Pondicherry: Modern Technologies Approach in the Message of the Past

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ABSTRACT: The building context of Pondicherry is the result of so many changes from the original village Puducheri, then under the Dutch, the French and the English through so many wars and a cycle of recurring destruction and rebuilding. The citizens today are changing the vernacular complex meaning of the past and destroying it again, though this time in peace, but with more negative implications in their ignorance of what they are losing, this unbelievable essence of a historic culture. In the same way the invaluable cultural meaning of a Tamil house, of a French house, with the infinity of architectural connections they've consolidated in the recent past, will be lost and with it their unique strength and style. The Indian heritage, in the same way, is a very important resource to hold up to the world and show its unique and astonishing culture.

1 THE TOWN OF PONDICHERRY: PAST AND PRESENT VIEW

1.1 I.N.T.A.C.H.

Based on a preliminary study on the French and Tamil Precints of Pondicherry which was undertaken (2000/2001) with the financial assistance of the Town and Country Planning Department, Government of Pondicherry, and later published with the financial European Commission through the Asia Urbs Programme (*Architectural Heritage of Pondicherry-Tamil and French precints*, Asia Urbs, July 2004), this paper moves from researches made by Indian National True for Art and Cultural Heritage (INTACH-Pondichéry Chapter).

1.2 Poduke becomes Pondicherry

Originally a scattered settlement of fishermen and weavers, the old town of Pondicherry (India) developed into a busy trading port having ties with the Roman Empire (and is referred to as *Poduke* by the classical geographers of Rome and Greece). Mentioned as *Vedapuri* (as it was a vedic learning centre in ancient times) the place later flourished as a port town of the Cholas under the name *Puducheri* ("new town" in Tamil) until it finally became a busy trading centre of the colonial powers. The place was called *Pondichéry* by the French, who established their trading port and constructed a fort (1689). Following the expansion of their activities and settlements, the entire town was fortified, including the Indian quarters, and the street plan in 1750 was almost the same as today. In 1761 Pondichery was destroyed by the British after their siege and returned to the French in 1765, following which there was a period of active reconstruction (mostly over the old foundation remains). The Grand Canal was completed around 1788 as a storm water drain marking a clear demarcation between the French and Tamil towns. The fortified town, planned on a grid pattern in oval shape, encompasses two different parts – Tamil and

French – divided by the canal. The Tamil town in turn has an intimate fabric of Hindu, Christian and Muslim quarters (Fig.1). The French town has structures in the European classical style, while the buildings in the Tamil town have a strong vernacular influence of surrounding Tamil Nadu: the two contrasting styles, existing side by side, have influenced each other, resulting sometimes in a unique blend of European and Tamil architectural patterns, reflecting the cross-cultural impact and giving the built form a certain "Pondicherry-ness".
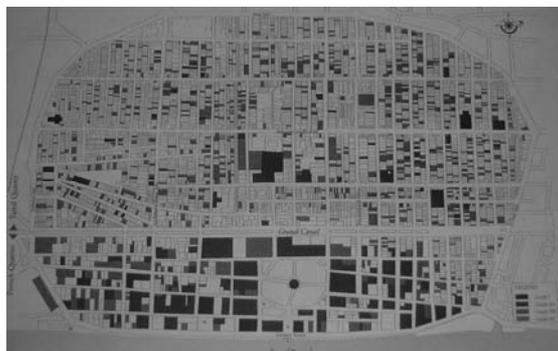

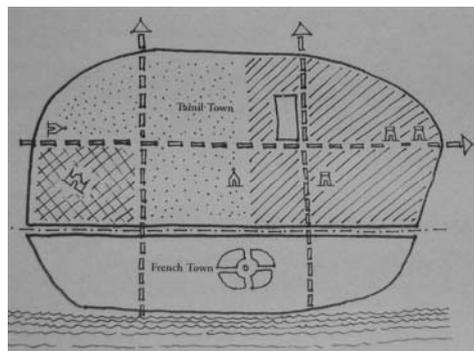Figure 1 : INTACH: Listed Heritage Buildings

Figure 2 : INTACH: French and Tamil Town

2   HERITAGE CONSERVATION ISSUES

2.1   The structure of the conservation issues

Pondicherry doesn't have a large number of monumental buildings, but is noteworthy for its domestic architecture, whose safeguarding responsibility lies with town's building owners, citizens and political representatives as well as the Administration of the Union Territory. Among conservation measures the need to preserve old buildings is foremost. The total number of listed buildings in 1995 (by INTACH) was about 1800, but according to the latest revised list (2004) there are now only about 1250 buildings left. This is because during the last eight years hundreds of heritage buildings have been demolished, mostly in the Tamil part. Presently the list has been revised and updated according to the standards prescribed by the Ministry of Environment and Forests (MEF). The former listing graded the buildings into A, B, C categories; the revised list has four categories: I, IIA, IIB, III. The draft Heritage Regulation – circulated by the MEF – explains listing and grading as follows: "*Listing does not prevent change of ownership or usage. However such usage should be in harmony with the said listed precinct/building*".

2.2   Grade 1, Grade IIA & B, Grade III

Grade I (list of Heritage Buildings-2001: Tamil Town *7*/French Town *7*):
   "*…buildings and precincts of national or historic importance, embodying excellence in architectural style, design, technology, material usage; they may be associated with a great historical event, personality, movement or institution. They have been and are the prime landmarks of the city*".
   Grade IIA & B (list of Heritage Buildings-2001: Grade IIA - Tamil Town *110*/French Town *96;* Grade IIB - Tamil Town *360*/French Town *135*):
   "*…buildings of regional or local importance, possessing special architectural or aesthetical merit, cultural or historical value, though of a lower scale than in Heritage Grade I. They are local landmarks, contributing to the image and identity of the City. They may be the work of master craftsmen, or may be models of proportion and ornamentation, or designed to suit particular climate*".
   Grade III (list of Heritage Buildings-2001: Tamil Town *554*/French Town *45*): "*…buildings and precincts of importance for townscape (including rock formations), they evolve architectural aesthetic or sociological interest though not as much as in Heritage Grade II. These contribute to determine the character of the locality, and can be representative of life style of a par-*

ticular community or region and may be also be distinguished by setting on a street line, or special character of the façade and uniformity of height, width and scale".

3   PRESERVATION OF PONDICHERRY HERITAGE

3.1   The heritage buildings and the heritage precincts

Conservation of any historic town will have to be practised at two levels: individual buildings (*heritage buildings*) and areas of town where a number of traditional structures are still intact and a collection of such buildings form the unique "milieu" (*heritage precincts*).

   The signature mark of Pondicherry is the co-existence of two distinct styles – that of the French and that of the native Tamil.

   It is important to preserve these two styles simultaneously in order to conserve the cross-cultural image of the town. From the statistics of the stock of heritage buildings in 1994 and 2002 one could observe that the French town is being better preserved than the Tamil town, even though the number of heritage buildings are fourfold more in this part.

3.2   "French style" and "Tamil style"

In most cases the facades which are coming up in the name of "French" or "Tamil" styles aren't authentic but just pastiche imitations and gimmicky. Also there is a fancy among the owners and engineers/architects to adopt "French style" even if the building is being constructed in the Tamil town. Hence the need for a comprehensive and independent set of guidelines for the French and Tamil town areas. In this booklet, the aspects of architectural features, guidelines and recommendations and case studies are dealt with separately for the French and Tamil towns while the information applicable to both the areas, like heritage-friendly byelaws, technical suggestions and approval procedure, are dealt with in the annexure.

4   ARCHITECTURAL FEATURES

4.1   The French Town-the Tamil Town

The French Town originally developed along the coastline around the Government Square (present "Bharathi Park" area): this Square was surrounded by stately government buildings, while residential buildings interspersed by institutional buildings extended on either side. The Tamil Town is to the west of the Grand Canal which bisects the French and Tamil parts. The Hindu quarter grew around the nucleus of temples in the north west. Vedapureeswarar Kovil, Perumal Kovil, Kalatheeswaran Kovil seem to pre-date French presence and the streets here are still known after these temples. *Streetscapes*-Streetscapes of the French town are usually characterized by continuous wall to wall construction, full or partial street frontage, high garden walls, elaborate gateways, and solid walls divided into smaller panels by the use of verticals (pilasters) and horizontals (cornices). These street façades are usually plain and austere, enhancing the effect of the straight and perpendicular grid plan of the town. The exterior wall panels feature flat or segmental arched windows with bands and louvred wooden shutters. In the case of two storied buildings wooden balconies supported on wrought iron brackets are common. The building composition is completed by a continuous parapet usually decorated with loopholes or terracotta pot balusters, or curved. In the case of important buildings, decorative features and end ornaments are commonly used. It is interesting to note the distinct variation in the characteristics of French and Tamil streets. French streets are characterised by mansion type villas with high compound walls, elaborate gates, garden courts, arched patios, colonnaded galleries, voluminous rooms, high arched openings, wooden balconies and flat terraced roofs. Tamil streets are mainly characterised by the *thalvaram* (street verandah with platform and lean-to-roof over wooden posts) – a social extension of the house – and a *thinnai* (semi-public-verandah space with masonry benches for visitors). These talking streets, so called because of their intimate scale and interactive nature, are typical of the vernacular Tamil architecture (also to be found in Kumbakonam, Tanjore, Chidambaram, Srirangam, Mylapore), and the entire street stretch is

homogeneous because of the use of connecting elements like lean-to-roofs, cornices (horizontals), pilasters or engaged columns (verticals) and ornamental parapets. These Tamil buildings usually feature a combination of flat and pitched roofs. In the case of two storied Tamil buildings the first floor is usually treated with French features leading to a mix of Tamil and French styles which is the signature mark of Pondicherry heritage. *Design Aspects:* set within high compound walls and ornate gates, most French houses were built on a rather similar ground plan with variations in size, orientation and details. The main feature is the symmetrical plan and façade which usually opens on to the garden/court. The plan is marked by interconnected large rooms without corridors (a nineteenth century innovation). In front of the main façade colonnaded porticos were built to provide better protection from sun and rain as well as to provide a pleasant transition to the garden. The private garden court forms the major space onto which the other building spaces open. In most cases the entrance court and private court are combined and the interior façades – arcades, colonnades – face the courtyard. The interiors are more ornate than the exterior and the rooms are marked by high ceilings, high arched doors and windows with louvered or wooden shutters and bands. Series of arched openings are usual in the case of long halls. The ceilings are marked by heavy wooden beams and wooden joists supporting Madras terrace roofing, the huge wall area is sometimes divided into ornate panels by plaster decoration and a simple cornice runs below the ceiling beam; the floors are of plain cement or coloured with red oxide, occasionally with teak wood flooring. In the case of two storied buildings an arched staircase connects the two floors. Traditional Tamil houses are strictly functional, and a series of open, semi-covered and covered spaces with subtle levels and a through-axis characterise the plan. The *thinnai* marks the transition space, after which the house is entered through a finely carved wooden door and a vestibule, and once inside, the *mutram* (open courtyard) becomes the central space around which various other private spaces are functionally arranged. The *mutram* is an age-old concept, and according to the *Vaastu Shastra*, each house was to possess an open courtyard – known as *brahmasthanam* (meaning 'vital space'). This open space is mainly to facilitate a direct link – an auspicious connection – with the five elements – earth, fire (sun), water (rain), ether and wind. Country tiled roofs of the surrounding *thalvaram* funnel into this *mutram*, which is the major source of lighting and ventilation. In the case of two storied buildings this space is covered by a clerestory.

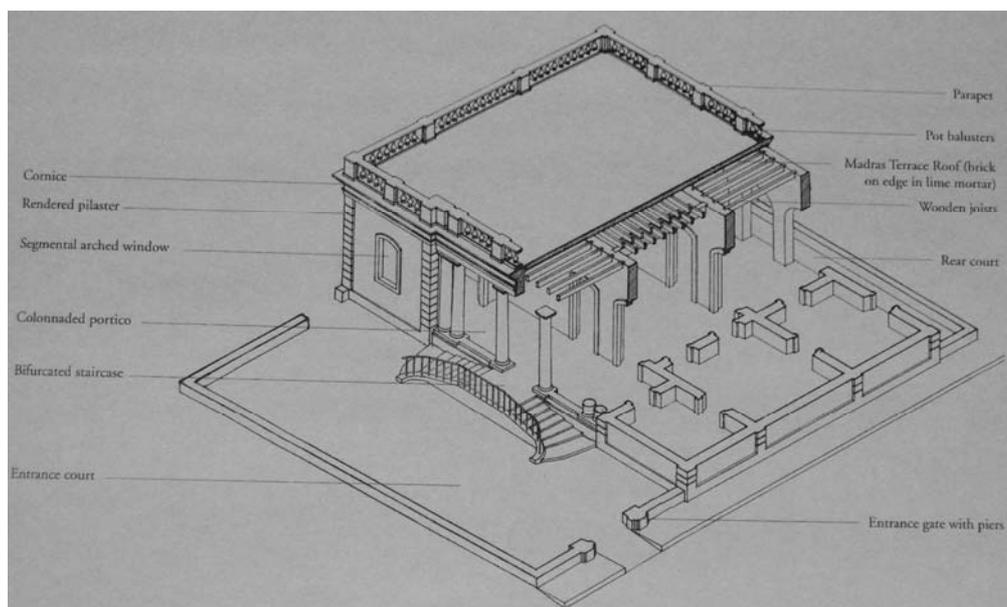*Mutrams* are very useful during functions or family meetings.

Figure 3 : INTACH: Features of a French House

Beyond the *mutram* are the more private spaces like *sami arai* (pooja room), kitchen, storeroom or bedroom. The kitchen opens onto a rear courtyard. This open space at the end of the house is provided with a well and a tree, and is mainly used for domestic utilities and accommodating livestock, which were part of the household then. In the case of wealthy houses multi-

ple courtyards are common. These continuous back-to-back row houses share walls, and the eastern wall of a house is usually taken as its mother wall. *Structural system:* the buildings feature load bearing walls (usually two feet wide and fourteen feet high). These brick walls are packed with an infill of mud and brickbats. The first floor walls are lesser in width than those of the ground floor. Columns and arches are of brick masonry supporting heavy timber or steel beams with Madras terrace roofing (brick-on-edge masonry in lime mortar over closely spaced timber joists). Water proofing was done in the local lime terracing technique. Balconies are linear (usually four feet deep) and rest on wooden joists over an edge beam held in place by wrought iron brackets. Occasionally the balconies rest on cornice platforms. Mangalore tiled lean-to roofs (mostly on the first floors) with wooden rafters and edge beam that rests on capitals over square columns. In some cases the lean-to roof is supported by iron brackets. Brick corbelling is used for cornices, copings and decorative bands. In Tamil Town buildings feature simple load bearing walls. Foundations are of rubble and have one or two steppings. Walls are of flat bricks – about 45 to 60 cm thick and packed with an infill of mud and brickbats. First floor walls are lesser in thickness than those of the ground floor. Madras terrace roofing (brick-on-edge masonry in lime mortar over closely spaced timber joists) is used for flat roofs and Mangalore tiles or half-round country tiles (laid on battens over wooden rafters) is used for sloping roofs. *Thinnais*, *thalvarams* and *mutrams* feature wooden structures. Balconies rest on cantilevered wooden joists, sometimes over wrought iron brackets. In some cases the lean-to roof is supported by iron or wooden brackets. In some cases the lean-to roof is supported by iron or wooden brackets. Brick corbelling is used for cornices, copings and decorative bands. *Construction Techniques and materials*-Tamil houses and French houses were built of a combination of various nature-friendly and locally available materials such as burnt bricks, lime, clay and terracotta tiles and wood. Major structural wooden members like columns and beams were made of teak, while minor members like rafters and posts were made of palm or other local timbers.

Traditional Tamil houses demanded skills in brick laying, tile laying, timber craft and plaster work.

4.2 Typologies of French Buildings

Compound Walls: the solid compound walls feature sturdy gates and curved or rectangular panels divided by intermediate piers, finished with inclined coping to drain the rain water. *Entrance gates:* entrance gates are the most unique feature of the French streetscape. In the case of partial frontage the gates are marked by heavy posts/portals complemented with a stretch of compound wall. *Windows*: windows are mostly high with flat, segmental or semicircular arches with bands (mostly painted white), wooden shutters (with louvers or glass panes) and strong wrought iron bars bent in the lower half below a horizontal bar to provide a secure street view from inside. The window jambs are usually splayed inward with a masonry rebate. Lintels are made of brick arches. In some cases the blind semicircular arches are detailed with plaster decorations. *Doors*: doors are similar to windows – high and arched or flat with bands, wall cuts and louvered or panelled wooden leaves. Some doors have a second operable shutter with cane work that cuts off vision and ensures privacy while allowing enough light and ventilation. *Arcades*: series of arched openings in the ground floor are arranged overlooking the garden or entrance courtyard: they form a gentle transition space and provide a comfortable informal living space. *Colonnades*: in case of single storied structures, colonnades are found in the porticos and in case of double storied structures, a series of columns in the first floor in alignment with the arcades below are common. Circular columns with a gentle conical profile (tapering towards the top) are the most common ones. *Pilasters and Cornices*: a combination of pilasters and cornices (vertical and horizontals) give the main structure of the exterior façade composition, providing a framework for other features like openings, parapets and balconies. Pilasters follow the cross wall lines in plan and are usually plain and sometimes rendered or detailed with base and capital mouldings. Cornices follow the floor divisions and are provided with adequate throat shaped within curved or sloped mouldings to protect the wall surface below the roof from rain. *Staircases*: staircases form an interesting part of the building. A wide variety is found ranging from simple straight flight open staircases to complex multiple flight covered stairwells. In all cases the ceiling is arched and forms the main structural system. *Balconies*: framed symmetrically

within the pilasters and cornices, balconies are usually 4ft to 5ft deep and are of projected Madras terrace construction. The cantilevered closely spaced timber joists rest on an edge-rafter held in position by wrought iron brackets. *Parapets*: parapets are the most important horizontal feature defining the skyline of the town. The parapets generally rest on an elaborate cornice and the common types feature rectangular bays following the pilaster divisions of the wall panels (also sometimes subdivided) with terracotta pot balusters, brick loopholes (rectangular or curved), gentle curves, geometric designs in plaster relief or just plain. In all cases they are detailed with a continuous bottom band and inclined coping on the top to drain off rain water. *Structural System*: the building feature load bearing walls: these brick walls are packed with an infill of mud and brickbats. The first floor walls are lesser in width than those of the ground floor. Columns and arches are of brick masonry supporting heavy timber or steel beams with Madrace terrace roofing (brick-on-edge masonry in lime mortar over closely spaced timber joists).

4.3 Typologies of Tamil Buildings

Thalvaram: the *thalvaram* has been the most essential and mandatory feature of the Tamil houses and streets in Pondicherry. *Thalvarams* were benevolent social extensions of the house and had many functions – to provide shade and protection for the passers-by, to protect the building wall from sun and rain, to serve as a transition space between the street and the house, and to render continuity to the streetscape. The typical *thalvaram* features Mangalore tiles over wrought iron or wooden brackets or wooden posts. The angle of the *thalvaram* is about 30°. In all cases there is a continuous elaborately carved eavesboard for protecting the end of the rafters. *Thinnai*: *thinnai* and *thalvaram* constitute the main façade of Tamil houses. *Thinnais* mark the sensitive transition space before entering a house. These were functional spaces used for receiving strangers and also for the inhabitants to relax in and have social interaction with neighbours.
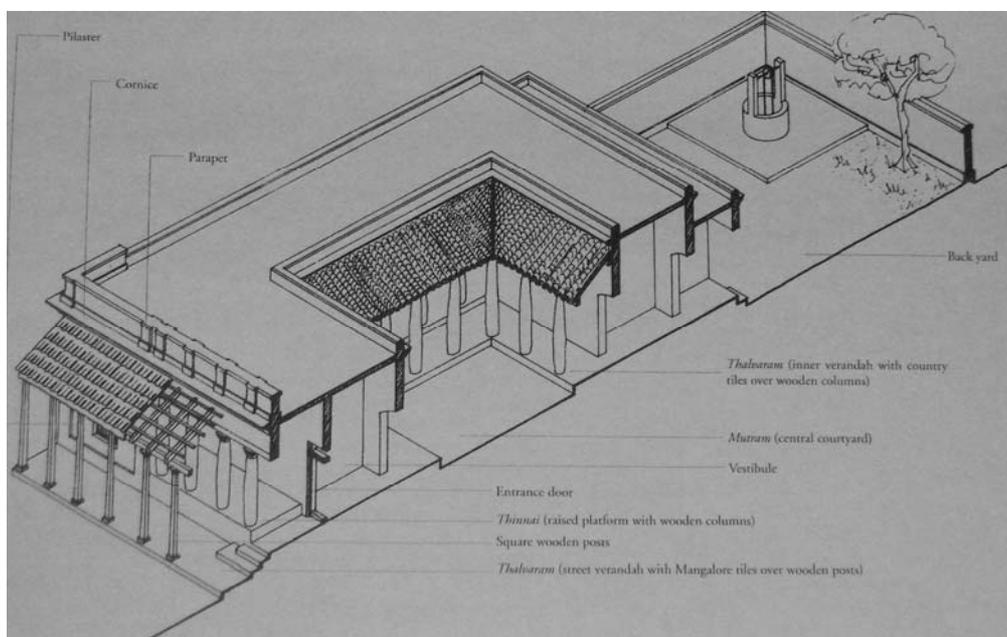

Figure 4 : INTACH: Features of a typical Tamil House

The older houses possessed generous *thinnais* while in the case of later Tamil houses the *thinnais* were symbolic – featuring just a verandah space or masonry bench. *Entrance doors*: entrance doors are finely carved and the elaborate frames are of many strips of wood. The shutters are thick and often of two pieces – the front one with carved cut-out and the rear one just plain. *Windows*: windows are mostly flat with elaborate teak wood frames set into the walls.

The shutters, behind strong wrought iron bars set at 45° angle, are provided with wooden panels or louvers. Many of the Franco-Tamil buildings feature semi-circular windows with ornamental plaster work or stained glass panels.

Pilasters and Cornices: apart from *thalvaram* and *thinnai*, pilasters and cornices constitute the main composition of the façade, providing a frame for features like openings, parapets and balconies. Pilasters follow the wall lines and are often detailed with a base and capital. Cornices follow the floor divisions and are provided with adequate throating within curved or sloped mouldings to protect the wall surface below from rain. They are made of corbelled flat bricks in lime mortar. *Parapets*: parapets are the most important horizontal feature defining the skyline of the town. Parapets generally rest on a elaborate cornice projection and the common types feature rectangular bays following the pilaster divisions of the wall panels with terracotta pot balusters, brick loopholes (rectangular or curved), gentle curves, geometric designs in plaster relief or just plain. *Balconies*: balconies are usually about 1 meter deep and are of projected Madras Terrace Roofing – often supported by wrought iron brackets. *Structural System*: buildings feature simple load bearing walls. Foundations are of rubble and have one or two steppings. Walls are of flat bricks. First floor walls are lesser in thickness than those of the ground floor. Thinnais, thalvarams and mutrams feature wooden structures.

5 ARCHITECTURAL GUIDELINES FOR PRESERVATION OF PONDICHERRY HERITAGE

It is important to mention about the synthesis of the French and Tamil styles especially in the Tamil town. Probably it was considered fashionable to use French features in the street façades of the native buildings (and in many cases in the interiors as well) – however this was done without compromising on the age-old functional elements of *thalvarams* and *thinnais*. This exchange of architectural patterns is evident in the façades of two-storied building where the ground floor is usually of the Tamil type with *thinnai*, *thalvaram* and carved doors, while the first floor features French influence with arched windows, plaster decorations, fluted pilasters, columns with capitals, and end ornament elements. On the whole, a conspicuous synthesis of two varying styles has happened which has resulted in the interesting Franco-Tamil architectural style.

6 SUGGESTIONS FOR DESIGNING NEW BUILDINGS

6.1 Guidelines & Recommendations for French Town

1. Construct and finish the building in traditional method-brickwork and plastering preferably in lime-cement mortar 2. Avoid placing bathrooms and staircases in the front (street façade): these disrupt the basic façade composition 3. Place doors and windows of right proportion symmetrically in wall panels framed by pilasters and cornices with bands 4. Use wood for doors and windows – where possible use old wood doors and windows; for sunshades use light-weight materials like bison board on wooden frames or metal sheets on angles 5. Finish the exterior façade in traditional finishes and colours (yellow, ochre, terracotta, red, grey and white) – do not clad facades with tiles, stones, metal, etc. 6. Generally use traditional patterns for windows shades, balconies, gates, garage doors, etc. Where unavoidable, modern materials like concrete can be used with care and sensitivity.

6.2 Guidelines & Recommendations for Tamil Town

1. Construct and finish the building in traditional method-brickwork and plastering preferably in lime-cement mortar 2. Integrate the concept of *thalvaram* in the design. Avoid placing bathrooms and staircases in the front as these disrupt the basic façade composition 3. Place doors and windows of right proportion symmetrically in wall panels delineated by pilasters and cornices 4. Use wood for doors and windows – where possible use old wooden doors and windows 5. Finish the exterior façade in traditional finishes and colours (yellow, green, blue, ochre, terracotta and red) – do not clad façades with stones, tiles, etc. 6. Generally use traditional patterns

for windows shades, balconies, gates, garage doors, etc. Where unavoidable, modern materials like concrete can be used with care and sensitivity.

7   CONCLUSIONS

The building context of Pondicherry is the result of so many changes from the original village Puducheri, then under the Dutch, the French and the English through so many wars and a cycle of recurring destruction and rebuilding. The citizens today are changing the vernacular complex meaning of the past and destroying it again, though this time in peace, but with more negative implications in their ignorance of what they are losing, this unbelievable essence of a historic culture. It was the same in Italy where the farmers in the country didn't know the precious meaning of their habitations which the typological culture had shaped. In the same way the invaluable cultural meaning of a Tamil house, of a French house, with the infinity of architectural connections they've consolidated in the recent past, will be lost and with it their unique strength and style. Because people always want something new, forgetting that one cannot use a globalised vocabulary if one wishes to retain the world of traditions. It is certainly easier for a foreigner, like me, to appreciate the different kinds of life-styles and buildings in a territory so far and different from mine, but at the same time, I feel, for that very reason, we need to work in the same direction: we all know how wonderful diversity is, the different cultural and traditional approaches to the same structural roots of humanity. The best progress, I think, is that which gives you something more without demolishing what has been done by people before, but rather evolving from it: we cannot manage the building heritage as a mobile phone that we can use and then throw away when something better and more useful has been discovered. Because time, a meaningful portrait of tradition over so many generations, cannot be wasted. Without knowing what is in the balance but destroying it just because it looks old, is most perilous. In Italy we are profoundly attached to the act of restoration, and that's why today, when people from all over the world come to our country, they are awe-struck in front of the Italian heritage. The Indian heritage, in the same way, is a very important resource to hold up to the world and show its unique and astonishing culture. That is the inspiration of my studies on this Eastern and Western reality of Pondicherry based on my typological method of research: Pondicherry for me is closer to the present Indian reality and more open as well to the more ancient reality of this magical subcontinent called India.

Structures aren't only construction bones but more than all, in the typological meaning of town features, they are the meaning of materials working together: that's why not only earthquakes can destroy the heritage of the past, but more than all the unconsciousness of the portrait of building tradition can undo the effects of the historical built context.