Arunachal Pradesh shows a wide variation in the topography of the land. The topography of Arunachal Pradesh is characterized by an undulating hilly terrain, towering hill slopes, enthralling river valleys and imposing peaks. For a very long time the region remained remote from mainstream India due to its location in difficult terrain with impenetrable vegetation.

2.1. Topography

Topography wise Arunachal Pradesh has been divided into 4 distinct physiographical divisions:

1. The Himalayan Ranges
2. The Mishmi Hills
3. The Naga-Patkoi Ranges and
4. The Brahmaputra Plains

Arunachal Pradesh is the eastern stretch of the Himalayas and all the 3 sections of the Himalayas are represented here (Fig.2.1). Every division has a different geology and tectonic history (Kumar 1997).
Fig. 2.1: Shows the Physiographic divisions of Arunachal Pradesh

From the Brahmaputra Plains at an average elevation of 100m, the Himalayas attain an elevation of 7089m. The Himalayas can be further sub-divided into physio-tectonic Zones:

(i) The sub-Himalayan zone rising abruptly from the Brahmaputra Plains along a tectonic plane-the Foot Hill Fault. It is about 10 -20 km wide but narrows down to 1 -2 km in the Dibang valley.

(ii) The lesser or Lower Himalayas: Elevation 2500-4000 m and 80-90 km wide. Take a syntaxial bend towards SE to abut against Mishmi Hills. Its southern limit is defined by the Main Boundary Fault/Thrust.
(iii) The Greater or Higher Himalayas. A zone of very high relief with heights greater than 6000m having precipitous slopes and deep gorges. This zone is generally devoid of vegetation. Its southern limits are defined by the Main Central Thrust.

(iv) Trans-Himalayan Tibetan or the Thethyan zone: It is the northernmost zone which is about 30-40 km wide and of low relief (Elevation 3000 – 6000m). All important Passes are located in this zone (Preliminary Feasibility Report on 1120 MW Bhareli- H.E. Project, Ar. P, 2003).

The Eastern Himalayas that cover 18,518 sq. km area of East and West Siang districts is almost wholly a rugged mountainous terrain extending over the central region of Arunachal Pradesh.

The region has been described as ‘an intricate labyrinth of precipitous, rocky and high hills and mountains, with beautiful green valley’s drained by innumerable rivulets and mighty rivers cascading down from upper elevations. The tangle of hills and mountains throwing a series of spurs and towering to majestic heights of eternal snow is the most imposing topographic feature of Siang. The elevation of the hills varies from 305 to 3050 m. The tract to the right of the Siang River is less hilly than the area lying between the Siang and Dibang, which has mountains rising from 3050 to 4572 m. There are lofty snow-clad mountains in the north. Strips of flat land are interspersed in the riverine tracts, of which the most prominent is the level area of Pasighat. The hills are docked with wooded forests. The lower regions and the foothill areas adjacent to the plains of Assam have a luxuriant growth of vegetation with tall trees and thick undergrowth of scrubs (Choudhury1994) (Table 2.1).
Table 2.1: Shows the altitude of Administrative Head Quarters of West Siang district

<table>
<thead>
<tr>
<th>Name of Administrative H.Qs</th>
<th>Altitude in Mts</th>
<th>Name of Administrative H.Qs</th>
<th>Altitude in Mts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aalo</td>
<td>300</td>
<td>Monigong</td>
<td>N.A</td>
</tr>
<tr>
<td>Rumgong</td>
<td>360</td>
<td>Pidi</td>
<td>1320</td>
</tr>
<tr>
<td>Kaying</td>
<td>280</td>
<td>Tato</td>
<td>N.A</td>
</tr>
<tr>
<td>Payum</td>
<td>1035</td>
<td>Bagra</td>
<td>N.A</td>
</tr>
<tr>
<td>Basar</td>
<td>823</td>
<td>Kamba</td>
<td>N.A</td>
</tr>
<tr>
<td>Tirbin</td>
<td>600</td>
<td>Mechuka</td>
<td>N.A</td>
</tr>
<tr>
<td>Daring</td>
<td>N.A</td>
<td>Jomlo-Mobuk</td>
<td>N.A</td>
</tr>
<tr>
<td>Likabali</td>
<td>100</td>
<td>Sibe</td>
<td>N.A</td>
</tr>
<tr>
<td>Kangku</td>
<td>838</td>
<td>Mechuka</td>
<td>1829</td>
</tr>
<tr>
<td>Gensi</td>
<td>600</td>
<td>Yomcha</td>
<td>600</td>
</tr>
<tr>
<td>Liromoba</td>
<td>N.A</td>
<td>Darak</td>
<td>1890</td>
</tr>
</tbody>
</table>

(Source: Statistical Department, Aalo, West Siang)
2.2. Physiography

The area under study is lying in the Lower Himalaya region. The trend of hill ranges in Siang valley is mostly North East-South West to North South. The area is highly jagged and the hill slopes are usually steep. The flat alluvial tract lies to the south of Pasighat foothills. The Siang River forms a deep gorge cutting across the sub-Himalayan ranges in Northwest to Southeast direction and upstream wards swings into North-South direction across the inner ranges of the Lower Himalaya.

2.3. Drainage

Rivers constitute an important part of the topography of the state. Arunachal Pradesh is divided into five major river valleys:

1. The Siang Valley
2. The Kameng Valley
3. The Subansiri Valley
4. The Lohit Valley and
5. The Tirap Valley

These valleys are named after the important rivers of the state. The major rivers and their tributaries traversing the state are Siang, Kameng, Subansiri, Subansiri, Lohit, Tirap etc. All these and other countless rivers and rivulets are fed by snow from the Himalayas. Therefore, mostly these small rivulets are perennial in nature.
The rivers draining Arunachal Pradesh form part of the mighty river Brahmaputra which originates on the northern slopes of the Himalaya in Tibet. Almost all the major river system flows in the North-South direction and ultimately drains into the Brahmaputra. The River Kameng and the River Subansiri are its principal north bank tributaries draining the Himalayan ranges while the Dibang (Sikang) and the Lohit drain Mishmi hills. The Disang, Nao Dihing and Burhi Dihing rivers are the main drainage channels in the Naga-Patkoi ranges of Arunachal Pradesh and meet the Brahmaputra from the south (Kumar 1997).

The West Siang district is watered by many rivers and streams. The important rivers of the district are Siyom (Yomgoo), Sipuu, Hirik, `Hiruu, Huu, Kidii, `Iigoo, Siji, `Sigen etc. These principal rivers of the district are drained by the westerly flowing Brahmaputra (Fig. 2.2).

2.4. Geology

The mountains of Arunachal Pradesh are of much later origin than the peninsular India which originally belonged to the Continent known as Gondwana. The Himalayas on the eastern fringes of which Arunachal is situated were formed gradually due to the rise of the bed of the ocean called Tethys (Chatterjee 1991).

Geological research in the Arunachal Himalaya can be traced back to the 19th century during which several reconnaissance investigations were conducted along its foothills (Yin et al. 2006). The earliest knowledge on the geology of Arunachal Pradesh are based on notes, not by the geologists, but by the army personnel who made brief references.
Fig. 2.2: Drainage Map of West Siang District
during their punitive expeditions like Lt. Wilcox (1832), Rowllete (1845), Medlicot (1865) and Pascoe (1911).

However, the foundation of the systematic knowledge about the geology was laid by workers like Godwin Austen (1875), La Touche (1885), Mclaren (1904), Coggin Brown (1912), A.M.N Ghosh (1935), Mathur and Evans (1964).

Coggin Brown (1912) took a rapid reconnaissance traverse in Siang valley. Laskar (1958-59) surveyed a portion of the Siang valley. Near Rengging in search of coal and limestone deposits Mullick and Basu Chowdhury (1966-67 and 1967-68) carried out traverse mapping in parts of Siang district including the present area in degree sheets and brought out the geology of the area in more detail. (Kumar 1997).

Though not much could be done even after independence up to late sixties, because of its inaccessible terrain, remoteness, hostile climate, dense vegetation and sparsely distributed human habitants but some significant geological works were undertaken in the outermost parts of the Akas, Dafla, Miri, Abor, and Mishmi hills.

Geologically, Arunachal Pradesh is the least explored state but preliminary studies of geological formations promise important mineral deposits in considerable quantities. The geological domain of Arunachal Pradesh is unique and is much different than the other parts of the Himalaya (Fig. 2.3).
2.5. Minerals

The important mineral deposits in the West and East Siang district of Arunachal Pradesh are sulphide minerals, limestone, coal, graphite, marble, ferrous minerals, clay, kynite etc. The locally available rocks are sandstone, basalt, gneiss, schist and talcose.

2.6. Climate

Climatically, North-East India falls within the sub-tropical monsoon rain forest belt which receives the heaviest rainfall in the country. In Arunachal Pradesh the wide altitudinal difference along with physiography, contributes great climatic variations in the state. It is hot and humid in the Brahmaputra plain, the Sub-Himalayan and the Naga-Patkoi ranges, cooler in Lesser Himalaya and Alpine type in Higher and Tethyan Himalayan zones.

The state has variegated climate due to wide altitudinal range. The climate varies from sub-tropical in the south to temperate and alpine in the north with large areas experiencing snowfalls during winter. It becomes progressively cold as one move northwards to higher altitudes.

Along the foothills, bordering the plains of Assam, the climate is humid and hot while along the international border towards China, the state has high and lofty mountains. All along the border with China, many of the high mountains are permanently snow capped. Winter season sets in from October and continuous up to February, followed by summer season from March to Mid-June. Summer season is hot and humid but is less pronounced because of the early start of the pre-monsoon rains. The area receives rainfall under the
influence of south-west monsoon which generally starts from the month of May to September/October.
Fig. 2.3: Geological Map of Arunachal Pradesh
The state receives heavy rainfall of 80 to 160 inches (2,000 to 4,000 mm) annually, most of it falling between May and September. Winters are severe with thick mist formation and occasional rainfall. Prolonged period of Monsoon has resulted in luxuriant forest growth over the hill slopes. The climate throughout the years is damp which results in varieties of fauna and flora.

As per the Seismic Zoning Map, Arunachal Pradesh has been placed in Zone V which is susceptible to major earthquakes. Between 1897 and 1984 about 20 major earthquakes with magnitude greater than 7 (Richter), and 5 with more than 8.0 (Richter) have been recorded in the area (Kumar 1997).

2.7. Flora

As per State of Forest Report, 1999 of Forest Survey of India, out of total geographical area of 83,740 sq. kms 68,045 sq.kms which is 81.37% of the total geographical area is under the forest cover thus making Arunachal Pradesh the largest dense forest cover state in the country.

The forests of Arunachal Pradesh possess a phenomenal range of biological diversity, both in flora and fauna. The richness of life forms i.e. the flora and fauna that occur in these forests has biological diversity with over 5000 plants, about 85 terrestrial mammals, over 500 birds and a large number of butterflies, insects and reptiles.

The region is endowed with lush green tropical, subtropical, temperate coniferous as well as broad-leaved forests, sub-alpine scrub and alpine pastures having unique diversity of plant and animals. The region has very high humidity throughout the year, which supports
luxuriant growth of epiphytic plants. The flora of the region has close affinity with that from Indo-Malayan region and elements from other parts of India and other neighbouring regions have contributed to richness and diversity. The region is well known for its orchids and bamboo.

India is one of the leading countries with vast bamboo cover represented by 23 genera and 128 species of which Arunachal Pradesh contributes 15 genera and 50 species. The different species of bamboo found in the region are Bambusa pallida, B. tulda, Chimonobambusa callosa, Dendrocalamus hamiltonii, D. Sikkimensis, Phyllostachys mannii, Schizostachyum arunachalensis, S. Fuchsianum etc. to name a few. The wide variety of altitudinal and climatic conditions have given rise to different forest types which create corresponding natural shelter, food etc. to varieties of wildlife.

The forests of Arunachal Pradesh have been broadly grouped into 5 major types. These are Tropical Forests, Subtropical Forests, Pine Forests, Temperate Forests and Alpine. Apart from these forest types there are Degraded Forests, Bamboo Forests and Grasslands too. Most of the food requirement of the different tribes living in the remote area of Arunachal Pradesh is met by the different species of plants grown in the forest.

2.8. Fauna

Since the state is widely covered with dense forest, it supports a vast and diverse group of faunas. The region is home to seven species of primates, Assamese macaque, pig-tailed macaque, hoolock gibbon, capped langur, rhesus macaque, slow loris and stump-tailed macaque. The state harbours a rich variety of wildlife which includes 4 major types of cats such as snow leopard, leopard, tiger and clouded leopard and three goat antelopes- serow,
goral and takin. High altitude animals include musk deer, bharal, Himalayan black bear, red panda and other animals like elephants, gaur, wild buffalo civets, rodents, squirrels, porcupine and rats, mongoose, linsang, shrew and bat species are also commonly found. The state animal is Mithun (*Bos frontalis*) existing both in wild as well as in semi-domesticated form. This animal has religious significance and intimate relation with socio-cultural life of the people.

Arunachal Pradesh fauna also comprises of around more than 500 birds species, many of which are highly endangered like White-winged Duck, Sclater’s Monal, Bengal Florican, Temminck tragopan, Rufous-necked Hornbill, Yellow-rumped Honeyguide, Spotted Wren Babbler, Broad-billed Flycatcher, Rufous-breasted Bush Robin, Long-billed Thrush and the Black-necked Crane etc. This is the richest state for pheasants with some species found at different altitudes. The great Indian Hornbill is the state bird of Arunachal Pradesh. Apart from birds, there are numerous species of butterflies, moths, beetles in Arunachal Pradesh. Arunachal Pradesh is equally rich in reptiles, amphibian and Pisces. The rivers contain a wealth of fish.

The state is unique in having traditional rights of various tribes over land, water and forest within their jurisdiction. Each tribe as a community exercises control over the natural resources within their surrounding habitation. They sustainably use the resources for shelter, cultivation, food and other day to day multifarious uses. This rich bio-diverse area however does have threats associated with biodiversity loss. Some of the major causes for biodiversity loss being deforestation, *jhum* cultivation, forest fires, unscientific methods of harvesting and to some degree poaching and hunting of wildlife.
T. Bloch (1906-7) who conducted his first archaeological survey of this area during 1906-7, observed that due to the unfavourable conditions of the climate of North-East India, with its torrential rainfall, perpetual recurrences of seismic disturbances, highly acidic soil this area is most unsuitable for preservation of ancient relics and monuments. The thick vegetative cover in this area presents, so as to say, an unfavourable condition for archaeological investigations.

Though T. Bloch made this observation a century back in which he meticulously summarized the various reasons which explain the lack of archaeological remains in this part of the country, his observations hold true even in the present time. Way back in 1972, H.C Sharma also realized the difficulties regarding archaeological investigation in Northeast India as it falls under the Tropical Rain Forest Zone.

To understand archaeology of a region the ecological perspectives plays an important role. There is a strong correlation that exists between people and the physical environment that they live in for their survival.

This chapter as a whole gives an insight into the topography, flora, fauna, climate, geological history and minerals of the region to understand the crucial human-environment relationship; how the environment impacts and shapes a culture. Same physical environment does not necessarily produce identical cultures as different communities use its own unique strategies to survive in its given natural setting, therefore, an understanding of the environmental setting of the Adi-Galo tribe is imperative. The survival strategies of the Adi-Galos are based on sustainability. Their relationship with the environment is deeply intense and their livelihood is mostly depended on it.
The understanding of the natural environment of this region is paramount for the study of past social behaviour. The interactions between humans and environment help to understand spatial variations of culture, its development, and distributions. The inaccessible topography but the availability of edible wild plants and animals in surplus of the region provide the present population a unique strategy to survive in its natural setting and this interaction resulted in a unique individual adaptive strategy for the Adi-Galos.

Chapter 3

Archaeology of Arunachal Pradesh

Despite constant efforts, very little is known about the prehistory of North-East India. Archaeological exploration in the region is as yet at a reconnaissance stage. Heavy precipitation, dense vegetation, excess humidity and highly acidic soil have made the work of archaeologists in the region difficult in archaeological investigation.

Sir John Lubbock (1867) was the first person to find a jade Neolithic implement in Upper Assam and subsequently there were reports of findings of stone tools from other
region also but archaeological study of the region actually started from the mid 20th century. It was the continuous efforts of archaeologists whose important discoveries brought to light the important of archaeology in this part of the country.

The important Neolithic site in North-East India are Daojali Hading (Sharma 1967), Sarutaru (Rao 1973) in Assam, Napachik (Singh 1993) in Manipur, Parsi-Parlo (Ashraf 1990) in Arunachal Pradesh and Garo Hills (IAR 1966-67, 67-68) in Meghalaya.

Garo Hills in Meghalaya has become the focus of interest in the study of prehistoric archaeology of North-East India after the discovery of a number of palaeolithic sites at Rongram River Valley.

In Arunachal Pradesh Parsi-Parlo in Kurung Kumey district, is the only Neolithic site excavated so far. The prehistoric human occupation in the Kamla Valley was first reported by D.K. Duarah in 1979 when he collected three Neolithic celts. Later in the year 1982-83, A. A. Ashraf, Assistant Director of Research Department, Arunachal Pradesh carried out an extensive exploration in nearby villages like Vigo, Lia, Nindung, Pagam, Paleng, Sangram and Taba which led to the discovery of a neolithic settlement and a number of prehistoric stone artifacts (Ashraf 1990). Therefore in the succeeding year in 1983-43 a trial trench was taken by him, which revealed a single culture horizon which he divided into three phases viz.

- Phase I: Aceramic Neolithic Stage

Phase I is characterized by the presence of scrapers and large cutting tools with the rudiments of pecked and polished ground techniques.

- Phase II: Ceramic Neolithic Stage
Ceramic Neolithic Stage is the continuation of the preceding phase with conspicuous absence of scraper and large cutting tools and also the presence of hand-made pottery (stamped/cord impressed ware). The tools in general provide hafting facilities and are mostly for agricultural use.

- Phase III: Ferrolithic Stage

Ferrolithic Stage is the continuation of the preceding phase but with the emergence of iron tools. A single piece of iron implements probably a hoe-blade, along with a lump of raw material has been found. The tools of this phase are round butted pecked and ground celts. No structural remains were found, open fire-places were encountered. Pottery forms small part, continued to be same in all respects as that of Phase II.

Ashraf reports that the Neolithic tools found in the region are mainly of 2 types, celts with lenticular cross sections, hog-backed type and slender chisels of jadeite. The tools were mostly made in jadeite. He further adds that the archaeological materials recovered from the site bear similarity with that of the material from South East Asia.

In the absence of horizontal excavation, information regarding the physical layout of the Neolithic communities is very meagre.

Earlier archaeologists who worked in the region have already established that the Neolithic of North-East India is a product of the Neolithic of Southeast Asia (Medhi 1993). According to Worman (1949) the Neolithic tradition of East Asia made its way into India through North-East India. Archaeologists working in the region have identified the pebble axes, choppers and pounders found in North-East India as Hoabinhian tool which is suggestive of link with South-East Asia (Medhi 1993).
The Hoabinhian techno-complex has long been considered as a manifestation of the relative crudity of Southeast Asian stone tool technology. H.L Movius coined the expression: crude, colourless, and unenterprising” to refer to the stone tool technology of South east Asia, which he characterized as a chopper-chopping tool complex of large heavy tools requiring little skill to produce and demonstrating no artistic inclinations. Some archaeologists tried to counteract the inevitable impression that people who produced such tools were also probably crude and unenterprising by postulating theories based on environmental factors. According to such theories, stone did not play a key role in prehistoric Southeast Asian technology, because bamboo and other organic materials were available and more efficient (Miksic 1995).

3.1. Material Remains
Generally, the Neolithic tools collected from the state are stray finds, mostly found in surface collection. The Neolithic Celts have a wide distribution in different regions of Arunachal Pradesh but without any stratigraphic context and thus throw little light on the date of the Neolithic culture in this area.

The occurrences of such Neolithic celts and the beliefs associated with them are widespread all over the world. These are reported from Europe, Russia, North America, Africa, Japan, Burma, China, Malays and in the Eastern part of India. In Ejura, Ashanti, the Neolithic celt is called nyame akuma (god-axes), in Malay, batu-lintar, batu-hali lintar or batu petir (thunder stones) in Burma, mu ningwaa (Mu’s axe heads), in Japan raifu (thunderbolts) and in Central Italy, fulmini, or folgori. The belief that stone celts are “thunderbolts” is widespread in the Naga Hills among different Naga tribes like Konyak,
Sema, Angami, Ao and Lhota (Hutton and Mills 1872). Some of the Naga tribes regard them as luck-bringing but the Lhotas on the other hand usually will not touch them (Balfour 1929). Neolithic celts are reported from almost all the states of North-East India. Throughout the world celt is believed to possess one of the following powers:

- These celts are believed to have prophylactic use against illness. The surface of the celt is scraped and the powder that comes out of the scraping is mixed well with water. This mixed liquid is then taken by the sick person as a medicine which is believed to heal the ailed person.

- Celt is also looked both as charms objects which bring good luck and as devil’s axe which brings misfortune.

Though the theory of “thunderbolt” is just a fictitious product of imaginations to the cold and unemotional eyes of the scientist but the general adherence to the older belief steadily persisted and such objects continue to be regarded as either freaks of nature or of extra-telluric provenance. The “thunderbolt” theory still remains dominant (Balfour 1929).

In Arunachal Pradesh neolithic celts are considered as celestial objects fallen from the sky by the local tribes. There are various ideas about these celts among them; some of the tribes consider celts as good omen and worships them while for others the celt is believed to cause misfortune if kept inside the house. So these are discarded immediately at the sight of it or left untouched. The celts are occasionally found during mountain clearings because that is when the forest is cleaned to be prepared for cultivation. As pointed earlier, these celts when encountered are discarded or thrown away into the nearby forest immediately before the bad effects of the celts start affecting their life.
The celt is known by different names among different tribes all over the region (Table 3.1). The Adi-Galos believe that these celts bring bad-luck thus these celts are not brought home and even encountered in the forest and are discarded.

Ashraf (1998) has classified the types represented in Arunachal Pradesh as shouldered celt, faceted celt, tanged axe, chisel and celts of more or less triangular and sub-rectangular shape. Typologically, there are two dominant types, viz., stone axes with lenticular cross section and faceted quadrangular type with rectangular cross section. The minor types are hog-backed type of celt slender chisel of jadeite. Technologically, most of the neoliths, so far collected from Arunachal are chipped and edge ground or fully ground tools. Jadeite and shale are the most commonly used stone to manufacture these celts.

Ground and polished stone tools represent the neolithic phase of prehistoric culture in North-East India. These celts were used by men during their pre-metallic cultural phase. These celts are now artefacts of vanished cultures.

Table 3.1: Shows the different names of celts among different tribes of Arunachal Pradesh

<table>
<thead>
<tr>
<th>Tribes</th>
<th>Local Names of the celt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aka</td>
<td><em>Jeu-forje</em> (Axe of <em>Jeu</em> deity)</td>
</tr>
<tr>
<td>Digaru</td>
<td><em>Bura-tapah</em> (<em>bura-cloud, tapah-thunder</em>)</td>
</tr>
<tr>
<td>Galo</td>
<td><em>Mugli Ege</em></td>
</tr>
<tr>
<td>Tribe</td>
<td>Deity</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Idu Mishmi</td>
<td><em>Baya</em></td>
</tr>
<tr>
<td>Khamba</td>
<td><em>Thiroh-Tare</em> or <em>thoh</em> (<em>thoh</em>-thunder)</td>
</tr>
<tr>
<td>Khampti</td>
<td><em>Khanfa</em> (<em>Khan</em>-axe, <em>fa</em>-sky)</td>
</tr>
<tr>
<td>Khowa</td>
<td><em>Hakram-thapiuh</em> (<em>Hakram</em>-thunder, <em>thapiuh</em>-axe)</td>
</tr>
<tr>
<td>Memba</td>
<td><em>Namchalung</em> (<em>nam</em>-sky, <em>cha</em>-iron, <em>lung</em>-stone)</td>
</tr>
<tr>
<td>Mijis</td>
<td><em>Chambeo-blu</em> (<em>Chambeo</em>-thunder and lightning, <em>blu</em>-axe)</td>
</tr>
<tr>
<td>Monpa (Dirang and Kalaktang)</td>
<td><em>Chabiangra</em></td>
</tr>
<tr>
<td>Monpa (Tawang)</td>
<td><em>Kyug</em> (thunderbolt)</td>
</tr>
<tr>
<td>Nishi</td>
<td><em>Doje-hutung</em> (Jungle God’s Axe) or <em>Talu-hey</em> (Devil’s Axe)</td>
</tr>
<tr>
<td>Nocte</td>
<td><em>Zangwaka</em> (<em>zang</em>-sky,<em>waka</em>-axe)</td>
</tr>
<tr>
<td>Padam/Minyong</td>
<td><em>Lidor</em></td>
</tr>
<tr>
<td>Sherdukpen</td>
<td><em>Michaflu</em></td>
</tr>
<tr>
<td>Singpho</td>
<td><em>Muhningwa</em> (<em>Muh</em>-name of deity, <em>ningwa</em>-axe)</td>
</tr>
<tr>
<td>Tangsa</td>
<td><em>Rang-minkoi</em> (<em>rang</em>-sky,<em>minkoi</em>-axe)</td>
</tr>
<tr>
<td>Wancho</td>
<td><em>Zangwah</em> (<em>zang</em>-sky, <em>wah</em>-axe)</td>
</tr>
</tbody>
</table>

(Source: N. Sarkar 1982)
However, archaeology in itself is not adequate to understand past human cultures in North-East region. Hence incorporating ethnographical approach is essential and exceedingly constructive to understand the use and function of celts in this region.

According to E.C Worman (1949) “The neolithic problem in the prehistory of India pointed out that Assam was the corridor through which celt-making techniques entered India”. He proposed that the Indian smoothed stone celts of neolithic type, regardless of the cultural affiliation, appear to be derived from the eastward.”

3.2. Archaeology in West Siang district

Not much is known about the prehistoric archaeology of West Siang district. This was a further motivation to undertake this research work in this particular area.

The only excavated site in the district is the Malinithan temple complex, a historical religious site. It is situated at the foothills of West Siang district under the Likabali subdivision. Malinithan is a place of great sanctity. It is associated with Siva-Parvati. This site is also associated with Krisna legends. The excavation proved that the ruins are of Hindu influence. L.N Chakravarty, the former Director of Research, Government of Arunachal Pradesh places the approximate date of the ruins of Malinithan as of the 13th and 14th century A.D.

Any conclusive attempt, to identify the temple with any particular dynasty or king has not been possible yet despite the belief that the temple was constructed during the Pala period of Assam (Kamarupa) (Dutta 1997) who roughly ruled from 10th to 12th century A.D.
The focus of the present research is on the prehistoric and aboriginal culture hence no attention was given to the early historical remains and influence from outside. Before any attempt to start this study it was known to the research scholar that some stone tools have been collected by the locals in their region. The Adi Galos of villages like Bagra, Jini are well aware of the existence of stone tools. However, no importance is given to these tools by the villagers because the celts are considered as Devil’s Axe (Mugli or Yapom Ege) by them. In fact the Adi-Galos classify any objects with unknown origin as the possession of devil. Any kind of object not referred in their myth or oral tradition is of an unknown origin to them.

During the village to village survey there was an attempt to search for archaeological artefacts through explorations and interactions with the local villagers. No tools were personally collected during the surveys. The only clear area is the settlement area and the rest of the area which is not inhabited is thickly forested which is one of the deterrent factor in finding any tool. However, during the interviews villagers narrated coming across those tools but of course thrown far away as these are considered as a sign of bad omen. Fortunately, two villagers had kept the tools which they found. On request they brought the tools and agreed to lend it for documentation and also provided important information about the context from where the tools were collected.

A total of 15 tools were found. The first set of 9 tools (Fig. 3.1 a - g) was collected by Gumtum Ete from Nyigmoi site in Doje which is 28 Kms away from the West Siang district headquarter, Aalo. The tools were collected while ploughing the field in 1995-96.
Fig. 3.1 a-d. Tools from Nyigmoi site in Doje Area
The second set of 6 tools (Fig. 3.2 a - d) was collected by Mr Dope Jini, from Logum Jini village, 10 kms from Aalo. The site from Logum Jini village was visited and surveyed on foot. But due to dense vegetation no archaeological remains could be traced.

Tomo Riba (1995) also reported about the celts which he collected from Jini Village. According to his report the tools were collected from 5 feet below the surface while digging. He also collected celts from Kombo Village. Looking at the tools, historian A.C Bhagawati concluded that these are pre-historic stone axe chips of Neolithic people (Riba 2003).
In both these Galo villages, celts are called Mugli ege (thunderbolt) or Yapom Ege (devil’s axe) and considered as a sign of bad omen. The locals of these two villages have no memory of the functional use of these stole tools. Even in their oral tradition there is no mention of the use of stone as tool. In their living memory stone was only used as sharpener to sharpen dao (Fig.3.3) and therefore no direct association is found between the local inhabitants and the stone tools found from the region. Stone celt is seen as an object of the devil. Thus in the light of the evidence it can be said that the Adi-Galos did not use stone tools but the stones tools found in the region may belong to the earlier group of people who occupied that region before them. However, more evidence is needed to reinforce this hypothesis.

3.3. Ethnoarchaeology

Ethnoarchaeology has emerged in recent decades as an important tool for the interpretation of archaeological data. Ethno-archaeology is the ethnographic study of living cultures from archaeological perspectives. It is a research strategy embodying a range of approaches to understanding the relationships of material culture to culture as a whole.
Fig. 3.2a-b: Tools from Logum Jini Village
Fig. 3.2c-d: Tools from Logum Jini Village
Both in the living context and as it enters the archaeological record, and to exploiting such understandings in order to inform archaeological concepts and improve interpretation (David and Kramer 2001).

Ethnoarchaeology is the study of the various aspects of contemporary socio-cultural behavior and material culture to ascertain how certain features of observable behavior may be reflected in the archaeological record (Mohanty and Misra 2002).

The most quoted definition is that of Stanislawski (1974) who defines ethnoarchaeology as participant observation, study of form, manufacturing, disturbance, meaning and use of artefacts and their function or institutional setting and social group correlation among non-industrial peoples for the purpose of constructing better explanatory models and also to aid archaeological analogy and inference.
Ethnoarchaeology has been variously termed as “action archaeology” (Kleindienst and Watson 1956), “Living Archaeology” (Gould 1968, 1974), “archaeoethnography” (Oswalt 1974) and ethnographic archaeology (Pastron 1974).

Since 1960’s, the field of ethnoarchaeology has emerged as a discipline explicitly concerned with examining the archaeological relevance of contemporary phenomena, including such topics as site formation and depositional processes; documentation of traditional technologies, community forms, and settlement patterns, the relations between humans and their environment; and the study of the material implications of a variety of social systems and social strategies as well as ideologies and belief systems (Sinopoli 1991).

In her article, “Seeking the Past through the Present, Recent Ethno-archaeological Research in South Asia” Carla A. Sinopoli has taken a very broad definition of the field and included not only explicitly ethnoarchaeological studies but also ethnographic studies that have focused on material culture without necessarily being concerned with their archaeological implications. According to her, ethnoarchaeological study has also served as a warning, alerting us to the complexity of human behaviour and the tremendous diversity and creativity manifest in human manipulation of the material world (Sinopoli 1991).

The strength of ethnoarchaeology lies in the fact that it involves “actualistic studies” of the practices of everyday life through which observations are made. Ethnoarchaeology can provide some valuable information since it involves the study of material culture in context, the study of an actual situation as opposed to a fabrication or simulation (Schiffer 1978).

Ethnoarchaeological studies can be directed at settlement patterns, artefacts distribution, pottery-making and hunting practices.
Majority of ethno-archaeological reports and projects of South East Asia are on hunter-gatherers and ceramics. Ethnoarchaeological research work in Southeast Asia is affected by certain difficulties, there is hardly any work done in the field of environmental analysis.

There is very little data regarding the long term adaptation of humans to the many habitats which the region affords. There is no adequate means of testing the hypothesis that much of Southeast Asia’s vaunted cultural diversity is linked to the special environment factors which characterize the region (Miksic 1995).

3.3.1 Ethnoarchaeology in Arunachal Pradesh

The dimensions of ethnoarchaeology in North-East India can, in fact, be diverse. In this thesis an attempt has been made to use ethnoarchaeology as a tool to refine our explanations for the interpretation of past human behaviour in the region under study. This view is strongly supported by Gould and Watson (1982), who clearly remarked that “Ethnoarchaeology, formally or informally applied, is the source of all observations that enable archaeological interpretation” (Agorsah 1990).

In North-East India, most of the ethno-archaeological work conducted so far has mainly been done on megalithic culture and ceramics; Sharma (2011), Kaping (1998), Medhi (1983) etc.

Though, it has to be noted that ethnoarchaeology of the aborigines in North-East India is centered around ethnographic data due to the high use of locally available perishable
materials and poor preservation of any kind of remains. This fact will be clearly demonstrated in the present work.

Ethnographic data has been gathered which has proved to be of immense help to reconstruct the extinct cultures which are poorly preserved in the archaeological record and also in understanding the process of cultural development in the area. Data gathered from observing living peoples can help shape ideas about process, variability in form and function, and specific interrelationships between non-tangible aspects of culture and their material counterparts (Hayter 1994).

Ethnographic data can also help to understand many complex issues related to the past of this region. The archaeological record consists of the material traces of behaviour and not the behaviour itself so ethnographic data is used in archaeology to fill these behavioural voids in the record. Ethnographic data is further used to document what cannot be recovered as archaeological records that are perishable material.

A.A. Ashraf (1998) remarked that the archaeological problem of this region may be better understood if the existing ethnographic conditions are studied. He carried out ethnoarchaeological research work among the Nishi tribe of Kamla Valley, Kurung Kumey district to understand their traditional subsistence technique and prehistoric technological strategy.

The present work is an attempt to contribute in the ethnoarchaeological research of Arunachal Pradesh. Nevertheless, it is to be noted that ethnography is the main tool for not only understanding the present communities of the region but also the past. Thus, ethnographic approach has been the principle method for the present research.