Chapter – I

INTRODUCTION
The Archeological investigations during the last few decades has moved the Prehistoric studies into a new phase. Previously the majority of prehistorians were concerned with artefact typology and technology, its development through time, and the sequential and regional relationships of assemblages of stone and ceramic artefacts. But the new findings of pre-historical studies of recent times has brought to light new approaches in the fields of geomorphology, palaeontology, palaeobotany and palaeoclimatology, throughout the world, there has been an increasing swing towards considering past cultures in their totality.

This means finding out as much as possible about the ecological relationship between a human community or group and its environmental context. As a result, artifacts are seen as only one aspect, although an important one, of any culture. This approach necessitates taking into consideration many other categories of evidence including the study of all animal, plant and other organic remains in associated cultural or geological deposits, thus giving an insight into the character of the immediate physical environment, and the way in which it was utilized by human beings. Complementary to this is the relationship of objects including both artifacts and organic remains to one another at living sites and factory areas. The distribution of sites in relation to the topography of an area or region, is another important line of enquiry, and allied to it is the evidence for widespread change in the environment that such topographic or geomorphologic studies provide. These approaches have increased the scope to study, sites of all
kinds, including open air sites, factory sites, living sites and larger settlements in relation to environmental factors with careful and systematic approach. Coupled with this is a more realistic understanding on the part of prehistorians of the nature of the environment, present and past; and of the ways in which it differs, often radically, from the environment of temperate regions where methods and approaches to prehistory were initially developed.

Other aspects of the changing approach to the study of human cultures relate more specifically to the problems posed by later archaeological periods and contexts. Here too there has been a general shift away from the older approach to artifacts or categories of artifacts viewed in isolation, towards a more integrated view of cultures as functioning wholes, viewing cultural change as far as possible in much the same way as its modern counterpart in terms of dynamic processes, rather than as mere sequences of artifacts, traits or assemblages.

The study of artefactual evidences that were brought to light during the pre and proto historical periods in the orient has brought to light that there existed two formative stages in the socio-economic and cultural evolution of human beings from the beginning. These stages are identified by archaeologists as food gathering stage and food producing stage respectively as Palaeolithic and Neolithic periods. The basic criteria adopted by the archaeologists was based on the tools and artifacts recovered from different prehistoric sites which were prepared, used and discarded by the human beings for their sustinance either through the collection of food or production of food. The tools and artifacts
recovered to us have the history of thousands of years and the objects survived
during the ravages of natural and physical transformations through long gap of
time are only stone, bone or ceramic objects and basing upon the technological
developments observed on the tools through the scientific observations, land use
patterns ecology etc., these two formative stages are identified.

The food gathering stage basing upon the tool assemblages and
technological development is divided into incipient food gathering stage and
advanced food gathering stage and respectively identified as Palaeolithic and
Mesolithic periods (Chand, C.S. 1972:8). The food gathering stage necessitated
variously the camp mobility depending upon the food potential of immediate
environment. Hence the prehistoric man of this period has led sedentary way of
life and was moving from one place to the other in search of food for his daily
sustenance. The close contact of human beings in course of advanced food
gathering stage with animals and cereal products, have led him to adopt closer
association with nature which resulted in new method of food production which
again led to be known as incipient food producing stage and advanced food
producing stage which in course of time identified respectively with Neolithic
period and Megalithic and Early Historic periods. These two food producing
stages for convince is came to be known as early farming period of human beings.

The early farming settlements in any region can be identified on the
basis of the three basic traits. The primary trait that sets it apart from the other
cultures is deliberate food production as opposed to mere food gathering, as the
means of subsistence of human beings. This trait is found, in the occupations of agriculture and animal husbandry. The second trait is the adoption of settled life. It is indicated in the archaeological record by the way of regular construction of huts and houses in clusters. The third important trait is the introduction of new technology characterized by smoothened stone tools and pottery, which in course of time led for smelting of metal and paved the way for the use of Copper, Bronze and Iron tools. Thus a full fledged sites of early farming settlements are characterized by all the above traits.

Gordon Childe (1952) designates the food production stage as ‘Neolithic Revolution’, for he believes that at this stage man became active partner with nature instead of total dependence on nature. The man – nature interaction is the subject matter of crucial interest and is being investigated by scholars all over the world. Now it has been recognized that this Neolithic revolution could happen or come up only in a definite physical, economic and sociological milieu. The physical milieu congenial to this revolution is primarily the natural habitat of domesticable varieties of plants and animals. Secondly man should have already achieved a stage, both economically and socially, in which he would be in a position to meet the challenge of the nature and exploit it for his advantage. Most of the present day enquiry by archaeologists is directed to find out the details of these. Taking these aspects into consideration, Braidwood, R.J. (1957) coined the word ‘Neolithic Evolution’. In his opinion, revolution is a word used for any change that occur all of a sudden basing upon certain aspects.
But if the change is gradual and constant, the changed aspect be considered as evolution. Whatever be the term one can use, the changed economy in human being was though sudden but constant. The food gathering stage has gradually transformed into food production stage and hence there is nothing wrong in using both the words.

In order to reveal different aspects of ancient cultures, the help of different sciences and disciplines have been sought. The introduction of settlement pattern studies, (Willey, G.R.: 1953) in archaeology which is basically a geographical concept, a new era was started in the reorientation of the cultural aspects of early human beings. It has in fact dwarfed the earlier criteria of explaining the economy, culture and society of human beings. The settlement pattern studies aims to explain the socio-economic and cultural aspects on geographical basis, and as such it provides solutions to various aspects of human life for which answers were not provided earlier. After Willey work a number of studies pertaining to settlement pattern studies were carried in Europe (Chisholm, M. 1979; Chang, K.C. 1958), America (Flannery, K.U. 1972; Cook and Haizer. D., 1968), and Middle East (Adam 1965), but as per India is concerned they are still in infancy. But considering the importance of this study, a number of scholars in India, only recently have began studies in this field (Dhavalikar, M.K., 1977, 78a, 78b, 79, 82, 83; Dhavalikar, M.K. & Posshl, G.L. 1974; Chilalwala, Y.M. 1977; 79; Possehl, G.L. 1980; Surej Bhan (1977); Makhan Lal (1984); Shinde (1984); David Raju, B. (1986, 87, 89 etc.). My study of the settlement
pattern of the Early Farming Cultures is similar in its nature and first of its kind in Muneru River Valley in lower Krishna Basin.

The area chosen for the present investigation is Muneru river valley comprises relatively smaller area not exceeding 200 km in the western part of Krishna, Khammam and Warangal Districts of Andhra Pradesh. This region being located in the uplands of these districts and, hence the dry cultivation is the main activity of the people and as such the area is not very much disturbed on account of the modern methods of cultivation. It provides sample evidences of agricultural activities of early agriculturists and stands as an ideal area for the present study. The area is traversed by Muneru river with its major tribularies such as Akeru, Katleru and Wira and minor tributaries which passes through different environmental niches such as hilly region, valleys and plain land surfaces and traversed by infertile red soils and fertile black cotton and alluvial soils before it empties down in Krishna River near Chandrullapadu. The archaeological explorations conducted at the area has brought to light that it is the home land for different cultures from times immemorial starting from food gathering stage of Palaeolithic and Missolithic times to the food production stage of Neolithic, megalithic and early historical periods and had a continuous cultural interaction at different times with different economic criteria. Hence the present archaeological investigations in the Muneru river valley is an ideal area to make an enquiry about the settlement and subsistence patterns of early farming cultures.
Unlike the western India where different chalcolithic cultures such as Jorwe culture, Ahar culture and Gullind culture flourished in adjoining areas simultaneously and had interaction with one another (Dhavalikar, M.K. 1982), in South India and especially in Muneru river valley of Andhra Pradesh, such chalcolithic cultures are conspicuous by their absence and on the other hand had successive nourishment of different cultures such as Neolithic, megalithic and early historic periods with the same economic base but with alterations and improvements in the technological level (David Raju, B. 1992). The introduction of metal tools during Megalithic and early historic periods in Andhra Pradesh one way or the other had changed the settlement pattern of the early farming cultures in the remote past. The story of the early farmers in the Muneru valley goes back to the beginning of second millennium B.C. when Neolithic people made their first settlements. It is followed in due course by megalithic and early historic cultures (David Raju, B. 1985).

The importance and potentiality of the early forming cultures of the region was first recognized by the excavations at Nagarjuna Konda (R. Subrahmanym, et. al. 1975) which was brought to light the cultural sequence from the Neolithic to the early historic period and helped for the first time to place these cultures in chronological sequence. The subsequent excavations at Kesarapalli (Sarkar, H. 1973) in Krishna District and Gandluru (IAR:1984 :1) Guntur districts has confirmed the cultural sequence that was identified at Nagarjuna Konda. In this context it may be mentioned that the above works are
only excavation reports and do not provide the over all pictures of socio-economic and cultural aspects of early farming cultures. In this connection, it may be mentioned that the works done in the Muneru river valley and the discovery of Neolithic sites at couple of places (IAR:1982:4) by the earlier scholars is not less important, but no scholar has so far tried to find out the impact of the metallic tools especially those of iron implements during megalithic and early historic periods on the settlement and subsistence pattern of the people. Hence the present writer aims to find out the changes that occurred in the settlement pattern of early farming cultures during the successive cultures at Muneru river valley. By following different survey methods such as village to village survey, surveying along the river banks and studying topographical sheets and collecting data from already discovered 5 neolithic sites, the author collected data from 68 more sites belonging Neolithic, Megalithic and early History sites. Of these 34 sites are purely of Early Historic Period. Thus the present study is mainly based on 72 sites discovered from Muneru river valley to identify the role of technological developments that came into existence at different cultural periods and the relationship of eco facts, climate, rain fall and land form etc. on the settlement and subsistence pattern of early farming cultures of Muneru river valley.

In the context none of these sites exposed for full scale have been excavation so far and hence, for comparing the surface data and interpreting it with the stratigraphical levels, the author has mainly relied on two major sources, which are very closely got excavated to the Muneru valley i.e. Nagarjuna Konda
in Guntur District where large scale excavation was conducted and Kesarapalli where small scale excavation was conducted in Krishna District and the reports are already published. Further, the stratigraphical scrapings conducted by the author at Kondapeta and Pallagiri on Muneru river and Mallavaram on Wira river Damsula puram in Krishna and Khammam Districts and the material data collected from these sites were also utilized for the present study.

**Aims**: In the present study, the author has attempted to throw light on the following aspects.

1. To survey the Muneru river valley intensively and to bring to light the potential information on early farming settlements.

2. To find out the impact of different ecological niches present in the Muneru river valley and its influence on the settlement pattern of early farming cultures.

3. The settlement pattern of the megalithic and early historic cultures and the impact of the use of iron technology on the economy of the people during the said period.

4. The spatial distribution of these cultures with regard to the number of settlements, the size, pattern of their distribution over the land-scape during different cultural periods.
Methodology

To realize the aims mentioned above, the present writer has carried out extensive explorations in Muneru river valley. He not only revisited the already reported 5 neolithic sites and collected fresh data from them, he conducted explorations in whole of Nandigama taluq of Krishna Dt., and the western parts of Khammam and Warangal districts which has brought to light 67 more sites belonging Neolithic, megalithic and early historic periods. Besides measuring the external and habitational deposit, the author studied other factors such as defensive position, land scape, soils, ecology etc., to prepare analogy on settlement pattern and subsistence pattern of the cultures. The data gathered during explorations was interpreted by using different models and important of which is the third level proposed by Bruce Trigger, B.C. (1968) and adopted the model of K.V. Flanrery (1976) for identifying the settlement and subsistence pattern of early farming cultures of Muneru river valley.

DATA CATEGORIES :

The available data categories fall under three heads i.e. archaeological, environmental and ethnographic.

ARCHAEOLOGICAL DATA :

The cultural data, other than the artifacts from Muneru River Valley are very meager. The author with a view to explore new sites, conducted an intensive and extensive village to village survey, relying on local information and
surveying along the rivers and streams using the 1 inch – 1 mile topo-sheets. Besides obtaining the ecological and settlement data of already reported sites, the author has undertaken intensive explorations in 3 field seasons to bring fresh data from newly explored sites. Enough care was taken to ensure that the Muneru River Valley which spread to Krishna, Khammam and Warangal districts received equal coverage in the exploratory surveys. As a result 68 more sites were discovered anew, besides the already known list of 5. The bulk of surface collections from these sites consisted of pottery, ground stone tools, microliths, iron objects and faunal remains. Occasionally, steatite disc beads, terracotta beads and objects are also collected. The surface collections helped to identify three cultural periods specifically belongs to Neolithic Megalithic and Early Historical Periods. But surface collections are not sure indicators to determine the temporal ranges of these cultural units. To ascertain the chronology and other cultural data, stratigraphical scrapings were conducted by the present writer at three sites viz., Kondapeta, Pallagiri and Peddapuram in Krishna and Khammam Districts besides taking into consideration the data which is already available from Nagarjuna Konda, (Subrahmanyam R, et.al. 1975) Kesara, (Sarkar H 1973) and two Buddhist sites in Muneru river Valley viz., Gummadudduru and Alluru where scientific debris clearance took place by Archaeological Survey of India (Pers. Communication).

The data gathered from the field explorations on one hand and the excavations on the other was carefully analysed and inferences were drawn with
the help of appropriate models. For studying the settlement patterns of Early farming cultures, the zonal pattern, the third level of Trigger, B.C. (1968: 53-78) was adopted. Though the settlement pattern studies in India are still at infancy, themes from the work done by the scholars namely Dhavalikar, M.K. (1977, 1978a, 1978b, 1979, 1982, 1983, 1984), Possehl (1980), Suraj Bhan (1977), Chitalwala (1977, 1979) Makhanlal (1984) and Shinde, V. (1984) and David Raju, B. (1985, 1990) were also utilized wherever necessary.

The term Neolithic in general use refers to incipient food producing societies. But data relating to the cultigens and domesticates had not survived to the time, probably perished through the natural transforms and cultural transforms (Schiffer, M.B. 1976). The ground stone implements, the associated hand made, burnished, grey, brown and buff, pottery, domesticated animal remains and the evidences for permanent settlements for the identification of Neolithic strata and wheal made black and red, brown, black wares, iron objects etc. for identification of Megalithic and Early Historic periods was taken as diagnostic criteria in Muneru River Valley. In this context, it may be noted that the copper was also evidenced in a limited manner at a later stage of Neolithic culture. Allchins preferred to call the stage as the ‘neolithic-chalcolithic’. But the word is an unhappy compromise of conflicting cultural terms. In South India, there are no chalcolithic cultures as it is known from Central India and Maharashtra (Thapar, B.K. 1965: 87-112). Since the introduction of copper did in no way constitute a break with the past, it is proposed to use the term ‘neolithic’ for such of the early
farming communities in South India as have limited copper tools also (Agrawal, D.P. 1969:118). But as per succeeding periods the same terminology Megalithic and Early Historic periods is used to show distinct variations in the culture after the introduction of Iron and the changes took place in the settlement and subsistence pattern at Muneru River Valley.

**ENVIRONMENTAL DATA:**

Another class of data pertains is the environment, in which these cultures flourished. In Muneru River valley, there are variations of environments between the upland region and lowlying alluvial and black cotton soils. Differences in man land relationships even to-day can be seen in population densities and subsistence pursuits. The same pattern more-or-less holds valid also in the pre-history of this region as shall be shown later.

It is pertinent to take into account the distribution of pre-neolithic sites in different environmental zones of this region so as to bring man-land relationships of the Early farming times into sharp focus. The sheer number of palaeolothic and mesolithic sites in upland areas of Krishna, Khammam and Warangal districts would suggest that the pre-neolithic hunter-gatherers were successfully adapted to the forest environments making an optimum use of the resources potential locally available. In contrast to this, the low lying areas of these districts characterized by sparse vegetation disclosed only a few Palaeolithic and Mesolithic sites, while the Neolithic and Megalithic and Early Historic sites
are more numerous. If the Palaeolithic and Mesolithic folk showed a distinctive preference for woodland and semi-forest areas, quite the opposite was the case with the Neolithic and Megalithic folk. Assuming that the natural environment did not alter since the times under reference (Rajaguru, 1979) an obvious explanation would be in the changing / evolving modes of subsistence.

ETHNOGRAPHIC DATA:

Certainly, the archaeological data and the extant remains of fauna provide us tangible clues for our understanding of the economic basis of the Neolithic, Megalithic and Early Historic folk in Muneru River valley. But, however, we are not left with any tool that would provide us an opportunity to understand how the natural resources and the cultigens along with the domesticated animals were manipulated so as to form an unfailing economic base. Particularly the patterns of settlement and the social stratification which are inseparable entities for our understanding the social setup of the early farming cultures, we need to take a model which is not far removed from their life patterns.

Such a model by and large may be conceived from within the contemporary tribal societies whose ways of life have not been very much constrained by the cultural sphere of the present day society. Peterson, N. 91971), Gould, R.A. (1968 : 101-22), Kleindiest, M. and P.J. Watson 91956:75-78) and Hassan, F.A. (1978:49-103) have successfully shown the utility of ethnographic studies in archaeological contexts. Daniel stiles (1977:87-104) suggests three
methods to obtain specific ethnographic data to suit the archaeological modeling. According to him, the first method is to observe the relationship between cultural and natural processes in determining refuse patterning (Rathje, W.L. and M. McCarthy 1977:261-86). The next method pertains to the relationship between artifacts and behaviour (Odell, G.H. 1980; Laurence, H. Keeley 1980) and the last one is to observe man-artefact land relationship.

The Chenchus, the Erukulas, the Yanadis, the Lambadis and the Boyas who reside in the hilly and upland tracts of Coastal Andhra exhibit some of the trait patterns of Neolithic and Megalithic folk. A careful perusal of the social stratification, economic organization and community patterning of these folk can provide tangible clues for understanding the life and the culture of the early farming communities of the region under consideration. It may be granted that those folk are fast exposed to the a culturisation programmes under-taken by the government and that there is a perceptible development in their life ways. Even then, with a broad margin, the ethnographic data being the only reliable model has been employed for the reconstruction of the life ways of early farming cultures of Muneru river valley carefully avoiding those newly intruded elements into the cultural make up of the said tribal folk.

DIVISIONS OF CHAPTERS:

The present work is divided into 10 chapters.

Chapter I deals with introduction. It provides the information about the concept of settlement pattern studies in Archaeology and its role in
reconstruction of the past societies whose feeble traces are left to us. The Chapter also deals with the aims, objectives data categories used in compilation of the dissertation. The chapter also provides information on the division of chapters and a brief details of each chapter.

The Chapter-II aims to bring out the physical conditions of the present day Muneru river valley such as the land farm, drainage pattern, soils, climate, flora and fauna and the other ecological factors of the area to identify the geographical and topographical situation of the early farming settlements during Neolithic, Megalithic and Early Historic periods.

The site descriptions are given in Chapter-III. All the aspects such as the location of the sites, drainage pattern, extent, habitational deposit, cultural sequence was given due considerations to identify the ecological factors and to bring to light the exact factors responsible for the early agricultural settlements in the area under present consideration.

The Chapter-IV gives a graphical description of the representative artifacts such as pottery, ground stone industry, metallic objects and other artifacts belong to Neolithic, Megalithic and Early Historic cultures from all the explored sites. In the process equal importance is given to all the artifacts of all the cultural entities recovered from the sites.

Chapter V deals with the stratigraphical scrapings conducted at Kondapeta, Pallagiri of Krishna District and Peddapuram of Khammam District
with a view to correlate the surface finds from the explored sites with the excavation data. Care was however taken to represent all the three cultures such as Neolithic, Megalithic and Early Historic Periods to represent in the stratigraphical scrapings. Besides these, the known data from Nagarjuna Konda and Kesarapalle excavations and the scientific debris clearance at Gummaduduru and Alur are also utilized as per the requirement of the chapter.

The Chapter-VI aims to bring out the settlement pattern of the early farming cultures of Muneru river valley. The chapter not only provides a brief history of settlement pattern studies in Archaeology, it also emphasis on different aspects such as locational analysis, drainage pattern, soils, site typology etc., which are responsible for the establishment of early farming cultures at Muneru river valley. The chapter also deals with the demography of the extinct cultures based on scientific models.

Chapter VII aims to provide information on the subsistence pattern studies in archaeology. Besides this, the cultivation of food plants, the domestication of animals and various other practices of food gathering of South Indian Neolithic and Megalithic cultures are discussed in the chapter. An ethno-archeological analogy and its practices are discussed in the chapter to focus the antiquarian relationship of Neolithic and Megalithic cultures.

Chapter VIII discusses the concept of ethno archaeological model to bring out an understanding of life ways of extinct cultures like Neolithic and
Megalithic periods. The ura chenchus, a sub-sect of chenchu community which has changed its original aboriginal traits and adopted to cultivation and pastoralism is taken as a model to predict the life ways of the early farming communities of Muneru river valley. Various cultural practices of ura chenchus used in cultivation, domestication, hunting and preparation of house hold goods are discussed to bring out analogy of life ways of early farming communities under study.

The early farming cultures of South India with special reference to Andhra Pradesh based on the data obtained from the already published work is provided in Chapter – IX. The various cultural components, the chronology and the new elements that are embibed by the early farming cultures from time to time is discussed.

A Summary and Conclusions of all the work enumerated in the above chapters in the present thesis is given in Chapter – X.