THE IMPACT OF KINSHIP SYSTEMS IN THE GENERATION OF HOUSE TYPES

by

RAJMOHAN DEVDAS SHETTY

Diploma in Architecture, School of Architecture, Centre for Environmental Planning and Technology, Ahmedabad, India, 1980

Submitted to the Department of Architecture in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN ARCHITECTURE STUDIES at the MASSACHUSETTS INSTITUTE OF TECHNOLOGY September 1984

© Rajmohan Devdas Shetty 1984

The author hereby grants to M.I.T. permission to reproduce and to distribute publicly copies of this thesis document in whole or in part.

Signature of Author

Department of Architecture, June 18, 1984

Certified by

Stanford Anderson, Professor of History and Architecture Thesis Supervisor

Accepted by

N. John Habraken, Chairman, Departmental Committee for Graduate Students
The Impact of Kinship Systems in the Generation of House Types

by Rajmohan Devdas Shetty

Submitted to the Department of Architecture on June 18, 1984 in partial fulfillment of the requirements for the Degree of Master of Science in Architecture Studies

ABSTRACT

The objective of this study is the identification and analysis of some of the social and cultural factors that have had a critical influence in the structuring of traditional environments. Subsequently it could be broadly viewed as an attempt at developing a more inclusive framework of inquiry and analysis of built form and the structuring of built environments undergoing processes of transformation.

The focus of the study is a Muslim settlement in the historic core of the city of Calicut, situated in the southern part of the Indian subcontinent. The inquiry, however, restricts its scope to the investigation and analysis of a particular socio-cultural institution -- namely, the matrilineal kinship structure in its traditional form, which to an extent still persists -- in relation to the nature of its impact on the built environment. The analysis is to a large part an examination of the artifactual data which comprises of a documentation of four house types, against ethnographic studies that have been conducted in this particular context and related ones.

In view of the fact that the more recent developments in this context have led to some significant changes in the social and cultural realms, the concluding remarks focus on some important positions put forth in recent times, in relation to processes of change in traditional societies. This has been undertaken on the premise that in order to understand the meaning of architectural products as objectifications of human relations as against object relations, it is crucial to understand the mediations between architectural/planning products and the social whole.

Thesis Supervisor: Stanford Anderson
Title: Professor of History and Architecture
Acknowledgements

The obligations incurred in the preparation of this study are far too many to acknowledge adequately in a brief note. A few individuals and institutions must be singled out for their special contributions to my work.

I am greatly indebted to my advisor Professor Stanford Anderson for his encouragement, guidance and intellectual support during the preparation of this thesis and my years at M.I.T.. I wish to thank Rafique Keshavjee for having introduced me to the fields of Social and Cultural anthropology, and as well as for the considerate and patient friendship with which he has kept an eye on the progress of this work. I must make special mention of Professor Nur Yalman, for the many discussions with him helped me over some difficult hurdles in the development of the analysis. His field experience, enthusiasm and knowledge of the context were of invaluable help.

I would also like to thank Abhimanyu Dalal and Ashish Hazra as colleagues with whom I undertook the field study in the summer of 1983. It must suffice to say that if it were not for the help and hospitality of Prof. Shreedaran and Gangadara Menon in Calicut and the cooperation of the residents of Kuttichera, this study would not have materialized.

I am grateful to Ann Littlewood for her patient and efficient service in preparing the typescript.

More particularly, I have a special debt to M.I.T. that eloquently typifies the tradition of research and support for learning and to the Aga Khan Program for having supported the field study.

Finally, I would like to thank my parents, for their constant support and encouragement through all these years.
The utilitarian-technical and the symbolic-associational strands interweave ambivalently in the act of building, the one internal to it and the other external and engaged in the orbit of culture at large. An architecture of significance resides in the incorporation of both these strands. "The relation between social space and physical environment is not determined but possibilist Architectural and urban works are not fully accounted for in any analysis of origins or intentions; they must also be analysed both in and for themselves and also in their continuing relationships with those who use and interpret them." It consequently follows that the distinctiveness of particular environments as seen through time, occurs as a highly selective process of adaptations to cultural change and directed towards the maintenance of a larger social and cultural continuum.

Incorporating the socio-cultural dimension as a critical analytical component, allows for a reading of the built environment as a process of adaptive strategies employed by people and informed by their interpretations of the socio-cultural core at particular points in time. It must be noted that in speaking of adaptive strategies, one does not preclude the existence of constraints on adaptations. Nevertheless, the aspect of change and continuity could be better understood, if looked upon as reinterpretations of
a cultural core, rather than as deterministic laws and principles deriving from a static historio-cultural model. Implicit in such a position is the view that neither individual adaptive strategies nor particular combinations of them are distinctively new in themselves, but that they are being constantly applied to new elements and areas, as well as to traditional materials. Thus the aspect of modernization and notions of modernity in traditional cultures, though not within the immediate scope of this study, develops as a complex and important corollary. It could, however, be better understood if approached from such a position. For instance then, technical modernization as the result of the assimilation of technology and the products of the industrial age, does not necessarily destroy the traditional culture or replace it totally with a "modern" system of economic classes, nuclear families and secular ideologies. In fact the process of modernization as evidenced from the various studies on India\(^3\), has contributed to the strengthening of some aspects of the traditional system, while at the same time partially changing it.

The failure to understand the relationship of adaptive strategies to modernization seems to arise from a misinterpretation of this relationship as "a temporal succession of mutually incompatible types of society (that)
derive from an overemphasis on "social mobility" as distinct from "cultural mobility". Adaptive strategies, though frequently a means to social mobility, are also an important means of maintaining or changing a cultural identity in terms of a "Great tradition". They are in other words, a means of acquiring and affirming a status within a cultural as well as a social system. And they are culture-bound to the extent that they are related to a set of historio-cultural traditions prescribing model lifestyles for different individuals and groups within the system. However, what is significant is that the system is neither static nor homogeneous, but comprises of a variety of changing cultural models and the relation among them. The cultural models find their origin in the "Great and Little traditions" and from foreign sources.

A concept of social mobility that abstracts from the variety and content of cultural models, might explain, in a reductivist way, that the individuals in a particular society are status seekers like all others, but would fail to shed light on the mode adopted to affirm status and thereby making it more distinctive. Alternatively, it fails to inform us about how individuals in a particular society incorporate changes in their cultural traditions, or even assimilate contemporary developments to maintain cultural viability.
Incorporation and change, within and of traditions are highly selective processes of borrowing and innovation, and specific adaptive strategies are a net product of distinctive group and individual characteristics, and of the general ritual and social structure within which they operate. The incorporation of innovations can be looked upon as "heterogenetic" and "orthogenetic" processes. The "heterogenetic" innovation follows a path from a foreign and recent source and is assimilated through appropriate validation into the modern indigenous and traditional culture. The "orthogenetic" innovation on the other hand, originates in the indigenous tradition, is absorbed in the indigenous modern and back into the traditional. The potential for the occurrence and absorption of either heterogenetic or orthogenetic innovations, does not automatically transform it into a modern culture, for the process of selection of symbols of a tradition and non-tradition is a highly complex and creative one. It occurs most of the time at the unconscious level of cultural drift or as patterned accretions.

The highly differential findings of recent research studies indicate that the traditional-modern dichotomy with all its accompanying laws of transformation on a linear scale, is an inadequate conception in the explanation of the
continuous incorporation of innovations. It seems essential, then, to begin
with a more inclusive position, an alternative possible interpretation of the
processes of change occurring in traditional societies in their efforts to
convert the events of history into assimilable cultural traditions. Such a
position allows for a more tolerant confrontation of such fundamental
questions as: How does a society with a tradition-oriented cultural
philosophy deal with change and innovation? How does a society where
cultural philosophy attaches supreme value to progress deal with tradition?
The pursuit of an alternative interpretation of change, especially with
regard to the particular context of this study has important methodological
implications related to analytical procedures. In view of the recent
evidence supporting the contention that particular cultures diverge
significantly from one another and therefore do not pass through unilinear
stages of evolution, it seems appropriate to begin with the observation of
phenomena in a particular context. An extrapolation of observed phenomena
would subsequently lead to the interrelationship of the observable units, and
allow one to proceed through analysis and abstraction to constructions not
directly observable. Such a mode of inquiry - concrete observable units and
its interrelationships leading to more abstract and general constructs
descriptive of the cultural tradition - overcomes methodological deficiencies
in the formulation of cultural change as unilinear evolution. A study of the built environment in relation to cultural change seems particularly amenable to such a mode of inquiry, with built form being the observable unit and partial indicator of particular patterns of social grouping, with its structure, organization and interrelationships.

The object of this study is the identification and analysis of some of the social and cultural factors, that have had a critical influence in the structuring of traditional environments. Subsequently it could be broadly viewed as an attempt at developing a more inclusive framework of inquiry and analysis of built form and the structuring of built environments in traditional environments undergoing processes of transformation.

The focus of the study is a Muslim settlement in the historic core of the city of Calicut, situated in the southern part of the Indian subcontinent (Figure 1,2). Given the existence of different cultural groups in the region - the Nambudri Brahmins, the Nayars and the Moplah Muslims - the settlement cannot be claimed to be a representative type, and can be rightly termed a sub-culture. However, there does occur an overlap of certain seminal issues among the various groups that have guided its development. The inquiry
restricts its scope to the investigation and analysis of a particular socio-cultural institution - namely, the matrilineal kinship structure in its traditional form, which does to an extent still persist - in relation to the nature of its impact on the built environment. To describe briefly, the kinship system which exists among the Hindu Nayar and Muslim Moplah communities of this region, it is one wherein descent is traced through the female line to a common ancestress. It requires of all female descendents, on marriage, to reside in the maternal house or 'tarawad,' as termed locally. This is made operative by conferring on female descendents, a complex system of rights of ownership, division and transmission of family landed property. The system also clearly designates codes of conduct and authority on the male and female members of a descent group. As a consequence of the system there occurs the existence of a number of descent groups each headed by a female descendent and forming a clan-sometimes exceeding a hundred members - all living together in a tarawad house. In many instances today, due to the generational range the relationship among descent groups in a tarawad remain unknown, and the only evidence of a common origin is the fact of common residence. The aspect of residence and rights over landed property occupy a position of significance in the sustenance of the system in its traditional form. Recent ethnographic research in these
parts, have indicated the steady disintegration of the matrilineal kinship system, it being gradually replaced by nuclear families as independent economic units. In view of the fact that the more recent developments that have led to some significant changes in the social and cultural realms have found explicit ramifications in the urban environment (Figures 6,7,8), it becomes all the more important to examine the body of conventions that determined the order of the traditional environment in the first place. The appropriateness or inappropriateness of recent urban developments can only be gauged through an analysis of that which it is replacing (Figures 3,4,5).

It became apparent during the field study – which comprise the documentation of four traditional tarawad houses (Figures 9,10,11,12) – that the principles of spatial organization of the houses could only be discerned through an understanding of the dynamics of the prevalent kinship system. The spatial organization, which at first seems relatively chaotic, unfolds an array of meanings and rules of organization when viewed against the body of customs and conventions that inform the kinship system. Subsequently, this study has been structured such that it proceeds from an initial discussion of the kinship system to the analysis of the documented data, with the understanding that a knowledge of the kinship structure is an essential prerequisite in a
comprehension of the principles of spatial organization of a tarawad house.

The study is structured in two sections. Section one deals with:
- A historical background of the community and its social context.
- A discussion of the structure of the "Tarawad" - a pivotal social institution in the matrilineal kinship system - and the accompanying rules related to authority and responsibility, the distribution of wealth, individual roles, laws of inheritance, the concept of property, and the like.
- The implications of the rules that underlie the social order in relation to the built environment, specifically the residential domain.
- An analysis of the field data, which comprises of a documentation of four house types, based on the identification of the familial domain as a critical factor in social grouping, with the residential unit of the extended family as its primary isolate. The house types that have been identified and documented represent prototypical patterns of growth, concluded on the basis of observations and interviews. The analysis is to a large extent an examination of the artifactual data against ethnographic studies that have been conducted in this particular context and related ones. The specific ethnographic accounts pertaining to the Moplah and Nayar communities
that have been referred to, are those by Kathleen Gough, C.J. Fuller, Stephen Dale and Roland Miller. Gough's studies relating to the determinants of variation in descent group structure, residence, patterns of interpersonal kinship relationships and marriage preferences in both communities, allows her to pursue a comparative investigation. Fuller's account is largely restricted to the nature of kinship practice among the Nayars. Likewise, Roland Miller focusses on the Moplah community. Stephen Dale's account, on the other hand, is a historical analysis of the various factors and events that have contributed to the community's present religious and political ideology. The studies in related contexts are those by Nur Yalman, S.J. Tambiah and E.R. Leach, all of them focusing on communities in Ceylon which have a similar structural basis. Yalman, however, does initiate a comparative investigation with the Nayars of Kerela with respect to some aspects of the kinship structure.

In the light of the fact that the kinship system in its traditional form is gradually disintegrating, the second section in the form of conclusive remarks, examines the issues of continuity and change within the framework of some significant theoretical positions put forth in recent times. It draws more particularly on the formulations of Milton Singer, S.N. Eistenstadt
and Robert Redfield\textsuperscript{11}, related to aspects of change and modernization of traditional cultures. This is based on the premise, as previously stated, that in order to understand the meaning of architectural products as objectifications of human relations as against object relations it is crucial to understand the mediations, between architectural/planning products and the social whole.
3 & 4) Muccunti Mosque, Kuttichera

5) A traditional tarawad house in Calicut

6) Mohiddin Palli Mosque, Calicut

7) Patala Palli Mosque, Calicut

8) A recently built nuclear family residential unit, Calicut
The four documented house types

Houses 1, 2, 3, and 4 belong to Muslim Moplah tarawads, while House 4 is that of a Hindu Nayar tarawad.
Footnotes


(2) In an attempt to lend an operational utility to the definition of culture as consisting of learned modes of behavior that are socially transmitted from one generation to the next or from one society or individual to another, Julian Steward's concept of levels of socio-cultural integration appears to be extremely helpful. And to quote him; "According to this concept a total national culture is divisible into two general kinds of features; first those that function and must be studied on a national level; second, those that pertain to socio-cultural segments or subgroups of the population.... The socio-cultural segments or subgroups of individuals are amenable to methods of direct observation used by ethnology"

Steward, Julian, Theory of Cultural Change, p. 47

(3) Singer, Milton, When a Great Tradition Modernizes, Part 4 and 5.

(4) ibid, p. 365
(5) The concept of Great and Little tradition put forth by Robert Redfield, is very similar to Julian Steward's concepts of socio-cultural integration, in that he explains the constant interaction of the "high" cultural traditions of the reflective few — the Great Tradition — and the "low" traditions of the unreflective many — Little Tradition. The rates and results of the interaction depends on the kinds of social organisations that exists for the transmission of the different levels of tradition.

ibid pp. 254-257.

(6) Within any given stratified society, there exist not only channels of vertical and horizontal circulation — that is, from one strata to another and from group to group respectively, but also control mechanisms in the form of existent institutions, that tests, selects and places individuals within society. How and what modes of testing and selection operate depends upon the values invested in the particular institutions within a society. The aspect of social mobility and institutional testing operate in consonance.

Sorokin, Pitrim, *Social and Cultural Mobility*, Chapter IX on "Aspects of Social Testing, Selection and Distribution of Individuals within Different Social Strata."
(7) ibid, p. 397

(8) With reference to the process of "orthogenetic innovation", the example of the Indian Chancery building in Canberra, quoted by K. B. Jain, though an extreme case, does raise questions of appropriateness and validity; "The recently constructed chancery building for the Government of India is an example of this kind of enthusiasm. Reports indicate that the building is designed to look like the Taj Mahal, with Islamic and Hindu elements to give it an Indian imagery. However, one should not overlook the fact that centuries ago, in an entirely different context and for an entirely different purpose, the Taj Mahal was built by the Moghul Emperor Shahjahan as a tomb for his wife. What inspirations it had for the chancery building is really difficult to understand."


(9) Steward, Julian, Theory of Cultural-change, p.15

(10) Refer to bibliography.

(11) Refer to bibliography.
The Muslim community of Kerela in South India, commonly referred to as 'Moplahs' (a transliteration of the word being 'son-in-law'"), comprises the oldest Islamic community in the South-Asian subcontinent and the fourth largest in India(1). It has evolved with strong religious and political goals at the interface of European powers and the predominant Hindu Kerelite society. Islam in India in all probability took its earliest roots in the Malabar region (North Kerela), with the present day Moplahs being descendents of the first Indian Muslims.

Due to the lack of an indigenous narrative historical tradition, a reconstruction of the social, cultural and political conditions that contributed to a particular direction of development is difficult. Since Kerela was never subjected to the control of the Delhi sultanate, it lacks even dynastic histories, which form the historical basis of most other regions. The fact that no Islamic state was established in the region for any significant length of time, contributed to the deficiency of any recorded information on land holdings and revenues, as an important source in attempting to evaluate the socio-economic relations and changes of the different communities at different points in time. The practice of recorded information was apparently initiated only during the British regime.
Consequently, the Malabar Special Commission Report\(^2\) of 1882, compiled by William Logan, provides the best information for a reconstruction of Kerala's history from the late 19th century onwards. The lack of indigenous recorded material is mitigated by the detailed travel accounts of Ibn Battuta and Francois Pyrard, the precise ethnography of Duarte Barbosa and the works of the late 16th century historian Zayn al-Din al Ma'bari\(^3\).

Though little information exists on the settlement patterns or the situation of Muslims prior to Ibn Battuta's visit in 1342, Zayn al-Din's remarks concerning the establishment of Mosques by Arab missionaries in the 9th century offer the first definite evidence of the existence of Muslim settlements. In the City of Calicut the capital of the Zamorin (the ruling family) and the context of this study, there were large settlements of foreign merchants, especially Arab Muslims. The establishment of the port city of Calicut as early as the 11th century and the encouragement given to foreign trade, initiated the family's rise to prominence and supported their emergence as a powerful dynasty by the 15th century. When the Arab traveller Ibn Battuta recorded the earliest description of the city in 1342, it had already become a major port attracting merchants from China, Sumatra and Yemen. The revenue from commerce (the single most important economic
activity), as the result of a conscious trade policy adopted by the Zamorins, contributed to the transformation of the city into a vital trade center. The single inscription(4) that dates to a time before Ibn Battuta's visit is the one in Muccunti Mosque in the Kuttichera neighborhood of Calicut. It specifically mentions the origin and location of a Muslim settlement - the locus of the field research of this study. The inscription proclaims the settlement to be a gift from the Zamorins to the Muslim community, as a mark of support to them against the attempts by the Portuguese merchants to dominate the trading activity. Zayn al-Din made this point unequivocally when he wrote that "the rulers of Kerela have respect and regard for the Muslims, because most of the buildings in their cities were due to them"(5)

The two dominant castes of the Hindu Kerelite society, the Nambudiri Brahmins and Nayars controlled the agrarian economy but had little direct involvement with commerce, despite its importance to the Zamorins as a source of revenue. Commercial activities and all foreign trade were in the hands of four non-Malyali(6) communities, two of which were Muslims. One comprised of Muslim traders from Arabia and elsewhere, who seasonally resided in the city and formed a semi-autonomous community, remaining culturally and socially distinct from the Malyali society. However, the second group of
Muslims - the Moplahs - less socially isolated, had developed through inter-marriage with the local population. The existence of the Moplah community, having developed through intermarriage with and conversion of the members of the lower castes of the Hindu society, points to the fact that cultural differences did not represent an impenetrable barrier to social contact. Duarte Barbosa reported that Moplahs spoke the local language, dressed like the Hindu Nayars and even adopted the system of matrilineal inheritance common to that caste (7). The Muslim community's economic specialization meant however, that most of them were to an extent residentially segregated from the rest of the population, and living in distinct suburbs. Zayn al-Din's association of the growth of towns in the Malabar with Muslim settlements and their commercial preoccupations does shed some light on this aspect.

That the Muslim settlements were politically subordinate to non-Muslim rulers contributed to a conspicuous lack of a political, bureaucratic or military aristocracy among Kerelite Muslims, and a consequent absence of political, administrative and, in cultural terms, courtly traditions in the Islamic society of Kerela. This continued to be true of the community up to the British period and explains the relatively unstratified character of the
The Muslims of the extreme south of the Indian subcontinent thus form a significant cultural grouping historically as a result of relatively weaker land contacts and increased sea contacts. The Islamic society in Kerala represents in part a regional history of the Malyali cultural zone, in its emergence as a community with a distinct cultural identity. This situation was mainly due to its strategic geographical location as a maritime trade link between the west and far east.

The direct relation of the Moplahs with Arabian Islam is as significant as its isolation from Indo-persian Islam. The fact that there was neither a political hegemony nor a proliferation of traditions, theological developments or cultural values of the latter, contributed significantly way to a historically uninterrupted strengthening of links with the Arabian countries. The practice of the Shafi’i branch of Islamic religious law provides an early indication of the development of a predominantly Arab-Islamic culture, in contrast to the Turcic-Persian variant of northern and central India. The distinction between Islam in northern India and that of the south also derives from the fact that, while in the north it took roots through political dominance, the south witnessed a situation of
coexistence, with the object of sharing in a lucrative trade activity. The fact that Calicut was not a power center contributed in a significant way to the distinctiveness of its history and development. Calicut's existence as a trading center implied a certain degree of economic interdependence and social contact between the various otherwise culturally autonomous communities. It was a condition that inevitably encouraged processes of acculturation to take place. Given the context, one can postulate that certain implicit and explicit codes of life style were adhered to through a system of mutual sanctions. The structuring of the built environment reflects to a large extent the social and cultural codes of individual communities.

More noteworthy in the context of this study are some of the developments in recent times that have contributed to significant changes in the structure of the community, and have had an indirect impact on subsequent actions in the built environment. The expatriate movement of skilled and unskilled labour to the Arabian countries (late 60's - early 70's) for employment mainly in the building industry could be looked upon as a reaffirmation of the historic Arabian link. This development needs to be viewed against the fact that there exists no precedent for the scale of this recent migrant movement. The
significance of this development lies in the fact that newly acquired wealth has been invested in real estate, generating thereby an immense amount of building activity in many of the larger cities of the state. The assertion of status through the monopolisation of the building industry, represents a significant shift from the traditional role of Muslims as traders/tenants in a predominantly agrarian society.

In the realm of the built environment, the outcome of this culture contact and gradual transformation in the social hierarchy, accompanied by a steady diffusion of the north-south barrier in Islamic relations, has found its expression in borrowed elements and images grafted on the urban fabric. The urban fabric, till recent times, largely found its basis and order in the rules and conventions generated by an adherence to a matrilineal kinship system\(^9\) that governed a distinct social order and cultural condition.

Given the nature of the situation today - that of a rapidly transforming urban condition - a seminal question which forms the central object of this study, presents itself: To what extent and in what manner did the rules of conduct, residence and inheritance that formed the crux of the traditional kinship structure affect and manifest itself in the ordering of the built
environment? Such a recapitulation and analysis is in no way a proposal for replication, but rather an examination in perspective of a peoples' understanding of the issues of change and continuity and the concepts with which they confronted the problem.
Footnotes


(3) Dames, Mansel Longworth, *The Book of Duarte Barbosa*, (p. 18 - 21),

- Zayn al-Din al Ma'bari, *Tuhfat al-Mujahidin*, (trans and ed) by S. Muhammad Husayen Nainar,


- Husain, Mahdi (ed. and trans.) *The Rehla of Ibn Battuta (India, the Maldives Islands and Ceylon)*, 1953.

(4) Narayanan, M.G.S., 'The Zamorin's Gift to the Muccunti Mosque' in *Cultural Symbiosis in Kerela*, p. 41.


(6) The term Malyali refers to the linguistic and cultural area included within the modern Indian state of Kerela, whilst Malabar signifies that part of
Northern Kerala which was termed Malabar district when the British first took control in 1792.


(8) "Complex polyethnic systems clearly entail the existence of extensively relevant value differences and multiple constraints on status combinations and social participation. In such systems the boundary maintaining mechanisms must be highly effective for the following reasons: (1) the complexity is based on the existence of important, complementary cultural differences; (2) these differences must be generally standardized within the ethnic group - i.e. the status cluster, or social person of every member of a group must be highly stereotyped - so that inter-ethnic interaction can be based on ethnic identities; and (3) the cultural characteristics of each ethnic group must be stable, so that the complementary differences on which the systems rest can persist in the face of close inter-ethnic contact. Where these conditions obtain ethnic groups can make stable and symbiotic adaptations to each other..."

(9) The term kinship system denotes a system of kinship and marriage or kinship and affinity, wherein relationships result from the existence of the family and marriage. The structural unit from which a kinship system is built up is the group called the elementary family, characterised by the social relations between siblings, husband and wife and parent and child. One must however recognize the existence of compound families as well, as networks formed through the interlocking of elementary families with a common member, creating thereby relationships of a first order and second order. It is inclusive of the existence of social groups, the primary one being the domestic family, which could be defined as a group of persons living together in a dwelling or a collection of dwellings, with some sort of economic arrangement that one can call joint housekeeping. They may vary in size from a single elementary family to a group including more than a hundred members, such as in the case of the tarawads of the Moplah and Nayar communities of Kerela.
In attempting to relate the socio-cultural dimension with the ordering of the built environment, one must look upon it as an aspect that primarily obtains from the existence of a corpus of categories of thoughts and beliefs. The socio-cultural dimension informs a societal group about the significance of prevalent institutions, in its apprehension of reality. Culture is here looked upon as 'a system of symbolic ideas shared by individuals to give interpretative significance to human behaviour and objects', \(^1\) with its justification residing in the contention that man adapts to space through the social activities he seeks to perform. Between the physical environment and human activities, there exists a mediation in terms of a collection of specific objectives and values, a body of knowledge and belief, or a culture pattern. The shared system of symbolic ideas - implicit or explicit, conscious or unconscious, latent or manifest - is an active agent in the process of man's adaptation to space.

Thus in the context of this study, by "cultural dimension" one refers to those ideas, beliefs and values of the Moplah community which are relevant to their behavior as kinsmen and abstracted from the concrete interpersonal relationships that mark day to day activity. The relevant ideas, beliefs, values are, for instance, those having to do with the perceived nature of the connection between individuals that claim to be members of a descent lineage.
traceable to a common ancestry, or between individuals of different lineages but part of the same societal group.

In sum, they form a culturally unique framework that the Moplahs use to represent, understand and organize social relationships with their kinsmen. It is not to be misunderstood as a case of an entire society being organized in terms of a kinship idiom, but rather as conceptions of kinship being integrated with more fundamental conceptions deriving from the realms of religion, residence and social rank, into a comprehensive cultural pattern.

The kinship system of the Moplahs, a means to the ordering of social relations, is not an autonomous system, but an integral part of a more inclusive culture pattern, in which it plays a critical though not a dominant role. The concept of culture pattern is viewed as not necessarily a causal factor, but rather interpretatively, as a means to bring together the apparently diverse expressions, as aspects of a coherent structure of thought.

The Moplah kinship system is to an extent flexible in form, in that it has allowed a certain amount of interpretative freedom, consequently contributing to its persistence and adaptability through time. Kinship concepts,
institutions and relations classify, identify and categorize persons and groups. They show likewise, that it is associated with rules of conduct whose efficacy comes from the general principles of kinship morality that is rooted in the familial domain and assumed everywhere to be axiomatically binding. This is what Meyer Fortes refers to as "prescriptive altruism as the principle of kinship morality."^2

Viewing kinship systems against the background of the overall structure of symbols in terms of which a people organize their lives, leads automatically to an analytic position less formalistic and more related to the intrinsic factors that shape a life style.

Notwithstanding the fact that the nature and network of institutions play a significant role in the maintenance of social order and cultural continuum, it is evident that the rules and conventions that underlie spatial order is a partial affirmation of the ideas and beliefs propounded by societal institutions. It is partial to the extent that it possesses the potential to qualify and represent only particular aspects of that corpus. Consequently, meaning in the built environment can eventually be elicited only in a comprehension of the reciprocity that the physical environment shares with
the corpus of thoughts and beliefs. The deciphering of relations between
kinship structure and order in the built environment calls for an exposition
of the Moplah social structure centered around the use of symbols of kinship
in organizing domestic and public life. It must be noted at this point, that
the kinship structure of the Moplah community in Calicut is similar to that
of the Hindu Nayar community, with peripheral changes made to accommodate it
within the Islamic religious laws. This is generally attributed to the fact
that a majority of the Muslim population were originally converted from
Hinduism.

The similarities in kinship structure amongst the Moplah and Nayar
communities raises a related and important issue concerning the maintenance
of ethnic boundaries. It is well known that ethnic groups persist through
continual expression and validation and are not merely or necessarily the
result of the occupation of different territories, geographical or social
isolation and the different ways they are maintained. The persistence of
ethnic boundaries calls for criteria for identification and a structuring of
interaction, which allows for the persistence of cultural differences.
Fredrik Barth's observations on the maintenance of ethnic boundaries and
culture difference seem particularly relevant: "In all organized social
life, what can be made relevant to interaction in any particular social situation is prescribed. If people agree about these prescriptions their agreement about codes and values need not extend beyond that which is relevant to the social situations in which they interact. Stable inter-ethnic relations presuppose such a structuring of interaction: a set of prescriptions governing situations of contact, and allowing for articulation in some sectors or domains of activity and a set of prescriptions on social situations preventing interethnic interactions in other sectors, and thus insulating parts of the cultures from confrontation and modification."

Such a position leads one immediately to focus and inquire into the dynamics of a particular social institution - "the tarawad" - prevalent in both communities (the Nayars and Moplahs), but with differing territorial and built form expressions. The different territorial/built form implications of the "tarawad" reinforce to an extent the notion of ethnic boundaries and culture difference between the communities. The "tarawad" as a social institution and crux of the kinship system, as stated before, has exhibited a certain degree of flexibility in form. Consequently, one can trace definite periods in its development - "the old, the interregnum and the new order."
- marked by distinct changes in the rules that underlay it. This seems particularly true in the way it was enforced by the Nayars. The structure of the "tarawad" as it exists amongst the Nayar and Moplah communities, and the nature of its impact on the built environment will be discussed subsequently.

The "tarawad" as termed locally amongst the Nayars and Moplahs is the focus of their kinship system. "Tara" in the local language literally means "a raised platform on which a Nayar house was built." Its reference is to all the matrilineal descendents of a common ancestress. Thus, for instance, a tarawad might consist of sisters, their brothers, their children and their daughters' children. But usually it contained a much wider span of relatives. All segments of this group, whatever their size, are referred to by the same term. However, when used without qualification, the term tarawad refers to that segment of the descent group which constitutes the matrilineal joint family whose members owned property collectively and lived in one large house. The house was also referred to by that term. Each tarawad was an independent economic unit, whose members owned property jointly and derived their livelihood from it. This seems especially true for the Nayars, being landowners in a predominantly agrarian society. The term "tavazhi" is also used by the Nayars to refer to a segment of the tarawad, headed by one of the
elder women. What becomes evident is that the tarawad was constituted as a corporation and reinforced by the possession of an estate which included specifically the possession of a house or houses and land, and in the second place by rights over its members. The ownership of landed property /houses in relation to the structure of the tarawad, was founded in a complex relationship of rights in common, joint rights and rights in division.

In a further clarification of the tarawad structure, C. J. Fuller's classifications of "property group, clan and sub-clan" seem particularly useful as an analytical tool (Fig. 13). He refers to the group owning property collectively as the "property group." The term "tarawad" is then used to refer to units in which the property group and the household (i.e., the residential group) are congruent. Consequently, it implies that they have identical memberships and are thus equivalent to a joint family. A "clan" refers to the largest matrilineal unit, that is the one claiming descendence from a common ancestress. Sometimes, the clan and the property group/household are co-extensive and on other occasions one can recognize distinguishable segments intermediate between the clan and the property group/household, and these are referred to as "sub-clans" (Fig. 13). Each clan has a name, which forms part of the name of each member of the clan.
Thus two people living in the same area and bearing the same clan name are assumed to have a common ancestress, even though the exact relationship between them might not be known. In a large clan having a number of subclans, each would have its own name.

The clan is exogamous or, in other words, no two persons with an assumed common matrilineal ancestress are permitted to marry each other. The exogamous segment is also the "community of pollution," by which is meant those members who observe the rituals that accompany the "rites of passage", that is, of death, birth, puberty, etc. The concepts of exogamy and community of pollution are inextricably interlinked and associated to descent from a common ancestress. The ceremonies that accompanied "rites of passage" and the "purity of women", are complex and have immense social implications and symbolic meaning. They found explicit expression in the spatial organization of residential units, especially amongst the high caste Nambutiri brahmins and the Nayar community.

In so far as the aspect of authority and responsibility was concerned, the eldest male member known as the "karnavan" was by legal right the managing head, and responsible for all major decisions related to the clan. The term
"karnavan" literally means "man with responsibility." The transformation of the structure of the tarawad, has been attributed mainly to changes in the power structure within the system and the authority of the karnavan. In the old order (i.e., before the 1920's), the karnavan enjoyed a position of unquestioned authority. He was legally responsible for the well-being of the clan members and the control and management of the tarawad estate. However, he had no claim on it, and all decisions related to the tarawad property had to have the sanction of all the adult male and female members. Members of the clan, in turn, could have no individual claim on the property as well, but had an equal interest in it. In the occurrence of a partition of family property, the consensus of all adult members of the tarawad was necessary. Most times, however, the decision of the karnavan along with a few elder male members remained unquestioned. The karnavan's authority in that respect was in theory absolute.

Thus the salient features of the "tarawad" in this period seem to be:

- the existence of a joint family consisting of a matrilineal segment, breaking down into subsegments called "tavazhis" on the occurrence of marriage, and headed by elder female members.
Given the nature of the system—the maintenance of the pool of household property through a continuance of the matrilineal lineage—an inmarrying member was conferred a second class status, and commonly referred to as a "a visiting husband," with limited rights over his wife and children. In principle he was an outsider, and treated as such, with limited contact with his wife and virtually no responsibilities toward his children. The karnavan, as stated previously who was usually his wife's eldest brother, was responsible for the well being of all the clan members.

For the household and property group to remain congruent, it was prescribed that the property holdings of a male member of a matrilineal segment reverted to the tarawad on his death. It thus circumvented the problem of a depletion of the joint family property holdings.

During the interregnum period (between 1920 and 1940) there took place significant changes in the distribution of authority/responsibility amongst the members of the tarawad, which did to an extent alter its structure. The development of the concept of individual property was of crucial importance. There began a trend whereby the property share of male members was being transferred to their wife and children. It consequently diminished the control and authority of the karnavan over the clan members, which was previously directly related and proportional to the amount of
The changing pattern of property transmission was to have two far-reaching social implications in the future:
- it strengthened the marital bond and consequently changed the role of the matrilineal subsegment with relation to authority. It eventually gave rise to the development of nuclear families.
- it gradually contributed to the disintegration of the tarawad, as the crux of a matrilineal joint family structure.

Both these factors had immense ramifications in the context of the built environment, and will be discussed later. The development of nuclear families, at least in this particular context, as largely due to the result of internal factors, is a case in point that substantiates the view, that the rise of nuclear families is not necessarily initiated by external factors such as it being the inevitable result of the process of coming to terms with technological change and industrialization. The nature of property transmission in the post 1940 period - the new order - and as generally practiced today can be classified under two categories. These are (1) land holdings as being the property of the matrilineal family, i.e. the tarawad, or tavazhi or in other terms Family property, and (2) land owned by an individual or Individual property.
Family property can be defined as the property inherited by a woman from any matrilineal relative, it usually being from the mother, her brother or sister or sometimes her mother's brother. Family property held by the woman is for the maintenance of all her matrilineal descendants, i.e. her children, daughters' children, etc. However, the division of property can still only take place with the consent of all adult matrilineal descendants. In case of an agreement on the partition of property, all her matrilineal descendants, be they adult or minors, would be allotted an equal share. To illustrate this, if for instance a woman has two sons and two daughters and one of the daughters has two children, then the woman's family property would be divided into six parts. The daughter with two children would receive three shares, which she would maintain for herself and her children (Fig. 14). However, in the case of one of the sons being dead, the property would be divided into five parts, with his widow and children not receiving any shares (Fig. 15). If the daughter having two children were dead, the property would still be divided into five parts, but the children would have a claim to one fifth of it (Fig. 16). As is evident, the distribution of property takes place strictly within the living descendents of the matrilineal segment.

On the other hand, individual property pertains to that which is acquired by
a woman other than through matrilineal inheritance. It is distinct from family property in that ownership and matters related to its disposal lies solely within the powers of the individual. Thus for instance if a woman inherits property from her father, it would be considered as individual property. If however, she transfers it to her daughter, it would then become her daughter's family property, it being inherited through a matrilineal relative. There thus occurs a complex reversal of property status from generation to generation, implying therefore that the process of inheritance/transmission does not necessarily diminish the net family holdings. The critical rule underlying the procedure of land division and transmission is that it should be fair and equal. By equal one does not necessarily mean in terms of area, but in terms of land value and income generation.

It is evident from what has been discussed of the structure of the tarawad that in the scheme of rights, duties, privileges, and powers allocated to individuals, and forming the specific pattern of the matrilineal joint family, resides a concept of property as a social institution. The notion of property as a social institution structures human relations to specific ends. It differs from other social institutions - familial, religious, political, and the like. - in that besides the existence of relations among
individuals, there are explicit rules prescribed in relation to a range of objects of various categories. Property when considered as a social institution not only implies the observance of rights and duties with respect to objects of value by individuals of a particular society, but also the specific social sanctions that accompany it. The body of sanctions as a culturally constituted means for guiding the individuals of a given group to play their respective roles in the scheme of property relations, is of primal importance in trying to comprehend the dynamics of property relations. The social recognition of values is integrally linked with the regulations of ownership, which in turn are reinforced by social sanctions. Within such a framework, the process and meaning of property division and distribution is not primarily a material transfer, but an interpersonal transaction which maintains and reinforces the social bond. It symbolizes and assures the dominance of the social over the economic function. Systems of production, consumption and exchange, the distribution of wealth, and various forms of occupational specialization, which are generally categorized under the rubric of economics, do act as external constraints and a medium for the deployment of kinship institutions, norms and relationships. It is not, however, the basis of kinship structure. Property then does not create the social relations of kinship and descent; it is the means by which they are made
tangible. If kinship can be looked upon as the social instrument regulating relationships amongst individuals, property as a social institution structures the roles which individuals play, in the complex system of human relations that prevail with respect to the ownership of objects held in value in a given society. It follows then that the corporateness of a matrilineal descent group as seen from within derives primarily from its structure and ideology and not exclusively through the corporate ownership of material property.

The point just made is exemplified by the existence of such a kinship system amongst the Nayars and Moplahs, notwithstanding the fact that the former were largely an estate owning group, while the latter, only traders with virtually no ownership of estates. Though the nature and extent of vested interest did vary amongst the clan members of each of the communities, the concept of "residence in the ancestral house" remained unchanged, thus clearly illustrating the fact that kinship relations are not necessarily sustained by the ownership of landed property. But it does play a crucial role in the way settlements are structured, for the non-ownership of landed property necessitates that the ancestral house be subjected to periodic transformations to accommodate the generational range implied by the kinship
system. And it contributes in a fundamental way to the high density of the Muslim settlements and the complex spatial organization of the residential unit, as against the relatively dispersed and unchanged pattern of the ancestral houses of the Nayars. Before proceeding to a more detailed analysis of the impact of the kinship system on the spatial organization of house types, it is appropriate to draw attention to another aspect of critical importance insofar as the Nayar houses are concerned, that being the strict adherence to the rules laid down by the "text." ¹⁰

The study of kinship forms the broad but definable field of structural theory.¹¹ One dimension of this field being the familial or domestic domain, connecting individual to individual in a scheme of dyadic relations. The other dimension, is the part played by kinship rules in the allocation of status - the politico-jural domain, and sustains by way of sanctions of the political framework of the society within which it occurs. Every society, given its economy and world view, has these two irreducible dimensions of social relations, institutions and norms. They enjoy a complementary relationship and form the elementary components of patrifiliation and matrifiliation modes of reckoning kinship, invariably present in all familial systems.
The emergence of institutional patterns could be understood as resulting from or reflecting the integration and/or divergence arrived at in the roles assigned to each of these elements. It is common knowledge that this balance can vary even in neighboring communities of identical or at least closely similar culture, living in the same environment and by the same technology. This phenomenon is clearly evident in the case of the Moplahs and Nayars of Calicut where, though cross-influences have occurred, a cultural distinctiveness has yet been maintained.

Stated summarily, the "tarawad" as a body of cultural and structural elements has form and internal structure. Each element of status manifested in it carries with it or is an outcome of a specific context of social relations to which given norms and customary behavior are linked. It tacitly implies a socio-spatial frame of arrangement, in that a description of kinship institutions, for example, can be related to observable socio-spatial arrangements of home, workplace, and community at large. What gives the institution its coherence is that it comes about through the interweaving of such nexuses, in the conduct of persons in interaction.
Definitions of clan, subclan, property group, and taravad.

Fuller uses the term 'clan' to represent all members who claim descent to a common ancestress (Figure A). They also form the property group if they own property collectively.

The term sub-clan refers to that segment of the clan which has moved out of the ancestral house or has adopted another name (Figure B). Consequently, they do not have membership in the tarawad.

The tarawad comprises of all members of the clan who reside in the tarawad and collectively own property, or alternatively, the property group and residential group are congruent and equivalent to a joint family (Figure C).
A woman with two sons and two daughters with one of them having two children would have her property divided into six parts. The daughter with two children would receive three shares.

In the case of one of the sons being dead, the property is divided into five parts with his wife and children not receiving any shares.

If the daughter having two children were dead, the property would still be divided into five parts with the children having a claim to one fifth of it.

---

A*5

Property  Female

X Deceased member  Male

Rules of property division in a taravad


(5) A male Nayar has four names: his clan name followed by an inherited personal name, which is usually his mother's eldest brother's given name, a given personal name and a caste title. A female Nayar, however, has only three names: her clan name which is inherited matrilineally, followed by her mother's name and a given name. She does not bear a caste name.

The diminished powers of the karnavan as the head and representative of the tarawad was something one realized during the field study as well. On one occasion after having acquired permission from the karnavan the previous day to document the house, we were asked to terminate work midway the next day by one of the male members of the household. He apparently happened to be the husband of one of the females of the tarawad or matrilineal descent group - "the visiting husband." Little did one realize the deeper implications of that action - as a manifestation of a changed power structure. In that the karnavan was unable to intervene, exemplified the fact of his once unquestioned authority having been reduced to that of a mere figurehead. Though still residing in the ancestral house and partaking of common utilities, the acquisition of the means to an independent subsistence by the particular subclan had drastically altered the structure of relations within the "tarawad."

Though not exactly within the ambit of this inquiry, Milton Singer's study on the Madras industrialists is an excellent example that illustrates how the rules underlying the notion of corporateness of the joint family has been transmuted to the organization and administration of present day industrial houses. It emphasizes the structural compatibility of traditional
traditional joint family organization with industrial entrepreneurship and documents some of the specific ways in which Madras industrialists have adapted the traditional joint family in an urban and industrial environment. The distinctive approach of the industrialist study to an understanding of modernization is the analysis of family adaptive strategies.


(9) Hallowel, Irving A., Culture and Experience, Chap. 12.

(10) The generic Hindu text on architecture - the Vastu Shastras - on which the many regional variants are based, is an exhaustive compilation of aspects that deal with the qualifications of an architect, site selection and orientation, systems of measure and proportion, building types and a detailed description of the various religious rituals that accompanied the different phases of construction. Most Nayar houses adhered strictly to the rules laid by the texts, and were organized either around a single court or a combination of two internal courts with the location and size of the individual rooms being prescribed.
(11) Meyer Fortes develops a very critical and comprehensive survey of the development of structural theory, in the process of his attempt to show that the study of kinship and social organization which culminated in structural theory, has its roots and precedents in the work of Lewis Henry Morgan.


(12) The concept of "domain" refers to Meyer Fortes' definition of the term:
...the social and cultural processes that make up a given social system fall into determinate sectors of organization. Each such sector - which I call domain - comprises a range of social relations, customs, norms, statuses and other analytically discriminable elements linked up in nexuses and unified by the stamp of distinctive functional features that are common to all...a domain is not merely a classificatory construct. It is a matrix of social organization in the sense that its members derive their specificity from it."

Fortes, Meyer, *Kinship and the Social Order*, pp. 95-96. For a more exhaustive explanation of the politico-jural domain, refer to Chapter 12 on "Cognatic Systems and the Politico-Jural Domain."
The kinship relations of a matrilineal descent system have a range of direct and indirect implications on the structuring of the built environment, from the organization of the residential unit up to the neighborhood level. Though this study focuses on the specific aspect of the impact of the system on the organization of the residential unit, a brief reference to the concept of "neighborhood" as it exists in the area where the field study was conducted - the Kuttichera neighborhood of Calicut city - seems appropriate.

The concept of "neighborhood" in Kuttichera, basically derives from the internal structure of the tarawad. To reiterate some aspects of the structure, an inmarrying male is accorded the status of an outsider, and allowed only restricted contact with his wife and children. In other words, as is explicitly specified by the system, the husband is not allowed to spend time during the day at his wife's tarawad or place of residence. He visits his wife late in the evening and leaves in the early morning. However, he being also a matrilineal descendent has certain rights in his own tarawad, which allows him to visit it during the day. His daily chores for all purposes are thus divided between the two tarawads - that of his wife and his own, and enjoying a different status.
in each of them. In order to fulfill his divided obligations, it follows that the two tarawads would need to be located in relatively close proximity.

Kuttichera as a neighborhood represents such a network of relations. The concept of neighborhood points to a field of social relations, in which local association is an outcome of the ideology and values of kinship and is thus drawn into the familial domain. Besides the fact that this is partly due to the convergence of neighborly relations with kinship relations, the "axiom of amity" as part of the kinship and family structure also plays a significant role. The definition of neighborhood in this context does not solely comply with that of being a physically delimited unit, but incorporates the notion of an extended network of social relations.

What occurs, interestingly, is a situation wherein on the one hand there exists an intermeshing of kinship and locality or alternatively the notion of neighborliness deriving from a network of extended kin group relations, whilst on the other, of individual descent groups - tarawads - with an internal structure that prescribes strict laws of individual interaction.
It consequently implies that the sustenance of the system would depend largely on an explicit coding of the notions of "public and private domains," regulating prescribed social interaction. In fact, the notion of public and private domains, form seminally the complementary sphere of kinship relations and crux of the rules that underlie the spatial organization of the tarawad as a social and residential unit.

The tarawad as a residential unit emerges as the physical symbol of the family origin point, given the dynamics of the kinship system. Its spatial layout reveals the inevitable segmentation and differentiation that is necessitated by the prescribed rules of inheritance, interaction, avoidance, etc., that characterizes the internal structure of the system. The organization of the residential unit comes to be pivoted around the fundamental social distinction that is perpetually maintained, between the individual households and the clan as a corporate group.

From the gamut of interrelationships that comprise the internal structure of the system, the more crucial ones that contribute to and determine the rules underlying the spatial order of the residential unit appear to be:

- the aspect of descent through the female line
the occasion of marriage of female members of a descent group
the distribution of wealth and the issue of property transmission amongst members of a descent group
the role of male matrilineal descendents as representatives of the clan and centers of authority.

The extent and nature of the impact of each of these aspects on the organization of the residential unit, will be considered, before proceeding to examine them in the context of the four house types that have been documented.

The bias of inheritance in favor of females and the marriage pattern which requires the residence of a woman in her own tarawad have two significant implications. Firstly, given the condition that descent takes place matrilineally, the number of potential households in a tarawad is directly proportional to the number of females in the descent groups that may comprise a clan. The formation of a new household is in turn accompanied by the allocation of a set of self-contained living spaces either through subdivision of the tarawad house or by extensions to it, or in isolated cases by the building of detached quarters within the tarawad compound. In most cases, especially amongst the Muslims, the first two patterns seem
to predominate for reasons stated at the beginning (Figs. on pp. 79,87,93).

What is evident then, is that the extent and periodicity of the transforma-
tions the tarawad house undergoes, is directly related to the number of
female members in the clan and the occurrence of marriage.

Though the extent of living spaces that is allocated to a new household did
comply with the rules of property division as it was practiced in the old
order (i.e., an equal division amongst the members of a descent group), this
is not necessarily so today. This is attributable to the concept of
individual property as an independent source of income that developed in
more recent times allowing for individual households to acquire space within
the tarawad according to their relative status and economic level.

The organization/location of household spaces follows another criterion as
well which has to do with the status of the husband. In that the husband is
accorded the status of an outsider, and given the strict rules of avoidance
between male and female members of the different households in a tarawad,
the husband is allowed only limited access to the tarawad house. In fact
his accessibility is restricted solely to the spaces allocated to his
household. Such a set of conditions demand a careful demarcation and organization of household spaces in a manner that would exclude intrusion into other household domains.

The issue of household domains must be related to the fact that it is not uncommon to come across tarawads with as many as five to six households, representing different descent lines, and all living together in an ancestral house. Given such a situation, wherein the total clan populace ranges anywhere between sixty to a hundred members, the aspect of public, private and transitional zones assumes a special importance (Figs. pp. 81, 82, 88, 94). The transformations of an ancestral house and the aspect of zones are inextricably linked together, reinforcing the social norms that mark daily life in a tarawad.

The rituals that accompany the rites of passage - birth, puberty, marriage, death etc., - marking the transition from one phase to another in a life cycle, entail the provision and location of specific spaces within the residential unit. The nature of rituals finds its basis in the prevalence of the notions of purity-impurity, pollution distance and ritual status. There are two aspects related to rituals; firstly, the dynamics of the
ritual itself, that concerns an individual member of a kin-group and, secondly, the collective celebration by all kin-group members, which usually follows its completion. Though there is a variance in the rituals that are observed amongst the Moplahs and Nayars, the constant feature is the act of collective celebration, usually in the form of feasting. The act of "eating together" is an occasion that symbolises and reinforces kin bond. The "rites of passage" rituals seem to have been more stringently observed by the Nayars, especially with regard to the females of the tarawad. Nevertheless, the two aspects of the rituals observed, that of the individual and collective, determine to a degree the principles of spatial organisation of a tarawad residential unit.

To take an instance of the spatial correlates of rituals; the rites of puberty - which is looked upon as a state of pollution - particularly amongst the Nayars calls for the seclusion of the girl, in a dark chamber, for a period of time. Her release from seclusion, marked the beginning of a new phase in her life, as having gained adulthood, which was celebrated collectively by feasting. In view of the notion of "pollution distance" prevalent, the location of the chamber within the house was prescribed. A
similar ritual took place on the occasion of a birth in the tarawad, requiring the provision of a delivery room (Fig. on p. 99).

The notions of purity-impurity ascribes a special importance to the act of bathing, to a point where it attains a ritual status in itself or bathing was usually the only way one could re-enter a state of purity. Consequently, the bathing tank came to be an inevitable aspect of a Nayar tarawad. In the case of wealthy tarawads there were usually two bathing tanks, for separate use by male and female members of the tarawad.

The observation of rituals forming an integral part of their cosmology and usually being celebrated by all members of the kin group implied that large spaces in the tarawad house were specifically designated for use during such occasions. In fact, one can conclude, as the analysis of the four documented houses reveal, that such spaces form the generic core in the spatial layout of a tarawad residence (Figs. on pp. 83, 89, 95). The order of its occurrence designates explicitly the rules related to its use by kin and non-kin members, demarcating in the process the public zones in the tarawad residence. The ultimate structure of dependence and amity and its external independence, finds its expression in the gatehouse, as a primary definition of the public-private domain (Fig. 17-21).
Different gate house forms in Kuttichera as an explicit definition of public and private domains.
The field study conducted was restricted largely to the Kuttichera neighborhood of Calicut - an area having a predominant Muslim population (Figs. on pp. 69-71). As stated in the beginning, the settlement is one of the earliest to have been established and dates back to the early 14th century.

The neighborhood of Kuttichera is located along the coast of the Arabian sea and contained within the north-south Beach Road on the west and Trunk road on the east. It is flanked by the highly commercial streets of Big Bazaar in the north, and Francis Road in the south. At the intersection of Idiyangara Road, which bisects the settlement along the north-south axis, and Kuttichera North Road, is located a large communal bathing tank. The tank and the towering wooden structure of the Misqual Mosque along its northern edge form the focal point of the settlement. A noticeable feature of the settlement are the many smaller mosques that occur, serving different residential groups within the community. The settlement is predominantly residential with commercial activities restricted to the north, south and east edges and along the northern part of Idiyangara Road.

As one enters the neighborhood, the general impression one receives is of
narrow streets and alleys lined by high, blank brick walls, intermittently broken by the occurrence of gate houses, marking the entry points to the individual tarawad houses (Fig. 25). At times, a second screen is placed behind the gatehouse to shield from view the forecourt within. The distinctiveness of the gate house and the high walls that enclose the individual tarawad houses mark in a definitive way the autonomy of the domestic group and the boundaries of the private domain. The gate house in some cases takes on elaborate forms, with seating arrangements within, in the form of raised platforms, for in most instances, transactions with outsiders takes place only at this point.

Within the tarawad compound, most houses exhibit a similar basic principle of organization. That is, once beyond the gate house, a forecourt leads to a deep verandah which usually runs along the entire front of the house. A large room with two raised platforms, on either side, follows the verandah, and leads into a large hall. Depending upon the social-economic status of the family, there occur verandahs that are doubly backed or two halls, or instances where an appropriation of these spaces takes place, necessitated through the needs of an expanding household (Figs. on pp. 75, 84, 90, 96). Despite these occurrences, what becomes clear is that in the scheme of spatial
organization that characterises a tarawad house type, this sequence of spaces demarcates in a definite way the levels of publicness and consequent accessibility afforded to various members of a tarawad group. It forms the generic core of the house type.

The field studies comprise an extensive documentation of four house types, based on the identification of the familial domain as a critical factor in social grouping, with the residential unit of the extended family as its primary isolate. Of the four house types documented, three belong to Muslim families and are located in Kuttichera (Houses 1, 2, & 3), while the fourth one (House 4) belongs to a Hindu Nayar family and is located in the suburbs of Calicut. The Nayar house has been documented solely for the purposes of a comparative analysis, with the object of examining the nature of spatial organisation of the residential unit of a different social and cultural group, subscribing to a similar kinship system. Due to the lack of the existence of any precise geneological data on the individual tarawads, the aspect of generational range in terms of the formation of households, property transmission and tarawad subdivisions through a period of time, has not been dwelt upon. The scope of the study, being restricted to the pattern of existent interrelationships in a tarawad, is largely synchronic in nature.
The three Muslim house types documented are examples wherein the kinship system is still adhered to, and represent different generational ranges and prototypical patterns of growth. This was concluded on the basis of observations, interviews, with household members, and members of the local Masjid in which the tarawad was represented. The three prototypical patterns are:

(1) A generic tarawad house type of relatively recent origin having been built sometime during the early 20th century (House 1-p. 75-83), wherein the expansion of the household has been accommodated in residential units dispersed in different parts of the neighborhood. This being due to the fact that being a wealthy family it owns landed property in different parts of the neighborhood. The house type has therefore remained relatively unaltered.

(2) Household expansion generating subsequent extensions/additions to the ancestral house, resulting in the expansion of the ancestral house as a physical unit, within the tarawad precinct (House 2-p. 72, 84-89).
(3) The formation of new households leading to internal divisions of the existing ancestral house, through successive generations (House 3 pp. 73, 90-95).

The Nayar tarawad (House 4 pp. 96-100) like the Moplah tarawad (House 1) is of recent origin, having been built sometime during the early 20th century. Unlike the Moplah tarawad, its unaltered state is mainly due to the fact that, in this case, the tarawad as a social institution no longer functions as a single economic unit through the activity of joint housekeeping. Nevertheless, it is a striking example of the spatial organization of a residential unit as laid down in the Hindu text of architecture—the Vastu Shastra.

The pattern of transformations that a tarawad house undergoes does depend upon other factors like the economic and social status of a family or household, the generational range, size of the lot etc.. Despite this, the salient feature that emerges from the examples cited, is that increased transformations of the ancestral house takes place when there occurs a greater number of female members in a tarawad. This being directly linked to the kinship rule that requires the maternal residence of female members as the rightful heirs to family property.
22) Aerial view of the Muslim quarters in Calicut

23) Edilagara Mosque on Francis Road

24) A bazaar street in the residential section of Kuttichera

25) A typical street in the residential section of Kuttichera

26) Juma Masjid, Kuttichera
CHAPTER 6
THE ANALYSIS OF THE FOUR DOCUMENTED HOUSE TYPES

SITE PLAN
Area of the field study

Houses documented
Mosques/Masjids
WARD-BLOCK PLANS OF THE AREA OF FIELD STUDY/1934-1983
Plans showing the nature of transformation of tarawad houses
Ward 16
Block No. 2

1934  1983
Name of the tarawad: Puthiya Ponmanichintakam
Location: 16/67 Kuttichera
No. of descendent groups: 4
Total clan populace residing in the house: 10

The house was built sometime during the early 20th century by a Muslim migrant family from Ceylon. The absence of any significant transformations reflects to an extent the shallow generational range. Added to this is the fact that some households have moved out to establish independent residential units in different parts of the neighborhood. The tarawad as a family origin point still functions as such when all the clan members congregate on the occasions of family rituals and festivals.

First floor plan

0 1 3 6 m
N ←
Most of the second floor remains unoccupied, due to the few households presently residing in the house. It originally accommodated the bedrooms allocated to individual households.

Second floor plan

0 1 3 6 m
27&28) Views of the gate house leading into the tarawad compound

29&30) The verandah along the front of the house

31) The central hall with a light well which is used predominantly by the women of the clan

32) One of the bedrooms at the second floor level
First floor plan

Second floor plan

KEY

- Living
- Bedroom
- Kitchen
- W.C./Bath
- Storage
- Well

Plans showing the organisation of activities

Section AA
Plan showing the pattern of ownership by individual households

The tarawad does not strictly observe the rules of matrilineal descent for one finds the co-residence of married male descendants as well. Despite this, however, they function as independent economic units, with each of their household spaces having an attached kitchen. The female descendants share a common kitchen, located to the rear of the house.

Represents individual descent groups

KEY

First floor plan
Plan showing the pattern of ownership by individual households
Plan showing the public, private and transition zones

Individuals who are not kin members are welcomed only in the public areas of the house. Given the system of "purdah" that is prevalent in the Muslim community, the females restrict their activities to the rear portion of the house. The stair finds a specific location in proximity to the public areas. It allows accessibility to the upper floor for male members married into the family, without intrusion into the private domains of other households.

KEY
- Public
- Private
- Transition

First floor plan
Plan showing the public, private and transition zones

Second floor plan
The generic core comprises a set of ceremonial spaces that have specific uses on the occasion of rituals that are observed by members of the clan. In a way it is a spatial definition of clan corporateness. It follows an ordered sequence and occurs in all house types. Its order is:

1 - the verandah, which runs along the front of the house, and in this case doubly backed, is used by male non-kin members on festive occasions.

2 - This room is used exclusively for marriage ceremonies, when each platform is occupied by kin relations of the bride and bridegroom following which negotiations and exchanges of gifts take place.

3 & 4) Feasting halls used by the male and female clan members respectively.

Plan showing the generic core
HOUSE 2
(A Moplah tarawad)

Name of the tarawad: Mollantakam
Location: Kuttichera
No. of descent groups: 5
Total clan populace residing in the house: 96

The tarawad, established sometime during the early 16th century, is an example of a house that has undergone continuous transformations through time, in the process of accommodating new and expanding households. A comparison with the survey plans of 1934 suggests substantial expansion within the tarawad compound through the addition of spaces to the original ancestral house.

The exact relationships among the various descent groups residing presently remain unknown. However the fact of common residence is the only evidence of a common origin. In view of this the aspect of household property ownership assumes a special significance and gets manifested as a system of explicit boundaries and codes of use.

First floor plan
Second floor plan

0 1 3 6 m
A dominant aspect in this house type is the utilization of the court as a spatial element in the organization of the residential spaces of individual descent groups.

The spaces designated as bedrooms at the first floor level are also used as living spaces during the day.

Also noteworthy is that the formation of a new household leads to the division of the well. The number of divisions of the well in most cases is an accurate indicator of the number of households that comprise a descent group.
A major part of the house is occupied in distinct segments by three of the descent groups, with the other two being located around the central hall. Ownership at the second floor level follows an explicit rule in that which is immediately above the individual segments at the first floor level, gets to be occupied by the descent group. It is accessed directly by stairs placed strategically in the transition zones of the house.
The transition zone which in the most part is the living areas, takes the form of a spine, linking different descent group territories and their individual points of access to the second floor level. At the second floor the condition reverses to distinct common spaces that link the residential spaces of individual households of a descent group.

KEY
- Public
- Private
- Transition

Plans showing the public, private and transition zones
Though the spaces have been appropriated through time by expanding households, one can still recognize a spatial order similar to that in House 1. In this case, however, there occurs only one feasting hall. In cases such as this, where the ritual spaces of the house have been appropriated, the ceremonies take place in the forecourt.

Plan showing the generic core
HOUSE 3
(A Moplah tarawad)

Name of the tarawad: Muchendiagam
Location: Kuttichera
No. of descent groups: 4
Total clan populace residing in the house: 60

The tarawad was established sometime around the mid-16th century. A comparison with the survey plans of 1934 shows marginal additions to the house. This could be attributed to various reasons, the primary ones being the restricted lot size and the probability of there being few female descendents. Given these conditions expanding descent groups have been accommodated through a process of internal divisions of the ancestral house while maintaining the rules of spatial differentiation necessitated by the kinship system. A conspicuous absence in this case is that of the gate house which was demolished to allow for vehicular access into the compound.

First floor plan

0 1 3 6 m
KEY

Living
Bedroom
Kitchen
W.C./Bath
Storage
Well

Plans showing the organisation of activities

First floor plan
Second floor plan

Section AA
KEY

- Represents individual descent groups
- Plans showing the pattern of ownership by individual households

First floor plan

Second floor plan

0 1 3 6 m
KEY

- - Public
- - Private
- - Transition

Plans showing the public, private and transition zones
As in the previous two house types, the generic core extends through the house connecting different household spaces. It differs from the previous examples in that it terminates directly in the kitchen spaces, grouped together in the rear.

Plan showing the generic core
Name of the tarawad: Pallakal Puthan Vedu
Location: Paniankara, Calicut

This tarawad, established during the early 20th century, no longer functions as a joint family. It is inhabited today by a single female, she being the only female matrilineal descendant. Nevertheless, it is a striking example which illustrates how kin relations determine the organization of the residential unit of a Hindu Nayar joint family.

Though the house has undergone partial renovations in recent times, its plan form still clearly exemplifies the underlying principles of organization as laid down by the text, that were strictly adhered to.
33) View of the gate house from the street

34) North elevation showing the colonnaded corridor which flanks the entire side of the house

35) The forecourt looking towards the porch and main door

36&37) The living space immediately after the porch

38) Detail of a wooden beam and column junction
Plan showing the organisation of activities

Though the house has undergone partial renovations in recent times, its plan form still clearly exemplifies the underlying principles of organization as laid down by the text, that were strictly adhered to.

To state briefly, some of the more important ones are:
- the orientation of the entry gate to the east
- the organization of living spaces around courts, its scale and number depending upon the social status of the clan. The concept of the court as an organizational element dealt effectively with the aspect of expanding households. This seems particularly operative among the Nayars, who being an estate owning group and having their houses located in them, were never really restricted by the issue of lot size.
- the exact location and function of spaces within the tarawad house was specified by the text. For example, the delivery room, prayer room and kitchen enjoyed a specific relationship, given the prevalence of the concept of pollution distance.
- the inclusion of the bathing tank either as detached or integrated into the residential layout.

Another salient feature of the tarawad house are the rooms above the gate house and adjacent to it. These were allocated to the in-marrying male members. Thus, in terms of public and private zones, the residential spaces beyond the porch was strictly for the use of matrilineal kin members.

KEY
- Living
- Bedroom
- Kitchen
- W.C./Bath
- Storage
- Well
- Delivery room
- Prayer room
Plan showing the organisation of activities

Second floor plan
1. The Generic Core as a set of Ceremonial spaces

The generic core comprises a set of spaces that have specific uses on the occasion of rituals. It follows an ordered sequence and occurs in all house types. Its order is:

1) The verandah which runs along the front of the house
2) A room used exclusively for marriage ceremonies
3) The feasting hall

2. The Organization of a Tarawad Precinct

The set of spaces that form the generic core always extends through the entire length of the house. Within a tarawad precinct, the core is always located on an axis between the gatehouse in the front and a detached kitchen in the rear.

3. Patterns of Transformation of a Tarawad House

The three patterns of transformation that a tarawad house undergoes in the process of accommodating expanding households are:

1) Wherein the ancestral house remains unaltered and residential units are established in different parts of the neighborhood.
2) Through extensions of the ancestral house with the utilization of the court as an organizational element.
3) Through formal division of the ancestral house. Notwithstanding the pattern of transformations, the generic core remains unaltered.
4. The Organization of Servant Spaces
The servant spaces are always organized along the periphery of the house and precinct boundaries. Thus, schematically, the core is enclosed by living spaces mediated by a zone of transition, with the servant spaces located in a peripheral band.

5. The Location of Access Points
Accessibility to the second floor level for non-kin male members is always located in proximity to the verandah as a public space and/or in transition zones. Access points located within the house is generally used by the female members.

6. The Dominant Male and Female Territories within a Tarawad House
Given the nature of prescribed individual interaction in a tarawad, there exist distinct territories that male and female descendants, and non-kin members inhabit. The public spaces are predominantly used by non-kin members, while the spaces to the rear of the marriage hall are used by the female members. The overlap of spaces used by male descendants of the clan is determined by time and occasion.
The various aspects of property division and transmission which form the traditional matrilineal system as discussed above must be viewed alongside the more recent developments that have contributed to a radically changed situation today. The nuclear family, in most cases has replaced the matrilineal extended family as the key kinship group with respect to residence, economic cooperation, legal responsibility and socialization. With reference to these changes, Gough has suggested that when the small household becomes the primary work unit for each occupation, when bureaucratic political structures arise or when a matrilineal system enters a market economy, matriliny dissappears. She also suggests that it disappears when the subsistence base shifts to one primarily dependent on movable property.

The change in property relations as a result of the gradual transformation of the social order is reflected in the physical environment as single family dwelling units take precedence over the establishment of tarawad houses. It is, however, too premature to remark more specifically on the influence of the changed traditional order on the physical environment. Yet one can decipher a changed emphasis that is instituted in the cultural products and institutions the community identifies with today as a result
of the altered state of institutional relations. Thus for instance, the Mosques and Madrasas have assumed an added significance amongst the Moplahs as a symbol of communal identity, which in the past was provided by the network of individual tarawads as the focus of the community structure. The activity of rebuilding community identity through the exemplification of communal institutions is stretched to the point where traditional mosques—built by Hindu craftsmen and therefore near replicas of temples—are either demolished or renovated in styles reminiscent of Islamic architecture in North India.

The fragmentary evidence in the transforming physical environment raises the critical and extensively debated issues of continuity and change. It also raises the fundamental question of whether continuing modernization in the form of urbanism, industry and technology totally transforms the structure and organization of traditional societies. The aspect of change and continuity need to be examined within the larger context of the central problems of modernisation and development in traditional societies. Examining tradition as a source of societal change and exploring continuities between the past and present, with a recognition that these are
often expressed in deep relationships between politics and religion, allows for fuller explanations of how and why specific societies have developed as they have. It would also allow for an understanding of why certain elements get emphasised as symbols of progress constituting particular definitions of modernity.

With respect to the processes of modernization of traditional societies, some of the significant positions commonly advanced till recently were:

- that continuing modernization inevitably brings about a total structural transformation of the traditional society, replacing the joint family with the nuclear family, caste with class, and religious beliefs and rituals with secular and scientific ideologies.

- that the transformation of tradition could not occur because traditional belief and institutions were incompatible with modernity and would therefore necessarily obstruct the progress of modernisation.

- that traditional societies would not modernize until they had abandoned their traditional institutions, beliefs and values.

These positions hypothesized what constituted the distinctiveness of modern and traditional societies, which emerged during the classical period of
modern sociology and dominated the many studies of modernization and development up to the 60's. They reveal the persistence of a view that treated modern and traditional societies as closed types. The implicit assumption behind many of the researches informed by these positions was that a society's modernity related directly to its characteristics of structural differentiation. The greater the specialization, the less traditional it was and the better able to develop continuously and to deal with new problems and social forces. Traditional society was viewed as a static one with little differentiation or specialization and bound by the cultural horizons set by its tradition, in contrast to modern society as being culturally dynamic, and oriented to change and innovation. Often, the analysis of tradition which although containing a variety of components such as patterns of behaviour, symbols of social and cultural identity, modes of legitimation of the social order, constituted an undifferentiated whole.

However the growing body of research into the processes of modernization of traditional societies, has indicated the inadequacy of such an emphasis and general definition of tradition. Consequently, the implicit assumption that the less traditional society is more amenable to sustained growth has been proved incorrect. In fact, they have shown that the development of a
new society through the disruption of traditional frameworks - be they
kinship systems, community or political mechanisms - leads more often to
disorganization than towards the establishment of a viable modern order. The
perceived persistence of strong traditions in modern or modernising societies
has also undermined the earlier established dichotomy differentiating
traditional and modern societies as "end states", arrived at through the
adoption of an evolutionary model of modernization. Binding ways of
behavior, symbols etc. rooted in the past or referring to it have been
recognized as characteristic of certain modern or modernizing societies. We
are observing the nascent recognition that even if traditional societies are
typologically different from modern ones, they may vary greatly in the degree
to which their traditions impede or facilitate the transition to modernity.
This is clearly exemplified by Marion Levy's pioneering research into the
premodern social structures of China and Japan, and their individual courses
of modernization. An example closer to the context of this study is
Milton Singer's studies in the city of Madras, which presents evidence for a
position that recognizes the continuing coexistence and mutual adaptations of
cultural traditions and modernity. In formulating such a position, he
draws on the ideas of A.L. Kroeber and Robert Redfield, which allows one to
envision the possibility that a society may be modernizing without
necessarily abandoning its traditional institutions, values and beliefs. Milton Singer's position derives from a realization through field studies, of the relationship between the cultural and social in a societal structure, which had earlier characterized Redfield's approach. He states that social relations and social networks are important not only as aspects of a social structure but equally as media for the transmission of cultural traditions. The network of social relations, in other words, are cultural as well as societal⁵.

Consequently, there has developed a body of knowledge that informs a recognition of what is described by S.N. Eisenstadt as "the systemic viability of so-called transitional systems. Partial modernization or development - that is of some institutional or organizational frameworks sharing many characteristics of modern organizations - may take place in segregated parts of a still traditional social structure, and their infusion may even reinforce those traditional systems"⁶. Thus, in this sense, the term "post-traditional", which is often used to refer to traditional cultures in change, represents an alternative mode of perceiving the traditional to modern progression, with the underlying assumption, that in the nature of responses to change, many of the forces that develop from within a society's
tradition is of crucial importance. Although these processes of change and the problems they tend to create have certain common cores, the responses they evoke and the kind of post-traditional orders that develop vary greatly. The range of response is evident in the symbolic and institutional reactions to the impact of modernity. Consequently, it becomes critically important to realize how differences in the content of tradition influence the perception of change, adaptability to change and the possibilities of effecting cultural transformations.

It follows that what is required is a systematic distinction between different aspects of what has often been grouped together under the rubric of tradition. It is only in an understanding of the interaction of these various aspects of tradition, as they guide the activities of different groups in contemporary settings, that one can comprehend the dynamics of the establishment of post-traditional orders in their social, political and cultural dimensions. Traditional societies, however different they may be, all share the acceptance of tradition, of some actual or symbolic past event, order or figure as the major focus of their collective identity. Tradition not only serves as a symbol of continuity, but also acts as the ultimate legitimator of change and the limits of innovation.
Consequently, an alternative interpretation of change implies that the explicit ramifications of elements and images borrowed from foreign sources and grafted on to the urban fabric in Calicut in recent times needs to be viewed in a different light. The transformations in the physical environment calls for an understanding of the processes of change occurring in the social and cultural realms of the two communities in the first place. It raises such fundamental questions as: To what extent has the total sanctioned pattern of life of the community become only a partial one? Or does it persist as binding for only some members of the society or only in some spheres? Has the new situation totally undermined traditional usages, customs, ways of life and symbols or are there strands that persist in the form of adaptations of the content of tradition? These are questions that would lead one to a comprehension of the contents of a transformed symbolic template, from the point of view of the individual identity of the Moplah's and Nayar's and its relation to the collective identity of their respective social and cultural orders. The appropriateness or inappropriateness of the recent developments in the built environment can only be gauged or validated through an understanding of the processes of change in the content of that which it is replacing.
Footnotes


2) Some of the more noteworthy studies related to the Indian context that deal with the issue of cultural continuity are:

   Srinivas, M.N., *Social Change in Modern India*

   Dumont, Louis, *Homo Hierarchicus: The Caste System and Its Implications*

   Mandelbaum, David, *Society in India*

   Marriot, McKim(ed.) *Village India: Studies in the Little Commnunity*

   Cohn, Bernard S., *India: The Social Anthropology of a Civilization*

   Brown, W. Norman, *Man in Universe: Cultural Continuities in India*

3) Levy, Marion J., *Modernisation and the Structure of Societies (2 Vols.)*

4) Singer, Milton, *When a Great Tradition Modernizes, Part 4*

5) *ibid*, pg. 247

6) Eisenstadt, Shmuel N.(ed), *Post Traditional Societies*, p. 3
BIBLIOGRAPHY

Books


Hussain, Mahdi, (ed. and trans.) *The Rehla of Ibn Battuta (India, the Maldive Islands and Ceylon),* The Oriental Institute, Baroda, 1953.


Figure Credits

Figure 1 - Dale, Stephen, Islamic society on the South Asian Frontier, p. 92.

Figure 2 - Guide Map of Calicut, prepared by the Office of the Regional Town Planner, Calicut.

Figures on pages 72, 74, 75, 76, 77, Regional Town Planning Office, Calicut.