7.1 Some General Considerations about Settlement

Chaibasa plain is characterized by a distinct physical, cultural and industrial personality. Its uneven topography, dense forests, poor accessibility and unproductive soils have hindered the growth of settlement in the past. This region has been, therefore, avoided by various groups of human migrants moving through Eastern India in ancient and medieval times. Nevertheless, there are evidences that indicate human occupation of the area even during prehistoric times. Infact, the plain has been the home of the Pre-Dravidians before the Aryan invasion and has acted as the meeting ground for different cultures during various historic ages. The settlements of the area, therefore, provide distinct examples of this cultural confromtation and subsequent adjustments.

The important sources of information about the settlement of the area are: (i) archaeological remains, (ii) ruined settlement sites, (iii) place names, (iv) location of religious centers or places of worship (temples, mosques and churches), (v) distribution of tribal communities, (vi) contemporary historical accounts and (vii) certain old maps.

Archaeological remains at ancient sites make it possible to distinguish some of the old settlement in the study-area. Antiquities like old fortresses, old bricks of various shapes and sizes and broken Hindu idols of different periods not only reveal a lot about these ruined settlements, but also bear testimony to the believe that the area has been inhabited during all the historical periods-Hindu, Mughal and British. The existence of the earliest human settlement in Chaibasa plain has been confirmed by the discovery of Paleolithic tools by Hughes (Ball, V.1855) in the Bokaro coalfield. These are made of micaceous quartzite, now kept in the museum at Colkata.
7.2 Significance of Place Names

Place names provide meaningful clues in tracing the evolution of settlements. The nomenclature of place reveals its origin after a detailed analysis of the language elements. As Chaibasa plain has witnessed several waves of human migrations, it remained the meeting ground of people of two broad language groups—The Aryan and Austro-Asian, ‘Santholi’ being a dialect of the latter group. Place names with suffix or prefix like ‘nagar’ (town), ‘gram’ (village), ‘pur’ (settlement), ‘panch’ (five), ‘bati’ (house), etc., have been derived from Sanskrit language, while ‘ganj’ (market place), ‘bazar’ (daily market), ‘abad’ (settlement), ‘bagh’ (garden), etc., are taken from Urdu and Persian. Several villages in the area have names of Munda origin such as Bariatu and Chatu. Place names associated with natural environment such as ‘Char’ (sandy soil along a river), ‘daha’ (low land area), ‘diar’ (reparion tract), ‘bati’ (sand) ‘tikri’ (high ground), etc., are also noted.

7.3 Physical and Cultural Background

In general, the types and pattern of the settlements are mainly governed by relief, slope, climatic conditions, soil, agriculture and other socio-economic factors. But in a dissected plain terrain like Chaibasa plain, the topography exists much greater influence than any other factor. Heavy precipitation and occasional floods because heavy soil erosion in deforested areas, thus, creating major problems for settlements, dependent on agriculture. Culturally Chaibasa plain is a complex area with two different types of people; the tribals and the non-tribals. Mineral exploiting centers, dotting the study-area, are the foci of settlements for the outsiders. Nevertheless, intense-mixture of people with varying cultural traits is typical of the area.

The plain has been long covered with forest and forms a part of ‘JharKhand’ (the bush country) to which many Pre-Dravidian tribes, who refused to surrender to the steadily advancing Aryans, retired at different times.
But it is certain that this plain has human habitation during pre-historic times. Various non-Aryan tribes that settled in this area has no king in the beginning. They were under their patriarchs. Later, as their numbers increased and as there were regular waves against invaders, they decided to elect one of their chief as the king (Distt. Gazetteer, 1957). During the Hindu rule in India, Chhotanagpur highland appears to have remained under nominal over-lordship. “It might have acknowledged for the first time, the sovereignty of the great Asura Maharaja, ‘Jarasandha’ (Distt. Gazetteer, 1957). During Ashoka’s time (273 B.C. to 232 B.C.), the ‘Atavi’ or forest stages too acknowledged Magadh supremacy and this may justify the conclusion that Chhotanagpur was included in the Mauryan empire at least in the region (Distt. Gazetteer, 1957). Thus, there are clear evidences to show that this tract was in touch with many other parts of India even during ancient times. Several expeditionary or invading forces marked through or over the area during the later Hindu, Mohammedan and British period. This must have influenced the sitting and agglomeration of dwellings in the area.

7.4 Growth of Settlements in Modern Period

Growth of settlement, during modern times, has been guided by development in agriculture and animal husbandry, mineral and forest exploitation and establishment of industries in the area. Infact, these human activities have been super-imposed on the natural landscape of the configuration plain. It is also noted that development in trade, transport, market and communication facilities have been quite significant not only the siting of new settlements but also in the distribution of population in the area. In general, the rural settlements comprise smallsized compact villages, with numerous out-lying home-steads. These villages are either rectangular or circular or linear in design. Besides, there are large areas with relatively dispersed type of settlements also.

Variations in the size, form and type of settlements in the area are expressions of terrain conditions and the availability and development of
material resources. The gently sloping or undulating surfaces of the upper and lower plains are characterized by an even distribution of population and settlement sites. Occurrence of fertile soils in small trips or pockets along the Kharkai, Sanjai, Deo, Lli Gara and Konia rivers has given rise to compact settlements of large size along their valley bottoms. Sparse settlements, however, characterize the upper reaches of the Kharkai, Sanjai and Garra rivers. This is due to the highly dissected nature of terrain and dense forests in the area. The dissected parts of the lower Chaibasa plain are also characterized by widely-spaced settlements which are generally located on the divides between the Kharkai-Lli, Kharpai-Roro Gara, Koel-Deo and Sanjai-Konia rivers. Some contact point settlements - Kanti, Barkundia, Kuchai, Raibera and Manoharpur are found located on the divides of the rivers.

The initial clearings of forests by pioneering settlers were made along major river valleys, where the soils happen to be fertile. Consequently, closely-sparced settlements have grown up in these parts. Steeper valley slopes, deforested in pursuit of agriculture or otherwise, lead to intensive soil erosion. These tracts become barren after cultivation for a few years only and hence, do not attract permanent habitations.

7.5 Settlements

The human settlements, the aggregates of occupancy units (house) where man lives in community, reflect the impact of natural environments and preserve, in some form or the other, the imprints of the historico-political and socio-economic prevailing from time to time.

The systematic study of settlements incorporates within its bounds: (i) the regional distributional pattern is delineated by the factors of natural and cultural environments, (ii) the types, (iii) size and form, (iv) nature of the house types, (v) the siting of settlements, and finally (vi) the evolution. But the emphasis in the present work is laid on the impact of the morphometric
FIG. 7.2

GENERAL DISTRIBUTION
OF
SETTLEMENTS
attributes on the distribution of settlements with the regional patternings, siting and astray throughouts no the evolution.

To distinguish the types of settlements and villages is a very comprehensive analysis incorporating, as it does, all the aspects which may distinguish on agglomeration from the other. For example, the settlements may originally be distinguished on the basis of the dominance of agricultural occupation where the main groups may be distinguished as rural, rurban and urban, although these broad have further stratifications too.

### 7.5.1 The Types of Rural Settlements

Rural settlements in Chaibasa plain range from perfectly compact villages to thoroughly dispersed habitation. “The dissection of surface into scarps, ridges, patland, basins and valleys, irregular distribution of alluvium, the general poverty of soil, seasonal regime of streams, need of terracing for agriculture and interference of forests result in the relative dispersal of settlements”. (Ahmad, E., 1958). Between compact villages and dispersed habitations are a number of intermediate types which represent numerous combinations of tendencies of agglomeration and dispersal in varying proportions. In the study-aera, there is no definite pattern of dispersal. Elsewhere a number of hut collectively forming a settlement unit may be sprinkled over the whole of the part of ‘Mauja’ (a village for revenue purposes). The typical settlement of the area is neither wholly compact nor purely dispersed. It consists of a number of hamlets, a central large village and several dispersed dwellings. But the dwellings are generally kept a part from one another both in the compact and hamleted types. Spacious enclosures are often attached to the individual dwelling. Thus, there are four main types of rural settlements in Chaibasa plain. These are as follows:

- **7.5.1.1 Compact Settlements,**
- **7.5.1.2 Semi-Compact Settlements,**
- **7.5.1.3 Semi-Sprinkled or Hamleted Settlements,** and
- **7.5.1.4 Sprinkled or Dispersed Settlements**
LOCATION OF IMPORTANT SETTLEMENTS

FIG. 7.3
7.5.1.1 Compact Settlements

A compact settlement is result of centripetal forces operation in the village territory through which a tendency towards nucleation is found. In most compact settlements, the entire population of the village is concentrated in one cluster. For our analysis a settlement may be called compact when there is only one settlement in a revenue village and the number of settlements is equal to the number of nucleations in the area. The main concentrations of compact type of settlements are found on the lower Chaibasa plain, the gently sloping lower valleys of the Sanjai, Deo and Konia rivers and Deoli, Kuchai, Raibera, Kara, Barai, Siwan and Kumbla. These agglomerations have resulted due to (i) availability of level land suitable for agriculture, fertile soils and sufficient rainfall, (ii) concentration at water points, (iii) need for collective living necessiated by mineral exploitation and establishment of industries, and (iv) social, religious and economic bonds.

Some important factors favouring the growth of compact settlements in parts of Chaibasa plain noted as under:

7.5.1.1.1 Level Land and Fertile Soil

Development of compact settlements has been characteristic of the fertile plains since ancient times. In upper and lower Chaibasa plain, compact settlements are noted in Amita, Sringsia and Gorind pur and in gently sloping valleys of the Sanjai, Deo, Konia and Garra rivers. These basins are relatively flat, providing pockets of fertile tracts for compact settlements are noted in Amita, Siringsia and Gobindpur and in gently sloping valleys of the Deo, Sanjai, Roro Gara, Lli Gara and Konia revers. These basins are relatively flat, providing pockets of fertile tracts, composed of alluvium and the red brown sandy loam which are quite suitable for cultivation.

7.5.1.1.2 Water Point and Depth of Water Table

Presence of a suitable water-point, such as a well or tank or spring, in hardrock country generally, favours agglomeration of dwellings. Mukerjee,
SOME TYPICAL RURAL SETTLEMENT TYPES

COMPACT SETTLEMENTS

PADAMPUR

METALLED ROAD

UNMETALLED ROAD

FOOT - PATH

RIVER

TANK

SEMI-COMPACT SETTLEMENTS

HAMLETED SETTLEMENTS

DISPERSED SETTLEMENTS

CONTOUR INTERVAL IN METRES

SETTLEMENTS

METALLED ROAD

UNMETALLED ROAD

FOOT - PATH

RAILWAY LINE

RIVER

TANK

FIG. 7.4
R.K. (1940) observes that 'collective building of dams and irrigation channels for
the storage and distribution of rain-water have also promoted the evolution of
compact villages. This is quite true of the study-area.

The water-table on upper Chaibasa plain is low due to the presence
of red sandy soil at the surface and basement gneiss at depth. Construction of
well in the hard basement rock is not only difficult but the cost is also very high.
It is generally beyond the means of average individual families and requires
efforts by the whole community. Consequently, the dwellings of a settlement are
concentrated either near a common well or tank or the river.

7.5.1.1.3 Nucleation due to Cropping Pattern

"The compact village form is well adopted to the mode of life at the
paddy area" (Blache Vidal de la, 1926). In Chaibasa plain, paddy cultivation
occupies large areas of the lower north Kharkai, Gara, basins, upper Leda Buru
pahar and western part of upper Chaibasa plain where the density of population
is high and the village are more often, compact.

7.5.1.1.4 Nucleation due to Mineral Exploitation and Industrial
Development

Exploitation of minerals and development of industries are also
favour for nucleation of settlements. Emergence of compact settlement has,
therefore, taken place in Kharkai and Deo basins, subsequently to the
development of iron ore in the area. Construction of labour colonies and
residences for managerial staff by the iron companies and development of
transport infra-structure for the movements of iron ore have accelerated the
processes of nucleation, i.e., limestone factory at Jhinkpani Bazar and water and
electric supply company and Chaibasa has also lead to the development of
compact settlements.

7.5.1.1.5. Nucleation due to Social and Economic Ties

Sometimes, socialties like caste, creed and tribe, and economic
consideration like agricultural activity also favour for nucleation of dwellings. It
is noted that preference for living close to one kith and keen particularly by Rajputs, Brahamans and other agricultural castes, has given rise to the development of compact type of settlement in the neighborhood of Jangnathpur town and the lower parts of Deo, Rora Gara, Lli Gara and Sanjai basins.

7.5.1.6 Religious and Tourist Places

There are many sites in the region which have been traditionally famous as religious places. People have settled around temples or masques at the places, thus, resulting in the development of compact settlement. Manoharpur Bazar, east of Jagannathpur temple, is an example, of such a compact settlements.

7.5.1.2. Semi-Compact Settlements

The semi-compact type of settlement relatively an intermediate stage between the compact and semi-sprinkled or relatively dispersed settlements. Thus, 'settlement is characterized by the presence of one early recognizable nucleated site and one or two small hamlets closely linked with the main site by foot-path or cart tracks' (Singh, R.P., 1954). The hamlets represent out-growths of the main settlements due to increase in population or arrival of newer immigrants. These are generally inhabited by agricultural labourers working with landlords of superior tenants who reside in the main settlement. Most often, the hamlets boldly stand as witness to the caste hierarchy that prevails in rural India.

Physical factors, sometimes, also act constraints to the growth of compact settlement in narrow valleys and near hill or scarp slopes where agricultural land occupies in patches and the soils are also less fertile. This often results in the development of semi-compact type of settlement which occur near Sagipi, Bandizari, Joddiha and Bishnupaduka in the Sanjai, Roro Gara, Deo and Lli Gara basins.

The semi-compact settlement has an intermediate size of population, ranging from 100-150 persons. This includes the population of the subordinate hamlets which may be, sometimes, as high as 5 or more in numbers.
Plate VII (A) A view of the some compact dwellings in village Chargi, 5.0 km northeast of Khuchai village

Plate VII (B) A view of compact dwellings in Goilkera market
Between the compact-cluster and hamleted settlements, three other types are recognizable. These types in declining order of agglomeration are:

* Cluster-cum-hamlet,
* Cluster-cum-hut, and
* Cluster-cum-hamlet-cum-hut types

### 7.5.1.3 Semi-Sprinkled or Hamleted Settlements

Semi-sprinkled settlements are characterized by the presence of several smaller hamlets and separate individual homesteads over the entire village land. The main site may or may not be distinguishable. There is a general lack of street pattern in these settlements. The sprinkled huts are often separated from one another by the intervening cultivated fields or rivulets or depressions. These settlements are indicative of the peaceful atmosphere of locality; their inhabitants have shown preference for economic advantages in place of community living. The main areas of the semi-sprinkled types of settlements in Chaibasa plain occur in the middle divide zone of lower Kharkai, Sanjai basin, Leda Buru upland. (Fig. 7.4). On the dispersal side of the scale, between the hamleted and sprinkled types, three other types can be identified. These are:

* Hamlet-cum-hut,
* Open cluster, and
* Lined hut types

Each of these represents a higher degree of dispersal than its predecessor.

### 7.5.1.4 Sprinkled or Dispersed Settlements

Dispersed type of settlements are situated generally on the spurs above the valley bottom, with cultivation in the valleys below, forests and grazing grounds on the higher slopes. Another typical site is formed by the ridge tops. It is noted that ‘forts’ and ‘garhis’ of former ‘Rajas’ and ‘Zamindars’ have been located either on hill-tops or inside the meandering loops of streams. Examples of the former type are Manoharpur, Jhinkpani, Jagannathpur and
Pampara. Dispersed settlements have come into existence also due to recent developmental activities in the area.

A complete diffusion of home-steads over the entire area is characteristic of the dispersed type of settlements. Generally ting home-steads occur scattered at irregular distances, varying from less than a hundred to several hundred metres a part. In this type of settlement, everything spells isolation and privacy. Usually there is hardly any all attraction comparable to that which characterizes the cultivated fields around the clustered village.

Dissected topography and diversity of soils result in diffusion of arable land which in turn leads to the growth of dispersed settlements. “The scattered manner of grouping suits localities where as a result of dissection of relief, soil and hydrography, the arable land itself is divided up” (Blach, Vidal dela, 1926). The middle Kharkai-Sanjai, Sanjai-Deo, Kharai-Roro Gara and Deo-Konia divide zones and the dissected terrain between the upper and lower Chaibasa plain have only scattered fragment of cultivated holdings which are often too small to permit the growth of more than a few isolated hamlets (Fig. 7.4).

Cultural factors such as castes hierarchy are also contributive to the development of settlements mainly because the lower agricultural castes,-mostly land labourers and the tribals, prefer to reside separately a little away, from the main settlements of the high caste Hindus. The Harijans (normally regarded as untouchables) such as Chamar, Pasi and the tribals like Gond, Koel and Munda have been forced to lives is separate hamlets away from the main inhabited sites. Similarly the agricultural caste, like Ahir and Mahto, also prefer to live in separate hamlets, Mukerjee, A.B.(1961) rightly observes that, “greater emphasis on the caste makes social fragmentation allied with spatial separation to the extreme, segregating the untouchables in outlying sub-villages, sometimes located several hundred yards from the main village of which they are service components”.
7.6 Pattern of Rural Settlements

The external and internal lay-out of the village is taken into consideration in determining the pattern of settlements. It takes into account the structural elements of buildings, including their alignment along the street or cart-track or foot-path or road in a regular or irregular way. There is, however, no conscious planning of rural settlements. The settlement pattern, in Chaibasa plain, seems to be generally related to the physical character of the dwelling site, surface water bodies, river meanders, cultivation and lay-out of field plots and cultural elements, like village paths and streets, temples, mosques and tanks. Twelve main settlement pattern are distinguishable in the area. These are as follows:

7.6.1 Rectangular Pattern

This is the most common and easily recognizable pattern found in the study-area. In this pattern, houses are generally aligned E-W or N-S which may be largely due to the rectangular shape of the cultivated field. It is evident, therefore, that wherever home habitations are agglomerated, the plan of the village confirms, broadly speaking, to a rectangle. The two villages of Kora Khas and Banalata provide good examples of this pattern (Fig. 7.5; A,B).

7.6.2 Hallow-Rectangular Pattern

A ruined site, an open space, old fort, temple or tank situated in the centre of village gives rise to the hallow rectangular pattern. In Chaibasa plain, this pattern is commonly associated with tanks and forts as Baihatu and Bara Purnapani provide typical example of this pattern (Fig. 75; C,D).

7.6.3 Linear Pattern

The elongated or linear pattern is the next most common pattern in the study-area. This village pattern is marked with one axis having more length than the other. Site characteristics, generally influence the growth of this pattern. Physiographic or cultural influence may help the expansion of a settlement in a particular direction and restrict it in other directions. In areas where there is no
FIG. 7.5
danger of floods, the advantages of river-bank location often lead to elongation of settlements. The villages of Dasuhatu and Ghagri are good examples of this type of pattern (Fig. 7.5; F,F). These settlements have developed narrow strips of land between the rail-track and the road.

7.6.4 Circular Pattern

Some very uncommon patterns, like circular or oval, are typical of ancient villages. According to Singh, R. L. (1955), ‘the circular form has resulted due a maximum concentration of dwellings around the house of a local land lord who, during medieval times, provided protection against enemy attack. But the shape of these villages is hardly regular since the houses are mostly unplanned. A number of lanes or streets coverage together at the central site, giving rise to the radial street plan. The central site, in this pattern, is generally occupied by either the Zamindar’s (landlord’s) house or a market place (open or built up) or some religious institution.’ The villages of Kumasoi and Bijadih illustrate this pattern in the area (Fig.7.5; G.H).

7.6.5 Semi-Circular Pattern

Semi-circular plans developed following the crescentic meander bend of a stream or along a narrow hill-range or pond. Bistampur and Chhota Doana are examples of the semi-circular pattern (Fig. 7.5;I,J).

7.6.6 Radial Pattern

The radial pattern developed when the dwellings extend along streets or paths converging at a central site where a religious institution like a temple or masque or the landlord’s house may be located. The intervening spaces between the radial streets are generally vacant. Example of this pattern in the area are Palisai and Tonko (Fig.7.5;K,L)

7.6.7 Chess-Board Pattern

The chess-board plan denotes a right-angled mesh of streets with or without a central rectangular market place. This pattern generally has two main
lanes for the movement of carts or harnessed pair of bullocks. A few subsidiary lanes more or less parallel to the axial lanes, provide access to other house of the village. The walls of dwellings generally correspond with the four cardinal directions so that the chess-board arrangement developed. Inter-differentiation, based on caste system, is a well-marked feature of this pattern, which is illustrated by the villages of Purnia and Garahatu (Fig 7.5; M.N).

7.6.8 L-Shaped Pattern

L-shaped pattern occurs where the rectangular blocks of houses exits at right angles to one another, for instance at the junction of a minor street with the main road or another street or a water point. This pattern may be converted into 'C' or 'T' shape due to later growth following arrival of fresh immigrants or by natural increase in population. Fig. 7.5 (O & P) illustrates this change from 'L' pattern to 'C' and 'T' patterns in the area. Examples of this pattern in the area are Sarbidih and Bamho.

7.6.9 Fan Pattern

Fan pattern occurs when some focal point, such as a fort, is situated at one end of the villages. It develops linear pattern at one end while a large number of dwellings in a circular from occur at the other. Musuri and Udalkam villages are examples of this pattern (Fig. 7.5; Q,R).

7.6.10 Polygonal Pattern

Since most of the villages are never built according to any plan, irregularities in the outer form are quite common. This type is somewhat intermediate between the circular and rectangular patterns. Sargam and Tumbahaka are examples of this pattern (Fig. 7.5; S,T).

7.6.11 Horse-Shee Pattern

A hill, mountain, river or tank is likely to produce the horse-shoe pattern. This pattern is slightly modified by the roadward extension of such villages. Sometimes, when a road meets at the arcuate bend of another road,
cased by the presence of a depression, the village occupying the bend of the main road also extends towards the minor road. Thus, the newer and older parts of the village produce more or less a crescent that faces the round corner of the depression (Fig. 7.5; U.V.). Bita and Junbaine villages are examples of this pattern.

7.6.12 Irregular Pattern

There are a large number of villages in Chaibasa plain which do not show any pattern, but are just a heap of houses huddled together to form the irregular pattern (Fig. 7.5; W.X). Wala Guta and Nurda villages are examples of this pattern.

7.7 Summary and Conclusion

The impact of terrain characteristics on the distribution, types and patterns of settlements constitutes an applied aspect of the study. Ruggedness of terrain and lack of transportation facilities have a direct bearing on the distribution of settlements. Thus, four main types of rural settlements; (i) compact, (ii) semi-compact, (iii) semi-sprinkled or hamleted and (iv) sprinkled or dispersed, are noted. A compact settlements is the result of centripetal forces operating in the village territory through which a tendency towards nucleation is found. Important factors favouring nucleation of dwellings and growth of compact settlements in some part of Chaibasa plain are; (i) occurrence of level land and pockets of fertile soils, for example in the gently sloping valleys of the Sanjai, Kharpai and Kongera rivers, (ii) presence of suitable water-points, such as well or tank or spring, in hard-fock country, (iii) needs of cultivation in the lower Kharkai, Lli Gara and Roro Gara basins, (iv) impact of the development of iron mines in north of Sanjai and Deo basins, (v) religious places like temples or mosques, for example at Manoharpur Bazar, which forms the base camp for visiting shrines at the top of Hararango Buru hills.
Semi-compact settlements are characterized by the presence of one easily recognizable nucleated site and one or two small hamlets closely linked with the main site by foot-paths or cart-tracks. These have an intermediate size of population ranging from 150-200 persons; their occurrence has been noted in narrow valleys and near hill or scarp slopes where the soil is somewhat less fertile. Some sprinkled settlements are characterized by the presence of several smaller hamlets and separate individual homesteads over the entire village land. Preference for economic advantages instead of community living from the basis of growth of these settlements. These are found in the divide zone of Kharkai and Sanjai rivers.

Availability of arable land in patches due to dissected nature of topography, diversity of soils and constraints of hydrography and sometimes caste hierarchy and racial isolation have dealt to the growth of dispersed type of settlements on Deo-Lli Gara, Ror Gara-KharKai and Kongera-Baitarni divide zones and the dissected terrain between the upper and lower Chaibasa plain. The most typical sites of dispersed settlements are spurs above the valley bottoms, with cultivation in the valleys below and forest and hill-tops where ‘forts’ or ‘garhis’ of former ‘Rajahs’ and ‘Zamindars’ can be seen. Everything, including homestead and form, spells isolation and privacy in this type of settlements.

Most of the rural settlements are small-sized; these are so such dispersed in nature that sometimes only a couple of huts comprise a settlement unit. The pattern of rural settlements seems to be generally related to the physical character of the dwelling site, surface water bodies, river meanders and layout of field-plots and cultural elements, like village paths and streets, temples, masques and tanks. Thus, five main settlement patterns, mainly rectangular or square, hollow rectangular or square, lineal, chess-board, circular or oval with several intermediate variants can be identified in the area.
7.8 References


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