CHAPTER - 6

CASE STUDIES OF CERTAIN APSIDAL ĀRIKOVILS

6.1 General

Case studies were carried out on random basis. The initial plan was to cover about 50 percent of apsidal ārikovils. During the site visits it was seen that each temple ārikovil has some uniqueness. More temples, were, hence, covered and has helped in validation with greater percentage of samples with less sampling error. The number of apsidal ārikovils covered are 22 out of 28. Only 21 ārikovils are taken up for the purpose of comparisons, one being a bit odd.

The parameters considered for case studies are as under:

(a) Cover as many temples as possible and feasible.

(b) Obtain measurements of ārikovils as much as possible, both outside and inside.
(c) Obtain details of mouldings, niches, recesses, openings and decorations as much as possible.

(d) Gather information relevant to the study by discussions with temple authorities / priests.

(e) Take photographs with the permissions of the authorities.

There were several restrictions and practical difficulties in taking measurements, more so in obtaining the measurements of the heights of the elements and hidden parts. The entry into the sanctum is restricted to the priests and tantrics. The measurements, whatever obtained are those given by the priests after measuring with the thread of kuja grass. Hence the exactness can not be claimed, yet, fairly accurate measurements are obtained. The measurements are taken in metric system. It is difficult to convert into Hastas and Angulas as various types of Hastas were/are in use in various regions.
Effort is made to sketch the ground plan (horizontal space) and present them in this chapter. Photographs are also presented. Certain blowups of mouldings and *alankaras* are also presented. The results/points are summarised at the end of this chapter.

6.2 Case Studies.

The details such as name of the temple, number of storeys, facing direction, roof, number of *stūpis* and construction materials are given in tabular form. Other details are given in paragraphs/tabular forms, temple wise.

<table>
<thead>
<tr>
<th>No</th>
<th>Name of the Temple</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Storeys</td>
<td>Facing</td>
</tr>
<tr>
<td></td>
<td>Direction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temple Name</td>
<td>Direction</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>ári Sidhvinjyaka Temple, Madhur</td>
<td>East</td>
</tr>
<tr>
<td>2</td>
<td>ári Mahêlingesvara Temple, Aduru</td>
<td>East</td>
</tr>
<tr>
<td>3</td>
<td>ári áankaranjya Temple, Ramantali</td>
<td>East</td>
</tr>
<tr>
<td>4</td>
<td>ári Subrama Temple, Payyanur</td>
<td>East</td>
</tr>
<tr>
<td>5</td>
<td>ári Mahêdeva Temple,</td>
<td>West</td>
</tr>
<tr>
<td>No.</td>
<td>Temple Name</td>
<td>Orientation</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>6</td>
<td>ári áiva Temple, Mannur, near Ferok</td>
<td>West</td>
</tr>
<tr>
<td>7</td>
<td>ári áiva Temple, Venniyoor</td>
<td>East</td>
</tr>
<tr>
<td>8</td>
<td>ári Mahā áiva Temples, Trikandiyur</td>
<td>East</td>
</tr>
<tr>
<td>9</td>
<td>ári áiva Temple, Mangalam</td>
<td>West</td>
</tr>
<tr>
<td>10</td>
<td>ári áiva Temple, Tripramgod</td>
<td>West</td>
</tr>
<tr>
<td>11</td>
<td>ári Ayyappa Temple,</td>
<td>East</td>
</tr>
<tr>
<td>No.</td>
<td>Temple Details</td>
<td>Orientation</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>12</td>
<td>Karuvattu, Mukkutala.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>árí áiva Temple, Elannummal, Kolakkat</td>
<td>East</td>
</tr>
<tr>
<td></td>
<td>árí Bhagavatí Temple, Cherunellikkavu.</td>
<td>West</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>árí Tali áiva Temple, Nedumpura, Cheruthuruthi.</td>
<td>East</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>árí ájsta Temple (sub deity), Vatakkanmatha Temple Complex, Trissur.</td>
<td>East</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>árí ájsta Temple, Panjal.</td>
<td>East</td>
</tr>
<tr>
<td>No.</td>
<td>Temple Name</td>
<td>Direction</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>17</td>
<td>ári Dharma ájsta Temple, Arattupuzha</td>
<td>West</td>
</tr>
<tr>
<td>18</td>
<td>ári Ayyappa Temple, Muttickoor</td>
<td>East</td>
</tr>
<tr>
<td>19</td>
<td>ári Dharma ájsta Temple, Chathakkutam, Vallachira</td>
<td>East</td>
</tr>
<tr>
<td>20</td>
<td>ári Ayyappa Temple, Chundakatt, Vadakkancheri</td>
<td>East</td>
</tr>
<tr>
<td>21</td>
<td>ári Výmanamurti Temple, Mevalloor</td>
<td>East</td>
</tr>
<tr>
<td>22</td>
<td>ári Ayyappa Temple</td>
<td>East</td>
</tr>
<tr>
<td>Kaniyampatta, Vayanadu District.</td>
<td>and laterite walls.</td>
<td></td>
</tr>
</tbody>
</table>

### 6.3 Temple wise details.

The details of apsidal shrines as much as possible and could be obtained are summarised in subsequent paragraphs.

#### (a) Āri Siddhivinyaka Temple, Madhur.

This apsidal temple is of very ancient origin built in three storeys with many uniqueness is to claim. It is one of the biggest apsidal temples in Kerala. The *garbhagṛha* is of apsidal shape with the wall thickness of 50cm. The *mukhamandapa* is in the *ērikovil*. The *thirthamandapa* measuring 620 x 720 cm (inside) is projecting out on the front side. This is single storeyed and has tiled roof, two steps and *bhadrapsika*. The
main portion is in three storeys and is covered with copper plates. It has
3 steps and very decorative bhadranjsika. There are three antarjlas, the
inner one is 170 cm wide and the outer one is 120 cm wide and outer most
one 65 cm wide.

The mukhamandapa is on pillars with ceiling. The outer wall is
surrounded by dipamla. The doors are as large as 106 x 212 cm, seldom
found in other temples. The main shrine is of Lord áiva facing East. The
Vinjyaka stands by the side the Northern wall of the mukhamandapa
facing South. The garbhag2ha is in the form of a mini ërikovil with
adhis5jna of pancavarga type, vedika and wall decorations. The ërikovil
is built with specially treated clay and boulders except adhis5jna which
is of granite. The sopjna has four steps of 36 cm width.
The roofing for the ground floor is of tiles. The second floor which covers the ārikovil is roofed with copper. Bhadranjsikas are provided for the first and second floor roofs in elegant manner. Decorative viAkhabhas are provided to support the leveling plate and connected with balakêta. The outer most walls have timber trellis work in five tiers to serve as depamjâla. The outermost wall’s base is of Āancaka trivarga type. The total height is said to be 54 feet (1620cm) from bottom of pûduka to top of stêpi. The exposed walls are decorated with traditional mouldings and niches like sîla, kêta, ghanadvîra, panshâra in artistic way. Refer Diagram 6.1.

(b) Māhalingesvara Temple, Aduru.

The temple is of very ancient origin. It is one of the two three storeyed apsidal ārikovils in Kerala. This temple ārikovil and the ārikovil
of Sidhivinayaka Temple have some resemblance. It was believed that both these temple were built by same ¿ilpis. Yet, there are differences.

The pratiÁta of the Lingesvara is at an elevated level compared to the outer corridors. The garbhag¤ha is of apsidal shape having the inner measurement of 610 x 610 cm. The inner walls are 100cm thick and outer most walks are 21cm thick. There are three corridors, 150cm, 150cm and 130cm wide. The mukhamandapa is 610 x 460cm. The outer most portion is single storeyed. The portion with tirthamandapa is two storeyed and the rest is in three storeys. The front side of the ground floor is provided with copper sheet roofing. The rear and sides are roofed with tiles. The first and second floors are roofed with copper sheets. The first and second floor roofing have decorative and elegant bhadran¡sikas. There are four steps for sop¡na. The outer most walls are provided with trellise
work to serve as dipamkara. The walls are constructed in laterite stones, well dressed and finished. The outermost wall has adhishta of trivarga type. It is gathered that the garbhagriha’s adhishta is in pancavarga type. The mandapas have wooden ceilings. There are three levels of floors in the ekakshira. This temple ekakshira is the biggest among the apsidal shaped ekakshiras in Kerala.

The wall decorations are provided with traditional silas, ketas, ghanadviras, panjaras and the like. Decorative slanting struts (viakteambhas) are provided to support the eve projections and balaketas are provided connecting the rafters and the leveling plate. The height is said to be assessed as approximately 1650cm, from pinda to stlipi (both inclusive). Refer Diagram 6.2

(c) Sri Sankaranáyana Temple, Ramanthali.
It is one of the most elegantly built, ancient and the only one temple of Sankaranñêyana in apsidal form. The walls and wall mouldings are in laterate. They are in tact and present the exquisite beauty of the constructions and decorations. It is built in two storeys, the top roofed with copper sheet and ground floor with tiles. Elegant bhadranñûka made of wood displays the architectural excellence.

The garbhagñâha is in apsidal shape. The width of garbhagñâha is 385cm. There are two corridors (antarñâlas) 135 cm and 150 cm wide. The inner walls are of 75cm thick and outer wall 21cm thick. The mukhamandapa in front of garbhagñâha, within ārikovil is 385x335cm. The overall width outside the walls are 1096cm. The exterior wall is provided with wooden trellise slightly slanting. The adhisñûna is of Pancavarga type (pûjûka 12cm, jagati 36 cm, kumuda 36 cm, pati 26 cm,
with projection to pyduka from wall as 20 cm). Vedika is of 15 cm. The

adhisåäna is of granite stone. There are 5 steps for the sopîna. Refer

Diagram 6:3

The rafters are of size 5x24 cm. The pratisåä is on elevated

platform, the level of the floor of garbhagåäha is about 50 cm higher than

the floor of the outer corridor. The total height from pyduka to stépi is

said to be assessed as around 1200 cm.

The decorations are of traditional types with silå, keåta,

ghanadvåra, panjara, torana etc, all in laterite and elegantly done.

Decorative viÅkhambas are provided to support the leveling member at

corners. There are balakåetas connecting the leveling member and the

rafters.

(d) ári Subramhanya Swami Temple, Payyannur
This temple is one of the highest temples in Kannur district. The ērikovil is of apsidal shape built in two storeys. facing East. This is probably the only one apsidal temple in which Lord Subramanya is the presiding deity. The adhisêjina of the ērikovil is made of granite stone with pancavarga type. The walls and the decorations are made in laterite stone and plastered with lime mortar.

The prisêda width is 1090 cm and the over all perimeter is 5050 cm. The outer and interior wall thickness is 51cm each. The outer antarja is 156cm wide. There is another antarja around garbhagâtha with a width of 70 cm. The garbhagâtha wall is 45cm thick. The garbhagâtha is apsidal in plan, the maximum length and width of about 364cm. The floor of the garbhagâtha is higher than the outermost corridor by about 54cm. The rectangular mukhamandapa is of the same
width of garbhagṣha and has wooden pillars. The second storey is supported on the first wall from the exterior wall after leaving the corridor. There are main doors for garbhagṣha, mukhamandapa and at the entrance to ērikovil. The door frames are made of granite and are well decorated. In addition, there are doors on the other cardinal directions also. There are three ghanadv¡ras on the three directions except East. Refer diagram 6.4. The temple is said to be more than 1200 years old. It was renovated in 1835 AD. Recently the roofs were renovated in 2008. The roof is with copper plates. The measurements of roof and elements were of the original ones. The eve’s projection is 164 cm. The hip rafter is 42X9 cm and common rafter 36X5 cm. There are 54 rafters for the first floor roof and 76 rafters for the ground floor roof. There are two finales placed over the k£ta positions. The bhadran¡sika is
made of timber with elegance. KimpuruÅa is installed on top of the
bhadransika. Certain important and interesting information obtained
from the main ¿ilpins are given below as first hand information about
the recently carried out renovation work:

(i) Only well seasoned teakwood was used.

(ii) Proper records of previous measurements of members segregated
and arranged in-groups were maintained.

(iii) A large 'works shed' was arranged for carrying out the works
conveniently.

(iv) A ramp was constructed to go up to the height required and carry
the required materials.

(v) Sufficient scaffoldings and safe ladders were provided.
There was no interruptions or stoppage of work even for a day in 9 months time.

Machinery were purchased and extensively used in the carpentry work. It ensured speedy and accurate work. There was no restriction on the usage of machinery/tools.

All members were prepared and erected on ground based on actual measurements on top of the ustralia. All corrections were made on the ground. All members were marked for their positions to facilitate erection.

Working time on the 乳业 was restricted, as the jis were not obstructed by the work.
(x) Vyṣṭuṭistra principles, the traditional knowledge and skills were religiously adopted with devotion and wholehearted dedication to fulfill the desired objectives.

(xi) Twelve truckloads of teakwood were brought for the renovation from Kottayam, Idukki and Alleppy districts.

(xii) The wall decoration consists of āṭilas, kāḷas, panjaras, ghanadvīras, toranis āṭilpas etc. Viṣṇukambhas with decorations are used and they support the leveling plate fixed to rafters with hāḷakāḷas.

(xiii) Estimated cost was more than Rs. 3 crores.

(e) Āri Mahādeva Temple, Tiruvannur.

The āṭrikovil built in aspidal shape is said to be more than 1200 years old. It is built in two storeys facing West. The roofing is provided with copper plates. Elegant bhadrāṇjaśika and three finales are provided.
The adhisêjna is over upapeta, both made of granite stone in pancaveaga type. The top width of upapeta is 40cm. The height of upapeta and adhisêjna is 78cm. The steps up to the top of upapeta are from the sides. The sopëjna from upapeta to the ñrikovil is straight. There are five steps for each flight. The exterior width (prisêda width) is 490cm.

The garbhagêtha is of apsidal shape. It has the turavu and mukhamandapa has the ceiling. The garbhagêtha measures approximately 340 x 340 cm (maximum length and breadth inside) The mukhamandapa is 160x180cm. The front wall thickness is 45cm. There is no corridor around garbhagêtha. The walls around is about 75cm thick. The main door is 67½ X 150 cm (inside). The eve's projection is 150cm.
There are viṣhambhas connected to the leveling plate connected to the rafters with ḫilaṅkas. Refer Diagram 6.5

The bhittalankiras are by ḫilaṅka, panjara, torana, ghanadvir, valaru, kapota, highly decorated vedika and the like as per traditional decorative forms.

(f) Śri Mahāśiva Temple, Mannur.

It is one of the 108 āiva temples of Kerala. The ḫrikovil is built in two storeys, apsidal in shape facing West. The ḫrikovil is under renovation. The first floor roofing with copper plates is completed. The other works are in progress. The adhisfjna is of pancavarga built in granite stone. The walls are of laterite.
The width of *prisida* is 976 cm. The exterior wall is 30 cm thick.

The exterior corridor is 136 cm. The interior wall is 45 cm. The *garbhagṛha* is in apsidal shape with interior measurement of 186 cm x 270 cm. The *mukhamandapa* is 474 x 420 cm. The main door facing west is 66 x 140 cm. There is one door on the South (on this side Pṛvati’s idol is installed in the exterior corridor). The level of the floor of *garbhagṛha* is higher by 72 cm. The *sopīna* is from the sides having 4 steps each. Refer Diagram 6.6.

The work on renovation is going on. There are 48 rafters for the first floor and 68 rafters for the ground floor. The evé projection is 160 cm. The size of common rafter is 7 x 30 cm. The leveling plate is connected with rafters with the help of *bhaktas*. The wall height is 190 cm including 20 cm for *vedika*. The *bhittialankaras* are *bhittikal*.
ghanadyra, torana, panjara, valaru and kapota. There are elegant bhadranjsika and three finales provided.

(g) ári áiva Temple, Venniyur.

It is considered to be of very ancient origin (about 2000 years old). It is built in apsidal form in two storeys, facing East. There is upapeta 108 cm high with walk around space of 40 cm wide. The adhisñjina is also 108 cm height (both are built in pancavarga type).

These are built in granite. The walls are of laterite stone and plastered. The temple is under renovation. The upapeta and adhisñjina are having some cracks and spallings. The ground floor roof and partially first floor roof constructed in RCC are flat. Only the garbhagéha portion is roofed with tiles. The bhadranjsika made in concrete does not give imposing look.
The *prisāda* width is 535 cm. The *garbhagṛha* is 268 x 312 cm.

The *mukhamandapa* is 241 x 150 cm. The interior wall between the *garbhagṛha* and *mukhamandapa* is 46 cm thick. The *garbhagṛha* door is 68 x 148 cm and the main door is 78 x 156 cm. The height of the wall of ground floor is 190 cm. The *sopīna* is straight having 8 steps. Refer Diagram 6.7

The *bittialankṛas* are restricted to the *bhittikal*, *ghanadvara*, *torana*, *panjara*, *valaru* and *kapota* for the ground floor. The *bhittialankṛas* for the first floor are more elaborate and elegant.

(h) Ārī Mahaśiva Temple, Trikandiyur.

It is a very ancient temple *ṣrikovil* (more than 2000 years old) built in two storeys in apsidal form facing East. There is *upapeta* 75 cm high and the *pati* of *upapeta* is 42 cm wide providing a walk way around
the *adhisêjna*. The *adhisêjna* is 76 cm high. The *upapeta* and *adhisêjna* are made of granite stone in *pancavarga* type. The *sopìna* has the flights from the sides up to the heights of *upapeta* and straight to the *êrikovil* covering the height of the base. There are six steps each in the flights.

The *prisïda* width is 490 cm. The *garbhagâtha* measures 242x242 cm and is in apsidal shape. It has *turâvu*. The *mukhamandapa* is 242x156 cm. The interior wall thickness between *garbhagâtha* and *mukhamandapa* is 80 cm and the wall in front is 115 cm. The thickness of other walls as calculated comes to 124 cm. The approximate width of first storey is 320 cm. The wall height of ground floor is approximately 260 cm.

The doors are of 76x152 cm size. Both storeys are roofed with tiles and provided with elegant *bhadranïsika* and three finales. Refer fig. 6.8.
There are 40 rafters for the first floor roof and 48 rafters for the ground floor roof. The rafter size is 5x24 cm. The eave projection is 160 cm.

Specially decorated slanting struts (*viśkāmbhas*) about 90cm in height and 40 cm horizontal offset support the leveling plate under the rafters.

The *bhittalankīras* are of *čila, kēta, panjara, torana* and *ghanadēva*, the traditional type of *alankīras*.

(i) Ārī Mahāiśvāra Temple, Mangalam.

The temple is said to be 1200 years old. The *ērikovil* is of *gajapati* type facing West built in two storeys. It is under renovation.

The *upapeta* and *adhisūna* are of *pancavarga* variety and is built with granite stone. The walls are built in country burned bricks and plastered. At present temporary roofing is provided with C.G.I sheet.

The intention is to provide copper plates for the roofing later on.
The *upapeta* is 45 cm high with the projection of 50 cm. The *adhiså¶na* is 90 cm high, in *pancavarga*. The *vedika* is 24 cm high and height of wall is 290 cm. The *upapeta* and *adhiså¶na* extend outside to accommodate the *¿¡la* and *k£ta* at the corners, the width of which is 90 cm.

The *pråṣida* width is 490 cm. The *garbhagåha* is 285x285 cm in aspidal shape. There is timber ceiling for the *garbhagåha* and *mukhamandapa*. The *mukhamandapa* is 285x90 cm. The interior and western walls are 90 cm and 95 cm thick. The walls on the other sides are 102.5 cm thick. The doors are 78x156 cm. Refer diagram 6.9

There are three temporary finales. The *bhadranjsika* existing at present may be replaced along with the roof later.
The *bhillalankras* consist of *ja* and *keta* at the corners in front and *panjara, ghanadvira, torana valaru* and *kapota* on ground floor.

\( j \) *ári Mahi áiva temple, Triprangod.*

This temple is of very ancient origin (5000 years old). The *árikovil* is of *dvitja gajapęsta* type facing West. The *upapeta* and *adhisũjna* is of granite stone and the walls are of laterite stone. The roofs are provided with copper plates. There are three finales and elegant *bhadrasika*.

The *upapeta*’s top width is 165cm and is roofed. This roof is supported over granite pillars placed at 222cm centre to centre. The *upapeta* is of *trivarga* type, 60cm high. The *adhisũjna* is 90cm high and is of *pancavarga* type. This is the only one temple where the *upapeta*
functions are verandah. This veranda is utilised to house P¿rvati on the South West side. The sop¿na consists of flights from the sides upto upap¿ta and straight flight to the ¿rikovil with 5 steps.

The garbhag¿ha is in apsidal shape 276x310cm with turavu. The mukhamandapa is 276x122cm. The interior wall is 70cm thick and front wall 12cm thick. The pr¿sida width is 470cm. The other walls are about 100cm thick. The doors are of 85x170cm. There are 56 rafters for the ground floor roof and 36 rafters for the first floor. The size of the common rafter is 6x24cm. The eve's projection for roof of ground floor is 48cm. The eve's projection of first floor roof is 150cm. Vi¿khambhas with decorations provided. See Diagram 6.10

The height of the wall of first floor is about 290cm and second floor is about 155cm. The bhittialank¿ras consist of ¿ila, k¿ta, panjara,
ghanadyra, torina, valaru and kapota. The wall surface has been plastered.

(k) **āri Ayyappa Temple, Karuvattu, Nannamukku.**

The temple is considered to be more than 500 years old. It was renovated in 1983. The ārikovil is of katala, gajapīsa type, facing East. It is roofed with R.C.C, and one final is provided. The base is of granite and the wall is of laterite. The adhisīna is 78 cm high and made to pancavarga. The vedika is 20 cm high and the wall height is 160 cm. The sopīna is straight with 3 steps. The garbhagriha is of apsidal shape and maximum interior measurement of 180x180 cm. The mukhamandapa is 240x160 cm. The wall thickness except for mukhamandapa is 70 cm and thickness on three sides of mukhamandapa is 40 cm. The size of the door is 60x124 cm. The prṣṭā width is 32 cm. Refer Diagram 6.11.
bhittialankras consists of bhittikkal, panjana, ghanadvara, valaru and kapota.

(1)  

aṟi āiva Temple, Elannummal.

The temple is considered to be more than 1000 years old. The ārikovil is of katala, gajapasta type facing East. It is renovated 10 years back and at present it is in good state of maintenance. It is roofed with titles over rafters of economic size (3x15cm). The adhisṭana is of granite 96cm height in pancavarga. Vedika is 24 cm high. The wall height is 204cm. The roof is provided with bhadranjsika and one finale over it.

The garbhagṛha is square in plan. 220 x 220cm. The mukhamandapa is 220x180cm. The interior wall is 72 cm thick. There is one corridor 60cm wide. The prīṣaḍa width is 532cm. The garbhagṛha
door size is 70x140cm and the outer door is 65x138cm. Refer Diagram 6.12

The bhittialankṃras consist of bhittikals, panjaras, gaAnadvṛras, valaru and kapota. The eve’s projection is 72cm. There are 58 rafters in total.

(m) Āri Bhagavati Temple, Cherunellikattu.

The temple is believed to be more than 2000 years old. The ārikovil is built in apsidal form and faces West. The adhisṛjna is made of granite stone in panchavarga type. The walls are constructed in lateratite stone. The ārikovil is in dilapidated state. The roof had been damaged and removed. Temporary tiled roofing is provided to protect the shrine. From the magnanimity of the adhisṛjna, sopjna and bhittialankṃra, it appears that the ārikovil had a glorious past.
The prosada width is 382 cm. There is separate garbhagriha apsidal in plan shape 297x240cm. The mukhamandapa is 297x207cm. The wall thickness is about 42cm. The adhishtana is 78cm high. Vedika is 21 cm high. The main door is 59x124cm. The sopnya is of direct flight having 4 steps Refer Diagram 6.13

The bhittalankras consist of the bhittikal, panjara, ghanadviya, valaru and kapota. The parts above kapota and one layer of stone above it had been removed. The renovation works get delayed due to paucity of funds.

(n) Āri Tali āiva temple, Netumpura.

The temple is also known as Kulaṇekharanellur āiva Temple. The temple is known to be of very ancient origin, more than two thousand years old. The temple was damaged due to fire and the present form had
been renovated. The *rikovil* is in apsidal form facing East built in two storeys. This is the biggest apsidal shaped *rikovil* in Trissur district.

The basement is made of granite. The walls are constructed in laterite stone. The roofs are provided with copper plates. There is elegant *bhadra*$\mathfrak{s}$ika and three finales.

The *adhis$\mathfrak{g}$jna* is 124cm high in *pancavarga* variety. The *vedika* is 36cm high which has six divisions with aesthetic decorations. The *s$\mathfrak{p}$r$\mathfrak{s}$na* is from the sides 134cm wide having four steps in each flight. The wall height is about 550cm. The front door is 106x174cm. The *pr$s$ida* width is 832cm. The first floor width is 480 cm. The corridor inside is 120cm wide. The interior walls are of 115cm thick and exterior wall 56cm thick.

The *garbhag$\mathfrak{s}$tha* is apsidal shaped 240x240cm. The *mukhamandapa* is 240X240cm. Refer Diagram 6.14.
The bhittialankaras are very elaborate which include jila, keta, panjara, ghanadvra, torana and highly decorative vedika. This jila is 102 cm wide, keta 73cm wide and panjara 43cm wide. The grikovil gives an imposing posture and depicts the aesthetics of temple architecture.

(o) Ayyappa grikovil, Vatakuntha Temple Complex.

The temple is considered to be about 1000 years old and has been renovated. The grikovil accommodates the sub-deity of lord Ayyappa. It is built in apsidal form in single storey facing East. The base is of granite and the wall is of laterite. The roof is covered with copper plates. It has one finale and grand bhadranjisa.

The adhisena is 72cm high build in pancavarga type. The prisda width is approximately 294cm. There is no separate garbhagriha. The inside of the grikovil is also of apsidal shape.
The wall thickness is 61 cm. The inside of the ērikovil is approximately 172x319cm. The wall height is 160cm. The door is 62x140cm. The wooden rafters are of 4x20cm size. The sōpna is straight and has 3 steps. Refer diagram 6.15. The bhittialankiras are simple and consist of bhittikkal, ghanadvira, valaru and kapota.

(p) āri ājsta Temple, Panjal.

The temple is said to be of very ancient origin. The pratisāna is of svayambhu type. The ērikovil is built in apsidal form in single storey facing East. The pratisāna is below the floor level. The roof is tiled. One finale and elegant bhadransika are provided.

The prāṣṭa width is 245cm. The interior is also of apsidal shape with no corridor. Wooden ceiling has been provided. The interior measures 180x220cm. The wall thickness is 32cm. The adhisāna of
pancavarga type is 78cm high. Vedika is 24 cm high. There is no spyna as the entry is at pyduka’s level. The door is placed on the pyduka which measures 60x133cm. The wall height is 140cm. There is a corridor around the ērikovil about 90cm wide and the outer side is provided with wooden trillise work to facilitate it as depamila. The ērikovil is in a good state of maintenance. Refer Diagram 6.16

The bhittalankiras are restricted to bhittikal, panjara, ghanadvira, torana and few mural paintings. The rafters (5x24cm.) are elegantly decorated.

(a) āri Dharmajista temple, Arattupuzha.

The temple is believed to be of ancient origin, about 1000 years old. The ērikovil is built in single storey in apsidal form facing West.

The base is built of granite stone and the walls are in laterite. The roof is
provided with copper plates. Elegant bhadranśika and one finale are provided.

The prṣida width is 580cm. The garbhagñha is 170x255cm (apsidal), corridor 96cm and mukhamandapa 510x340cm. The spñnas are from the sides 90cm wide having four steps in each flight. The adhisśjna is in pancavarga, 90cm high. Refer diagram 6.17.

The bhittialankṛras consists of bhittikal, ghanadvara, panjara, torana, valaru and kapota. The rafters are of 5x30cm size. Level plate and bhālakētas are provided.

(ăr) śri Ayyappa Temple, Muttichur.

The temple is considered to be more than 500 years old. It is built in apsidal form facing East in single storey. The old tiled roof was replaced by RCC about 40 years back. The symbolic bhadranśika is
provided in concrete without decorations. One finale is provided. The

\textit{adhis\text{\textgreek{j}ina}} is of granite and walls are of laterite. The \textit{s\text{\textr}na} is straight having three steps.

The \textit{pr\textit{is\text{\textd}s\textit{\textd}a}} width is 236cm. There is no separate \textit{grbhag\text{\texts}tha}.

The interior measure 162x300cm. There is no ceiling. The wall thickness is about 37cm. The \textit{adhis\text{\textgreek{j}ina}} is 72cm high built in \textit{pancavarga}. The \textit{vedika} is 18cm. The height of the wall is 180cm. The eve's projection is 90cm. The door is 56x112cm. Refer Diagram 6.18

The \textit{bhittalank\text{\textr}ras} consist of \textit{bhittikal}, \textit{ghanad\text{\textr}ras}, \textit{panjaras}, \textit{valaru} and \textit{kapota}.

\textbf{(s) ári Dharma\text{\textd}j\text{\textgreek{j}a} Temple, Chattakkut\text{\textm}}

The temple is considered to be of ancient origin about 1000 years old. The \textit{grkovil} is built in apsidal shape in single storey facing East.
The *adhisñjna* is of granite and walls are of laterite construction. The roof is tiled. There is an elegant *bhadransika* and one finale.

The *präsāda* width is about 420 cm. The *garbhagṛha* is in apsidal shape. There is corridor around *garbhagṛha*. There is *mukhamandapa* in front of *garbhagṛha*. The *adhisñjna* is about 78 cm high built in *pancavarga*. The *sopnā* is straight. Refer diagram. 6.19.

The *bhittialankṛas* consist of *bhittikal, ghanadvara, panjara, valaru* and *kapota*.

(t) **Śri Ayyappa Temple, Chundakattu.**

The temple consists of only the *śrikovil*. It is considered to be less than 100 years old. It is built in apsidal form in single storey facing East.

The *adhisñjna* and walls are of brick construction. The roof is of RCC.
The *Prīṣida* width is 198cm. The wall thickness is 21cm. The interior is also of apsidal shape. There is no separate *garbhagṛha*. There is no *sāṇa*. The base is 36cm high which has only *pīduka, jagati*, and *pati*. The wall height is 150cm. The door size is 58x125cm. The sunshade above the wall height is flat and above it the apsidal roof is provided in RCC. There is no finale. There are pilasters 30x30cm provided on the extremities of the front side and in the rear where the curve of apsidal shape begins. There is no proper *bhadranjsika*. The *bhittialankṛa* is limited to *ghanadvṛtra*. Refer Diagram. 6.20

This temple is very small and does not confirm to the traditional temple architecture.

(u) *Śrī Vamanamurti Temple, Mevallur.*
This temple is considered to be of ancient origin, more than 1000 years old. The ārikovil is built in apsidal form in two storeys facing East. The roof is tiled. There is elegant bhadranjsika but there is no finale. The padmapāduka and adhisūna are built in granite. The walls are built in laterite stone. The sāpyna is straight having 8 steps, 90cm wide.

The prjsda width is 846cm. The garbhagṛha is in apsidal form. The interior measurements are 252x316cm. The interior wall thickness is 57cm. The mukhamandapa is 252x180cm with wall thickness of 55cm in front and rear. There is corridor 184cm wide around the garbhagṛha and mukhamandapa except in the front. The front side of the mukhamandapa has an open space 734x330cm. The corridor, which is 184cm wide, has been provided with 12 circular pillars. Refer Diagram 6.21.
The *padmapāduka* is 10cm in height and projects 20cm from the *pjāduka* of *adhisēna*. The *adhisēna* is 140cm high. It consists of *pjāduka*, *jagati*, *kumuda*, *galapati*, *gala*, *valaru*, *kapotha* and *pati*. The *vedika* is 24cm high divided into 6 divisions. The *adhisēna* has very elaborate mouldings/nitches. The wall height is approximately 210cm. The front door measures 87x164cm. There are 64 rafters for the first floor roof, 80 rafters for the ground floor. The size of common rafter is 6 x 30cm. The roof projection is 154cm. The leveling plate is connected with rafters with the help of *bhālakātās*. The *bhittialankiras* consist of *jilaka*, *kēta*, *panjara*, *ghanadvīra*, *torana*, *jilaka*, elaborate *vedika*, *valaru* and *kapota*.

(v) *Śri Ayyappa Temple, Kaniyampatta.*
This temple was rebuilt during 1976 in single storey apsidal in shape with RCC roof without finale. The *prisida* width is 236 cm with *garbhagasha* 164 x 164 cm. The front wall is 80 cm and other walls are of 36 cm thick. The *adhisvara* is of *pancavarga* type, 96 cm height. The wall height is 117 cm. The door size is 65x146 cm. The top of the door enters the *bhithialankira* of *vaivaruka-kapota*. Other *bhithialankiras* are pilasters and false doors. The *sopna* is from the sides and extends beyond the *prisida* width. The *puduka* is rectangular in plan shape. This *grikovil*
being different from other \textit{\v{r}ikovils} (odd type) is not included for comparisons.

Diagram 6.1 - \textit{\=A}r\=i Siddhivin\=yaka Temple, Madhur.

Diagram 6.2 - M\=halingesvara Temple, Aduru.
Diagram. 6.3 - āri Sankaranāryana Temple, Ramathali.
Diagram. 6.5 - ári Mahādeva Temple, Tiruvannur.

Diagram. 6.6 - ári Mahāiśa Temple, Mannur.
Diagram. 6.7 - Sri áiva Temple, Venniyur.
Diagram 6.9 - Sri Maháiva Temple, Mangalam.

Diagram 6.10 - ári Maháiva temple, Triprangod.
Diagram 6.11 - ári Ayyappa Temple, Karuvattu, Nannamukku.
Diagram 6.12 - ári áiva Temple, Elannummal.

Diagram 6.13 - ári Bhagavati Temple, Cherunellikattu.
Diagram. 6.14 - ári Tali áiva temple, Netumpura.

Diagram. 6.15 - ári Ayyappa ėrikovil, Vatakunnṛtha Temple Complex.
Diagram 6.16 - Šta Temple, Panjal.
Diagram 6.17 - Ári Dharmaḍīsta temple, Arattupuzha.

Diagram 6.18 - Ári Ayyappa Temple, Muttichur.
Diagram. 6.19 - árí Dharma¿jsta Temple, Chattakkutjm.

Diagram. 6.20 - árí Ayyappa Temple, Chundakattu.
6.4 Summary of Details and Comparisons.

Certain details are given in table form and descriptive form. The overall summary and comparisons by numbers and percentages are given in tabular form. Effort is made to bring out the various elements arranged under the grouping of structural spaces, forms and constructional aspects.

Table 6.2. Structural elements and forms.
<table>
<thead>
<tr>
<th>No</th>
<th>Elements</th>
<th>Nos.</th>
<th>Percentage</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Structural Space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Prisida</em> width expressed in <em>Kol pari</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><em>Prisida</em> width expressed in <em>Kol pari</em> (taking 1 kol=72cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3 <em>kol pari</em> (198-246cm)</td>
<td>3</td>
<td>14</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>4 <em>kol pari</em> (270-318cm)</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5 <em>kol pari</em> (342-390cm)</td>
<td>3</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7 <em>kol pari</em> (486-534 cm)</td>
<td>7</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12 <em>kol pari</em> (846-894 cm)</td>
<td>3</td>
<td>14</td>
<td>23.5</td>
</tr>
<tr>
<td>15</td>
<td>15 <em>kol pari</em> (1062-1110 cm)</td>
<td>2</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>Mah<em>Prisida</em> &gt; 15 <em>kol pari</em></td>
<td>2</td>
<td>9.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21 Nos</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garbhagṛha:</td>
<td></td>
<td>Prīṣṭas of 5 kol pariṣṭas and above</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>---</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Have separate garbhagṛha</td>
<td>17</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) With turavu</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) With ceiling</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Neither turavu or ceiling</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4) Square garbhagṛha</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Have no separate garbhagṛha</td>
<td>4</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) With ceiling</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) Without ceiling</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mukhamandapa:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) with mukhamandapa</td>
<td>16</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>(b) without mukhamandapa</td>
<td>5</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tirthamandapa in addition to mukhamandapa</th>
<th>2 +1</th>
<th>9.5 + 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Separately projected Tirthamandapa as open space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Presence of antarjala</td>
<td></td>
<td>arikovils having two storeys have thick walls.</td>
</tr>
<tr>
<td>----</td>
<td>----------------------</td>
<td>---</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>(a) No antarjala</td>
<td>12</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>(b) One antarjala</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>(c) Two antarjala</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Number of storeys</th>
<th></th>
<th>Maximum numbers are two storeyed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Three storeys</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(b) Two storeys</td>
<td>10</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>(c) One storey</td>
<td>9</td>
<td>43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>Levels of aripita</th>
<th></th>
<th>At Ayyappa temple, Panjal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Lower-level-below normal floor level</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(b) Higher level</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>(c) Normal level</td>
<td>12</td>
<td>57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8</th>
<th>Sopna flights</th>
<th></th>
<th>Two sopnas have odd number of steps. Rest have even</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Straight</td>
<td>14</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>(b) From sides</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Combinations</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>No s’pyna</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>Pranjas based on facing directions of ḃrikovils. Facing North.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) East facing (15 Nos)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) West facing (6 Nos)</td>
<td>21</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>Number of exterior doors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) 4 doors</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(b) Two doors</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(c) Only one door in front</td>
<td>17</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Padmapyduka</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Provided</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(b) Not provided</td>
<td>20</td>
<td>95</td>
</tr>
<tr>
<td>12</td>
<td>Upapeta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Adhis( \text{\textalpha} )jna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Vedika</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Bhittialank( \text{\textalpha} )ra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Panjara</td>
<td>16</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>(e) Ghanadvara</td>
<td>21</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>(f) Torana</td>
<td>16</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>(g) Jñlaka</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>(h) Valaru / Kapota</td>
<td>11</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>(i) āilpa Carvings</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>(j) Gréva / grhapindi</td>
<td>10</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

### 16
- **Roof covering.**
- (i) Copper plates
- (ii) Tiles
- (iii) Combinations of the above
- (iv) RCC
- (v) RCC and tiles
- (vi) Roof damaged

### 17
- **Stépis**
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Not provided *</td>
<td>3</td>
<td>14</td>
<td>*Covered by tiles /sheets</td>
</tr>
<tr>
<td>(b) One number</td>
<td>5</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>(c) Two numbers</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>(d) Three numbers</td>
<td>12</td>
<td>57</td>
<td></td>
</tr>
</tbody>
</table>

**18** *Bhadranjsika*

(a) Not provided | 1 | 5 |   |
(b) Provided but not aesthetic* | 4 | 19 | *Bhadranjsika with RCC |
(c) Elegant *bhadranjsikas* | 16 | 76 |   |

**19** *ViÁkhambhas (struts)*

(a) Provided | 10 | 48 | Most of the struts are slanting and decorated |
(b) Not Provided | 11 | 52 |   |

**20** Leveling plate (*nida phalaka*)

(a) Provided | 10 | 48 | This member supports the rafters in the eave portion |
(b) Not provided | 11 | 52 |   |

**21** Decorative *balaketas*

(a) Provided | 10 | 48 | Provided at the bottom of leveling |
The balakétas are circular in shape. The trellis works function as depamýla.

<table>
<thead>
<tr>
<th>Construction Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
</tr>
<tr>
<td>(a) Granite</td>
</tr>
<tr>
<td>(b) Bricks</td>
</tr>
<tr>
<td>24</td>
</tr>
<tr>
<td>(a) Laterite</td>
</tr>
<tr>
<td>(b) Bricks</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>(a) Timber</td>
</tr>
<tr>
<td>(b) Granite</td>
</tr>
<tr>
<td>26</td>
</tr>
</tbody>
</table>
6.5 **Discussion on the Case Studies and Interpretations.**

The apsidal shaped ग्रिकोविल as gathered through published works and interviews with the tantris counted 28 numbers in Kerala. The chance of couple of ग्रिकोविल being left out can not be ruled out. Twenty one गजपत्ता temple ग्रिकोविल are included in the case study.

From the case studies and discussions certain inferences are derived.

They are given in subsequent paragraphs.

6.5.1 **Shapes.** The shapes are apsidal with squares in front and semi circle at the back of the square. Though Mayamata allows slightly elongated
square, other texts prevalent in Kerala prescribe only square in front portion. It is confirmed through the case studies.

6.5.2. **Structural spaces.** The shapes remain the same for all ērikovils as apsidal.

The interior spaces (horizontal space) and vertical spaces vary from temple to temple. Brief discussions and inferences are given below:

(a) **Prāśāda widths.** Out of 21 ērikovils, 10 Nos belongs to the 5 kol and 7 kol pariās (about 48%), 5 Nos belong to 12 kol and 15 kol pariās (about 23.5%) and 2 Nos belong to 15 kol pariās (about 23.5%) and 4 Nos belong to 3 and 4 kol pariās. Two nos. belong to the mahāprāśas (more than 15 kol pariās) and accounts only about 9.5%. The pariās and the yonis are connected based on square shape. For apsidal shape the
perimeter is not four times the \( \text{prisida} \) width. It is about 4.571 times the \( \text{prisida} \) width.\(^{406}\)

The inferences are that the majority (about 90.5%) of apsidal \( \text{rikovils} \) belong to \( \text{alpprisidas} \) and only 9.5% belong to the \( \text{mahprisidas} \).

(b) \textit{Garbhag\textasciitilde{a}.} Seventeen \( \text{rikovils} \) have separate \( \text{garbhag\textasciitilde{a}has} \) (81%). Sixteen \( \text{garbhag\textasciitilde{a}has} \) are of apsidal shape and only one \( \text{garbhag\textasciitilde{a}ha} \) is of square shape. In the case of apsidal \( \text{rikovils} \) most of the \( \text{garbhag\textasciitilde{a}has} \) are of the same shape of \( \text{rikovils} \). Four \( \text{rikovils} \) (19%) do not have separate \( \text{garbhag\textasciitilde{a}has} \). The whole interior space is of apsidal shape. The \( \text{prati\~Atas} \) are more or less at the centre of the rear line of the square and the centre of the semicircle. Front spaces in front of the \( \text{prati\~Ata} \) are provided in the \( \text{garbhag\textasciitilde{a}has} \). In certain cases the dimensions of length

\(^{406}\) \textit{Tantrasamuccaya,} (aipabh\textasciitilde{iga}), Ch.4, Sl.14. Side A= Perimeter (Px63x4) / (64x18) = 0.21875P

\[ \therefore P = \frac{10.21875}{4.5714A} \text{. By geometry } P = 3A + \left( \frac{\pi}{2} \right) \times A = 4.57142A \text{. (Approximately 4.571A)} \]
and breadth are the same or nearly the same as can be seen from the diagrams. The ḍrikovils which do not have separate garbhagṛhas are of 3 to 4 kol pariṇas. The inferences are that almost 81% of the apsidal ḍrikovils have separate garbhagṛhas and 95% are of apsidal shape.

About 71% of garbhagṛhas have either turāvu or ceilings.

(c) Mukhamandapas. Sixteen ḍrikovils have (about 76%) mukhamandapas in front of the garbhagṛha which are within ḍrikovil itself. Two apsidal ḍrikovils have projecting tirthamandapas and one has open space in front of mukhamandapa. Majority of mukhamandapas are within the ḍrikovil itself. The mukhamandapas are square or nearly square in the horizontal space in most of the cases.

The inferences, therefore, are that majority of the apsidal ḍrikovils have mukhamandapas with in the ḍrikovils itself and they are square or
nearly square in horizontal space. The projecting *tirthamandapas* are only 10% of the whole apsidal *¿rikovils*.

(d) **Antarjlas (corridor).** Twelve *¿rikovils* have no *antarjlas*. However, 6 of them have thick walls to accommodate the second storey. This system is permitted as per *Tantrasamuccaya*. There are *antarjlas* in 9 *¿rikovils* (43%), 7 of them have one and 2 have two *antarjlas*. The presence of *antarja* does not confirm extra storey. Some of the single storeyed temples too have one *antarja*. For 3 storeyed *¿rikovils* there are two *antarjlas*, the walls of which support the walls of higher storeys.

The inferences are that the presence of two *antarjlas* indicates storeys above the ground floor. Presence of one *antarja* may or may not give indication of a higher storey. Where there is no *antarja* the thick walls are provided to support the next storey above the ground floor. Very
small ṭrikovils do not have antarīlas and may be considered as merged with the external wall.

(e) **Number of storeys.** Two of the ṭrikovils are two storeyed (about 10%), 10 are two stored (47%) and balance 9 are single storeyed (43%). The majority of the apsidal ṭrikovils are having more than one storey (57%).

The wall height of single storeyed ṭrikovils vary from 140 to 180 cm. The wall heights of higher storeys appear to be 0.5 to 0.8 times that of the lower storey, indicating definite reduction in the height of higher storeys compared to the lower storeys.

(f) **Levels of ṭripita.** The ṭripita are placed at the same level of the floor of the ṭrikvil in 12 cases, at higher level in 8 cases and one at lower level. Majority (57%) is at the same level 38% at higher level and one at lower level is existent. Steps are provided at the entrances at each antarīla and

---

*Tantrasamuccaya, (ailpabhīga), Ch.2. Sl.22.*
garbhagha in case the 'ripita is at higher level. In case it is at lower level, there is no sopina existing.

The inferences are that the 'ripita may be at higher, lower or at the same level of the floor of 'rikovil. Majority of the pitapratiAtas are at the same level, at higher level are the next and only very rare at lower level.

(g) Flights of sopina. There are 19 'rikovils provided with sopinas out of 21.

The two 'rikovils have no sopinas, one at lower level than the 'rikovils floor and another one, which has very low base. There are 14 sopinas with straight flights, 3 from the sides and 2 combinations of sides and straight flights. Majority of sopinas (73%) is of straight flights, 16% are from sides and 11% are of combination type. The number of steps vary from 3 to 8 per flight, mainly depending on the height to be negotiated.
Out of 19 sopñnas, 17 of them have even number of steps and two have odd number of steps.

The inferences are that majority of sopñnas has straight flights (75%), the next comes to flights from the sides accounting 16% and 11% are combinations. Majority of the sopñnas (89%) have even number of steps, the balance odd numbers. There are even numbers of steps and odd numbers also do exist. Hence provision of odd number of steps is also acceptable.

(h) Pranñlas. All ñrikovils under the study either face East (15 nos) or West (6 nos). Whether the temple faces East or West, the pranñlas are provided on the Northern wall facing North.

(i) Number of doors. There is only one ñrikovil with doors provided on all the four cardinal directions. There are three temples, which have two
doors where there exists extra pratista and majority (81%) has only one
door on the facing direction of the rikovil. The width varies from 56 to
106 cm and the height varies from 125 to 212 cm.

In most of the cases the width height ratio is 1:2 or very close to it. The
width by amjakrama varies from 1/4 to 1/8 of the prisida width. The
height of wall and the height of the door do not confirm to the
amjakrama but conveniences of entry and exit from human engineering
point of view, probably might have been considered. The Amjakramas of
curtain rikovils and door dimensions are worked out and given at
Annexure.

The inference are that majority of the apsidal rikovils temples have only
one door in the facing cardinal direction (81%); 14% have two doors
where additional pratistas are existing and only one temple has doors in
all cardinal directions. The width:height ratio of doors is nearly 1:2.

There is not much relation with the height of wall and door height and the convenience may be the logic behind deciding the height of doors.

The amjàkramas are found to be nearly valid.

6.6 Structural Forms.

The structural forms give the varieties and individual identities to Ārikovils. With in the diversities there is unity in the concept, principles and practices. The structural forms exhibit the expressions of the exquisiteness of the sanctum. They have secondary functions of providing structural stability, safe distribution of loads, sustainability, durability and aesthetics. The structural forms of 21 apsidal Ārikovils are discussed in brief in subsequent paragraphs.

6.6.1 The elements of Ārikovils: The main elements of the structural forms of Ārikovils are discussed in the sub paragraphs given below:
(a) \textit{Padmap\textابुकa.} Padmap\textابुकa is found only one \textit{\textrikovil}. It is 10cm high and the projection is 20cm. The petals of lotus are carved and \textit{pattas} provided. Presence of padmap\textابुکa, hence can be considered as rare.

(b) \textit{Upap\texteta.} Five of the \textit{\textrikovils} were provided with \textit{upap\texteta}. The projections from \textit{p\textduka} of \textit{adhis\textफ\textna} are 50 cm or less in 4 temples. In one case the projection is 165 cm and has been roofed. Except in one case \textit{upap\textetas} have same types of mouldings of \textit{pancavarga} as for \textit{adhis\textफ\textna}.

In one case \textit{trivarga} type moulding is provided.

It can be inferred that the \textit{upap\texteta} are present in about 23\% of \textit{\textrikovils}.

The extra height obtained above the ground level gives magnanimous and imposing look.

(c) \textit{Adhis\textफ\textna.} Nineteen \textit{\textrikovils} have \textit{adhis\textफ\textna} of \textit{pancavarga} type (\textit{p\textduka, jagati, kumuda, gala and pati}). One \textit{\textrikovil} has only \textit{trivarga}
adhisñana (píduka, jagati, and pati). In one of the temples there are
valaru and kapota in addition to the pancavarga adhisñana. The height
of adhisñana including píduka and pati varies from 36 to 140 cm. The
offset varies from 6 cm to 40 cm when the offset is taken from the wall to
the píduka. Kumudas in all adhisñana were found to be of the segment
of circle.

The inferences are that pancavarga type of adhisñana are in majority
(90%), trivarga is existent and variation to the pancavarga is also
prevalent. The height of adhisñana and the projections vary from temple
to temple.

(d) Vedika. Twenty of the ārikovils, (95%) have been provided with vedika.

The height varies from 12 cm to 24 cm, generally having six divisions for
alankiras. Separate vedikas are seen provided for the sīlas, kētas and panjāras in two cases.

The inferences are that almost all temple ārikovils are provided with vedikas and generally have six divisions for the alankiras. Few temples have vedikas separately projecting for the bhittialankiras.

(e) Bhittialankiras, The bhittialankiras are observed to be progressive in its adoption. For small ārikovils it is observed that the alankiras like bhittikals and ghanadvīras only are provided. For slightly bigger ārikovils, panjāras and toranas are added. For big ārikovils, kētas are provided in addition to the above. For bigger ārikovils, sīlas and jālaks are also added. Among 21 temples, only one temple (very small temple), there are only ghabadvaras and bhittikals depicted by buttress walls.

The kētas are almost decorated like the ārikovil. ājīlas are provided with
nsikas and st Леpis in addition. All the bhittialankiras almost conform to the prescriptions given in Tantrasamuccaya. Ten of the ērikovils have bhittikals, 10 of the ērikovils have ējas and kētas (48% each). All temples have ghanadvaras. Panjaras and toranas are provided in 76% of the ērikovils. Jīlakas are provided only in one ērikovil. Carvings of idols are provided only in one ērikovil. Valaru and kapota are provided in 52% of the ērikovils. Greva/gzhapindis have been noticed in 48% of ērikovils. The projection of alankiras from the wall face varied from 1/8<sup>th</sup> of the wall thickness to almost equal to the wall thickness. The alankiras not only provided aesthetic look but also strengthened the walls.

It can therefore, be inferred that the bhittialankiras confirm to the prescriptions given in Tantrasamuccaya and are progressive in adoption with minimum to maximum as per the size of the ērikovils and

---

408 Tantrasamuccaya, (āīlpabhīga), Ch.3, Sl.18-22.
availability of wall spaces for decorations. The alankras added aesthetics and strengthened the walls.

(f) **Roof.** All šrikovils have sloping roof. Various types roofing materials have been used, copper plates (33%), tiles (24%), R.C.C (19%), combinations (14.5%) and roofs not provided (only temporary roofs) account for 9.5%. It appears that the old systems of roofing were with either tiles or copper plates or combinations. Later renovations found place for RCC.

It can be inferred that the roofs were of slopping pattern with tiled or copper plates. Certain temples adopted RCC. The authorities are not averse to the use modern materials.

(g) **Stēpis.** Eighty six percent of the šrikovils have stēpis and the rest have no stēpis. The numbers vary from one stēpi (24%), two stēpis (5%) and
three st£pis (57%). The st£pis vary in the heights, material and decorations.

(h) Njsikas. Out of 21 ërikovils 20 have njisikas provided. The njisikas provided in RCC roof do not have the elegant look. The carved face of kimpuru Àa is found only in one temple.

It can be inferred that almost all the ërikovils have njisikas provided in elegant form but the njisikas in RCC roofs have not attained the expected elegance.

(i) ViÀkhambhas, leveling plates and balak£tas. These are slanting struts taken from the outer walls to the rafters. The struts are connected to the rafters by leveling plate through balak£tas. About 48% of the temples have viÀkhambhas, leveling plates and balak£tas. The viÀkhambhas are decorated, some in the form of lion, horse, lata and some in plain form.
The provision of these adds beauty and also strength to the roof projections.

(j) **Trellise work:** Four temple ėrikovils have timber trellise work on the outer walls or separately provided which connect to the eves projections of rafters either in vertical or slanting form. It serves as depambha or gives protections to the wall paintings.

6.7 **Construction Materials.**

It had been observed that construction materials used were of traditional type except the use of RCC in roofs in certain cases. The materials used for construction of the main elements of ėrikovils are given below:

(a) **Adhisīna.** Twenty of them were made of granite stones and only one made of bricks in lime mortar. The joints were very thin and ranged from 3mm to 10mm.
(b) **Walls.** Out of 21 temples 19 of them had the walls constructed in laterite and two in bricks. The joints were thin ranging from 5mm to 12mm. Fifteen ārikovils were plastered with lime/cement mortar. The mouldings were also plastered. The ones, which have not been plastered, give more elegant appearance.

(c) **Roofs.** Slopping roofs with wall plates, ridges, kĕtas and rafters made of timber (either covered with tiles or copper plates) have been found in 14 temples (66%). RCC roofs were found provided in 4 ārikovils (19%), as replacement of old traditional roofing during renovations. In one temple RCC roof was provided but the garbhagṛha and mukhamandapa portion were roofed with tiles. Two temples are under renovation and only temporary coverings are provided. The timber roofs with eve projection and their alankṛtas provide better aesthetic looks.
(d) **Door frames.** Most of the doorframes are made of timber (76%) and others are made of granite stone (24%). The bottom sill is found to be made of granite in most of the cases.

(e) **Ceiling.** Wherever ceiling existed they are found to be timber.

(f) **Alankiras.** The alankiras are provided in the same material as of the wall. 

_Ny sikas are provided in the same material used for roof works._

It can be inferred that traditional materials like stone, bricks, timber, tiles, lime and copper plates are used for construction. The modern materials like RCC is of recent origin. The authorities appear to have not been averse to the use of modern construction materials.

6.8 **Photographs.**
Photographs of ērikovils with their names are exhibited. In addition, photographs of adhisējna, mouldings and certain alankiras are also exhibited for easier perception and appreciation.

Plate 6.1 - āri Siddhivināyaka Temple ērikovil, Madhur.
Plate 6.2 - Mahālingesvara Temple Ērikovil, Aduru.
Plate 6.3 - ári Sankaranjñyana Temple ġrikovil, Ramathali.
Plate 6.4 - Árêe Subramhanyaswami Temple ŋrikovil, Payyannur.
Plate. 6.5 - ári Mahįdeva Temple *grikovil*, Tiruvannur.

Plate. 6.6 - ári Mahįgiva Temple *grikovil*, Mannur.
Plate. 6.8 - Sri Mahāśiva Temple Ṭrikovil, Trikandiyur.

Plate. 6.9 - Sri Mahāśiva Temple Ṭrikovil, Mangalam.
Plate 6.10 - Ári Mahááiva temple ērikovil, Triprangod.

Plate 6.11 - Sri Ayyappa Temple ērikovil, Karuvattu, Nannamukku.
Plate. 6.12 - ári áiva Temple ǧrikovil, Elannummal.
Plate 6.13 - árī Bhagavati Temple īrtikovil, Cherunellikkattu.
Plate. 6.14 - ári Tali áiva temple, Netumpura.

Plate. 6.15 - ári Ayyappa ērikovil, Vatakunnṭha Temple Complex.
Plate 6.16 - Sri āṭsta Temple Ṣrikovil, Panjal.
Plate 6.17 - ári Dharmaśāsta Temple, Arattupuzha.

Plate 6.18 - árya Ayyappa Temple grikovil, Muttichur.

Plate 6.19 - ári Dharmaśāsta Temple grikovil, Chattakkutţm.
Plate 6.20 - ári áiva Temple ġrikovil, Kotla, Natavayal

(Not included in the case study)
Plate 6.22 - Blow up of BalakEśa, Rafters and Vjrata,

ári áankaranarayana Temple ğrikovil, Ramanthali.

Plate 6.23 - Blow up of Steps (sides) and AdhisEśna,

ári áiva Temple ğrikovil, Mannur.
Plate 6.24 - Blow up of Bhadranjsika and Bhitialank;ras, ári áiva Temple ērikovil, Nedumpura.