ADAPTIVE REUSE AND RESTORATION OF A CHETTINADU MANSION, PUDUKOTTAI, TAMILNADU, INDIA

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Keywords: Chettinadu Architecture, Adaptive reuse, Restoration

Abstract. The reuse of a historic building becomes necessary for its economic, social and cultural sustainability. One such historic building, ‘Chidambara Vilas’ at Chettinadu region, Pudukottai, Tamilnadu, India is a 110 year old palatial mansion once a residence of a Nattukottai Chettiars, today turned in to a heritage hotel. The paper aims to study the conservation practices and principles applied to ‘Chidambaram Vilas’ during its conversion from a mansion to a luxury hotel. This paper through the case study will highlight three stages in the conservation practice of adaptive reuse and restoration. First, the spatial planning of the mansion will be studied to illustrate how the new functions have been accommodated with minimal intervention and with due respect to the ideologies of the traditional dwelling. Secondly, the paper studies material restoration, as some of the materials and techniques used in Chettinadu mansions are very unique and available only in that region. Lastly, it looks at solutions to incorporate modern services such as toilets, air conditioning, etc into a traditional building without changing its content. The significance of this research study lies in the fact that these conservation practices and restoration techniques can be taken as a model for other similar projects in the district where these mansions are in abundance and will therefore enable a sustainable conservation practice.
1 INTRODUCTION

India is rich in cultural heritage and historic buildings are in abundance in different regions of the country. Chettinadu is one of them, a culturally strong region located in South India significant for its palatial mansions and its unique architecture. Many of these mansions due to negligence are falling into a state of decay or they are being dismantled systematically for the reuse of its materials of construction. Therefore the preservation and appropriate reuse of these mansions becomes necessary for its cultural, social and economic sustainability. This paper studies one such historic building, ‘Chidambara Vilas’ at Chettinadu region, Pudukottai, Tamilnadu, India. ‘Chidambara Vilas’ is a 110 year old palatial mansion once a residence of a Nattukottai Chettiars, today turned in to a heritage hotel.

2 CHETTINADU

2.1 Origin and evolution

Chettinadu inhabited and dominated mainly by the Nagarathars or the Nattukottai Chettiar community. Chettinadu (Land of the Chettiars) was established under the Chola kingdom during the beginning of 13th century over a 1700 square mile area. Chettiars have played a leading role in the business world of the Chola kingdom, dominated the coastal business as ship-chandlers, salt merchants and gem dealers from 17th century. Out of the 96 villages in existence in 1947 only 75 remain today.

Subsequently Chettiars became the vital element of local finance and trade in several South Asian and Southeast Asian countries that lived under the flags of the British, the French and the Dutch. They did business in the Madras Presidency, Burma, Federated Malay States, Strait Settlements, Cochin, China, Siam, Java, Sumatra and Mauritius. Making money all over Southeast Asia, they shipped home their tremendous wealth where it was reshaped into fabulous family manors that dotted the entire landscape of the region wherein they lived together as joint families and did business together as families.

However, at the peak of their success, World War II broke out. The British imperial government requisitioned all foreign companies engaged in any form of commerce, and the Chettiars were forced to return home empty-handed. Some of the Chettiars who had invested in industry, banking and education in Chennai and other parts of Tamilnadu were able to shift from trading to these new avenues. In doing so, they migrated to and started settling as families in Chennai and other parts of Tamilnadu as nucleated families (1920-1930’s) leaving behind, their palatial ancestral houses at Chettinadu, as venues, for their religious festivals and life cycle ceremonies and rituals. However many of these mansions are falling to decay due to negligence.

2.2 Chettinadu Architecture

Settlement pattern in Chettinadu follows a perfect urban grid and cultural components of caste, clan, kinship, joint family are manifested in the spatial organization of the Chettinadu houses. Therefore dwellings were palatial and identical in principles of planning but with variations in size, details and embellishment.

The pattern of settlement and design of mansions are sensitive to context connected with a complex network of rain water harvesting serving the entire village community. The houses all lie on an east-west axis, allowing shadows, coolness and breezes in. The walls are of brick and lime plaster and the roofs use terracotta, creating a cool internal micro climate.
The spatial planning follows the cosmic plan and the dwelling are introverted, with a minimal number of external accesses. The various spaces in the typical Chettinadu house are the following:

- The compound wall abutting the front street (*madhil suveru*)
- The central highlighted access (*nadaipathai*)
- The lower paved area and a raised platform (*The keezh paththi*)
- Accountant room (*Kannakku pillai aria*)
- Men’s relaxing room (*Pattagasalai*)
- Two or three courtyards (*‘valavu’, erandam kattu, mundram kattu*)—first of bigger scale to conduct functions and to celebrate festivals, second of slightly larger scale used for household activities and the third for the services like cooking, washing etc.
- Corridors surrounding courtyards (*suttru paththi*)
- Series of rooms at two levels around the courtyards- first set of rooms for sleeping and second set of rooms for storing valuables (*arias or valavu veedu*)
- Staircases at all the four corners accessed from the corridor of the kitchen
- Large kitchen (*Aduppadi or samayal arai*) with traditional *choolas* - open hearth using firewood
- A dining hall in front (*Bhojana hall*)
- The rear yard for cattle and rough uses with a well for water supply (*pinpuram / kollaipuram*)
- The rear doorway exiting into the rear street (*pinkadhavu*)

The principle of construction in these mansions is columnar and trabeate, and the use of arches on the façade in later mansions comes as a result of the interface the Chettiars had with the colonial powers. The facades were elaborately embellished with solid void patterned parapets, motifs, finials, niches with stucco sculptures of Hindu Gods and Goddesses, British benefactors, flora, fauna, mythical creations, geometric patterns, etc., columns with capitals (western Doric to Indian traditional), various types of arches, turrets, and a colour scheme using terracotta, white, yellow, red and blue. This established a unique architectural character which can be termed as the Chettinadu style.

The mansions are characterized by exquisite wood work seen in the doorways and in the columns and brackets that surround the courtyards using Burma teak, rose wood and satin wood. Most attention is given to the threshold with highly carved and decorated jambs, lintels, panels. The expanded lintel panel above the main door depicts various iconographies from Hindu mythology.

Walls were of baked bricks laid by skilled masons and covered with Chettinadu plaster and flooring was provided with local Aathangudi tiles peculiar only to this region. Interiors are embellished with Chinese ceramic and local tiles, imported Italian marble, Belgian glasswork, stoneware and ironware.

### 3 ‘CHIDAMBARA VILAS’, A HISTORIC MANSION- AN OVERVIEW

Chidambara Vilas an exquisite specimen of Chettinad dwellings is a 110 year old heritage mansion built over a period of six years. The main house was built in 1906 and an extension was made in 1920.

The spatial organization consists of a *valavu* (single central courtyard) with a *kottagai* (hall) along the central main axis and a *bhojana* hall (dining hall) along the secondary axis, parallel to the main axis. The architectural vocabulary is typical to Chettinadu architecture with high raised compound wall, *munpuram, keezhpaththi, thinnai* (columned raised platform),
Figure 1: Ground Floor Plan – Original mansion.

Figure 2: First Floor Plan – Original mansion.
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kannakkupillai arai (accountant’s room), pattagasalai (men’s greeting room), arais (rooms around the courtyard), and pendir arai (women ’s room) kottagai (double storeyed hall with clerestory) along the main axis. Along the secondary axis behind the second kottagai is the small courtyard accommodating the samayal arai (kitchen) and a well (Fig 1). The first floor with arais and halls is accessed by the staircases at the four corners of the main courtyard. (Fig.2).

The architectural style and character of the mansion is typically Chettinadu as described earlier, following an eclectic style combining the Indian and colonial, spatial hierarchy expressed through variation in décor moving from the highly decorated and embellished to simple and practical as one moves through the mansion.

The mansion is constructed with local materials like baked bricks, lime plaster, Aathangudi tiles, terracotta tiles and raw granite. The interior is embellished with the imported materials like Italian marble, Burma teak, rose wood, Belgium glass and stain glass. Madras terrace is used for flat roofs and the high ceilings covered with wooden sloped roofs false ceilings are constructed with a framework of Burma teaks and panels of decorative teak wood or Aathangudi tiles.

4 CONSERVATION THEORIES AND PRACTICES

Many historic mansions in Chettinadu have already been lost, destroyed by either time or demolition. Of the remaining, very few continue to be maintained by the owner-families. As a need was felt to preserve some of these mansions, a few have been converted to Heritage hotels by adaptive reuse technique. In these lines, ‘Chidambara Vilas’ has been given on lease for 30 years to Sangam group of hotels in 2011. This palatial mansion was turned in to a heritage hotel by incorporating the following conservation theories and practices without change in its content:

1. Adaptive reuse
2. Restoration
3. Addition of spaces and modern services following the ethics of conservation

4.1 Adaptive reuse

Study reveals that adaptive reuse has been carried out with due respect to the ideologies of this traditional dwelling with minimal intervention. Two types of spatial usage pattern have been identified. The first type is assigning similar usage to the original use of the space and second type, is assigning different usage for the space but with minimum intervention like closing the doorways, adding a partition wall, providing lighting fixtures etc.

Figure 3: Similar usage of space  
Figure 4: Different usage of space
Table 1 reveals the original use and the present use of the original spaces.

<table>
<thead>
<tr>
<th>S.NO</th>
<th>ORIGINAL SPACES</th>
<th>ORIGINAL USE</th>
<th>PRESENT USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mathil suveru - compound wall</td>
<td>Security</td>
<td>Height increased and used as gallery to exhibit culture of Chettinadu.</td>
</tr>
<tr>
<td>2</td>
<td>Munpuram – front open space</td>
<td>With kinaru (well) and related bathing and washing activities of men. Kinaru retained as a cultural artifact</td>
<td></td>
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<tr>
<td>3</td>
<td>Thinnai – raised platform with columns</td>
<td>Greeting and entertaining male guests</td>
<td>receiving guests</td>
</tr>
<tr>
<td>4</td>
<td>Kannakkupillai arai - accountant’s room</td>
<td>Office room of the family’s male accountant (Fig.3)</td>
<td>Hotel’s office and accounts room (Fig.3)</td>
</tr>
<tr>
<td>5</td>
<td>Pattagasalai - men’s greeting room</td>
<td>For business discussion</td>
<td>Display area of Chettinadu artifacts</td>
</tr>
<tr>
<td>6</td>
<td>Valavu - single central courtyard</td>
<td>Conducting religious festivals and ceremonies</td>
<td>Demonstration of the traditional activities during the festivals times to experience.</td>
</tr>
<tr>
<td>7</td>
<td>Arais - rooms</td>
<td>Sleeping, storing valuables and other grocery</td>
<td>Store</td>
</tr>
<tr>
<td>8</td>
<td>Pendir arai – women’s room</td>
<td>Exclusive women’s room for sleeping and other activities</td>
<td>Dining hall for guests</td>
</tr>
<tr>
<td>9</td>
<td>Kottagai – double storeyed hall</td>
<td>Conducting life cycle ceremonies</td>
<td>Exhibition space of paintings and experimental kitchen.</td>
</tr>
<tr>
<td>10</td>
<td>Bhojana hall (dining hall)</td>
<td>Dining for guests</td>
<td>Restaurant</td>
</tr>
<tr>
<td>11</td>
<td>Samyal arai - kitchen</td>
<td>Cooking using traditional choola (open hearth)</td>
<td>Cooking with modern gadgets</td>
</tr>
<tr>
<td>12</td>
<td>Suttrupathi - Corridor</td>
<td>Sleeping, relaxing</td>
<td>For circulation and accommodating modern services</td>
</tr>
<tr>
<td>13</td>
<td>Thottam - garden</td>
<td>Cattle sheds and garden</td>
<td>Swimming pool and ancillary facilities</td>
</tr>
</tbody>
</table>

4.2 Restoration

It is observed that restoration measures are done to the mansion in two ways.

(i) Regular restoration measures

(ii) Material restoration, as some of the materials and techniques used in Chettinadu mansions are very unique and available only in that region.

4.2.1. Regular restoration measures

- Cleaning of entire premise
- Cleaning of all architectural elements like floor tiles, ceiling tiles, arches, facade elements (Fig. 5)
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- Replacement of raw granite tiles at first courtyard from a local quarry
- Cleaning and preservation all wooden elements like columns brackets, ceiling frames, doors and windows
- Application of traditional lime wash for the entire building
- Painting in accordance to traditional Chettinadu color scheme (Fig. 6)
- Covering the open wells with iron rods and retaining them as cultural artifact (Fig. 7)

![Figure 5: Mansion before and after restoration](image)

**4.2.2. Material restoration measures**

i. Replacement of broken Aathangudi tiles on the roof and floor using Aathangudi tile masons to restore the existing pattern and colour.

ii. Typical Chettinadu plaster was prepared at site using local Chettinadu craftsman and applied on the wall surface wherever plaster had given way

i. **Preparation of Athangudi tiles**

Athangudi tiles are prepared from a specific type of sandy soil available in and around a village of the same name in Chettinadu. The soil is collected, sieved and ground to a very fine sand using specially made grinders (conventionally manual grinding stone was used to make the finest sand). The fine sand is mixed with finely powdered shell lime in the proportion of 1:3. To this mixture colours prepared from vegetable dyes and required amount water is added to obtain a mortar to cast the tile. The mortar is poured on to the glass plate with a specially made brass cast to obtain the required pattern. The mortar is leveled and the tile obtained is
soaked in fresh water (alkaline free) for seven days and dried under shade. After drying the glass plate is removed and the tile is ready for use. These tiles can last a century.

**Figure 8: Preparation of Athangudi tiles**

### ii. Preparation of Chettinadu lime plaster

River sand is cleaned, sieved and ground into a fine powder. This is added to finely ground shell lime in the proportion of 1:5 and then ground once again to make a fine mixture. This serves as a base plaster. White of egg and locally available additives (vajjram) are then added to it to obtain Chettinadu plaster. The plaster is applied on the walls and rubbed with stone by the craftsman meticulously. The smoothness and finish of the plaster lies in the hands of the craftsman. This kind of plaster has a soft glazed finish and requires no other treatment.

Other wall surfaces are generally painted with a lime wash obtained by mixing finely powdered lime with water. Colours (Panchavarna – terracotta, yellow, blue, red and white) prepared from vegetable dyes are mixed with lime water to obtain the Chettinadu colour scheme.

### 4.3 Addition of spaces and modern services following the ethics of conservation

An extension was done to the existing mansion to accommodate the requirements of the modern hotel like guest rooms, swimming pool, services like lift, air-conditioning lighting, water supply, drainage, water recycling and treatment plant. It is done following the Chettinadu architectural style and character, elements, construction techniques, materials and finishes in order to maintain the continuum.

In addition, new spaces constructed are sympathetic to the existing historic fabric to suit the modern requirements of a heritage hotel and is achieved in the new extension in the following ways:

1. Providing a variation of thinnai within the guest rooms as an extension of sill
2. Using of furniture like wooden tables, chairs, drawers with typical Chettinadu detailing.
3. Usage of materials for the new extension in line with the old mansion like, baked brick for wall, lime wash, Chettinadu plaster, wooden false ceiling. In addition, old doors and door frames bought from dilapidated Chettinadu houses are also used.
Figure 9: Present Heritage Hotel: Ground Floor – After restoration and adaptive reuse.

Figure 10: Present Heritage Hotel: First Floor – After restoration and adaptive reuse.
4. Provision of attached toilets in guest bedrooms have been done carefully by providing a channel in the walls to accommodate the plumbing lines so as not to interfere in the overall appearance.

5. Minute detailing like electrical accessories in the form of switches and switch board have been replicated following the original details but with new material.

6. Services like sewage treatment plant, water recycling and treatment plant and electrical room are carefully planned in a discreet manner.

7. Ancillary spaces of the swimming pool are done with sloped roof with terracotta tiles to match with the original fabric.

8. Façade treatment of the extension is exactly matched with the historic fabric by incorporating the traditional elements like parapets, stucco, columns, arches, and color scheme.

9. The interior of the guest elevator also carries the detail of Chettinadu railing done in teak wood.
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Figure 13: New accessories matching old

Figure 14: Detail of old sloped roofs followed in the new extension

Figure 14: Interior of the guest elevator following Chettinadu railing detail
5 CONCLUSION

The restoration of the mansion is done in line with ethics of conservation. The architectural character of the facade done in two different times blends projecting one entity. The three year old extension uses materials, finishes and details similar to that of the 110 year old mansion and the difference between the two cannot be discerned unless subjected to minute scrutiny. The new functions for the old spaces gives due respect to the traditional usage of space. The newly created spaces and the modern amenities are incorporated with great sensitivity to the old structure as well as to the historic fabric. The conservation practices and restoration techniques applied in this heritage hotel can be taken as a model for other similar projects in the district where these mansions are in abundance and will therefore enable a sustainable conservation practice.

REFERENCES


