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EARLY SETTLEMENTS IN NORTHERN  
SRI LANKA



# EARLY SETTLEMENTS IN NORTHERN SRI LANKA



MARINA ISMAIL

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NAVRANG  
In collaboration with  
Lake House Bookshop  
1995

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## ABBREVIATIONS

- A.I.W. - Ancient Irrigation Works in Ceylon - R.L. Brohier.  
C.H.J. - Ceylon Historical Journal.  
C.J.S. - Ceylon Journal of Science.  
C.L.R. - Ceylon Literary Register.  
E.Z. - Epigraphia Zeylanica.  
J.R.A.S.C.B. - Journal of the Royal Asiatic Society (Ceylon Branch)  
N.T. - Topography of Ancient and Mediaeval Ceylon - C.W. Nicholas.  
R.M. - Register of Ancient Monuments.  
U.C.R. - Univeristy of Ceylon Review.



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## INTRODUCTION

The northern dry zone lowlands of Ceylon (Sri Lanka), more specifically the region stretching from the Gulf of Manner and the west coast to the Bay of Trincomalee and the east coast; and from the Jaffna peninsula in the north to the Kala-oya, the central foothills and the Mahaweli ganga in the south, was the "cradle of Sinhalese Civilization"<sup>1</sup> in early times. This region corresponds more or less to the ancient division of Rajarattha or the "King's country", the most important of the three ancient divisions of the island, namely, Rajarattha, Rohana and Malaya.<sup>2</sup>

With Rajarattha were located most of the early settlements including the important ports and towns and the larger and more spectacular of the irrigation works of Early Ceylon. Thus a major part of the population was also concentrated here. Malaya, at this period, was relatively unpopulated while Rohana, centred around Mahagama, had its own share of prosperity but did not achieve the same significance as Rajarattha.

From the thirteenth century A.D. onwards there was a gradual shift of the population from the northern dry zone lowlands to the south-western and central regions of the country. This movement of population and the subsequent neglect of the northern lowlands have been ascribed to many causes one related to another, such as the civil war after the death of Parakramabahu I (1153-1186 A.D), foreign invasions,<sup>3</sup> the consequent neglect of irrigation works and agriculture; famines and malaria epidemics; and the rise of the water-table owing to an excessive use of irrigation.<sup>4</sup> Another contributory factor is said to have been the change in the trade route round the Cape of Good Hope, whereby Ceylon lost its commercial importance. Consequently major public works were neglected. L.J.B. Turner succinctly sums up these causes for the decay of Rajarattha,

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1. See *History of Ceylon* (University of Ceylon Press Board, 1959), Volume I, Part I, p. 10.
  2. Rohana covered the area east of the Mahaweli ganga, the present districts of Uva, Hambantota, Matara and Galle. Malaya covered the entire hill country, while Rajarattha covered the rest of the island.
  3. During the 13th century when the Kalinga ruler Magha (1215-1236 A.D.) invaded and conquered the land, there was much devastation and ransacking of dagobas and temples.
  4. Iriyagolle, *The Truth about the Mahaweli* (Sri Lanka, 1978).

“Foreign invasion prevalence of malarial fever, the ravages of small-pox, and the change in the course of trade”.<sup>5</sup>

The period prior to the time when this movement of population to the south-western and central regions took place, or the early period in Ceylon's history, dating from about the 5th century B.C. to the thirteenth century A.D. is reckoned to be the “Golden Age” of Sinhalese Civilization.<sup>6</sup>

Major irrigation works were constructed to increase paddy cultivation to support an increasing population; trade prospered, religion (Buddhism) flourished and art and architecture reached their peak of excellence. According to N. Wijesekera, the *Mahavamsa* referring to the region of Kind Pandukabhaya (437-407 B.C.), depicts. “an organized society, an advanced culture, aesthetic refinement and political sagacity...” and “the achievements of this age seems remarkable even when measured by modern standards”.<sup>7</sup>

With the shift in population the northern dry zone lowlands gradually suffered decline, although the region was not wholly abandoned. The important ports and many of the interior settlements deteriorated, while on the other hand, those of the south-western region covering the wet zone lowlands, increased in significance and continued to grow in importance under the European conquerors. The dry zone lowlands thereafter were for long neglected and never regained their former prosperity or glory.

During the eighteenth century A.D. the Dutch made some attempts to restore the tanks in the eastern province and in the Wannī,<sup>8</sup> and in the nineteenth century A.D. under British rule, interest in the dry zone was reawakened. Attempts were then made to restore, at least, some of the ancient irrigation works and thereby increase food production, Governor Ward (1855-1860 A.D.) and his successors like Gregory (1872-1877 A.D.) and Gordon (1883-1890 A.D.) did much in this sphere and, by the end of the century, many of the larger tanks such as Giritale and Minneriya had been restored. Besides, with the establishment of an Archaeological Department in 1890, this region invited attention from archaeological scholars and antiquarians.

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5. Turner, L.J.B., *Report on the Census of Ceylon 1921*, (Colombo 1923), Volume I, Part I, p.4.

6. See Farmer, B.H., *Pioneer Peasant Colonization in Ceylon*, (London, 1957), p.14.

7. Wijesekera, N. *Early Sinhalese Sculpture*, (Ceylon, 1962) p.102.

8. Wannī refers to the area between the Jaffna Peninsula in the north and the Nuwarakalaviya district in the south, stretching from Mannar in the west to Trincomalee in the east. After the disintegration of Rajarattha this area was ruled by semi-independent chiefs known as Vanniyars.



In the 1930s this region once again attracted attention, with ideas of redistributing the population from the over-crowded wet zone by restoring more irrigation works and thereby encouraging the colonization of the region; and at the same time increasing food production. The dry zone at this period was not an attractive region for settlement owing to the prevalence of malaria as well as the presence of dense jungles. However, in 1945, a major step in improving living conditions in the region was taken with the spraying of DDT for eradicating the malarial mosquito,<sup>9</sup> while better road and rail communications were also provided. Colonization of the region began with the inauguration of schemes like the Gal-o-ya Multipurpose Scheme.<sup>10</sup>

Today, the development of the northern dry zone lowlands is a cardinal feature in the government's policies, and in this context it is useful and interesting to study the historical geography of this region during the period when it was at the height of its glory.

The definition and scope of historical geography has changed with the progress in the study of geography. Historical geography has often been used as a synonym for the history of geography, and for the history of exploration, which at one time formed an important aspect of geographical studies. The study of the change in political units, the operation of the geographic factor in history, the evolution of the cultural landscape and finally the "study of geographical change through time"<sup>11</sup> have from time to time, been termed historical geography. However, the generally accepted view today is historical geography as the study of a region's geography at a particular period in its history.

The purpose of historical geography is the "reconstruction of past geographies",<sup>12</sup> or as J.B. Mitchell defines, "Historical geography is, simply stated, a geographical study of any period in the past for which a more or less ordered and dated sequence is established in human affairs".<sup>13</sup> To elaborate further, historical geography is interested in discerning a pattern at a past period or, "something of geographical patterns and space relations of a past

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9. Malaria is a debilitating fever carried by the Anopheles mosquito which breeds in marshes and stagnant water. Only in the 20th century was a method of eradication found, whereby the breeding places are sprayed with a hydrocarbon compound called DDT. Lucius Nicholls, in his article "Malaria and the Lost Cities of Ceylon" suggests that Malaria was the primary cause of the decay of the dry zone lowlands. See The Indian Medical Gazette, Volume LVI, No.4, April 1921.
  10. The Gal-Oya Scheme was officially inaugurated in 1949.
  11. Smith, C.T. "Historical Geography" in *Frontiers in Geographical Teaching*. Edited by Chorley & Haggett (London 1965).
  12. Woolridge, S.W. and W.G. East. *The spirit and Purpose of Geography*, (London, 1966), p.72.
  13. Mitchell, J.B., *Historical Geography*, (London, 1963), p.12.

period".<sup>14</sup> Such a study would "help illuminate on the one hand economic and social history, and on the other, present-day geography".<sup>15</sup>

The past geography of a region is a part of the long process of the development of that region. As Max Sorre states, "The geographic complex which is organized around a human group, likewise carries the weight of all its past so that many traits of that complex cannot be explained without reference to evolution".<sup>16</sup> In short, historical geography attempts "to summon the living, not to invoke a corpse, and to see from a new angle the problems of our own age, by widening the experience brought to their consideration".<sup>17</sup>

In the northern dry zone lowlands this process of evolution has been interrupted owing to the long years of neglect, but a series of "period pictures"<sup>18</sup> linked by studies of the intervening years will give a satisfactory and complete picture of the region as a whole, and will prove most useful in planning out the future development of the region both in its economic as well as its social aspects.

The "period picture" in this study covers mainly the ninth and tenth centuries A.D. or the latter part of the "Anuradhapura period"<sup>19</sup>. This period within the whole "Golden era" exhibits more or less stable conditions when interactions between settlements as well as between this region and other areas and also with foreign countries could be traced effectively. As Wittlesey says, "It is necessary to study periods of peace and stability before or after great changes. It must not be concerned with processes of development. It describes and explains the geographical inter-relationships for a fixed period".<sup>20</sup>

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14. Mitchell, J.B., *Historical Geography*, (London, 1963), p.16.
  15. East, W.G., *The Geography Behind History*, (London, 1965), p.10.
  16. See "The Role of Historical Explanation in Human Geography", in *Readings in Cultural Geography*, edited by Wagner and Mikesell (University of Chicago Press, 1962).
  17. Woolridge, S.W. and W.G. East, *The Spirit and Purpose of Geography*, (London, 1966), p.73.
  18. Other "period pictures" are H.C. Darby's work on England before 1800 and Ralph Brown's "Mirror for Americans" a geography of the Eastern Seaboard of 1811. See also *Frontiers of Geographical Teaching*, edited by Chorley and Haggett, (London, 1965), p.131.
  19. The Anuradhapura period covers the centuries from the 5th B.C. to the 11th century A.D. This period is divided into the Early Anuradhapura period from the 5th century B.C. to the 7th century A.D. while the 8th, 9th and 10th centuries are referred to as the Late Anuradhapura period.
  20. See "Sequent Occupance" in *Annals of the Association of American Geographers*, 19, p. 162-165. See C.T. Smith's "Historical Geography" in *Frontiers of Geographical Teaching*, edited by Chorley and Haggett, (London, 1965).

In terms of space, this study covers roughly the northern part of the dry zone lowlands, excluding the Jaffna peninsula, which geographically is a separate natural region with its distinctive economic, social and cultural pattern. This region covers the present districts of Anuradhapura, Mannar, Mullaitivu, Trincomalee, Polonnaruwa and parts of the Puttalam, Matale and Jaffna districts.

The early period covers too long a time to form one "period picture". Conditions had not been always stable, and the region underwent change from century to century. By the ninth and tenth centuries, however, a more or less stable pattern seems to have been established. The first part of the early period, from the fifth century B.C. to about the first century, A.D. witnesses the coming of the settlers and the spread of their settlements along river valleys such as the Malwattu-oya and the Mahaweli ganga. By the first century A.D. with the building of tanks, the population had spread throughout the dry zone lowland region. During this time, the spread of Buddhism in the island formed a land mark in the cultural history of the region. Buddhism introduced various changes in the culture pattern and thus brought changes in terms of spatial interaction in this region.

The second century A.D. until about the fifth century A.D. was a time of peace when the region remained free from foreign aggression. Much tank building was undertaken. Vasabha (65-109 A.D.) was the first of the great tank-building kings, to whom the Chronicles attribute eleven tanks, of which six have been identified, and twelve canals, of which only the Alisara canal is known, so as to "make the land more fruitful."<sup>21</sup> The sixth and seventh centuries A.D. saw further tank building, when large reservoirs and interlinking canal systems were constructed.

During this time there were civil wars intermittently and the island was invaded from the Indian subcontinent,<sup>22</sup> but on the whole the Sinhalese were able to repulse them. The eight, ninth and tenth centuries were again generally a period of peace and prosperity in this region. Referring to the reign of Sena II (851-885 A.D.) the Culavamsa says, "From this time onward he made the Island hard to subdue by the foe and made it increase in wealth like the land of the Uttarakurus".<sup>23</sup>

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21. *Mahavamsa*, Chapter XXXV,96. Geiger's translation, p.253.

22. The first major defeat was by Dutugemunu in 161 B.C. when the whole island was united under one ruler. In the 5th century A.D. Dhatusena conquered the kingdom after 26 years of foreign rule and in the 9th century A.D. Sena II drove the invaders out of the country.

23. *Culavamsa*, Chapter 51.50. The Uttarakurus were a mythical people whose country was said to be a land of bliss. See p.151 of Geiger's translation.

There was little tank-building activity during this period, but the damaged tanks were repaired and maintained. Perhaps, it was only in this period that irrigation works were made use of to their utmost extent for agricultural production. Trade too had increased and Ceylon had not only become a link in East-West trade, but also was exporting her own goods such as pearls and precious stones. Cosmas Indicopleustes<sup>24</sup> in his *Christian Topography*, a work of the sixth century A.D., speaks of this extensive trade resulting from the island's central position between the West and the Far East, and adds that many ships from India, Persia, Ethiopia and China resorted to Ceylon's ports.

In spite of certain upheavals within the Sangha,<sup>25</sup> Buddhism remained the State patronised religion. Many festivals such as that of the Bodhi Tree,<sup>26</sup> were held annually, while literature, art and architecture flourished. Briefly, political, social and economic conditions appeared to be stable. This period was relatively a time of calm before the storms of the later centuries which led to the shift of the capital to Polonnaruwa, and finally away from this region to centres further south.

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24. He was a merchant who was named "Indicopleustes" because of his travels. His reports on Ceylon have been taken from Sopater, a Greek merchant who had visited Ceylon.

25. The Buddhist priesthood.

26. Bodhi Tree *Ficus religiosa*, the "Peepul" or Pipal' tree of India and the "Bo" tree of Ceylon. The Bodhi tree at Anuradhapura is a sapling from the Mahabodhi at Bodhi-Gaya, under which the Buddha attained enlightenment.

## 2

# SOURCES

"The significance of sources, as the word implies, is that they are original and genuine. Just as pure water flows from a spring, so true testimony from the past is drawn from the sources".<sup>1</sup> To get this "true testimony", it is necessary to gather and critically scrutinise all available evidence.

The data for the study of history and likewise for the study of historical geography of any country, region or of any culture, are obtained not by direct observation, but indirectly from traces or sources left behind and preserved through time. These sources can be grouped into two main categories:

1. Literary sources - purely literary works such as poetry, like "Beowulf", Chaucer's "Canterbury Tales", chronicles, travelogues, itinerary or Road Books and documents such as letters and maps.
2. Archaeological sources or "monuments" - have been defined by Bengtson as "all material remains of Antiquity",<sup>2</sup> and by Gordon Childe as "the fossilized results of human behaviour".<sup>3</sup> These "monuments" consist of ancient sites inscriptions, buildings, works of art, coins and various objects used in the day to day life of the people.

Literary sources are often observations reflecting not only the ideas of the writer but also those of his time. Even documents which claim to be historical works are still a form of literature as, "Every student of history, must, as Edward Schwartz emphasized, be influenced by intellectual drives. Scholarly study is connected with personal wishes and values. This peculiar mixture of intellectual and emotional elements makes every work of history a personal statement".<sup>4</sup> Moreover, much of ancient history is derived from

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1. Bengtson, Hermann, *Introduction to Ancient History*, (University of California, 1970), p.65.
  2. *Ibid.*, p.125.
  3. Childe, V. Gordon, *A Short Introduction to Archaeology*, p.87.
  4. Bengtson, Hermann, *Introduction to Ancient History*, p.87.

legends orally transmitted and therefore becomes subject to much alteration. These early legends though full of fantasy and often sound incredible, yet contain certain facts which if critically examined, furnish important source material for scholarly studies. Documents too have been copied and recopied, and in the process have been subject to many changes; while early maps are far from accurate. Literary sources, therefore, must be critically viewed and studied as far as possible with reference to the "monuments", for these remains help to check and confirm data given in literary sources.

Archaeological sources yield valuable information on the social, economic and political life of past societies and their culture level. In areas where literary sources are not available, "monuments" provide the only sources for the study of early history. This is true of the Minoan civilization, where nothing definite was known until excavations were carried out in the nineteenth century by Sir Arthur Evans. Archaeological remains ranging from large temples, the Pyramids and ancient city sites, right down to the ordinary earthenware pots of little artistic value are important as source material, for they throw light on early societies and how people lived. Such information is not always found in literary sources.

### Sources for the Study of Early Ceylon

#### Literary Sources

The study of Ceylon's early history and historical geography, is based on four major literary sources. They are, in chronological order:-

1. Dipawansa - compiled from about the fourth century A.D. to about the first part of the fifth century A.D.<sup>5</sup>
2. The historical introduction to the Samantapasadika - compiled in the fifth century A.D.<sup>6</sup>
3. *Mahavamsa* - compiled about the sixth century A.D. by the Thera Mahanama.<sup>7</sup>
4. *Mahavamsa Tika* or *Vamsatthapakasini* - the commentary on the

*Mahavamsa* compiled between the 7th and 10th centuries A.D.<sup>8</sup>

The *Mahavamsa* and its continuation known as the *Culavamsa* are significant among the literary sources. It claims to be a "chronicle of History"

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5. The Dipawansa is the earliest extent historical tradition. Its historical value therefore is great. Its authors are not known.
  6. This is a commentary on the Vinaya written by Buddhaghosa, in the time of Mahanama (406-428 A.D.). It deals with the history of Buddhism, and not so much with the history of the island..
  7. The second part was written by Dhammakitti Thera in the 13th century.
  8. The data of this work is uncertain and the author is not known.

containing the Island's history from very early times until the eighteenth century A.D. Much of the information about the very early period is derived from legends and had been compiled by *bhikkus* (Buddhist monks) who wrote mainly about aspects that interested them such as the history of the *Samgha*, the line of kings and about major events like the building of tanks and temples, famines and floods. Very little was said about the common people and their way of life. Moreover, the *Mahavamsa* was written in the sixth century A.D. but deals with a period beginning from the fifth century B.C., and with important events such as the early settlement of the island, the founding of Anuradhapura and the introduction of Buddhism. As mentioned earlier, the information has been gathered from legends orally transmitted from generation to generation. Consequently, there exists much room for misinterpretation and misrepresentation, and it is necessary to be very critical when dealing with data found in this Chronicle.

"On the whole the Mahavamsa is a trustworthy chronicle. Its authors wish to tell the truth. But owing to the fact that they represent the one-sided mentality of the Buddhist priests, a sound and cautious criticism can never be dispensed with. The main shortcoming is that the Chronicles take no notice of many objects which would be of greatest interest for us, because they were of no interest for them".<sup>9</sup>

Other literary sources for the study of this period include travel-ogues and writings of various foreigners who visited the island. These can be grouped as mainly those of Greek and Roman, Chinese, and Arab origin.

With the discovery of the use of the Monsoons in sailing by Hippalos in the 1st century B.C. and of the possibility of sailing direct through the Red Sea to India, there was a significant increase in shipping and trade and thereby the geographical knowledge of India, Ceylon and the Far East. Many references to Ceylon are found in Greek and Roman works, such as in *De Mundo*, which has been ascribed to Aristotle; in the accounts of the Greek geographer Strabo, and of Pliny (24-79 A.D.). The Greek merchants' handbook, *Periplus of the Erythraean Sea*,<sup>10</sup> gives a fair account of the Island and its trade, which is mentioned also in the writings of Cosmas Indicopleustes (6th century A.D.). Other Greek writers who have mentioned Ceylon in their writings are Onesicritus, an admiral in Alexander the Great's army; Megasthenes, an ambassador to the court of the Mauryan king; and

9. See Author's preface, Geiger's *Culture of Ceylon in Mediaeval Times*.

10. The author of this work is unknown. "Erythraean Sea" refers not only to the Red sea but the Arabian Sea, Persian Gulf the Indian Ocean and the Bay of Bengal. It gives a generally accurate account of Rome's commerce with the East. It also records how sailors made use of the monsoons to travel direct to India. Ceylon is referred to as the "island of Palaesimundu".

Eratosthenes, a geographer.

Among the accounts left by Chinese travellers and pilgrims, the most important are those of Fa Hsien (5th century A.D.) and Hsuan Tsang<sup>11</sup> (7th century A.D.). Many references to Ceylon are found in the writings of the Arabs, who referred to it as "Serendib". Abu Zayd (10th century A.D.) Ma'udi (10th century A.D.) and later writers like Maqdisi and Al Biruni mention Ceylon in their accounts. The Arab geographer Idrisi who based his writings on the accounts of Abu Zayd, described Ceylon and compiled a map as well. The most important among Arab writings is the work of Ibn Battuta<sup>12</sup> who visited the island in the 14th century A.D. which account describes his route to Adam's Peak.<sup>13</sup>

Literary sources for the period after the twelfth century A.D. are relatively more numerous and include many Pali and Sinhala writings. They give far more information and from some writings a knowledge of the early period too can be gained. These are, the Pujavali<sup>14</sup> ascribed to Buddhaputra Thera who lived in the time of Parakrama Bahu II (1236-1271 A.D.), the Nikaya-samgraha<sup>15</sup>, a history of Buddhism in Ceylon, compiled in the fourteenth century A.D., and the Sandesaya<sup>16</sup> poems of the fifteenth century A.D. which mention many settlements in the island.

The Vittipot and the Kadaimpot<sup>17</sup> of the fifteenth and sixteenth centuries A.D. furnish important source material for the historical geogra-

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11. Sea Beal, S. *Buddhist Records of the Western World*, (London, 1884), Volume I. The introduction gives an account of Fa Hsien. Volume II, Book XI, gives Hsuan Tsang's account of Ceylon.
  12. Ibn Batuta (1304-1377 A.D.) travelled through Arabia, East Africa, Persia, southern Russia and made his way through Asia as far east as China. His accounts of the countries he visited are vivid and full of information. For his account of Ceylon, see Lee, the Rev. Samuel, *Travels of Ibn Batuta*, (London, 1829), Chapter XX.
  13. A place of pilgrimage sacred to Buddhists, Hindus and Muslims. It is situated in the Rakwana Hills (in the present Sabaragamuwa province).
  14. This work deals with the Life of the Buddha. The last chapter deals with the benefactions made to the Samgha by the kings of Ceylon from Devanampiya Tissa to Parakramabahu II.
  15. The author of this work is Dhammakirti Thera who lived in that time of Vira Bahu (1391-1397 A.D.). This is a Sinhalese work and is also named the *Sasanavatara*.
  16. These poems contain references to historical events, but their significance lies in the fact that they give a good picture of contemporary life. Almost all the main highways are also described, for example, the *Salalihini Sandesaya* describes the route from Kotte to Dondra, while the *Kokila Sandesaya* gives a description of the route from Matara to Jaffna, *Sandesaya* literally means "message".
  17. These ola-leaf manuscripts have been preserved by several families in the north-western and north-central provinces. Many of them have disappeared and very little has been translated into English. They give valuable information including the various types of villages found at this time.



pher. They note the political divisions of the Island, the position of various villages and throw light on the geography of the region. The Saddharma-ratnavaliya<sup>18</sup> although a work of the thirteenth century A.D. depicts much of the social and economic conditions of an earlier era as well.

In this connection the research studies dealing with the early period, the translations of the Chronicles by W. Geiger, and some of the other literary works by various scholars are of significance. Such works are of immense value especially to those not proficient in either the Pali or the Sinhala languages. These translations and the research work bearing on the political, social and economic aspects of this period have been of tremendous use for this study.

Literary sources also include maps. The map of Ceylon compiled by Ptolemy and included in his *Geographia* (second century A.D.) is probably the earliest. Ptolemy did not actually visit Ceylon but based his description and map on the reports and observations of other travellers and traders. His map, though greatly exaggerated in size and does not give the correct shape of the island, nevertheless notes the location of some of the important settlements of that time. At least ten of the settlements that have been mentioned can be identified. North Cape - Talaimannar; Modouttou - Mahatittha; Annouragrammom - Anuradhapura; Maagrammom - Mahagantota or Mahiyangana; Nagadipa - Nagadipa; Bokana - Gokanna or Trincomalee; Odoka - Godapavata, at the mouth of the Walawe ganga; Margana - Magana (of the 2nd century inscription); Kobobana - probably near Mahagama; Talakovy or Aobota - Mantai.<sup>19</sup>

Present day topographical maps and aerial photographs also yield a wealth of information valuable to the historical geographer. Aerial photography reveals such features as abandoned settlements, ancient field patterns old roads and bridges, not easily observed in the landscape. In Ceylon, so far the use of aerial photography in the study of ancient settlements has been limited, and much can be done in this sphere.

The topographical map "expresses visually the age-long impress of man and his work".<sup>20</sup> Settlements, roads, tanks and canals, railways and ruins hitherto excavated, the provincial and district boundaries and other geographical information found on these maps, can be grouped together in relation to various historical periods. The eminent scholar, F.A. Maitland

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18. This is an important prose work based on a Pali work of the 5th century A.D. and gives an account of contemporary social conditions.

19. See also Brohier, R.L. *Land, Maps and Surveys*, Volume 2, p. 23-24.

20. Woolridge and East, *Spirit and Purpose of Geography*, p.73.

described British topographical maps as "*Palimpsests*" or documents of rural history, and he was able to show that with the help of these some light could be shed on the material in the Domesday Book of England dated 1086 A.D.

The present one inch topographical maps of Ceylon contain plenty of information for the inquisitive historical geographer. Ruins (most of them not as yet identified) of monastic settlements, palaces, abandoned tanks, canals and anicuts, cave temples on isolated hills, and even buried cities are marked on them. The more spectacular ruins such as those of Sigiriya and Yapahuwa are well-known, but many others can be identified from the Reports of the Archaeological Department and the *Register of Ancient Monuments*. Thus from these maps can be built up the "period pictures" of the various phases of the "Golden Age". According to Mikhaylov, "The map is a social document. It fixes time with its symbolism, alternation of colours, and peculiarity of design. The lines on the map are the handwriting of History".<sup>21</sup>

### Archaeological Sources

Irrigation works, the many dagobas<sup>22</sup>, remains of vihares (monasteries) and ancient town sites, sculptures, works of art, and other finds such as pottery, beads, and especially coins, comprise the archaeological sources. However, the most important of the archaeological sources is epigraphy. Inscriptions provide much data usually not available in literary sources. These inscriptions, found in several parts of the island, more densely in some than in others, as C.W. Nicholas' Epigraphical map depicts,<sup>23</sup> also cover a lengthy period in time. They have been inscribed on rock faces that have withstood the ravages of time, and record events such as the building of temples, the granting of certain rights and immunities to settlements, the donation of villages to monasteries and to private individuals by royalty. Being more statements of fact and generally contemporaneous with the recorded event, they are far more accurate and reliable than literary sources.

Many of these inscriptions have been collected, studied, and their contents have been translated into English. They provide an important source for the study of historical geography, for they help to "create an

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21. Mikhaylov, *Soviet Geography*. Quoted from Woolridge and East, *Spirit and Purpose of Geography*.

22. A buddhist shrine. Same as *stupa*. It is a hemispherical mound with relics enshrined.

23. See *History of Ceylon* (University of Ceylon Press Board, 1960), Volume 1, Part-I, between pages 16-17.

atmosphere within which to set the facts that can be recovered from the Mahavamsa tradition...".<sup>24</sup> At the same time, they provide some information about the common people not always found in the chronicles.

With the establishment of the Department of Archaeology in 1890 and the work done by them, our knowledge of the early history of the island and of early Sinhalese culture has increased. Today, in the northern dry zone lowlands there is ample evidence of ancient settlements, monasteries, roads, bridges and especially irrigation works. This evidence is of use in the study of the spacing of early settlements and the interaction between them. However, data for this period, as compared with those available for later periods, are limited, and this study is based mainly on the information gathered from the chronicles and the inscriptions. This study which has been attempted offered a challenge, especially because the new developments in this region will radically change it together with the existing social and economic patterns and thereby the spatial interaction, which, to a large extent has evolved from very early times.

## PROBLEMS

The limited source material for the study of early settlements, which broadly speaking consists of the chronicles and a few "monuments", has created three significant problems.

1. the definition of a boundary for the space included in this study.
2. the absence of statistical data.
3. the difficulty in identifying early settlements.

## The Boundaries

Although the region under study covers more or less the ancient province of Rajarattha (Rajarata), the actual boundaries of this province are not clearly defined. The Mahaweli ganga was the boundary between Rajarattha and Rohana, but the boundary between Rajarattha and Malaya is not quite definite, for, settlements such as Dambulla<sup>25</sup> were included under Malaya, Rajarattha itself appears to have included much of the wet zone lowlands as well. For the region south of the Kala-oya was known as Dakkinadesa,<sup>26</sup> the most important district in Rajarattha which covered the area stretching up to the Deduru-oya. These boundaries also appear to have

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24. Perera, L.S., "The Brahmi Inscriptions as a source for the study of the Early History of Ceylon". C.H.J. Volume I, 1951.
  25. See *History of Ceylon* (University of Ceylon Press Board 1959), p.13.
  26. See section on "Administration".

changed from time to time, until in the twelfth century A.D. the boundary of Dakkinadesa stretched up to the Kalu ganga and this district was included under Malaya<sup>27</sup>.

The dry zone as opposed to the wet zone has a seasonal rainfall in the months of November to February brought by the North-east Monsoon<sup>28</sup> which necessitates the use of irrigation facilities for agriculture. Rainfall, therefore, has been used as the basis for defining the dry zone. The region that receives an annual average rainfall of 75" and less<sup>29</sup>. P.G. Cooray has also attempted to define this region on the basis of the amount of soil moisture the region where the soil moisture falls below wilting point for two months of the year.<sup>30</sup> B.H. Farmer however, has very simply (and satisfactorily for purposes of this study) defined it as the area north of a line drawn from Matale west to Chilaw, and east of a line drawn, once again from Matale, south to Tangalle<sup>31</sup>. The region thus demarcated appears distinct from the wet zone with its high annual rainfall and lush vegetation throughout the year.

The dry zone covers about seventy per cent of the total area of the island, of which a small proportion is highland. The dry zone lowlands cover the region below the 1,000 foot contour<sup>32</sup>. For this study, a partly geographical and a partly historical boundary (based on the ancient administrative boundaries) has been used. Thus the region lying north of the Kala-oya and Mahaweli river systems is the area studied. This region includes most of the important towns and many of the large tanks and villages of the early period.

### Statistical Data

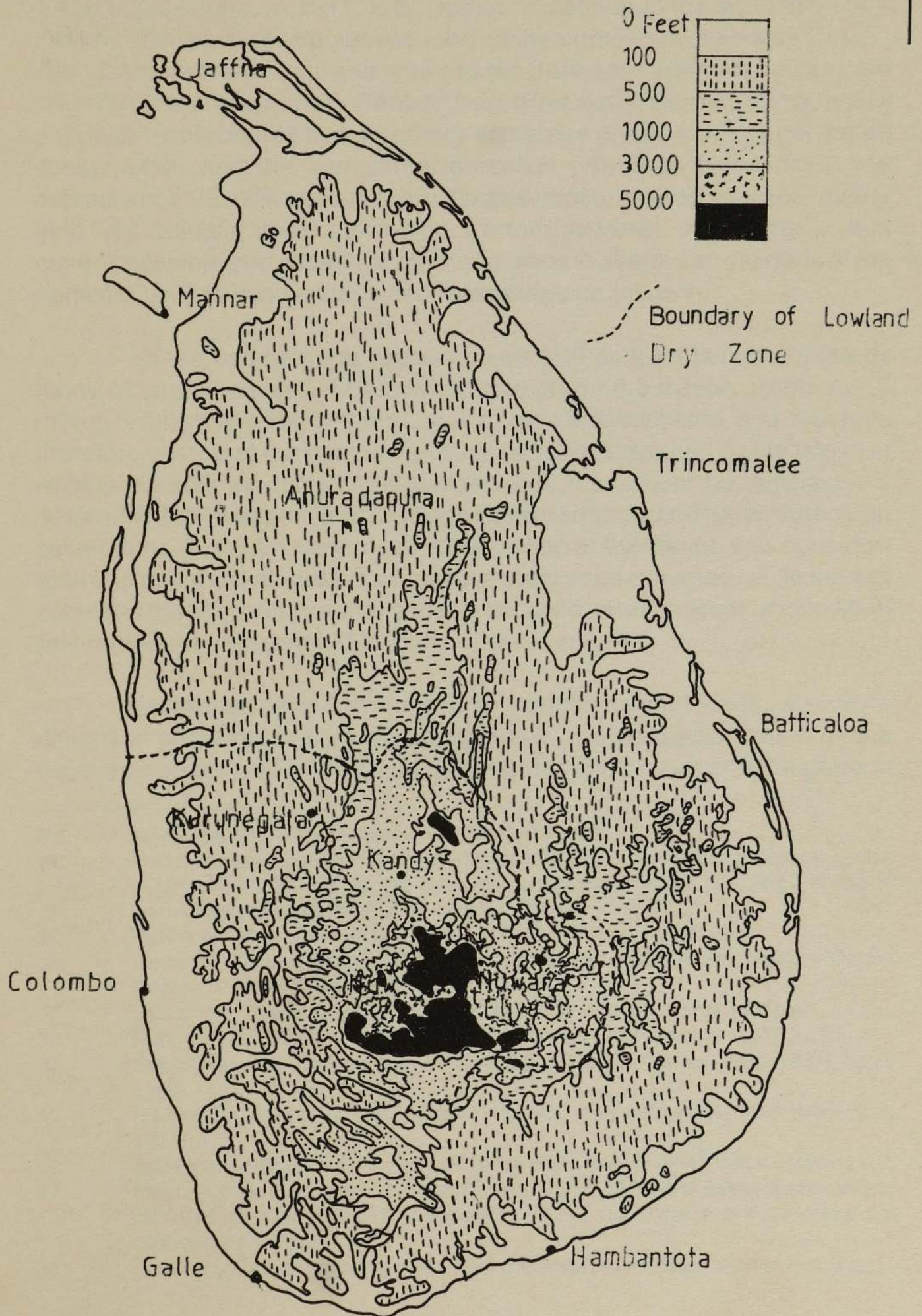
Statistical data for the early period are lacking, consequently, accurate estimates of population, agricultural production and the acreage under various crops the amount of import-export trade and other necessary statistical records cannot be compiled. However, drawing on the available information, attempts have been made to estimate at least the population,

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27. At this time Rajarattha was termed Patittharattha or Pihitirata and Dakkhinadesa was amalgamated with Malaya to form Mayarattha while Rohana remained unchanged. These three provinces formed Tisihala (or Tunrajaya).
28. During the South-west Monsoon, from June to September, the dry zone has its dry period.
29. Within the dry zone two areas, a belt along the south-east coast in the Hambantota district and in the North West, Mannar district, have an annual average rainfall of under 50" and is generally referred to as the "arid" areas.
30. Cooray, P.G., "Effective Rainfall and Moisture Zones in Ceylon", Bull. Ceylon Geographical Society, Vol.III (1948-49), pp. 39-42.
31. Farmer, B.H. *Pioneer Peasant Colonization in Ceylon* (London, 1957), Chapter I, p.3.
32. *Ibid.*, p.3.

# CEYLON - THE DRY ZONE LOWLANDS

ILLUSTRATION - I

(FROM FARMERS)



0 20 Miles



which is necessary for a detailed study of the settlements. P. Arunachalam<sup>33</sup> estimated the population in 1300 A.D. to have been 10 million, relying on a reference in the *Rajavaliya*<sup>34</sup> where it states that at this time there were 1,470,000 villages. In 1911, E.B. Denham<sup>35</sup> estimated the population at 4 million. Ivor Jennings,<sup>36</sup> however, felt that the population of ancient Ceylon was comparatively small and was nearer Denham's estimate rather than that of Arunachalam. N.K. Sarkar<sup>37</sup> based his estimate on the maximum population determined by the country's total rice production and per capita consumption and the agricultural practices prevalent at that time. His estimate of 7.08 million is based on the assumption that all available paddy land was actually under cultivation. Farmer however, states that "...it is quite impossible and, indeed highly dangerous to attempt an estimate of the numbers".<sup>38</sup> This is a cautious and reasonable conclusion.

These estimates of population as well as the attempts made by many others, Tennent - 17.5 million, Johnston - 4.5 million, Pridham - 6 million, Forbes - 5 million<sup>39</sup> therefore are only mere surmises, and "It seems therefore clear that the number of the population sustained by the island in what is sometimes termed the Golden Age, can never be satisfactorily determined".<sup>40</sup> However, from both the literary sources and the archaeological remains, it is quite clear that the population at this period was considerable and that most of it was confined to the dry zone lowlands, while the wet zone and the hill country were sparsely peopled, and the areas above 2600 feet remained unpopulated until the 10th century A.D.<sup>41</sup>

Statistical data, with regard to agriculture and trade, are more difficult to come by, but the major regions of rice production, such as the Digavapi region<sup>42</sup> in Rohana and the Pomparippu plain,<sup>43</sup> and the general

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33. Arunachalam, Sir P., *Census of Ceylon*, 1901, p.23.
34. Is a history of Ceylon from the time of Vijaya to the reign of King Vimaladharmasuriya I (1592-1603). Its authors are unknown, but possibly it was completed during or immediately after the reign of the above mentioned king.
35. Denham, E.B., *Ceylon at the Census of 1911*, (Colombo 1912), p.9.
36. Jennings, Sir Ivor, "The General Report of the Census", *The University of Ceylon Review*, October 1950, p.210.
37. Sarkar, N.K. *Demography of Ceylon* (Ceylon Government Press 1957), p.1.
38. Farmer, B.H., *Pioneer Peasant Colonization in Ceylon*, (London, 1957), p.18.
39. See Sarkar, N.K., *Demography of Ceylon*, (Ceylon Government Press 1957), Table I, p.8.
40. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, Part II, (Ceylon Government Press, 1934), p.3.
41. See *History of Ceylon* (University of Ceylon Press Board, 1959), Volume I, Part I, p.9.
42. This region was so important strategically as well as for rice production that in the 2nd century B.C. Kakavanna Tissa appointed his son Saddhatissa to superintend rice cultivation in the area.
43. The many abandoned tanks in the Kala-oya delta region bears witness to this fact.

pattern of distribution of paddy and other crops can be gauged from the sources. The literary sources also indicate that at this period, rice was exported to India.<sup>44</sup>

The non-availability of statistical data does not totally hamper the task of tracing the interactions between settlements, as the general patterns of population distribution, agriculture and trade can be noted and these general patterns can be made use of instead of definite numbers.

### Identification of Early Settlements

The most complicated problem is the difficulty of identifying early settlements. Although many settlements varying in size and status, ranging from *gamas* or villages to *puras*<sup>45</sup> or towns and *pattanas* or ports, are referred to in the chronicle many of them have not yet been definitely identified. The larger settlements such as Polonnaruwa and Padaviya, have been identified, but with regard to the location of some of the others like Upatissagama and Tambapanni, there is controversy. In general, the discovery of certain ruined buildings, walls and moats, has helped to establish the location of the larger settlements, but the smaller ones, like the villages, seem to have disappeared entirely. Many villages mentioned in the literary sources and in the inscriptions have yet to be located. Even if some of them do exist in this day, their names may have undergone change throughout the centuries and it is difficult to identify them on the present-day landscape.

Again, although it is not often possible to fix the exact location of many villages, the general pattern of settlement distribution can be traced by using the location of early monasteries (the ruins of which are found in the landscape, and thus marked in the one inch topographical maps), and tanks. These indicate that villages had existed in the area, for, both monasteries and tanks were invariably interlinked with settlements. Large settlements, on the other hand, can easily be identified from the existing ruins and from information extracted from the sources.

Most of the modern one inch topographical maps covering the northern dry zone lowlands indicate many regions having numerous small abandoned tanks, where today there are hardly any villages. In the Yan-oya valley (Padaviya sheet) the remains of ancient anicuts and small tanks

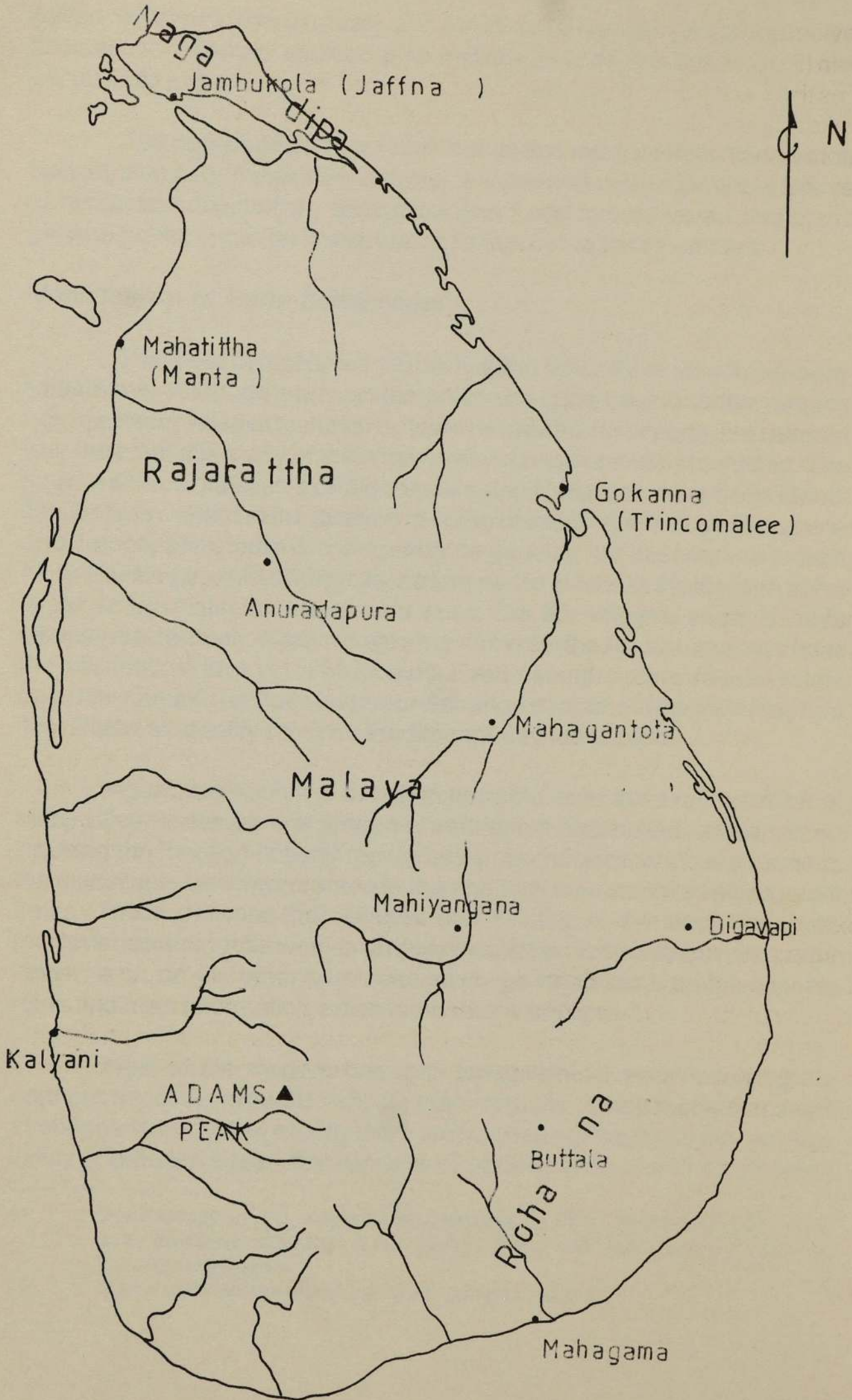
44. See Rasanayagam C., *Ancient Jaffna*, (Madras, 1926), p.132. He states that a Tamil poet mentions foodstuffs from Ceylon along with merchandise stored at Kaverippumpatnam.

45. "gama" same as "janapada" and "pura" same as "nagara".





CEYLON IN THE EARLY PERIOD



provide evidence of villages which have now vanished, while the Ma-oya basin (Padaviya sheet) shows evidence of ancient fields having reached as far as the coast from the Padaviya tank and the abandoned Wahalkada tank. Tanks supply positive proof of the existence of settlements, but it is unfortunately not always known when these tanks has been in use or when they were abandoned. It has sometimes not been possible to date them, although to a certain extent the size of bricks used in their construction might give an indication of the period during which they were built.<sup>46</sup> Moreover, the literary sources say nothing with regard to the small tanks and settlements. Therefore, it is risky to assume that all the settlements associated with these small tanks existed in the early period.

On the other hand, the ruins of monasteries that have been unearthed, and those that are known to have existed in the late Anuradhapura period can be made use of to indicate the presence of ancient settlements although the place names may not be known. The monasteries were located at a reasonable distance from villages in conformity with the rules embodied in the *Vinayapitaka*<sup>47</sup> where it is stated that a monastery should not be located either too close to, or too far from a village. Thus it can be assumed that one or more settlements had existed near the now ruined monasteries. Nonetheless certain problems result from these assumptions and they will be dealt with at a later stage in this study.

The sources give some information regarding early settlements and their location, initially along river valleys<sup>48</sup> and later about their expansion and spread into other areas which occurred with the use of irrigation. Also, the chronicles clearly indicate how some of the more favourably situated settlements, such as Anuradhagama grew into towns and performed various services for the surrounding villages. Furthermore they indicate the existence of numerous villages. The landscape at this period, as understood from the literary sources and the archaeological remains, presents a fairly densely peopled agricultural region consisting of a few towns and a large number of large and small villages depending on a hierarchical structure of tanks ranging from the colossal reservoirs such as Kalavava and Minneriya through medium-sized tanks such as Sangili-Kanadarama and Vavunikkulam to the small village tanks.<sup>49</sup>

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46. See Parker, H. *Ancient Ceylon*, (London, 1909), p.209-220.

47. The Tripitaka (Buddhist Scriptures) consists of three sections Vinayapitaka - a code of discipline for monks, Suttapitaka - sayings of the Buddha. Abidhammapitaka - philosophy.

48. See Ellawela, H., *Social History of Early Ceylon*, (Ceylon, 1969), p.104.

49. See map of tanks.

### 3

## THE SETTLEMENTS

“A Human settlement is a complex organism composed of many man-made elements performing complex functions within the natural environment.”<sup>1</sup>

Ever since Man advanced beyond the gathering and hunting stage of his development, and felt the need to group together for purposes of defence and protection, for engaging in settled agriculture, and later for trade, settlements have become “primary ingredients of the cultural landscape”.<sup>2</sup> The early settlements were established, not haphazardly, but at suitable locations where the physical environment offered certain facilities - the availability of water, level land and fertile soils for agriculture, useful mineral deposits, easy access from landing places along the coast, and the means for defence and protection. The suitability of a place for protection was a decisive factor in the establishment of early settlements and many of these were sited on promontories, on slopes of hills or meander loops, where walls were often built to strengthen the natural defences. P. Vidal de la Blache aptly comments, “Man organizes the site prepared by Nature, so as to enable her to satisfy his needs and desires”.

With the growth of population, certain small settlements developed into towns or urban settlements. These towns came into being when there was a surplus of food available from the surrounding settlements which enabled a non-food producing population to concentrate at a place. Thus early towns grew up largely due to economic specialization. Such early towns are said to have emerged around the fourth millennium B.C., and were located in the Nile Valley in Egypt, in the delta region at the head of the Persian Gulf, in Iraq, and in the Indus Valley in Pakistan. These were all regions where irrigation was practised and a surplus of food was produced. These early towns were Aphroditopolis and Hierakonpolis in the Nile Valley; Mohenjodaro and Harappa in the Indus Valley; and Susa and the cities of

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1. *Human Settlements - The Environmental Challenge*, p.3.
  2. Eidt, Robert C. and Woods, William I., *Abandoned Settlement Analysis*, (Wisconsin), p.3.

Sumer, such as Ur and Lagash in the Euphrates Valley. Around 1500 B.C. towns such as Anyang, came into existence in the Hwang-ho Valley of China.

Early towns owed their growth to the successful practice of agriculture in the neighbouring areas, while around 2,000 B.C. towns which were more dependent on trade made their appearance. Phylakopi in the island of Milos was the centre of the obsidian trade. Byblos on the Leventine coast, and the Phoenician cities of Tyre and Sidon were other trading towns.

In the present day, depending on the available physical advantages and the degree of skill or cultural advancement among the people, differing types of settlements and settlement patterns have been established over the land areas. Peter Haggett correctly sums up that, "Looking at the distribution of human population over the earth's surface is like looking up at the night sky. We can at once distinguish great galaxies and constellations, made up of clusters of population of vastly different sizes. The few great centres of metropolitan population stand out clearly, while at the other extreme, the myriad of small rural communities lies at the extreme limit of our powers of statistical discrimination".<sup>3</sup>

### Settlements and Historical Geography

The spacing of settlements, or settlement patterns, are as varied as the settlements themselves. They may be sparse or dense, dispersed or clustered over an area, depending on the interaction of both physical and cultural factors over a long period of time. These settlements and their interactions with each other, as well as with the settlements of other regions depending on the available means of communication, are never static, and change constantly through time. As Mitchell comments, "Man himself is the main agent of geographical change in historic time."<sup>4</sup> He changes or modifies the landscape by clearing forests, reclaiming marshes, cultivating the soil, exploiting available mineral resources, constructing roads and establishing settlements. "Above all when he joins with others to form settlements he puts in motion an intricate dynamic system of inter-relationships between himself and his environment which profoundly influences his own present well-being and that of future generations".<sup>5</sup>

Present day settlements and settlement patterns have their roots in the past. Most of them have survived through time and often show the

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3. Haggett, Peter, *Locational Analysis in Human Geography*, (New York, 1966) p.87.
  4. Mitchell, J.B. *Historical Geography*, (London, 1963), p.42.
  5. *Human Settlements - The Environmental Challenge*, p.3.

advantages of original location in respect of physical or economic factors. Settlements are never static, but change with changes in the economic and social conditions of the adjoining regions. Some may grow rapidly while others may decline. Political factors too influence the growth or decay of settlements. Prague grew after 1918, when it was made the capital of Czecho-slovakia, while present-day Rome grew important in the nineteenth century, only after it emerged as the capital of a united Italy, when the population of the place increased together with the increase of its "central" functions.

Physical changes, except perhaps violent changes such as volcanic eruptions or earth-quakes, do not affect to such an extent the fortunes of settlements as political, social and economic factors do; new human needs lead to new places of development and the decline of old ones. Each historical period, therefore, has its own important settlements and settlement patterns and the study of historical geography of a locality or region at a particular period gives one a better understanding of the present-day pattern of settlement and at the same time affords some basis for the future economic and social planning of an area: "The settlement patterns of today depend in part upon patterns created in the past and were therefore conditioned by very different standards of technological development and moulded by environments differing significantly from those found today in the same area".<sup>6</sup>

### SETTLEMENT TYPES

Settlements can be broadly grouped into two categories:-

1. rural settlements - engaged in agriculture and primary activities like mining.
2. urban settlements - unlike rural settlements are not concerned with food production or primary activities. They grew up when sufficient food was available and groups of people were free to devote time to other specialized services, which were to be performed at a centre had become necessary with the advanced state of culture. They therefore differed in size, appearance and function from rural settlements.

According to A.E. Smailes,<sup>7</sup> the emergence of a town involves the creation of a distinctive physical and social environment, which is "urban"

6. Everson, J.A., and Fitzgerald, B.P., *Concepts in Geography - Settlement Patterns* (London 1969), p.1.

7. Smailes, A.E., *The Geography of Towns*, (London 1966), See Chapter 4.

and differs from the country-side. Life within the towns was different from the surrounding countryside, as they were centres of economic and social activity. According to Mitchell, towns are "not just over-grown or glorified villages",<sup>8</sup> they have come about with the increase in population and the spread of settlements, owing to the need to provide certain services for the surrounding settlements, R.E. Dickinson elaborates, "true town character implies some measure of community balance... to meet local needs".<sup>9</sup> Thus "nodality" is accepted as a distinguishing feature of towns; they provide various services, administration, trading facilities and education, for the outlying villages, and are in turn supported by them. Mark Jefferson sums up this characteristic stating that, "Cities do not grow of themselves. Countrysides set them up to do tasks that must be performed in central places."<sup>10</sup>

Early towns were established due to economic specialization and became centres of trade, administration and religion. They had distinctive features associated with these services, and were often enclosed by walls or moats, within which was found the "urban" life as distinct from the rural countryside. In the modern context towns are not so easily defined. With the increase in population and the growth of industrialization accompanied by the increase in agricultural production and transport development, towns have become larger in size and number and more complex in character. It is no longer possible to draw a dividing line between the town and the countryside, for the town spreads out into the surrounding areas encompassing the rural settlements. Thus between the urban and rural settlements are a number of settlements that fall into neither category, and are therefore termed "suburb", "subtown", "urban village" or "urban settlements"<sup>11</sup>

Urbanization today is not the result only of economic or political factors, where a town is established to provide services, but also the result of social factors. With the high degree of industrialization and technological advancement, there is found to be a movement of population from the rural agricultural areas towards the towns, for employment and for better amenities, thereby bringing social factors into play. Such factors therefore are significant not only in the growth and expansion of towns but also in the shaping of different sectors within towns.<sup>12</sup>

8. Mitchell, J.B., *Historical Geography*, (London 1963), See p.125.

9. Dickinson, R.E., *City, Region & Regionalism* (London 1940), p.22.

10. Jefferson, Mark, "Distribution of the World's City Folk", *Geographical Review*, Volume 121, 1931.

11. Suburb generally refers to the outlying parts of a city.

12. Social geography has become of importance due to the social factors involved in the study of geography. Social geography is defined by A.E. Pahl as the study of the "processes and patterns involved in an understanding of socially defined populations in their spatial setting". See "Trends in Social Geography" in *Frontiers in Geographical Teaching*, edited by Chorley & Haggett, (London 1965), p.81.

Generally speaking, ports are classified as urban settlements, but they perform certain distinct functions different from that of towns. A port is a place equipped to facilitate the necessary relations between ships, as agencies of sea transport, and the land".<sup>13</sup> As such, a port must have a suitable harbour for sheltering ships. This shelter is provided by natural bays as at Trincomalee,<sup>14</sup> or if economic conditions are the prime factor in determining location, a breakwater can be constructed, as at Colombo,<sup>15</sup> to provide the necessary depth of water for anchoring ships and keeping away strong winds, waves and currents.

A port has its own hinterland or area that it serves and in turn is served by it, in terms of food supplies and merchandise for export. Modern commercial ports provide many facilities such as quays, warehouses and means of transport to enable the efficient despatch of goods, mail and passengers to the hinterland. In early times however, when small sailing ships and galleys were in use, small creeks, bays and large river mouths formed suitable harbours. With regard to Ceylon, before the advent of the Aryan settlers, the indentations were advantageous for trading activities, and many places such as Kudremalai and Kalpitiya grew into trading settlements. The larger bays developed into important trade centres, as for example, Jaffna in the north and Trincomalee in the east. The port "Godapavata" in the south, is mentioned in an inscription, but has not yet been definitely identified.<sup>16</sup>

Ports like other settlements are influenced by changing political, social and economic conditions; their hinterlands are enlarged or reduced according to such changes. Trieste, in Europe which was once an important port, after the new political units were demarcated in the 1920s, was left with only a small hinterland, and therefore lost its importance.

## Settlements and Transport

Transport plays a significant role in the growth of settlements. New areas are opened up with the development of transport, just as the railroads

13. Morgan, F.W., *Ports and Harbours*, (London 1964), p.10.

14. c/f. see list of settlements, under "Towns".

15. This harbour was completed in 1884. It was constructed in preference to Galle due to the many advantages it had over Galle and also because the commercial sector of the community desired it. See also Bastiampillai, B., *The Administration of Sir William Gregory*, (Ceylon 1968), p.36-40.

16. A 2nd century inscription found at Godavaya near Hambantota, refers to the sea-port "Godapavata", which is said to be Ambalantota.



helped to open up the western regions of North America. At the same time, transport has influenced the growth of towns. A "Service Centre"<sup>17</sup> must be easily accessible; and towns have developed as nodes on major routes. The availability of adequate means of transport governs town growth and the size of the hinterland; and as traffic nodes towns have become the meeting place of people in the surrounding settlements and the hub of social and economic life. Today, the quick and easy means of transport has enabled people to travel to the centre from a wider area, so that the hinterland has consequently become larger and urban settlements have developed into the large metropolis,<sup>18</sup> the megalopolis,<sup>19</sup> and into conurbations.<sup>20</sup>

In the early stages of settlement, however, lines of communication are few, but with time and the spread of settlements these increase to form a close and larger network. At first the few main centres are connected by trunk roads and gradually the smaller settlements get linked to the larger ones through secondary roads and tracks, thereby a "transport network", is formed. The modes of transport too have changed, from walking to the use of wheeled vehicles, and from the use of pack animals to the use of railways, ships and aeroplanes. The means of communication have advanced from conveying messages through the beating of drums and smoke signals to transmitting them through the radio, the telegraph and the communication satellite. These advances have resulted in the reduction of geographic distance, and today distance is measured in terms of economic distance,<sup>21</sup> or in terms of time and money, rather than the actual distance in length.

### Classification of Settlements

The variety in settlement types makes it difficult to classify them satisfactorily, hence many factors such as size, legal status, or more commonly, function, have been employed in trying to classify settlements.

On the basis of function, one can distinguish many types of settlements - ports, towns, market or trading settlements tank and agricultural settlements, mining and industrial centres, monastic settlements and another type of relatively recent origin the holiday resort.

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17. c/f. see "Spatial Interaction".

18. Metropolis- a large city, usually the capital of a country.

19. Megalopolis- this term was first applied in 1961 by Jean Gottmann to the Eastern Seaboard of the United States. Later the term was popularised to include any area of sprawling urban growth. The largest megalopolis is the Tokaido megalopolis of Japan.

20. Conurbations are formed when urban settlements extend into the surrounding areas and absorb other separated settlements, which become sub-centres of the main urban complex. In 1913, Patrick Geddes in *Cities in Evolution*, referred to the growth of such places.

21. c/f. "Spatial Interaction".

Settlements classified according to size will differ with each country depending on the size of the population and with regard to the culture level. The settlements and their corresponding numbers, in a developing agricultural region, like Ceylon will differ greatly from those of a highly industrialized region such as those of Western Europe. The Ekistic grid compiled by C.A. Doxiadis<sup>22</sup> in the 1950s incorporates the complete range of human settlements, from the single man to the ecumenopolis or world city. In this model there are fifteen units and each unit has been given arbitrary population figures. This classification will not apply to all parts of the world it is only a model or a theory and as such will only form a framework for research into specific regions. Although the names and the numbers change, the positions of the settlements on the scale however, will not change. The Ekistic grid is as follows:-<sup>23</sup>

Ekistic Unit	Average Population
Man	1
Room	2
Dwelling	4
Dwelling group	40
Small neighbourhood	250
Neighbourhood	1,500
Small town	7,000
Town	50,000
Large City	300,000
Metropolis	2,000,000
Connurbation	14,000,000
Megalopolis	100,000,000
Urbanized region	700,000,000
Urbanized continent	5,000,000,000
Ecumenopolis	30,000,000,000

Settlements can also be arranged in a hierarchy<sup>24</sup> in order to study them in terms of spatial interaction or the services they perform for the hinterland. Settlements as "service centres" or "central places" are the points from which spatial interaction occurs, and the services they discharge vary with each level in the hierarchy. In such a case, it is not the size of the

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22. Ekistics, the science of human settlements, was introduced by C.A. Doxiadis in the mid 1950s. He also represented settlements in a grid.
23. See Bell, Gwen and Jaqueline Tyrwhitt, *Human Identity in the Urban Environment*, (1972), p.24.
24. Hierarchy - described as groups of towns in decreasing size and importance, where the towns in each level are approximately of the same size. c/f. "Spatial Interaction".

settlement in terms of actual numbers,<sup>25</sup> (although population numbers can prove to be important), that is significant, but its importance in relation to the services that are located there, and the resulting spatial interaction that takes place within the region.

### Early Settlements as "Service Centres"

Early towns and cities were small in comparison to their modern counterparts, and the services they performed were limited. Very often they grew from villages which had certain inherent advantages, such as being the junction of major routes or being easily defensible and became service centres or central places. These towns, as Smailes explains, are : "spontaneous" or "organic" towns<sup>26</sup> as opposed to planned towns. Such towns in Ceylon are, Polonnaruwa, which was a fortified settlement and which in the thirteenth century A.D. became the capital of the island. Sigiriya, a fifth century regal stronghold, by the tenth century became a centre of historical interest, visited by people from all over the country, and was an important centre in the region.

Towns which become established in a region rarely perform one particular function; other functions or services gradually aggregate owing to their centrality. At the same time when a town loses its significance in respect of one service, others usually replace it, for, a town once established will often remain so in spite of it being eclipsed following the development of other more favourably situated ones. Cambridge which was a fortified settlement in Roman times, thus became a trading centre by the 10th century, and later a University town. In Ceylon, owing to foreign invasions the capital was shifted to Polonnaruwa in the eleventh century, but the earlier capital, Anuradhapura still continued to exist as an important religious centre. Later attempts were even made to re-establish it as the capital city.

Early urban settlements, whose ruins have been unearthed show certain distinctive features such as moats, surrounding walls, a specific trading quarter and religious buildings such as churches or temples, indicating the nature of the services they had discharged. On the other hand, villages in most cases have entirely disappeared, as they do not have any such lasting "monuments", and their existence is known mainly from references in certain literary sources. In a period when communications were limited and there were few towns and a large number of villages, as in early Ceylon or medieval England, the larger villages often performed services such as trade for the smaller villages, and they are sometimes

25. c/f. See "Spatial Interaction".

26. Smailes, A.E., *The Geography of Towns*, (London 1966), see Chapter 6.

referred to in literary sources. These references form the basis from which one can distinguish these larger settlements which were central places, but cannot be classed as towns.

## EARLY SETTLEMENTS IN CEYLON

“Since lands without people are lands without history it would seem clear that the first settlement of the land is the earliest period in which the historical geographer will be interested.”<sup>1</sup>

According to tradition the first settlers in the island were the Indo-Aryans who arrived here about the fifth century B.C. However there appears to have been an indigenous population, for trade had been carried on between these early people and Maghadan traders.<sup>2</sup> Mantai or Mantota<sup>3</sup> had been a noteworthy port even before the arrival of the first settlers. This indigenous population, for the most part, was gradually absorbed by the new settlers, while some of them are stated to have fled to the more remote areas; their descendants, the Veddas,<sup>4</sup> still live in areas like Bintenne.

The Indo-Aryans began, in the dry zone lowlands the practice of rice cultivation based on irrigation, and introduced the patriarchal village system prevalent in India at this time.<sup>5</sup> These settlers first landed on the north-west coast and then spread eastwards across the dry zone lowlands. Thus the first settlements, Tambapanni, Upatissagama, Uruvela and Anuradhagama, were all located on the western part of the northern dry zone lowlands. Other waves of settlers arrived at other parts of the island, as in the south, in the region of Rohana, in the west around Kelaniya, and in the Jaffna peninsula which lay in close proximity to the Indian mainland.

The northern dry zone lowlands offered many advantages to these agricultural people. The more or less flat areas with fertile soils were suited

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1. Mitchell, J.B., *Historical Geography*, (London), p.41.
  2. Magadha was a state in the Bengal region of the Ganges planin. The Maghadans were said to be a nation of traders and sailed to places in the Bay of Bengal. They had trade contacts with Burma and Ceylon. There was much intercourse between the northern coast of Ceylon and the port of Tamralipti (Tamluk).
  3. Also referred to as Mahatittha, Mahavoti, Mahavutu, Mahaputu and Matottam in ancient Sinhalese and Tamil Inscriptions.
  4. Vedddhas - the aboriginal inhabitants of Ceylon.
  5. The village was composed of families related to one another. They chose a headman and generally conducted their own affairs.

to rice cultivation. At the same time they were within easy access from Mantai, the "great landing place",<sup>6</sup> and the north-west coast. The many rivers radiating from the central highlands provided the necessary water and contributed to make these areas the ideal locations for settlements, while the natural vegetation of the region was easy to clear and did not offer formidable obstacles either to cultivation or settlement. The only shortcoming was the inadequate seasonal rainfall, which made it possible to harvest only one crop of rice in the year. However, with the increase in population and the construction of village tanks, and later, large reservoirs, this handicap was overcome.

Therefore, the north-west coast, the Jaffna peninsula and the river valleys of the northern plain formed the first areas of settlement. Early settlements were established along the rivers, the Kala-oya, the Malwatu-oya, the Kanadara-oya and the Mahaweli ganga, in areas where water was readily available.<sup>7</sup> There is also evidence of an early settlement along the Kelani ganga with Kalyani (Kelaniya) as the centre, while Mahagama was established near the Kirindi oya in the south and Digavapi on the Gal-oya, in the east. Tambapanni was, according to tradition, the first capital, Upatissagama on the Kanadara-oya was the second; finally Anuradhapura (the earlier Anuradhagama) was founded by Pandukabhaya (394-301 B.C.) as the capital and remained so until the eleventh century A.D., for 1,200 years.

According to the *Mahavamsa*, at first, apart from Tambapanni there were eight settlements, of which six have been identified. They are Anuradhagama, Upatissagama, Uruvela, Vijitagama, Dighayu and Rohana; while the unidentified ones are Ujjain and Ramagama.<sup>8</sup> Anuradhagama, Upatissagama and Vijitagama, in later times, were designated as nagaras<sup>9</sup> in the *Mahavamsa*. According to the *Dipavansa*, "Upatissa founded Upatissanagara, which had well arranged markets, which was prosperous, opulent, large, charming and lovely".<sup>10</sup> At this period, (the centuries B.C.) however, these settlements could not be classed as towns in the true sense,

6. See Brohier, R.L., *Discovering Ceylon* (Colombo 1973), p.18.

7. According to the *Mahavamsa Tika*, the availability of water was the most important factor in the establishment of a new settlement. See Ellawela, H., *Social History of Early Ceylon*, (1969), p.110.

8. There are two traditions regarding the founding of these early settlements. In chapter VII (verse 43-45) of the *Mahavamsa*, it is said that they were established by the followers of Vijaya, while in a later chapter (chapter IX verse 7-12) of the same work it is stated that they were founded by the brothers of Bhaddakaccana, the queen of Panduvasudeva.

9. "nagaras" refer to forts of trading settlements.

10. See Law, B.C. "The Chronicle of the Island of Ceylon or the Dipawansa, C.H.J., Volume VII, 1957-58.

they were small and lacked the "urban" characteristics of the later puras.<sup>11</sup>

With the increase in population following further immigration and owing to natural increase, there was the need to produce more food. Settlements then spread to areas where irrigation was possible with the construction of bunds and storage tanks. Although statistical data are lacking, yet it is evident that by the first century B.C. population had increased to such an extent that settlements were established even in the wet zone lowlands, and only the area between the Kalu ganga and the Nilgala ganga remained uninhabited.<sup>12</sup> The bulk of the population, however, was concentrated in the dry zone lowlands corresponding to the ancient provinces of Rajarata and Rohana; and it was the Rajarata region covering mainly the northern dry zone lowlands, that was the centre of early Sinhalese culture and civilization.

The existence of villages in the dry zone lowlands from pre-Christian times is confirmed in the *Mahavamsa*, which states that in the time of King pandukabhaya (394-301 B.C.),<sup>13</sup> "village boundaries were established over the whole of Lanka".

By the fourth century A.D. there were many villages, but only a few urban settlements. In fact, Anuradhapura alone could have been classed as an urban settlement at this time. It became established as the capital and administrative centre where dwelt the King and nobility, together with a powerful trading community.<sup>14</sup> Vijitanagara and Tambapanni were said to be really villages but were designated as *nagaras* only because they were fortified. Upatissagama, as stated before, appears to have been an important place with its market-place and the main road to Jambukola passing near it.<sup>15</sup>

The villages were largely agricultural, but along the coast there were many small settlements where the people were engaged in trade, fishing as well as agriculture. Mahadalgama was said to be such a fishing settlement near Mantai.<sup>16</sup>

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11. c/f. Section on "Settlements in the Late Anuradhapura Period".
  12. No epigraphic or literary evidence with regard to early settlements have been found here. See *History of Ceylon*, (University of Ceylon Press Board, 1959), p.10.
  13. *Mahavamsa*, Chapter X, verse 103, See Geiger's translation, p.75.
  14. A separate section was laid out in the city for the Yonas, who were traders. *Mahavamsa*, Chapter X, verse 90. Geijers translation p.74.
  15. The paved road near Pavatkulam is thought to be this road.
  16. See Nicholas C.W. "Historical Topography of Ancient and Medieval Ceylon" JRASCB, Vol.VI, p.80.

In the sixth century A.D. there was a coastal route by boat from the Jaffna peninsula in the north, southwards to Trincomalee, especially to the religious centre of Koneswaram, and further onwards to Batticaloa and the religious centre of Tirukovil, along the eastern coast. Along this route there were a few small trading settlements such as Mullaitivu<sup>17</sup> on the north coast.

The villages were occupied mainly by farmers, and by other craftsmen who enabled the settlements to be self-sufficient, such craftsmen were weavers, potters, blacksmiths and sometimes settlements contained even hunters. In other words, people of different castes<sup>18</sup> lived together in one village. However, there were villages occupied exclusively by a single caste. The Vessagiriya Rock Inscription<sup>19</sup> refers to a village of jewellers or Manikaragama, and the *Mahavamsa*<sup>20</sup> speaks of the Candala village to the north-east of Anuradhapura.

As the population depended mainly on agriculture, the villages were often linked to the tanks. The small tanks supported small villages while the larger tanks supported a larger group of villages, often with a main centre which was perhaps a large village or sometimes a town.<sup>21</sup> Settlements in the dry zone lowlands were so dependent on tanks and irrigation that the term "vapi" meaning tank, is said to be synonymous with settlement, "... implying thereby that one section of the ancient population was composed of a number of agricultural republics each of which has a tank and the field below it."<sup>22</sup>

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17. Ancient coins have been discovered at this settlement, which suggests that it was a trading settlement.
  18. The caste system is the hereditary classes of social organization. It is possible that the Indo-Aryan settlers intro: the caste system prevalent in India-Brahmin (Priesty class), Ksatriya (ruling class), Vaisya (traders and farmers) and Sudra (slaves). With the advent of Buddhism, the caste system in Ceylon became less rigid and was determined by craft or profession, such as the caste of weavers, potters or farmers.
  19. *Epigraphia Zeylanica*, Volume IV, p.222.
  20. *Mahavamsa*, Chapter X, verse 93, see p.75 of Geigers translation.
  21. Beside some of the tanks such as Padaviya, Vavunikulam and Kalawewa, extensive ruins have been discovered, which indicate fairly large settlements.
  22. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, Part II, (Government Press, Ceylon, 1934), p.2.



## 5

# THE IMPORTANCE OF IRRIGATION

"Ease is inimical to civilization... The greater the ease of the environment, the weaker the stimulus towards civilization." (Arnold Toynbee, *A Study of History*, Volume II.)

The increase in population in the dry zone lowlands and the need for greater food production provided the impetus for the construction of irrigation works in this region, where the rainfall was seasonal and the annual average was 50" - 75". At first simple devices such as wells were dug and small tanks were constructed by building bunds of clay or stone across nearby streams and the water was diverted into channels leading to the fields. Gradually large reservoirs and intricate canal networks, culminating in the large complex of the Parakrama Samudra of the twelfth century A.D. were constructed. Thereby much new land was brought under rice cultivation. Many small tanks, some of which are mentioned in the inscriptions, but remain mostly unidentified, were built in the early stages. Later, when the large storage and feeding tanks were constructed, these small tanks were all combined to form efficient irrigation systems whereby water from the large reservoirs were carried by canals to the medium-sized tanks, and thence to the small ones thereby creating a hierarchy of tanks.<sup>1</sup>

The use of irrigation became an important factor in the economic and social life of the dry zone lowlands. Henry Parker observes, "The special feature of the ancient civilization of Ceylon was its irrigation works, which with the exception of a part of the mountain district, were made throughout the whole country. Their purpose was to store or convey water which was required for rice fields that were at every suitable place in the island."<sup>2</sup>

By the first century B.C. small tanks and their dependent settlements had become a significant feature in the dry zone landscape. Thereafter, the construction of larger tanks were attempted, and the work of King

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1. The large reservoirs not only irrigated the surrounding land, but their waters were conveyed further away by means of canals to feed smaller tanks. As an example, From Kalawewa, water was taken by the Yodiela to the Nachchaduwa tank and from there to be Nuwara-wewa. At the same time another canal the Jaya-ganga, conveyed water to smaller tanks in the area and finally to Tissawewa. Apart from these tanks which formed an irrigation system, there were small village tanks which were able to store water only during the rainy season.

2. Parker, H. *Ancient Ceylon*, (London 1909), p.347.

Vasabha (67-111 A.D.) denotes the advance from the building of the small tank to the construction of the large scale irrigation works. In the chronicles eleven tanks and twelve canals (not all of them have been identified) were attributed to him.<sup>3</sup> These tanks were not large in comparison with later works, and of the twelve canals built by him only the Alisara canal is mentioned.<sup>4</sup> The first large reservoir, the Minneriya-vava, which submerged 4,670 acres, was constructed in the reign of Mahasena (275-301 A.D.). The Alahara-Minneri-Kavudulu system was also completed during this king's reign, thereby bringing new land in the eastern part of the northern dry zone lowlands under cultivation. This led to the establishment of larger settlements such as Minneriya.

The fifth, sixth and seventh centuries A.D. were a period of intense tank building activity and the growth of many settlements. Many of these larger ones exist even to this day. The names of certain early settlements, such as Khanuvapi and Challuravapi, suggest that the tanks were built before the establishment of settlements.

In the reign of Dhatusena (460-478 A.D.) the Kalawewa and the fifty-four mile long Jaya ganga which conveyed water from this tank to the Tissawewa in Anuradhapura were completed. Simultaneously, the settlement of Kalawewa beside the tank, and no doubt, many smaller settlements too were founded. Apart from the many tanks built in this period, in the latter part of the seventh century A.D., many river diversion schemes such as those from the Mahaweli ganga, the Kalu ganga and the Malwatu-oya were carried out. During the eighth, ninth and tenth centuries A.D there was a noticeable lull in tank building. The chronicles give no definite reason. It is possible that once the irrigation works were repaired and maintained after the period of intermittent wars and other disturbances, the existing irrigation schemes were utilized to their utmost, and most of the available land in the region was already under cultivation.

The importance of irrigation works to the well-being of the people of the dependent settlements is proved by the fact that the central government assumed responsibility for the repair and maintenance of, as well as the regulation and distribution of water from all major tanks. The small tanks, however, were under the jurisdiction of the village headmen.

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3. See *History of Ceylon*, (University of Ceylon Press Board, 1959), p.222.

4. The Alisara or Alahera canal became a feeder canal to the later Minneriya tank and to a chain of tanks, the Kavudulu Kanthalai and possibly to smaller tanks as far as Tambalagam Bay. Up to Minneriya it is twenty-five miles long with an average width of one hundred feet.

Most of the larger dry zone tanks which are in use even today, had come into existence by the tenth century A.D. and they were supporting many settlements. The larger tanks which have been identified, and which had existed at that period are as follows:-<sup>5</sup>

### Tanks built between the fourth century B.C. and the third century A.D.

1. The tanks supplying the City of Anuradhapura, the Nakaravapi or Nuwarawewa, the Tissawewa and the Basavakkulam. The date of construction was around the fourth century B.C.

### Tanks built by Vasabha (67-111 A.D.)

2. Panikkan Kulam.
3. Mayanti and Mayetti (the Willachchiya tanks).
4. Aggivadhamavaha or Hinivadunna (near Habarane).

### Tanks built by Mahasen (275-301 A.D.)

5. Ninneriya, the Manimekela dam across the Mahaweli was however built by Aggabodhi I (571-604 A.D.).
6. Challuravapi or Huruluvava.
7. Khanuvapi or Kanavava (the present Mahakanadaravava).
8. Mahamani or Maminiya tank.
9. Rattamalakandavapi or Padaviya.
10. Kalapasana or Karambankulama.
11. Tissavaddhamanakavapi or Rantissavava (Kavudulu).
12. Mahadaragallavapi (probably Mahagalkadavala) Others.

### Tanks built between the fourth century and the Seventh century A.D.

#### Tanks built by Dhatusena (460-478 A.D.)

1. Kalawewa and Balaluwewa.
  2. Manamatta or Giant's Tank.<sup>6</sup>
  3. Mahadatta or Madatugama tank.
- The Kalawewa -Yoda-ela canal was also constructed during the reign of Dhatusena.

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5. See map of irrigation works.

6. According to tradition, this tank is said to have existed before the time of Vijaya. See Brohier, R.L., *Ancient Irrigation Works in Ceylon* (Colombo 1934), Part II, p.28.

**Tanks built by others**

4. Akkattimurippukulam, (was built later than the Giant's tank, but the exact date is not known).
5. Pattapasavanavapi or Nachchaduwa, built by Mogallana II (535-555 A.D.). The canal from this tank to Nuwarawewa was also built at this time.
6. Kurundawewa or Tanimurippukulam, built by Aggabodhi I (575-608 A.D.).
7. Topawewa - Upatissa II (522-524 A.D.).

**Tanks built between the seventh and tenth centuries A.D.**

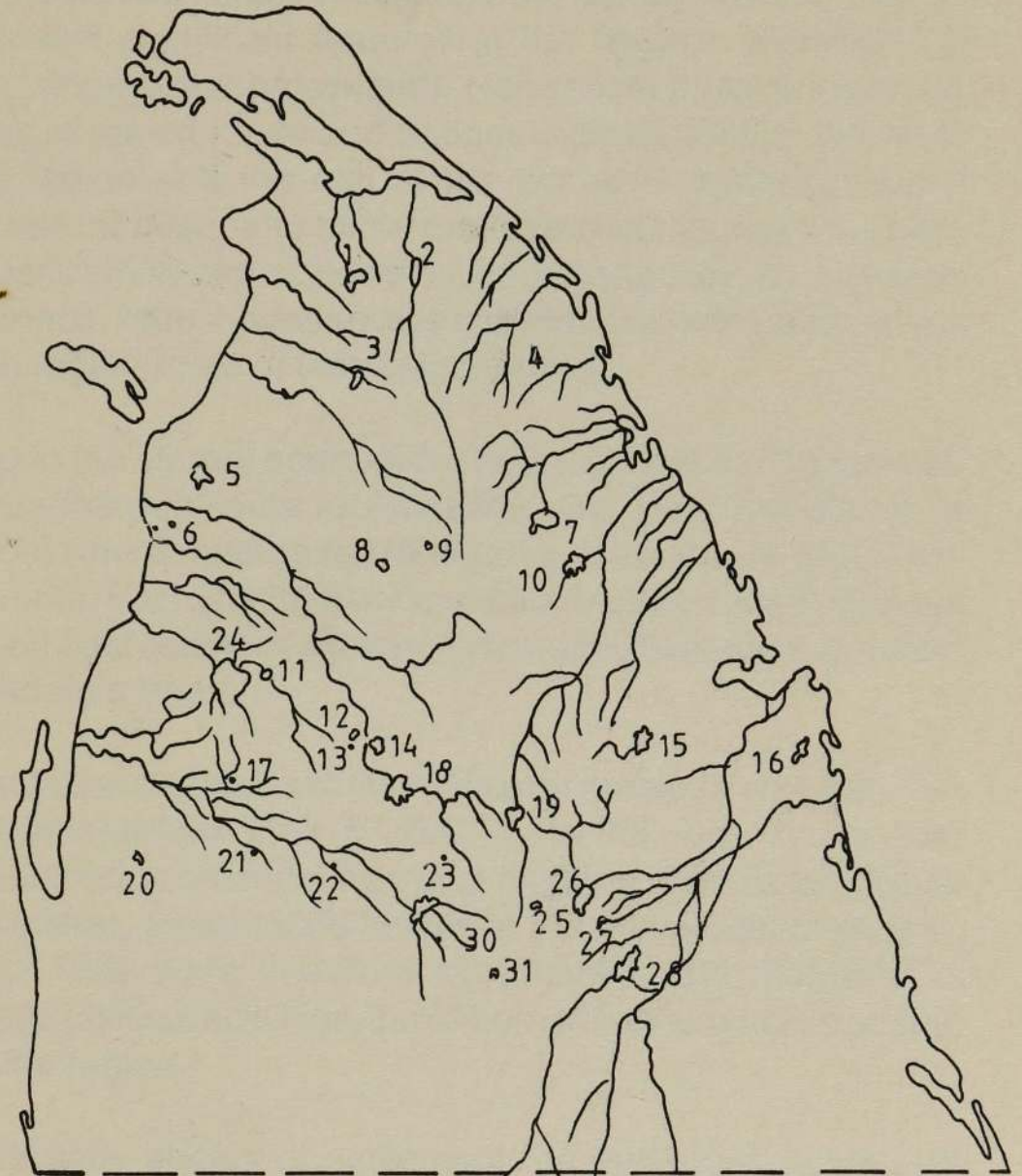
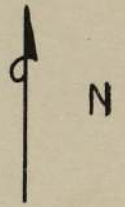
1. Gagatalavapi or Kantalai, built by Aggabodhi II (608-618 A.D.).
2. Giritalavapi or Giritale, also built by Aggabodhi II.
3. Tintinigamakavapi (Siyambalagamuvava), built by Mahinda II, (777-797 A.D.).

**Tanks known to have existed in the tenth century A.D., but the date of construction is not known.**

1. Wahalkada
2. Iranaimadukulam
3. Pavatkulam
4. Vavunikulam
5. Allai tank
6. Giribavapi or Giribava

Some of the smaller tanks, which have been identified and in some cases where the date of construction is not known, have been included in the list of villages.

IRRIGATION WORKS OF EARLY CEYLON



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|----------------------|----------------------|----------------------|
| 1. Akkarayankulam    | 12. Basawakkulama    | 23. Maminiya         |
| 2. Iranaimadu        | 13. Tissawewa        | 24. Karambankulam    |
| 3. Vavunikulam       | 14. Nuwarawewa       | 25. Hiniwadunna Tank |
| 4. Tannimurippukulam | 15. Kantalal         | 26. Minneriya        |
| 5. Giant's Tank      | 16. Ailai            | 27. Giritala         |
| 6. Akattimurippu     | 17. Panikkankulam    | 28. Thopawewa        |
| 7. Padaviya          | 18. Nachchaduwa      | 29. Kalawewa         |
| 8. Pavatkulam        | 19. Huruluwewa       | 30. Madatugama       |
| 9. Madukanda         | 20. Tabbowewa        | 31. Kandama          |
| 10. Wahalkada        | 21. Giribawa         |                      |
| 11. Wilachchiya Tank | 22. Siyambalangamuwa |                      |

SCALE - One inch to 32 miles



## TRANSPORT AND COMMUNICATION

Paths, roadways, rivers and canals which were the earliest means of travel and transport, formed significant features in the bygone geographical landscape of the northern dry zone lowlands. References in literary sources and some remains of paved roads and bridges indicate that by the tenth century A.D. this region and the rest of the dry zone lowlands had a considerable network of major and minor roads linking together the many settlements. The central hilly region, however, does not appear to have been traversed by any roads; here the routeways consisted of paths and narrow tracks, making the region more or less inaccessible.

According to the literary sources the main highways of this period were:-<sup>1</sup> from the Jaffna peninsula to Anuradhapura; from Mahatittha to Anuradhapura; from Anuradhapura to Mahagama, crossing the Mahaweli ganga at Mahagantota (Kachchatittha or Kasatota); Mahagama to Digavapi on the east coast; an east coast road passing through Chagama and a road from Rajarata to Adam's Peak.

These roads were at first built for political or military purposes. The route taken by Duthagamani (101-77 B.C.)<sup>2</sup> on his way to conquer Anuradhapura remained to become the major highway from Rajarattha to Rohana. Later, however, these roads helped in the movement of people, goods and ideas.<sup>3</sup> They were therefore significant in the moulding of economic, social and political activities, the pattern of settlement and spatial interaction within the region.

During the early stages of settlement the numerous rivers and streams of this region were crossed by rafts and small boats which provided

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1. See *History of Ceylon*, Volume I, Part I, (University of Ceylon, Press Board, 1959), p. 15.
  2. This route was from Mahagama northwards through many settlement the identified ones being, Buttala, Girigama (possibly Yudanganava) and Mahiyangana, as far as the crossing on the Mahaweli ganga at Mahagantota. From here it ran through to Vijitapura (a suburb of Polonnaruwa), through Kahagalagama and thence to Anuradhapura. Many more places have being mentioned along this route, but they have not been identified.
  3. c/f. Chpater on "Spatial Interaction".

a means of transport, and these waterways continued to be in use even after the construction of roads. With the spread of settlements throughout the lowland region, paths and roadways were built and no doubt the level nature of the land facilitated such construction. When irrigation works were constructed the bunds of the smaller tanks served as minor roads linking the settlements nearby, and those of the larger reservoirs such as Kalawewa, formed major highways.<sup>4</sup> C.W. Nicholas referring to these ancient roads states that, "The ancient Sinhalese, whose skill in irrigation engineering attained a degree of the highest proficiency, would readily have understood how to make the best use of the contours in road construction and how to safeguard their roads against erosion by the action of water".<sup>5</sup>

The chronicles indicate that most of the roads were paved and were of suitable gradient, constructed to carry heavy traffic such as elephants, which were important for transporting people and goods. Bridges were built across rivers and streams, mainly of wood, but on important highways there were stone bridges. Some remains of these are found at Palankadawala<sup>6</sup> and near Pavatkulam.<sup>7</sup>

The literary sources also speak of small streams which were crossed by laying a log across, enabling one person at a time to cross over. The various roads were also differentiated as:- highroads or *Mahamagga*; roads or *magga* or *magganumagga*; streets in towns or *vithi* and footpaths or *ekapadikamagga* or *anjasa*.<sup>8</sup>

In addition the literary sources also refer to junctions where two or more roads met, and the *ambalams*<sup>9</sup> or resting-houses along the routes. The sources thus indicate that there existed at this period a fair network of roads and also illustrate the importance of these routes in the activities of the settlements; for movement on these highways appears to have been considerable, and travel played a significant role in the lives of the people.<sup>10</sup>

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4. See *History of Ceylon*, Volume I, Part I, University of Ceylon Press Board, 1959), p. 15.
  5. See *History of Ceylon*, Volume I, Part I (University of Ceylon Press Board, 1959), p. 15.
  6. See Kala-oya sheet.
  7. Parker, H. *Ancient Ceylon* (London, 1909), p.235.
  8. See *History of Ceylon*, Volume I, Part I (University of Ceylon Press Board, 1959), p. 14.
  9. See *History of Ceylon*, Volume I, Part I, (University of Ceylon Press Board, 1959), p. 14.
  10. c/f section on "Spatial Interaction".



## SETTLEMENTS IN THE LATE ANURADHAPURA PERIOD

The northern dry zone lowlands in the ninth and tenth centuries A.D. presented a rural landscape with a few towns and many villages, both large and small, dependent on irrigation. Although statistical data are not available, it can be inferred that the region was densely populated and that the settlements were located in close proximity to one another. With the increase in the land area that was brought under cultivation and the growth and expansion of the settlements some of the more favourably situated settlements acquired certain "central place" functions such as administration and trade, and provided these services to other settlements. Therefore, these settlements can be classed as "urban" centres. The larger villages too performed such services although to a lesser degree, and therefore these settlements too became "central places".

The only city in the region was Anuradhapura, which was not only the administrative capital, but also was the religious and economic centre, and the centre of social activity. The city owed its development to its favourable location, almost in the centre of the northern lowlands, on the direct routes from the three major ports, Mantai in the north-west, Gokanna (Trincomalee) in the north-east and Jaffna (Jambukola) in the north. The only disadvantage suffered by its location lay in its vulnerability to attacks from the Indian sub-continent; and such attacks accounted largely for the downfall of this city in the eleventh century A.D. However, in the early periods of settlement this problem did not arise so much or so acutely. There was plenty of land for expansion and for the construction of the three major city tanks - the Nuwarawowa, the Tissawewa and the Basavakkulam, to supply the necessary water for an expanding city population and for cultivation.

The coming of Buddhism in the third century B.C. and its emergence as the state religion made Anuradhapura an important religious centre as well. The various kings built many religious edifices and charitable institutions within the city. Thus were people drawn to this centre.

Anuradhapura was the administrative capital where dwelt the king, the nobles and other important officials. This elite society naturally looked

for foreign luxury goods such as fine cloth, perfumes<sup>1</sup> and wines, which were the commodities of the foreign trade at the ports. A class of rich merchants, perhaps the agents of those trading at the ports, also settled here,<sup>2</sup> supplying foreign goods and collecting in turn local products like gems and spices for export. Two market settlements are known to have existed beside two of the city gates. The Tonigala Rock<sup>3</sup> Inscription of the fourth century A.D. mentions Kalahumana in the northern quarter of the city and the Labuatabandigala Rock Inscription<sup>4</sup> of the fifth century A.D. refers to Mahatubaka in the eastern part of the city. The mining and sale of precious stones was a monopoly of the king. Trade in them had to be negotiated with the king or his officials. Consequently, trade occupied an important place among the activities in this city. Besides this, there were hospitals and alms-halls, the largest being the *Mahapalli*,<sup>5</sup> at which monks and beggars gathered from the surrounding areas.

Of the three major ports in the region, Mantai or Mahatittha is reckoned to be the oldest, having existed even before the Indo-Aryan migration. According to R.L. Brohier,<sup>6</sup> this coast of Ceylon was well-known to the traders from the Indian sub-continent, and a statement in the *Mahavamsa* lends support to this idea - it is said that Vijaya's bride arrived at this port, and since then Mantota received the name of Mahatittha, which implies that it was a recognized port long before this time. In later centuries, Mantai became an entre-port trade centre carrying on a profitable trade between the countries of the west and the Far East. By the ninth century A.D. this trade was in the hands of the Arabs, and many of them as well as Indian traders had settled down here. It is noteworthy that Mantai was also the port from which settlers disembarked and from where invasions from the Indian sub-continent took place.

Trincomalee is mentioned in the *Mahavamsa* in the time of King Panduvasudeva (394-307 B.C.)<sup>7</sup> whose queen arrived at this port and then

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1. *Mahavamsa*, Chapter XXIII verse 28-29. It says that when Suranimala went to Anuradhapura; he brought perfumes from a shop within the city. Geiger's translation, p.157.
  2. References indicate that persons of the higher classes such as the nobles, were also engaged in trade, which was a profitable occupation at this time. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon 1969), p.143. Within the city there was a section exclusively for the Yonas who were merchants.
  3. *Epigraphia Zeylanica*, Volume III,
  4. *Ibid*, p. 347.
  5. Devanampiya Tissa built the Mahapalli for the monks of the Mahavihara.
  6. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, (Colombo, 1934), Part II, p.28.
  7. *Mahavamsa*, Chapter VIII 25. Geiger's translation, p.64.

proceeded to Upatissagama. Jambukola, in the Jaffna peninsula was also a well frequented port from early times, owing to its proximity to the Indian mainland. Codrington<sup>8</sup> has identified it as Sembiliturai near Kankesanturai. It was linked mainly with the port of Tamralipti in India and it was to this port that the *sapling* from the Bodhi Tree was brought and later conveyed to Anuradhapura, halting at many settlements on the way. The Jaffna lagoon was an important highway of trade and by the sixth century A.D. there was a sea route from here along the east coast to Batticaloa.<sup>9</sup> A major highway linked this port with Anuradhapura.

The few urban settlements in the region had grown and developed because of the expansion of irrigation, the growth of political and religious activities and the development of trade. These settlements however were small in comparison to modern towns, nevertheless they had certain "urban" and "central place" functions in the way of trade, administration and in relation to religion. These ancient urban settlements have been identified from literary sources and from archaeological remains found at certain sites.

Many of the *nagaras* mentioned in the sources, which have not been identified by archaeological remains<sup>10-11</sup> may possibly have been large villages. Examples of these are Mahalanagara, Kaithantanagara (which is said to be the modern Maradankadavala), Unhanagara, Kandenagara and Siripura.<sup>12</sup> Tavarikiya - nagara<sup>13</sup> is said to have been by the side of the Tabbowa tank and it is possible that it was a large settlement as this tank irrigated a vast area extending up to the coast.

Regarding villages there is much evidence in the chronicles and inscriptions to indicate their existence. But, as mentioned earlier, many of them have disappeared leaving hardly any trace. Therefore, many cannot be identified on the one inch topographical maps. No lists of villages, such as those found in the tombus<sup>14</sup> of the Portuguese period, are available for this early period, nor can a complete list be compiled from available sources. That numerous settlements existed in the region during this period, is evidenced by large numbers of abandoned tanks in areas where today there

8. Codrington, H.W., *A Short History of Ceylon*, (London 1947) p.14.

9. See Arasaratnam, S. *Ceylon* (New Jersey 1964).

10. c/f section on "Settlements", p.47.

11. G.C. Mendis suggests that it may be Maha Alagamuwa on the Anuradhapura-Dambulla road. See *Mahavamsa*, Addendum.

12. Said to have been at the site now known as Malasne Devale at Galkatiyagama, in the Kurunegala District.

13. See Brohier, R.L. *Ancient Irrigation Works in Ceylon*, (Ceylon, 1934), Part II, p.491.

14. A series of registers compiled by the Portuguese indicating dues paid by villages in their territories.

are few or no villages, and by many ruined sites of monastic settlements that are found here. The monasteries were supported by neighbouring villages and they could not have survived but for these villages.

From the available evidence therefore, it is clear that there were numerous small villages generally clustering around tanks and canai networks. Around Nachchaduwa, for example, around Padaviya and Wahalkada, and in the region around Tambalagam Bay and Mantai, many ruins and remains of canals and anicuts have been found suggesting that villages had existed here. It is very unlikely that each of these villages had a headman. On the other hand it is reasonable to assume that there was a headman in charge of a group of villages. The headman was called a *gamani* and the village he functioned from was termed a *gama*.<sup>15</sup>

In the Vevalkatiya Slab Inscription of Mahinda IV (956-972 A.D.),<sup>16</sup> there is a reference to a *dasagama* and the note says that it is difficult to decide whether "dasa" in the inscription meant "ten" or "slave". However, it is likely that the villages at this period were divided for administrative purposes into groups of ten, and *dasagama* referred to the chief village, where dwelt the headman or *gamani*. This conclusion is supported by the *Culuvamsa*, when referring to the reign of Buddhadasa (362-409 A.D.) it states that he set up refuges for the sick in villages and placed physicians in them. In addition, "He made a summary of the essential content of all medical text-books and charged one physician with (the care of) twice five villages and gave the physicians the produce of ten fields as livelihood."<sup>17</sup> During this time an attempt was made to bring the teachings of the Buddha to the average man and, therefore, a *pandita*, well-versed in religion, was appointed as the preacher for every ten villages.<sup>18</sup> The Ambagamuwa Rock Inscription<sup>19</sup> refers to *dasanavan*, understood to be the governors of districts. However, this title refers more likely to the chief administrative officer of a *dasa-gam* or group of ten villages.<sup>20</sup>

The sources also refer to nigamas. W. Siriweera states that the Kankhavitarani<sup>21</sup> refers to them as large villages that did not have ram-

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15. See section on "Administration". Also, Hettiaratchy, Tilak, *History of Kingship*, (1972), p.16.
  16. *Epigraphia Zeylanica*, Volume I, p.243.
  17. *Culavamsa*, Chapter 37, verse 146. Geijer's translation, Volume I, p.13.
  18. *Pandita* - a learned person. See *History of Ceylon* (University of Ceylon Press Board, Colombo, 1959), p.379.
  19. *Epigraphia Zeylanica*, Volume II, p.216.
  20. See *History of Ceylon*, University of Ceylon Press Board, (Colombo 1959), p.373. "Dasagam" refers to villages occupied by royal servitors who managed their own affairs which possibly amounts to the same thing.
  21. A commentary on the Vinaya Texts, by Buddhaghosa.

parts.<sup>22</sup> It is quite possible that these nigamas and dasagamas were the larger villages administering to the smaller “dispersed”<sup>23</sup> ones and where the gamani resided. As they had to be centrally located to discharge these services, market-places were also set up.

Until the decline of the northern dry zone lowlands after the thirteenth century there were in this region many types of settlements engaged in varying types of functions; tank and fishing settlements, religious centres, ports and towns. This is known from two inscriptions of Nissanka Malla (1187-1196 A.D.). The Dambulla Rock Inscription<sup>24</sup> states, “Thrice he made the circuit of Lanka. He examined the villages, the towns and cities (thereof and explored) the mountain and forest fortresses as well as those surrounded by water and by marshes...”: The Polonnaruwa Rankot Dagoba Pillar Inscription<sup>25</sup> further adds that the ruler, “was pleased to tour round and throughout Lanka inspecting completely, like a ripe nelli fruit in his hand villages, market-towns, sea-port towns, cities and many other localities of note in the three kingdoms...”.

Besides the variety in types of settlements certain settlements were “central places”<sup>26</sup> discharging services for their particular hinterlands. On this basis, a hierarchy of “central places” can be traced with regard to the settlements of the Late Anuradhapura period, based on their performance as “central places”, with the *gama* at the lowest level and Anuradhapura at the top and each level, except Anuradhapura, depending on the one above, and having its own type of services. Below the *gama* were the numerous small villages which do not appear to have had any “central” functions and therefore were “dispersed” settlements. The early settlements identified from the available sources can be grouped as follows:-

1. Small villages (dispersed)
2. “gamas”
3. large villages
4. Towns
5. the city of Anuradhapura.

23. See Section on “Spatial Interaction”.

24. *Epigraphia Zeylanica*, Volume I, p.133.

25. *Ibid.*, Volume II.

26. c/f section on “Spatial Interaction”.

## THE GROUPING OF EARLY SETTLEMENTS

An attempt at compiling a list of the known settlements of the eighth, ninth and tenth centuries A.D., and grouping them into the various tiers of the hierarchy poses certain problems. Unlike in the case of modern settlements which can be studied through direct observation, early settlements have to be investigated from available literary sources and archaeological 'digs'. The difficulties in dealing with historical geography are vividly described by Mitchell, "Often the only bits of information that come to hand are like isolated pieces of a jigsaw and, by the use of his knowledge of the way in which geographical facts interrelate, the historical geographer may find a clue that will lead him to other pieces and guide him in their arrangement. The method must of course be used with integrity, as a torch to help search and interpretation, not as a substitute for them."<sup>1</sup> This statement applies even more strongly to the study of early settlements, and especially of those in Ceylon.

Many settlements, towns or *nagaras* and villages or *gamas*, are mentioned in the sources. Yet several have not been identified or, on the contrary, there is much controversy regarding their actual location. Tambapanni, which is generally believed to have been somewhere near Puttalam is, according to Parker,<sup>2</sup> in the southern part of the island. Vijitapura was said to be in the locality of the Vijitapura Vihare near Kalawewa, but now it is generally accepted that this settlement was the present Polonnaruwa or at least its suburb.<sup>3</sup> Of certain other significant settlements known from the sources, such as Upatissagama<sup>4</sup> and Godapavata<sup>5</sup> (in Rohana), no archaeological remains have as yet been discovered. Consequently their location cannot be accurately determined. Most of the early towns however, have been identified as they have survived to the present day - Anuradhapura, Polonnaruwa and Kalawewa; or they have been identified from ruins - Padi-nagara and Mantai.

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1. Mitchell, J.B.; *Historical Geography*, (London) 1963, p.13.
  2. Parker, H., *Ancient Ceylon*, (London, 1909).
  3. See *History of Ceylon* (University of Ceylon Press Board, 1960), Volume I, Part I, p.12.
  4. The second capital of the island.
  5. A port mentioned in the Godavaya Inscription of the second century A.D.

Many of the nagaras mentioned in the sources and which have not been identified on the landscape may possibly have been large villages which have now disappeared. For, towns which have special "urban" functions, in early times were marked not only by special features in the landscape such as moats and walls, but there were also massive and lasting buildings and religious edifices within them. They had also covered a comparatively large site as is evident from the area over which the existing ruins spread. These ancient sites have been mostly identified from the sources and have been used in this study.

Many scholars have attempted to identify and locate the numerous settlements mentioned in the sources. However, in order to avoid confusion only those identified or accepted by authorities like H.W. Codrington, S. Parnavitane, C.W. Nicholas, R.L. Brohier and in a few instances, G.C. Mendis; those mentioned in the *Epigraphia Zeylanica* (Volumes I-V) and in the *Register of Ancient Monuments*,<sup>6</sup> have been used.

Most of the early villages no longer exist. If they do, they are difficult to identify as their names, seem to have undergone change through the course of time. Besides, no complete list of early villages can be compiled as many were never even mentioned in the sources. Most of the settlements that are mentioned in the sources are not marked on the present landscape by any lasting "monuments", and they cannot be easily identified. However, a fair number of villages and monasteries are named in inscriptions, and generally the site where the inscription was discovered is assumed to have been the location of the place of which mention is made.

Besides, to trace the pattern of distribution of early settlements one can assume that wherever there are ruined monasteries or abandoned tanks there had been villages, since villages had been closely associated with them in the past. Many ruined monasteries have been discovered and marked on the one inch topographical maps although only comparatively few have been identified. Nevertheless they do indicate the presence of early villages and are of significance for this study. Most of the smaller tanks cannot be made use of as it is not possible to date them, unless specifically mentioned in the sources. Although many such tanks are found in areas that are now sparsely populated, and indicate the existence of a densely peopled area in the past, they have not been made use of in this study; only the identified ones have been used.

Generally it can be assumed that large tanks were associated with large settlements; and often ruins have been discovered near such tanks as

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6. Published by the Ministry of Cultural Affairs (1972).

at Vavunikulam<sup>7</sup> to prove the existence of such places. Such sites are not found beside many of the medium-sized tanks, and in such cases it is assumed that the near-by settlements were small villages similar to those supported by small tanks.

It has also been assumed, unless otherwise confirmed, that these tanks and monasteries, known to have been built and established before the tenth century A.D. existed in the tenth century too. Settlements are liable to undergo change. They can wax or they can wane. Again, as the available information is limited, it is assumed that all settlements identified from the sources and located on the one inch topographical maps unless otherwise proved had existed at this period.

In the grouping of settlements too, certain problems have arisen owing to the limited source material. Although all possible data with regard to their functions have been gathered, there are still many shortcomings, and therefore certain assumptions have been made to overcome this deficiency.

The towns pose no serious problem for, as mentioned earlier, their ruins in the landscape indicate not only their existence but also the nature of the services they had discharged. At the same time, literary sources specifically mention these *nagaras* and state the importance of these places. On this basis, apart from Anuradhapura, the early towns can be grouped into:- fortresses, (most of them had protective walls and moats) administrative centres such as Polonnaruwa agricultural centres and market towns like Kalawewa and ports such as Mantai. (See Map).

As it can be gathered from the sources these towns did not perform only one particular function, but attracted others and thereby became central places.

The more acute problem arises in grouping the large and small villages, which, in spite of scrutinising all available data still depends very much on conjecture. However, in general, the villages mentioned in the literary sources, apart from those that were stated to have been gifted to religious institutions, are assumed to be some of the larger ones, and very often other evidence can be found to support this assumption. Those mentioned in the inscriptions as grants to monasteries were the small villages. Sometimes inscriptions refer only to a *Vihare* (monastery) in which case it could be assumed that there were villages close by.

7. See *Register of Ancient Monuments*, p.211.



With the absence of many towns in early times, the large villages seem to have performed certain services usually performed by towns though to a lesser degree. Accordingly these could be grouped as:- religious centres such as Tiriyay, fords or junction settlements such as Mahagantota, small fortresses as the one near the Kattiyava tank and small ports such as Kalpitiya. (See map)

They performed other services and were also central places. Like towns, the remains of many of these large villages are found and indicate their past existence, monastic ruins as at Tantrimalai, moats and walls at Kattiyava and walls and ruined buildings at Kudremalai.

No definite place names of *gamas* are available, except perhaps Hopitigama mentioned in the Badulla inscription<sup>8</sup> and Vevalkatiya,<sup>9</sup> where the slab inscription which mentions the *dasagama* was found. Vevalkatiya is assumed to be the location of the *gama* of the inscription, but unfortunately it is not possible to identify any more of these settlements.

Apart from those mentioned in the inscriptions, the names of most of the small villages are not available, nor are there any indications of their existence in the landscape. Their presence and the general pattern of their distribution can be traced however, and their probable locations have been obtained thus:-

1. Those mentioned in the inscriptions, and the place where the particular inscription was found is assumed to mark the site of the early settlement.
2. Those associated with monastic ruins. It is assumed that where a monastery was established, there were villages close by.
3. Those associated with tanks, dams, anicuts bridges. Where the ruins of bridges or anicuts are found, and beside small tanks, it is assumed that there were villages.
4. Those associated with sites where ruins such as small dagobas or statues and small buildings have been discovered, which no doubt mark the location of small villages. However, only those mentioned in the *Register of Ancient Monuments*, and located on the one inch topographical maps, have been made use of in the study.

8. E.Z., Volume III, p.71.

9. Ibid, Volume I, p.251.

A glance at a map constructed with the use of the above information indicates that the majority of these settlements were found in the ancient districts of Paccimapassa and Purathimadesa, or the areas around Anuradhapura and Polonnaruwa, while Uttaradesa, or the northern region is relatively bare of such settlement. The literary and archaeological sources too appear to confirm this view, but at the same time, it must be kept in mind that most of the excavation work has been carried on mainly in these regions, and the literary sources too appear to have more information pertaining to them. Very little or nothing at all is said about the coastal settlements, even though, for example, Kalpitiya on the north-west coast and Mullaitivu on the north-east coast, were fairly important trading settlements. It is likely that there might have been many more settlements in the northern region, than we know of at present but there is a need for sufficient evidence to be quite positive about this.

### SMALL VILLAGES

#### Villages mentioned in the sources

1. Allevava or Ellevava - NT refers to Kulavitiya, however place-names on 10th century pillar inscription found here, are illegible. (E.Z. Volume V., p.372). (Medawachchiya Sheet).
2. Alutvava - a 10th century inscription (E.Z. Volume II, p.229), refers to Mahademiti-kuliya and Govin-nampitiya. Names probably refer to villages. The term "kuli" is said to have been added to names of places that were the headquarters of districts in the 10th century. See E.Z. Volume I, p.243. (Anuradhapura Sheet).
3. Ataviragollava - a 10th century inscription granting immunities to Velangama. See E.Z. Volume II, p.44 (Vavuniya Sheet).
4. Ayitigevava - a 10th century inscription refers to Demelinhetihaya in the district of Loholuvila. E.Z. Volume II, p.34. (Vavuniya Sheet).
5. Bilibava - 10th century inscription granting immunities to Mahagapiyova. E.Z. Volume II, p.38 (Kala-oya Sheet).
6. Hiripitiyagama - identified as Siripitti. See NT, Anuradhapura district. (Dambulla Sheet).
7. Illupakadavai - identified as Mipatota, the landing place of the Indian invaders in the 13th century. See AWI Works, p.20 (Mantai Sheet).

8. Iripinniyava - Site of a ruined vihare where a 10th century inscription refers to Posonavulla in Sulinarugama dedicated to a Pirivena. The rivulet mentioned in inscription has been identified as the Mora-oya, and ruins of an anicut dam and anicut have been found, indicating a former settlement. (E.Z. Volume I, p.167), (Padaviya Sheet).
9. Galge Vihare - 10th century inscription granting immunities to Pattieliya. See NT, Puttalam District (Kala-oya Sheet).
10. Karavilahena - NT, Matale District (Nalanda Sheet).
11. Kibissa - the village Kivisi. NT, Matale district (Polonnaruwa Sheet).
12. Kirigollawa - 10th century inscription granting immunities to Itnarugama in the Amgarkuliya in the northern quarter. E.Z. Volume II, p.3.
13. Kivulekada - 9th century inscription granting immunities to Muhudehigama, E.Z. Volume III. (Vavuniya Sheet).
14. Kokkilai - Kokela mentioned in the Sigiri Graffiti. See NT, p.87 (kokkilai Sheet).
15. Kukurumahan - damana - 10th century inscription granting immunities to Keralagama, belonging to the hospital opposite the nunnery in the High Street in Anuradhapura. R.Z. Volume II, p.19.
16. Labuattabandigala - site of the Devagiri Vihare. A 5th century inscription mentions the village Nitalvitiya. E.Z. Volume III, p.247. (Horowupotana Sheet).
17. Madahapola - Kalalahalika, described as a fort suitable to attack the Alisara district, N.T., Matale district, (Nalanda Sheet).
18. Mada-ulpota - A 10th century inscription refers to the village Panavali. E.Z. Volume IV, p.54 (Elahera Sheet).
19. Maha Kalattewa - name from the tank Mahakalattuvava. An inscription of the 9th or 10th century grants immunities to Gitelgamu (va) or "butter village". E.Z. Volume V, p.334. This village is said to have existed in the time of Dutugemunu, for the legend says that a battle between Dutugemunu and Elara was fought here and that the water in this tank turned red with the blood of the fallen soldiers. See

- U.H.C. p. 160. (Anuradhapura Sheet).
20. Maha Ratma'e - near Ratmala-vava, an abandoned tank, E.Z. Volume I, p.58. (Anuradhapura Sheet).
  21. Maningamuwa - the village Maningamu. N.T. (Marichchukaddi Sheet).
  22. Nabadagala - village Nikavitigama. See p.155 NT (Kala-oya Sheet).
  23. Nagirigala - site of Buddanagehela monastery and village Nannaru. See N.T. (Padaviya Sheet) E.Z. Volume I.
  24. Negama - 10th century inscription granting immunities to Kolayanugama. E.Z. Volume II, p.14 (Dambulla Sheet).
  25. Nilagama - site of Nilagama Tisa-Arami Rajamaha Vihare and the village Nilagama mentioned in a 6th century inscription. E.Z. Volume IV, p.285 (Nalanda Sheet).
  26. Mochikulama - Inscriptional reference to Mahagala. See N.T. Anuradhapura district (Anuradhapura Sheet).
  27. Omantai - legend that it was one of the resting places, when the Tooth relic was carried from Jaffna to Anuradhapura. See AIW, Part II, p.21 (Puliyankulam Sheet).
  28. Palvakki - Pallavavanka, from where Parakrama Bahu I sent an expeditionary force to Burma. See N.T. (Padaviya Sheet).
  29. Panankamam - 10th century inscription refers to Pasanagama tank and village Pahangama. See N.T. (Mantai Sheet).
  30. Rambawe - in the north-west corner of Wahalkada tank. 10th century inscription granting immunities to land in Galinduru Gomandla. E.Z. Volume I, (Padaviya Sheet).
  31. Talagoda - Talatthala. See N.T., p.112 (Elahera Sheet).
  32. Timbiriwewa - 10th century inscription granting immunities to Mibali-gama. E.Z. Volume II, p.9: (Horowupotana Sheet).
  33. Virandagoda - 5th-7th century inscription refer to village Nadunnaru.

Also site of Salvana-veher, E.Z. Volume V, p.119, Traces of an ancient road found here. (Kala-oya Sheet).

34. Vilevava - 2nd century inscription refers to Kubaragama. See N.T., Anuradhapura district. (Horowupotana Sheet).
35. Wevalawewa - old village Vacavataka, near small tank, See N.T. (Polonnaruwa Sheet).

### **VILLAGES ASSOCIATED WITH MONASTERIES**

1. Appavala or Eppavala - site of the Pamagalu Vihare. E.Z. Volume III, p.188. (Anuradhapura sheet).
2. Ataviyalgola - site of the Totahumanakaraka Vihare, See N.T. p.169. (Horowupotana Sheet).
3. Aukana - the site of a large standing Buddha statue, R.M. p.41.
4. Budugehinna Vihare - a 7th century monastery, N.T. (Dambulla Sheet).
5. Ganandigala - villages Mahabodeniya and Mihinnariya mentioned in inscriptions found at the site, E.Z. Volume III, p.195. (Nalanda sheet).
6. Ichchilampattai - ancient monastery with pre-Christian inscriptions, R.M. p.323 (Trincomalee sheet).
7. Kadigala - the site of the Mahamangala Vihare. See Nv. Addendum. (Kala-oya sheet).
8. Kalkulam - site of a ancient vihare, probably the Girimaha - alaka Mahavehera of Dutugemunu. E.Z. Volume V, p.259. (Kathiraveli sheet).
9. Kaludiya-pokuna - site of the Dakkinagiri Vihare, E.Z. Volume III, p.253. (Polonnaruwa sheet).
10. Karambankulama - site near the Kalapahanaka tank, identified as the Naka Vihare. N.T. See under Anuradhapura district.
11. Kemitigollewa - site of the Handagala Vihare. The village Matalagama

- is mentioned in an inscription found at the site. N.T. see under Vavuniya district. (Medawachchiya Sheet).
12. Kolibandava - site of the Kangiri Vihare. N.T. see under Anuradhapura district. (Medawachchiya sheet).
  13. Kuchchaveli - site of the Kakelekuvanka Vihare at Nilapanikkankulam Nalai. Also caves with inscriptions are found at Nachcherimalai, near by. Inscriptions mention the village Abagamiya. E.Z. Volume III, p.158. (Padaviya sheet).
  14. Kumbukkwewa - beside a small tank is the site of the ancient Nakapavata Vihare. N.T. See Under Anuradhapura district. (Medawachchiya sheet).
  15. Maha Elagamuwa - site of a pre-Christian Monastery. N.T. See under Anuradhapura district. (Dambulla sheet).
  16. Maha Kalagama - site known as Viharagala. The ancient monastery found here was the Ekadorika Vihare. Ruins are also found in the Puliyankulam hills, said to be those of the Pacinapabbata monastery. The Kayinattama tank has been identified as the Upaladonika tank, mentioned in an inscription found at the site, E.Z. Volume III, p.163, (Anuradhapura sheet).
  17. Mahakachchakkodi - site of an ancient monastery. It is possible that this one, the monastery at Erupotana and the one at Periyapuliyamkulam, formed one large monastery. E.Z. Volume V, p.234. (Vavuniya sheet).
  18. Manikdena - Site of the Buddhagama Vihare. R.M., p.456 (Nalanda sheet).
  19. Nagirikanda - a 4th century inscription refers to the Bamanagiriya Vihare. E.Z. Volume IV, p.115. (Medawachchiya Sheet).
  20. Nuwaragala Kanda - the monastery where Mahesen (334-361 A.D.) is said to have resided while superintending the building of the Minneriya tank. See A.I.W. Part I, p.30.
  21. Occapu Kallu - site of the Kuba Vihare. Also the site of an ancient weir. N.T. p. 153. (Marichchukkaddi sheet).

22. Pankulam -caves with Brahmi inscriptions have been found here. (Padaviya sheet).
23. Periyakulam - site of the Velgam Vehera (Natanar Kovil). E.Z. Volume V. (Nilaveli sheet).
24. Pidurugala - ancient monastery. See R.M. p.464. (Polonnaruwa sheet).
25. Rajangane - site of the Kattikucchi Vihare. See J.R.A.S.C.B., Volume V, 1950. (Kala-oya sheet).
26. Rasnakkvava - site of the Marapagiriya Vihare, N.T. See under Anuradhapura district. (Horowupotana sheet).
27. Sesseruwa - a temple beside an ancient tank. Also a dagoba of the 4th century. (Dambulla sheet).
28. Tammanakanda - site of the Nakapavata Vihare. N.T. See under Anuradhapura district. (Medawachchiya sheet).
29. Timbiriwewa - site of the Gagapavata Vihare. E.Z. Volume IV, p.223. (Horowupotana sheet).
30. Tonigala - site of the ancient Yahisapavata Vihare. E.Z. Volume III, p.172. (Vavuniya sheet).
31. Uttimaduwa - site of an old vihare near the Uttikulama tank. E.Z. Volume V, p.318. (Anuradhapura sheet).

#### **VILLAGES ASSOCIATED WITH TANKS, DAMS, BRIDGES, ETC.**

1. Allai Tank. See U.H.C. p. (Trincomalee sheet).
2. Allekattu tekkam<sup>10</sup> - on the Kal-arū, A.I.W., Part II, p.20. (Murunkkan Sheet)
3. Akkarayan kulam - A.I.W. Part II, p.23 (Iranamadu sheet).
4. Akattimurippu tank - in the Mannar plain, A.I.W. Part II, p.38 (Murunkkan sheet).

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10. Tekkam - a weir built across a river.

5. Angomuwa - ancient site near the tank. (Kala-oya sheet).
6. Angamedilla - a settlement on the canal that took water to the Topawewa. A.I.W., Part I, p.12 (Polonnaruwa sheet).
7. Cheddikulam - an ancient tekkam on the Kal-arū. A.I.W. Part II, p.32. (Murunkan Sheet)
8. Galbendi Villu - in the valley of the Moragolla Aru,<sup>11</sup> is this tank with a system of life irrigation. Near by are the Neeraviya ruins (the place of Prince Saliya, the son of King Dutugemunu). A.I.W. Part II, p.43. (Marichchukkadi sheet).
9. Giant's Tank - ancient channel system found around tank. A.I.W. Part II, p.34. Also see map facing p.28. (Murunkan sheet).
10. Huruluvava - Challuravapi. See Mv. Addendum. (Anuradhapura sheet).
11. Iranamadu - See U.H.C. (Iranamadu sheet).
12. Iratperiyakulam - ruins of the Tihadaya monastery close by. A.I.W. Part II, p.18. (Vavuniya sheet).
13. Kandalama tank - ancient caves near by. N.T. See under Matale district. (Dambulla sheet).
14. Kayinnatama - E.Z. Volume III, p.162. (Anuradhapura sheet).
15. Konduruwe - an ancient sluice on the Elahera canal, used to irrigate surrounding fields. A.I.W. Part I, p.23. (Elahera Sheet).
16. Kirinchakulam tekkam - on the Kal-arū. A.I.W. Part II, p.19. (Vavuniya Sheet).
17. Kurai Kulam - A.I.W., Part II, p.21. (Mantai Sheet).
18. Maminiya - the Mahamani tank, See Mv. Addendum, (Anuradhapura sheet).
19. Madukanda tank - near by was the Madukanda Vihare. A.I.W. Part II, p.21. (Vavuniya Sheet).

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11. Aru or aar - river (Tamil).



20. Madatugama - A.I.W. Part II, p.12. (Dambulla sheet).
21. Mahagalkadawala - A.I.W., Part II, p.17. (Medawachchiya Sheet).
22. Mahawilachchiya and Kudawilachchiya tanks - evidence of much prosperity in the region in ancient times. A.I.W. Part II, p.43. (Marichchukkaddi sheet).
23. Nachchaduwa - many ruins in area surrounding tank. See R.M. under Anuradhapura district. (Anuradhapura sheet).
24. Nagapaduwanikulam and Kariyalaikulam - the area up to the sea-coast appears to have been irrigated by these tanks. A.I.W. Part II, p.13. (Tunukkai Sheet)
25. Nitupatpana tank - ruins near by N.T. See under Trincomalee district. Village Vattakalaka was possible beside tank. (Kokkilai sheet).
26. Nikawewa - in the valley of the Divulankadawala-ela. This tank appears to have irrigated much land. A.I.W. Part I. p.12. (Polonnaruwa Sheet).
27. Palankadawala - the ancient road from Anuradhapura to the west coast passed through here. The remains of an ancient bridge and anicut are found here. A.I.W. Part II, p.47 (Kala-oya sheet). Also Panikkan Kulam situated near by.
28. Pandarakulam or Alaikalluppoddakulam - ruins near by on the Peraru. A.I.W. Part II, p.25. (Puliyankulam sheet).
29. Periyakattu - on the Manner plain. A.I.W. Part II, p.39. (Marichchukkadi Sheet).
30. Periyanalankulam - ancient tekkam near by A.I.W. Part II, p.33. (Murunkan Sheet).
31. Perumiyankulam - Gamanivapi, north of Anuradhapura. E.Z. Volume I, p.66. (Medawachchiya sheet).
32. Pilmadu tekkam - A.I.W. Part II, p.39. (Marichchukkaddi sheet).
33. Podumurippukulam - A.I.W. Part II, p.23. (Iranamadu sheet).

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34. Puliyadi tekkam - on the Malwattu-oya. A.I.W. Part II, p.33. (Murunkan sheet).
35. Sangilikanadarawa - tank and ancient site. A.I.W. Part II, p.12. (Medawachchiya sheet).
36. Siyambalangamuwa - See Parkar, *Ancient Ceylon*, p.219. (Kala-oya sheet).
37. Talawe - ancient tank. A.I.W. Part II, p.43. (Anuradhapura sheet).
38. Tannimurippukilam - A.I.W. Part II, p.25. (Kokkilai sheet).
39. Topawewa - possibly the village Thusavattika (mentioned in Gulamamsa, Volume I, p.11) was beside this tank whose waters must have merged with the later Parakrama Samudra. A.I.W. Part II, p.35. (Polonnaruwa sheet).
40. Velankulam - possibly built around the 5th or 6th century. A.I.W. Part II, p.21. (Tunukkai Sheet).
41. Vanaddi-palama - a stone dam or wier on the Ma-oya, after it flows out of the Padaviya tank. A.I.W. Part I, p.41. (Kokkilai sheet).
42. Wahalkada - it is possible that this tank irrigated land stretching as far as the coast. A.I.W. Part I, p.38. (Padaviya sheet).
43. Wowalankulam - ancient fields can be traced on either side of the Pomparippu-aar, A.I.W. Part II, p.42. (Kala-oya sheet).
44. Yakabendi-amuna - an ancient dam and stone posts indicating an ancient bridge. R.M. p.94. (Anuradhapura sheet).

#### FORDS ON THE MAHAWELI GANGA

45. Dastota - identified by Codrington as Sahasatittha. The remains of an ancient bridge and anicut were found here. See Geiger, *Culture of Ceylon in Mediaeval times*. (Polonnaruwa sheet).
46. Marake - Mahrukka. (Elahera sheet).
47. Yakkure - Yakkasukara. See N.T. p.37. (Elahera sheet).

48. Wilgamuwa - not within areas of study. Near by is an ancient site with a moat. See N.T. p.36.

**VILLAGES ASSOCIATED WITH PLACES WHERE THE RUINS OF  
SMALL DAGOBAS ETC. HAVE BEEN DISCOVERED.**

(from the Register of Ancient Monuments).

**Anuradhapura district (p.1)**

1. Pankuliya - the site known as Asokarama, where an inscription of Mahinda IV (1956-972 A.D.).
2. Rajagirilena - an early monastery for recluses, but in the 9th century it was covered into a monastery for Mahayana monks.
3. Maha vehera near Pallekagama
4. Gal vihare near Nallachchiya
5. Puvarasankulama - Anulatissa Ceitiya
6. Herat Hamillawa - Kiri vehera
7. Kalu ebe = Rajamaha Vihare
8. Pugollagama
9. Diyatitawewa
10. Manawekanda
11. Maha Illupalama
12. Maha Divulwewa
13. Kok-ebe
14. Dangollewa
15. Tammenagala
16. Navagala

17. Alittana
18. Irambakkulama
19. Nelubewa
20. Ambatale - site at Mahaseelambawa
21. Kuda Bellankadawela.
22. Nabadagaswewa
23. Kaluvila
24. Veherabandigala
25. Wadigewewa
26. Horowupotana

**Polonnaruwa district (p.131)**

1. Somawati Ceitiya
2. Sungavila
3. Galamuna - Isipathanaramaya
4. Nagalakanda
5. Higurakgoda
6. Pansalgodella
7. Bisokotuwa

**Trincomalee district (p.319)**

1. Pulmoddai
2. Eramaduwa
3. Atabendiwewa



## Vavuniya district (p.215)

1. Taddimalai
2. Toddaymalai - ancient tank & monastic mins.

## Mannar district (p.223)

Palampiddy

## LARGE VILLAGES

1. Dambulla - Early name was Jambukolalena. Certain garrisons have been mentioned in pre-Christian times and Dambulla was one of them.<sup>12</sup> Tradition says that King Valagam-ba or Vattagamani Abhaya (29-17 B.C.) fled for safety to this place when the Tamils occupied Anuradhapura, and when he regained his throne, he built the cave temples. In the 11th century, Dambulla was mentioned as an important shrine which was renovated by Vijaya Bahu I (1055-1110 A.D.) and there was a road from here to Polonnaruwa (Dambulla sheet).
2. Dimbulagala - (not strictly within area studied). In early times a local "raja or ruler lived here as at Periyapuliyankulam, Kandegamakanda and Mutugala.<sup>13</sup> It was a forest hermitage in pre-Christian times and later became a centre of learning. The western and north-western sides of this rock was known as "maravidiya" due to the ancient road which passed through the base of the rock.<sup>14</sup> It was known to have been used as a natural fortress before Ritigala. The monastery of Dimbulagala was founded by Mahanama (410-432 A.D.) and monks from all parts of the country are said to have gone there for meditation. (Polonnaruwa sheet).
3. Giritale - this place has been identified by Codrington as Girilaka mentioned in the *Mahavamsa*,<sup>15</sup> although Parker says that Girilaka was the present village called Giritawala,<sup>16</sup> north of Polonnaruwa. The Giritale tank was built by Aggabodhi II (604-614 A.D.) and this village became important no doubt, with the opening up of new land.

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12. Nicholas, C.W., *Professions and Occupations in the Early Sinhalese Kingdom*, J.R.A.S.C.B., Volume V, 1957.
  13. Hettiaratchy, T., *History of Kingship in Ceylon*, (Colombo, 1972), p.145.
  14. E.Z. Volume I, p.184.
  15. Codrington, H.W., *A Short History of Ceylon* (London 1947) p.20.
  16. Parker, H., *Ancient Ceylon*, (London 1909), p.239.

Monastic ruins have been found about one mile from the bund<sup>17</sup> and the Giritale Pillar inscription of the 10th century<sup>18</sup> has a reference to Pumigana, which may have been a small village near by. (Polonnaruwa sheet).

4. Habarane - has been identified by Mendis as Aggivadhamana<sup>19</sup> (or Agivadamana). The remains of a small dagoba and an inscription have been found here with a reference to the Agivadamana tank, or the Hinivadunna tank. The Yan-oya rises near this village and flows into the sea about thirty-three miles north of Trincomalee; along its course there are many ruined anicuts and dams indicating the many small tanks that existed here. (Polonnaruwa sheet)
5. Illankaturai - situated at the mouth of Manal or Paranki-arua, is said to be the site of the ancient port Lankapattanam mentioned in the *Dathavamsa*.<sup>20</sup> Many ancient Buddhist structures have been found here and in the surrounding areas.<sup>21</sup> (Trincomalee Sheet)
6. Kahagala - this was probably the city of Pana near the Kasapabbata mountain, mentioned in the *Mahavamsa*. It lay on the direct route from Anuradhapura to Mahagama. According to Mendis this city was the same as Pajjatanagara, referred to as a village in the *Mahavamsa*.<sup>22</sup> (Anuradhapura Sheet)
7. Kalaha-gala - has been identified as Kalahanagara mentioned in the *Mahavamsa*<sup>23</sup> and lying a few miles south of Minneriya. This place was also designated as a village in the *Mahavamsa*. The area around it was irrigated by the Angamedilla canal, when new areas were opened up towards the eastern parts of Rajarattha. (Polonnaruwa Sheet)
8. Kalpitiya - this place is not mentioned in the Chronicles but was an ancient settlement which gained significance with the growth of Arab trade. Was known as Arasadi, on account of the Arasu or Bo-Tree found in the vicinity. In 1926, copper coins and bronze images were found here, indicating that it was an important trading settlement. (Kalpitiya sheet)

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17. *Register of Ancient Monuments*, p.186.

18. E.Z. Volume III, p.140.

19. See *Mahavamsa Addendum*.

20. This is a Pali work dealing with the history of the Tooth-relic. It was written by Dhammakitti Thera, possibly around the early part of the 13th century A.D.

21. *Register of Ancient Monuments*, p.328.

22. See *Mahavamsa Addendum*.

23. See Geiger, W., *Culture of Ceylon in Mediaeval Times* (Wiesbaden, 1960).

9. Kandakadu - an inscription of Upatissa II (522-524 A.D.) refers to the Mahacitta-nakaraka monastery and the township that supported it.<sup>24</sup> This area too is irrigated by the Angamedilla canal and was possibly a large village among smaller ones.
10. Kavudulla - The tank said to have been built by Mahesen (275-301 A.D.). The area around it appears to have been greatly cultivated in ancient times, as is evident in the Hingurawakdamana area.<sup>25</sup> The remains of buildings and image houses have also been found in the surrounding region<sup>26</sup> which suggest that many settlements may have been located here. (Kavudulla Sheet)
11. Kudremalai<sup>27</sup> - was an early trading settlement, said to be Hipporus mentioned by Pliny. By the 8th century a colony of Muhammedans, who supplied pearls to the traders of Mannar, were settled here. Ruins of an old harbour were found here along with many other remains of archaeological interest. This small port, although it was of importance by the ninth century, has not been mentioned in the chronicles.
12. Kurundankulam - is an ancient tank, at the lower end of which the ruins of an ancient fortress was discovered. Near-by is Tannimurippu Kulam and this are between the tanks are the remains of a dagoba and buildings (on Kurunthanmalai) and that of a settlement, referred to as Kurunthan-ur (Tamil)<sup>28</sup> or Kurunagama (Sinhalese). (Mullaitivu sheet). Was possibly a significant fortress under Magha (1215-1236 A.D.).
13. Kattiyava - identified by Codrington as Kativapi.<sup>29</sup> The ruins at Maligakele ancient site located near by indicates a fairly large settlement surrounded by a moat.<sup>30</sup> About four miles along the bund is another ancient site, at Navagala, with the remains of an ancient dagoba.<sup>31</sup> (Anuradhapura Sheet)
14. Kantalai - The Gangatalava of Aggabodhi II (604-614 A.D.) and

24. E.Z. Volume V, p.73.

25. *Register of Ancient Monuments*, see pages 180-195.

26. *Ibid.*, pages 180-195.

27. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, (Colombo, 1934), Part II, p.52.

28. *Ibid*, p.25.

29. Nicholas, C.W., "Topog.: of Ancient and Medieval Ceylon," *J.R.A.S.C.B.* (1959). See under Anuradhapura district).

30. *Register of Ancient Monuments*, p.90.

31. *Register of Ancient Monuments*, p.102.

possibly the site of the earlier Catuveda Brahmapura, a Brahmin settlement. This place gained importance mainly in the 11th and 12th centuries with the large influx of Tamils, however, it was of significance even before this. The area appears to have been irrigated by this tank and the Vendarasankulam and the cultivated land appears to have stretched up to the coast. According to tradition, all this cultivated land was swallowed up by the present Tambalagam bay. As the Gal-asana inscription<sup>32</sup> of Nissanka Malla (1187-1196 A.D.) indicates, this place must have been of importance to be visited by royalty. (Horowupotana Sheet)

15. Labugama - has been identified as the ancient Labukamaka,<sup>33</sup> mentioned in the *Mahavamsa*. It lies on the route from Anuradhapura to Ritigala and it is said to be the place where Pandukabhaya fought a battle. Many small tanks are found near by, while to the north-east are the Katupuliyamkulam ruins, possibly an ancient monastery. This place must have been of significance as it has survived to the present day. (Anuradhapura Sheet).
16. Madirigiriya - a religious centre, the earliest mention of which is in the time of Kanitta Tissa (164-192 A.D.). In the ninth and tenth centuries it was a flourishing religious centre to which Sena I (831-851 A.D.) dedicated many villages. It was an important place of pilgrimage and was visited by Nissanka Malla (1187-1196 A.D.) along with Kelaniya, Dambulla and Devinuwara. (Kaudulla Sheet).<sup>34</sup>
17. Mahagantota - Known in early times as Kachchakatittha ford. There were many fords on the Mahaweli, but this place was on the direct route from Anuradhapura to Mahagama, at the junction of the Mahaweli ganga and its tributary the Amban ganga. (Polonnaruwa Sheet)
18. Maradankadavala - is said to be Kaithantanagara mentioned in the *Mahavamsa* and appears to have been an important place. Many small tanks, such as the Maminiya or Mahamani mentioned in the *Mahavamsa*,<sup>35</sup> are found near by. (Anuradhapura Sheet).
19. Mahakanadarawa - Kanadaravava identified as Khanuvapi.<sup>36</sup> Near

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32. E.Z. Volume II, p.283.

33. See *History of Ceylon* (University of Ceylon Press Board, 1960), p.108.

34. E.Z. Volume II, p.165.

35. *Mahavamsa* Addendum.

36. See NT, under Anuradhapura District.



by is an ancient site with the remains of many buildings and also the remains of a stone bridge across the Kanadara-oya, which is 10 feet broad and 5 1/2 feet above the river.<sup>37</sup> A ruined dagoba and caves were also found on a rocky outcrop known as Tammenagala, near by. (Medawachchiya Sheet).

20. Nihintale - can be classed as a religious settlement, although a petty ruler lived here in ancient times.<sup>38</sup> It owes its importance to Mahinda Thera, and the relics that are enshrined in the dagobas here. Many dagobas and religious buildings built by successive kings, are located here: the Mahasaya built on the summit by Mahadathika Mahanaga (7-12 A.D.), the Mihindusaya built earlier by Uttiya (207-119 B.C.). There was also an assembly hall and an ancient monastery. Apart from these there was the Sela ceitya and the Kanthakaceitya, and a hospital.<sup>39</sup> Other monasteries were also situated close by, Rajagirilena, which was a monastery for recluses established in the 3rd century, but by the 9th century, had become an abode for Mahayana monks; Kaludiya Pokuna, possibly a monastery of the 9th or 10th centuries and Indikatusaya, at the foot of Mihintale hill. The proximity of Mihintale to Anuradhapura does not appear to have lessened its religious significance, and it was a popular place of pilgrimage along with Anuradhapura. (Anuradhapura Sheet)
21. Minneriya - this settlement was established by Mahesen at the same time when the tank was built, and became significant with the construction of many tanks in the area and the opening up of new land. (Polonnaruwa Sheet)
22. Mullikulam - the Pokkavani ruins situated beside a tank indicates its existence. Nicholas has described it as a "buried city",<sup>40</sup> but it was possibly a large village. (Mantai Sheet)
23. Mullaitivu - a costal settlement like many others along the east coast, but was a stopping point on the route from Jaffna along the coast to Batticaloa, as coins have been found in the locality. (Mullaitivu Sheet)
24. Nalanda - the area around Nalanda and Elahera was considered to

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37. R.M., p.116 and p.124.

38. Hettiaratchy, T. *History of Kingship in Ceylon* (Colombo, 1972), p.145.

39. R.M., p.72.

40. See under Mannar district, NT.

be an important agricultural area. Settlements in the region existed from early times but gained significance only after the reign of Parakrama Bahu I (1153-1186 A.D.). However only a few settlements have been identified such as Kalalahallika, the present Madahapola and Talakatthali or Talagoda. (Nalanda Sheet).<sup>41</sup>

25. Panikkankulam - the extent of the tank and the ruins discovered around it, suggest a place of some importance. Brohier suggests that this was the place known as Sakkuragala in the 8th and 9th centuries.<sup>42</sup> (Kala-oya Sheet)
26. Pavatkulam - the area around this ancient tank appears to have been cultivated for many miles on either side of the Kal-arū.<sup>43</sup> Remains of an ancient road have been found just below the bund, which Parker suggests was part of the high road from Anuradhapura to Jaffna.<sup>44</sup>
27. Rambawe - in an inscription found here there is a reference to the village Vangurupiti<sup>45</sup> in the sub-district of Kalaru-bim. Appears to have been on the main route from Anuradhapura to Jaffna. (Menawachchiya Sheet)
28. Ritigala - was possibly a place of refuge for members of the Royal family. The name Arita - pabbata means "safety rock" and around the 3rd century B.C. there was a village, Arita-gama.<sup>46</sup> The Makulaka Vihare at the foot of the hill was built in the 2nd century B.C. and in the 9th century Sena I built a monastery for the Pamsukulika monks.<sup>47</sup> At the foot of the hill, are found the remains of a road and many small tanks. By the 10th century, it was a significant religious settlement. (Anuradhapura Sheet).
29. Seruwila - in the 2nd century B.C. the region around this place was known as the Kingdom of Seru and its ruler lived here. By the 10th century it was an important place of pilgrimage as the Frontal Bone Relic of the Buddha was enshrined in a dagoba here. (Trincomalee Sheet)

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41. c/f. See "Villages mentioned in the Sources.

42. A.I.W., Part II, p.46.

43. Ibid., Part II, 23.

44. Ibid., Part II, p.19.

45. E.Z. Volume II, p.61.

46. E.Z., Volume I, p.135.

47. A group of monks who broke away from the Abhayuttara vihare in the reign of Sena II. See *Culavamsa*, Chapter 51-52.

30. Sigiriya - the city was built in the 5th century A.D. as a fortress by Kassapa I (478-496 A.D.). The tank and the town below it may have been built at a later date. This place ceased to be of political importance after Silakala (524-537 A.D.) disbanded the soldiers stationed here and it was not mentioned in the chronicles after the 7th century. However, the Viyulpota Pillar inscription<sup>48</sup> shows that it was important enough in the 9th century, to give its name to the district, and it became a place of historical interest visited by people from all parts of the country. It must have also been a place of religious significance as there are many monastic ruins near by:- Kaludiya Pokuna or the remains of the Dakkinagiri vihare, Piduragala to the north and Ramakale or the Maha Naga Pabbata vihare, where monks resided up to about the 10th century. (Polonnaruwa Sheet)
31. Tantrimalai - was an important religious centre up to the 13th century. Many caves with early drawings and etchings have been found near by at Billavagala and Andyagala. (Marichchakaddi sheet)
32. Tiriya - the Girikanda ceitya located here said to have been founded by two sea-faring merchants and the Hair Relic is enshrined here. On the hill is a *Vatadage*<sup>49</sup> and at the bottom monastic ruins have been discovered. It was an important religious centre and a place of pilgrimage. The remains of a stone bridge have also been found here indicating that a high road passed along the coast. Near by is the Nitupatpana tank and the village Vattakalaka.<sup>50</sup> (Kokkilai Sheet)
33. Uruvela - an ancient site at the mouth of the Kala-oya was possibly this place, founded at the same time as Upatissagama and Anuradhapura. However, like Upatissagama, Uruvela seems to have lost importance after the 1st century. A.D. as it has not been mentioned in the chronicles. The *Mahavamsa* mentions that King Subha (120-126 A.D.) built the Vali vehera near Uruvela, and a high road ran from here to Anuradhapura. (Kalpitiya Sheet)
34. Vavunikkulam - identified as Pelivapigama.<sup>51</sup> The ruins beside the tank indicate a fairly large settlement.<sup>52</sup> (Puliyankulam Sheet)

48. E.Z. Volume IV, p.176.

49. R.M., p.327. A vatadage is a structure with pillars encircling a dagoba.

50. See N.T. under Trincomalee district.

51. A.I.W., Part II, p.22.

52. R.M., p.211.

## TOWNS

1. *Elahera* - This place is situated on the bank of the Amban ganga. The ancient town had been encircled by a moat<sup>53</sup> (the site known as *Maligatenne*) and was perhaps a stronghold. The city was built in the time of Mahasen and appears to have been an administrative centre, the chief centre of the Alisara district. The surrounding region was a significant agricultural area with many small tanks. Besides, the Elahera canal diverted the waters of the Amban ganga and carried it as far as Tambalangam Bay, filling many tanks, such as the Minneriya, Kaudulla and Kantalai tanks. This town gained additional importance during and after the reign of Parakrama Bahu I (1153-1186 A.D.). (Elahera Sheet)
  
2. *Kalawewa* - this town is situated on the bund of the Kalawewa tank, which was built by Dhatusena (460-478 A.D.) by damming the Gona river. This tank supplies water to many subsidiary tanks and to the ones around the city of Anuradhapura. It was the centre of a flourishing agricultural area and was of economic, strategic and political importance, "...the key to the whole upper country..."<sup>54</sup>. Many places of religious significance are located near at hand, the Vijitapura Vihare (or the Kalavapi Vihare) which was built by Dhatusena, Aukana, with its colossal Buddha statue measuring 38' 10" and further away, Sesseruwa, with many caves and a large standing Buddha statue. (Dambulla Sheet)
  
3. *Padaviya* - the ruins besides the bund of the Padaviya tank, known as Moragoda ancient site, has been identified as the ancient Padi-nagara<sup>55</sup> the capital of Padirattha. This region appears to have been an important agricultural region. The two main rivers, the Yan-oya and the Ma-oya have many abandoned dams, anicuts, bunds and small tanks along their courses, indicating that in early times the cultivated land stretched up to the coast. The Padaviya and Mahalkada systems appear to have irrigated a large acreage of land and this area must have been very prosperous in early times. Within the ancient site are the remains of many dagobas and structures encircled by a moat.<sup>56</sup> Thus it can be gathered that Padi-nagara was not only an agricultural centre but a fortress too. Several inscriptions of the period after the tenth century have also been discovered here

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53. *Register of Ancient Monuments*, p.165.

54. *Ancient Irrigation Works in Ceylon*, Part II, p.4.

55. *Register of Ancient Monuments*, p.88.

56. *Register of Ancient Monuments*, p.88.

indicating that this town must have gained importance after the influx of Tamil settlers. (Padaviya Sheet)

4. *Polonnaruwa/Vijitapura* - Vijitapura is said to have been founded by Vijita, a brother of Pandukabhaya's queen, and was then made the capital of a subordinate principality. It has been described as a fortress in the time of Dutugemunu. At first it was referred to as Vijitagama in the *Mahavamsa*, but later it is designated a "pura" (town) having three trenches and protected by a high wall.<sup>57</sup> At this period, there were many outposts along the Mahaweli in order to guard Rajarattha (under Elara) against invasion or attacks from Rohana, however, Vijitapura was one of the strongholds along with Mahelanagara (not identified).

Vijitapura is said to be the later Polonnaruwa, or at least a suburb of it. Polonnaruwa was also known as Pulattinagara and was first mentioned in the 7th century A.D. This town was made the capital by Vijayabahu I (1059-1114 A.D.) after he conquered the Colas and restored the Sinhalese kingdom. However, before this time it was a fortress and an administrative centre, at which kings resided from time to time, when Anuradhapura was attacked from outside. Aggabohi IV (658-674 A.D.)<sup>58</sup> resided in this town while Aggabodhi VII (766-772 A.D.)<sup>59</sup> lived and died here.

Polonnaruwa had a strategic location - to safeguard Rajarattha from Rohana, and at the same time, to defend it from foreign attacks. It was probably an important trading centre, as Chinese coins of the 10th century have been found within the citadel. The town was also important in the 9th and 10th centuries as can be noted from the many inscriptions found here. It was a religious centre as well, for the ruins of many buildings of religious significance have been found here, the oldest being the Siva Devale of the 10th century.<sup>60</sup>

Polonnaruwa was not one of the early settlements, but grew as a stronghold and gained significance due to the opening up of new land with the development of irrigation. The Topawewa, which was later included within the Parakrama Samudra, built by Upatissa II (522-524 A.D.) and other tanks in the region such as Giritale and Minneriya. This town, however, became important after the 11th

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57. *Mahavamsa*, XXV, verse 28. Geiger's translation, p.172.  
 58. *Culavamsa*, 46.34, Geiger's translation, Vol.I, p.101.  
 59. *Ibid.*, 48.74. Geiger's translation, p.117.  
 60. *Register of Ancient Monuments*, p.14.

century, when it was established as the capital. (Polonnaruwa Sheet)

5. *Mantai and Mannar* - Mannar could be considered a part of Mantai or a suburb of this port. Mantai was a significant port even before the Indo-Aryan settlement<sup>61</sup> and continued to be so until ports further south, such as Colombo and Galle were developed. During the Anuradhapura period Mannar was a well-known centre of inland trade, where, by the 10th century a colony of Arabs had settled down. Mantai was significant not only as a trading centre, but because it was also the point from where settlers and invaders disembarked. Mantai was also a provincial centre as the Mannar Kachcheri Pillar inscription<sup>62</sup> indicates; for it refers to the *Mahaputu laddan* who was in charge of the place. The *Rasavahini* also refers to Siva who was appointed governor of this city.<sup>63</sup> The town appears to have been fortified, as there are the remains of two ramparts and two moats, a common feature of ancient fortified towns. At the same time it was also a place of religious importance, for Tiruketeswaram is located near by while there appears to have been two ancient vihares located in the vicinity of the town.<sup>64</sup> The hinterland of Mantai in early times can be described as flourishing. It appears to have been a rich agricultural region, as can be seen by the numerous irrigation works, while the coasts adjoining the port were well-known for pearls and chank fisheries. (Mannar and Mantai Sheets)
6. *Jambukola (Jaffna)* - this port is not strictly within the area of study, but as a significant port in Uttaradesa, the northern district of Rajarattha, it is important in the study of spatial interaction in the northern dry zone lowlands. Codrington has identified Jambukola as Sembiliturai,<sup>65</sup> near Kankesanturai, but it is most probably Jaffna, as in early times the hub of trade and commercial activity was centred around the Jaffna lagoon, with many small trading settlements such as Kalmunai and Kadiramalai. From very early times this port had trade connections with the ports in the Bengal region. It was from this place that the envoys of Devanampiya Tissa set out to the court of King Asoka at Pataliputra<sup>66</sup> and it was to this port that the sapling of the Bodhi Tree was brought by *Theri Sangamitta*.<sup>67</sup> Of

61. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, (Colombo, 1934), Part II, p.28.

62. E.Z. Volume III, p.100.

63. See Ellawala, *Social History of Early Ceylon*, (Ceylon, 1969) p.117.

64. Mannar Kachcheri Pillar Inscription, E.Z., Volume III, p.100.

65. Codrington, H.W., *A Short History of Ceylon*, (London 1947), p.14.

66. The capital of the Maghadan Empire. Also see *Mahavamsa* Chapter XI, verse 23.

67. *Mahavamsa*, XIX, verse 22-40, p.130, Geiger's translation.

the eight places where Bodhi Saplings were planted, Jaffna was one.<sup>68</sup> The area surrounding this port indicate that many Buddhist monasteries and *dagobas* existed in early times as for example, the Jambukola Vihare.

By the 10th century, A.D., Jaffna was one of the important ports in the island. It was the centre of the northern district and linked to Anuradhapura by a major road. A sea route also existed along the east coast as far as Batticaloa<sup>69</sup> and possibly there was such a route along the west coast.

7. *Trincomalee (Gokanna)* - This port is said to have one of the best and safest harbours in the world. It is first mentioned in the chronicles with reference to Panduvasudeva's (444-414 B.C.) queen who is said to have landed at Gonagama with her followers.<sup>70</sup> Gonagama is assumed to be Gokanna or according to Simon Cassie Chitty, Kottiyar.<sup>71</sup> By the 10th century A.D. it had become an important port with a rich hinterland, as is indicated by the many ancient tanks and irrigation works in the area. It had a predominantly Hindu population in early times, and Mahasena (334-362 A.D.) is stated to have destroyed many Hindu shrines and built Buddhist monasteries in their place.<sup>72</sup> The Hindu shrine at Koneswaram located near by drew many pilgrims to it, as did the *dagoba* at Seruwila. (Trincomalee Sheet)

## THE CITY OF ANURADHAPURA

Anuradhapura was the third capital of Ceylon, after Tambapanni and Upatissagama. It was founded by King Pandukabhaya around 438 B.C. near the earlier site of Anuradhagama, a settlement established by Anuradha, a follower of Vijaya. Ptolemy refers to this city as Anurogrammum<sup>73</sup> in his *Geographia* (2nd A.D.). According to the *Mahavamsa*,<sup>74</sup> this city appears to have been a well-planned one, as it is said that Pandukabhaya laid out cemeteries and employed persons of the Candala caste to keep it clean. Besides, sections of the city were allocated to the various caste groups, and there is a reference to the Yonas who occupied one such section.

68. *Mahavamsa*, Chapter XIX, verse 60, Geiger, p.133.

69. c/f. Section on "The Spatial System".

70. *Mahavamsa*, Chap. VIII, 25. p.64 of Geiger's translation.

71. See Cassie Chitty, S. *Ceylon Gazetteer*, (Ceylon, 1834).

72. *Mahavamsa*, XXXVII, 40 Geiger's translation, p.270.

73. c/f. Section on "Sources".

74. *Mahavamsa*, Chapter X verse 8-92. Geiger's translation p.74.

The old city is said to have covered about sixteen square miles and the early fortifications can still be traced to a certain extent. The city had paved streets, the main highway being the Mangulmaha-veya, which ran through the north and south gates of the city. There were four main gates, and market settlements are known to have existed outside two of these gates. Besides these, there were many suburbs, such as Dravamandala, in the vicinity.

Many *dagobas* and monasteries are located within the city limits. These were built by a succession of kings after the coming of Buddhism in the reign of Devanampiya Tissa (247-208 B.C.). Of the important ones, Devanampiya Tissa built the Thuparama Dagoba to house the Collar-bone Relic, Dutugemunu built the Ruvanweli Saya or the Maha Stupa and the Mirisaweti, while Vattagamani Abhaya established the Abayagiri Vihare. Later, Mahesen established the Jetavana Vihare.

Three tanks provided water for the use of the city population and for irrigating fields outside the city. They were the Basawakkulam, the ancient Abayawewa of Pandukabhaya, the Tissawewa of Devanampiya Tissa, which was also an earlier tank built by Pandukabhaya and later enlarged, and the Nuwarawewa built by Vattagamani Abhaya in the 1st century B.C. As the city population increased, the tanks were supplemented with water from the Kalawewa and Nachchaduwa tanks brought to them by means of canals.

By the tenth century A.D. Anuradhapura was the chief and only city in the northern dry zone lowlands and was the centre of political, social, religious and economic life of the kingdom. The King and nobles resided here, the main monasteries and places of worship were situated here along with many hospitals and alms-halls, and apart from the ports, it was the main centre of trade. When the capital was shifted to Polonnaruwa in the eleventh century A.D., Anuradhapura continued to be the religious capital. In the twelfth century A.D. Parakrama Bahu I (1153-1186 A.D.) partly restored this city and it continued to flourish, though to a lesser extent than before, until the northern dry zone lowland region was abandoned in the 13th century.

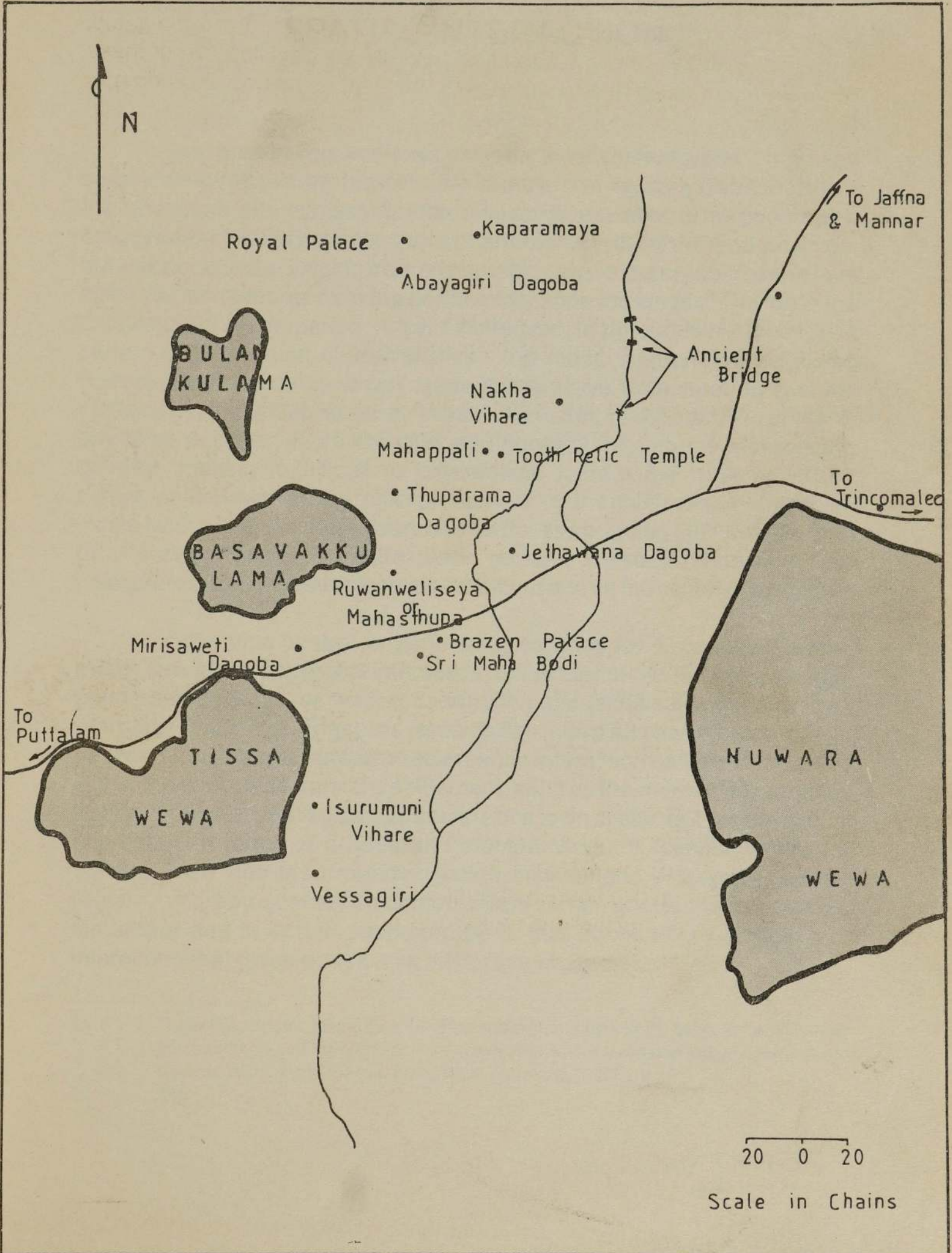




# ANURADAPURA

## ILLUSTRATION - IV

THE HIGHEST ORDER CENTRAL PLACE



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## SPATIAL INTERACTION

Any area or region shows a variety in settlement types. Large and small towns, villages and hamlets, are found to be irregularly distributed over the landscape, sometimes with little or no positive relation to the geographic environment. This is however, not a phenomenon only of the modern times, but was noticeable (judging from archaeological and literary sources) in past historical landscapes, as in the northern dry zone lowlands of Ceylon in the Late Anuradhapura period. A town in the past, in pre-industrial times, had certain distinguishing characteristics - the moat, surrounding walls and ecclesiastical buildings which made it distinctive from rural agricultural settlements and established its "urban" character. In contrast, the present-day town is larger, more complex and spreads out into the surrounding country, making it difficult to differentiate it from the rural or village settlements. However, the "chief profession"<sup>1</sup> or the chief reason why a town exists, which is to discharge services for the surrounding settlements, or to be a "service centre" or "central place" remains the same. Otherwise, "the chief profession - or characteristics - of a town is to be the center of a region".<sup>2</sup>

A "service centre" in performing services for surrounding settlements sets in motion spatial interaction, or the flow or movement of people, goods and services, as well as information and technical know-how from one place to another. These movements can take place between countries, between regions and between settlements. Interaction can also take place within the various sectors of a settlement, such as the mercantile, administrative, industrial and residential sectors of a town or city. But it is the spatial interaction in terms of a node and tributary area, or "service centre" or "central place" and its surrounding region, or hinterland, or "complementary region", whereby a central settlement offers certain goods or services to its hinterland and is in turn supported by it, that brings about a pattern of interaction that gives a region its distinctive character.

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1. Robert Gradmann states that "the chief profession" of a town is, "to be center of its rural surroundings and mediator of local commerce with the outside world". See Baskin, Carlisle W., *Central Places in Southern Germany*, (1966), p.16.
  2. Ibid.

Spatial interaction is mainly the result, of areal differentiation. No two areas of the earth's surface are geographically the same - they differ in their physical features of landforms, climate, soils and natural vegetation; and they differ also in the way man responds to his environment depending on his cultural advancement. With the advance in technology and the development of transport and communications, it was noticeable that some regions had more advantages than others for certain economic activities, so that regional specialization was the result.

Areas like the great plains of North America were suited to wheat cultivation and with the development of shipping this region began to supply the markets not only within America but of Europe too. In the same way, areas that are rich in mineral resources, such as the oil-rich States of the Middle East, provide this commodity to less fortunate areas.

Although areal differentiation plays a significant role, other factors too are necessary for spatial interaction. These factors, according to Edward Ullman, are: complementarity, the absence of intervening opportunity and the question of transferability.<sup>3</sup>

Complementarity is an important basis for spatial interaction and results largely from the significant factor of areal differentiation. For, the surplus produced in one region must have a demand in another region, or the supply in one region and the demand in another must be complementary, otherwise interaction will not take place. The surplus rice from Burma and China find a market in countries like Ceylon, and thus movement of this commodity takes place from one country to another. Similarly, green, leafy vegetables grown in the outskirts of Colombo find a ready market within the city. Thereby interaction takes place between the city centre and its environs.

Moreover, even though complementarity between places exists, interaction will not take place if there are intervening opportunities, or closer and better opportunities that lessen the significance of those further away. Intervening opportunities "are spatial sponges soaking up interaction between complementary places".<sup>4</sup> For instance, Florida is closer to New York than California, so that people from New York will, on the whole, prefer to take a holiday in Florida rather than go further away to California.

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3. Ullman, Edward, "A Theory for the Location of Cities", in *Readings in Urban Geography*.

4. Ullman, Edward, "A Theory for the Location of Cities", in *Readings in Urban Geography*.

The third factor of transferability "the degree to which a good or service may be transported,"<sup>5</sup> is measured in terms of time and money costs or the "economic distance". If the time and money cost of transferring goods is too high, the movement will not take place, in spite of the complementarity between two places and the lack of intervening opportunities. In some cases people may do without those goods and services, or they may try to find a substitute. Transferability differs from place to place and with types and classes of movement. It also changes through time with the advance in technical knowhow. In Ceylon, the coming of railways opened up most of the hill country and it was possible to transport, coffee and later tea, economically to the coast in order to be shipped to England.

These factors therefore are necessary for spatial interaction to take place not only between different regions, but also between the various settlements within a region. The earliest form of spatial interaction in a region takes place with the movement of people into the region, similar to the immigration of the Indo-Aryans into the northern dry zone lowlands, where the settlers arrived, occupied the land, established their settlements at suitable points and practised agriculture.

Early settlements were thus agricultural communities having close ties with the land. They were established in order to accommodate certain services, such as protection from enemies and wild animals, and the practice of settled agriculture. They were generally self-sufficient and provided everything that was needed, and were thus spatially restricted societies,<sup>6</sup> where interaction was restricted to the village centre and the near-by fields, and perhaps to a few other similar settlements. Spatial interaction was local and limited and the settlements were spatially isolated owing to the lack of good roads and the primitive methods of transport.

Later, the growth of population and the resultant spread of settlements and the increase in their size made more protection and control necessary. Simultaneously the advance in culture resulted in a certain degree of specialization in agriculture and the growth of a few simple industries, weaving and the making of pottery, enabling the settlements to produce a small surplus. As a result, some of the easily accessible settlements established themselves as "central places" for the purpose of barter (or trade) and later other services, like administration, were also carried on from such places. It was necessary to provide a "central place" for such services because of convenience and for economic efficiency. At this stage, when methods of transport were primitive, these small central

5. Morrill, *The Spatial Organization of Society* (1970), p.244.

6. Morrill, Richard L., *The Spatial Organization of Society*, (1970), p.23.

places were at a distance that could be reached within a day, and the landscape at such a time would have presented a closely spaced distribution of villages, as may be noted in the dry zone lowlands of Ceylon in the early period.

The further growth in population and the improvement in roads and transport facilities led to the development of some of the favourably located villages into towns or urban settlements. Mitchell, with regard to the growth of towns in a region, states, "A town in the geographical sense serves in some capacity - defence, administration, production or trade - a wider area than the village; it is the centre of many villages and in return for the services it renders it, to a great extent depends directly or indirectly on the countryside for food".<sup>7</sup>

Today, however, towns are no longer dependent on the countryside for food, and according to A.E. Smailes, "It is at points of concentration of central services within the texture of settlements that we may recognize developed urban functions and the essential character of modern towns".<sup>8</sup> In short, most of the political, social and economic activities are concentrated in towns which provide a variety of services for the surrounding settlements. This is true not only of modern towns but also for those towns of the preindustrial era.

### Central Place Theory

The spacing of settlements and the location of "central places" within a region, though at first sight appears to be irregular, suggests some underlying order. Walter Christaller posed the question as to whether there were any general principles governing the number, size and distribution of towns in an area. His "Central Place" theory which appeared in 1933, is, "the theory of the location, size, nature and spacing of these clusters of activity...".<sup>9</sup> The idea of the existence of such centres, although not specifically stated, is found in the earlier work of Heinrich von Thunen, in the concept of Functional Concentricity, where a large town was seen to be at the centre of a fertile region to supply the needs of an agricultural plain, with the agricultural activities distributed in concentric circles around this centre.<sup>10</sup>

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7. Mitchell, J.B., *Historical Geography*, (London, 1963), p.125.
  8. Smailes, A.E. *The Geography of Towns*, (London, 1960), p.35.
  9. Berry, B.J.L., "The Geography of Market Centres", p.3.
  10. Baskin, Carlisle, W., *Central Places in Southern Germany*, (1966), p.17.

Christaller visualized towns as “central places” performing varied functions for their complementary regions. Towns, were not the only “central places”; other smaller settlements or villages, could also discharge services for their hinterlands and become “centres” or regions. In order to avoid confusion and for “precision of expression” such settlements were termed “central places” rather than “central towns” or “central settlements”<sup>11</sup> for the term refers only to one important character of the settlement, that of having one or more central functions.

Christaller also recognized that the “size” and the “importance” of a place were not synonymous. The size of a place is determined by the space it occupies and by the number of people settled within it, but the importance of a place, “is rather the combined economic efforts of the inhabitants”.<sup>12</sup> “Importance” is what is meant when a place is described as “flourishing”. However, the size of a place does have some effect on its importance, for a place large in extent, often has a wider variety of services. “Central Places” show a surplus of “importance” and are able to provide for surrounding settlements that show a deficit of “importance”.

Ideally, Christaller envisaged space as being organized into nested hierarchical regions each with its own centre. Therefore, the centres themselves belonged to a hierarchical system with high and low order and in-between settlements. The higher order central places performed higher order services and provided for a larger area, while the lower order central places served a more limited area with every-day needs. The position of a central place in the hierarchy was determined by the number and the type of services provided by them. The more specialized services were located in the higher order places, wherein were available almost all the services found in the lower order places.

In order to gain an idea of the settlement hierarchy and the services provided at each level, Richard. Morrill's commonly recognized levels of settlement and the services they generally provide, proves useful:-

1. *Hamlet* - containing up to 500 people and provides everyday services such as a grocery store and perhaps a tavern.
2. *Village* - containing about 500-2000 people and serving a larger area and offering a greater variety of service such as a school, a religious centre and many shops.
3. *Town* - the population ranges from about 2,500-20,000 and serves a still larger area. This is the social and economic centre for the

11. Ibid., p.18.

12. See Christaller, W., *Central Places in South Germany*, Translated by W. Baskin (1966), p.19.

surrounding villages, as well as a place of entertainment. It will have a hospital, large school etc.

4. *Small City* - from 20,000 - 200,000 people. It is the capital and the centre of distribution and communication. There may be a College, various specialists and a number of specialized services e.g. sports goods store etc. Cities are well served by good roads, railways and air routes.
5. *Large City* - has a population of up to 500,000. It is a regional centre, a state or provincial capital, and almost all the necessary services are located here.
6. *Metropolis* - with near or over a million people. It dominates a large area and is the controlling centre of a modern economy.

These levels of settlement, however, are not found, nor is this hierarchy generally applicable to all regions. The numbers will differ from country to country and some of the settlement - types may not be found. But, it gives a general view of the type of services provided at settlements in each level of a hierarchy. The last four lower order settlements, namely the hamlet, village, town and city, are found in most developing agricultural countries, and were the only settlement types in most countries prior to the Industrial Revolution.

Below the lowest order "central place" there were the "dispersed"<sup>13</sup> places, which do not have any "central" functions. These places may be of three types; point-bound settlements, such as mining settlements or health resorts; areally bound settlements as at bridges, fords and customs-places, and settlements that were neither point, nor area bound as for example, monastic settlements. In early Ceylon the very small villages which did not have any central services may be classed as 'dispersed'.

Apart from these, Christaller also noted that there were the auxiliary central places<sup>14</sup> which are neither "dispersed" or "central" places. They may have been "central places" at an earlier period, but had lost importance due perhaps to technological improvements and the resultant changes. They can also become "central places" owing to certain causes such as the establishment of a monastic settlement near by, or owing to the development of mining, or border changes. Auxiliary places may also be permanent, as in isolated mountain valleys where settlements cannot expand their hinterland and there lie no hope of development.

13. Baskin, Carlisle, W., *Central Places in Southern Germany*, (U.S.A., 1966), p.16.

14. Baskin, Carlisle W., *Central Places in Southern Germany*, (U.S.A., 1966), p.17.



In the modern context, goods and services are offered at a central place as it has proved to be more economical and more efficient. Such places range from the small village providing for local needs, to the large metropolis. The hinterland or "sphere of influence" of a central place varies with each good or service. The "range of the good", which refers to the greatest distance people will travel in order to obtain a good offered at a central place, varies with each central place. It is liable to fluctuations and is not the same in all directions. The "range of a good" is determined by the "economic distance", by the number of people in the complementary region and the distance to other central places. However, the size of the complementary region is constant, and there is a mutual dependence between the central place and its hinterland.

Services can be discharged and knowledge can be disseminated in two ways:- the consumer can come to a central place to obtain them, or the services can be carried to the consumer. In either case transport plays an important role in the formation of spatial systems.<sup>15</sup> In early times when there were few towns and numerous self-sufficient agricultural communities, and when communications were difficult, services were carried to the settlements by way of pedlars, travelling priests, itinerant entertainers and government officials. In certain regions when population increased and the demand grew, periodic markets were set up. If the demand is insufficient it is uneconomical to have permanent markets, but periodic markets held regularly once a week or once a month at different settlements helps to overcome this factor, J.H. Stine<sup>16</sup> attempts to explain why there are periodic markets, and demonstrates that when the minimum demand necessary to keep the supplier in business exceeds the maximum range of the good, the trader must be itinerant or go out of business. Periodic markets helped the travelling trader, as he could visit different markets on different days and thus remain in business. With the further increase in population and an increased demand, permanent markets can be established in these regions.

Settlements are the points from which spatial interaction occurs, while the means by which interaction takes place is by the flow or movement of people, goods and ideas. These movements, though they appear to be unrestricted, follow certain lines - roads, railways, pipe-lines and telegraph wires. Interaction therefore brings about movement networks or "spatial structures" which in turn influenced further interaction.

15. c/f. See "The Spatial System".

16. Stine, J.H., *Temporal Aspects of Tertiary Production Elements in Korea*. (1962). See Bromley, R.J. "The Spatial Pattern and Temporal Synchronization of Periodic Markets". *Swansea Geographer*, Volume II, 1973, p.15-25.

Paths, tracks, roads, canals and navigable rivers and railways are therefore significant features in the landscape influencing the pattern of settlement and the location of central places, for they are related to these lines of communication. Transport networks influence the size and importance of central places and that of complementary regions by determining the range of goods and services. In modern times, however, it is more the "economic" distance, rather than the actual distance that matters.

### Location of Central Places

Central places vary in size and generally there are more central places of the lower order than those of a higher order, while in some regions as in the under-developed lands, there are very few towns. In order to explain this "apparently arbitrary distribution, to the apparently accidental number, and to the apparently individually conditioned sizes of the places."<sup>17</sup> Christaller formulated what was termed "laws of distribution of central places" or "the laws of settlement".<sup>18</sup> Accordingly, three principles or laws, namely, the marketing, the traffic and the administration (separation) principles determine the distribution, size and number of central places in a region.

The location of central places according to the marketing<sup>19</sup> principle envisages the central places in the hierarchy spatially arranged in a series of nested hexagonal hinterlands. His theory assumes an isotropic surface, where the physical setting and the available opportunities are uniform. In such a situation, and going back to the period of early occupation villages will be placed in a regular pattern. At first, hamlets will be more or less self-sufficient but they will become less so with the advance in culture and technology, and specialization will occur. Thus some favourably situated villages will begin to supply goods to other settlements or will share the trade of six surrounding villages, and the trading area will be hexagonal in shape. A circular trading area is the most efficient in terms of accessibility to a centre, but circles will not "pack" and some settlements will not be included. A hexagon comes closest to retaining the properties of a circle, and will include all the settlements within the market area. (Fig.1)

With more specialization some places will become larger and less self-supporting. They will specialize still further and introduce higher order services and draw on a larger hinterland. The number of settlements served by a "central place" of the next order, Christaller has termed the "K" value,

17. Baskin, Carlisle, W., *Central Places in Southern Germany*, (1966), p.58.

18. *Ibid.*, p.190.

19. "Market" refers here to a location where goods and services are demanded and exchanged.



SYSTEM OF CENTRAL PLACES

FIG. 1. The Marketing Regions in a System of Central Places

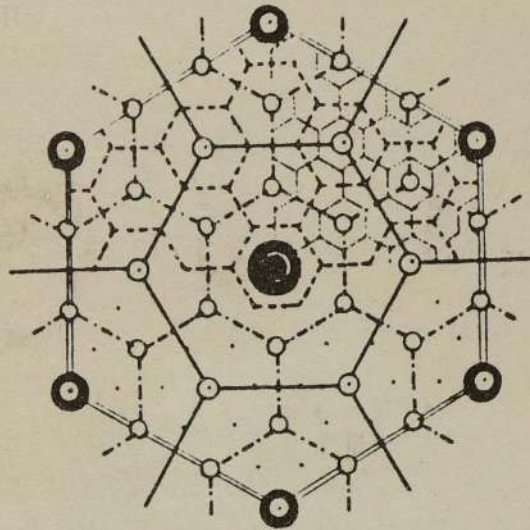
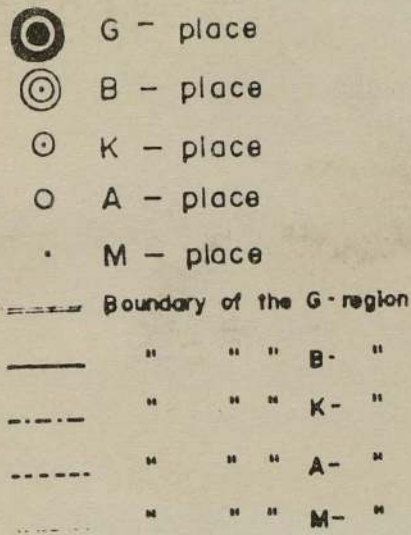


FIG. 2. A System of Central Places Developed According to the Traffic Principle

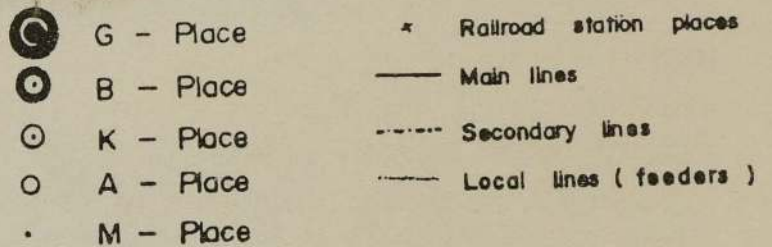
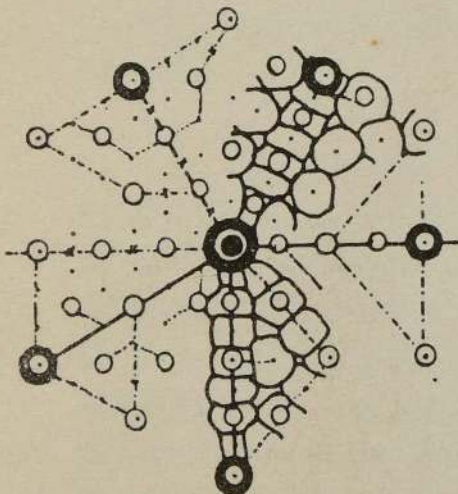
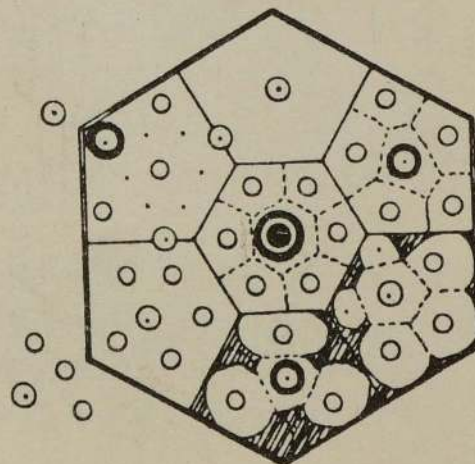
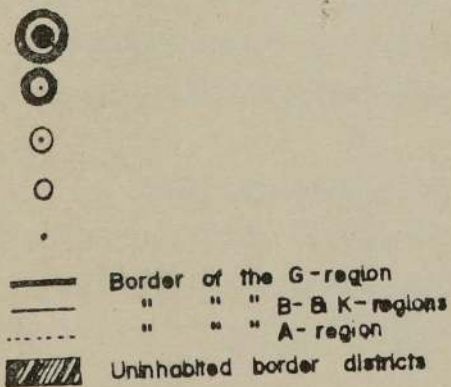


FIG. 3. A System of Central Places According to the Separation Principle



( From CHRISTALLER )

and in this case the "K" value will be 3;<sup>20</sup> and such a system would develop where the supply of goods from the centre is near the dependent settlements. This situation therefore maximises the number of central places in a hypothetical landscape.

Christaller also suggested that one the "K" value has been developed in one area, it would apply to all levels in the hierarchy and therefore termed it the "fixed "K" value". If the hexagonal network is rotated through 90 degrees, the settlements at the borders of the hexagon will be shared only by two central places and thus the "K" value will be 4. Such a network would develop where the cost of transport is of importance, or where the traffic principle operates.<sup>21</sup> (Fig.2)

This principle is said to operate in areas where the traffic routes are of outstanding importance, if natural conditions permitted it, and if, when the central places were established, transport had played a significant role in the economic and social life of the region.

Christaller's administration principle<sup>22</sup> is based on the assumption that the region is organized into single administrative districts, where there are complete districts with a central place in the centre and the settlements are not shared by other central places. (Fig.3) This pattern is seen to develop in politically insecure regions, around the main administrative centre with the less important settlements arranged around it, while at the boundaries are the inhospitable areas.

The marketing and traffic principles are based on economic factors, while the administration (separation) principle is based on socio-political factors and must be traced with reference to the historical context. This pattern is also less widespread than those patterns determined by the marketing and traffic principles.

### Limitations of the Theory

Christaller's "Central Place" Theory, though one of the first of its kind, and proved to be a great step forward in the study of settlement geography, nevertheless has its limitations, which as in the case of any theory or model, become apparent when applied to reality. The main shortcoming is that it is essentially static and does not include any dynamic

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20. Baskin, Carlisle, W., *Central Places in Southern Germany*, (1966), see diagram on p.66.

21. Baskin, Carlisle, W., *Central Places in Southern Germany*, (1966), p.73.

22. *Ibid.*, p.79.

process. The central places are assumed to exist and the task appears to be, to merely distinguish them in the landscape. But the factors that add to the "importance" of a place, population, the variety and type of goods and services, prices, transport systems and the size and nature of the complementary region are all liable to change. This factor of change is not introduced into the theory. Besides, the hierarchical pattern of central places ranging from the hamlet to the world city<sup>23</sup> and the grouping of settlements into various levels is considered to be arbitrary. But, "Christaller brought a comprehensive view and concrete approach to the study of the spatial structure of a social system... Christaller attempted to study an entire economic system which was spatially - oriented, spatially-co-ordinated and spatially located. He incorporated political, social, economic and geographic factors into his investigation."<sup>24</sup>

August Losch,<sup>25</sup> like Christaller, was an exponent of the theory of "Central places". He too assumed an isotropic surface and used the hexagonal network, but he regarded the "fixed K" assumption as a special case and thus used all possible hexagonal networks to work out his theory. He superimposed all these hexagons on a single point and rotated the hexagonal nets to obtain, six sectors with less, and six sectors with more, higher order settlements. The resulting pattern therefore is very different from that of Christaller. Whereas Christaller's hierarchy consisted of a number of tiers in which all places in one particular tier are of similar size and have the same functions, and all the higher order places contain all the functions of the lower order places, Bosch's system is far more flexible. For example the settlements in any particular tier need not have all the functions of the smaller places. This theory is more realistic, but at the same time more complicated than Christaller's. Martin Beckmann,<sup>26</sup> who in 1958, tried to provide a mathematical model of the hierarchy, has defended Christaller's theory as being simpler and theoretically more satisfying. Many scholars have, since, extended and modified the "Central Place" theory and applied it to various regions. Among such studies are: - G.W. Skinner's work on South China;<sup>27</sup> K.A. Gunawardena's study of service centres in southern Ceylon<sup>28</sup> and J.E. Brush's hierarchical classification of places in Wisconsin.

23. Baskin, Carlisle W., *Central Places in Southern Germany*, (1966), p.154-157.

24. Baskin, Carlisle W., *Central Places in Southern Germany*, (1966), See preface.

25. Losch, August, *The Economics of Location*, translated by Woglan, William H. (New Haven, 1954).

26. Haggett, Peter, Cliff, Andrew D. and Frey, Allan, *Locational Models*, (1977).

27. Skinner, G. William, "Marketing and Social Structure in Rural China", *The Journal of Asian Studies*, 24, I & II, 1964-65.

28. Gunawardena, K.A., "Service Centre in Southern Ceylon", Unpublished Ph.D. Thesis, University of Cambridge.

Spatial interaction, or how man interacts with others within a region in terms of his economic, social and political activities links together all the settlements both large and small and urban and rural, into a complete spatial system. Each settlement has its own particular services or functions to discharge and at the same time has a place in the overall pattern of settlements, central places and the transport network. These spatial systems, which comprise "the distribution of people and places within a prescribed area, and the transactions between these..."<sup>29</sup>, never remain static. With the progress and advancement in culture settlements and their interactions with others in terms of the services they perform change constantly through time. The distances between places is modified, transferability is altered and changes result in the economy of a region, its spatial interaction and the location of central places.

In attempting to "reconstruct the past" or in Mackinder's words, "in studying the historic present",<sup>30</sup> and in trying to identify the central places of a particular period in the history of a region the task lies not in tracing an evolutionary or dynamic process, but in analysing (from available sources), the pattern of spatial interaction and the location of central places which existed at that period.

Each historical period therefore may be expected to have its distinctive pattern of spatial interaction and important central places, so that an attempt at studying the spatial interactions between settlements in a distant historical period in terms of modern developments may prove to be a failure. Spatial interaction in a particular period in the past must therefore be analysed in the context of the prevailing economic, social and political conditions of that particular period, and the value of a study in historical geography lies in attempting to show how each period differs from the other and from the present day. Mitchell comments, "...if a study of a place in the past is to be valuable it must differ from a study of that place in the present, and for the most part it is the work of man that brings about significant change in historic time."<sup>31</sup>

The Late Anuradhapura period, particularly the ninth and tenth centuries, was a time when Ceylon reached a peak in culture and civilization. Codrington states, "The conclusion which we reach is that the zenith of Sinhalese prosperity in the middle ages was the ninth and tenth centuries".<sup>32</sup>

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29. Brush, J.E., "The Hierarchy of Central Places on South-Western Wisconsin", *Geographical Review*, 43 (1953) p.95-105.
30. Johnston, R.J., *Spatial Structures* (1973), p.4.
31. See Woolridge and East, *The Spirit and Purpose of Geography* (London 1958 and 1966), p.70.
32. Mitchell, J.B., *Historical Geography*, (London), p.14.

The basis of this distinctive Sinhalese culture was the efficient irrigation network and the Buddhistic way of life, which influenced the economic, social and political life of the settlements and thereby affected the spatial interaction between them.

Economically it was an age of great prosperity. Most of the large irrigation works were completed, the damaged ones were repaired and well-maintained, and new land opened up for agriculture. There were surplus areas of rice production, and these areas not only supplied other parts of the country, but were able to export some amount to India. Trade was carried on within the country and with foreign countries like India and China. Trading communities of Arab and Indian origin were established at the ports, and trading corporations were found here and at Anuradhapura.<sup>33</sup> Foreign trade included the export of precious stones and spices and the import of luxury goods including perfumes<sup>34</sup> and wines. Agriculture was the chief occupation, while trade was a close second. Industry however, was limited to simple handicrafts, weaving of mats and cloth, making of iron implements and pottery; and these products were often exchanged within the settlements.

Society at this period, consisted of the nobility and the peasants. Caste distinctions existed and were based on occupation.<sup>35</sup> This system was not as rigid as in India or in Ceylon during the Kandyan period,<sup>36</sup> but there were the high and low castes and they did not easily mingle in society. The Jetavanarama Sanskrit inscription<sup>37</sup> of the ninth century refers to five castes, while the Ambagamuwa<sup>38</sup> Rock inscription of the eleventh century refers to caste distinctions. Each caste, in addition to the hereditary occupation performed certain obligatory services for the king. In times of war they had to fight for the king. For special types of work, such as the construction of tanks or temples, they formed the labour force. People of different castes lived together in the villages and towns, but they appear to have occupied separate streets or sectors of the settlements, for example, the *Candalas*, one of the lower castes was allocated areas in the outskirts of Anuradhapura.<sup>39</sup> There were also special caste-villages occupied by those people belonging to one particular caste; there are references to such villages Jambelambaya or the village of weavers,<sup>40</sup> Candanagama, a

33. Codrington, H.W., "Decline of the Medieval Sinhalese Kingdom", J.R.A.S.C.B., (New Series), Volume VII, Part I, 1960, p.93-103.
34. Pathmanathan, S., *The Kingdom of Jaffna*, (Sri Lanka, 1978), p.24.
35. See Ariyapala, M.B., *Society of Medieval Ceylon*, (Ceylon, 1956), p.335.
36. c/f. Section on "Early Settlements in Ceylon".
37. The end of the 16th up to 1815, during which time the Sinhalese kingdom was confined mainly to the hill country with Kandy as the Capital.
38. See *Epigraphia Zeylanica*, Volume I, p.8.
39. *Ibid*, Volume II, p.217.
40. *Mahavamsa*, Chapter X, verse 93. Geiger's translation, p.75.



Ksatriya settlement<sup>41</sup> and Dvaramandala,<sup>42</sup> a village of cowherds near Mihintale.

Religion held an important place in the lives of the people irrespective of caste or class distinctions. *Bhikkus* (Buddhist monks) were treated with great reverence, and all people from the nobility down to the ordinary peasants helped in giving alms and maintaining the monasteries. The performance of meritorious deeds, the building of temples, the donation of lands to monasteries, the establishing of hospitals and the care of the sick were a common feature of these times. The people also went on pilgrimages to the many *dagobas* and shrines, and took part in various religious festivals.

Politically the country was comparatively stable after Sena II (851-885 A.D.) was able to subdue the invaders from the neighbouring sub-continent.<sup>43</sup> The king was the sole ruler of the Land, and the nobility formed the ruling class. The king's officials were drawn from the nobility, while the governors of the provinces were often close relatives.<sup>44</sup> The king however, could not govern as a despot as the settlements had a fair amount of independence. The villages were administered by headmen and they were responsible for all affairs connected with their villages. Simultaneously, the king kept control of his kingdom by sending his officers on circuit throughout the country at least once a year.

At such a time of peace and prosperity the settlements no doubt, performed many services similar to those performed by settlements in predominantly agricultural regions of today, where towns are few and economic and social activity is centred mainly in the villages. From the available sources it is clear that they did perform various services, which also varied in degree according to the importance of the settlement and its place in the hierarchy. However, owing to the lack of sufficient data, the services known to have been discharged by these early settlements have been discussed under four main headings:-

1. Administration, including defence and judicial services.
2. Religion, including education and entertainment.
3. Health services, including hospital services, public health and veterinary services. Very little information can be gathered from the sources, but it is evident that these services were of importance.

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41. See Culavamsa, Chapter 41, verse 96. Geiger's translation, p.61.

42. *Mahavamsa*, Chapter XIX, verse 53. Geiger's translation, p.132.

43. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon, 1969), p.113. Also Rahula, W., *History of Buddhism in Ceylon*, (Colombo 1956), p.22.

44. The country was conquered during the reign of Sena I (831-851 A.D.), and Sena II was able to restore order and make the country prosperous.

4. Trade, was an important occupation at this period and sufficient information about it can be gleaned from the sources.

Apart from these services the sources mention certain other services or functions, namely, recreation, entertainment in the form of music, singing and dancing, (other than that associated with religious festivals), and paid employment.

According to the chronicles facilities were available for various types of sport like fencing, hunting, archery, and riding (on elephants and on horseback). Hunting appears to have been the pastime of the nobility, the *Mahavamsa* mentions that King Devanampiya Tissa "...set forth to enjoy the pleasures of the chase..."<sup>45</sup> and it was whilst hunting that he met the Thera Mahinda. The other forms of sport were not merely a form of recreation, but were practised regularly especially by the nobles as a training in warfare. King Dutugemunu was said to have been... "skilled in (guiding) elephants and horses, and in (bearing) the sword and versed in archery."<sup>46</sup>

The sources also indicate that festivals with music were held often and that people from the surrounding areas did come to witness or take part in them. The *Mahavamsa* states that King Devanampiya Tissa "...had arranged a water festival for the dwellers in the capital ..." <sup>47</sup> and later Dutugemunu "...who had carried out the consecration with great pomp, went to the Tissa-tank, that was adorned according to the festival custom, to hold festival plays there..."<sup>48</sup> This suggests that such festivals were regularly held in the city. The *Gal-asanas* or stone seats along with the inscriptions, that have been found at places like Polonnaruwa<sup>49</sup> and Kantalai<sup>50</sup> and said to be the seats on which the king sat whilst witnessing music, singing and dancing, also indicate that such entertainment was provided at these places especially when the king was on tour, and people from the neighbourhood gathered at these spots to witness such performances. There is no mention of the theatre or drama in the chronicles but puppetry is mentioned.<sup>51</sup> On the whole musicians, singers and dancers were itinerant, travelling from village to village, and they also performed at the various religious festivals.

With regard to paid employment an important function of towns, there is very little evidence. In modern times owing to the advance and

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45. c/f. see section on "Administration".  
 46. MV XIV.1, p.91 of Geiger's translation.  
 47. MV XXIV.1, p.165, Ibid.  
 48. MV XIV.1, p.91 of Geiger's translation.  
 49. MV XXVI.7, p.179, Ibid.  
 50. Polonnaruwa Kalinga Park Gal-asana Ins. EZ Vol.II.  
 51. EZ Vol.II, Kantalai Gal-asana Ins.

improvement of the means of transport and road networks, people are able to live in the sub-urbs away from town centres and commute daily for work. The many artisans villages located in the outskirts of Anuradhapura and mentioned in the chronicles, suggest that the people from these places moved into the city regularly for employment. The sources also indicate that when there was work for which extra labour was needed, such as when building a *dagoba* or constructing a dam, people from the surrounding region were employed. When the Great Stupa was built, the *Mahavamsa* states that many people worked for wages,<sup>52</sup> while in the 12th century, Gajabahu (1137-1153 A.D.) is said to have called together the coppersmiths, goldsmiths and blacksmiths, as there was a lack of masons, and entrusted them with the task of constructing a dam.<sup>53</sup>

Information regarding these services is scanty, but from the available data it is clear that they were discharged mainly from the higher order central places the towns and Anuradhapura, while those services connected with administration, religion, health and trade were discharged in varying degrees from the many centres in the hierarchy of central places.

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52. CV 64.133 Part I, p.264 of Geiger's translation.

53. *Mahavamsa*, XXX.42, p.201 of Geiger's translation.

54. *Culavamsa*, 68.21, Part I, p.278 of Geiger's translation.

# 10

## THE SERVICES

### Administration

Some form of administration becomes necessary with the growth of population and the spread of settlements within a region. At the same time, some organized form of protection and defence against invaders and a system of law and order for the inhabitants also become essential to ensure the well-being of the settlements. These administrative, defence and judicial services to be efficiently and economically discharged must necessarily be located at central places that are easily accessible, such as the towns or large villages.

The first Indo-Aryan settlers in the northern dry zone lowlands, who were already familiar with a village system of administration, established their first capital at Tambapanni, then at Upatissagama and finally at Anuradhapura around 380 B.C. In pre-Christian times there were many petty kingdoms in Ceylon, as at Kelaniya<sup>1</sup>, at Rohana<sup>2</sup> and at Seru.<sup>3</sup> There were also many petty rulers even within the Rajarattha region itself as is indicated in inscriptions found at Mihintale, Periyapuliyankulam and Dimbulagala.<sup>4</sup> With the consolidation of the kingdom, however, for the first time under Dutugemunu (101-77 B.C.), Anuradhapura became the capital and the chief centre of administration for the whole island. The king and the nobility and the chief officers of State dwelt here and for purposes of administration, the country was carved into provinces, districts and villages, each with their own governors or headmen who were responsible ultimately to the king. This resulting hierarchy appears to be similar to the one based on the administration or separation principle suggested by Christaller.

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1. The Kingdom of Kelani was ruled by Kelani Tissa whose daughter Viharamaha Devi was the mother of Dutugemunu. The origin of the ruling family of this kingdom is uncertain, but it is likely that they were the descendents of Uttiya, the younger brother of Devanampiya Tissa.
  2. Mahanaga, another brother of Devanampiya Tissa, established himself as the ruler of Rohana with the capital at Mahagama.
  3. This region was ruled by Siva of Seru. However, Kakavanna Tissa the father of Dutugemunu was able to annex this kingdom to his own kingdom of Rohana.
  4. See Hettiaratchy, T., *History of Kingship in Ceylon*, (Colombo 1972), p.145. The inscription found at Mihintale refers to the ruler of Nagadipa. See also *History of Ceylon* (University of Ceylon Press Board, 1960), Volume I, Part I, p.229.

In the Late Anuradhapura period the three provinces were:- Rajarattha, Rohana and Malaya; the most important of which was Rajarattha, which covered the present northern, north-western, north-eastern and north-central provinces. The Mahaweli ganga formed the eastern boundary between this province and Rohana. Rohana covered the area east of the Mahaweli together with the present districts of Uva, Hambantota, Matara and Galle. The central hilly regions and the area around Dambulla were included within the province of Malaya. (See Map)<sup>5</sup>

The governors of the provinces were appointed by the King. Very often they were members of the royal family. King Silakala appointed his second son as *Malayaraja*, or the ruler of Malaya.<sup>6</sup> Until the seventh century the ruler of Rohana was styled *Rohanika* but by the Late Anuradhapura period this province was ruled by an *Uparaja* (a prince of the royal family). However, sometimes an *amatya* (official) was appointed as ruler of this province) where he was designated *Rohana-bojaka*. These governors did not always live within these territories, they very often resided at Anuradhapura and probably toured their districts<sup>7</sup> from time to time.

The provinces had clearly demarcated districts within them, referred to as *desa*, *passa* or *padesa* and administered by a *pas-ladu* while the provincial administrators were called *rat-ladu*. Rajarattha was divided into four districts:-

1. Dakkinadesa - the southern district, which in the 10th century extended as far south as the Kalu ganga. This region was considered the island's most important district and was generally governed by the heir-apparent or *yuvaraja*. The *Culavamsa* in referring to Aggabodhi I (568-601 A.D.) states that "The province of Dakkinadesa with the appropriate retinue he made over to the Yuvaraja." (Chapter 42.8)
2. Uttaradesa - the northern division was the region north of Anuradhapura, extending towards the north-western, northern and north-eastern coasts. Nagadipa, or the present Jaffna peninsula included under this district in pre-Christian times appears to have been governed by a *diparaja*,<sup>8</sup> but later, as in the reign of Vasabha (127-171 A.D.), by an *amatya*.

5. See History of Ceylon, (University of Ceylon Press Board, 1960), Volume I, Part I, p.229.

6. *Culavamsa*, Chapter 41.35. See part I, p.54 of Geiger's translation.

7. See *History of Ceylon* (University of Ceylon Press Board, 1960), Volume I, Part I, p.367.

8. Nie *History of Ceylon*, (University of Ceylon Press Board, 1960), Volume I, Part I, p.227.

3. Pachhmadesa - the western division extending over the present Wilachchiya and Wilpattu districts, as far as the west coast.
4. Purathimadesa or Pacinadesa, the eastern division extending from Mihintale eastwards to the Mahaweli ganga.<sup>9</sup>

Within these districts the next and smallest unit of administration was the village. Although no statistical data are available, it is clear that there were small and large villages measured in terms of population and in terms of importance. According to Tilak Hettiaratchy,<sup>10</sup> the term *gama* or *janapada* refers to the large village, the administrator of which was the *gamani* who was also considered to be superior to the village headman. The terms *gamika* or *gama-bhojaka* found in some inscriptions are also considered to be terms used in place of *gamani*. It is possible that the *gamani* who functioned from the *gama* or perhaps the *dasagama*<sup>11</sup> was responsible for the administration of a group of "dispersed" villages.

These villages were semi-independent and conducted their own affairs. The headman and his council, generally chosen from among the village Elders, were responsible for the maintenance of village tanks, the collection of fines and dues and the upkeep of law and order within the village limits. However, they were answerable to the King, for they had to report to the King's officials on tour. The councillors appear to have formed themselves into various groups for specific functions. The Badulla Inscriptions<sup>12</sup> records a committee of eight to manage the village forests, while the Madirigiriya Inscriptions<sup>13</sup> mentions a group of ten to supervise the forests. The villages that had been granted to various monasteries however, had certain immunities and were administered by the monasteries.

The territorial units in the administration hierarchy were therefore:- the province, the district and the village. Within the districts were the towns and ports, some of which were the administrative centres for the districts. Very little information can be gathered about such centres, but with regard to Anuradhapura, it is known that there was a *nagaraguttika* in charge of the city, who was responsible for all affairs connected with the administration of the city.<sup>14</sup> It is possible that there were such officers in the various towns.

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9. Nicholas, C.W., "Historical Topography of Ancient and Medieval Ceylon", *J.R.A.S.C.B.*, Volume VI, Special Number, 1959.
  10. Hettiaratchy, T., *History of Kingship in Ceylon*, (Colombo, 1972), p.14.
  11. c/f. Section of "Settlements in the Late Anuradhapura period".
  12. E.Z. Volume II, p.113.
  13. *Ibid.*, Volume III, p.97.
  14. See Ariyapala, M.B., *Society in Medieval Ceylon*, (Ceylon 1956), p.122.

The ports which were the main centres of trade had officers stationed in them to oversee the collection of customs duties and the imposition of fines. Mahatittha had expanded and attained the status of a provincial town; and according to the *Rasavahini*,<sup>15</sup> a governor named Siva had been appointed to govern this port. The Mannar Kachcheri Inscription<sup>16</sup> refers to the officer in charge at this port. The Godavaya inscription<sup>17</sup> also indicates that there was some sort of customs official at the ports.

In spite of these various units of administration and the officials governing them control was from Anuradhapura. The King was the sole ruler of the kingdom and all the land belonged to him. He was responsible for the protection and well-being to his people. In return they paid taxes and rendered obligatory services. Therefore all taxes, tolls, fines and revenues were finally collected into the Royal Treasury. This was done by officials appointed by the king. The king governed the country with his Council of Ministers each responsible for a particular department of the administration such as the judiciary, the treasury and the armed forces, while officials were appointed to tour the country at least once a year. Officers collected the taxes and revenues, settled disputes and were responsible for the general welfare of the people. Sometimes the people made complaints against these officials, as is noted in the Badulla inscription, which also indicates the nature of the work done by these officials. The king himself toured the settlements to gain first-hand information of his people, as is indicated in an inscription of Nissanka Malla (1187-1196).<sup>18</sup>

### Judicial Services

Dispensing justice was one of the main functions of the king who was regarded as the "fountainhead of Justice". Justice was dispensed on his behalf by officials to whom judicial powers were delegated. The king sometimes heard cases and inflicted capital punishment; and he alone could grant amnesty to criminals. This was done on special occasions such as at the birth of an heir or at the time of a coronation.

In the reign of Mahesen (275-302 A.D.) the judiciary was a separate department under the *Viniccaya Mahamacca* and in later times the Chief Minister of Justice was known as the *Adhikarananayake*. The Galpota

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15. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon 1969). p.117.  
 16. E.Z. Volume III, p.100.  
 17. CJSG, II, p.197, No.586.  
 18. The Polonnaruwa Rankot Dagoba Pillar Inscription, E.Z. Volume II, p.137.

inscription of Nissanka Malla (1187-1196)<sup>19</sup> mentions *adhikaranasala* (courts) and probably these law courts were established at all important towns.

In the villages justice was carried out by the Village Court comprising the headman and responsible householders.<sup>20</sup> They maintained law and order and imposed fines where necessary; and also were empowered to execute the laws enacted by the king. However, this village court was responsible to the king's Council, as the people appear to have had the right to appeal against judgements given by these courts. Besides, officers on circuit had to be shown records of cases tried by these courts.<sup>21</sup> Where villages belonged to monasteries and the headman had failed to bring about a settlement or solve crimes, these officers had to do so. The Badulla Inscription refers to these officers who went annually on circuit and administered justice.<sup>22</sup>

## Defence

Defence and the need for protection were foremost factors accounting for the formation of settlements. Thus, provision for defence is among the significant services discharged at central places.

In the king's Council, the *Senapati* or the Commander-in-chief of the Armed Forces held a very powerful place because by this time there were constant threats of foreign invasion. The importance of this office is clear, for close relatives of the king were given this appointment. Dhatusena (455-473 A.D.)<sup>23</sup> had nominated his sister's son as *Senapati*, while Aggabodhi VII (766-772 A.D.) appointed his heir as *Senapati*.<sup>24</sup>

From the sources it is certain that a permanent army existed; many inscriptions refer to the four-fold army consisting of elephants, chariots, cavalry and infantry.<sup>25</sup> The soldiers used many types of weapons such as the spear, bow and arrows, the club, the lance and the sword. In the sources there are also references to the *rate-nayake* or district chief;<sup>26</sup> it is possible that there were garrisons stationed under them in various parts of the districts.

19. E.Z. Volume II, p.98.

20. See E.Z. Volume I.6, p.250.

21. See *History of Ceylon*, (University of Ceylon Press Board, 1960), Volume I, Part I, p.373.

22. E.Z. Volume II.

23. *Culavamsa*, Chapter 38.81. See Geiger's translation, p.38.

24. *Ibid.*, Chapter 48.79. Geiger's translation, Volume I, p.117.

25. See E.Z. Volume II, p.90, and p.142.

26. See Ariyapala, M.B., *Society and Mediaeval Ceylon* (Colombo 1968), p.119.





# HIERARCHY OF CENTRAL PLACES



- HIGHEST ORDER
- SECOND ORDER
- ◐ THIRDS ORDER
- ◑ LOWEST ORDER
- DISPERSED VILLAGES

Information regarding these garrisons is scanty, but it is known that there were certain fortified towns and outposts at strategic points where garrisons were stationed. Anuradhapura was fortified. Vasabha (65-109 A.D.) raised the walls to a great height and built fortress towers at the four gates, thus strengthening the fortifications. Sigiriya, in the reign of Kassapa I (478-496 A.D.) had a garrison which was later disbanded by Silakala (524-537 A.D.). Mantai and Polonnaruwa were also fortified and there is evidence of smaller fortified places as at Kurunthankulam<sup>27</sup> and of one beside the Kattiyava tank.<sup>28</sup>

Apart from these fortified settlements there were many outposts which have not been identified, but were known to have existed. In pre-Christian times there were such outposts along the Mahaweli ganga which Elara (205-161 B.C.) is said to have set up in order to prevent attacks from Rohana. The *Mahavamsa* mentions them but only one such place, Kasatota, has been identified. It is also known that in times of war, temporary camps or *Khandhavana* were established; Dhatusena (455-473 A.D.) had established twenty-one such camps, although the place names are not known.<sup>29</sup>

In spite of the many small and large fortresses and outposts, all military organization was centred at Anuradhapura, and in times of war the king took over supreme command of the army.

With regard to administrative services (including defence and judicial services), Anuradhapura held the controlling reins and directly discharged these services with the aid of the officials who annually toured the country. These services were also carried out indirectly with the help of the village headmen, who administered their villages, but were ultimately responsible to the king and his Council at Anuradhapura. At the same time there were the governors at the ports, and the rulers of Rohana and Malaya who were also responsible to the king. All edicts and proclamations were issued by the king. The Royal Seal made them effective. These proclamations were broadcast to the people by the tom-tom beaters (drummers) in the same way that certain important events like the enshrining of relics were made known to them. A reference in the *Mahavamsa*, states "Tomorrow the enshrining of the relics shall take place..."<sup>30</sup> Thus control from Anuradhapura was enforced and smooth functioning of administrative services throughout the country was assured by way of a hierarchy of central places.

27. See Register of Ancient Monuments, p.219.

28. Ibid, p.90.

29. *Culavamsa*, Chapter 38.36. See Geiger's translation, Volume I, p.31.

30 Chapter 31.32. Geiger's translation, p.211.

## RELIGION

The establishment of Buddhism as the State religion in the reign of Devanampiya Tissa (307-267 B.C.) marked the beginning of a distinctive Sinhalese culture and civilization in Ceylon. As such Buddhism played a significant role in the spatial interaction between the settlements of the early period. Religion occupied an important place in the lives of the people, for they were devoted to their religion and tried to gain merit by participating in religious observances, by performing various meritorious deeds such as the giving of alms and the building of temples, and by aiding in the upkeep of the *bhikkus* in the many monasteries.

Apart from Buddhism, other religions were also practised. Hinduism continued to be an important religion especially in the ports where a considerable population of Indian origin had settled. The three important centres associated with Hinduism at this time were Tirukketisvaram in the Mannar district, Koneswaram in the Trincomalee district and Tirukovil in the Batticaloa district. After the ninth century when Arab merchants had settled in some of the ports.<sup>31</sup> Islam too was practised. The worship of various deities,<sup>32</sup> which had prevailed from pre-Buddhistic times, and some festivals of former times were absorbed by Buddhism. Thus Buddhism as the most important religion in the country played a significant role in the spatial interaction between settlements, and between these settlements and foreign countries.

Around this period Adam's Peak<sup>33</sup> had become a popular place of pilgrimage - the Buddhists believed that the Buddha had visited this peak and left behind his foot-print on it; the Mohammedans believed that this depression on the rock was the footprint of their Adam, prophet, and the Hindus associate it with Lord Siva. Thus this mountain attracted many pilgrims not only from Ceylon but from foreign countries too.

Spatial interaction in the religious sphere took place not strictly from the "central" settlements, but from the religious institutions that were established sometimes within them, but more often near-by, in accordance with the rules embodied in the Vinaya Pitaka.<sup>34</sup> Whereby, the *bhikkus* unlike the ascetics of old, were not entirely cut-off from the activities of the lay

- 
31. Can be noted from the Kufic inscription of the 10th century which was discovered in the Colombo cemetery.
32. Such as the God Sumana of Adam's Peak and others like Puradeva and Kammara-deva. There were also certain cults such as tree-worship.
33. In the present Sabaragamuwa Province. In the range of hills known as the Rakwana Hills.
34. c/f See Section on "Settlements".

settlements, but could assist in the moral guidance and spiritual upliftment of the people and take part in the economic, political and social life of the settlements. Many inscriptions mention monasteries and their associated settlements; the Kandakadu inscription of Upatissa II (522-524 A.D.) refers to the Mahacittanakaraka monastery and the township of Cittanakara that supported it,<sup>35</sup> and the Ritigala inscription refers to the village Arita-gama and the monastery situated on the hill.<sup>36</sup> The remains of monasteries have also been discovered near many settlements such as at Kuchchaveli<sup>37</sup> and at Giritale.<sup>38</sup>

Monasteries had also been established on isolated hills and rocky outcrops, a fair distance away from villages, for example Rajagirilena, opposite Mihintale, Kadigala near the Kala-oya and Garandigala in the Matale district. These places however, were not too remote and drew their support from the near-by settlements.

There is very little information with regard to nunneries, except perhaps at Anuradhapura. Devanampiya Tissa (307-267 B.C.) himself is known to have established one at Anuradhapura while the Kukurumahan-damana Pillar inscription of the tenth century<sup>39</sup> refers to the Mahindarama nunnery in the High Street of the city. References to the Tissarama nunnery, established by Kassapa IV for the nuns who cared for the Bodhi Tree,<sup>40</sup> and to certain nunneries established in the time of Aggabodhi IV (658-674 A.D.)<sup>41</sup> and Kassappa V (913-923 A.D.)<sup>42</sup> are also found in the sources. It is quite possible that nunneries existed in the towns and large villages, and they too played their part in the spatial interaction in the region.

Spatial interaction in terms of religious services was brought about by:- the spreading of Buddhism mainly by oral transmission; the movement of people to the famous shrines and religious centres; education, both religious and secular and entertainment, such as religious festivals and ceremonies connected with *bana* preaching and the chanting of pirit.<sup>43</sup>

Preaching was the chief means of spreading religious teachings; Mahinda who brought Buddhism to Ceylon is stated to have first preached

35. E.Z. Volume.

36. Ibid., Volume I, p.135.

37. *Register of Ancient Monuments*, p.334.

38. Ibid., p.186.

39. E.Z. Volume II, p.19.

40. Culavamsa, Chapter 52.24, Geiger's translation, Volume I, p.164.

41. Culavamsa, Chapter 46.27, Geiger's translation, Volume I, p.100.

42. Culavamsa, Chapter 52.63, See Geiger's translation, Volume I, p.168.

43. "bana" - sermon, "pirit" - literally means "protection". Thus it is the recital of certain suttas on special occasions.

at the Elephant Hall at Anuradhapura.<sup>44</sup> Preaching was done mainly at the preaching halls in monasteries, and ruins of small and large monasteries that have been excavated, reveal that in fact there were such halls in all monasteries and that they were an essential part of any monastery or vihare. People therefore came to these centres to listen to *bana* and gain religious instruction. Very often bhikkus were invited to villages in order to preach, and such occasions assumed the atmosphere of a celebration with people arriving from long distances and staying overnight. It is said that when Digha-bhanaka Abhaya Thera, a well-known preacher, was known to preach at a certain place, the whole of Mahagama came to listen to him.<sup>45</sup>

According to Fa-Hien, "At the heads of the four principal streets there have been built preaching halls, where on the eighth, fourteenth and fifteenth days of the month, they spread carpets, and set forth a pulpit, while monks and the commonalty from all quarters came together to hear the law."<sup>46</sup> Such occasions must have drawn people from settlements around Anuradhapura, who came to listen to these sermons.

*Bhikkus* and lay people often went on pilgrimages to the many shrines in the island. *Bhikkus*, travelled in groups with a leader, and as these journeys took many days, they stopped at the settlements on the way to preach and to obtain food. The popular places of pilgrimage were the Mahaceitiya, the Sri Maha Bodhi and the Thuparama at Anuradhapura, Mihinatale, Nagadipa, Kelaniya and Tissamahavihare in Rohana. The Polonnaruwa Priti-Danaka-Mandapa Rock inscription of Nissanka Malla<sup>47</sup> mentions among the celebrated centres of pilgrimage he visited, Mandalgiri, Velagama, Mahagama (Devinuwara) and Kelaniya. *Bhikkus* were known to go to places in India such as Buddhagaya, which according to the *Rasavahini*, took about eleven months.<sup>48</sup>

Education and entertainment, two important services performed at central places can in the context of early Ceylon, be included under religious services, for both these services were closely, if not wholly, associated with religion.

The limited amount of information regarding education in early Ceylon which can be gleaned from the sources, shows clearly that it was in the hands of the *bhikkus* and that the vihares were the centres of culture and

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44. It was a large building meant for public.

45. See Rahula, W., *History of Buddhism in Ceylon*, (Colombo, 1956), p.182.

46. *Ibid.*, p.265.

47. E.Z. Volume II, p.177.

48. See Rahula, W., *History of Buddhism in Ceylon*, p.191.

learning. The compiler of the *Mahavamsa* himself was a *bhikku*<sup>49</sup> while scholars like Buddhaghosa,<sup>50</sup> also hailed from monasteries. Many lay persons, those of the nobility and those among the peasants, however, seem to have been sufficiently learned, as can be noted from the writings on the Mirror Wall at Sigiriya.<sup>51</sup>

All learning, both religious and otherwise, was centred in the monasteries, and subjects like literature, history, arithmetic, medicine<sup>52</sup> and astrology were taught along with religious studies. Even the fine arts had a place in the curriculum and there were said to be many talented artists among the monks.<sup>53</sup>

The monasteries, therefore, were the centres which provided at least an elementary education even for lay people. At the ancient site known as Kaludiya Pokuna south of Mihintale Hill (see map), the archaeological remains of an 'arama'<sup>54</sup> with bathing pools, meditation halls, caves and educational institutions were discovered,<sup>55</sup> which had been in use during the 10th and 11th centuries. Thereby it can be noted that even small monasteries had quarters set apart for the pursuit of learning. Among the larger monasteries, Dimbulagala was a noted centre of learning, while Rohana appears to have had many such places, as it is said that the *bhikkus* of the Mahavihara often went of Rohana for higher studies.<sup>56</sup>

Kings like Siri Sanga-Bodhi (307-309 A.D.) Dhatusena (406-478 A.D.) and Aggabodhi VII (801-812 A.D.) had been educated by *bhikkus* while, in the absence of village schools the villagers converged on the monasteries for their religious instruction and secular learning. A.K. Coomaraswamy comments, "In times past, the education of boys was carried on by Buddhist priests at the village pansala (temple), the home of the incumbent of the nearest vihara, just as the village priest taught at the church door in mediaeval England".<sup>57</sup> *Bhikkus* also travelled from village to village teaching religion along with reading and writing.

Apart from these places that provided an elementary education, there were the centres of higher learning, where a higher education and

- 
49. c/f. "Sources".  
 50. The writer of the commentaries to the *Tipitaka*, who lived in the 5th century A.D.  
 51. See Paranavitane, S., Sigiri Graffiti.  
 52. The *Yogarnavaya*, a treatise on medicine is attributed to Buddhaputta Thera, the author of the *Pujavaliya*. Another treatise on medicine the *Prayoga-ratnavaliya* is also attributed to him.  
 53. Rahula, W., *History of Buddhism in Ceylon* (Colombo, 1956), p.164.  
 54. A residence for monks.  
 55. See *Register of Ancient Monuments*, p.67.  
 56. Rahula, W., *History of Buddhism in Ceylon*, (Colombo, 1956) p.293.  
 57. Coomaraswamy, A.K., *Mediaeval Sinhalese Art*, (New York, 1956), p.49.

specialized knowledge could be obtained. Among these centres were the Mahavihare at Anuradhapura and the Tissamahavihare at Mahagama. At these centres two Convocations were held twice a year, when bhikkus from many parts of the country met for discussions with learned teachers. The fourth Buddhist Convocation in the 1st century B.C. however, was held at Aluvihare, where the Buddhist scriptures were written down for the first time.<sup>58</sup>

The monasteries were also places where libraries were housed. Most learning at this period was imparted in the oral tradition with memorization playing an important part. But, at the same time, the art of writing was well-advanced and many Pali and Sinhalese works were copied mostly on *ola* leaves.<sup>59</sup> According to the *Culavamsa*, Kassapa I (478-496 A.D.) “.....had books copied”,<sup>60</sup> and an inscription of Nissanka Malla (1187-1196 A.D.) gives an indication that all writing up to this time was indeed done on *ola* leaves. These manuscripts were no doubt kept at the larger monasteries, although there is no definite mention of libraries in the chronicles until the twelfth century,<sup>61</sup> where it is stated that Parakrama Bahu I built “...two houses for books;”.

Apart from education, entertainment was also closely associated with religion. As mentioned earlier, religion played a major role in the life of the people, so that listening to sermons and attending religious festivals, taking part in religious processions and observing *sil*<sup>62</sup> on *Poya* (Full Moon) days, were not only essential religious observances but also popular forms of entertainment. The monasteries therefore provided for these services, while other celebrations involved in the enshrining of relics or the dedication of dagobas were also held at various settlements.

From time to time, kings decreed that certain festivals be held, sometimes annually or on specific occasions. The popular festivals celebrated at this time were:-

1. *Vesak* - which was held in the month of May to celebrate the birth, enlightenment and the death of the Buddha. The very first reference to this festival in the *Mahavamsa* is in the reign of Dutugemunu

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58. In the 1st century B.C. when the country was in chaos owing to foreign invasion and a famine, the maha-theras decided to commit the Tipitaka to writing.

59. Strips of the young leaves of the Talipot or Palmyrah palms, on which writing was done by means of a stylus.

60. Chapter 39.18. See Geiger's translation, Volume I, p.45.

61. *Culavamsa*, 78.37, See Geiger's translation, Vol.II, p.105.

62. *Sil* - the precepts in Buddhism.



(101-77 B.C.), where it is stated that this king celebrated twenty-four such occasions.<sup>63</sup> The *Vesak* festival was held annually and it is said that Sena II (851-885 A.D.) celebrated this festival by giving food, drink and clothes to the poor.<sup>64</sup>

2. *Giribhanda Puja* - this festival was inaugurated by Mahanaga (67-79 A.D.) in connection with the building of a *dagoba* at Mihintale. No mention is made of this festival until the reign of Udaya II (885-896 A.D.)
3. *Ariyavamsa festival* - this festival is in connection with the preaching of the *Ariyavamsa-sutta*. This was a popular sermon and was preached in many places in the country. It is mentioned in the Labuatabandigala inscription of the 5th century<sup>65</sup> where it is stated that funds were given to the Devagiri monastery for the purpose of conducting this festival. The Tonigala inscription<sup>66</sup> of the 4th century A.D. also mentions this festival.
4. *Festival of the Tooth-relic* - this festival was associated with the Abhayagiri Vihare, when the exposition of the Tooth-relic took place.
5. *The Mahinda festival* - this festival was held in memory of Mahinda who brought Buddhism to Ceylon. It was inaugurated by Sirimeghavanna (362-409 A.D.), when a golden statue of Mahinda was made and taken in procession from Mihintale to Anuradhapura. This festival continued to be held annually until the 13th century.
6. *Gangarohana festival* - this was held on special occasions as in the time of famines or other such calamity, when the *Ratana-sutta* was recited.<sup>67</sup> This festival was inaugurated by Upatissa I in the 4th century A.D.

Festivals were also held to mark special occasions as the anointing of images or the offering of temples, and the ceremonies associated with the commencement of the building of tanks or the crowning of kings. Sometimes the preaching of *bana* was conducted in the manner of a festival, while *pirit*

63. *Mahavamsa* - 32.35.

64. *Culavamsa*, Chapter 51.84. See Geiger's translation, p.155.

65. E.Z. Volume III, p.247.

66. *Ibid*, Volume III, p.177.

67. *Sutta* refers to the discourses of the Buddha. This discourse was preached in the form of a chant when there was a drought in the city of Visala in India.

ceremonies were held for special purposes, as for exorcising evil spirits or to invoke blessings.

These festivals and celebrations were said to have been lively and entertaining, with singing, dancing and music, so that they attracted people from long distances. According to W. Rahula, these festivals "provided both entertainment and satisfaction of religious sentiment".<sup>68</sup> The kings themselves took a great interest in them, for they proved to be a means of bringing royalty and the peasants into close contact and were therefore beneficial for administrative purposes. At the same time, arranging such festivals was considered a meritorious deed.

Spatial interaction with regard to religious services, including education and entertainment, took place between the many monasteries and religious institutions, between these monasteries and the surrounding settlements and between the various settlements and foreign countries like India and China. This study, however, is concerned only with the first and second form of interaction, and in this sphere, a certain hierarchical pattern in the settlements can be discerned, in the performance of these services.

At this period, there was much movement from monastery to monastery. *Bhikkus* were known to visit other monasteries, sometimes for short visits, but often to listen to famous preachers or for obtaining higher or specialized education. There were set rules regarding how a *bhikkhu* must be treated when he visited another monastery,<sup>69</sup> which indicates that this practice was quite common place.

Most of the large monasteries like the Mahavihare, the Abhayagiri and Mihintale, had alms-halls which accommodated not only their own *bhikkus* but also those of other smaller monasteries. According to the *Rasavahini*, *bhikkus* and *bhikkunis* (nuns) from five great monasteries came to the Mahapalli (alms-hall) of the Mahavihare for alms.<sup>70</sup> Other alms-halls were also established outside the four main gates of the city, to which *bhikkus* from the vicinity came to obtain food. There were also *bhikkus* who walked from Mihintale to Anuradhapura daily, for alms.<sup>71</sup> In the time of Aggabodhi IX (828-831 A.D.) *bhikkus* from the small monasteries went to the Mahapalli for food, but when the king heard of this, grants were given to these monasteries to establish their own alms-halls.

*Bhikkus* in other parts of the country, especially those belonging to

68. Rahula, W., *History of Buddhism in Ceylon*, (Colombo, 1956) p.267.

69. Rahula, W., *History of Buddhism in Ceylon*, (Colombo, 1956), p.181.

70. Rahula, W., *History of Buddhism in Ceylon*, (Colombo, 1956), p.175.

71. *Ibid.*, p. 176

the smaller monasteries near villages, went from house to house and the villagers provided them with food and drink. Many literary works refer to instances of how simple folk looked after them, sometimes with much hardship to themselves.<sup>72</sup>

There was also much interaction between the monasteries and neighbouring settlements. As mentioned earlier, monasteries were centres to which people converged for religious observances and education. Besides, many *bhikkus* were well versed in medicine and most monasteries had hospitals attached to them, so that they were also centres where medical services could be obtained.

The practice of granting villages, tanks and fields for the maintenance of monasteries necessitated the employment of a body of lay officials to administer them and keep accounts of the revenue. For this purpose, people from the neighbouring settlements were often employed, many of which were owned by the respective monasteries. The villagers also performed various tasks involved in the day to day running of a monastery, cleaning, sweeping the premises, repairing buildings and sometimes providing meals for the inmates. The larger monasteries such as those at Anuradhapura and Mihintale had their own alms-halls, but the smaller ones had to depend on the villagers for alms. The Jetavanaramo a Sanskrit inscription of the 9th century refers to those of the five castes of the village who worked within the monastery.<sup>73</sup>

In return, the peasants too benefitted, for their villages were granted certain immunities, and the king's officers had no authority within them. Many inscriptions testify to this fact, the Iripinniyava Pillar inscription refers to immunities granted to Posonvulla in Sulinarugama,<sup>74</sup> and the Kirgollawa Pillar<sup>75</sup> inscription records the granting of immunities to Itnaru-gama.

With regard to religious services there appears to have been such interaction from the smallest dispersed village, right up to the City of Anuradhapura. At the same time the *bhikkus* who went from village to village collecting alms and preaching; and those who instructed the peasants in reading and writing,<sup>76</sup> linked the settlements into a well organised system where religious services were concerned. From an examination of the one inch topographical sheets it can be noted that the country was dotted with monasteries of varying sizes. By studying the ancient sites marked on these

72. Ibid., p.260.

73. E.Z., Volume I, p.8.

74. E.Z., Volume I, p.167.

75. Ibid., Volume II, p.3.

76. A reference in the *Culavamsa*, Chapter (66.138), suggests that this was a common practice in early times.

maps, the area covered by them and the type of ruins discovered at these sites, it is possible to gain an idea of the size of these monasteries. While in some cases, with references to literary sources, it is possible to identify them. At some sites there are only small dagobas, small statues and small rectangular structures, possibly the monks' quarters spread over a fairly small area, as for example, at Maha Illuppalama<sup>77</sup> where a Buddha statue and the remains of buildings indicating a small *arama* have been excavated. At other sites, covering a larger area, as at Ritigala,<sup>78</sup> the ruins indicate monasteries.

Thus at the lowest level, close to small villages were the small monasteries, which on the whole, have not been identified. These places possibly had a small shrine, a Bo-tree and quarters for a few *bhikkus* who were supported by the villages near by, very similar to the small villages of today. Many such small sites have been discovered in areas at present covered by jungle, but no inscriptions or references in literary sources have been found to identify them. At Cheddikulam<sup>79</sup> in the Vavuniya district, a Buddha statue of about six feet in height has been discovered along with the remains of certain small buildings, indicating no doubt, such a place.

These places were possibly the centres where the people of the near-by villages went daily, and on *Poya* (Full Moon) days for special religious observances; for it was the centre closest to their home. On special occasions, such as during *Vesak*, they may have ventured further away, possibly to a larger village associated with a well-known shrine, as at Seruvila or Dambulla. These places not only catered to the surrounding population for normal religious services, but on special occasions, became the focal points for pilgrims who travelled from long distances. Mihintale was one such centre with its many *dagobas* and close association with the Thera Mahinda. Sigiriya too seems to have been such a centre, for there were many monasteries near by, the Dakkinagiri Vihare, the Mahanama Pavata Vihare (known as Ramakale) and Piduragala.

The towns were also associated with well-known *vihares* and shrines, which they supported along with the performance of their functions as urban settlements. Ruins of such places have been excavated within the ancient town limits. At Moragoda,<sup>80</sup> the ancient Padi-nagara, where the remains of image-houses, *dagobas*, statues and buildings have been

77. See *Register of Ancient Monuments*, p.74.

78. *Ibid.*, p.77.

79. *Ibid.*, p.222.

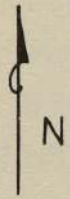
80. See *Register of Ancient Monuments*, p.88. Also see E.Z. Volume I, Moragoda Pillar Inscription of Kassapa IV.



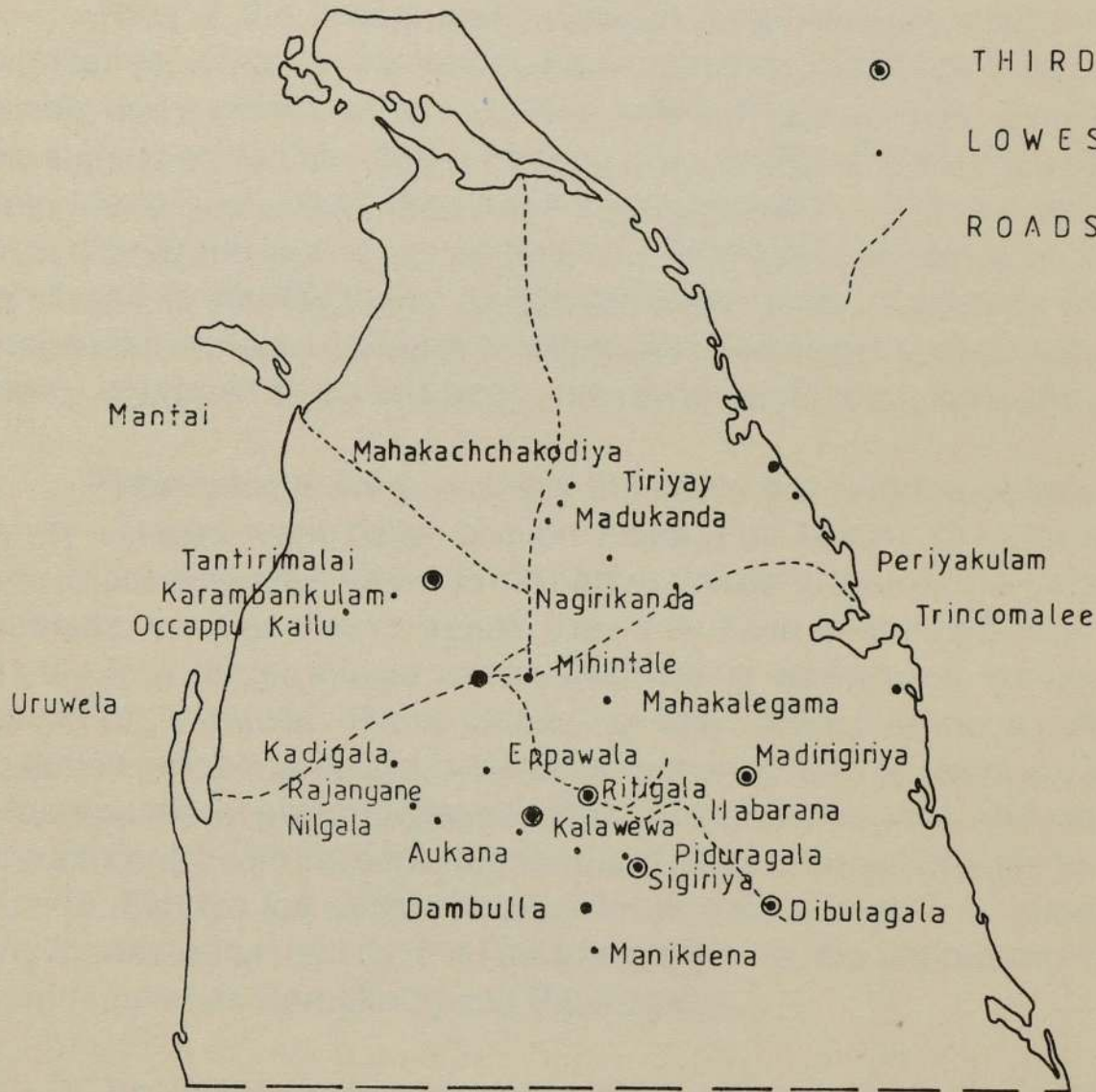
# ILLUSTRATION - VII

## HIERARCHY OF CENTRAL PLACES

( RELIGION )



- HIGHEST ORDER
- SECOND ORDER
- ⊙ THIRD ORDER
- LOWEST ORDER
- ROADS



discovered. The town of Kalawewa associated with the Kalavapi vihare, while the enlossal Buddha statue at Aukana and the ancient caves of Sessaruwa are close at hand. Within the town too were found the remains of statues and buildings<sup>81</sup>. The port of Mantai was associated with the Hindu shrine at Tiruketiswaram while there were also dagobas (not identified) in the outskirts of this place. These centres, no doubt attracted many pilgrims even from far away settlements.

At the apex of the hierarchy was Anuradhapura. The three main vihares and heads of the three *Nikayas* (sects) namely the Mahavihare, the Abayagiri and the Jetavana Vihares, were situated here, and all monasteries in the land were in one way or another connected with them and looked to them for guidance. The important Relics, the Tooth-relic,<sup>82</sup> and Collarbone relic<sup>83</sup> and the Alms-bow relic<sup>84</sup> were housed here while the Sri Maha Bodhi was at the Mahameghavana Gardens.<sup>85</sup> Many smaller *dagobas* were also located here, such as the Lankarama and the Dakunu dagoba built in the time of Vattagamani Abhaya (89-77 B.C.), and the Kiribath Vehera and the Pathamaka Ceitiya of Devanampiya Tissa. Thus Anuradhapura was an important as well as a popular centre of pilgrimage, drawing people from all parts of the country and sometimes from abroad. The *Mahavamsa* states that people from the *puras* and *janapadas* came to the place where the Mahastupa was thus confirming the importance of this city as a religious centre. Anuradhapura was the chief centre of learning, although Mahagama was a noteworthy centre too. It was also the place where many important festivals were held. Some of these festivals, like the exposition of the Tooth-relic were not held in other centres. Many *bhikkus* are known to have resided in and around the city, and at the same time many more *bhikkus* and lay people did move into the city for religious services, so that, as a religious centre, its influence spread to all parts of the island.

### Health Services

Providing health services, including the care of the sick, are among the important services discharged at central places. Large towns provide for

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81. Ibid., p.89.  
 82. The Tooth-relic was brought to Ceylon in the reign of Sirimeghavanna (619-628 A.D.) and housed in the city.  
 83 & 84. These two relics were brought to Ceylon in the time of Devanampiya Tissa (307-267 B.C.). The Collar-bone relic was kept in the Thuparama Dagoba (the very first dagoba to be built here), while the Alms-bowl relic was kept in the palace.  
 85. A sapling of the Bodhi Tree was brought by Sanghamitta Theri, the sister of Mahinda, also in the reign of Devanampiya Tissa.

efficient means of sewage disposal, scavenging the prevention of epidemics and hospitals and other institutions to cater to the sick and disabled; and generally try to maintain a high standard of health and hygiene within their boundaries. Such services, though to a varying degree, are normally provided at other lower order central places in the hierarchy, so as to achieve an organized system of health services for the whole region.

Public health and the care of the sick appear to have been the concern of kings in early times dating from the time of King Pandukabhaya (437-407 B.C.). According to the *Mahavamsa*,<sup>86</sup> when this king established the capital at Anuradhapura, he built cemeteries, a general cemetery called the *Mahsusana* outside the city, and a smaller the *Nicasusana* exclusively for the Candalas, to the north-east of their special village which lay to the north-west of the general cemetery. He is also said to have employed one hundred and fifty people of the Candala class for purposes of removing and burying dead bodies; and another two hundred and fifty of these people, as scavengers and for cleaning the sewers.<sup>87</sup> Associated with this great concern for public health, was the effort made to build hospitals and dispensaries. The *Mahavamsa* commenting on Pandukabhaya states, "In this place and that he built a lying-in shelter and a hall for those recovering from sickness."<sup>88</sup>

With the advent of Buddhism, the building and endowing of hospitals to house and care for the sick and the disabled was considered to be a meritorious deed, like the feeding of the poor and the building of dagobas. Thus many kings are known to have established hospitals and encouraged the practice of medicine. King Dutugemunu (161-137 B.C.) built twenty-one hospitals throughout the country,<sup>89</sup> while Buddhadasa (337-365 A.D.) appointed a physician for every village, and built places of refuge for the sick in them.<sup>90</sup> Upatissa I (365-406 A.D.) built alms-halls and shelters for cripples, blind persons and the sick, while Udaya I (797-801 A.D.) established hospitals at Polonnaruwa and Padaviya and endowed them with villages for their upkeep.<sup>91</sup> In the tenth century Kassapa IV (896-913 A.D.) established hospitals at Anuradhapura to treat those suffering from epidemic diseases and set up lying-in-homes and free dispensaries in many parts of the city,<sup>92</sup>

86. *Mahavamsa*, Chapter X.94 Geiger's translation, p.75

87. *Mahavamsa*, Chapter X.91. Geiger's translation, p.75.

88. *Ibid.*, Chapter X.102, Geiger's translation, p.75.

89. *Ibid.*, Chapter XXXII, 38. Geiger's translation, p.223.

90. *Culavamsa*, Chapter 37.145. See Geiger's translation, Volume I, p.13.

91. *Culavamsa*, chapter 49.19. See Geiger's translation, Volume I, p.128.

92. *Epigraphia Zeylanica*, Volume III, p.276.



while Mahinda IV (956-972 A.D.) maintained kitchens and medicine-halls.<sup>93</sup>

Hospitals were established not only in the large settlements but also at various monasteries for the *bhikkus* themselves were well versed in medicine. A pillar inscription of Udaya II (887-898 A.D.)<sup>94</sup> found outside the eastern gate at Anuradhapura records a grant of land made to the hospital at Madirigiriya. According to Paranavitane, it is an indication of the importance of this hospital attached to the monastery and the reputation it enjoyed at this period.<sup>95</sup> Hospitals seem to have been established at other monasteries too, and evidence is found in the sources, with regard to Mihintale.<sup>96</sup>

By the Late Anuradhapura period, therefore, the country appears to have had many hospitals of varying importance, and *Ayurveda*<sup>97</sup> was well advanced. There were many lying-in-homes, dispensaries, and institutions that cared for sick animals.<sup>98</sup> Many ninth and tenth century inscriptions testify to this fact for they record various grants made by kings and private individuals for the maintenance of hospitals. At an earlier date, Silakala (124-537 A.D.) is said to have "increased the revenues of hospitals,"<sup>99</sup> and the Pillar inscription of Kassapa IV (898-914 A.D.)<sup>100</sup> refers to a lying-in-home established by the Chief Secretary and the grants made to it.

Around this period, among the king's officials, was one called the *Maha-vedna* - the Chief Physician and his deputy, the *Sulu-vedna*, who were in charge of state hospitals. The existence of such officials in the Council gives an indication of the importance placed on such institutions and on health services in general. A reference to the *Maha-ved-na* is found in the Polonnaruwa Council Chamber inscription,<sup>101</sup> which also refers to the rent paid to a hospital.

Although hospitals have been mentioned mainly in connection with Anuradhapura and in one instance with reference to Polonnaruwa and Padaviya, it is quite possible that there were such places in all the towns and in some of the large villages. These central places possibly had various services connected with public health, such as the disposal of the dead,

93. Culavamsa, Chapter 54. 30-31. See Geiger's translation, Volume I, p.181.

94 & 95. Epigraphia Zeylanica, Volume V, Part 3, p.336.

96. Register of Ancient Monuments, p.72.

97. Ayurveda, the indigenous system of medicine.

98. Culavamsa, Chapter 73.50. See Geiger's translation, Volume II, p.5.

99. Ibid., Chapter 41.28. See Geiger's translation, Volume I, p.54.

100. Epigraphia Zeylanica, Volume III, p.276.

101. Ibid, Volume IV, p.44.

sewage, as in the city. According to the *Rasavahini* Mantai is said to have had a common cemetery known as the Mahatittha Susana.<sup>102</sup> It is possible that these services were also discharged by the lower order central places, for the villages appear to have had places to house the sick, if not within the village limits, at least at the near-by-monastery.<sup>103</sup> In places where there were no hospitals, as in the small "dispersed" villages, there was possibly a physician or *vedarala* who could treat simple illnesses.

Health services, therefore appear to have been discharged by way of a hierarchy of central places, with the larger and better-known hospitals, and other institutions located at Anuradhapura. Although no definite information is available with regard to the lesser central places, it is likely that they too discharged health services to the surrounding region and looked to Anuradhapura for high order and specialized services. At the same time, it is likely that on special occasions such as the enshrining of relics or the commencement of the building of tanks or temples, when trade stalls were set up to cater to the people who converged at the site,<sup>104</sup> there were the travelling physicians who also set up their stalls sold medicines and treated simple ailments. It is also quite possible that such persons travelled from village to village, in the same way as the itinerant pedlar and trader, and brought health services to the smaller remote settlements.

### Trade

The facilities provided for trade or the buying and selling of goods is one of the most important services performed at "central places". For even among the most primitive societies some form of exchange or barter becomes necessary to obtain certain essential goods. To exchange goods, or for trade, some central place is needed where goods can be brought and sold, with facilities like a market-place with stalls and an adequate transport system. In modern times credit and banking facilities should also be made available. Trade is so important that many villages which were favourably located for trade such as those established transport nodes, at boundaries between two natural regions, or at points of break-of-bulk where sea transport gives way to land transport, have grown into significant towns discharging a variety of services. Cambridge is one such place which began as a market town and later developed into a University town.

Most ancient towns had a well-defined market sector, as is found in

102. Ellawala, H., *History of Early Ceylon* (Ceylon, 1969) p. 117.

103. Medicine was considered to be a secular study so that monks were supposed to treat only their fellow monks or their close relatives. But it is possible that they did treat people from the near-by settlements, as such a service could not be refused.

104. Geiger, W., *Culture of Ceylon in Medieval Times*.

modern complex towns and cities. The "Pettah" of Colombo during the Portuguese period was such a sector, while most Scottish towns like St. Andrews in Fife still preserve the "Market Street" which was the market square of ancient times. In areas comprising small self-sufficient villages however, where needs are few, trade was often carried on by travelling merchants who carried goods from village to village often on pack-animals, and from a centre to which they returned when their goods were sold. Sometimes trade facilities were provided at markets which were held periodically<sup>105</sup> at some central point, as was the practice in Medieval Britain.

In Ceylon, by the Late Auradhapura period, there was well-organized foreign trade activity and associated with this, a considerable amount of internal trade. Evidence of this intensive trade can be gathered from literary, archaeological and numismatic sources.

Before the Indo-Aryan settlers arrived in the island, trade had been carried on by Maghadan traders and the indigenous people living near the coasts. The indented coastline provided sheltered havens for sailing ships, in times before the use of the mariner's compass in navigation, and legends speak of the merchants who were shipwrecked on the coast between Kalyani (Kelaniya) and Nagadipa (the Jaffna peninsula).<sup>106</sup> With the discovery of the use of monsoons in navigation, in the 1st century B.C., Ceylon was found to lie directly on the east-west trade route, and by the end of this century considerable trade was carried on with Rome in the west and China in the far east in addition to the trade with India. The writings of Pliny and Ptolomy refer to this and also mention some of the ports of Ceylon.<sup>107</sup>

By the end of the sixth century A.D., Ceylon had grown into an important centre of entrepot trade with the Arabs acting as intermediaries. At the same time, Ceylon exported her own products; gems, pearls, spices, muslins and tortoise-shell, as mentioned in the *Periplus of the Erythrean Sea*<sup>108</sup> in exchange for luxury goods like perfume sandalwood, wines, silks, copper and gold articles. Cosmas Indicopleustes in *Christian Topography* refers to this trade.<sup>109</sup>

By the 7th century, A.D. the Arabs dominated the then known trade routes, and had control over the foreign trade of Ceylon so that by the 9th century colonies of Arabs had settled around the major ports. The major port

105. c/f. "Spatial interaction", p.8.

106. Ellawala, H., *Social History of Early Ceylon*, (Ceylon, 1969), p.136.

107. c/f. Section on "Sources".

108. Ibid.

109. Ibid., p.10.

at this period was Mantai, which even before the coming of Vijaya had regular trade with Nagapatana in India. By this time it had grown into a significant commercial town while the adjoining settlement of Mannar had become a centre of internal trade. The other important ports in the land were Jambukola in the Jaffna peninsula, Huratota or Kayts, also included within the Jaffna peninsula, Uruvela on the north-west coast, which developed as a pearling port, and Trincomalee or Gokanna, on the north-east coast. Apart from these, there were smaller ports, such as Kalpitiya, Kudremalai and Mullaitivu. (See map). In Rohana, the only noteworthy port was Mahagama, although the port Godapavata has been mentioned in an inscription of the 1st century A.D., found near Hambantota.<sup>110</sup>

Around the 10th century, A.D., ports along the west coast came into prominence - Colombo, where by 949 A.D., a colony of Arabs had settled; and the ports of Bentota, Galle and Weligama which together had a rich hinterland.

With regard to the internal trade of this period, W. Geiger comments that, "The internal mercantile traffic in Ceylon was insignificant....".<sup>111</sup> But, such an amount of foreign trade as Ceylon carried on at this time, must necessarily be linked with a considerable internal trade. Information gathered from the sources, in fact, indicate that there did exist a significant internal trade, in spite of the many self-sufficient and self-contained villages.

The sources contain references to certain merchants, merchants' guilds, market-places, and trade practices. The *Mahavamsa* refers to the Yonas, or foreign merchants, of Anuradhapura<sup>112</sup> and mentions the Brahmana merchant who lived at Dvaramandala near Mihintale.<sup>113</sup> The Vilba Vihare inscription of the 1st century A.D.<sup>114</sup> refers to a merchant who donated a cave to the Samgha (priesthood) and the Tiriya Rock inscription refers to traders who carried goods in sailing ships.<sup>115</sup>

Many references to merchants' guilds are also found in the sources, as in the Badulla inscription of the 10th century which gives an insight into the trading practices of the period. These guilds were found mainly in the ports, although Hopitigama mentioned in this inscription which appears to have been "a place of considerable commercial importance",<sup>116</sup> forms an exception. However, it is possible that such a guild did exist at Anuradhapura

110. C.J.S.G. II, p.197.

111. Geiger, W., *Culture of Ceylon in Medieval Times*, (Wiesbaden, 1960).

112. *Mahavamsa*, Chapter X.90, Geiger's translation, p.74.

113. *Ibid*, Chapter XXIII.23, Geiger's translation, p.157.

114. C.J.S.G. II, p.212.

115. *Epigraphia Zeylanica*, Volume IV, p.159.

116. *Ibid.*, Volume III, p.77.

as there is mention of the *Setthi* or the chief of the mercantile corporation.

Market-places were located in most of the towns, which were centres of local trade. The term "padi" or "vadi" mentioned in the Badulla Pillar Inscription, refers to the mercantile quarter of towns.<sup>117</sup> The *Dipawansa*<sup>118</sup> speaks of the market place of Upatissagama, while the Tonigala inscription and the Labuatabandigala inscription refer to two market settlements outside the gates of Anuradhapura. The *Mahavamsa*<sup>119</sup> also refers to shops found within the city walls, while the Badulla pillar inscription suggests that there were special stalls for the sale of betel leaves and arecanuts.

There appears to have been various rules and regulations with regard to trade. The Badulla Pillar inscription indicates that a toll was levied on goods brought into the village and sold within the village limits, but not on those goods passing through it. Trading was prohibited on Poya days, and those guilty of such practice had to pay a penalty. Customs duties were imposed at the ports as is indicated in the Godavaya inscription.

The sources also indicate that coins, a medium of exchange in trade, were in use during this period. The *Rasavahini*<sup>120</sup> refers to "Kahapanas" that were used in transacting trade. These were probably issued by the guilds with the permission of the king, just as weights and measures used in the market-places, had to be sanctioned by the king's officers. During the Late Anuradhapura period, a gold coinage seems to have been in use, although these may have been used mainly in foreign trade. Roman, Arab, Chinese and Indian coins have been unearthed at many ancient sites, as for example at Polonnaruwa and Sigiriya where copper coins of Roman emperors have been found.

In further support of the fact that a considerable inland trade existed at this time, is that there was a rich and sophisticated stratum of society that demanded the various luxury goods that were brought into the island. Such a society was found not only at Anuradhapura, but at the ports and possibly at the other towns as well. With regard to Mantai,<sup>121</sup> it is said that there was a wealthy class of people, possibly of the merchant class, who lived in the town. Inscriptions also suggest that these imported goods were conveyed from the ports to the interior towns by merchants who belonged to guilds or

117. Ibid., Volume III, p.85.

118. *Dipawansa*, Chapter IX, 36.

119. *Mahavamsa*, Chapter XXIII, 29. Geiger's translation, p.157.

120. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon 1969), p.144.

121. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon 1969), p.117.

corporations, and they often traded these goods for local produce that could be exported. The merchants' corporations were very wealthy and influential and some of their members took part in the administration of the country.

The various items of this export trade were confined to specific areas from where they were obtained. Pearls were collected from the pearl-banks in the Gulf of Mannar, precious stones from the Adam's Peak region, elephants from the jungles of the dry zone lowlands and spices from the hill country. In other words, there was a real differentiation, which is a significant factor in the growth of trade, and thereby in spatial interaction.

Even the items of inland trade had certain surplus areas. Salt, one of the main items of internal trade was collected near Puttalam in the north-west coast, and in certain coastal areas in Rohana. Dried and salted fish was sent from the coastal settlements to the interior. Rice, the staple food of the people and therefore cultivated in most areas, had certain surplus areas from where it was sent especially to the towns and ports. They were the Gal-Oya Valley in the area around Digavapi, the Viharavapi region near Kirinda in Rohana and the Pomparippu or "Golden plain" north of the Kala-oya delta. Of lesser importance in the inland trade was iron ore, which was found widely scattered in the island and was used in the making of utensils, knives and agricultural implements. Cloth was woven in some settlements and bartered for rice and other necessities.

A good transport network is also essential for the growth of trade. Ceylon at this time was well-served by major roads, minor roads and tracks. All the main ports were linked with Anuradhapura by means of major roads, while all the main towns were also served by such roads. Minor roads and tracks linked the numerous villages, so that no area was completely isolated.

The products for export were collected from the various localities and conveyed to Anuradhapura and the ports. At the same time imported goods were carried from the ports to interior markets. Goods were also brought from the surrounding villages into the towns for sale or to be bartered for essential items such as salt and oil. Goods brought into the towns consisted of those products collected from the neighbouring jungles like honey, firewood and herbs, and those goods produced in the villages, such as rice, pottery, mats, fruits and vegetables. M.B. Ariyapala states that the *Saddharma-ratnavaliya* refers to a man who collected herbs and fruit from the forest and bartered them in the towns for rice, salt, chillies and oil.<sup>122</sup>

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122. See *Society in Mediaeval Ceylon*, (Ceylon, 1956), p.335.

The villagers generally walked to the market centres. In the *Pujavaliya*<sup>123</sup> there is a reference to "pingo loads"<sup>124</sup> of grass being taken for sale, indicating that goods were carried in this manner. Traders however, carried their goods in ox-wagons and on pack animals. They travelled from a central place to the surrounding villages, and returned to the centre when their goods were sold. They often exchanged foreign goods for local produce. These traders also travelled in bands which were known as *tavalams*, the name being derived from their stopping-places which were called *tavalams*. The routes were along the roads connecting the main settlements, but they also traversed the hill country in search of spices. It could be stated that these *tavalams* dominated the internal trade of the early period, and were comparable to those traders of Medieval England who carried merchandise on pack-horses to the scattered village communities.

Statements in the *Culavamsa*,<sup>125</sup> where it is said that Gajabahu (1137-1153 A.D.) ordered some of his spies, "...to go round selling goods such as rings and bracelets of glass and the like...", indicates that pedlars and hawkers also travelled from village to village carrying cheap consumer goods and bartered them perhaps for the produce of jungles. Sometimes pedlars and traders gathered at places where festivals or various ceremonies were being held, in order to cater to the people who converged at the spot from the surrounding settlements. Sometimes stalls were set up to provide traders with facilities to sell their goods. The *Mahavamsa* states that during the *Giribanda-puja* such stalls were set up, in the time of Mahanaga (67-79 A.D.).<sup>126</sup>

There appears to have been much interaction between settlements with regard to trade. The ports as centres of the export trade conveyed these goods to the interior towns, while local produce moved to them. The *Rasavahini*<sup>127</sup> mentions a merchant of Mantai who traded in the area west of Anuradhapura. These goods however, hardly reached the small villages as there was no demand for them, but produce from the villages were carried even to the markets of Anuradhapura, so that there appears to have been a hierarchical arrangement in the discharging of marketing services at this period.

At the lowest level, the small or "dispersed" villages do not appear to have had definite market-places, and they may have depended on the

123. Ibid., p.334.

124. "pingo" - a strip of wood carried on the shoulder as a yoke with goods suspended at each end.

125. Chapter 66.133. See Geiger's translation, p.264.

126. Chapter XXXIV, 75-81.

127. See Ellawala, H., *Social History of Early Ceylon*, (Ceylon, 1969), p.143.

*gama* for their necessities.<sup>128</sup> Many of these villages consisted of people of different castes, and it is possible that there was a certain amount of barter among them in goods such as mats, pottery and agricultural implements. The surplus goods, no doubt, were taken to the higher order central places and exchanged for those not available in their villages, as for example, dried fish and salt.

The large villages too had their market places, but it is unlikely that imported goods from the ports moved to these places, as there was no demand for them - the wealthy classes being confined to the towns. Traders possibly travelled from those places to the small villages and returned within the day.

The market-places in the towns and the ports however, were possibly larger, with many merchants settled within them and having established their own shops as trade at this period was a lucrative occupation and the merchant class was very wealthy. Such places no doubt, sold a variety of goods not available in the lower order places. At the same time, products from the villages also found a market here, for there are references to loads of firewood brought to the towns for sale.<sup>129</sup>

Anuradhapura, as the only city in the region, had markets within the city as well as outside the city gates. The *Mahavamsa* records that when Suranimala came from *Mahagama* to Anuradhapura he purchased perfumes from a shop within the city.<sup>130</sup> The shops within the city possibly sold the imported luxury goods and catered to the wealthy classes who lived in the city; while the market centres outside the city were general market places from which the people in the nearby settlements obtained their necessities. It is possible that luxury goods were conveyed from here to the other towns, for there were agents of the merchants who carried on the foreign trade from the ports.

As the most important religious centre, most of the festivals were held here and on these special occasions traders, barbers, astrologers, entertainers and others gathered and set up their stalls for short periods. This appears to have been similar to the markets or fairs associated with religious festivals and Saints days in Medieval Europe. Such fairs may have been held in the other towns but possibly on a lesser scale.

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128. C/f. Section on "Settlements in the Late Anuradhapura Period".

129. Ariyapala, M.B., *Society in Mediaeval Ceylon*, (Ceylon, 1956), p.334.

130. Chapter XXIII.28, Geiger's translation, p. 157.



This is the hierarchy based on trade, Anuradhapura forms the highest order central place, along with the ports, followed by the interior towns, the large villages and the *gamas*. While local goods from the villages moved upwards from the countryside to the towns, the ports and to Anuradhapura, the luxury goods moved from the ports and Anuradhapura only to the towns and possibly to a few large villages. The movement of these goods took place along the main roadways, but at the same time, the *tavalams*, the pedlars and the hawkers helped to link up the numerous village communities into a well organized trading system.

### The Hierarchy

With regard to the discharging of services, as stated earlier,<sup>131</sup> the settlements can be grouped into five levels in a hierarchy of central places with Anuradhapura as the highest order central place, followed by the towns or second order central places, the large villages or third order central places and the *gamas* or the lowest order central places. Below this level were the small "dispersed" villages which have no central place functions.<sup>132</sup>

This hierarchy, and the settlements included under each level applies mainly to central places in terms of administrative services. With reference to the other services namely, health, religion and trade, the settlements appear to have gained or lost "importance"<sup>133</sup> as central places. Tiriyay which is classed as a large village or a third order place, with regard to religious services gains "importance" as a popular place of pilgrimage and therefore is classed as a second order central place. Kavudulla, on the other hand, although a third order central place can only be classed as a lowest order place, as the sources give no indication of any religious significance.

Although the available information on health services remains scanty and it is difficult to work out the pattern of central places, it is quite possible that the hierarchy was very similar to the administrative hierarchy, except where the hospitals attached to the monasteries were concerned. The hospitals at Mihintale and Madirigiriya add "importance" to these third order settlements, and they can be classed as second order central places.

In respect of religious services and trade, the order of central places in the hierarchy changes. Some of the large villages can be classed as second order central places and some of the small villages can be included

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131. C/f. Section on "Settlements in the Late Anuradhapura Period", p.6.

132. C/f. Section on "Spatial Interaction".

133. C/f. Section on "Spatial Interaction".

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among the third order central places, where the discharging of religious services was concerned. Centres such as Dambulla, Mihintale, Seruvila and Tiriya were significant places of pilgrimage and therefore classed as second order places, while the small villages associated with monasteries<sup>134</sup> can be grouped as third order central places, for, the monasteries added "importance" to these places.

With regard to trade, the ports, as centres of the country's import-export trade, attain much "importance", and along with Anuradhapura, can be included as central places of the highest order. Apart from this change the hierarchy of central places with reference to trade appears to be similar to that based on administrative services.

Anuradhapura is the highest order central place for all the important services discharged by central places in the region and this city was well-connected to the other central places in the hierarchy by an adequate network of roads. Thus the whole region was linked into a well-knit spatial system with each central place located favourably so as to discharge the services efficiently throughout the whole region.

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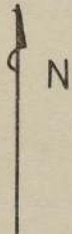
134. C/f/ Section on "Settlements" - List of Small Villages, ass, with Monasteries.



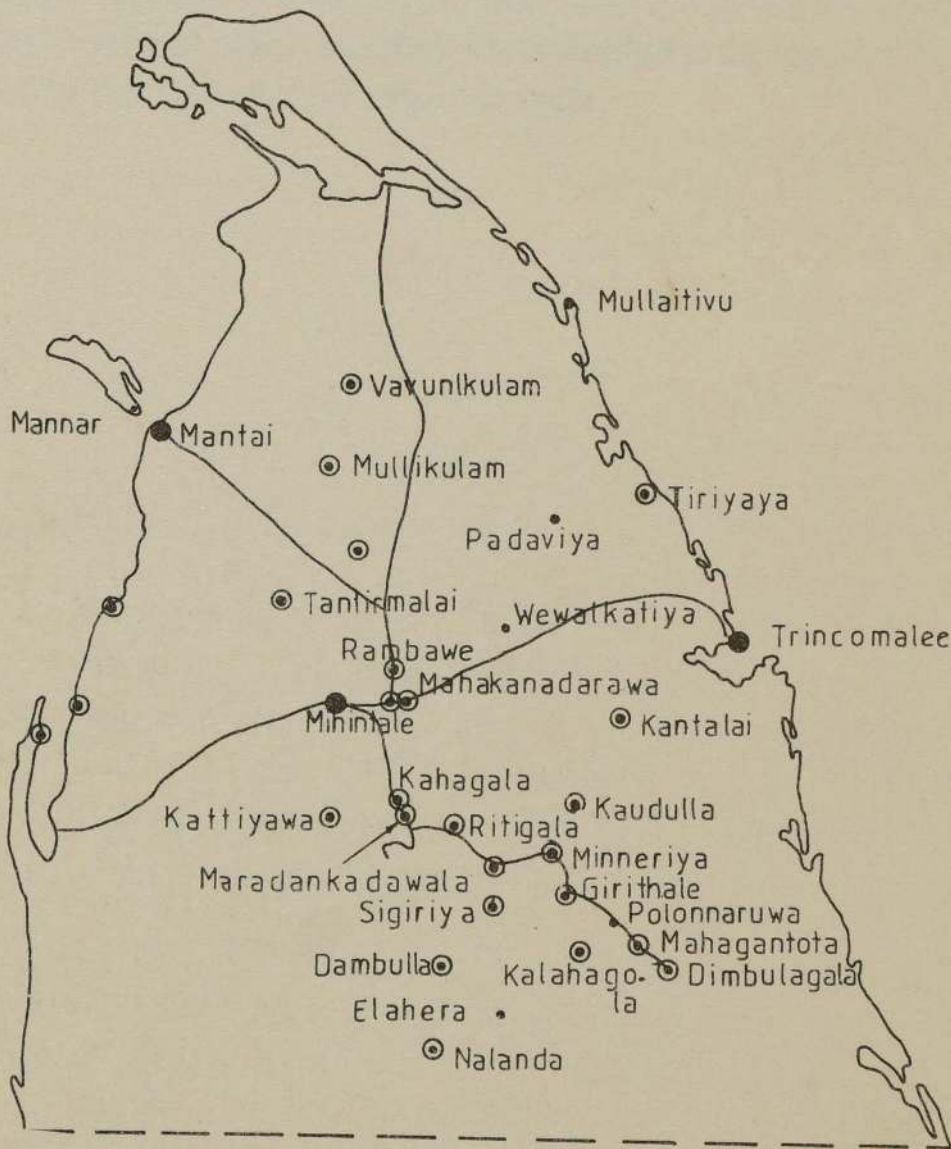
ILLUSTRATION- VIII

HIERARCHY OF CENTRAL PLACES

(TRADE)



- HIGHEST ORDER
- SECOND ORDER
- ⊙ THIRD ORDER
- LOWEST ORDER
- ROADS



## 11 THE SPATIAL SYSTEM

In the activities of the settlements of the Late Anuradhapura period, it is evident that there was much spatial interaction or movement, in terms of people, goods and ideas, aided by a good network of roads and a hierarchy of central places. Each high order central place, or town, apparently dominated the surrounding area with many small centres and dispersed places dependent on them, and in turn was dependent on Anuradhapura. Anuradhapura, provided services for the whole country, sometimes directly and sometimes indirectly by way of the lesser central places.

Interaction took place from the dispersed settlements upwards through the various tiers of the central place hierarchy, and downwards from Anuradhapura to the many dispersed places. From the dispersed places the people generally moved to the *gama* or lowest order central place for their day to day services such as obtaining necessities not available within their villages. The headmen responsible for these places also discharged administrative services from the *gamas* and at the same time these may have been the centres where *bana* preaching was conducted on special occasions.

The large villages or the third order central places were however not too far away from the dispersed places and people possibly moved directly to these centres where there were permanent markets, and for special religious observances or medical attention. Some of these central places were well-known places of pilgrimage and, therefore, attracted pilgrims throughout the year. Such centres provided more specialized services not available at the *gamas*.

The second order central places or towns were large centres with "urban" functions and better organized services. They had separate market sectors with shops selling a variety of goods, as at Anuradhapura, and were also centres of administration where in some cases the district governors resided or, at least, discharged administrative services when on tour from Anuradhapura. To these centres people moved from the surrounding area

for specialized services with regard to health for they were known to have had hospitals or for entertainment for many festivals like the *Vesak* were celebrated at these places on a grander scale than at the smaller centres.

All the central places in the hierarchy and including the dispersed settlements were dependent on Anuradhapura (the highest order central place of this period) for specialized high order services with regard to administration, health, religion and trade. The highest administrative officials functioned from here, while many of the state institutions, the hospitals and alms-halls, were situated within the city. Anuradhapura was the highest centre of education and also of entertainment, for many of the religious festivals were held only at this city. It was also along with Mihintale an important centre of pilgrimage, and thus drew many people. Not only was this place the highest order central place of the dry zone lowlands and of the whole island, but at the same time it controlled and influenced all the settlements including the numerous "dispersed" ones.

From the central places or "nodes", therefore, people moved from place to place for religious observances, on pilgrimage and to attend festivals. They also moved to centres with hospitals for medical treatment to centres with market-places for purposes of trade. Traders and *tavalams*<sup>1</sup> set out from the higher order centres to serve the smaller and more remote areas. Administrative officials travelled from Anuradhapura and from the towns to perform their official duties, while the King himself sometimes toured the country.

Spatial interaction in the dry zone lowlands was possible to such an extent as the whole country was well-served with roads. Besides the roads that traversed even the remote hill country, there were much frequented sea routes from the Jaffna peninsula down the east coast towards Batticaloa,<sup>2</sup> and along the west coast to Kalpitiya and possibly to Colombo. These routes aided interaction especially among the coastal settlements where trading fishing and agricultural activities took place.

Although the settlements were connected with a good network of routes the methods of transport and communication in terms of modern standards were primitive. But in a society where time was not a significant factor and people lived at a leisurely pace they were adequate. Most people walked from place to place and carried their food with them on short journeys. On longer journeys and on pilgrimage, people stopped at the settlements en route. It is possible that in some instances people travelled

1. See Section on 'Trade'.

2. See Arasaratnam, S., *Ceylon* (New Jersey, 1964).

in carts as well. Travellers seem to have been so frequently met with for the Culavamsa referring to Kittisirimegha (556 A.D.), states, "For the poor, for travellers and beggars he instituted a great alms giving".<sup>3</sup> In the 11th century Vijayabahu I (1055-1110 A.D.) had built rest-houses alongside the road to Adam's Peak from Rajarattha, and granted the income of the village of Gilimale for the providing food and shelter for *bhikkus* and pilgrims.<sup>4</sup>

Goods were brought to market by means of the "pingo", and sometimes goods were merely carried on the head. Traders used ox-carts when they travelled to the various settlements. The King and the nobility travelled on horse-back, on elephants or in chariots, while palanquins were used in the city and in the towns. Rivers and canals were also important in the transport network, for rafts and small boats were used to carry goods and people.

Ideas were disseminated by means of preaching and teaching. *Bhikkus* preached religious ideologies to the people who came from far and near to listen to them. At the same time, they travelled from place to place giving religious instruction and imparting basic knowledge in reading and writing. Information in the form of edicts and proclamations of the King was broadcast by the officials on tour, and by the 'tom-tom' beaters (drummers). The latter method appears to have been widespread as the *tom-tom* beaters or *beravayo* formed a separate caste which included dancers, and sometimes occupied exclusive villages. The Galapata Vihare Rock inscription of the 12th century refers to a *beravagama*.

The measurement of distance as can be gathered from the sources is vague. As the main means of travel was by foot, distances seem to have been measured in terms of how far a man could walk with a pingo-load without resting. This distance was termed a *hatakma*, and was about a mile. Four such *hatakmas* equalled a *gavva*, and four *gavvas* made a *yojana*. A *gavva* was said to be about 3 1/2 English miles. J.F. Fleet<sup>5</sup> concludes that a *yojana* was about 9 English miles, while Rhys Davids estimates it to be about 7-8 miles. Parker estimated a *yojana* to be 8 1/2 -9 miles and as a *yojana* was said to equal 4 *gavvas*, he estimated a *gavva* to be 2 1/4 miles.<sup>6</sup> A day's journey thereby was estimated to be about 25 - 30 miles.

Within the Dry Zone lowlands, it is known that settlements were located fairly close together, but it is difficult to estimate the size of the

3. *Culavamsa*, 41.66. See p.58 of Geiger's translation.

4. *Culavamsa*, 60.65. See p.221 of Geiger's translation.

5. Fleet, J.F., "Imaginative Yojanas:", *J.R.A.S. (C.B.)*, 1912.

6. Codrington, H.W., "Gavutu Pillars", *C.H.J. (G)*, Volume II, 1928-33, p.129.

hinterlands, even with regard to towns. However, judging by the distribution of settlements and the distances between them, the range of services discharged at the towns can be estimated at about 25 - 30 miles, or the distance a man could walk in a day. As estimated from present day roads, the towns (except Jaffna) were within 2 - 3 day's travel from Anuradhapura. For example:-

Mannar	69 Miles
Trincomalee	66 Miles
Polonnaruwa	63 Miles
Jaffna	121 Miles

In the discharging of services it can be noted that there is a hierarchy in the settlement pattern with the central places of each tier performing similar functions. At the top of this hierarchy was Anuradhapura and at the very lowest level were the numerous dispersed villages. The central places discharged various services for their particular hinterlands and at the same time had a place in the over-all spatial system.

The distribution of central places in any historical period, according to Christaller, conforms to the marketing, traffic or administration principles'.<sup>7</sup> In spite of the lack of statistical data and the fact that the list of tenth century settlements is incomplete, with little or no information with regard to *gamas*, the general pattern of distribution and the location of central places can be clearly traced. If more information becomes available, it will only help to enhance the understanding of this pattern, but not change it radically; and it can be gathered that Christaller's traffic principle dominates the location of central places in the dry zone lowlands of the Late Anuradhapura period.

During this time, Anuradhapura was the capital and the only city in the island. It was also the hive of economic, social and political life, and the main religious centre. A good network of roads connected this city with the rest of the country. The main service provided by a capital city is administration. Anuradhapura served in this capacity for the whole island. However, control from this centre was strong only within Rajarattha, while there were provincial rulers for Rohana and Malaya. Even within Rajarattha the king was not a despotic ruler for the headmen administered the semi-independent villages.

According to the Chronicles, from Anuradhapura there were four main highways:-<sup>8</sup> to the Jaffna peninsula to Mantai, to Mahagama via

7. c/f Section on "Spatial Interaction".

8. c/f. Section on "Settlements and Transport".



Polonnaruwa and to Uruvela. Apart from these, by the 10th century there must have been a highway to Trincomalee and to the other towns like Kalavava, and Padaviya. From the available data it is difficult to trace these highways and the settlements which were located alongside however, as two major factors play a part in the construction of roads i.e. that the shortest distance between two points is a straight line and that a road will try to follow the path of least resistance as well as from certain archaeological discoveries made at various points it can be assumed that the ancient highways followed closely the present-day roads.

### 1. The highway to Jaffna

The remains of paved roads have been found at Kopakulam,<sup>9</sup> which was possibly part of the road from Anuradhapura to Mihintale, and near Pavatukulam.<sup>10</sup> There is an ancient site at Vavunikkulam.<sup>11</sup> From literary sources it is known that Omantai<sup>12</sup> was a halting place when the Tooth Relic was brought from Jaffna to Anuradhapura. From these scraps of information it can be gathered that this highway probably ran via Mihintale, Rambawe, Pavatukulam, Omantai, Vavunikkulam and on to Jaffna.

It is however quite possible that this road did not run by way of Pavatukulam, but straight on to Omantai as the present road, and the bridge and paved road at Pavatukulam was a road to Mantai. The stone pillars found here suggest a main road, either to Jaffna or to Mantai.

### 2. The highway to Mantai

For some distance along the Talawe-oya, there was found the remains of a paved road and toll-bar,<sup>13</sup> which is said to be the route to a port at the mouth of the Moderagam-Aru, but very likely it was the route to Mantai as well. This highway therefore possibly followed the valley of the Talawe oya and then the Aruvi Aru.

### 3. The highway to Uruvela

This route is said to have existed from very early times. The remains of a stone bridge has been found at Palankadawala<sup>14</sup> and a road near

9. *Register of Ancient Monuments*, p.32.

10. Parker, H., *Ancient Ceylon*, (London, 1909), p.235.

11. *Register of Ancient Monuments*, p.211.

12. Brohier, R.L., *Ancient Irrigation Works in Ceylon*, (Colombo, 1934), Part II, p.21.

13. See One Inch Topographical Map of Marichchukkaddi.

14. *Ibid*, Kala-oya.

Virandagoda.<sup>15</sup> Brohier suggests that this was the route to Puttalam,<sup>16</sup> but possibly it was also part of the route to Uruvela, which ran by way of Ratmale, Pallankadawala, along the Kala-oya to Uruvela.

#### 4. The highway to Polonnaruwa and Mahagama

From the literary sources it is known that this route existed in the time of Dutugemunu,<sup>17</sup> and that there were many fortresses situated along it, while places such as Labugama, Kahagala and Maradankadawala were important settlements though at different times. The only archaeological evidence found here is a section of a paved road below Ritigala and one below Dimbulagala.<sup>18</sup> Thus this road possibly followed the present one, linking Kahagala, Maradankadawala, Ritigala, Habarane, Minneriya, Giritale and Polonnaruwa. This route does not include Labugama, and if this ancient route did touch this place, from Kahagala the road must have run past Labugama and not Maradankadawala. From Polonnaruwa the highway crossed the Mahaweli Ganga at Mahagantota (Kachchatittha ford), ran past Dimbulagala and on to Mahagama.

#### 5. The highway to Trincomalee

The remains of two stone bridges have been found, one near Mahakanadarawa tank<sup>19</sup> and the other on the Yan-oya near Ratmale together with an ancient site.<sup>20</sup> These probably marked the road to Trincomalee, which almost follows the present one. Thus this road ran by way of Mihintale. Mahakanadarawa, crossed the bridge, Pankulam and then reached on to Trincomalee.

Kalawewa and Padaviya were also important centres, but there is no evidence of direct highways to these in the sources. However, it can be assumed that they followed the path of the present day roads, i.e. a road branching off from Maradankadawala to Kalawewa and the road to Padaviya branching off from the main Jaffna-Anuradhapura highway near Medawachchiya and running by way of KEBITIGOLLEWA to Padaviya.

The major highways radiating from Anuradhapura appear to carve the Northern Dry Zone lowlands into five sectors, and they linked the main "central places" to the capital. Most of the large villages were located along

15. Ibid.

16. Brohier, R.L. *Ancient Irrigation Works in Ceylon* (Colombo, 1934), Part II, p.47.

17. *History of Ceylon* (University of Ceylon Press Board, 1960), Volume I, Part I, p.155.

18. E.Z. Volume I, p.184. The Dimbulagala Mara Vidiya Inscription.

19. *Register of Ancient Monuments*, p.124.

20. See One Inch Topographical Map of Padaviya.

these routes forming a linear pattern of distribution conforming to Christaller's transport principle, although ideally it is suggested that there should be six major routes from a major "central place".<sup>21</sup>

Within these sectors villages were located closely, clustered around the tanks. They appear to be more numerous judging from the accompanying map in the area around Anuradhapura and Polonnaruwa, but when taking into account the many small abandoned tanks and canal networks in other areas, as for example, near the Giant's Tank and around Mantai, in the region of Tambalagam Bay and around Pomparippu, near the mouth of the Kala-oya, it is clear that these areas too supported many villages.

These villages were mostly dispersed settlements administered by a Gamani who resided at a gama.<sup>22</sup> Thus it is possible that these villages were located around the gama and it was to this central place that the villagers looked for services not available in their own settlements. Small villages were also found around the large villages and towns. The literary sources mention Dravamandala near Mihintale,<sup>23</sup> and archaeological remains indicate the existence of many monastic settlements near by. Sigiriya too appears to have been the centre for such monastic settlements as Kaludiya-pokuna (Dakkinagiri Vihare), Piduragala and Ramakale (Maha Naga Pabbata Vihare), while there were also villages such as Kebissa and Wewalavava near by. The fishing village, Mahadalgama, was said to be in the vicinity of Mantai,<sup>24</sup> while the Mannar Kachcheri Pillar Inscription mentions three villages situated along this coast.<sup>25</sup>

Anuradhapura itself, apart from the large villages located near by, such as Mihintale and Rambawe, had many suburbs and small villages outside the city limits. Literary sources speak of many such caste villages, Pandulagama (a Brahmin village), situated to the south of the city, Candalagama to the north-west and others like Manikaragama (jewellers) and Kammantagama (village of craftsmen) near by.<sup>26</sup> Archaeological finds point to the existence of monastic settlements like Vessagiriya and Pankuliya (Asokarama), while inscriptions mention two market settlements, Kaluhuma and Mahatubaka, outside the city gates.<sup>27</sup>

21. Christaller, W., *Central Places in Southern Germany* (U.S.A., 1966), p.74.

22. c/f. "Settlements" in the Late Anuradhapura Period".

23. Mahavamsa, XXIII.24. Geiger's translation, p.157.

24. Nicholas, C.W., "Historical Topography of Ancient and Mediaeval Ceylon", JRASCB (1959), See Chapter on Mannar District, p.80.

25. The villages mentioned (though not identified) are, Pepodatuda, Kumbalhala and Tumpokon, E.Z. Volume III, p.100.

26. Ellawala, H., *Social History of Early Ceylon*, (Ceylon, 1969), p.113.

27. Tonigala Inscription, Labuattabandigala inscription, E.Z. Volume III, p.247.

The lower order central places were also well served with roads. The remains of a road has been found near Tiriya, which perhaps was a coast road from the north to the east coast linking the small ports and coastal settlements. Certain remains of bridges have also been discovered, and possibly these were on the minor roads.

1. a stone bridge on the Yoda-ela near Wahaikada tank (Padaviya Sheet).
2. a bridge on the Mora-oya (Padaviya Sheet).
3. Yakabendi Amuna - a dam and stone bridge on the Kala-oya. (Kala-oya Sheet).
4. a causeway on the Mahaweli between Yakkure and Marake which is most probably a road to Elahera branching off from the main Polonnaruwa - Mahagama road. (Elahera sheet).

Literary sources speak of a route to Adam's Peak from Rajarattha, and a road from Polonnaruwa to Dambulla,<sup>28</sup> possibly by way of Kalahagala. There was also supposed to be a road from Chilaw to Anuradhapura which ran eastwards to the interior and then turned north towards the Capital.<sup>29</sup> The many places of pilgrimage were also well served by roads, and the sources indicate a good network of roads. Thus it can be noted that while the more important settlements were, on the whole, located along the main highways, the smaller ones were also linked to them by minor roads.

Sometimes, in mountainous and difficult areas, the main roads and major settlements were found to be along the narrow valleys so that their distribution pattern resembles that conforming to the 'transport principle'. However, in this instance, relief is not a determining factor, for the Dry Zone lowlands, as the name implies, is not a mountainous or inhospitable region.

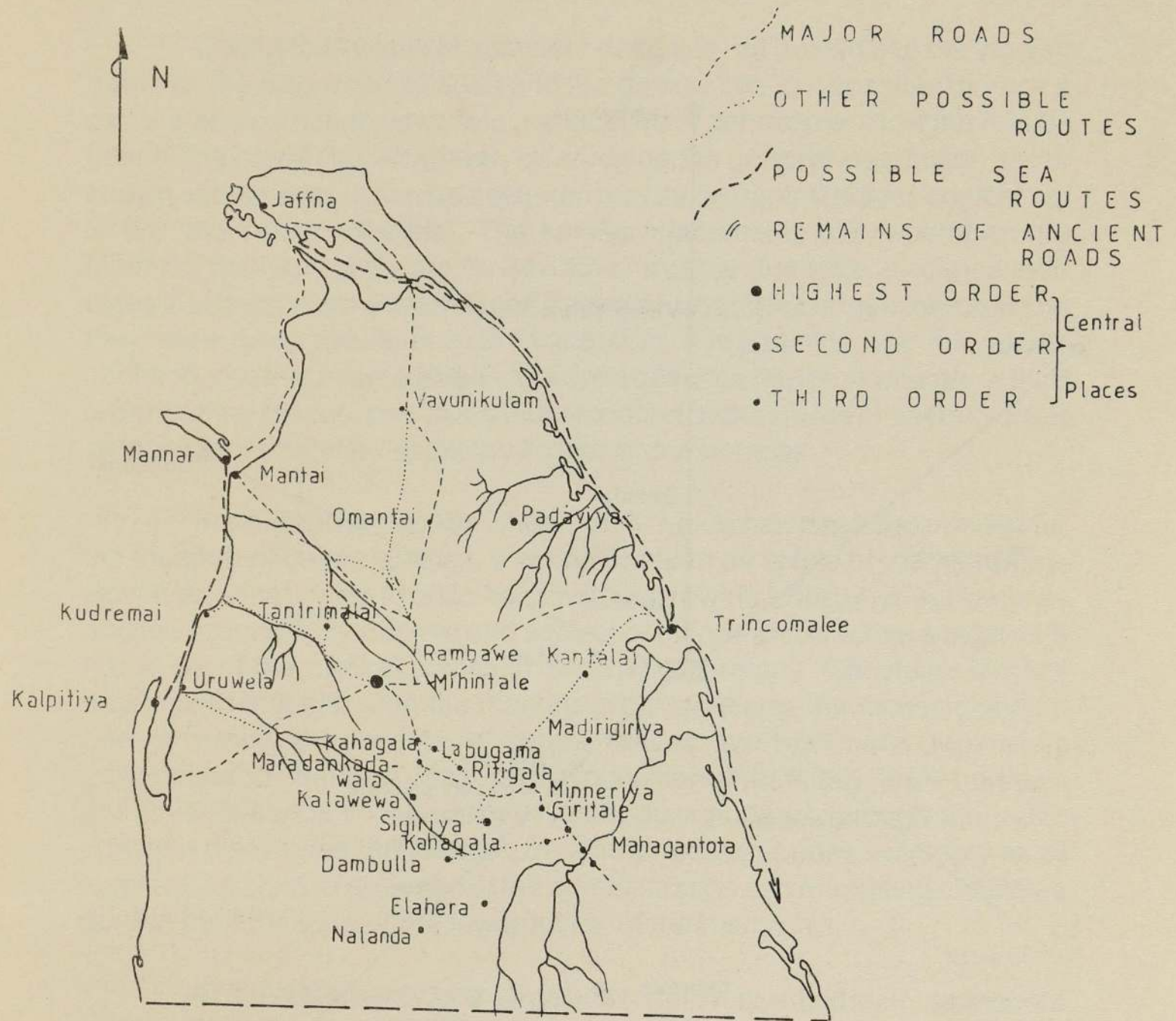
The five main highways from the Capital were of immense importance, and transport played a significant role in the life of the settlements, even in the remote areas. There was much movement, both outwards from the settlements as well as into them. Most of the towns large villages were located along the main traffic lines and were closer to the Capital than those that were away from them, such as Sigiriya Mullikulam, Elahera or Padaviya. Thus it can be seen that in the location of "central places", the traffic principle dominates, and the higher order central places conform to this principle. At the lowest level the administrative principle appears to operate. The "dispersed" settlements were administered in groups of ten (perhaps), with

28. Said to be a distance of 5 yojanas. *Culavamsa*, 89.13. Geiger's translation, Part II, p.194.

29. Paranavitana, S., *Story of Sigiri*, (Ceylon, 1972), p.42.

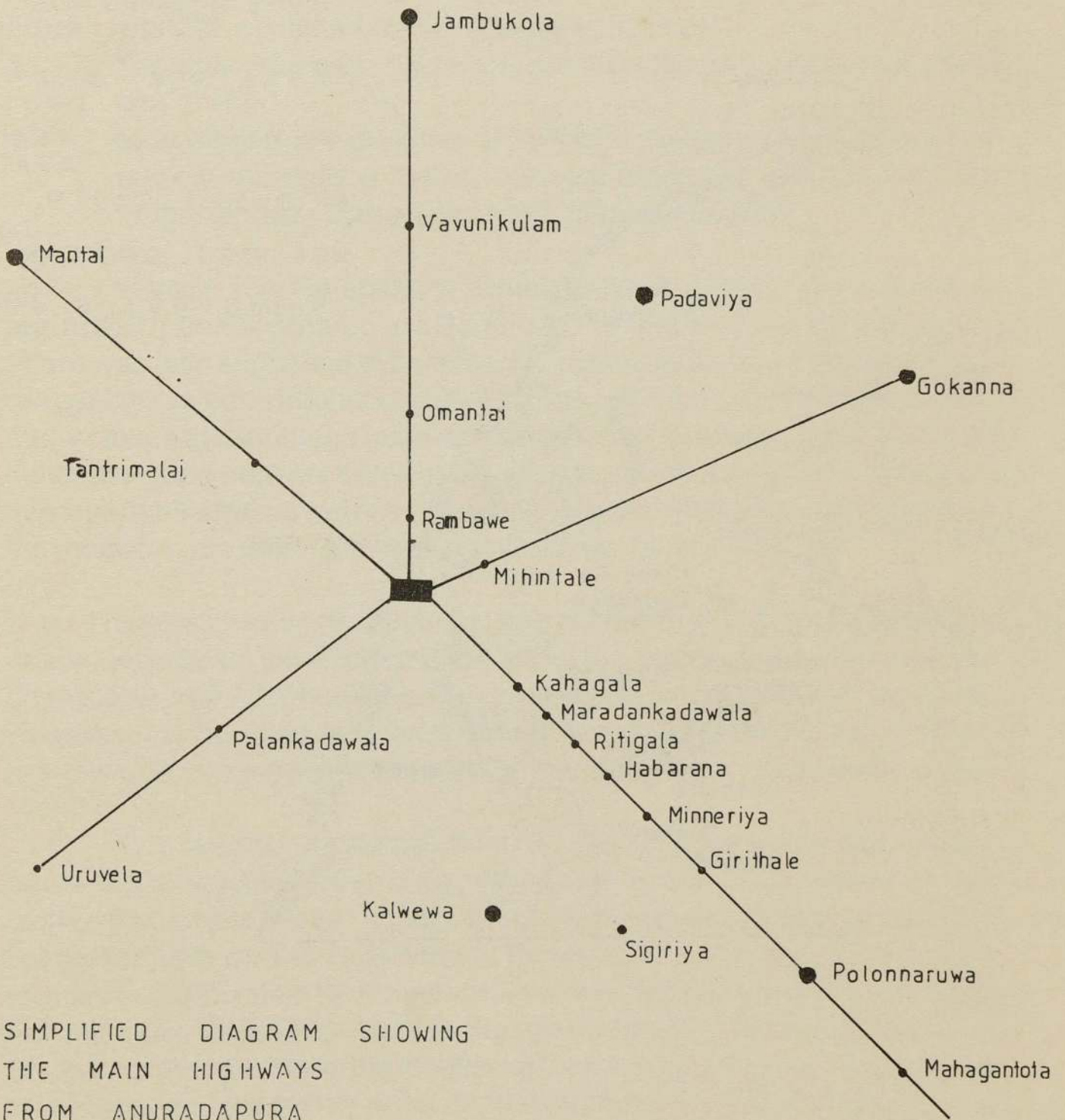
# ILLUSTRATION - IX

## ROUTES



SCALE - 1 inch to 32 miles

# ILLUSTRATION - X



SIMPLIFIED DIAGRAM SHOWING  
THE MAIN HIGHWAYS  
FROM ANURADAPURA

- Anuradapura
- Towns
- Large Villages

a "gama" as the "central place". The ideal pattern in this case, according to Christaller is a K7 hierarchy, where no "settlement" is shared by a "central place". It is known that certain small villages were gifted to various monasteries and were administered by them, it is possible that in fact this ideal pattern did exist.

Owing to the lack of sufficient data, it is not possible to distinguish between the dispersed villages and the *gamas*. Nor is it possible to trace a definite and complete pattern in the location of central places of the middle tiers of the hierarchy. However, by studying the general distribution of the known settlements, it can be assumed that these central places conformed to the "marketing principle". The smaller settlements did depend on the higher order central places for services, and the available evidence indicates that there were small villages arranged around the larger ones and that they were more spatial in their distribution. It is possible that the *gamas* conformed to this principle and were dependent on the large villages or third order central places, and these in turn looked to the towns or second order central places for the necessary higher order services.

In an ideal landscape when the "K" value has been determined for the location of central places, it would apply to all levels of the hierarchy. However, variations and distortions will occur owing to the physical features and the prevailing economic and social conditions found within a region. In the study of the central places in Southern Germany, Christaller himself recognized that although the marketing principle was the most significant one governing the location of central places, the traffic and separation principles also operated under certain conditions.<sup>30</sup> Similarly, in the northern dry zone lowlands of the Late Anuradhapura period, although the traffic principle dominates the location of central places, it does not apply to all levels of the hierarchy, because the administration and marketing principles govern their location at the lower levels of the hierarchy.

All the settlements, both large and small, were linked to Anuradhapura in terms of services and by way of the road network thus forming a complete spatial system. Therefore Anuradhapura was at the apex of a pyramid formed by the various tiers of the central place hierarchy, the location of which is governed at different levels by the three "laws of settlements", namely the traffic, marketing and administrative principles.

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30. Christaller, W., *Central Places in Southern Germany*, (U.S.A., 1966), p.192.

## 12 CONCLUSION

The northern dry zone lowlands of Ceylon in the Late Anuradhapura period appears to have had its own distinctive distribution of central places and resulting spatial interaction, which linked the whole region into a well-knit spatial system. Each central place discharged specific functions for its particular hinterland and, at the same time, had a definite place in the whole hierarchy of central places and thereby in the over-all system of towns, villages and the connecting road network.

This study of spatial interaction between the settlements of the dry zone lowlands, covers a comparatively short spell in time and other "period pictures" of later centuries can be compiled, which will help in further understanding the development process within the region. However, it was during this time in history that many of the larger settlements and major irrigation works were established, most of which have survived to the present day in spite of abandonment and consequent neglect after the thirteenth century. Moreover, the scope of this study covers only a part of the island, but it is the region that was the centre of civilization in the past and the focus of Government's planning policies in the present.

Today, much emphasis is placed on "centrality" and the hierarchy of central places, in terms of regional planning. This concept is of use in the organization of the economy within a region, through the location of central places, new services, transport networks and the establishment of various governmental institutions. The "central place" theory is also of significance in the location of new towns and in developing industrial complexes. Planning with this concept in mind, it is argued, provides for an efficient system of distribution and regional administration, and thereby lessens to large extent, the growth of slums and various attendant social and economic problems.

The "Central place" theory has already been made use of in the regional planning of many areas. In Holland, on the "polders" reclaimed from the IJsselmeer a two level hierarchy has been organized, while this concept has also been applied in the development of the Lakhish plains lying to the east of the Gaza territory, and in the administrative reorganization of the Greater London region. In recent years, the planning programmes in countries such as France, Malaysia, India, Nigeria and Brazil have been



based on this concept and it is being increasingly used in the plans for development in many countries of Africa, Asia and Latin America.

The purpose of historical geography or the study of a particular "period picture", has its value not only because it is intrinsically interesting and helps in the evaluation and appreciation of present geographical patterns, but also in the fact that it forms a framework for the future planning programmes within a region; for, regional planning cannot be successful without assessing the present and the past conditions and patterns within the region.

"The past has always been a mighty teacher, and its lessons are not to be lightly regarded although we may fail to see their wisdom at a glance". Therefore, the recognition of the pattern of settlements, central places and transport networks within a region at a time when conditions were relatively stable and the region was prosperous, will aid in the successful planning of the region. For, such a study will enable the satisfactory location of new central places, the upgrading of existing ones where necessary, the location of new services and functions within them and the construction of transport and communication networks.

This "period picture" of spatial interaction within the northern dry zone lowlands in the Late Anuradhapura period is thus an attempt to gain a better understanding of this region which is the hope for the country's prosperity in the future. At the same time it must be observed that, "No one of us can aspire to be the complete and perfect geographer equally expert over the whole range of the discipline as applied to all parts of the world. All of us must specialise in the study of a particular topic, few of us can hope to contribute new knowledge except, within a very limited range as applied to a very small area. However each of us must see his work if it is to be fertile, as a part that fits neatly into the general whole. All of us then, must, while we cultivate our own tiny plot, take time to contemplate our neighbour's plots and learn from them so as to obtain gradually a better knowledge of the geography of the whole surface of the earth".<sup>1</sup>

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1. Michell, J.B., *Historical Geography* (London 1963), p.10.

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