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**Architecture: An Heirloom
in the Context of Chettinad, India**

**Asmita Patwardhan
Visiting Faculty
VIT's PVP College of Architecture
India**

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Athens Institute for Education and Research
8 Valaoritou Street, Kolonaki, 10671 Athens, Greece
Tel: + 30 210 3634210 Fax: + 30 210 3634209 Email: info@atiner.gr URL:
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Architecture: An Heirloom in the Context of Chettinad, India

Asmita Patwardhan

Abstract

For centuries man has been creating edifices to document his existence on earth. Globally, we have inherited a large number of such heritage structures. In most cases, the shelf lives of the buildings are nearing expiration. The immediate future for these buildings is breakdown, adaptive reuse or downfall. The ethical high road that is often taken is that architecture is greater than the sum of its parts, an entirety that cannot be understood or appreciated in fragments. However, can a piecemeal existence be the future for a heritage building rather than an impending threat of complete obliteration? Can architecture exist as a series of fragmented components that can be extracted singularly and enjoyed as separate entities? Can architecture enjoy a prolonged shelf life through extracted forms? In south of India, in the state of Tamil Nadu, near the city of Madurai lies an area called Chettinad. Spreading over seventy villages, it exhibits homes belonging to the Nattukottai Chettiar community. Huge 19th century mansions testify the power and community strength through its architecture. Unfortunately, these mansions now lie desolate in ghost towns after the mass migration of the community members from their ancestral villages. Some structures are being subjected to adaptive reuse, while others will eventually go under the axe. What have emerged as interesting by-products are huge warehouses situated in prominent towns like Karaikudi and Kanadukathan that bring down these houses in a systematic format trying to salvage each and every component in its intact form. These are then sold as separate components to Southeast Asian countries and within India too. This paper intends to examine if architecture can be extended beyond its shelf life through fragmenting its different components, while considering each component to be an heirloom that can be taken forward to other communities, regions and purposes.

Keywords: Fragmented, Heirloom, Piecemeal, Salvage, Shelf life.

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Introduction

Aim

Architecture is considered a static entity and an immovable asset in the technical sense. What this paper intends to find out is if architecture is in fact a pliable commodity that can be handed down from generation to generation. If it can be treated as an heirloom in such a way that even though its place, purpose, ownership and meaning alter, it will continue to carry the ethos of the original building, buildings' shelf life will be extended in a regenerated form.

Objectives

- i. To identify the heritage value of these palatial homes, over a time span of roughly two centuries, which reached their pinnacle of existence and spiraled towards extinction.
- ii. To study the socio-economic and political events that shaped the history of these homes and how that impacted the way the community built, abandoned or rebuilt their homes.
- iii. To examine the demolition activity, its process and its repercussions on the context.
- iv. To understand the process involved in salvaging components from the houses in their intact form.
- v. To comment on the architectural value of new construction or reconstruction activity and to observe its impacts on this historic context.
- vi. To examine all tangible and intangible aspects prevalent in Chettinad, which are instrumental in lending heritage value to the context.

Scope

The scope of this paper includes the study of mansions constructed between the second half of the 19th century and the first half of the 20th century in the region of Chettinad, Tamil Nadu, India. In focus will be the vulnerable mansions that fall in line with the traditional style of Chettiar architecture and are under threat of obliteration or complete transformation. The paper will try to examine a demonstrative model to convey how heritage conservation can be achieved both by intervention and education, so as to prolong the shelf life of the individual buildings and their context.¹

Limitation

The paper does not intend to consider town planning or adaptive reuse policies, but instead focuses on ongoing reconstruction activity that is

¹ Case Study Conducted at the end of the Paper (Figure 19).

inevitable and alarming because it is a larger, more immediate threat to the conservation of the dwellings and the stated context.

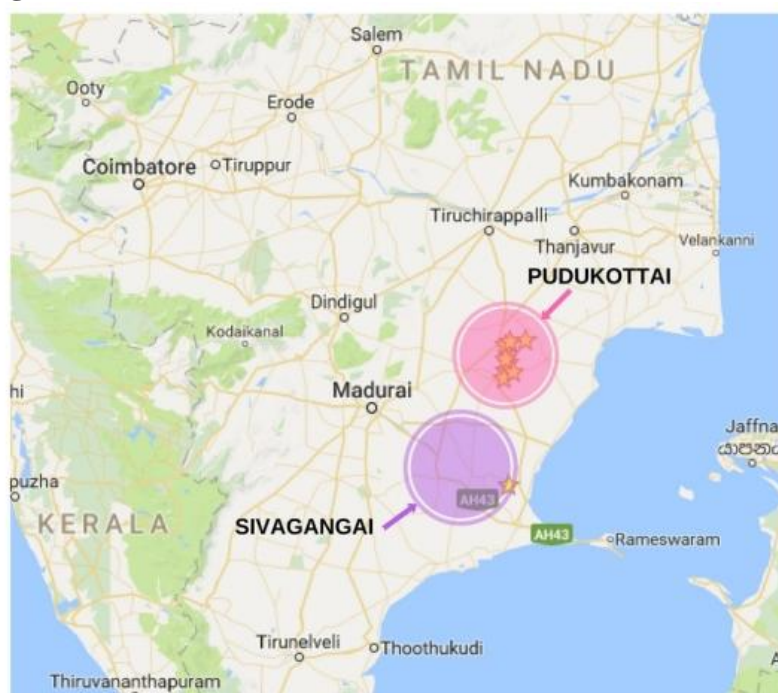
History and Geography of the Region

Figure 1. Map of India



Source: Author (based on Google maps).

Figure 2. Chettinad Area



Source: Author (based on Google maps).

Chettinad is an area located in the Southeast region of India in the state of Tamil Nadu near Madurai, India (Figures 1 and 2). There is not enough documented evidence or resources to demonstrate exactly how this community

settled in its current location, but legends, folklore and word of mouth stories claim that the Nattukottai Chettiars migrated from the coastal areas of Tamil Nadu towards this arid hinterland hundreds of years ago after suffering a devastating tsunami (Michell, 2015).

As Chettinad does not have cultivable land, the members of this community started moving out to other parts of India and abroad to conduct trade and look for opportunities to establish their businesses in an impactful way. They had widespread businesses and trade exchanges with Southeast Asian countries like Burma, Malaysia and Singapore (Evers and Pavadarayan, 2006). It is from these travels that the wealthy merchants sourced exquisite and expensive materials that went on to become an integral part of the trademark architectural houses of Chettinad. The mansions of Chettinad are truly remarkable as they depict an architectural style that is eclectic and unique. The exterior of these homes are reminiscent of palatial European buildings, while the interiors are predominantly traditional in character.

Town Planning

Towns in Chettinad mostly adhere to the grid iron pattern. Streets run in a north-south direction alternating as main streets and utility streets parallel to each other. Palatial houses span between streets with the depth of the plots being about 75-100 m (Figure 3). In the north-south direction, houses are separated by narrow gaps only a meter wide. The placement of houses in the grid is such that traders and their staff are given priority while allocating plots. Houses represented families and each house bore a unique abbreviated name form at the entrance to give information about its occupants (Figure 4). A vision for the future, in terms of planning the towns, is seen in the integration of systems like drainage and rainwater harvesting as an integral part of the infrastructure of the town (Michell, 2015).

Figure 3. *Palatial House in Kanadukathan*



Source: Author.

Figure 4. *Typical House with Family Name Inscribed*



Source: Author.

Temple

The temple has great significance in all stages of life for the Chettiars. The temple is not necessarily in the town centre like in other towns in Tamil Nadu (Figure 5). There were ooranis, or manmade water bodies outside temples, used as sacred waters for religious purposes. There are nine main temples representing the nine Chettiar clans. These temples are living spaces visited by the members of the clan for all the lifecycle functions and events.

Figure 5. *Clan Temple*



Source: (Kannappan, n.d.).

Social Order

The Chettiars belong to the Vaishya caste and are devout followers of Shiva, one of the principal Hindu Gods. There are rules to be followed by members of the clan, and they are stringently followed. Marriages within the same clan are prohibited, as well as marrying outside the community. The home is the centre of all major life events, and hence birth, death, marriages and coming of age ceremonies are still celebrated only in the ancestral home with grandeur and fervor. This is one of the primary reasons why houses are still in use and kept in habitable conditions (Sathappan, 2017). The social order becomes instrumental in shaping the architecture of the homes, as well as dictating the rules of design for space making and space allocation within a house. The boundaries and rules laid down for conducting business and social behavior are the fundamental principles on which this community is formed (Meyyappan, 2017).

Residential Unit

The houses of Chettinad are oriented along an East-West axis because the house as a unit was considered a cosmos within the cosmos, and all the daily rituals were based on the movement of the sun across the sky. This orientation also facilitated the free flow of the wind inside the house. In the longitudinal direction, the houses were organized in terms of use of space and gender of the occupants. The outer areas of the house were occupied by the males and the inner portions by the women and servants. The aspects of public to private zones within the house are also in increasing gradation in the longitudinal axis. The five main parts of the house are Mugappu, Valavu, Nadu Vaasal, Irandan Kattu and Moonran Kattu (Figure 8).

Evolution of the Houses and the Materials Employed through 1850-1950

The houses in Chettinad underwent a transformation from simple dwellings to independent opulent villas between 1850 and 1950. Early houses were strictly bilaterally symmetrical. This was not strictly adhered to later, as spaces like Bhojan Salai (dining hall) were added to one side of the house in the longitudinal direction. Large halls like Kalyanakottai are spaces seen in the bigger houses running the full width of plot. Early houses were single storied with pitched roofs and clay tiles. As the traders grew wealthy, the Thinnai became double storied with elaborate balustrades and raised parapets with polychrome niches adorned with gods and goddesses and at times British soldiers. Elements belonging to Art Deco (Figure 6), Art Nouveau and Neoclassical architecture are integrated in the house facades. These were applied in the treatment of arches, grills, gates and stain glass paneling (Figure 7) (Michell, 2015).

Figure 6. *Art Deco Facade*



Source: Author.

Figure 7. *Stain Glass Panels*



Source: Author.

Figure 8. Parts of a Typical Chettiar House



1. Thinnai

Thinnai is used for conducting money lending practices. Used essentially by males of the house only. Entirely public part of the house embellished with the most expensive materials.



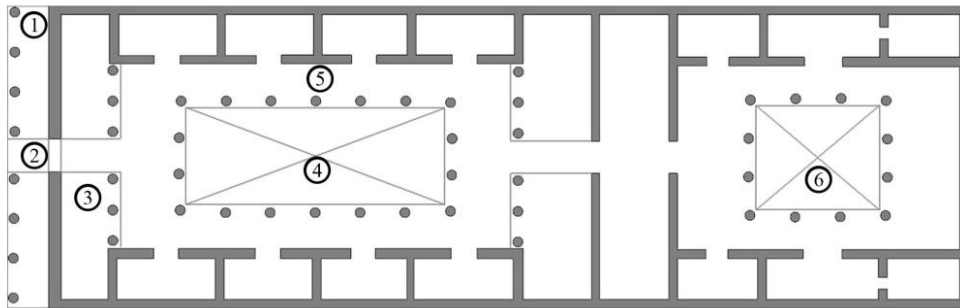
2. Entrance Door

Outside the entrance door is the Mugappu area and inside is the Valavu. It is an extremely ornate doorway. The threshold separates the public and private areas of the house.



3. Pattalai

This area within the house is used for joint family. It also supports above it a flat roof where the guests visiting the house are accommodated.



4. Nadu Vaasal

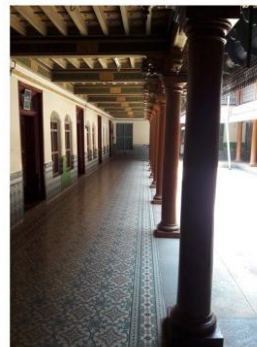
It is an open to sky courtyard where religious ceremonies are held. It is reserved only for the members of the family. It is usually a rectangular paved courtyard.

5. Corridors

Corridors link the Nadu Vaasal to the rooms abutting it. The family members live in these rooms. These are usually single room but in the later houses two room units are also seen.

6. Moonran Kattu

This area of the house is controlled and run entirely by women and servants of the house. This area houses the kitchen and washing areas.



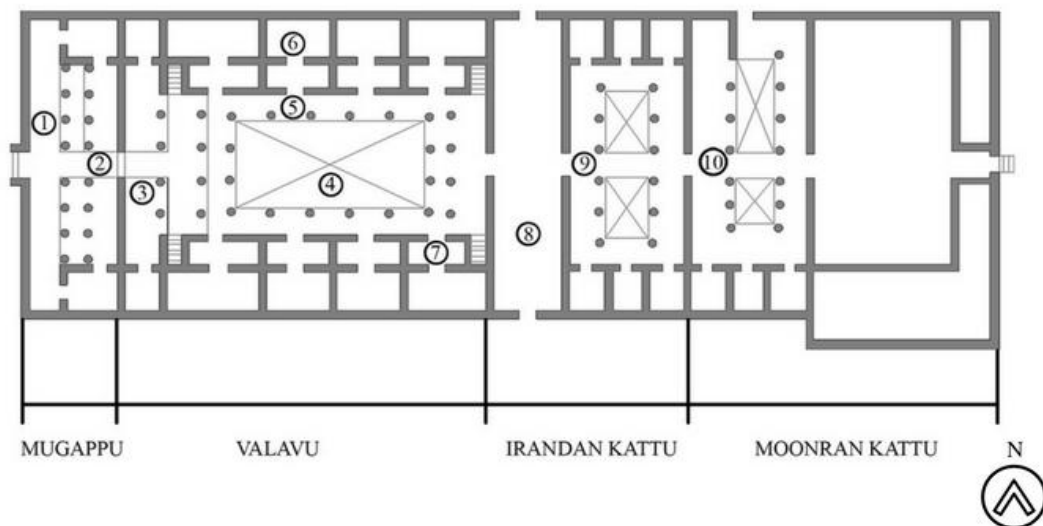
Source: Author based on Plan from (Michell, 2015.)²

² Plans of the Chettiar homes vary and this plan is only to represent the different spaces. The scale of the houses can be determined from the plot area which was approximately 75m x 100m in most cases.

Columns were seen in a wide variety from highly ornate, polished Italian marble and polished local granite columns to unpolished, unembellished rudimentary granite columns. Monolithic timber columns, again in varying degree of polish and detail were used as per the space they occupied. More elaborate materials for public spaces and very simple almost frugal materials for inner spaces were the order in which material was employed (Table 1).

Doors and windows also exhibited the same degree of variety and detail in terms of materials, treatment and decoration. Flooring ranged from local sun-baked Athangudi tiles to Venetian tiles and Italian marble flooring. The early houses had only one courtyard and single unit rooms. This later transformed into two room units lined with long lengths of corridor that abutted series of courtyards (Michell, 2015) (Figure 9).

Figure 9. *Spaces in a Chettiar House and the Variety of Materials Used*



Legend: 1. Thinnai, 2. Pattalai, 3. Valavu, 4. Nadu Vaasal, 5. Colonnade, 6. Rooms, 7. Doors & Windows, 8. Bhojan Salai, 9. Irandan Kattu, 10. Moonran Kattu

Source: Author based on Plan from (Michell, 2015).

Table 1. *Showing the Range of Materials Employed across the Different Spaces in the House³*

Name of Space	Areas included in the house	Description of derived materials after salvaging
Mugappu	Thinnai, Pattalai and main door	Columns of polished granite, satin wood, Burma teak wood of highly polished, embellished and ornate. Japanese and Venetian wall cladding tiles. Ceiling tiles, frescoes, murals, brackets and paintings. Highly carved and detailed main door, threshold and frieze and cornice (Figure 10). This door is usually one of the most expensive of all items found in the house. Stain glass elements.
Valavu	Spaces to be used by the joint family members.	Most precious materials are found in the first two sections of the house. This section has columns with high degree of detail and polish. Doors and windows are also found here that are well crafted and embellished. Space above Valavu has a timber roof of superior quality, intricately carved and balconies that can be taken apart piece by piece (Figure 11).
Nadu Vaasal	This area comprises of rooms abutted by long colonnades and a courtyard.	Doors and windows with lesser degree of detail and embellishment compared to first two sections. Well-crafted columns in Burma teak or Satin wood. Gutters and awnings in metal. Timber sloping roof with clay tiles. Staircases are also found in varying degree of detail in this part. At times they are highly ornate, spiral or grand in scale .Most are simple straight flight of steps. Staircases too are taken apart completely and can be reassembled.
Irandan Kattu	Space reserved for women and children	The materials here are very simple and basic. Doors, windows and colonnades with minimum embellishment and carving. Structural wood is salvaged from here and used in making new furniture items.
Moonran Kattu	Cooking area and spaces where servants worked	Very frugal, rudimentary materials with minimum embellishment are found. Usually simple unpolished granite columns and stone implements used in cooking. Windows and doors have no detailing but quality of the wood is excellent and can be refurbished and reutilized.

³ Table is based on observations and fieldwork of author.

Figure 10. *Ornate Doors, Frieze and Thresholds*



Source: Author.

Figure 11. *Balconies*



Source: Author.

Literary Sources

There is insufficient literary evidence that documents Chettiar houses from the architectural perspective, as they are privately-owned houses and not easily accessible to outsiders. This is because the community is very private and insular. Most sources focus on the economic achievements and success of the community. Intentions and aspirations of the builders, the

social order and lifecycle rituals are major aspects that together shape the design of the house. These aspects compose together an underlying theme that connects different houses together to create what is known as the community model called Chettiar Architecture. In earlier times, the ownership and maintenance of the homes was clear and easy as joint family and business structures existed. The subsequent breakdown of the joint family system and varying economic capacities of the stakeholders make these units vulnerable and threaten their existence (Michell, 2015).

The construction of the houses and their transformations are directly linked to the social-political situation influencing the Chettiars within a given time period. This paper will broadly classify the migration of the Chettiars into three categories. Each category is significant in terms of shaping the house designs, building activity and the subsequent dereliction of the houses.

The first migration occurred in the early 1800's when they set out to south-east Asian countries in search of livelihoods (Gopal, 2013). They established strong businesses outside India and rose to great levels of affluence. The high aspirations, disciplined behavior and entrepreneurial qualities of Chettiars abroad allowed them to create enormous wealth, which in turn supported the opulent building activity of their ancestral homes for their families. This small community left a significant mark on the world of trading, economics and banking. It is because of their strict adherence to rules and structure that the migration, expansion of businesses and formation of transnational economic network was possible for the Chettiars outside their homeland (Evers and Payadarayan, 2006).

The political upheavals between the years 1930 to 1945 significantly disrupted their businesses abroad and caused a sharp decline in their operations in Singapore and other countries, which sparked an outmigration to their home country (Gopal, 2013). This was the second migration. Interestingly a new generation of Chettiars migrated back to Singapore along with their families this time looking for salaried jobs. The second migration was the most significant when many families escaped overnight, empty handed from these places as a repercussion of the Second World War in 1945.

The third migration took place in the mid-1980's when the educated second generation of Chettiars relocated to other parts of the world in search of better prospects. The steady economic downfall after 1945 led to the abrupt ending of the building activity of palatial homes in Chettinad. Breakdown of the joint family structure, litigation and neglect gave rise to a new trend where houses were torn down, precious materials were sold off, plots were subdivided between stakeholders according to their shares, and new construction started taking place. The demolition activity became a structured business, and contractors started salvaging, repairing and selling building parts in a piecemeal manner. These expensive materials and building components were in popular demand as they were exquisite and in very good condition.

In April 2014, a submission was made by the permanent delegation of India to UNESCO, titled Chettinad Village Clusters of the Tamil Merchants

(UNESCO, 2014). According to this document, the area of Chettinad comprises 76 villages and two major towns in the Sivagangai and Pudukkottai districts of Tamil Nadu. The delegation chose three clusters encompassing a total of 11 villages. The delegation earmarked the exact area for recommendation based on the qualities of the villages displaying OUV or Outstanding Universal Value. The submission found that the structures, architecture and villages of the area fit into three (criterion iii, v and vi namely) of the several categories prescribed by the operational guidelines for the Implementation of World Heritage Convention (<http://whc.unesco.org/en/guidelines/>, n.d.).

The manner and style of construction is heritage material as they demonstrate and adhere to several criteria outlined by UNESCO and comply with the NARA document. The travels and the trade exchanges of this community with other parts of the world gave rise to an architectural style that is indicative of an interchange of human values. Almost 10,000 to 15,000 structures of daunting scale and proportions exist here that are unique in comparison to houses anywhere else in India.⁴ The grand plan, impressively tall facades, balustrades, loggias and corridors make it a composite style in itself. The material palette comprises expensive materials. An extract from the document states the following:

*Teak wood was imported from Burma, satin wood from Ceylon, marble from Italy and Belgium, cast iron and steel from UK and India, ceiling in metal plates from Great Britain, tiles from Bombay, Japan, Germany, France and England, chandeliers from Belgium, France and Italy. As they required the best, they also brought skills from different regions of India such as woodcarving, frescoes and egg-plastering.*⁵

The Chettiars took into consideration the climatic aspects of the region, which is hot and arid. The town planning activity included this knowledge in order to effectively establish a self-sufficient system. Materials were put to use after careful consideration in order to be sustainable.

*The materials used for construction also respond to the climatic requirements: thick walls of bricks, lime plasters, multiple layer of terracotta tiles roofing, marbles and stones(sic) floors are essential components.*⁶

Water, a precious commodity was efficiently tapped and stored. Run off from roofs was collected in gutters that fed wells and tanks. Rainwater was diverted through channels of drainages to empty into tanks or ponds created for storage purposes. Slopes of the roofs were also critically managed to facilitate collection of water.

*This water system is comprised of two types of inter-connected networks. One is inside the villages comprising drainages and ponds (or ooranis). The other one is made of erys (or Kanmois), traditional surface water storage reservoirs, spread over the countryside around the villages.*⁷

The architecture of Chettinad is closely bound by life cycle rituals and traditions. The tangible and intangible aspects of the culture and architecture

⁴ Data as per (UNESCO, 2014).

⁵ Italicized portion is an excerpt from the document mentioned (UNESCO, 2014).

⁶ Italicized portion is an excerpt from the document mentioned (UNESCO, 2014).

⁷ Italicized portion is an excerpt from the document mentioned (UNESCO, 2014).

are interlinked and interdependent. Even the construction technology and artisans follow the rules of the community order.

*They have been planned by the master masons who built the temples, the stapathis, and followed the traditional Tamil space organization.*⁸

The submission found all the criteria as per the Nara Document and every aspect meet the requisite specifications to fit the Authenticity and Integrity standards.

In the design of individual homes and temples in Chettinad, optimum flexibility was allowed within an implied standardized template which helped to create a thematic picture. There are negligible diversions from this template because the whole town resonates with a unique character, making it a fine example of community architecture. Chettiars had a strong socioeconomic structure that guided the family members on matters of social and economic aspects. The boundaries between commonly owned and collectively owned were firmly laid down in terms of space, food, money, maintenance, and ownership of the house (Evers and Payadarayan, 2006). Unfortunately, as the family size grew and the number of stakeholders increased, the existence of the houses came under threat because of a lack of control over operations. Houses are being demolished at an alarming rate and the context is under threat of obliteration.

The building construction system of these homes is such that dismantling the entire building into several individual, intact components like door, windows, columns, etc. is possible. There are several demolition contractors and warehouses engaged and specialized in this activity and there is a proper mechanism existing in the villages where houses are auctioned and pulled down. It should be noted that these homes are demolished but are replaced by new homes catering to the altered needs of the occupants. There is very small percentage of buildings which have undergone a change in usage of the building. At this critical juncture, fundamental questions based on the whole idea of considering demolition an eventuality in the lifecycle of the building and embracing it with preparedness need to be contemplated.

Research Questions

If one looks at the Hindu religion, to which the Chettiar community belongs, cycles are considered to be the natural paths of progression for all forms of life. According to Hindu philosophy, everything that is born reaches its inevitable perishable end only to manifest as a new form to keep the cycle of life in constant continuum. This verse from the Bhagvada Gita, chapter 2, verse 22 says:

*vasamsi jirnani yatha vihaya navani grhnati naro'parani tatha sarirani
vihaya jirnany anyani samyati navani dehi*⁹

⁸ Italicized portion is an excerpt from the document mentioned (UNESCO, 2014).

⁹ Bhagvada Gita is a religious text in Sanskrit comprising of 700 verses about the epic called Mahabharata.

Translation:

Just as we discard old clothes that are worn out and replace them with new clothes. The soul is ready to give up old bodies to accept and reside in new bodies.

If we can establish a relationship between the mortal body and its immortal soul can we extend the same concept to a (mortal) building and its (immortal) purpose or function? If we were to apply this principle to architecture, it would then seem evident that the shelf life of a building is meant to be finite until such time that its purpose is redefined. Buildings that have moved past their original purpose and have found a new purpose need to be looked at as the ones with a finite shelf life. For such structures, can demolition act as a mere pause point and not necessarily an endpoint? The fragmented extracted forms of the original building can then find a new purpose in a new building thereby extending the shelf life of the original building. Aristotle¹⁰ said:

“The whole is greater than the sum of its parts.”

In Chettinad when demolition happens parts or fragments of the buildings are removed as whole. Here we can assume that the whole (entire building) itself is constituted by a series of fragments that are whole in themselves. This assumption leads us to consider that piecemeal fragments are valid heritage items, thereby justifying their reuse. The Chettiars are Shiva followers and one of the major postulates of Saivaite¹¹ philosophy is that:

“Something cannot come out of nothing or become nothing”

It means that the world is real and material and not an illusion. Hence, it is safe to assume that the architectural legacy too is material and tangible. In the current scenario where the legacy is right now being completely erased and replaced a presence of even a piecemeal existence of the legacy will ensure that the new buildings are tied to the context in character. Piecemeal fragments from old buildings are representatives of the past that narrate the same stories and echo the same sentiments. The fact that the salvaged materials find their rightful places in new homes in a meaningful way demonstrates that architecture is in fact an heirloom that can and is taken forward. The dictionary meaning of the word “heirloom” is as follows:

Heirloom - A valuable object that has belonged to a family for several generations (Little Oxford English Dictionary, 2006).

¹⁰ Aristotle was an ancient Greek philosopher and scientist.

¹¹ Followers of Shiva.

Piecemeal or fragmented architecture can perform all three of the basic requirements of conservation. The use of fragmented elements could facilitate recycling; the use of salvaged material in an altered form would generate renewal, and when the reconstruction activity across different towns employs this philosophy throughout, regeneration can be achieved.

Architecture that can form, break and reform is definitely the type that can be considered an heirloom. An heirloom endures time and preserves history, only to be passed on to able hands that appreciate its intrinsic value and nurtures it with passion and pride. An heirloom is meant to be a document of our collective history to be read and reread in different times, each time deriving a new meaning.

Methodology

The methodology can be broadly divided into two parts. The first part is an investigation that helps establish the idea that this model of community architecture is unique and has heritage value. The data collected, through fieldwork, interviews and observations, are instrumental in establishing links between evolution, adaptation, transformation, demolition and reconstruction of the houses over a period of time. The secondary source, which is the literature study, is instrumental in establishing the authenticity of the information regarding social order, culture, economic capacity, political influences, influences of styles and building technology that shaped architectural model.

Part I

Interviews were conducted involving respondents belonging to Chettinad who ranged from demolition contractors, site engineers on new projects and owners of houses new and old to establish facts.

Figure 12. *Deserted Streets*



Source: Author.

Figure 13. *Ghost Towns*



Source: Author.

Figure 14. *Rundown Houses*



Source: Author.

Inferences from Part 1 of the Study

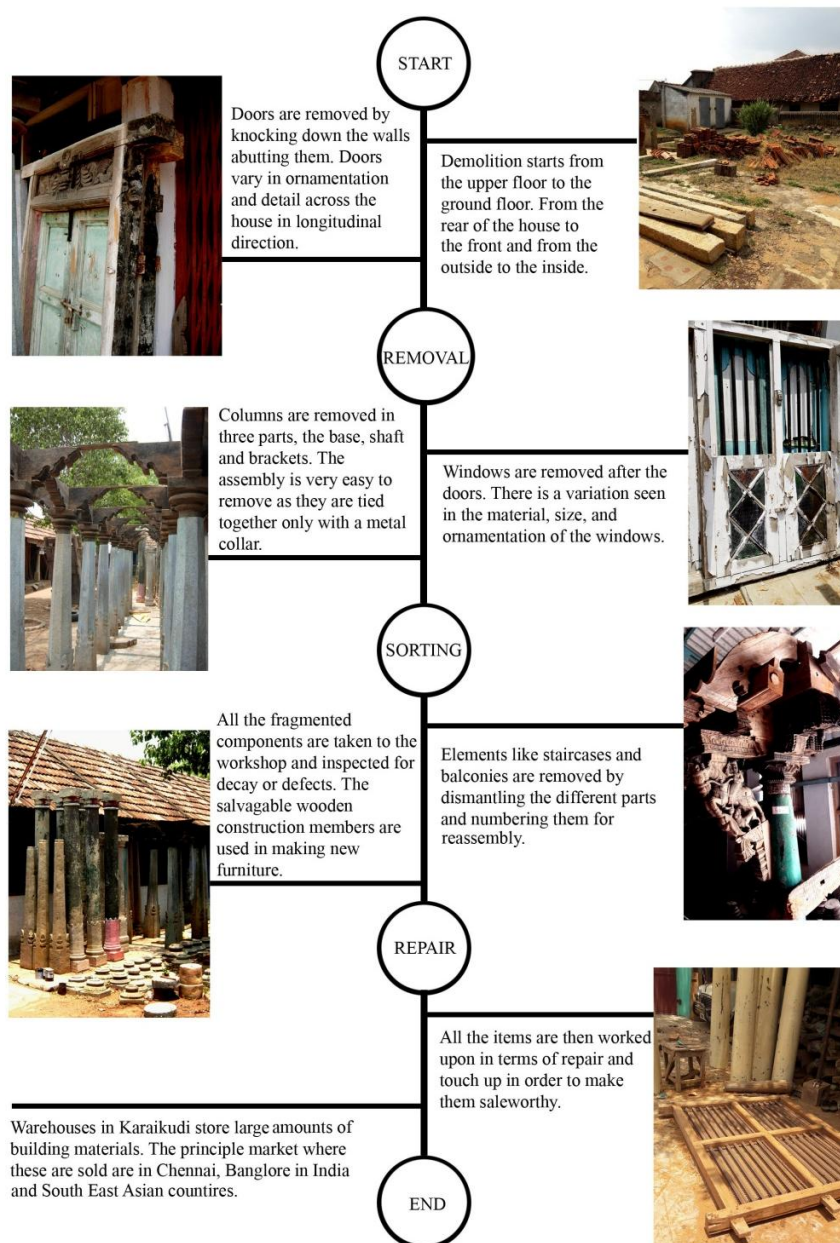
- i. The first impressions of the towns in Chettinad are that they seem to appear like ghost towns that once enjoyed glory and today lie vacant and deserted (Figures 12, 13 and 14).
- ii. The architectural style of the houses is an eclectic mix where the exteriors of the house have South East Asian influences, Art deco, Art Nouveau elements, while the interiors are traditional Chettiar style.
- iii. There is a marked variation in terms of houses that are well maintained and in immaculate condition and poorly maintained homes that are severely derelict. The two primary reasons for this are legal conflicts

- or economic insufficiency. Building maintenance is highly expensive (Annapoorni, 2017).
- iv. Most towns follow a grid iron plan and a number of plots can be seen vacant where once houses must have stood.
 - v. On conducting interviews and visits to homes of people it was learnt that life cycle practices and social order are intact till date. The temple still holds the same importance for the clan members and rules of the community are still adhered to (Annapoorni, 2017).
 - vi. Warehouses in towns like Karaikudi are stocked with copious amounts of building materials. They are an indicator of the staggering number of buildings that have already gone under the axe. It is estimated that Chettinad has lost 19 % of its houses so far (UNESCO, 2014).

Part II

The second part of the methodology was to understand and study the demolition process (Figure 15). A study to understand how elements are derived and salvaged from buildings could be relevant, so as to provide an insight into how reintegration of components can happen in new buildings. The difference between classical Chettiar houses and new houses were studied to understand variation due to factors like altered use, economics, maintenance and sustainability and aspirations. This part of the study also examines the lack of architectural value of the existing new construction and how it impacts the context. A case study was conducted to demonstrate how a template can be created that provides a pallet for the new builders to build homes judiciously.

Figure 15. *Stages of Dismantling (Ravindran, 2017)*



Source: Author based on Information on Site (Ravindran, 2017).

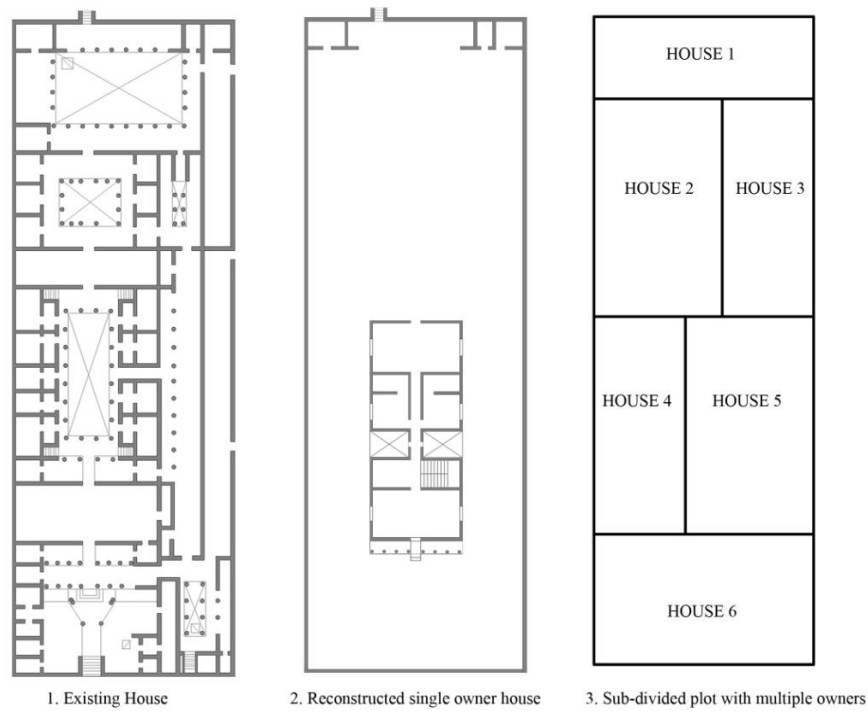
Inferences from Part 2 of the Study

- i. This part of the study was most crucial and forms the basis of the paper. Houses that undergo demolition have a number of stakeholders involved. The plot is subdivided between the owners as per their share and each person builds as per their personal choice (Sathappan, 2017).
- ii. The primary difference in old and new homes is the scale of the houses. Nuclear families need smaller, more compact homes from a maintenance and economic perspective (Sathappan, 2017).

- iii. Courtyards, colonnades and exquisite materials constitute as some of the most integral aspects of traditional Chettiar homes. These features are now replicated only superficially and are disconnected from function and social order.¹²
- iv. There was a major shift in the attitudes and thinking patterns of modern day house owners. The ideology of the past was that the house was sacrosanct and its sanctity paramount. The new age owners are practical and pragmatic in their approach towards the home. Comfort, ease of use, modern conveniences and manageable scale are the parameters on which the newer houses are constructed. (Natarajan, 2017).
- v. Migrated fractions of the diasporas and their children have assimilated with their new country of residence, yet systematic efforts are taken to make them aware of their culture and their roots. Chettiar children below the age of 21 are sent to organized retreats to be educated about the clans to which they belong, marriage laws and rituals, and specifically about their ties with their ancestral home. Hence the house and temple is forever an integral part of any Chettiar community members' life (Meyyappan, 2017).
- vi. The new house builders are apathetic to the traditional architectural style. They prefer modern looking structures that are easy to maintain and fast and economical to build. The people here want to emulate what they see in larger Indian cities as examples of residential architecture (Natarajan, 2017) (Figure 17).
- vii. The most significant and alarming inference drawn in this part of the study indicates that the new structures are uninspiring in character and take away more than they contribute to the context. The buildings are incongruous with each other, as well as with the context (Figure 18).
- viii. Proactive steps taken towards conservation and restoration are seen only in cases of hotels or home stays. These once palatial homes that are now converted to hotels are commendable examples of adaptive reuse. Visalam, Saratha Vilas and Chidambara Vilas were all converted by private initiation (Meyyappan, 2017).
- ix. It is important to establish an example as a demonstrative template (Figure 19) in order to explain how the idea of piecemeal architecture, heirloom and extended shelf life of a building is possible in practical terms. Although there are a few interventions done by architects, to preserve the context in Chettinad through meaningful architecture, public resolve and demonstrable models, these are very few to showcase as benchmarks.

¹² Refer to Figure 16 with reference to inferences (i), (ii) and (iii).

Figure 16. *Different kinds of Approaches in New Construction of Demolished Homes*¹³



Facades resemble existing structures only superficially.



Scale of new courtyards does not convey the architectural quality of old courtyards. Their use is also limited.



Replication of the plan at a smaller scale leaves out large open spaces under-utilised.

Source: Author based on Plan from (Michell, 2015.)¹⁴

¹³ Plots of houses are about 7,500m². In the reconstruction activity the plot boundary is maintained.

¹⁴ The plans in Figure 16 are only schematic to give a rough idea of the approaches in reconstruction.

Figure 17. *Nondescript New Buildings*



Source: Author.

Figure 18. *New Buildings do not Add Value to the Context*



Source: Author.

Figure 19. *Case Study of a Trans-located House*



Source: (Rao, 2017).

Case Study: Meda, Sadhrana Village, India¹⁵

Owner: Architect George Oommen

Meda was a 300-year-old house built in the waterlogged plains of Mepral River in Kerala. The condition of the house was such that the porous whitewashed laterite stone blocks used in the foundation and lower floors of the house made it susceptible to water logging. Over the years, the house was sinking into the soft river ground. The upper storeys were crafted in Anjili hardwood and were intact. Architect Pradeep Sachdeva from Delhi in 2008 conserved the house by dismantling the entire house and reassembling it 1500 miles away from its original location in the exact same way as it stood in its earlier location. The house was moved piece by piece to Delhi in the North. Narayan Achari, one of the last Mepral carpenters skilled in building traditional Kerala wood houses was hired by the architect to facilitate the process of transporting the entire house. A small team of architects and craftsmen dismantled, numbered and documented Meda's individual components. The entire house was then rebuilt in a similar fashion in its new location. A new ground floor was created upon which the house sat exactly the way it previously did. The joinery was simple, and hence the entire operation was completed in six weeks. An existing wooden staircase was

¹⁵ Refer to Figure 19.

repurposed to be used as dining table and new elements like windows and staircase were added keeping in line with the character and aesthetic of the house (Rao, 2017).

The case study demonstrates how all the questions raised in the beginning of this paper can be addressed in practical terms. Similar interventions can work in the context of Chettinad homes and will bring more meaning and value as they will be executed within the same context.

Conclusions

An underlying fact is that residential architecture is dependent on ownership. Realistically speaking, it is about the free will of the user or users to change or alter it any way they deem fit. Often users are unappreciative of their legacy and lack of knowledge makes them disregard their wealth. Any action plan implemented cannot work unless people's participation and willingness exists. A consensus needs to be taken in order to ascertain what the people aspire towards, and then a plan needs to be put in place to indicate the direction in which new development can take place. Although reconstruction is an inevitable irreversible change, it can be accepted with a spirit to add value and another dimension to the cultural context such that architectural elements act as heirlooms that carry the story forward.

It is evidently clear that reconstruction activity of the houses is the most alarming and urgent problem as it does not add any value to the context but definitely takes away from it. Yet its existence is the norm, and more houses in the future will be pulled down to be reconstructed to suit the altered needs of new owners. The direction in which this construction activity is happening needs urgent intervention. There are very few templates available to reinforce faith in the people to utilize salvaged materials in such a way so as to create a new architectural identity that resonates with its past. Demolition is a reality, and hence if piecemeal and fragmented presence of the old architecture finds a valid place in new construction, the resultant middle ground will be a viable solution that addresses history and allows the future to take its rightful place.

There are essentially three aspects that need to be considered while preparing a template for such contexts: what should be substituted, what should be replicated, and what should be kept simplified.

Substitution: Merely substituting space for space, element for element, or function for function dilutes the purpose of any sensitive transformation. The planning of the Chettiar homes revolves around lifecycle events and traditions. These are still practiced and pronounced. Hence, the ethos of these events must be reflected in planning.

Replication: It is observed in several new structures that elements like bilateral symmetry, courtyards, calling spaces with their traditional names like Thinnai or Valavu are followed, but their results are sketchy. In order to add to the context the new constructions must imbibe sublime qualities like character, order, narrative and community sensibility, just as their earlier

forms. This will be possible through education and intervention by competent authority.

Simplification: Most new owners shy away from creating meaningful architecture because of lack of money, time, education and understanding of what they stand to lose in terms of legacy. People need to be provided with simple templates and demonstrative models to educate them about their heritage and its value and how they can extend its shelf life. A range of options can be provided from which they can customize their houses to their budgets and sensibilities. Moreover, if it can be effectively shown in numbers how the models will be sustainable and economic, people will have fewer reservations agreeing to it.

Most importantly, if these heirlooms can be integrated in the new building activity it would automatically mean refusing to build nondescript buildings that take away more than they add to this glorious heritage. The architecture here in whole or in part will manage to capture the past and allow its passage into the future. The worth of this is beyond material valuation and economics. It brings along with it a sense of timelessness, purpose and function that is recreated each time with different interpretations.

Glossary of Terms

Antiques-Items like art, furniture and fittings of high value due to their age and rarity.

Art Deco-Movement in decorative art and architecture originating in 1920.

Art Nouveau-An international style in art and architecture popular between 1890-1910.

Athangudi tiles-Locally manufactured sun baked cement tiles made in the town of Athangudi.

Bhojan Salai-A hall used for the purpose of dining. This was either very large catering to several people or a smaller version used on a daily basis.

Chettinad-An area of 76 villages in Tamil Nadu, near Madurai.

Chettiars-Trading community belonging to the southern state of Tamil Nadu in India.

Ghost towns-Towns with very less population due to exodus of people to other places.

Heirloom-A valuable object that has belonged to a family for generations.

Irandan Kattu-Part zone of the house which contains the dining area.

Kalyanakottai-A large hall used for conducting rituals and celebrations.

Maniyadi shastram-Tamil Architectural system for designing of houses.

Moonran Kattu-This is the area of the house occupied and used by women and servants.

Mugappu-Outermost spaces in a Chettinad home.

Nara document-A document that addresses the need for a cultural diversity and cultural heritage in relation to conservation to evaluate the value and authenticity of cultural property more objectively.

Neo-Classical style-An architecture influenced by the neoclassical movement in the mid eighteenth century.

Nadu Vaasal-A open to sky courtyard in which religious ceremonies are held.

Ooranis-Manmade water bodies outside temples used for religious purposes.

Pattalai-This space is like an inner Thinnai which is used by members of the family and guests are accommodated in the space above the Pattalai.

Piecemeal-Something that is utilized in pieces or fragments or extracted from a larger entity.

Shelf life-The amount of time for which a commodity is useable or can function effectively.

Thinnai-First public interaction space is in a typical Chettinad house.

Vaishya-People belonging to the merchant class.

Bibliography

Annapoorni. Interview by Asmita Patwardhan. *Resident, Karaikudi* [24 April 2017].

Gopal, Nalina. *Encounters with the Public Archives & Collective Memory: Researching Indian Communities in Singapore*. Singapore, 8 August 2013.

Hans-Dieter Evers and Jayarani Pavadarayan,. "Religious Fervour and Economic Success: The Chettiars of Singapore." In *Indian Communities in Southeast Asia* by A. Mani K. S. Sandhu, 2006. Institute of Southeast Asian Studies, Singapore, 2006.

Little Oxford English Dictionary. New Delhi: Oxford University Press, 2006.

M. Natarajan, Karikudi, interview by Asmita Patwardhan. *Civil Engineer* [26 April 2017].

Meyyappan, Meenakshi. Interview by Asmita Patwardhan. *Owner Bangla* [24 April 2017].

Michell, George. *Mansions of Chettinad*. Meenakshi Meyyappan, GRAF, 2015.

Rao, Aparna. "Conservation by Translocation: Old Kerala House Reborn in Gurugram." *www.tfod.in*. 30 May 2017. <http://bit.ly/2nlmCgL>. [Accessed January 17, 2017].

Ravindran, Gurunath. Interview by Asmita Patwardhan. *Demolition Contractor* [25 April 2017].

Sathappan. Interview by Asmita Patwardhan. *Home Owner* [26 April 2017].

UNESCO, Permanent Delegation of India to. "<http://whc.unesco.org/en/tentativelists/5920/>." <http://en.unesco.org/>. 2014.

Vr. Kannappan. "Temples, Figure 5." *www.mangalathar.com*. <http://www.mangalathar.com/temples.html>. [Accessed May 29, 2017].