

I. Executive Summary

Residential apartment is a part of housing, which has encouraging scope or development. House is a very complex term. The definition of the same has varied country to country and time to time. Housing being one of the three basic needs of life always remains in the top priorities of any person, society and economy. As a human being, an individual needs has own space and privacy, which can be provided by ownership of house. Thus housing deserves significant attention in the context of developing policies and strategies for human development. A developing nation like India has to focus more on housing sector to cater to the housing needs of burgeoning population and to accelerate the economic growth. The housing sector has been globally used as an engine to propel the economic growth as it generates employment and demand in the market.

The density of population in India as per 2011 census is 382 persons per sq.km, while in Kerala it is 859 persons per sq.km. The density of population in most of the urban areas in Kerala is around 3000. Kerala, one of the smaller states has to accommodate about 3000 persons per square kilometer in urban area. Thus an independent house in four or five cents became a dream for an ordinary citizen. In this context, residential apartments have importance since the area of land is utilized to the maximum extent for housing.

The report on 'Residential flats in city corporations and Municipalities in Kerala' was published firstly in 1996, by this department. Later, it was updated in 2002 and 2006. The present survey covers only Private owned apartments having four floors (GF+3) and above, from all local bodies in the State which are completed and commissioned as on 30-6-2011. There are 1032 such apartments in the State as per the survey. The survey reveals that there are no completed apartments found in the districts of Idukki and Wayanad.

In this report, analysis of the survey data about the Residential flats in Kerala according to their location, nature of area, year of

construction, plinth and built up area, floors, dwelling units and occupancy status, sewerage system, source of water supply, lift facility and its capacity, availability of fire escape stairways, parking facility, availability of recreation space and nature of development in surrounding area are discussed with district wise table along with corresponding charts.

In this report "Apartment" means Apartment Block and "Flat" means residential (dwelling) unit in an Apartment Block.

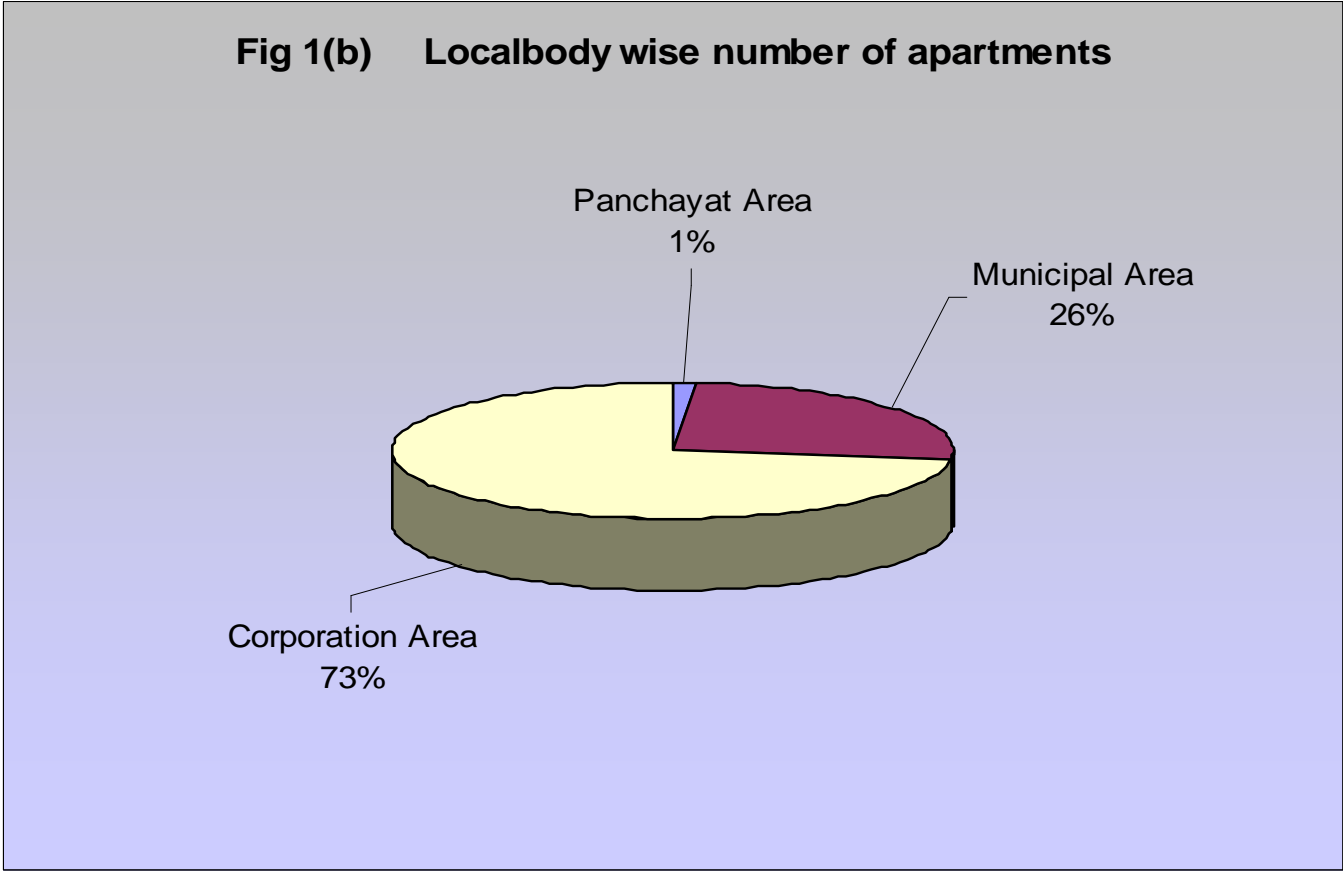
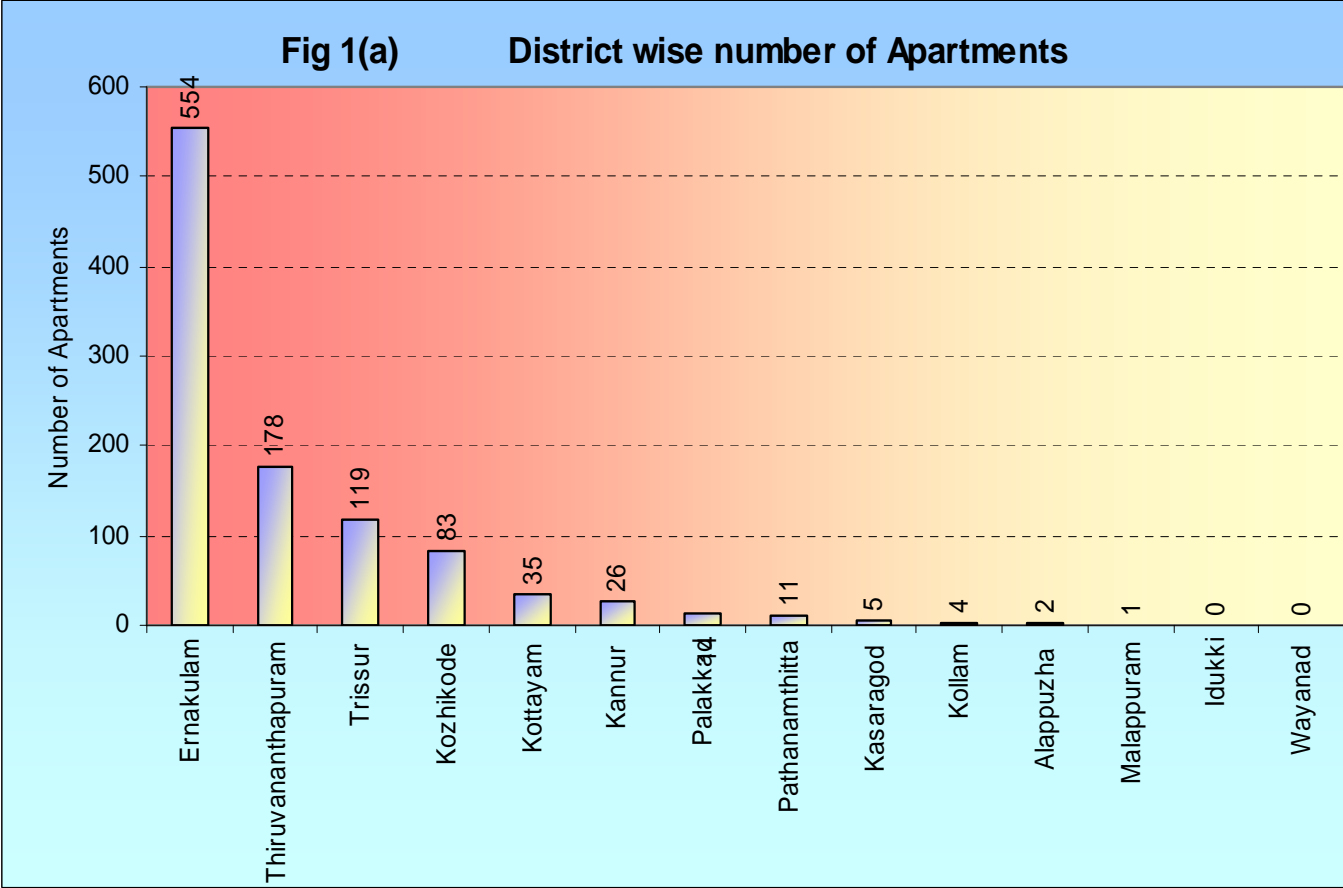
II. The Report

1. District wise-local body wise Distribution of Apartments

The survey conducted by Town and Country Planning Department on Private Residential apartments in Kerala revealed that there are 1032 such apartments in the State commissioned as on 30-06-2011. Out of this, 54% are in Ernakulam District (554) and 178 (17%) are in Thiruvananthapuram District. Survey data shows that there are no completed apartments in Wayanad and Idukki Districts. Most of the Apartments (752) were constructed in the Municipal Corporation area, 26% of total apartments (265) in Municipal area, while only one percent (15) in Panchayat area. Thus, it can be seen that more and more apartments are coming up in the urban area, while the rural area contributes only a little. District wise- local body wise apartments are given in the table below and depicted the data in the subsequent charts.

Table. 1
Number of apartments (Local Body Wise) in Kerala

Sl:No	Name of District	Panchayat Area	Municipality Area	Corporation Area	Total
1	Thiruvananthapuram	5	0	173	178
2	Kollam	0	0	4	4
3	Pathanamthitta	3	8	0	11
4	Alappuzha	0	2	0	2
5	Kottayam	3	32	0	35
6	Idukki	0	0	0	0
7	Ernakulam	0	152	402	554
8	Thrissur	2	26	91	119
9	Palakkad	0	14	0	14
10	Malappuram	0	1	0	1
11	Kozhikode	0	1	82	83
12	Wayanad	0	0	0	0
13	Kannur	1	25	0	26
14	Kasaragod	1	4	0	5
KERALA		15	265	752	1032



2. Construction period of the Apartments

The culture of apartments in Kerala has begun in 1972. In 1990, there were only 29 apartments in the State, whereas in 2000 the number became 354. During the end of the next decade, it became 1014, an alarming increase of 300%. The details are furnished in Table 2, Fig 2(a) and 2(b). It is to be noted that the urban population has increased from 76.80 lakh in 1991 to 159.32 lakh in 2011.

Table. 2
Number of apartments in Kerala as on 30-6-2011
(Year of Construction)

Sl: No	Name of District	Before 1991	1991-'95	1996-2000	2001-'05	2006-'10	2011 (upto 30-6-'11)	Total
1	Thiruvananthapuram	10	14	41	51	58	4	178
2	Kollam	0	0	1	1	2	0	4
3	Pathanamthitta	0	1	5	0	4	1	11
4	Alappuzha	0	0	2	0	0	0	2
5	Kottayam	0	1	7	7	20	0	35
6	Idukki	0	0	0	0	0	0	0
7	Ernakulam	14	90	119	89	234	8	554
8	Thrissur	1	3	6	24	80	5	119
9	Palakkad	0	0	1	2	11	0	14
10	Malappuram	0	0	0	0	1	0	1
11	Kozhikode	4	13	16	23	27	0	83
12	Wayanad	0	0	0	0	0	0	0
13	Kannur	0	0	2	6	18	0	26
14	Kasaragod	0	3	0	0	2	0	5
KERALA		29	125	200	203	457	18	1032

**Fig 2(a). Apartments in Kerala
Period of Construction**

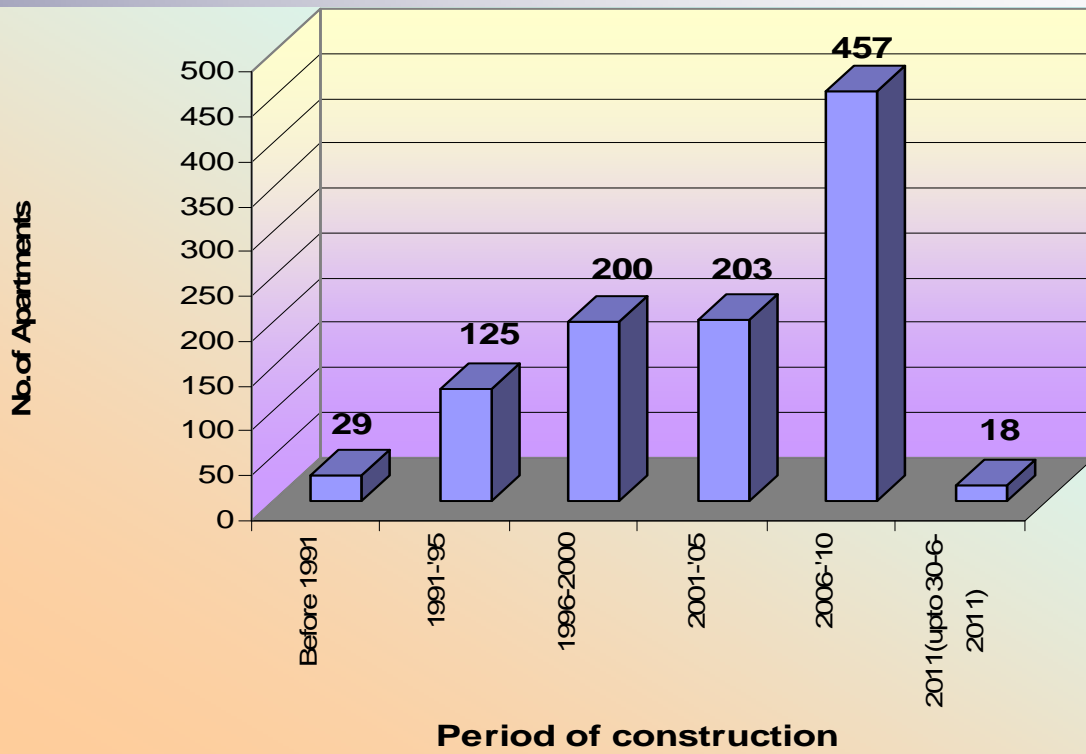
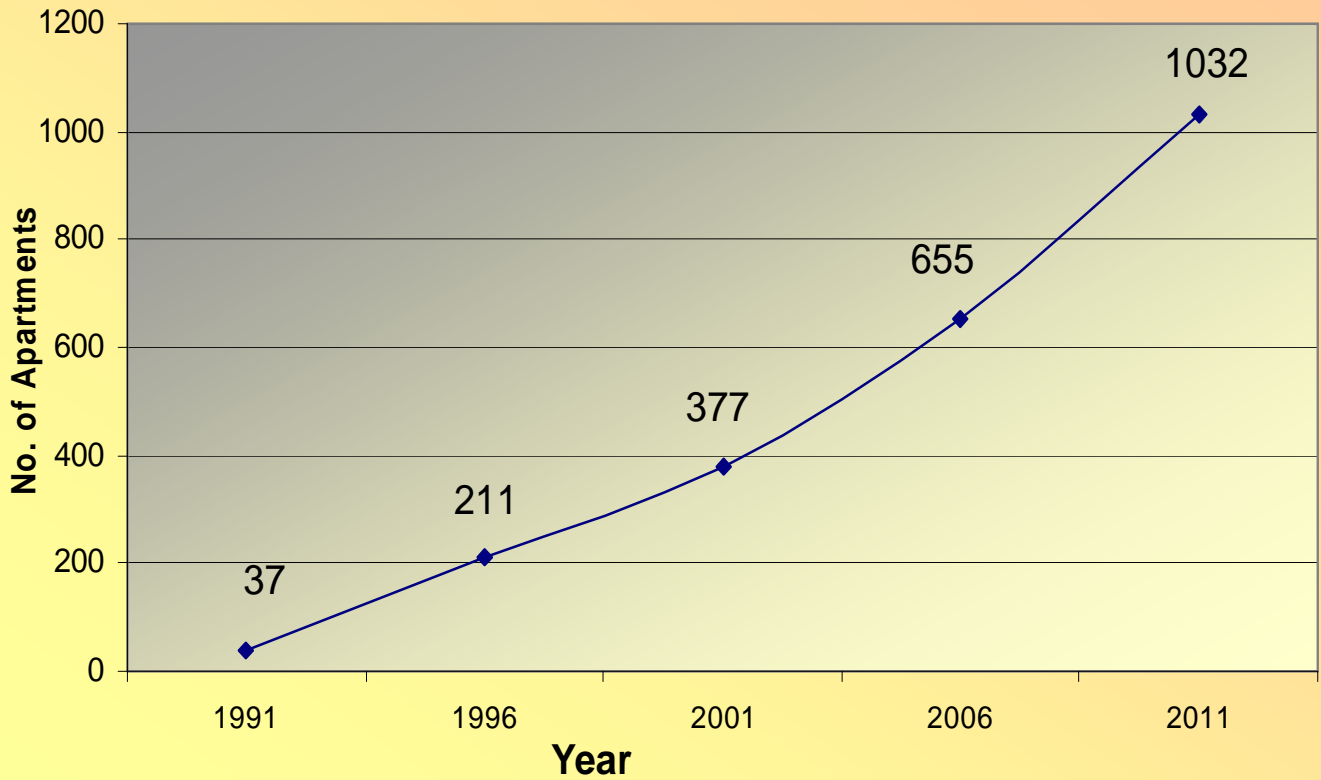


Fig. 2(b) Number of Apartments built in Kerala

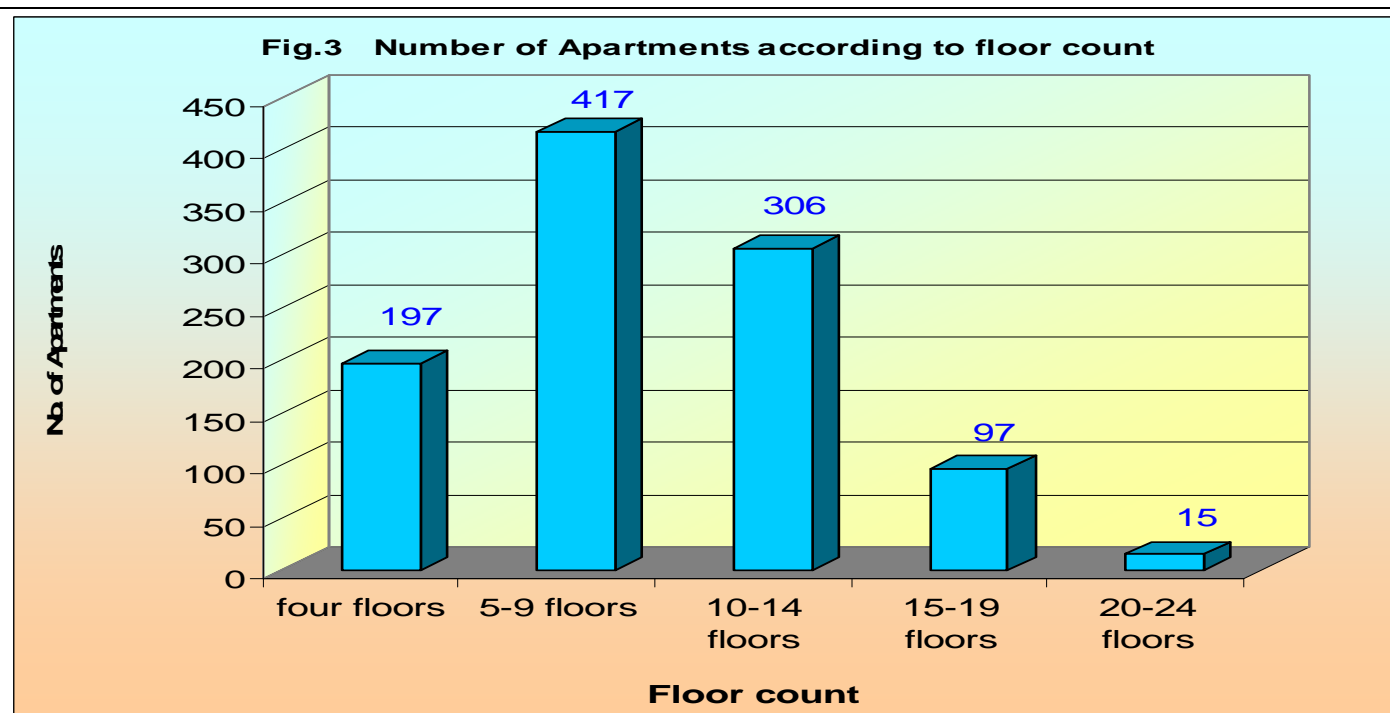


3. Floor count of the Apartments

During the survey, it is seen that the maximum number of apartments (40%) having the floor count of 5-9. As per the survey data, there were 7 apartments, all in Ernakulam District having the maximum number of floors (including GF) with a count of 21. They are *link Heritage, National Excellency, Panjose Garden, Imperial Garden-Dukes, Imperial Gardens-Lords, Imperial Gardens-Knights and Imperial Gardens-Baron*. The following table and the chart illustrate the data.

Table. 3
Number of apartments in Kerala according to floor count

Sl:No	Name of District	four floors	5-9 floors	10-14 floors	15-19 floors	20-24 floors	Total
1	Thiruvananthapuram	24	75	50	26	3	178
2	Kollam	2	1	1	0	0	4
3	Pathanamthitta	3	4	4	0	0	11
4	Alappuzha	0	1	1	0	0	2
5	Kottayam	4	14	13	3	1	35
6	Idukki	0	0	0	0	0	0
7	Ernakulam	121	205	167	50	11	554
8	Thrissur	23	57	34	5	0	119
9	Palakkad	1	11	2	0	0	14
10	Malappuram	1	0	0	0	0	1
11	Kozhikode	17	37	23	6	0	83
12	Wayanad	0	0	0	0	0	0
13	Kannur	0	8	11	7	0	26
14	Kasaragod	1	4	0	0	0	5
KERALA		197	417	306	97	15	1032

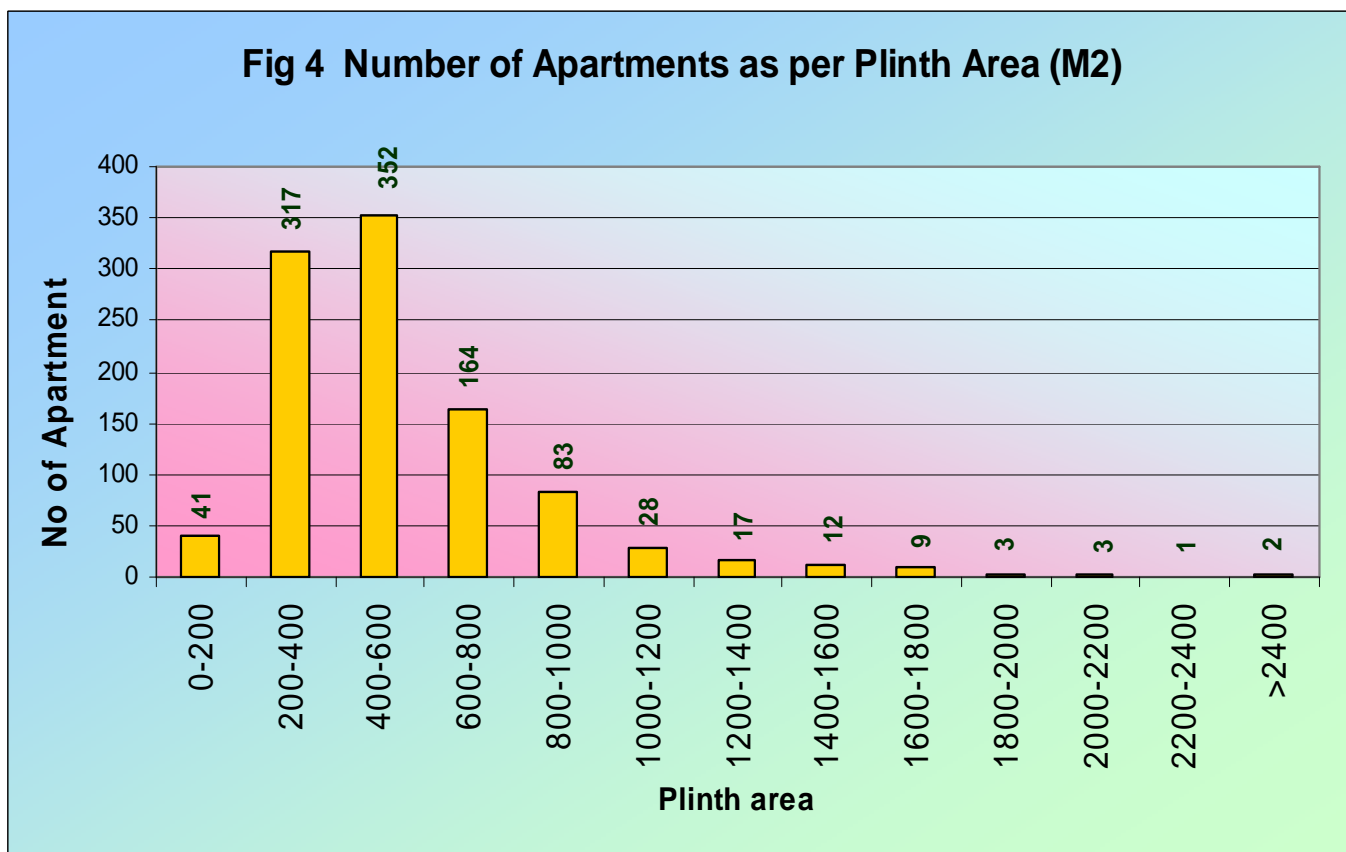


4. Plinth Area of the Apartments

Most of the apartments are having the plinth area between 400-600 M². 352 apartments (34%) fall in this group. There are 5 apartments in the State having plinth area more than 2400 M². They are *Topaz* and the *Orchards* in Ernakulam having plinth area 2900 M² and 3510 M² respectively. The data are depicted in Table 4 and the corresponding chart.

Table. 4
Number of apartments according to Plinth Area in M²

Sl: No	Name of District	0-200	200-400	400-600	600-800	800-1000	1000-1200	1200-1400	1400-1600	1600-1800	1800-2000	2000-2200	2200-2400	>2400	Total
1	Thiruvananthapuram	5	52	56	32	17	8	2	2	2	0	1	1	0	178
2	Kollam	0	2	1	0	1	0	0	0	0	0	0	0	0	4
3	Pathanamthitta	1	4	4	1	1	0	0	0	0	0	0	0	0	11
4	Alappuzha	1	1	0	0	0	0	0	0	0	0	0	0	0	2
5	Kottayam	0	11	11	9	2	2	0	0	0	0	0	0	0	35
6	Idukki	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Ernakulam	32	171	178	85	43	14	10	7	7	3	2	0	2	554
8	Thrissur	1	40	51	15	8	1	3	0	0	0	0	0	0	119
9	Palakkad	0	3	7	1	1	1	0	1	0	0	0	0	0	14
10	Malappuram	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11	Kozhikode	1	25	30	15	9	1	1	1	0	0	0	0	0	83
12	Wayanad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Kannur	0	5	12	6	0	1	1	1	0	0	0	0	0	26
14	Kasaragod	0	3	1	0	1	0	0	0	0	0	0	0	0	5
KERALA		41	317	352	164	83	28	17	12	9	3	3	1	2	1032

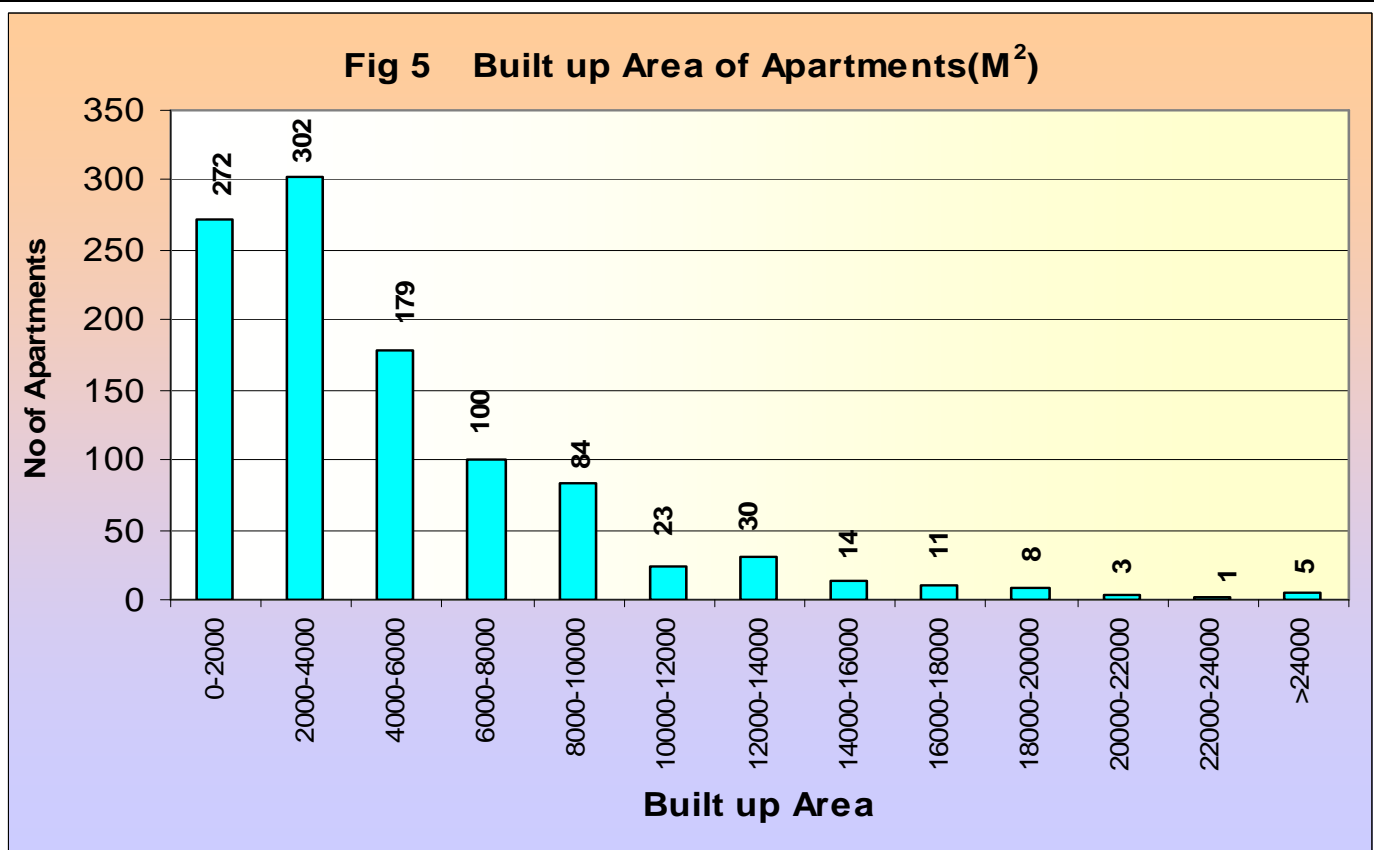


5. Built up Area of the Apartments

Among the total 1032 apartments constructed in the State, 30% (302) of the apartments are having built up area in the range of 2000-4000 M². Two apartments in Thiruvananthapuram, viz., *Heera swiss town* (27607 M²) and *Artech lake view* (24340 M²) and three Apartments in Ernakulam namely, *The Orchards* (26005), *Topaz* (27134) and *Chakolas water scapes* (28599) are having more than 24000 M² of built up area. The following chart shows the data on built up area.

Table. 5
Number of apartments according to Built up Area of the Apartment in M²

Sl:No	Name of District	0-2000	2000-4000	4000-6000	6000-8000	8000-10000	10000-12000	12000-14000	14000-16000	16000-18000	18000-20000	20000-22000	22000-24000	>24000	Total
1	Thiruvananthapuram	41	51	26	17	23	3	4	6	3	1	0	1	2	178
2	Kollam	2	1	1	0	0	0	0	0	0	0	0	0	0	4
3	Pathanamthitta	3	4	3	1	0	0	0	0	0	0	0	0	0	11
4	Alappuzha	1	0	1	0	0	0	0	0	0	0	0	0	0	2
5	Kottayam	6	10	10	2	6	0	0	0	1	0	0	0	0	35
6	Idukki	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Ernakulam	173	139	85	57	36	17	22	6	7	7	2	0	3	554
8	Thrissur	22	47	26	13	7	1	2	1	0	0	0	0	0	119
9	Palakkad	3	6	2	0	2	1	0	0	0	0	0	0	0	14
10	Malappuram	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11	Kozhikode	18	31	19	7	6	1	1	0	0	0	0	0	0	83
12	Wayanad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Kannur	1	9	6	3	4	0	1	1	0	0	1	0	0	26
14	Kasaragod	2	3	0	0	0	0	0	0	0	0	0	0	0	5
KERALA		272	302	179	100	84	23	30	14	11	8	3	1	5	1032



6. Dwelling units in the Apartments

There are 35334 dwelling units in 1032 apartments in Kerala. Ernakulam tops the list with 4919 dwelling units in 554 apartments. But the maximum average number of dwelling units per flat is in Kannur district with 42 units per apartment against the state average of 34. The following table and chart shows the distribution of dwelling units in the districts. It can be seen from the table 6(b) that the average number of dwelling units per apartment in Kerala is 34. The average number of dwelling units per apartment in Kerala as per the surveys conducted in 1996, 2002, and 2006 were 20, 23, and 24 respectively. It shows that high rise buildings with more dwelling units per apartment are coming up.

Table. 6(a)
Number of apartments in Kerala according to Number of Dwelling Units

Sl:No	Name of District	0-20	20-40	40-60	60-80	80-100	>100	Total
1	Thiruvananthapuram	45	74	20	25	8	6	178
2	Kollam	3	1	0	0	0	0	4
3	Pathanamthitta	5	4	2	0	0	0	11
4	Alappuzha	0	2	0	0	0	0	2
5	Kottayam	8	16	7	3	1	0	35
6	Idukki	0	0	0	0	0	0	0
7	Ernakulam	190	187	93	51	19	14	554
8	Thrissur	21	68	18	9	1	2	119
9	Palakkad	4	7	1	1	1	0	14
10	Malappuram	0	1	0	0	0	0	1
11	Kozhikode	27	43	10	2	0	1	83
12	Wayanad	0	0	0	0	0	0	0
13	Kannur	3	13	3	4	2	1	26
14	Kasaragod	2	3	0	0	0	0	5
KERALA		308	419	154	95	32	24	1032

Table. 6(b)
Number of apartments in Kerala according to average number of Flats

Sl:No	Name of District	No. of Apartments	No. of flats	No. of flats per Apartments
1	Thiruvananthapuram	178	6745	38
2	Kollam	4	73	18
3	Pathanamthitta	11	250	23
4	Alappuzha	2	70	35
5	Kottayam	35	1163	33
6	Idukki	0	0	0
7	Ernakulam	554	18859	34
8	Thrissur	119	4071	34
9	Palakkad	14	449	32
10	Malappuram	1	23	23
11	Kozhikode	83	2420	29
12	Wayanad	0	0	0
13	Kannur	26	1101	42
14	Kasaragod	5	110	22
KERALA		1032	35334	34

Fig 6 Number of apartments according to range of dwelling units

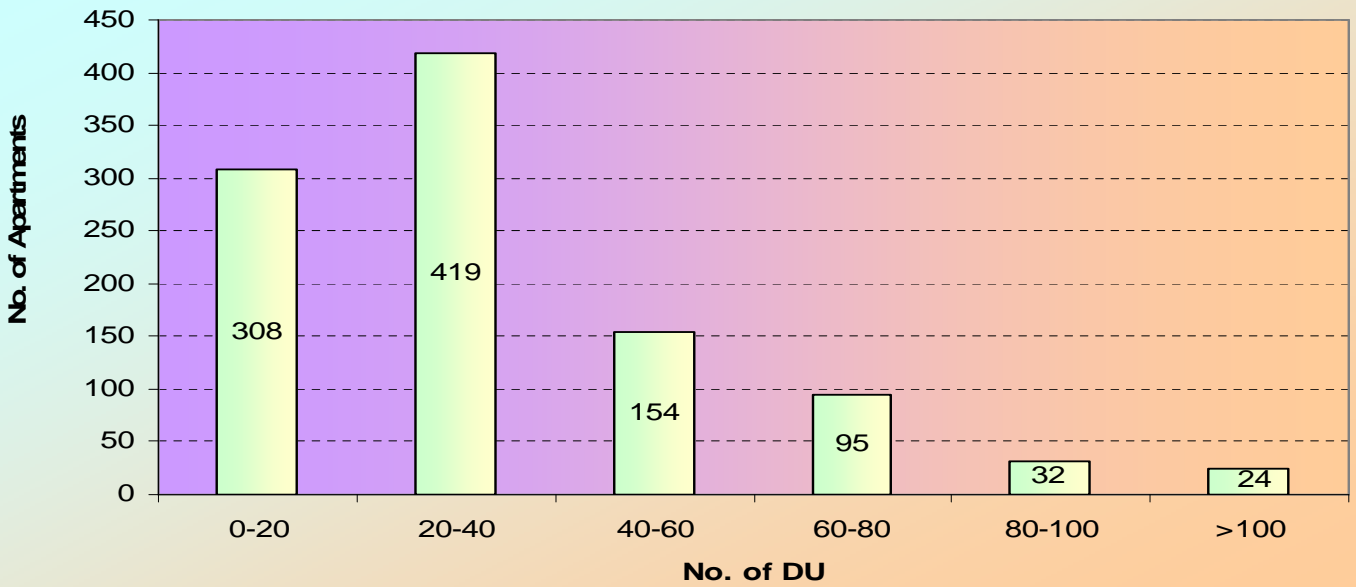
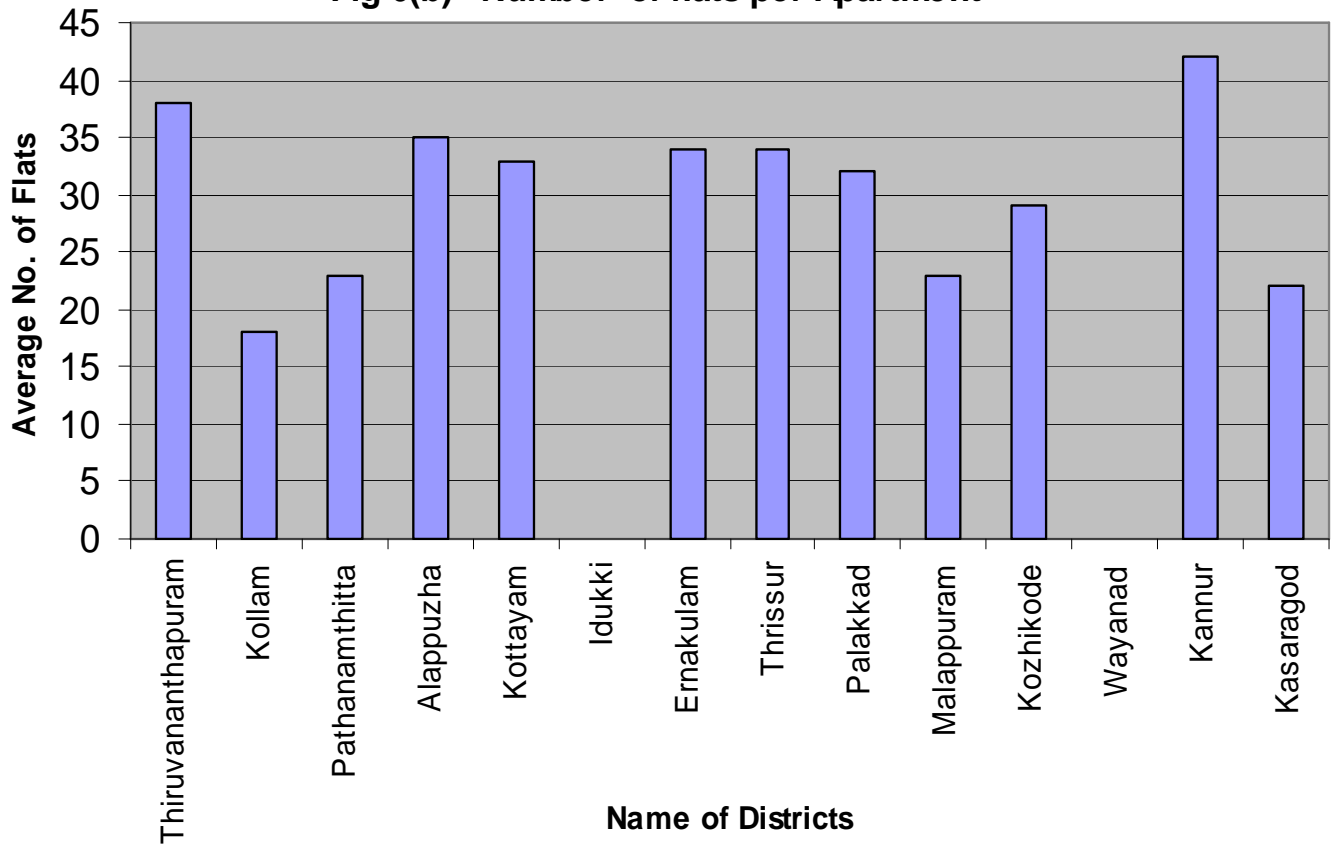


Fig 6(b) Number of flats per Apartment

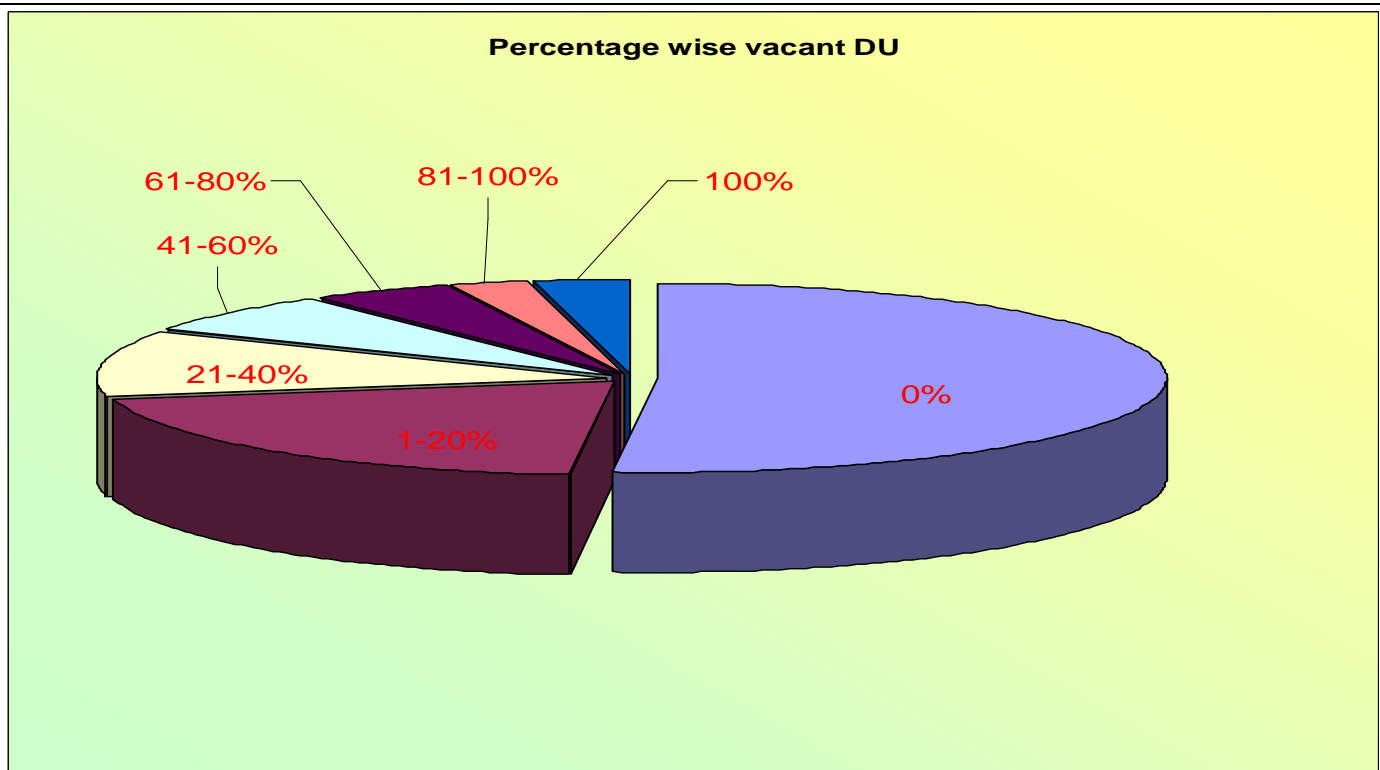


7. Vacant Dwelling units in the Apartments

Out of the total 35334 dwelling units, 7430 units are vacant as per the survey data. That is, 21% of the total units in the State are vacant. It is to be noted that none of the dwelling units are occupied in 31 apartments in the State. Out of 31 apartments, 26 such apartments fall in Ernakulam. It is to be noted that 21% of the dwelling units are lying vacant. The percentage of vacant dwelling units were 11.1, 12, and 14 respectively for the surveys conducted in 1996, 2002, and 2006. The details are furnished in Table 7 and fig 7.

Table. 7
Number of apartments according to percentage of vacant units

SI:No	Name of District	0%	1-20	21-40	41-60	61-80	81-100	100%	Total
1	Thiruvananthapuram	114	39	11	7	7	0	0	178
2	Kollam	4	0	0	0	0	0	0	4
3	Pathanamthitta	8	1	1	1	0	0	0	11
4	Alappuzha	1	1	0	0	0	0	0	2
5	Kottayam	19	6	3	5	1	0	1	35
6	Idukki	0	0	0	0	0	0	0	0
7	Ernakulam	197	132	89	52	34	24	26	554
8	Thrissur	83	21	7	4	2	1	1	119
9	Palakkad	8	2	1	2	0	1	0	14
10	Malappuram	0	0	1	0	0	0	0	1
11	Kozhikode	81	1	0	0	1	0	0	83
12	Wayanad	0	0	0	0	0	0	0	0
13	Kannur	12	8	2	0	1	0	3	26
14	Kasaragod	4	0	1	0	0	0	0	5
KERALA		531	211	116	71	46	26	31	1032



8. Rental Dwelling units in the Apartments

As regards the rental dwelling units, there were 8 apartments in the State fully occupied by tenants - five in Ernakulam, one each in Kollam, Alappuzha and Kozhikode district. There were 397 apartments (131 in Ernakulam, 80 in Thiruvananthapuram, 72 in Kozhikode, 51 in Thrissur and 63 in other districts) having no rental dwelling units. The details are furnished in Table 8(a) and fig 8(a)

Table.8 (a)
Number of apartments according to percentage of Rental units

Sl:No	Name of District	0	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100	Total
1	Thiruvananthapuram	80	8	22	28	19	12	4	1	2	2	0	0	178
2	Kollam	2	0	0	1	0	0	0	0	0	0	0	1	4
3	Pathanamthitta	7	0	1	0	0	3	0	0	0	0	0	0	11
4	Alappuzha	0	0	1	0	0	0	0	0	0	0	0	1	2
5	Kottayam	22	3	5	1	2	1	0	1	0	0	0	0	35
6	Idukki	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Ernakulam	131	31	59	97	84	56	44	20	13	14	0	5	554
8	Trissur	51	9	21	24	7	5	1	1	0	0	0	0	119
9	Palakkad	10	1	2	0	1	0	0	0	0	0	0	0	14
10	Malappuram	0	0	0	0	0	0	0	0	1	0	0	0	1
11	Kozhikode	72	2	4	2	0	1	1	0	0	0	0	1	83
12	Wayanad	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Kannur	18	1	2	1	1	1	0	0	0	1	1	0	26
14	Kasaragod	4	0	0	0	0	0	1	0	0	0	0	0	5
KERALA		397	55	117	154	114	79	51	23	16	17	1	8	1032

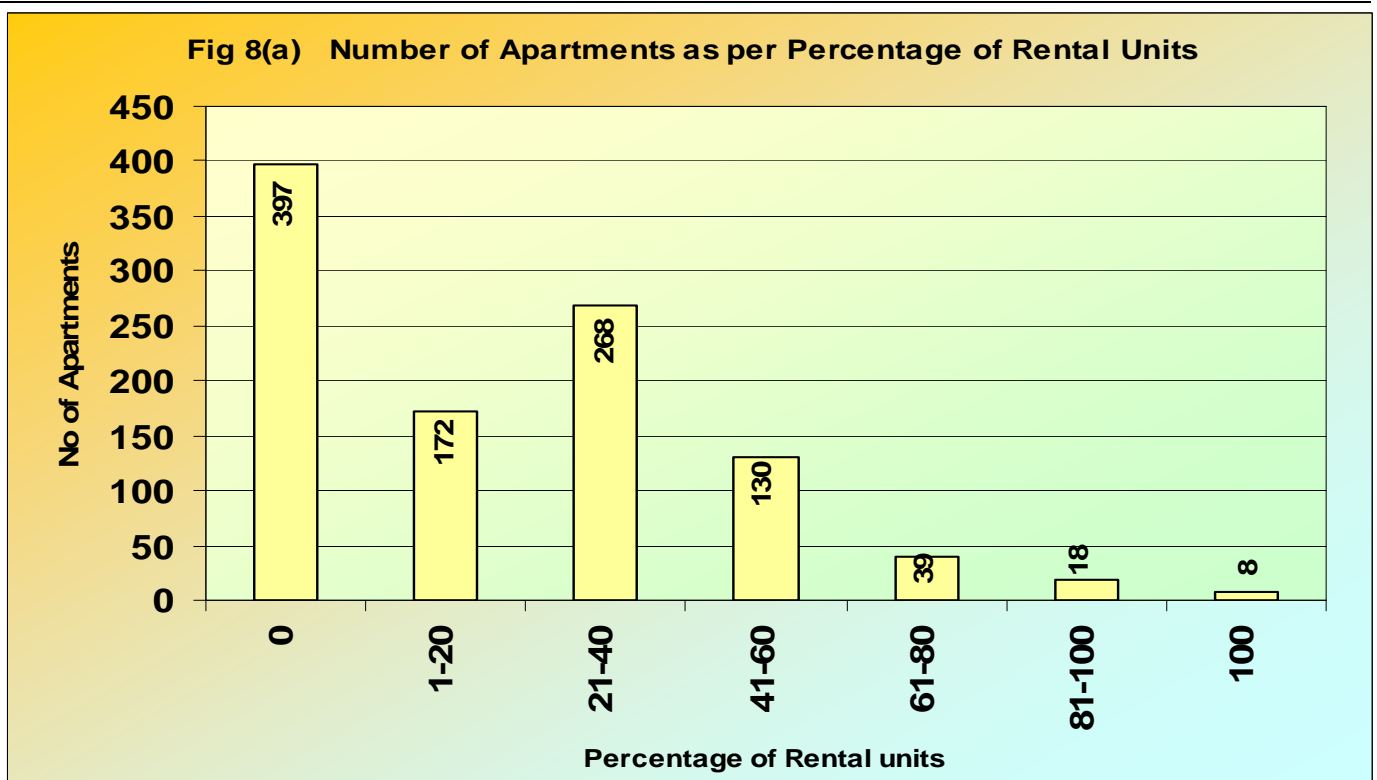
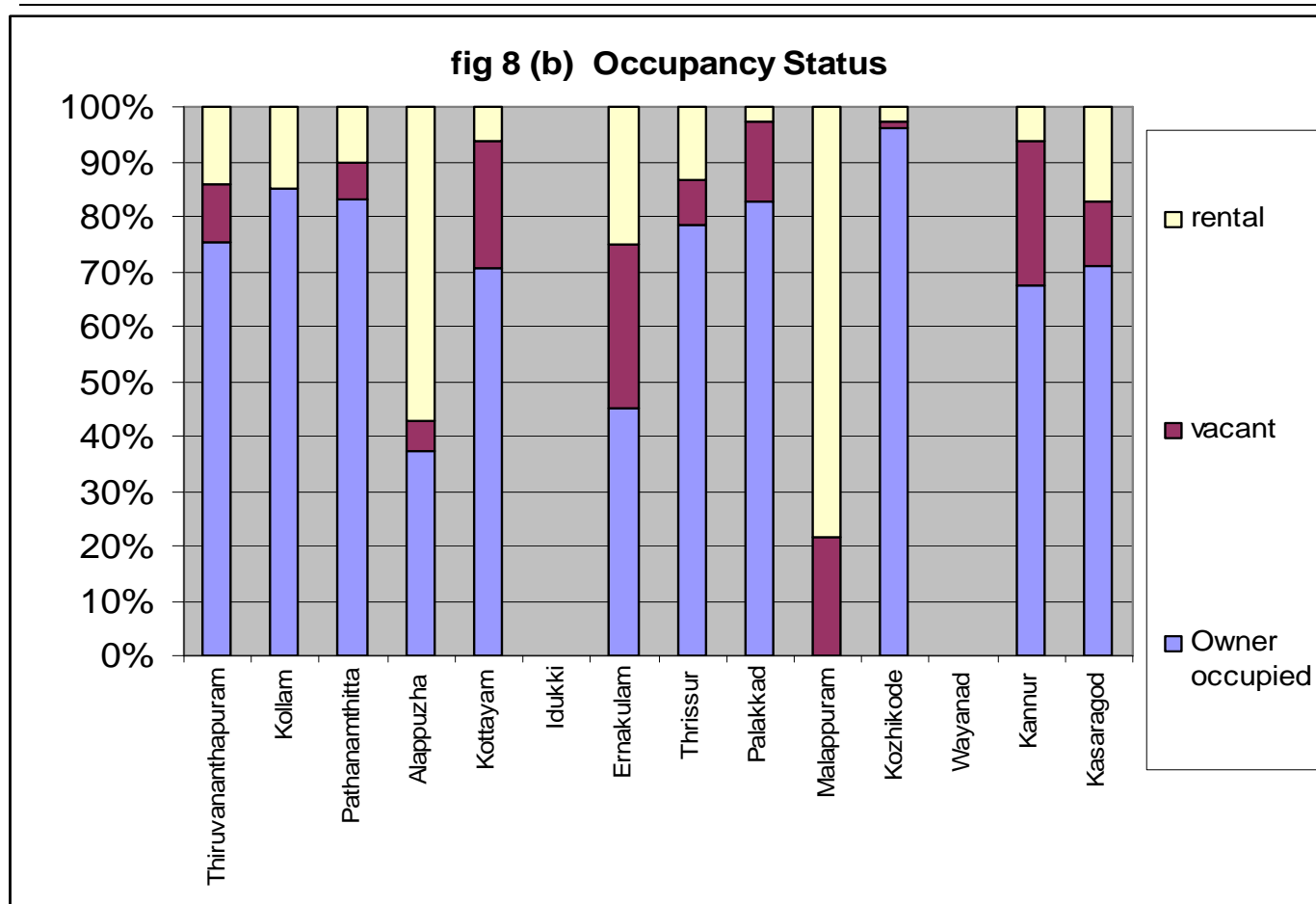


Table. 8(b)

Number of Flats as per Occupancy status in apartments

Sl:No	Name of District	Total Dwelling units	Occupied		
			vacant	rental	Owner occupied
1	Thiruvananthapuram	6745	725	940	5080
2	Kollam	73	0	11	62
3	Pathanamthitta	250	17	25	208
4	Alappuzha	70	4	40	26
5	Kottayam	1163	270	73	820
6	Idukki	0	0	0	0
7	Ernakulam	18859	5580	4768	8511
8	Thrissur	4071	336	544	3191
9	Palakkad	449	64	13	372
10	Malappuram	23	5	18	0
11	Kozhikode	2420	34	62	2324
12	Wayanad	0	0	0	0
13	Kannur	1101	292	67	742
14	Kasaragod	110	13	19	78
KERALA		35334	7340	6580	21414

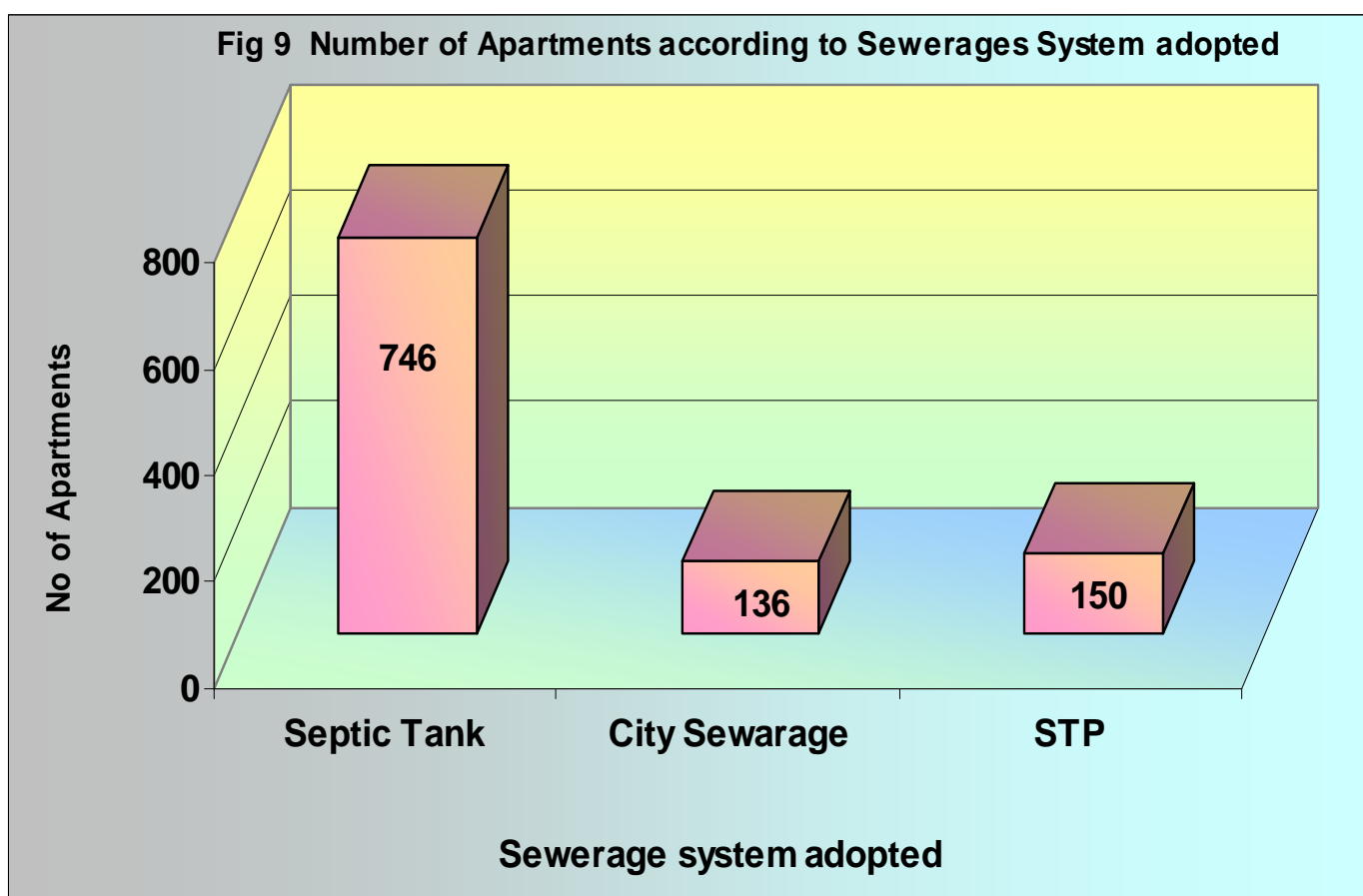


9. Sewerage system in the Apartments

746 apartments in the state (72%) do have septic tank as sewerage system. Only 136 apartments use the city sewerage facility, which contributes 13% of the total. 150 apartments in the state (15%) have their own Sewerage Treatment Plants (STP). Out of the 136 apartments with city sewerage units in the State, 109 are in Trivandrum district. The details are furnished in Table 9 and fig 9

Table.9
Number of apartments in Kerala according to Sewerage system adopted

Sl:No	Name of District	Septic Tank	City Sewerage	STP	Total
1	Thiruvananthapuram	55	109	14	178
2	Kollam	4	0	0	4
3	Pathanamthitta	11	0	0	11
4	Alappuzha	2	0	0	2
5	Kottayam	35	0	0	35
6	Idukki	0	0	0	0
7	Ernakulam	432	26	96	554
8	Thrissur	95	0	24	119
9	Palakkad	13	1	0	14
10	Malappuram	1	0	0	1
11	Kozhikode	78	0	5	83
12	Wayanad	0	0	0	0
13	Kannur	15	0	11	26
14	Kasaragod	5	0	0	5
KERALA		746	136	150	1032



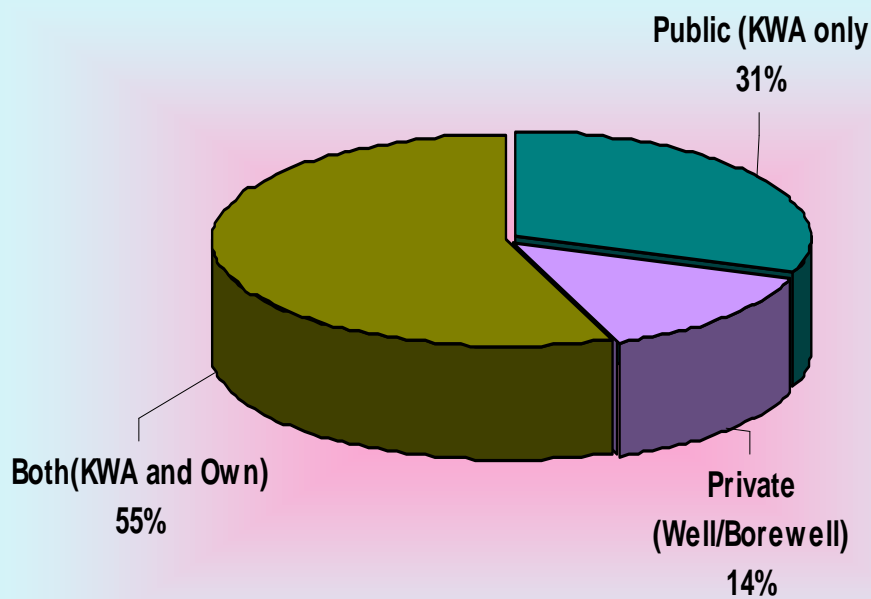
10. Source of Water supply

More than half of the apartments (575 out of 1032) in the State use the source of water supply from Kerala Water Authority and their own system like well or bore well. Only 142 apartments (14%) are having their own facility for drinking water supply ie, well/bore well. 315 apartments use the water supply from KWA only. The details are furnished in Table 10 and fig 10

Table. 10
Number of apartments in Kerala according to Source of Water supply

Sl:No	Name of District	Public (KWA only)	Private (Well/Bore well)	Both(KWA and Own)	Total
1	Thiruvananthapuram	67	15	96	178
2	Kollam	1	0	3	4
3	Pathanamthitta	3	3	5	11
4	Alappuzha	1	1		2
5	Kottayam	10	14	11	35
6	Idukki	0	0	0	0
7	Ernakulam	182	51	321	554
8	Thrissur	24	43	52	119
9	Palakkad	12	0	2	14
10	Malappuram	0	1	0	1
11	Kozhikode	10	6	67	83
12	Wayanad	0	0	0	0
13	Kannur	5	7	14	26
14	Kasaragod		1	4	5
KERALA		315	142	575	1032

Fig 10 Number of Apartments as per Source of Water Supply



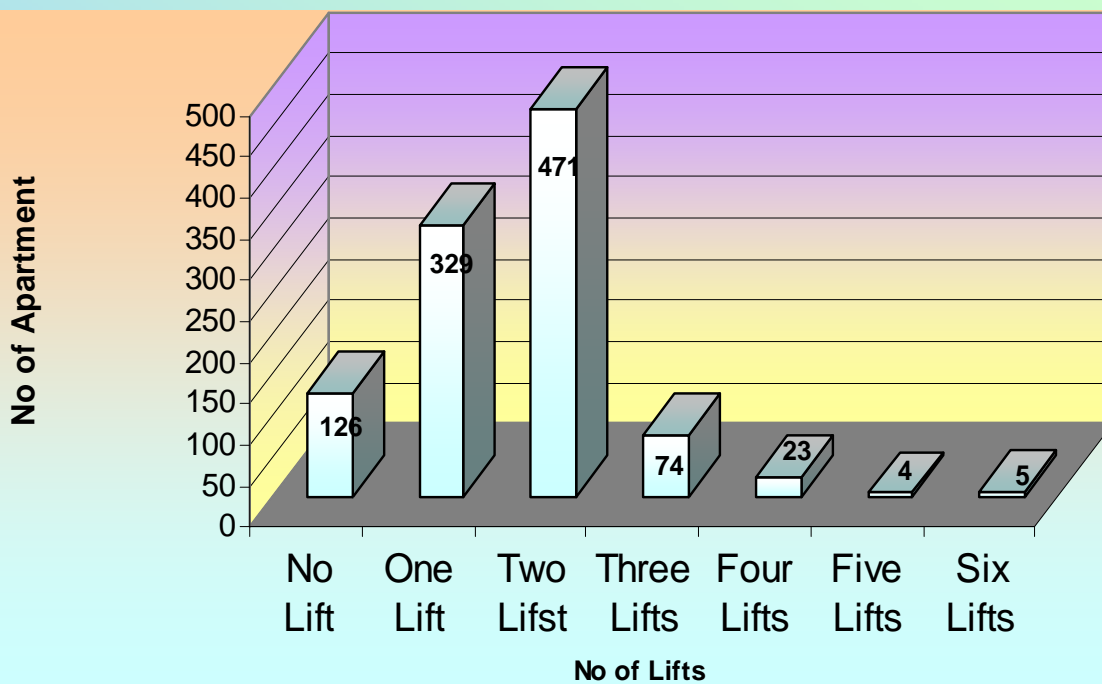
11. Lift facility

There are only 906(88%) high rise residential buildings having lift facility. From the survey data, it is seen that 126 apartments (12%) do not have any lift facilities. 329 buildings own only one lift each, while 471 apartments have 2 lifts each. 32 apartments in the State are having 4 or more lifts. The data are shown in Table 11 with the corresponding chart.

Table. 11
Number of apartments in Kerala according to the number of lifts provided

Sl:No	Name of District	No Lift	One Lift	Two Lifts	Three Lifts	Four Lifts	Five Lifts	Six Lifts	Total
1	Thiruvananthapuram	12	52	82	14	14	2	2	178
2	Kollam	2	1	1	0	0	0	0	4
3	Pathanamthitta	1	2	7	1	0	0	0	11
4	Alappuzha	0	1	1	0	0	0	0	2
5	Kottayam	1	11	22	1	0	0	0	35
6	Idukki	0	0	0	0	0	0	0	0
7	Ernakulam	87	170	242	43	7	2	3	554
8	Thrissur	2	49	58	9	1	0	0	119
9	Palakkad	0	8	6	0	0	0	0	14
10	Malappuram	1	0	0	0	0	0	0	1
11	Kozhikode	17	27	35	4	0	0	0	83
12	Wayanad	0	0	0	0	0	0	0	0
13	Kannur	7	16	2	1	0	0	0	26
14	Kasaragod	3	1	1	0	0	0	0	5
KERALA		126	329	471	74	23	4	5	1032

Fig 11 Number of Apartment as per no. of LIFTS provided



12. Capacity of Lifts in the Apartments

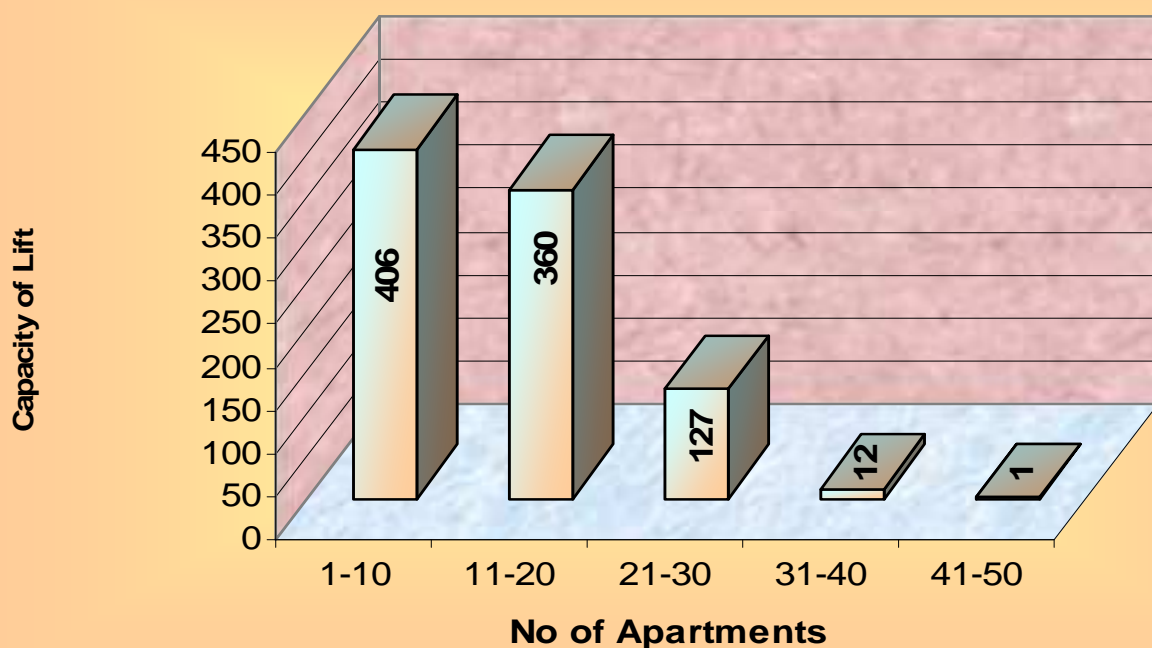
Out of the 906 apartments having lift facility, majority (406) do have lifts with carrying capacity in the range of 1-10. There are 13 apartments in the State having capacity more than 30 persons. The details are furnished in Table 12 and fig 12

Table. 12

Number of apartments in Kerala according to total capacity of lifts provided

Sl:No	Name of District	1-10	11-20	21-30	31-40	41-50	Total
1	Thiruvananthapuram	90	55	19	2	0	166
2	Kollam	1	1	0	0	0	2
3	Pathanamthitta	6	3	1	0	0	10
4	Alappuzha	1	1	0	0	0	2
5	Kottayam	10	16	7	1	0	34
6	Idukki	0	0	0	0	0	0
7	Ernakulam	205	187	66	9	0	467
8	Trissur	54	53	10	0	0	117
9	Palakkad	6	4	4	0	0	14
10	Malappuram	0	0	0	0	0	0
11	Kozhikode	26	29	11	0	0	66
12	Wayanad	0	0	0	0	0	0
13	Kannur	6	10	9	0	1	26
14	Kasaragod	1	1	0	0	0	2
KERALA		406	360	127	12	1	906

Fig 12 Number of Apartments according to Capacity of Lifts

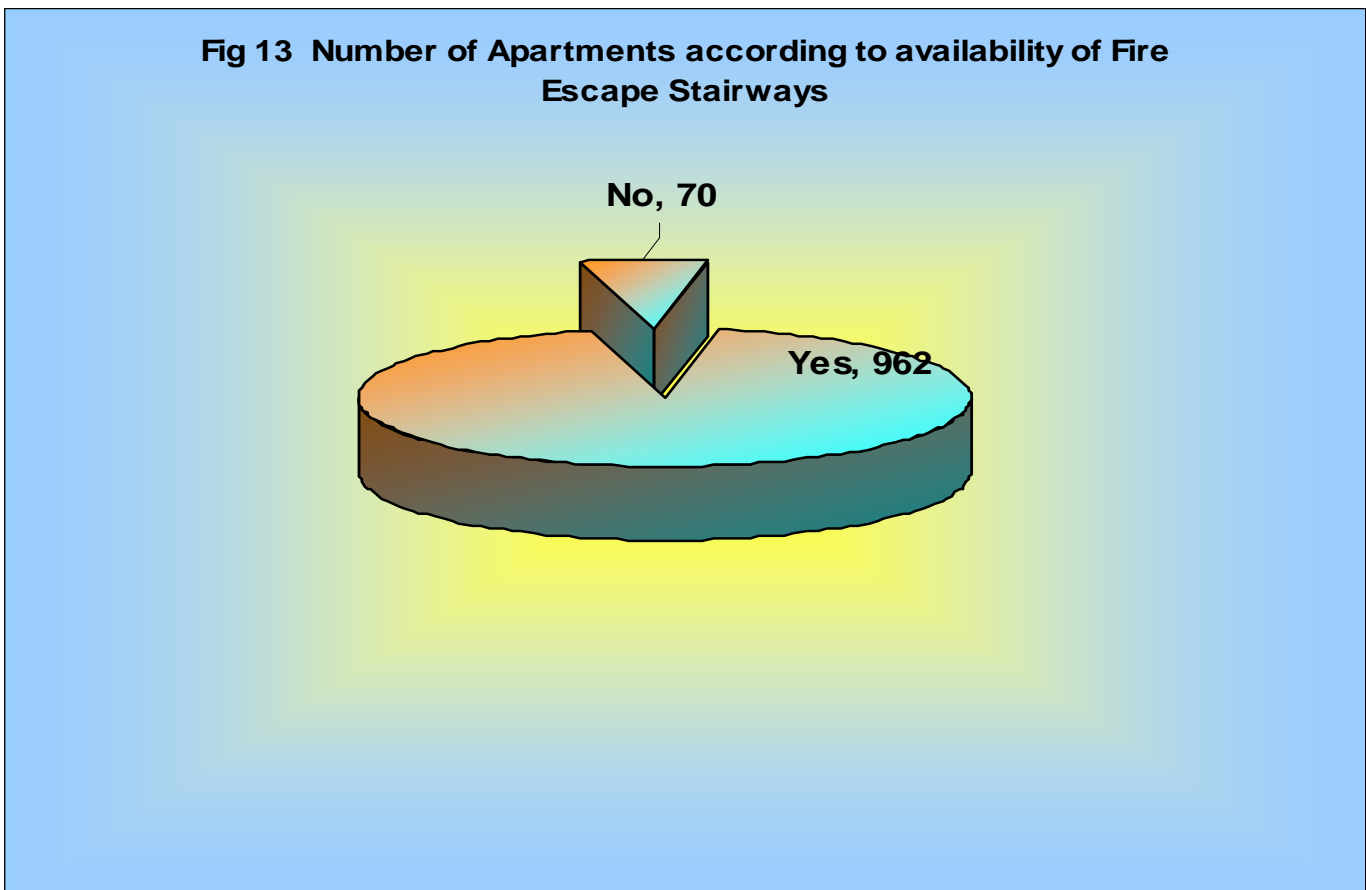


13. Fire escape stairways

The safety of the inmates in an apartment is very important. If a fire broke out, it is not advisable to use the lift facility. In such situations, emergency stairways are essential. Out of 1032 apartments in the State 7% (70) do not have any such fire escape stair ways. In Kollam, out of the 4 apartments, three do not have emergency escape system. The following Table and the chart illustrate the data on the above.

Table. 13
Number of apartments in Kerala according to Fire escape stairways provided

Sl:No	Name of District	Yes	No	Percentage of fire escape stairways	Total
1	Thiruvananthapuram	164	14	92	178
2	Kollam	1	3	25	4
3	Pathanamthitta	9	2	82	11
4	Alappuzha	2	0	100	2
5	Kottayam	30	5	86	35
6	Idukki	0	0	0	0
7	Ernakulam	521	33	94	554
8	Thrissur	115	4	97	119
9	Palakkad	14	0	100	14
10	Malappuram	1	0	100	1
11	Kozhikode	78	5	94	83
12	Wayanad	0	0	0	0
13	Kannur	25	1	96	26
14	Kasaragod	2	3	40	5
KERALA		962	70	93	1032



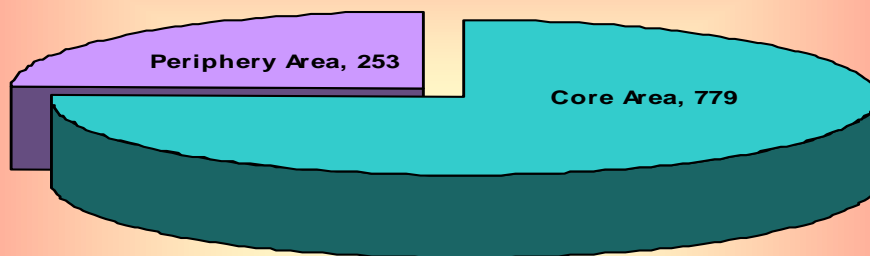
14. Location of the Apartments

Since the density of population is high in the core area of the urban region, the number of apartments in the area is on the increase. 75% of the apartments (779) constructed were in the heart of city corporation area and municipal area. Only in Pathanamthitta and Kottayam districts, more than half of the apartments were constructed in the periphery area. The following Table and the pictorial representation show the analysis of the data.

Table. 14
Number of apartments according to Location

Sl:No	Name of District	Core Area	Periphery Area	Percentage of Core Area	Total
1	Thiruvananthapuram	160	18	90	178
2	Kollam	2	2	50	4
3	Pathanamthitta	5	6	45	11
4	Alappuzha	2	0	100	2
5	Kottayam	12	23	34	35
6	Idukki	0	0	0	0
7	Ernakulam	401	153	72	554
8	Thrissur	96	23	81	119
9	Palakkad	8	6	57	14
10	Malappuram	1	0	100	1
11	Kozhikode	69	14	83	83
12	Wayanad	0	0	0	0
13	Kannur	20	6	77	26
14	Kasaragod	3	2	60	5
KERALA		779	253	75	1032

Fig 14 Number of Apartment according to Location

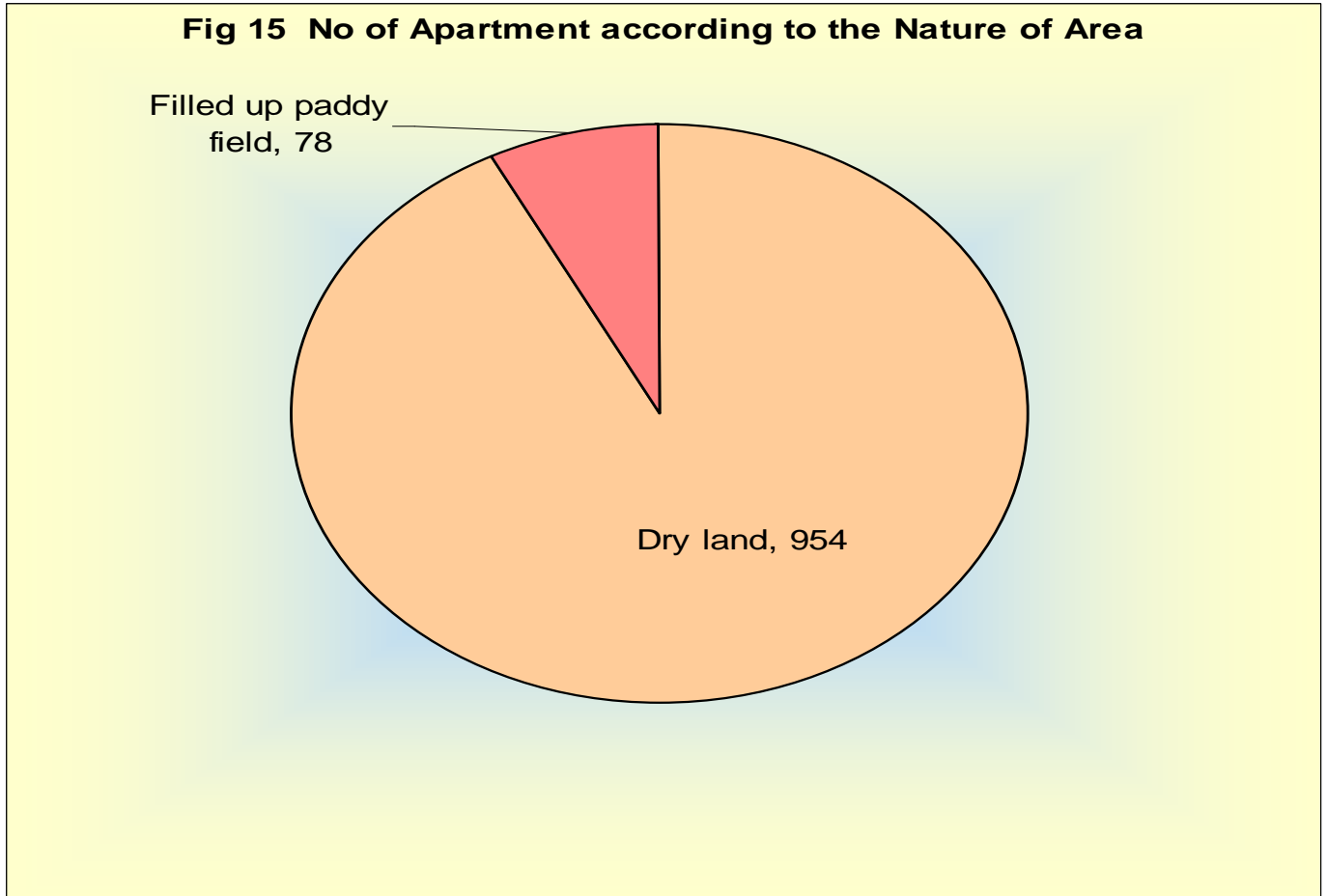


15. Nature of plot Area of the Apartments

In Ernakulam district, 10% of the apartments are constructed in filled up paddy field. The apartments constructed in the filled up paddy field are more in Ernakulam district. The following table and chart depict the nature of plot area of the apartments.

Table. 15
Number of apartments in Kerala according to Nature of Area

Sl:No	Name of District	Dry land	Filled up paddy field	Percentage of Dry land Area	Total
1	Thiruvananthapuram	168	10	94	178
2	Kollam	4	0	100	4
3	Pathanamthitta	10	1	91	11
4	Alappuzha	2	0	100	2
5	Kottayam	35	0	100	35
6	Idukki	0	0	0	0
7	Ernakulam	497	57	90	554
8	Thrissur	111	8	93	119
9	Palakkad	14	0	100	14
10	Malappuram	0	1	0	1
11	Kozhikode	82	1	99	83
12	Wayanad	0	0	0	0
13	Kannur	26	0	100	26
14	Kasaragod	5	0	100	5
KERALA		954	78	92	1032

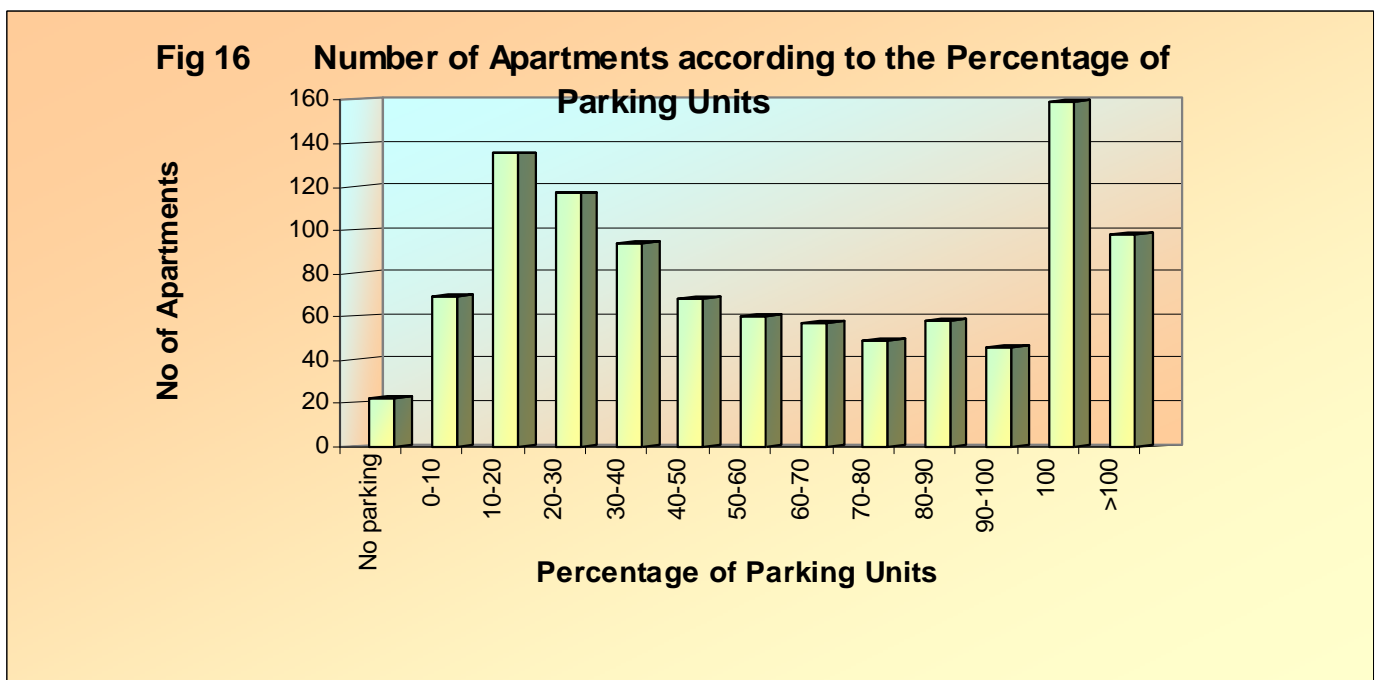


16. Parking facility

Vehicle population in the State has been growing day by day, causing headache for proper parking. For high rise buildings, it is mandatory to have parking facilities within the compound of the building or separate space has to be provided by the builder/promoter of that apartment. From the survey data, it is seen that 22 apartments in the State doesn't have any parking facility provided by the builder/promoter inside or outside the building. 257 apartments have 100% or more than 100% parking facilities. The details are furnished in Table 16 and fig 16

Table. 16
Number of apartments in Kerala according to percentage of parking units provided with respect to dwelling units in the apartments

Sl:No	Name of District	No parking	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100	>100	Total
1	Thiruvananthapuram	11	0	0	2	2	2	6	5	8	13	9	72	48	178
2	Kollam	2	0	0	0	0	0	0	0	1	0	0	1	0	4
3	Pathanamthitta	2	0	0	1	2	0	1	0	2	0	1	1	1	11
4	Alappuzha	1	0	0	0	0	1	0	0	0	0	0	0	0	2
5	Kottayam	0	0	0	0	0	2	1	2	2	6	3	9	10	35
6	Idukki	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Ernakulam	0	65	125	107	80	54	39	29	22	12	7	0	14	554
8	Thrissur	3	4	7	6	7	6	4	13	4	12	12	39	2	119
9	Palakkad	0	0	0	0	0	1	1	0	0	1	0	9	2	14
10	Malappuram	0	0	0	0	0	0	0	1	0	0	0	0	0	1
11	Kozhikode	3	0	1	1	3	0	7	5	7	11	10	20	15	83
12	Wayanad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Kannur	0	0	0	0	0	2	1	1	3	1	4	8	6	26
14	Kasaragod	0	0	2	0	0	0	0	1	0	2	0	0	0	5
KERALA		22	69	135	117	94	68	60	57	49	58	46	159	98	1032

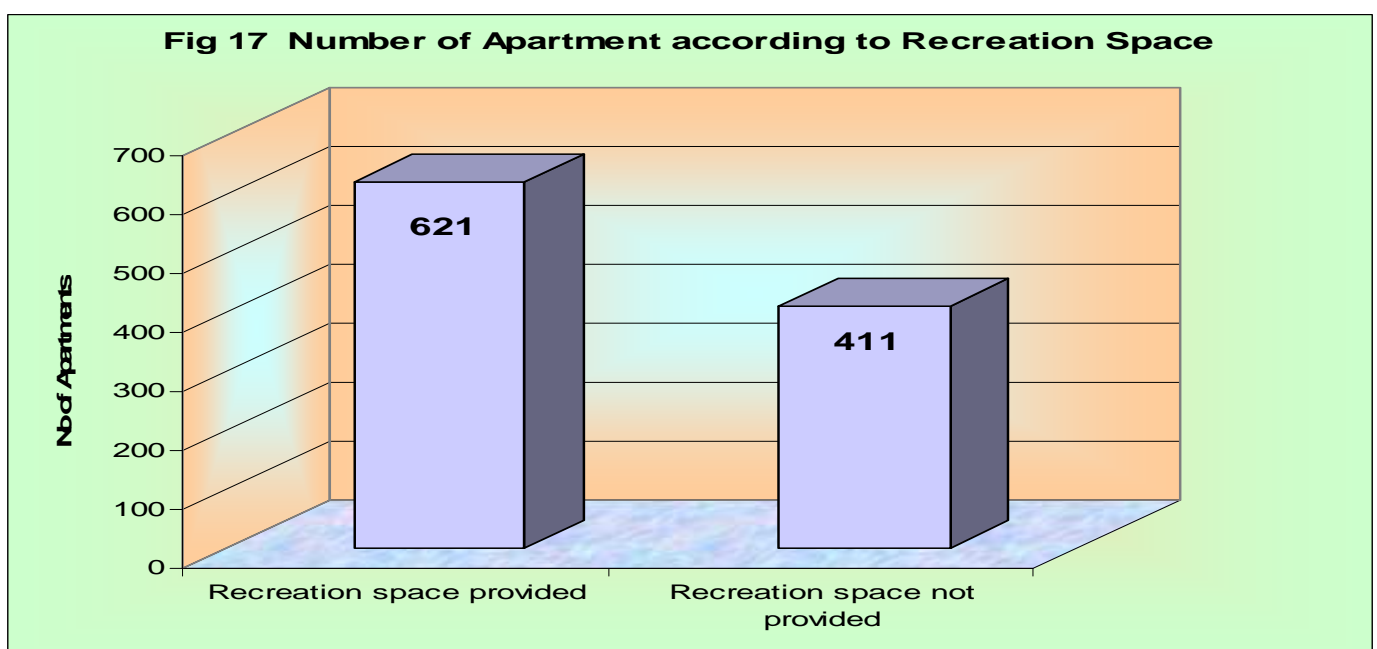


17. Recreation facilities

Given the relentless growth of urban population, the scope for providing recreational facilities in the urban area is very limited. Considering the need for providing the recreational facilities within the apartments, it is interesting to analyse whether such facilities are available in the 1032 apartments surveyed. Unfortunately, about 40% of apartments in the State don't have any recreation area and facilities. In Ernakulam district, more than half of the apartments did not provide such recreation facilities to the inmates. The data are depicted in Table 17 and fig 17

Table. 17
Number of apartments in Kerala according to Recreation space provided

Sl:No	Name of District	Recreation space provided	Recreation space not provided	Percentage of Recreation space provided	Total
1	Thiruvananthapuram	157	21	88	178
2	Kollam	1	3	25	4
3	Pathanamthitta	4	7	36	11
4	Alappuzha	1	1	50	2
5	Kottayam	20	15	57	35
6	Idukki	0	0	0	0
7	Ernakulam	274	280	49	554
8	Thrissur	87	32	73	119
9	Palakkad	14	0	100	14
10	Malappuram	0	1	0	1
11	Kozhikode	40	43	48	83
12	Wayanad	0	0	0	0
13	Kannur	21	5	81	26
14	Kasaragod	2	3	40	5
KERALA		621	411	60	1032



18. Nature of surrounding area

It is seen from the survey data that 81% of the apartments were constructed in residential area. 61 apartments were constructed in purely commercial area while 115 in residential cum commercial area .It is striking to note that 10% of flats in Thrissur district were built up in commercial area. The details are furnished in Table 18 and fig 18.

Table. 18

Number of apartments in Kerala according to Nature of surrounding area

Sl:No	Name of District	Residential area	Commercial area	Residential cum Commercial area	Other area	Percentage of Residential area	Total
1	Thiruvananthapuram	173	4	1	0	97	178
2	Kollam	4	0	0	0	100	4
3	Pathanamthitta	5	1	4	1	45	11
4	Alappuzha	2	0	0	0	100	2
5	Kottayam	26	0	8	1	74	35
6	Idukki	0	0	0	0	0	0
7	Ernakulam	432	25	97	0	78	554
8	Thrissur	93	12	1	13	78	119
9	Palakkad	11	3	0	0	79	14
10	Malappuram	0	1	0	0	0	1
11	Kozhikode	68	15	0	0	82	83
12	Wayanad	0	0	0	0	0	0
13	Kannur	22	0	4	0	85	26
14	Kasaragod	5	0	0	0	100	5
KERALA		841	61	115	15	81	1032

