeoliths from Nyamti, Nidaghatta and Lingadahalli by Robert Bruce Foote (1901) detailed information is not available about the few sites reported subsequently. However, these sites are tabulated below in a chronological order highlighting their features.

**Table No. 1**

<table>
<thead>
<tr>
<th>Sites explored earlier (Until 1977) in 'Malnad'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sl. No.</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

... 5
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Hannali</td>
<td>f) Kotigehara</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>g) Kaldurga</td>
<td>1881</td>
<td>-do-</td>
<td>Dark grey chert flake with working edge</td>
</tr>
<tr>
<td>3</td>
<td>Hassan</td>
<td>Payagod</td>
<td>1881</td>
<td>-do-</td>
<td>Broken part of a ring stone Whether it had any prehistoric appendage is not known.</td>
</tr>
<tr>
<td>4</td>
<td>Hassan</td>
<td>a) Gurni</td>
<td>1954</td>
<td>Seshadri</td>
<td>Megalithic burial sites Only types are described. Other details are not known.</td>
</tr>
<tr>
<td></td>
<td>Belur</td>
<td>b) Pungame</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Honnavara</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Kondajji</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>e) Kardigudda</td>
<td></td>
<td></td>
<td>Solitary Lower Palaeolithic ovate</td>
</tr>
<tr>
<td>5</td>
<td>Chikmagalur</td>
<td>Beluvanakudige</td>
<td>1968</td>
<td>G.R. Sundara</td>
<td>Megalithic burials The site is situated at a higher altitude. A. Sundara has described the types in 1974.</td>
</tr>
<tr>
<td></td>
<td>Srinjera</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Shimoga</td>
<td>Nilaskal</td>
<td>1974</td>
<td>A. Sundara</td>
<td>Neolithic Brown and Black Ware and Menhirs There are 30 or more menhirs in one locality. (Hulikal pass leading to coastal region is nearby).</td>
</tr>
<tr>
<td></td>
<td>Hosanegara</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Shimoga</td>
<td>Arehalli</td>
<td>1974</td>
<td>A. Sundara</td>
<td>Neolithic pottery, Megalithic burials Disturbed site, Megalithic Dolmenoid cist.</td>
</tr>
<tr>
<td>No.</td>
<td>District</td>
<td>Place</td>
<td>Year</td>
<td>Collector/Researcher</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>8</td>
<td>Shimoga</td>
<td>Guddemaradi</td>
<td>1974</td>
<td>A. Sundara</td>
<td>Neolithic pottery and stone implements. A. Sundara mentions the influence of Chalcolithic culture.</td>
</tr>
<tr>
<td>9</td>
<td>Shimoga</td>
<td>Halenagara</td>
<td>1975</td>
<td>-</td>
<td>Neolithic Burnished Grey ware.</td>
</tr>
<tr>
<td>10</td>
<td>Shimoga</td>
<td>(a) Anveri</td>
<td>1976</td>
<td>Dept. of Archaeology, Govt. of Karnataka</td>
<td>Neolithic pottery and stone implements collected by local Head Master and now kept in the School.</td>
</tr>
<tr>
<td>11</td>
<td>Shimoga</td>
<td>(a) Ashokanagara</td>
<td>1977</td>
<td>K.P.P. Tejasvi, S. Ramachandra Rao</td>
<td>Neolithic implements. Eastern most Neolithic site reported from this region.</td>
</tr>
</tbody>
</table>

**Environment**: As a background to the present study, it is necessary to have a sound idea of the Geology and Geography of the region which has direct bearing on the development of pre-historic and proto-historic cultures.

The 'Malnad' region under study forms the south-western part of the Karnataka state and is situated roughly between the parallels 12°31' and 14°35' northern latitude and 74°35' and 76°40' eastern longitude covering an area of about 13,992 Sq Km. The region is bounded on the north-east by Chitradurga, south-east by Mandya, south by Coorg; west by Dakshina Kannada and north-west by Uttara Kannada districts. Physiographically it can be divided into three zones namely (a) 'Malnad' with mountainous tracts, intervening valleys covered with evergreen forests (b) Semi Malnad covered with semi evergreen and...
deciduous forests and (c) 'Maidan' a well cultivated open country interspersed with isolated hills and hill clusters either almost bare or composed of dry deciduous and thorny scrub belt.

**Hills:** In fact, the region is pre-eminently a high land tract also known as the western ghats running in almost north-east and south-west orientation with sudden escarpments and acts as a stupendous barrier between the coastal plain on the west and Maidan on the east, besides accommodating numerous passes of which, Agumbe, Hulikal, Kollur and Bisle are noteworthy for, we have a few pre-historic sites in the vicinity of these passes. This high land also accommodates some of the tallest peaks of the region, Mullayananagiri (1926.7 m) and Chandragutti (848 m) representing respectively the maximum and minimum heights.

**Rocks and Minerals:** Geologically 'Malnad' region is very stable. The salient rock formations are the Dharwar schists, with which are found highly altered sedimentary rocks such as quartzite, conglomerates, limestone, traps and shales. Majority of the Lower Palaeolithic tools are made on quartzite. Trap and quartz derived from schists have also been used for fashioning tools. Another important rock formation is granitic gneissic having sub-groups namely granite and granitic gneisses with variation in structure, texture, colour, etc. Laterite of tertiary age is another important rock formation in the region, found in small patches in Shimoga and Hassan districts.

The region is known for a variety of minerals. There are in all twenty-nine varieties of minerals found in the three districts. Some of these include bauxite, beryl, soapstone, asbestos, corundum, feldspar, graphite, mica, manganese, titanium, etc.

**Drainage:** A number of rivers draining the region originate from the high western ghats. The most important among them being Kaveri, Tunga, Bhadra, Tungabhadra, Sharavati and Hemavati. Other small rivers include Kumudavati, Varada, Vedavati, Yagachi, etc., all tributaries of the above major rivers. It is worthy to note that the river Krishna...
and her tributaries and the middle and upper Kaveri with her tributaries drain the adjacent northern and southern part of the 'Malnad' respectively.

**Climate:** Climatically the 'Malnad' region, a greater part of which has hilly terrain, is on the whole agreeable and cool. The year may be divided into four seasons according to the climatic conditions. The summer season with steady increase in the temperature is from March to May. The period from June to September constitute the south-west monsoon season. October and November may be termed as post-monsoon season followed by cold (winter) season with clear bright weather from December to February.

**Temperature:** In this region April is the hottest month with a mean daily maximum temperature rising on an average upto 35°C while mean daily minimum temperature is about 20°C on an average. On individual days during the summer the temperature varies from 30°C to 35°C. During monsoon the temperature drops and becomes too low during the cold season.

**Rain-fall:** The south-western and part of western region which include the western ghats receives heavy rain fall. The rain fall decreases rapidly from the west to the east.

Average annual rain fall in the region is as follows:

<table>
<thead>
<tr>
<th>Region</th>
<th>Annual average rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Northern part (Shimoga district)</td>
<td>1526.5 mm</td>
</tr>
<tr>
<td>b) Southern part (Hassan district)</td>
<td>1047.7 mm</td>
</tr>
<tr>
<td>c) Central part (Intermediary Chikmagalur district)</td>
<td>1989.8 m</td>
</tr>
<tr>
<td>d) The eastern part of the above three districts.</td>
<td>varies between 650 mm to 600 mm</td>
</tr>
</tbody>
</table>
Table No. 2

Rainy days (with 2-5 mm or 10 cents or more)

<table>
<thead>
<tr>
<th>District</th>
<th>No. of days</th>
<th>Percentage of rain fall received during monsoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shimoga</td>
<td>80</td>
<td>79</td>
</tr>
<tr>
<td>Chickmagalur</td>
<td>92</td>
<td>79</td>
</tr>
<tr>
<td>Hassan</td>
<td>68</td>
<td>52</td>
</tr>
</tbody>
</table>

Agumbe on the western ghats in Shimoga district, receives 8275.7 mm (325.82") annual rainfall and is the second highest rainfalling area in India after Chirapunji in Assam, while Honnali to the north-west of Shimoga in the maidan receives 611.7 mm (24.08") of the lowest annual rain fall. Sringeri in the western part of Chickmagalur district receives 3695.1 mm (145.48") annual rainfall while Kadur in the eastern part of the district receives only 603.6 mm (23.76") rainfall annually, Sakaleshpur in the west of Hassan district receives 3248.7 mm (92.47") annual rainfall while Arsikere in the east of the district receives 673.1 mm (26.50") rainfall annually.

The large spatial variation noticed above clearly indicates that areas in and around western ghats of the region gets heavy annual rainfall which decreases rapidly as one proceeds towards the east from the 'ghat' region.

Soils: The soils of 'Malnad' region show a marked diversity depending upon the nature of the parent rock and climatic conditions of the respective areas. The chief soil forming rocks in the region under study are schists, granites, gneisses and laterites. Black cotton soil is confined to the medium to low rainfall falling area in the region.

Red loamy soils occur in different localities of the region with less percentage of Nitrogen, Phosphorus and Potash and are generally acidic to neutral.
Red sandy soil occur in different areas in the region are derived from Schists, Granite and Gneisses are red to brownish in colour and loamy to sandy in texture. Soils of Laterite origin occur only in northern and southern parts of the region. It is red to yellow in colour and is generally acidic in nature. Soils in the 'Malnad' areas are well supplied with organic matter whereas the soils of maidan area contain only about 10 percent of organic matter.

**Table No. 3**

Soils favourable for crops grown in the region under rain fed and irrigated conditions

<table>
<thead>
<tr>
<th>Laterite soil</th>
<th>Black soil</th>
<th>Red sandy soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Paddy</td>
<td>a) Cotton</td>
<td>a) Paddy</td>
</tr>
<tr>
<td>b) Coffee</td>
<td>b) Wheat</td>
<td>b) Ragi</td>
</tr>
<tr>
<td>c) Tea</td>
<td>c) Jower</td>
<td>c) Millets</td>
</tr>
<tr>
<td>d) Sugarcane</td>
<td>d) Gram</td>
<td>d) Pulses</td>
</tr>
<tr>
<td>e) Areca</td>
<td>e) Millets</td>
<td>e) Oil seeds</td>
</tr>
<tr>
<td>f) Plantains</td>
<td>f) Oil seeds</td>
<td>f) Sugarcane</td>
</tr>
<tr>
<td>g) Pepper</td>
<td></td>
<td>g) Areca</td>
</tr>
<tr>
<td>h) Fruits</td>
<td></td>
<td>h) Plantain</td>
</tr>
<tr>
<td>i) Cardamom</td>
<td></td>
<td>i) Chillies</td>
</tr>
<tr>
<td>j) Potato</td>
<td></td>
<td>j) Potato</td>
</tr>
<tr>
<td>k) Groundnut</td>
<td></td>
<td>k) Groundnut</td>
</tr>
<tr>
<td>l) Jower</td>
<td></td>
<td>l) Jower</td>
</tr>
<tr>
<td>m) Cotton</td>
<td></td>
<td>m) Cotton</td>
</tr>
<tr>
<td>n) Vegetables</td>
<td></td>
<td>n) Vegetables</td>
</tr>
</tbody>
</table>
Flora: The flora of the region under study is varied and rich due to variation in climate particularly rainfall (minimum 603 mm; maximum 8275 mm) resulting in rapid transition from scrub to the evergreen flora as one moves from east to west. The flora of the region may be broadly classified as follows depending on the altitude at which they are situated.

a) Evergreen tropical forests: Interspersed with evergreen grassy slopes.

b) Semi evergreen and wet deciduous belt and

c) Dry deciduous and thorn scrub belt

Over 60 important species of trees are known from the region including varieties of shrubs. Wild fruits of different variety also occur in this region in different seasons.

Fauna: The rich tropical forests have also become rich game-sanctuary as is evident from the numerous species of animals, birds and fishes that are seen moving freely in the forests and waters. Almost all major groups of Indian mammals are found in this region. Due to abundant availability of vegetable food and insects a good number of bird species are also found in the woods of 'Malnad'. Raptiles in this region include snakes, crocodiles, lizards, tortoise, chameleon, etc. Different species of amphibians and fishes are abundantly found in most of the rivers and tanks of this region. Besides domestic animals for day today use are also found (District Gazetteers, 1971, 1975 and 1981).

The above brief note on the geological and geographical aspects of the region indicate that the region no doubt has thick evergreen forest beset with dangerous animals. However, elsewhere it is known that stone age man was able to prey even large and mighty animals like mammoths. What was perhaps needed in an environment like that of 'Malnad' was the development of different devices to interact with the
fauna of the region. It is also noteworthy that, the region rich both in flora and fauna with abundant water supply and rock materials suitable for making tools, wealth of minerals such as iron and copper, attracted pre-historic people of both the Palaeolithic and the Neolithic cultural stages. Extensive and large scale excavation of some select sites may yield data pertaining to the life style of the people here that is likely to be distinct from the contemporary mode of life of the people in the maidan area.

**Political History:** As briefly outlined above; the Malnad region, endowed with abundant natural resources, continuous water supply and having conducive climate has been the home of human culture from the very pre-historic times. With the emergence of the first and the second urbanisations respectively coinciding with the Neolithic/Chalcolithic and Iron ages, the area appears to have been occupied by more and more number of people. Especially with the favourable coastal strip and the hinterland with abundant resources of forest products and large cultivable lands yielding economic products like the spices, etc., the region was quite affluent and became the stage for the political activities during the early centuries of the Christian era.

Banavasi province, covering part of the Malnad region, was quite well known during the Mauryan times and Emperor Asoka was prompted to send the Buddhist missionery for the propagation of the Dhamma in this area. The Cylonese chronicles refer to many Buddhists as well as stupas of Banavasi. Huen Tsang, the Chinese traveller, too mentions about the stupas of which he had heard much. Later in time, among the successors of the Satavahanas of 'Paithan', the Chutus were ruling from Banavasi amply patronising Buddhism. During this time, Banavasi seems to have had trans-oceanic trade contacts with the western countries. Roman coins found at Banavasi as also at Akki Alur in the neighbouring Dharwar district (Nagaraja Rao, 1987) issued by Roman kings Augustus and others support this view. Probably, it is these factors, that
attracted Kadamba king Mayura Sarma, hailing from Talagunda (an ancient agrahara in the near proximity of Banavasi) to have the 'capital' of his newly found kingdom, the first independent and native kingdom of Karnataka, at Banavasi.

The Kadambas ruled over the entire Malnad region for over two centuries (A.D. 325 - 540). Thereafter, they were subjugated by the Chalukyas of Badami (A.D. 500 - 757) and continued to rule as feudatories under them. After the Kadamba epoch, the region forming part of the Banavasi - 12000 province, was ruled by the collateral branches of the Kadambas, like the Kadambas of Hangal, Goa, Belur, etc. as feudatories of the major ruling dynasties like the Rashtrakutas (c. 756 to 973 A.D.), Chalukyas of Kalyana (A.D. 973 to 1189) and the Seunas (Yadavas of Devagiri) (c. 850 to 1334 A.D.) (Kamat, 1980).

The next and the only important dynasty that sprang in the Malnad region is that of the Hoysalas of Dora Samudra (modern Halebid). Originating as petty Chiefs of the Malnad in the Sosevur (ancient Sasakapura) area (Chikmagalur district), the Hoysalas were ambitiously building up a kingdom and succeeded in their efforts in the early decades of 12th century through Vishnuvardhana of the family. Interestingly they had among their imperial titles 'Maleparol ganda' (husband of the hill Chiefs) signifying their origin in and overlordship over the Malnad region. The most important among the rulers of this dynasty are Vishnuvardhana (A.D. 1108 - 1152), Ballala II (A.D. 1173 - 1220) and Narasimha II (A.D. 1200 - 1239).

The contribution of the Hoysalas to the history, art, architecture and religion up to their disappearance in the middle of the 14th century A.D. from the political scene, is so spectacular that their rule occupied a distinct place in the history of India in general and that of Karnataka in particular. Their contribution in the field of architecture, especially is unparallel as is evident in the form o
number of ornate temples built all over the dominion. The small and medium sized temples of the period are characterised by stellate plan, high platform, articulation of the walls, highly polished lathe turned pillars, decorative sculptures of intricate workmanship and restrained elegance of the sikharas over the single, double or triple shrines, all constituting to a separate style by itself known as the Hoysala style. Undoubtedly it represents the 'supreme climax of Indian architecture'.

In the field of religion, the Hoysala rule witnessed the emergence of Srivaishnavism, profounded by Sri Ramanujacharya and Vaishnavism, profounded by Sri Madhvacharya. Sri Ramanujacharya was instrumental in making Vishnuvardhana to accept Srivaishnavism. Literature too flourished during the period. The prose work 'Gadya Karnamrita' by Vidya Chakravartin, Sri Bhashyam and other works expounding the philosophy of qualified monism by Sri Ramanuja are among the noteworthy Sanskrit works, Rajaditya's Vyavahara Ganita' and 'Lilavati' are the important treatises on mathematics. Ramachandra Chaita Purana (or Pampa Ramayana) of Nagachandra, Neminatha Purana of Nemachandra, Vardhamana Purana of Acharna, and the classic Kannada literary work 'Yesodhara Charite' of Janna are some of the outstanding works in the Kannada literary work (Diwakar, 1968).

After the illustrious rule of the Hoysalas, the region became part of the Vijayanagara Empire and was variously administered by small feudatories. In the post-Vijayanagara period many of these feudatories like the Nayakas of Keladi, Ikkeri, etc., began their independent rule over this region.

Thus, politically and culturally one could see a continuous and brilliant career in the history of this region right up to the modern period.
Method of work: Keeping the above defined problem in view, the entire strip of land ranging from 10 - 20 Km from the river bank, on both the sides of the river Upper Tungabhadra from Hallur upwards upto the confluence at Kudli, the Tunga, the Bhadra, the Hemavati upto their origin and a stretch of 30 Kms of the Upper Kaveri in Hassan district were intensively explored for, it is too well known that the pre-historic people were essentially moving about or settled down in the river valleys and the earlier stray discoveries indicated the same. It is only with regard to the Iron Age Megalithic culture that the Megalithic burials are found in the hilly terrains for the obvious reasons that the necessary suitable rock material could be obtained and used there.

So far 92 sites are noticed in these river valleys. Of them 40 are in the Upper Tungabhadra, 15 sites in the Bhadra, 17 sites in the Tunga, 14 sites in the Hemavati and 7 sites in the Kaveri. Remains of different cultures found in these sites are categorised as follows: Lower Palaeolithic 26, Middle Palaeolithic 8, Upper Palaeolithic 1, Mesolithic 45, Neolithic 22 and Megalithic 36. A map and also a table displaying the distribution of different cultures in different river valleys are appended herewith (Fig. 1).

During the exploration every bit of information with regard to topography, natural resources, nature and extent of the site, etc., has been taken note of. It may also be noted here that during exploration, an attempt has been made to collect as far as possible all kinds of materials without any bias for any kind of antiquity. The explored materials have been carefully analysed quantitatively and topologically. After noting every bit of the antiquities, selection has been made on the basis of typology and technology and also of the unusual types and material. At relevant places (below in all the 2-6 chapters) analysis are given to ascertain the preference of certain types by the pre-historic people. It is true, that these analysis are based on the materials collected from the surface and the implications...
arrived at are not likely to be wholly exact. Hence, the observations made are bound to be provisional for understanding the life-style of the pre-historic people as much as possible.

Wherever available, the river cliff sections have been studied in relation to the cultural remains noticed in the nearby sites. Although lack of resources did not permit me to excavate one or two select sites on a large scale, a small trial dig was attempted in a potential site in the Upper Tungabhadra valley to obtain more information of the proto-historic cultures and to put the explored materials more accurately into a proper stratigraphical and chronological perspective. However, on the basis of comparisons with the known sites, the explored materials (Palaeoliths and Mesoliths) have been studied in the first instance river-valley-wise and then culture-wise. This has been done to find out variations in cultural indices river-valley-wise if there be any and the development of the culture through the ages.

So far as the treatment of the subject is concerned, it is dealt with in three parts, viz. (1) Explorations (2) Description and analysis and (3) observation and conclusions.

Terminology: For the sake of convenience and to maintain uniformity, I have used the widely accepted terms like Lower Palaeolithic, Middle Palaeolithic, Upper Palaeolithic, Mesolithic, etc. while describing the various pre-historic lithic industries noticed by me in the river valleys of Malnad region. The present study does not warrant revision or introduction of new items in the existing accepted terminologies with regard to pre-historic cultures.

Note: To highlight the various salient features of sites, these have been arranged in a tabular form river valley-wise and district-wise. Wherever essential, district name is included in the margin itself. The details against Roman letters and Alphabets used in the table are as follows:
Roman letters I to VI indicate:
I - Taluk; II - Village; III - Latitude, Longitude,
IV - Environs (a) Geological/Geographical features;
(b) Locus; (c) Tentative stratigraphy;
V - Culture - Cultural milieu/artefacts/raw material
VI - Extent of the site and the present condition.

Capital Alphabets indicate:
A - Lower Palaeolithic; B - Middle Palaeolithic;
C - Upper Palaeolithic; D - Mesolithic;
E - Neolithic; F - Megalithic

(1) THE UPPER TUNGABHADRA VALLEY (SHIMOGA DISTRICT)

No. 1

I. Honnali

II. Konaikanahalli, 2 Km south-west of the village.

III. 75°38'15" East, 14°15'30" North.

IV. (a) Maidan features, red soil, Quartz lumps.
(b) 2 Km west of the river Tungabhadra, on an elevated area.
(c) Red soil, Gneiss.

V. (D) Mesolithic - Non-geometric; Scrapers, Points, irregular flakes made on Quartz.

VI. 25 m east-west x 30 m north-south; under cultivation.
No. 2

I. Honnali

II. Hale Arlehalli, 2 Km south-west of the village.

III. 75°37'15" East, 14°8' North.

IV. (a) Maidan features, red soil, quartz lumps, scanty vegetation. Small hillock to the south-east of the site.

(b) 1.2 Km west of the river Tungabhadra on an elevated area.

(c) Red soil, gneiss.

V. (D) Mesolithic - Non-geometric bladish flakes, double points, scrapers made on milky and grey quartz.

VI. 30 m east-west x 30 m north-south; site is under cultivation.

No. 3

I. Honnali.

II. Honnali, 2.2 Km north of Honnali town.

III. 75°38' East, 14°15' North.

IV. (a) Maidan features, scanty vegetation. Red soil. Quartz lumps and pebbles.

(b) 150 m west of the river Tungabhadra.

(c) Red soil, gneiss.

V. (D) Mesolithic - Non-geometric points, scrapers. Blades made on quartz.

VI. 60 m east-west x 30 m north-south; site is under cultivation.
No. 4

I. Honnali
II. Didagur, 5 Km south-west of Honnali town.
III. 75°40' East, 14°12'30" North
IV. (a) Maidan features; scanty vegetation. Bamboo stems along the river. Red soil.
    (b) 50 m. south of the village.
    (c) Red soil, Gneiss.
V. (E) Neolithic - Ground stone tools, pottery and White painted Black and Red ware.
    (F) Megalithic - Black and Red ware, All Black ware.
VI. 2 acres; disturbed.

No. 5

I. Honnali
II. Haralahalli, 6 Km south of Honnali town.
III. 75°37'30" East, 14°18' North
IV. (a) Maidan features, scanty vegetation. Quartz pebbles, reddish loose soil mixed with gravel. Surrounded by black soil fields.
    (b) 1.5 Km west of the river Tungabhadra.
    (c) Red soil, gneiss.
V. (D) Mesolithic - Non-geometric scrapers, points, rejected cores, all made on Quartz.
VI. 30 m east-west x 50 m north-south, site is under cultivation.
No. 6

I. Honnali

II. Govinkovi

III. 75°40'30" East, 14°10' North

IV. (a) Maidan features, scanty vegetation. Small nullah runs in east-west orientation near the site. Pebbly gravel patch, water weeds in the river bed.  

(b) 1.5 Km east of the village in the river bed.  

(c) Red silt, pebble gravel, Gneiss.

V. (A) Lower Palaeolithic  

(B) Middle Palaeolithic  

Core and flake tools of small size include hand axes, discoids, rectangular shallow scrapers. Quartzite.

VI. 20 m east-west x 100 m north-south. Loose gravel bed.

No. 7

I. Shimoga

II. Kotehalu, 20 Km south of Honnali.

III. 75°42'5" East, 14°8'15" North

IV. (a) Maidan feature, scanty vegetation, grey soil. 

(b) 50 m south of the village.  

(c) Grey soil, Gneiss.

V. (E) Neolithic - Coarse Grey ware, Butt end of a ground stone axe

VI. The mound measures 150 m east-west x 100 m north-south, 1 m height, disturbed.
No. 8

I. Honnali

II. Hadonahalli, south of Honnali town.

III. 75°39' East, 14°16'30" North

IV. (a) Maidan feature, 1 Km west of left bank of the river in a pit section pebbles are noticed. Quartz lumps in habitation site.

(b) River bed (Palaeolithic). Ancient habitation mound 200 m south of the village.

(c) Red sandy silt, gravel, Gneiss.

V. (A) Lower Palaeolithic - Hand axe.

(E) Neolithic - Coarse Black and Brown ware, Burnished Grey ware, Ring stone, etc. White painted Black and Red ware.

(F) Megalithic - Black and Red ware, Two rectangular cairns.

VI. 60 m north-south x 80 m east-west, Extant portion of the disturbed mound measures 1.5 m in height.

No. 9

I. Shimoga

II. Hole Hanasavadi, 8 Km east of Shimoga town.

III. 75°37'30" East, 13°56'30" North.


(b) 100 m south - south-west of the village.

(c) Red silt, Gneiss.

V. (E) Neolithic - Brown and Black ware, Burnished Grey ware, Black ware. Neolithic stone tools showing various stages of manufacture. Ground stone chisel, axe, hammers, etc. White painted Black and Red ware.

(F) Megalithic - Black and Red ware, All Black ware.

VI. 2 acres, disturbed due to agricultural activity.
No. 10

I. Shimoga

II. Holehatti, south of Honnali town.

III. 75°40'30" East, 14°1'30" North

IV. (a) Maidan features, sparse vegetation, Grey soil.
    (b) Eastern fringe of the village.
    (c) red silt, Gneiss.

V. (E) Neolithic - Brown and Black ware, ground stone axe.
    (F) Megalithic - Black and Red ware.

VI. 50 m east-west x 60 m north-south; under cultivation; disturbed.

No. 11

I. Honnali

II. Haraganahalli, 8 Km north of Honnali town.

III. 75°38'30" East, 14°20'30" North.

IV. (a) Maidan features with chain of small hillocks, schist outcrops on the hillocks. Blackish grey soil.
    (b) On the slopes of a hillock and 50 m east of the river bank.
    (c) Reddish silt, Gneiss.

V. (D) Mesolithic - Scrapers, points, blades, cores, etc made on Quartz.
    (E) Neolithic - Brown and Black ware, Pinkish Blotchy ware, celts showing different stages of manufacture, rubbers, pestle, etc, White painted Black and Red ware.
    (F) Megalithic - Menhirs on the hillocks, Black and Red ware, All Black ware, Red ware, etc.

VI. (D) Spread in 50 m x 20 m area.
    (E) Spread in 2 acres. Site under cultivation.
    (F) Found mixed with Neolithic pottery.
No. 12

I. Honnali
II. Belamallur, 6 Km north of Honnali town.
III. 75°39' East, 14°16'30" North.
IV. (a) Maidan feature. Scanty vegetation, red soil.
    (b) 2 Km north of the village, 50 m east of right bank.
    (c) Reddish silt, Gneiss.

V. (E) Neolithic - Brown and Black ware, Burnished Pinkish Grey ware, Burnished Grey ware, Ground stone axes, hammers, wedge, etc. Non-geometric microliths, White painted Black and Red ware.

(F) Megalithic - Menhir, Black and Red ware (Graffitti), All Black ware.

VI. (E) Mound measuring 10 acres, totally disturbed due to cultivation.

(F) Found mixed with Neolithic pottery.

No. 13

I. Honnali
II. Gollarahalli, 3 Km south-east of Honnali town.
III. 75°40'15" East, 14°14'15" North.
IV. (a) Maidan feature. Sparse vegetation, Red soil.
    (b) 10 m towards east of river bed.
    (c) Gneiss, Red silt.

V. (D) Mesolithic - Non-Geometric scraper, points, bladish flakes, made on Quartz.

VI. Tools found scattered on the slopes in an area of 50 sqm.
No. 14

I. Honnali

II. Thakkanahalli, 7 Km south-east of Honnali town.

III. 75°42' East, 14°14' North.

IV. (a) Maidan feature, scanty vegetation, quartz and chert nodules, Blackish soil.

(b) 50 m east of the river on an elevated area.

(c) Gneiss, Blackish red soil.

V. (B) Middle Palaeolithic - Scrapers, points, etc made on chert and quartzite.

(C) Upper Palaeolithic - Blades, burins, points made on chert, quartzite and quartz.

(D) Mesolithic - Blades, points, scrapers, Bladish flakes, etc., all made on quartz.

VI. About 2 acres, under cultivation, disturbed.

No. 15

I. Honnali

II. Benakanahalli, 10 Km south-east of Honnali town.

III. 75° 43'30" East, 14°13'30" North.

IV. (a) Maidan feature, scanty vegetation, red soil.

(b) 20 m east of the river.

(c) Reddish silt, Gneiss.

V. (D) Mesolithic - scrapers, bladish flakes, etc made on quartz.


(F) Megalithic - Black and Red ware, All Black ware.

VI. (D) 4 acres, partially disturbed.
No. 16
I. Honnali
II. Chikbasur, 6 Km south-east of Honnali town.
III. 75°42'45" East, 14°12' North
IV. (a) Maidan feature. Brownish soil.
    (b) Palaeoliths in the river bed. Mesolithic on red silt deposit about 10 m away from the river bank.
    (c) Red silt, gravel, Gneiss.
V. (A) Lower Palaeolithic - Tools of medium size made on quartz pebbles.
    (B) Middle Palaeolithic - Points, scrapers, etc.
    (D) Mesolithic - Non-geometric points, scrapers, made on quartz.
V. (A) and (B) Gravel bed.
    (D) Disturbed.

No. 17
I. Honnali
II. Ayanur, 7 Km south-east of Honnali town.
III. 75°37'30" East, 14°9' North.
IV. (a) Maidan features, scanty vegetation. Ashy grey soil.
    (b) South-east of the river bank.
    (c) Brownish silt, Gneiss.
V. (E) Neolithic - Blackish Grey ware.
VI. 100 m in circumference, disturbed.
No. 18
I. Honnali

II. Sasivehalli, 34 Km east of Shimoga town.

III. 75°42'30" East, 14°9' North.

IV. (a) Maidan features. Scanty vegetation. Brownish soil.
    (b) South-east of the village near the fort.
    (c) Reddish silt, Gneiss.

V. (D) Mesolithic - Bladish flakes, scrapers, points made on quartz of Non-geometric group.
    (E) Neolithic - Blackish Grey ware, Burnished Pinkish Grey ware.
    (F) Megalithic - All Black ware.

VI. 2 acres, site is under cultivation and disturbed.
No. 19

I. Honnali

II. Hosahalli, 32 Km north-east of Shimoga

III. 75°43' East, 14°8' North.

IV. (a) Maidan features, scanty vegetation, grey soil.
   (b) 60 m east from the river bed.
   (c) Greyish soil, Gneiss.

V. (E) Neolithic - Coarse Brown and Black ware, White painted Black and Red ware.
   (F) Megalithic - Black and Red ware.

VI. 2 acres, disturbed.
No. 20
I. Honnali
II. Halelingapur, 30 Km north-east of Shimoga town.
III. 75°42'30" East, 14°6' North.
IV. (a) Maidan feature, scanty vegetation, grey soil.
   (b) 50 m east of river bank.
   (c) Greyish soil, Gneiss.
V. (D) Mesolithic - Non-geometric comprising scrapers, point and cores, all made on quartz.
   (E) Neolithic - Burnished Grey ware, Ground stone axes, White painted Black and Red ware.
   (F) Megalithic - Black and Red ware.
VI. 100 m east-west x 100 m north-south. Site is disturbed due to cultivation.

No. 21
I. Honnali
II. Hanagavadi
III. 75°43' East, 14°5'30" North.
   (b) 2 Km south-west of the village on an eminence.
   (c) Red soil, Gneiss.
V. (D) Mesolithic - Non-geometric scrapers, points, etc all made on quartz.
VI. 100 Sq.m under cultivation.
No. 22

I. Honnali

II. Salabalu, 4 Km north of Savalanga

III. 75°32'30" East, 14°7'30" North.

IV. (a) Maidan feature, scanty vegetation. Hillock and granite outcrops, reddish soil.

(b) 1 Km west of the village.

(c) Red soil, Gneiss.

V. (D) Mesolithic - Scrapers, points, etc of non-geometric group made on quartz.

VI. 30 m east-west x 35 m north-south; found near two small granite outcrops.

No. 23

I. Honnali

II. Surahonne, 2 Km west

III. 75°33' East, 14°8'45" North.

IV. (a) Maidan feature, scanty vegetation, Granite outcrops, Red soil, laterite near the hillock. Kudre Konda gold strip is nearby.

(b) 0.2 Km south of the village.

(c) Red Soil, granite.

V. (D) Mesolithic - Scrapers, points, flakes on quartz of non-geometric group.

VI. The site measures 25 m east-west x 40 m north-south. Quartz lumps are found scattered in the site.
No. 24

I. Honnali
II. Nyamti, 35 Km west of Shimoga town.
III. 75°35'30" East, 14°9'45" North.
(b) Near the local school.
(c) Red Soil, Shingle bed, granite.
V. (A) Lower Palaeolithic - Hand axes, scrapers, made on quartzite.
(D) Mesolithic - Scrapers, points, flakes made on quartz of non-geometric group.
(F) Neolithic - Ground axe.
VI. (A) In the fields amidst loose pebbles (Shingle bed) R.B. Foote collected pebble tools in 1881. Most types are found now.
(D) found embedded in sections of a nullah.
(F) Disturbed site.

No. 25

I. Honnali
II. Sunkadakatte
III. 75°38' East, 14°13' North.
IV. (a) Maidan feature, scanty vegetation.
(b) Towards the north of the village at a distance of about 1.5 Km near 'Malladevarakatte'.
(c) Red soil, granite.
V. (F) Megalithic - Cairns.
VI. 1.8 to 2.5 m dia. Most of them disturbed, in an area of 200 m circumference.
No. 26.

I. Honnali
II. savalanga
III. 75°32' East, 14°6' North
IV. (a) Maidan feature, scanty vegetation.
    (b) Towards north-east of Savalanga, 1 Km away at Veerapura.
    (c) Red soil, granite.
V. (F) Megalithic - Stone circles.
VI. Completely disturbed stone circles in an area of 3 - 8 acres
    (Recent examination revealed total destruction).

No. 27

I. Honnali
II. siddapura
III. 75°28' East, 14°4' North.
IV. (a) Maidan feature, sparse vegetation.
    (b) 1 Km north-west of Hatur.
    (c) Red soil, granite.
V. (F) Megalithic - burials
VI. Disturbed pit burials with 1 - 1.2 m dia and 1.7 m deep, in an
    area of 200 m circumference.
No. 28

I. Honnali

II. Chinnukatte

III. 75°30' East, 14°8' North.

IV. (a) Maidan feature, sparse vegetation.
    (b) 0.25 Km away towards south of village on the east side of Lakkanakoppa road.
    (c) Red soil, granite.

V. (F) Megalithic - stone circles.

VI. About 20 circles of varying dimension in an area of 200 m east-west x 11 m north-south.

No. 29

I. Bhadravathi

II. Nimbegondi, 28 Km north-east of Shimoga town.

III. 75°44' East, 14°5' North.

IV. (a) Maidan features. Scanty vegetation. Greyish soil.
    (b) About 20 m from the river bank.
    (c) Greyish soil, Gneiss.

V. (D) Mesolithic - Non-geometric scrapers, point, etc made on quartz.
    (E) Neolithic - Brown and Black ware, Burnished Blackish Grey ware and stone axe. White painted Black and Red ware.
    (F) Megalithic - Black and Red ware.
No 30

I. Bhadravathi
II. Vadepur, 10 Kms south-east of Honnali
III. 75°44'30" East, 14°4" North.

IV. (a) Maidan feature, scanty vegetation, gravel bed and schist outcrops.
    (b) 20 m away from the right bank near a meander.
    (c) Reddish silt, gravel, schist.

V. (A) Lower Palaeolithic - Hand axes, scrapers.
    (D) Mesolithic - Points, Bladish flakes - non-geometric.
    (E) Neolithic - Burnished Grey ware spout.
    (F) Megalithic - Black and Red ware.

VI. (A) 40 m east-west x 70 m north-south.
    (D) From the slopes of the river section.
    (E) and (F) - Disturbed sites.

No. 31

I. Bhadravathi
II. Anaveri, 20 Kms north-east of Shimoga town.
III. 75°14'30" East, 14°3'30" North.

VI. (a) Maidan features. Scanty vegetation, Greyish soil.
    (b) West of the village, 50 m from the river bank.
    (c) Reddish silt, schist.

V. (D) Mesolithic - Bladish flakes, points, cores, non-geometric group made on quartz.
    (E) Neolithic - Burnished Grey ware, Ground stone tools collected from the site are exhibited in the local School.
    (F) Megalithic - Black and Red ware.

VI. 3 acres, totally damaged.
No. 32

I. Bhadravathi

II. Nagasamudra. 19 Km north-east of Shimoga town.

III. 75°42' East, 14°2'30" North.

(b) Largest pebble gravel bed in this stretch of the river.  
(c) Reddish silt, schist.

V. (A) Lower Palaeolithic - Hand axes/flakes.  
(E) Neolithic - Blackish Grey ware, Ground stone axes.  
(F) Megalithic - All Black ware.

VI. (A) Largest gravel bed.  
(E) Disturbed site.

No. 33

I. Hosanagara

II. Sudur, 10 Km west of Ayanur

III. 75°21'15" East, 14°45" North.

IV. (a) Malnad feature. Thick forest area. Brown soil.  
(b) Beyond the village limit.  
(c) Brown silt, Gravel, Granite.

V. (A) Lower Palaeolithic - Chopper- hand axes made on quartz pebbles.

VI. The tools exhibit thin coat of brownish patina.  
15 m east-west x 30 m north-south.
No. 34

I. Hosanagara
II. Nilaskal, about 6 Km west of Nagara town.
III. 75°30' East, 13°47'15" North.
IV. (a) Malnad feature, thick forest, granite outcrops, Brownish soil.
   (b) 0.2 Km west of the village.
   (c) Brown soil, granite.
V. (D) Mesolithic - Bladish flakes, irregular flakes of quartz.
    (F) Megalithic - Menhirs in groups (35 nos.).
VI. (D) Sparsely scattered in about one acre area.
    (F) Largest in Southern Karnataka - 10 acre area.

No. 35

I. Sakrepatna
II. Lakya, 18 Km north-east of Chickmagalur.
III. 75°51' East, 13°21' North.
IV. (a) Semi-Malnad feature, thick patch of vegetation, Brown soil, sand stone and quartz outcrops.
   (b) Near the main road.
   (c) Red soil, sand stone?
V. (A) Lower Palaeolithic - Hand axes made on milky quartz.
VI. Quartz lumps are found strewn on the slopes of the nearby hillock.

60 m east-west x 30 m north-south.
No. 36

I. Sakrepatna

II. Agrahara, 6 Km south-east of Sakrepatna.

III. 75°57' East, 13°26' North.

IV. (a) Maidan feature, sparse vegetation, Brown soil.
    (b) 0.5 Km north of the village.
    (c) Brown sandy silt. Gravel bed rock.

V. (A) Lower Palaeolithic - Hand axes, made on milky quartz.

VI. Loose gravel bed, near the over-bridge
    measure 5 m east-west x 30 m north-south.

No. 37

I. Sakrepatna

II. Nidaghatta

III. 76°3' East, 13°2'30" North

IV. (a) Maidan feature, sparse vegetation, Brown soil, Pebbles.
    (b) 1.5 Km north of the village.
    (c) Brown silt, thin gravel.

V. (A) Lower Palaeolithic - Choppers, Hand axes, discoids, scrapers,
    made on quartz and quartzite.

VI. In 1881, Bruce Foote collected pebble tools here.
    60 m east-west x 30 m north-south.
No. 38

I. Kadur

II. Kadur

III. 76°00'38" East, 13°33'13" North

     (b) 200 m south of Traveller's Bungalow.
     (c) Brown soil, gravel, granite.

V. (D) Mesolithic – few scrapers, Bladish flakes made on quartz.

VI. Bruce Foote reported Palaeolithic site in 1881.
     30 sq.m area.

No. 39

I. Tarikere

II. Kenchapura, 8 Km west of Lingadahalli.

III. 75°50' East, 13°38'30" North

IV. (a) Maidan feature, sparse vegetation, brown soil, quartzite outcrops.
     (b) Outskirts of the village on the Lingadahalli-Tarikere road.
     (c) Brown soil, Sand stone.

V. (F) Megalithic – A huge Menhir of sand stone.

VI. It leans towards east and quartz lumps are found packed at the bottom.
No. 40

I. Kadur
II. Gedlahalli
III. 76°4' East, 13°31' North

IV. (a) Maidan features, sparse vegetation.
    (b) 6 Km south-west of Kadur.
    (c) Granite, gravel (quartzite and quartz), Brownish soil, whitish fine sand.

V. (A) Choppers, hand axes, discoids, scrapers, points made on quartzite.

VI. A small stream seem to have existed discharging into the lake about 2 Km towards west. Tools are found embedded in the gravel over the gravel bed and in the sections of the pits.

(2) THE BHADRA VALLEY (SHIMOGA AND CHIKMAGALUR DISTRICTS)

No. 1

I. Bhadravathi
II. Barandur, 8 Km south of Bhadravathi town.
III. 75°43' East, 13°47' North.

IV. (a) Maidan features, sparse vegetation. Reddish soil.
    (b) To the west of the village.
    (c) Reddish-silt, gravel, schist.

V. (A) Lower Palaeolithic - chopper, hand axe made on quartzite.

VI. Loose gravel patches yield tools.
No. 2

I. Bhadravathi

II. Dodgopenahalli, 5 Km south of Bhadravathi.

III. 75°42' East, 13°47'30" North.

IV. (a) Maidan features, sparse vegetation, Reddish soil.

(b) 1.5 Km west of the village.

(c) Reddish silt, gravel, schist.

V. (A) Lower Paleolithic - Chopper, hand axe made on quartzite.

VI. Loose gravel patch

20 m east-west x 60 m north-south.

No. 3

I. Tarikere

II. Sidhilipura, 14 Km south of Bhadravathi town.

III. 75°41'30" East, 13°46' North.

IV. (a) Maidan features, sparse vegetation, Reddish soil.

(b) 1 Km south-west of the village.

(c) Reddish silt, gravel, schist.

V. (A) Lower Palaeolithic - Chopper, hand axe made on quartzite.

VI. Small gravel patches in an area of

20 m east-west x 100 m north-south.
No. 4

I. Bhadravathi

II. Shankaraghatta, 4 Km north-east of Lakkavalli.

III. 75°58'30" East, 13°44' North.

IV. (a) Semi-Malnad, patches of thick vegetation, Reddish soil. Milky quartz outcrops.

(b) 0.5 Km south of the village (Shankaramatti).

(c) Reddish silt, gravel, schist (?)

V. (A) Lower Palaeolithic - Hand axe made on quartzite.

VI. Tools occur in the dry bed of a small nullah.

No. 5

I. Tarikere

II. Somapura, 8 Km north of Lakkavalli.

III. 75°41' East, 13°43'30" North.

IV. (a) Malnad features. Thick forest, dark brown soil, granite outcrops.

(b) 2.5 Km north of Khandya.

(c) Whitish sandy silt, gravel, granite.

V. (A) Lower Palaeolithic - Hand axes, scrapers of quartzite.

VI. From loose gravel bed of a nullah,

20 m east-west x 10 m north-south.
No. 6
I. Chickmagalur
II. Balehonnur, 40 Km south of Narasimharajapura.
III. 75°28'30" East, 13°21' North.
IV. (a) Malnad features. Thick vegetation, dark brown soil.
     (b) 1 Km south-east of the town.
     (c) Reddish silt, gravel, granite.
V. (A) Lower Palaeolithic - Hand axes made on quartzite.
VI. Loose gravel bed, measures
     70 m east-west x 70 m north-south.

No. 7
I. Narasimharajapura
II. Khandya
III. 75°31'30" East, 13°22'30" North.
IV. (a) Malnad features. Thick forest, dark brown soil, granite outcrops.
     (b) 2.5 Km north of Khandya.
     (c) Whitish sandy silt, gravel, granite.
V. (A) Lower Palaeolithic - Hand axes, scrapers of quartzite.
VI. From loose gravel bed of a nullah, a tributary of Bhadra.
     20 m east-west x 10 m north-south.

No. 8
I. Kalasa
II. Kagganahalla, 8 Km upstream of Mahagondi.
III. 75°26'30" East, 13°16' North.
IV. (a) Malnad features. Thick forest, rich fauna, dark brown soil.
     (b) It is situated near a Coffee Estate.
     (c) Whitish sandy silt, gravel granite.
V. (A) Lower Palaeolithic - Choppers, hand axe of trap rock/Horne blend schist (?)
VI. Loose gravel bed.
     15 m east-west x 80 m north-south.
No. 9

I. Bhadravathi

II. Mattighatta, 14 Km north of Bhadravathi.

III. 75°41'30" East, 13°56'30" North.

IV. (a) Maidan feature, sparse vegetation, greyish soil.
    (b) 0.5 Km east of the village.
    (c) Grey soil, Granite.

V. (D) Mesolithic - Non-geometric points, scrapers made on quartz.
    (E) Neolithic - Terracotta cylindrical bead.

VI. 100 m east-west x 150 m north-south, disturbed.

No. 10

I. Bhadravathi

II. Malenahalli, 8 Km south of Holehonmur.

III. 75°42' East, 13°56'30" North.

IV. (a) Maidan feature, sparse vegetation, reddish soil.
    (b) 1 Km north-east of the village.
    (c) Red silt, granite.

V. (D) Mesolithic - Bladish flakes, scrapers, points of non-geometric group made on quartz.

VI. Tools found embedded in Reddish soil capping the granite hillock.
No. 11

I. Bhadravathi
II. Holebelgal, 5 Km south of Holehonnur.
III. 75°47'30" East, 13°58' North.
IV. (a) Maidan feature, sparse vegetation, greyish sandy soil.
(b) 2 Km south of the village.
(c) Grey soil, Granite.
V. (D) Mesolithic - Non-geometric group with points, scrapers, etc, made on quartz.
VI. 50 Sq.m area, under cultivation.

No. 12

I. Bhadravathi
II. Dasarakalhalli, 12 Km north of Bhadravathi
III. 75°43' East, 13°57'30" North.
IV. (a) Maidan feature, sparse vegetation, Grey soil, Granite outcrops, small river borne pebbles.
(b) 0.2 Km west of the village.
(c) Grey soil, granite.
V. (D) Mesolithic - Scrapers, points of non-geometric group made on quartz.
VI. 30 m east-west x 50 m north-south. Tools are found on the steps of the granite outcrops.
No. 13
I. Bhadravathi
II. Kagekodumagge, 7 Km north of Bhadravathi town.
III. 75°42'30" East, 13°54' North.
IV. (a) Maidan feature, sparse vegetation, Grey soil, Granite outcrops.
   (b) 1 Km north-east of the village.
   (c) Grey soil, granite.
V. (D) Mesolithic - Scrapers, bladish flakes, points made on quartz; non-geometric group.
VI. Tools are found embedded in the sandy patches on the slopes of Granite outcrops.

No. 14
I. Bhadravathi
II. Bommankatte, 5 Km south of Bhadravathi town.
III. 75°41' East, 13°48' North.
IV. (a) Maidan feature, sparse vegetation, grey soil, granite outcrops.
   (b) 0.5 Km south-west of the village.
   (c) Grey soil, granite.
V. (D) Mesolithic - Non-geometric points, scrapers made on quartz.
VI. 40 m east-west x 100 m north-south.
    Small pebbles noticed in the vicinity of the site.
No. 15

I. Bhadravathi

II. Gondi, 10 Km south of Bhadravathi.

III. 75°41' East, 13°45' North.


V. (D) Mesolithic - Scrapers, points made on quartz; non-geometric.

VI. Tools are found on the peak of the hillock at 798 m height.

(3) THE TUNGA VALLEY (SHIMOGA DISTRICT)

No. 1

I. Shimoga

II. Hoissanahalli, 5 Km north-east of Shimoga town.

III. 75°38'30" East, 14°47'30" North.

IV. (a) Maidan features, scanty vegetation, reddish soil.
   (b) Pebble patch in the river bed.
   (c) Reddish silt, gravel schist.

V. (B) Middle Palaeolithic - Scrapers, points, made on quartz flakes of medium size.

VI. 20 m east-west x 25 m north-south area, gravel bed with medium to small pebbles.
No. 2

I. Shimoga

II. Abbaragatte, 11 Km east of Shimoga town.

III. 75°39'30" East, 14°46'30" North.

IV. (a) Maidan features, scanty vegetation, Reddish soil.
    (b) 40 m east of the river bank.
    (c) Reddish silt, schist.

V. (D) Mesolithic - Points, bladish flakes, etc made on quartz.
    (E) Neolithic - Black and Brown ware, Lug handle, sling balls, polished chips.
    (F) Megalithic - Black ware and Grey ware.

VI. (D) Found mixed with Neolithic material.
    (E) and (F) Mound is disturbed.

No. 3

I. Shimoga

II. Pilangere, 6 Km east of Shimoga town.

III. 75°38' East, 13°57'30" North.

IV. (a) Maidan feature, sparse vegetation, Granite hillock, Reddish soil.
    (b) In the gravel bed and on the slopes of hillock.
    (c) Reddish silt, Gneiss.

V. (A) Lower Palaeolithic - Choppers, hand axes, discoids on quartzite.
    (D) Mesolithic - Points, bladish flakes, etc made on quartz.
    (E) Neolithic - Burnished Pinkish Grey ware, Ground axes.
    (F) Megalithic - Black and Red ware, All Black ware.

VI. (D) Site disturbed.
    (E) Found sparsely.
No. 4
I. Shimoga
II. Holebenavalli, 4.5 Km east of Shimoga town.
III. 75°37'15" East, 13°56'30" North.
IV. (a) Maidan feature, scanty vegetation, Greyish soil.
    (b) 15 m away from the river bank.
    (c) Greyish silt, Gneiss.
    (F) Megalithic - Black and Red ware.
VI. (E) Mound totally disturbed.

No. 5
I. Shimoga
II. Sulebailu, 5 Km east of Shimoga
III. 75°54' East, 14°34' North
    (b) On the slopes of the hillock.
    (c) Reddish silt, Gravel Gneiss.
V. (D) Mesolithic - Points, scrapers made on quartz.
    (E) Neolithic - Burnished Grey ware.
    (F) Megalithic - Menhir of Granite, 3 m height.
VI. (D) In the vicinity of Megalithic site.
    (E) Ancient site, totally disturbed.
No. 6

I. Shimoga

II. Arakere, 4 Km south of Shimoga town.

III. 75°33'30" East, 13°50' North.

IV. (a) Maidan features, sparse vegetation. Reddish soil.
(b) Gravel bed in the section.
(c) Reddish silt, Gravel Gneiss.

V. (B) Middle Palaeolithic - Scrapers, points made on core, medium size pebbles of quartz.

VI. Loose gravel bed; 50 Sq.m area.

No. 7

I. Shimoga

II. Honnapura, 8 Km south of Shimoga town.

III. 75°30'3" East, 13°43'30" North.

IV. (a) Maidan features, sparse vegetation. Reddish soil.
(b) Loose and cemented gravel bed in the river bed.
(c) Reddish silt. Cemented pebble gravel, granite.

V. (A) Lower Palaeolithic - Hand axes, cleaver, flakes on quartzite.

VI. By far, the largest gravel-bed in the valley measuring 100 m east-west x 400 m north-south.

... 49
No. 8
I. Shimoga
II. Mandagadde, 35 Km south of Shimoga town.
III. 75°22'30" East, 13°43'30" North.
IV. (a) Semi-Malnad features with patches of thick vegetation.
   Darkish Grey soil.
   (b) 1 Km south-east of the village.
   (c) Reddish silt, Gneiss.
V. (D) Mesolithic - Points, Scrapers, etc. made on Quartz and rock Crystal.
VI. Found embedded in the rain gully section.

No. 9
I. Shimoga
II. Jambavalli, 42 Km south of Shimoga town.
III. 75°24'30" East, 13°42'30" North.
IV. (a) Semi-Malnad features, thick patches of forests, Reddish soil.
   (b) 2 Km east of the village near the river bank.
   (c) Reddish Salt, Gneiss.
V. (F) Megalithic - Menhir of Granite.
VI. Solitary.
No. 10

I. Tirthahalli

II. Sirgala, 15 Km north of Tirthahalli town.

III. 75°20'30" East, 13°42' 30" North.

IV. (a) Semi-Malnad features, thick patches of vegetation, grass patches, Laterite.
   (b) Near the river bank.
   (c) Reddish silt, laterite, Gneiss.

V. (D) Mesolithic - Scrapers, points made on quartz.

VI. 20 Sq.m circumference.

No. 11

I. Tirthahalli

II. Tirthahalli.

III. 75°15' East, 13°41'30" North.

   (b) 0.5 Km south-west of the town-ship.
   (c) Grey soil, granite.

V. (D) Mesolithic - Points, scrapers, cores, etc made on quartz and rock-crystal.

VI. 150 m circumference at 270 m MSL.
No. 12

I. Tirthahalli

II. Taluve, 4 Km south-west of Tirthahalli.

III. 75°17' East, 13°39'30" North.

IV. (a) Malnad features with thick forest. Greyish soil. Low granite hillock.

   (b) 0.25 Km south-west of the village.

   (c) Grey soil.

V. (D) Mesolithic - Points, scrapers of non-geometric group made on quartz.

VI. Scattered in 100 m circumference near the granite outcrop.

No. 13

I. Tirthahalli

II. Tirthamattur, 15 Km south-west of Tirthahalli town.

III. 75°20'30" East, 13°37' North.


   (b) 0.3 Km from the river bank.

   (c) Brown silt, granite.

V. (D) Mesolithic - Bladish flakes, scrapers, points made on quartz.

VI. 200 m circumference, near the granite outcrop.
No. 14

I. Tirthahalli

II. Nadbur, 4 Km south of Kammaradi

III. 75°12' East, 13°34'30" North.

IV. (a) Malnad features with thick vegetation. Brownish soil, Granite outcrop.

(b) 1 Km west on the left bank of the river Malatî.

(c) Brown silt, granite.

V. (D) Mesolithic - Points, scrapers, flakes of non-geometric group made on quartz.

VI. Tools are found embedded in the humus soil capping the granite outcrops in an area of 200 Sq.m.

CHICKMAGALUR DISTRICT

No. 15

I. Sringeri

II. Sringeri

III. 75°15'30" East, 13°24'30" North.

IV. (a) Malnad features with thick vegetation. Reddish soil, Granite hillock.

(b) 1 Km from river bank towards north.

(c) Brownish silt, granite.

V. (D) Mesolithic - Scraper, points, flakes of non-geometric group made on quartz and rock crystal.

VI. Tools are found embedded in the reddish humus capping the granite outcrops.
50 m east-west x 25 m north-south.
No. 16

I. Sringeri

II. Hosagadde, 15 Km west of Sringeri town.

III. 75°9'30" East, 15°31' North.

IV. (a) Malnad features, thick vegetation, heavy rain falling area. Brownish soil, Granite outcrops.

(b) 300 m north-east of the village.

(c) Brown soil, granite.

V. (D) Mesolithic - Non-geometric tools represented by points, scrapers, etc.

VI. Found embedded in the reddish earth capping granite outcrop site measuring 70 m east-west x 60 m north-south.

No. 17

I. Koppa

II. Hariharapura

III. 75°18'30" East, 13°31' North.

IV. (a) Malnad features, thick vegetation. Brownish Grey soil.

(b) 1 Km from the town, near the bridge.

(c) Brownish soil, Granite.

V. (A) Lower Palaeolithic - Hand axe made on quartzite.

VI. Oyster shell is found in the gravel bed, measuring 25 m east-west x 150 m north-south.
(4) THE HEMAVATI VALLEY (CHIKMAGALUR AND HASSAN DISTRICTS)

No. 1

I. Mudigere
II. Bankal, 10 Km from the source of the river.
III. 75°32' East, 13°7'30" North.
IV. (a) Maidan features, thick forests, brownish soil.
    (b) 1.5 km to the west of the village.
    (c) Brown soil, granite?
V. (A) Lower Palaeolithic - Choppers, hand axes made on quartz containing grains of white mica.

VI. Narrow pebble bed spread in an area of 50 Sq. m.

No. 2

I. Holenarsipur
II. Kattebelguli, 9 Km west of Holenarsipur.
III. 76°11' East, 12°49' North.
IV. (a) Semi-malnad, patches of forests, gneiss outcrops, brown soil.
    (b) 50 m east of the river across Hemavati.
    (c) Silt. Kankary cemented gravel, clay? Gravel, gneiss.
V. (A) Lower Palaeolithic - Hand axes.
    (B) Middle Palaeolithic - Scrapers, points, etc., all made on magnetite quartzite.
    (D) Mesolithic - Scrapers, flakes, etc on quartz.

VI. The site accommodates a regular section. Tools are in mint mint condition. Spread on the slopes of the section. 5 m east-west x 2 m north-south.

... 55
No. 3

I. Holenarasipur

II. Kattehosalli, 11 Km north-east of Holenarasipur.

III. 78°18' East, 12°49' North.

IV. (a) Semi-Malnad, patches of thick forests, Brown soil.
   (b) 0.2 Km from the village.
   (c) Brown silt, cemented gravel bed, Gneiss.

V. (B) Middle Palaeolithic - Scrapers, points, etc made on quartz.
   (D) Mesolithic - Points, scrapers, flakes, etc made on quartz.

VI. Tools are found on the slopes of the section.

No. 4

I. Chennarayapatna

II. Cholenahalli, 12 Km north-east of Holenarasipur.

III. 78°18'30" East, 12°49'30" North.

IV. (a) Semi-Malnad features, sparse vegetation, Brown soil.
   (b) Away from the village near the river bank.
   (c) Brown silt, cemented gravel bed, Gneiss.

V. (B) Middle Palaeolithic - Scrapers, points made on magnetite, quartz.
   (D) Mesolithic - Scrapers, points, flakes on quartz.

VI. Found on the slopes of the river section.
No. 5

I. Holenarsipur
II. Mudalahippe, 6 Km north-east of Holenarsipur.
III. 76°18' East, 12°49'30" North.
IV. (a) Maidan feature, scanty vegetation, Brown soil.
    (b) 1 Km north-east of the village.
    (c) Brown silt, Gneiss.
V. (D) Mesolithic - Points, scrapers, non-geometric group made on quartz.
VI. Tools are found in 30 Sq.m area.

No. 6

I. Holenarsipur
II. Maranayakanahalli, 18 Km east of Holenarsipur.
III. 76°20'15" East, 12°47'30" North.
IV. (a) Maidan features, scanty vegetation. Brown soil.
    (b) 1 Km east of the village.
    (c) Brown silt, gravel, schist.
V. (D) Mesolithic - Scrapers, points, Bladish flakes of non-geometric group made on quartz.
VI. On the slopes of the section; 50 m circumference.
No. 7

I. Hassan

II. Pratapakumarigrama (Karigowdana Koppalu)

III. 76°7' East, 12°50' North.

IV. (a) Maidan features, sparse vegetation. Reddish soil, Granite outcrops.
   (b) 2.5 Km from the right bank of the river Hemavati.
   (c) Reddish soil, Granite.

V. (F) Megalithic - Two menhirs of granite.

VI. Quartz lumps are found scattered around menhirs.

No. 8

I. Holenarsipur

II. Mulekalenahalli, 13 Km north-east of Holenarsipur.

III. 76°22' East, 12°49'30" North.

IV. (a) Maidan features, scanty vegetation, Reddish soil.
   (b) West of the village.
   (c) Reddish soil, Granite.

V. (F) Megalithic - Solitary menhir of granite.

VI. It has conical top, smooth surface. Quartz lumps found scattered around the menhir.
(5) TRIBUTARIES OF THE HEMAVATI VALLEY (HASSAN DISTRICT)

No. 1

I. Arsikere
II. Halekalgudda, 2 Km north-east of Arsikere town.
III.
(b) On the slopes of the foothill.
(c) Grey soil, granite.
V. (D) Mesolithic - Few scrapers, points, flakes made on quartz.
(F) Megalithic - Couple of menhirs of granite.
VI. (D) 100 m east-west x 150 m north-south.
(F) Menhirs are triangular in shape. Quartz lumps are found scattered.

No. 2

I. Channarayapatna
II. Settihalli, 3 Km east of Channarayapatna.
III.
(b) 0.5 Km west of the village in a field.
(c) Brown soil, granite.
V. (D) Mesolithic - Scrapers, points, etc. made on quartz.
VI. Found in about 60 Sq. m area under cultivation.
No. 3

I. Arsikere

II. Chettanahalli, 8 Km west of Hamalahalli.

III. 76°9' East, 13°11' North

IV. (a) Semi-Maidan features; semi-deciduous forests, Reddish soil, laterite blocks.

(b) Outskirts of the village near the Hamalahalli-Hassan road.

(c) Red soil, laterite.

V. (D) Mesolithic - Points, scrapers, etc made on quartz.

VI. Noticed in a small nullah

20 m east-west x 25 m north-south.

No. 4

I. Hassan

II. Pungame, 23 Km of Hassan.

III. 76°9' East, 13°5' North

IV. (a) Maidan features, sparse vegetation, Red soil, Granite outcrops.

(b) 0.2 Km west of the village.

(c) Red soil, granite.

V. (F) Megalithic - Stone circles.

VI. This is reported in 1956. Menhirs were also noticed. However, they are missing. Site is heavily disturbed. 10 acre area.
No. 5

I. Hassan

II. Kondajji

III. 76°7' East, 13°14' North

IV. (a) Maidan feature, sparse vegetation, Red soil.
   (b) 0.2 Km south-west of the Varadarajaswamy temple.
   (c) Red soil, Granite.

V. Megalithic - Stone circles.

VI. In 1956, 24 stone circles were reported. But now only 5 - 6 circles survive and are being disturbed.

No. 6

I. Hassan

II. Honnavara

III. 76°10' East, 13°6' North.

   (b) 200 m west of the village.
   (c) Red soil, Red rock.

V. (F) Megalithic - Stone circles.

VI. All circles disturbed due to agricultural activity. 2 acre area.
THE UPPER KAVERI VALLEY (HASAN DISTRICT).

No. 1

I. Arkalgud

II. Kuduvinahosahalli, 6.5 Km west of Konanur town.

III. 76º15" East, 12º34'30" North.

IV. (a) Semi-malnad. Small patches of thick forest. Reddish soil, haematite boulders, quartz lumps.

(b) 0.5 Km north of the village.

(c) Reddish soil, granite.

V. (F) Megalithic - Dolmens with stone circles.

VI. Situated in two locations. 150 m distance; disturbed.

No. 2

I. Arkalgud

II. Shigodu, 5.5 Km west of Konanur town.

III. 76º1'30" East, 12º36' North.


(b) 0.5 Km north of the village.

(c) Red soil, granite.

V. (F) Megalithic - Cairn stone circles and barrows. Haematite granite material.

VI. Similar to the ones reported from Sompura and Managondanahalli. 20 acres, disturbed. Found in 4 localities.

... 62
No. 3

I. Arkalgud
II. Ullenahalli
III. 76°2'30" East, 12°37'30" North.
       (b) 2 Km north of the village.
       (c) Red soil, Granite.
V. (F) Megalithic - Two dolmens of granite with stone circle.
VI. Disturbed. Being re-used as small shrines.

No. 4

I. Arkalgud
II. Konanur, 1.5 Km south-east of the town.
III. 76°3'30" East, 12°38' North.
IV. (a) Semi-Malnad, patches of thick vegetation. Brownish soil, Granite outcrops.
       (b) Near the medieval bridge.
       (c) Brownish silt, Granite.
V. (A) Lower Palaeolithic - Hand axes on Quartzite.
VI. Gravel patches between Granite boulders in the river bed.

... 63
No. 5
I. Arkalgud
II. Hosalli, 2 Km south of Ramanathapura town.
III. 76°3'45" East, 12°36'36" North.
IV. (a) Maidan features, sparse vegetation. Red soil, granite outcrops.
      (b) 2 Km from the river on the right bank.
      (c) Red soil, granite.
V. Megalithic - Menhirs of granite.
VI. Situated between 100 m distance. One of the menhirs also reused for inscribing an Epigraph during medieval period.

No. 6
I. Arkalgud
II. Rudrapatna, 10 Km west R.N. Pura.
III. 76°7'30" East, 12°36' North.
IV. (a) Maidan feature, sparse vegetation, brown soil.
      (b) 1 Km north of the village.
      (c) Brown silt, loose gravel, granite?
V. (A) Lower Palaeolithic - Choppers, hand axes, scrapers made on quartzite and brown jasper.
VI. By far, the largest pebble bed in the upper reaches of Kaveri measuring 1 Km east-west x 0.3 km north-south.
No. 7

I. Arkalgud

II. Sompura, 9 Km from R.N. Pura.

III. 76°7' East, 12°33'30" North.


(b) 1 Km west of the village.

(c) Red soil, Granite.

V. (F) Megalithic - Pit burials and cairns.

VI. Twelve burials of various dimensions scattered in an area of 2 acres.
PRINCIPAL PRE & PROTO HISTORIC SITES IN INDIA
GEOGRAPHICAL DISTRIBUTION OF
THE SITES EXPLORED IN MALNAD REGION

INDEX OF SITES AND CULTURES

LEGEND

1. [Site 1]
2. [Site 2]
3. [Site 3]
4. [Site 4]
5. [Site 5]
6. [Site 6]
7. [Site 7]
8. [Site 8]
9. [Site 9]
10. [Site 10]

- [Legend 1]
- [Legend 2]
- [Legend 3]
- [Legend 4]
- [Legend 5]
- [Legend 6]
- [Legend 7]
- [Legend 8]
- [Legend 9]
- [Legend 10]
A general study of the longitudinal profiles of all the major rivers in the region under study shows a steep fall in their initial stage (i.e., representing youth phase and thereafter). They then open up, become broad and show mature phase. In the youth phase, the rivers cut through narrow hilly tracts exposing pebbly gravel beds overlain by low sections. The initial course of mature phase cliff sections exclusively of silt are very high with the height ranging from 5-6 m above the bed level on either side or sometimes covered with thick vegetation. Therefore, in this stretch of the rivers, gravel deposit is not to be seen. There are certain locations in the valleys where the rocky outcrops are seen projecting from the river bed and in some occasions, the bed rock is entrenched by the rivers. It is observed that the Hemavati and Bhadra valleys are relatively broader near the source probably due to continuous erosional activity of the stream. The rivers widen further downstream with developed meanders and in the later half of the matured phase, they develop into broad flood plains. Gravel beds noticed in the main river section along their tributaries and nullahs do not indicate any distorted picture and the depositions are almost identical. However, cemented beds are available only in the cliff sections of the main rivers and absent in the sections of the tributaries. Cemented gravel beds located in the Tunga are composed of pebbles of varying sizes, kankar and granular sand are similar in composition. In the Upper Kaveri, cemented gravel beds are composed of kankar and pebbles of larger dimensions than the ones observed in the Tunga valley. Similar feature is noticed at Kattebelguli and other sites in the Lower Hemavati valley. An interesting feature of the Kattebelguli site is the occurrence of tools in the cemented bed. In contrast, not even a single cemented gravel bed could be seen in the Upper Tungabhadra and Bhadra valleys where gravel is represented by loose pebbles mixed with kankar and granular sand, etc. However, in all the river valleys, upper portion of pebbly gravel is characterised by the presence of loose matrix of granular sand, medium to small size...
pebbles and kankar. The whole mechanism of gravel formation which looks similar in almost all the river valleys in this region is indicative of continuous aggradation during a specific period of time which occurs right from the source up to downstream although the region under study falls under different geographic units and variations in local rock formations. The ancient gravel bed do not differ much from the modern bed deposits particularly near the stream bed. However, patches of grey sand observed over the exposed pebble bed in Kaveri valley is presumably of recent origin. Likewise, sand bed observed in the Upper Tungabhadra, Bhadra and Lower Tunga are also modern. The alluvium noticed in the river valleys differ in thickness from place to place and valley to valley. In the Upper Kaveri, the thickness varies between 4 - 6 m. It is slopy towards the river bed in its initial course and straightens up in its downstream course and is exclusively silty. In the Hemavati, the alluvium has high percentage of granular sand and slightly brownish in colour while in the downstream, colour changes from brown to white and again to brown. The average maximum and minimum thickness is 7 m and 1.5 m respectively and is essentially silty. In the Bhadra and Tunga, alluvium deposit is predominantly silty with the thickness varying from 2 m to 10 m. The alluvium in the Upper Tungabhadra with its well developed flood plain, varies in height from 6 m to 12 m and is essentially composed of reddish mix of sand silt. However, contents of silt seems to be predominant. Silt sections run in these river valleys to a considerable distance of 1 Km to 4 - 5 Km at a stretch. The present river channel bed is comparatively narrow in the Upper Tungabhadra and Kaveri valleys. Therefore, the number of pebbles spread in these valleys seem to have been deposited sufficiently early and only occasion when they are disturbed by way of transportation, etc. during the floods in the Monsoon period between May and August. However, in the Hemavati, the Bhadra and in the Tunga, the present stream flows very close to the existing sections most of the year except for a few places in the Lower Tunga such as Honnapura. The above feature is indicative of the high percentage of
discharge resulting in depositions of gravels to an average thickness of 60 to 80 cm in the ancient times. As already mentioned, in the Lower Tungabhadra, occurrence of two terraces were noticed by Seshadri (1956) but in its upper reaches, no such direct evidence come to light in the region under study. A pebbly gravel deposit noticed in one of the pit sections about 1 Km to the west of the river bank at Hadonahalli may indicate the existence of an earlier terrace. Contour study of the surroundings did not reveal any clue to substantiate this view. However, further systematic study of the formation of rivers, analysis of sediment samples and contemporary climatic changes may throw more light on the problem of the river terraces. Absence of terraces in other river valleys of the region is also noteworthy in this context.

In the light of the above observations, the characteristic geomorphological features of the region could be summarised as thus: (i) considerable undercutting of the oldest bed rock of the Dharwar systems indicate intensive erosional phase; (ii) unlike two aggradational phases noticed elsewhere in the Peninsular India in the south-western part of Karnataka, tentative stratigraphical position of pleistocene deposits observed in the cliff sections of the rivers and streams indicate generally one aggradational phase with exceptions at two sites in the Hemavati and the Upper Tungabhadra where two grounds are lying one above the other is noticed; (iii) the tall silty sections over-imposing the gravel bed indicate continuous dry phase in which rivers alluviated their valleys with finer silt and sand.

Fossils in the gravels as well as other deposits (except a portion of an oyster shell) could not be noticed making it rather difficult to ascertain the probable dates of the formations as well as the lithic industries noticed in these sites.