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# **THE RAW DRUGS REQUIREMENT OF AYURVEDIC MEDICINE MANUFACTURING INDUSTRY IN KERALA**

**N. Sasidharan**

NWFP Discipline, Forest Utilisation Programme Division

**P.K. Muraleedharan**

Forestry and Human Dimension Programme Division



K F R I

**KERALA FOREST RESEARCH INSTITUTE  
PEECHI, THRISSUR**

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### **ABSTRACT OF THE PROJECT PROPOSAL**

1. Project No : KFRI/435/2004
2. Title : The Raw Drugs Requirement of Ayurvedic Medicine Manufacturing Industry in Kerala
3. Objectives :
  - To assess the raw drugs requirement of the Ayurvedic medicine industry in Kerala.
  - To find out the sources of supply and the respective quantity.
  - To study the marketing and trade of medicinal plants.
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7. Investigators : N Sasidharan  
PK Muraleedharan
8. Research Fellows : Sreekanth Sreedhar  
PD Sanjith
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## ABSTRACT

The study assesses the annual consumption of raw drugs by the Ayurvedic medicine manufacturing industry in Kerala. Although, about 400 raw drugs are used in the manufacture of various medicines, for the present study, 230 items which are consumed at the rate of over one thousand kg per year were selected. There are 706 pharmaceutical units having drug license from the Industries Department. The study focuses on the consumption/requirement of the licensed units. Based on the annual turnover, the medicine manufacturing units were classified into small, (below 1 crore) medium (1-3 crores) and large (over 3 crores). The annual consumption of the 230 raw drugs studied is 20,517 tonnes, of which 48 per cent is consumed by the large units, 37 per cent by small units and 15 per cent by medium units. Annual consumption of 24 items of raw drugs is over 200 tonnes; 20 items between 200-100 tonnes; 42 items between 100-50 tonnes; 44 items between 50-25 tonnes and 62 items between 25-10 tonnes; 39 items below 10 tonnes. Kurumthotti (1,194 tonnes) and Nellikai (860 tonnes) are most abundantly consumed items. The raw drugs consumption is highest in Thrissur (6,276 tonnes) and Malappuram (4,433 tonnes) districts, as some of the larger units are located here. The lowest consumption is in Wayanad (133 tonnes).

There is marked variation with regard to consumption of raw drugs in small, medium and large units, as the quantity and type of medicines prepared by them differ. Annual consumption with regard to plant/parts viz., roots/tubers/rhizomes constitutes 45 per cent of the total quantity. Fruits and seeds constitute 18 per cent; whole plants (herbs) 12 per cent; leaves 7 per cent; bark 6 per cent; Stem 5 per cent; wood 5 per cent; flowers and resin 1 per cent each.

The raw drugs are traditionally grouped as *Pettimarunnu* and *Pachamarunnu*. The former consists of items used in the dried form, which include several raw drugs obtained from North India. *Pachamarunnu* are used fresh and are locally available items. Forests are the main source of medicinal plants. Out of the 230 raw drugs studied, 40 per cent are obtained from forest. Only 8 per cent raw drugs are from cultivation, which include items also used as spices.

Medicinal plants trade in Kerala is a very prospective one and price of most of the items is on the increase. The price increase is partially due to an imbalance between supply and demand. Marketing agents play an important

role in the trade of medicinal plants in Kerala. The medicinal plants collected by the tribes are marketed through the Society and the Federation. The medicinal plants collected from outside the forests, private gardens, homesteads, wastelands and common properties are sold directly or through agents to the dealers and medicine manufacturing firms.

Comparison of the consumption of 125 major items based on a study in the year 2000 and in 2006 (present study) reveals that there is an overall increase of 1,943 tonnes. The highest increase is noticed in the case of Sathavari (243 tonnes), followed by Kurumthotti (131 tonnes), Nellikai (124 tonnes), and Kayyunni (116 tonnes). The items which show decrease in the consumption are Raktachandanam (52 tonnes), Maramanjil (17 tonnes) and Chuvannaratha (10 tonnes). The collection of these items from wild is banned. Non-availability may be the reason for the decrease in their consumption. The overall increase in the consumption of raw drugs indicates the growth of Ayurvedic Medicine Industry in the State. Considering the increase in the demand of raw drugs, requirement can be met only through cultivation. Item-wise consumption of medicinal plants in each district has been worked out, so that farmers can select the species which are in high demand for cultivation. Awareness on good agricultural practices, post-harvest processing and storage of medicinal plants among farmers is needed for production of quality raw drugs.

## 1. INTRODUCTION

India, having two out of the eighteen Biodiversity Hot Spots of the world, is perhaps the largest producer of medicinal herbs in the world. The vast resources of medicinal plants have been extensively used in various traditional systems of medicine like *Ayurveda*, *Sidha*, *Unani* and *Emchi*. Traditionally each village in Kerala has three or more folk healers and their number is roughly estimated to be about 5,000 (Rajasekharan *et al.*, 2005). The total number of plant species of all groups recorded from India is 43,000 and 3,000 among them are recognised to possess medicinal properties. According to an All India Ethnobiological Survey carried out by the Ministry of Environment & Forests, Government of India, over 8,000 plants are being used in traditional, folk and herbal medicine systems of India. Ayurveda, the most ancient and widespread system of healthcare in the Country, uses about 900 species of plants. Among other systems, *Sidha* uses 800 species of plants; *Unani*, 700 species; *Emchi* or *Tibetan* system, about 300 species and Modern medicine uses 90 species of plants (Rajasekharan *et al.*, 2005).

According to the World Health Organization (WHO), about 80 per cent of the populations of developing countries rely on traditional medicines, mostly herbal drugs, for their primary healthcare needs. The natural products are recognised as non-narcotic and relatively free from adverse effects compared to synthetic drugs. Therefore, the demand for medicinal plants is increasing day by day in both developing and developed countries.

The world market of herbal products, including herbal medicines and raw materials is estimated to have an annual growth rate between 5 and 15 per cent. Total global herbal health products market is estimated to be 62 billion US \$ and is expected to grow to 5 trillion US \$ by the year 2050. Ayurveda contributes Rs.3,500 crores (813 million US \$) annually to the internal market. The Indian medicinal plants-based industry is growing at the rate of 7-15 per cent annually. The global trend of increased demand for medicinal plants for pharmaceuticals, phytochemicals, nutraceuticals, cosmetics and other products is an opportunity for Indian trade and commerce (Pushpangadan and Govindarajan, 2005). But, unlike China, India has not

been able to capitalize on this unprecedented boom in the herbal drug industry by promoting the herbal medicines in the developed world.

In India, there are about 8,000 firms manufacturing traditional medicines and a major amount of medicinal plants (90 per cent) used by these manufacturing units are collected from the wild. In Kerala, there are 706 Ayurvedic medicine manufacturing units having drug license. At present, several raw drugs are brought to Kerala from Tamil Nadu, Karnataka and Andhra Pradesh. Forests are the main source for medicinal plants and they are collected by the tribes and local communities. Recently, people have started cultivating medicinal plants, particularly those specified by the National Medicinal Plants Board (NMPB) with financial aid from the Board.

The current practice of harvesting medicinal plants from the wild is unsustainable and consequently this will lead to the depletion of resource base. Gathering plant materials from the wild is cost-effective than cultivation, which requires investment on land, fertilizers, herbicides and other inputs. Collection of Non-Wood Forest Products (NWFPs), which include largely medicinal plants, is the livelihood of many tribal and rural communities living in and around forests. Since the price paid for NWFPs is very low, the collectors are compelled to collect more, often without considering the future regeneration of the species. What is even more disturbing is the fact that the harvest of medicinal plants growing in the wild is rarely reported or monitored. Hence, the damage so caused often goes undetected.

Conservative estimates suggest that over half a million tonnes of raw materials are harvested in India from the forest every year (Maiti and Geetha, 2005). As a result, medicinal plant diversity is under great pressure and more and more medicinal plants are becoming threatened, endangered or depleted. Only about 70 species are available from cultivation. Medicinal plants continue to play an important role in our daily life. To achieve the goal of health for all, the medicinal plant resource needs to be conserved and utilized more efficiently. Therefore, urgent and serious efforts are needed for the germplasm conservation at both regional as well as national levels.

Several agencies have projected the trade on herbal products in the national and global markets. But, studies on assessing the requirements or consumption of



raw drugs by the herbal drug industry in the country are very few (Ramanathan, 1993; Ved and Goraya, 2008). Precise data on the requirement/consumption of raw drugs by the Ayurvedic medicine industry, the largest consumer of medicinal plants is needed for drawing up programmes for the conservation and sustainable utilisation of species, particularly the rare and threatened ones. The raw drugs which are in short supply are to be identified for promoting their cultivation in suitable eco-climatic conditions. The Government of India has established the NMPB under the Department of AYUSH in the Ministry of Health and Family Welfare in 2000 for the overall development of the Indian Systems of Medicine. The Board has drawn up several programmes for the conservation, cultivation, utilization of medicinal plants and production of quality products as per international standards. The present study for assessing *The Raw Drugs Requirements of Ayurvedic Drug Industry in Kerala*, is sponsored by the National Medicinal Plants Board, Government of India.

The Objectives of this study are,

- To assess the raw drugs requirement of the Ayurvedic medicine industry in Kerala.
- To find out the sources of supply and the respective quantity.
- To study the marketing and trade of medicinal plants.

## **2. MATERIALS AND METHODS**

### **2.1. Survey**

A list of raw drugs used in the manufacture of various medicines was prepared for assessing their consumption in the medicine-manufacturing units in Kerala. Although, about 400 raw drugs are used in the manufacture of medicines, only 230 items were selected for the present study, as other items are either required in small quantities or are not relevant with the objectives of the project. The collection and trade of medicinal plants are highly complex in Kerala due to various reasons. Firstly, Tribals and Local Communities living near the forests are collecting medicinal plants from the wild. Although, agencies such as Tribal Service Co-operative Societies (TSCS) and their apex body, The Kerala State Scheduled Caste Scheduled Tribe Development Co-

operative Federation Ltd. (Federation) are entrusted with the collection and marketing of NWFPs, which include medicinal plants, many NWFPs are collected and traded in an unauthorized manner by the non-tribes. Secondly, non-tribes gather medicinal plants from homesteads and non-forest areas and sell them to different traders. Further, some of the medicinal plants are obtained from outside the State. Thus, gathering information on total quantity of medicinal plants collected from different sources directly is rather difficult. The quantity and items of medicinal plants consumed by the manufacturing units and local medical practitioners vary considerably. Ayurvedic pharmaceutical units consume 90 to 95 per cent of medicinal plants traded in the State. Thus, for the present study, data were gathered mainly from pharmaceutical units. The Ayurvedic medicine manufacturing units consist of both registered as well as unregistered. As the nature, type and quantity of medicines produced by these units vary, the raw drugs and quantity consumed by these units, by and large, are different. Because of the complexity of the problem, this study is mainly confined to the registered medicine manufacturing units. A list of the Ayurvedic medicine manufacturing units has been collected from the office of the Ayurvedic Medicine Manufacturers Organisation of India (AMMOI), Thrissur. The number of pharmaceuticals having drug license is 713. From the list of licensed Ayurvedic medicine manufacturing units, 150 units were selected randomly from Kerala for data collection. Of these units, only 133 supplied us the data. The name and address of the 133 units are given in Appendix 1.

The selected units were classified as small, medium and large based on their annual turnover, *i.e.*, less than one crore (small), between 1 and 3 crores (medium) and more than 3 crores (large) [Table 1]. Data on raw drugs consumption in the selected units were collected by the questionnaire method (Appendix II). The list of important Ayurvedic medicines produced in Kerala was gathered from the large medicine manufacturing units (Appendix III). In addition, some of the raw drug shops and agents involved in the trade were also contacted for further information on source of medicinal plants, price, among others. The response from the medium and large units was very good. However, several small units were apprehensive in providing data. Out of the 120 small units selected for sampling, only 103 units responded to our

request. The data gathered were analyzed to find the quantity of the 230 raw drugs consumed by the small, medium and large units in each district and the total consumption in Kerala. The total consumption by the small, medium and large units was worked by multiplying the average consumption in each category with the total number of units in a district and the State.

**Table 1. Registered Ayurvedic medicine manufacturing units in Kerala and number of samples selected**

Sl No	District	Small	Medium	Large	Total
1.	Thiruvananthapuram	56 (7)	4 (2)	2 (0)	62 (11)
2.	Kollam	58 (11)	3 (1)	0 (0)	61 (12)
3.	Alappuzha	37 (3)	0 (0)	2 (2)	39 (5)
4.	Pathanamthitta	19 (4)	0 (0)	0 (0)	19 (4)
5.	Kottayam	33 (6)	2 (0)	3 (2)	38 (8)
6.	Idukki	9 (1)	3 (1)	1 (1)	13 (3)
7.	Ernakulam	83 (14)	9 (2)	2 (2)	94 (18)
8.	Thrissur	127 (17)	20 (5)	8 (6)	155 (28)
9.	Palakkad	51 (9)	4 (0)	2 (1)	57 (10)
10.	Malappuram	51 (6)	2 (1)	2 (2)	55 (9)
11.	Kozhikode	60 (10)	2 (1)	0 (0)	62 (11)
12.	Wayanad	3 (2)	1 (0)	0 (0)	4 (2)
13.	Kannur	49 (9)	1 (1)	0 (0)	50 (10)
14.	Kasaragode	4(4)	0 (0)	0 (0)	4 (4)
	Total	640 (103)	51 (14)	22 (16)	713 (133)

Figures in parenthesis are number of samples

## 2.2. Source of raw drugs

The sources of the raw drugs were obtained primarily from the medicine manufacturing units. The weekly markets for sale of raw drugs at Vadakara in Kozhikode Dist.; Velanthavalam in Palakkad Dist.; Perumbavoor in Ernakulam Dist., were visited to study the raw drugs traded in these markets. Some of the raw drug dealers in Thrissur and Palakkad Districts were also contacted for obtaining data on sources of raw drugs. Habitat-wise analysis and geographic distribution were carried out to find out the medicinal plants collected from forests, non-forest areas, cultivation and imported items.

### **2.3. Botanical identity of raw drugs**

The correct botanical name and important synonyms of the 230 raw drugs were worked out after examining samples collected from the manufacturing units. Literature referred for fixing the identity of raw drugs include Nadkarni, 1954; Chopra *et al.*, 1956; Nambiar *et al.*, 1985; Warriar *et al.*, 1994-96; Sivarajan and Indira Balachandran, 1994. The Ayurvedic raw drugs and live collection of medicinal plants maintained at KFRI were also made use for fixing the identity of raw drugs.

### **2.4. Marketing and trade of medicinal plants**

Marketing is one of the most vital issues to promote production and distribution of goods and services. Basically, it identifies market opportunities and needs and analysis competition, develop appropriate approaches to reach customers and to earn profit (Lintu, 1995). Marketing is much more than a simple sale involving both structural and instructional factors through which it can create better economic value for the products.

In Kerala there is a strong institutional set-up for marketing of medicinal plants, consisting of tribal co-operative societies and its apex body – Kerala state scheduled caste and scheduled tribe Development Co-operative Federation, Ltd (Federation). The Federation markets NWFPs which include medicinal plants. Generally private traders are not allowed to collect medicinal plants from the forests. But many private traders are involved in the marketing of medicinal plants which are available from both legal and illegal sources. Some manufacturing units in Kerala have their own regular suppliers who collect the same both from forests and house compounds. In the process of delivery of goods from producing centre to consuming centres, the marketing agencies have to incur some cost which is termed as marketing cost. Marketing margin is the remuneration taken by marketing agencies for extending their services. Marketing margin and marketing cost taken by various parties involved in the marketing results in price spread. Thus an attempt is made to work out marketing cost, margin and price spread of selected medicinal items. Data were gathered from the Federation, 3 selected societies, 5 private traders and 20 local collectors.

### 3. RESULTS AND DISCUSSION

The annual consumption of raw drugs indicates that 20 items are over 200 tonnes; 23 items, between 200-100 tonnes; 30 items, between 100-50 tonnes; 47 items, between 50-25 tonnes; 66 items, between 25-10 tonnes and 44 items, below 10 tonnes (Table 2). Annual consumption of raw drugs in each district of Kerala and average for each district is given in Table 3. Consumption of raw drugs by the small units, medium units and large units is separately assessed for each district (Tables 4, 5 and 6). Kurunthotti and Nellikka are the most abundantly consumed raw drugs. Nangu, Chathuramulla and Asokapoovu are consumed in small quantities. Among the districts, consumption of raw drugs is found to be the highest in Thrissur and Malappuram districts, as some of the large manufacturing units are located in these districts. There is marked variation with regard to consumption of other raw drugs in small, medium and large units, as the quantity and type of medicines prepared by them differ.

**Table 2. Frequency of raw drugs according to annual consumption**

**Annual consumption over 200 tonnes**

Sl No	Districts	Small	Medium	Large	Total
1.	Kurunthotti	426.21	196.14	571.13	1193.47
2.	Nellikka	269.99	143.53	446.39	859.91
3.	Amruthu	197.97	86.56	443.37	727.90
4.	Sathavari	127.99	62.21	439.88	630.08
5.	Kadukka	150.46	101.67	327.84	579.96
6.	Chukku	116.01	63.68	305.77	485.45
7.	Kayyuni/kanjuni	269.05	39.44	149.56	458.04
8.	Thathiri	189.11	68.71	165.87	423.69
9.	Kattarvazha	86.47	24.35	295.01	405.82
10.	Karimkuri	99.34	35.17	257.33	391.83
11.	Amukkuram	122.33	36.77	212.57	371.67
12.	Cheruvazhuthina	102.50	58.98	203.13	364.61
13.	Koovalathinveru	122.44	49.17	183.75	355.36
14.	Muthanga	73.26	94.45	168.74	336.46
15.	Adalodakam	120.53	60.80	139.90	321.23
16.	Devatharam	82.02	32.75	199.95	314.72
17.	Njerinjil	96.27	35.95	181.00	313.21
18.	Thippali	105.18	41.67	149.91	296.76
19.	Thazhuthama	84.12	22.59	172.59	279.31

Sl No	Districts	Small	Medium	Large	Total
20.	Avanakku	98.13	40.41	123.56	262.10
21.	Moovila	84.51	24.19	143.92	252.61
22.	Orila	94.94	32.09	125.03	252.06
23.	Koduveli	79.89	34.44	131.64	245.96
24.	Thanikka	78.33	29.08	119.87	227.28
25.	Pathiriveru	86.67	29.18	98.37	214.23
26.	Munja	74.94	28.94	108.40	212.28
27.	Payyani	76.17	23.74	104.88	204.79

**Annual consumption between 100-200 tonnes**

Sl No	Districts	Small	Medium	Large	Total
1.	Kodithoova	72.96	24.42	94.00	191.37
2.	Neelayamari	91.12	36.15	61.77	189.03
3.	Karingali	129.39	16.19	41.92	187.50
4.	Bhrahmi	65.64	21.46	97.47	184.57
5.	Veppinholi	42.76	13.30	112.18	168.24
6.	Parpatakapullu	27.15	22.17	114.02	163.34
7.	Irattimadhuram	65.35	26.41	63.18	154.93
8.	Chuvannaratha	50.25	20.45	83.38	154.07
9.	Manjal	64.52	12.97	76.29	153.78
10.	Narunedi	61.27	16.44	75.75	153.46
11.	Pathimugham	48.52	16.69	75.55	140.76
12.	Palmuthukku	57.65	21.13	54.61	133.39
13.	Kattupadavalam	36.38	12.68	84.24	133.30
14.	Putharichunda	31.53	22.10	77.09	130.72
15.	Vayambu	38.22	16.07	71.58	125.86
16.	Avaltholi	54.21	36.16	34.65	125.03
17.	Uzhinja	29.15	40.63	53.60	123.38
18.	Kanikonna	24.48	17.99	78.58	121.06
19.	Cherula	46.95	11.14	61.93	120.02
20.	Vengakathal	48.27	18.58	50.97	117.82
21.	Kumbil	61.92	19.31	34.44	115.67
22.	Asokatholi	54.26	16.08	39.62	109.96
23.	Kachoori/Kacholam	32.40	10.76	65.70	108.85
24.	Gulgulu	32.67	11.16	64.14	107.96
25.	Pachotti	40.02	18.92	48.91	107.85
26.	Chembarathiyila	100.99	3.64	2.05	106.68
27.	Ayamodakam	47.36	12.59	43.72	103.67
28.	Pushkaramoolam	45.44	8.58	49.35	103.36

**Annual consumption between 50-100 tonnes**

Sl No	Local name	Small	Medium	Large	G.Total
1.	Ramacham	61.15	9.70	28.41	99.26
2.	Sathakuppa	35.81	8.17	54.44	98.42
3.	Maramanjai	30.35	13.51	51.79	95.64
4.	Kottam	44.19	9.58	35.35	89.11
5.	Ekanayakaveru	36.94	3.94	48.04	88.92
6.	Karuka	17.56	13.71	57.30	88.57
7.	Vayalchulli	27.95	12.62	46.28	86.85
8.	Chittaratha	40.78	16.30	26.76	83.84
9.	Prasarani	20.56	15.58	44.82	80.96
10.	Padakizhangu	35.54	14.55	29.09	79.18
11.	Cheruthekku	28.21	14.81	36.11	79.12
12.	Uluva	59.04	4.22	15.31	78.57
13.	Manjatti	33.93	7.40	35.44	76.76
14.	Ummam	40.95	14.90	18.88	74.73
15.	Nilappana	23.21	12.43	38.67	74.31
16.	Ungu	23.71	13.87	36.41	73.99
17.	Karivelam	45.52	4.23	22.03	71.78
18.	Seemanagappuvu	14.15	2.11	54.37	70.62
19.	Rakthachandanam	27.87	11.28	30.16	69.31
20.	Elavangam	39.20	7.20	22.60	69.00
21.	Kattumulaku	33.85	6.35	28.25	68.44
22.	Keezharnelli	17.31	12.80	37.29	67.40
23.	Kiriyath	19.57	12.62	35.18	67.37
24.	Padavalam	31.46	5.09	29.93	66.48
25.	Veezhalari	31.65	5.89	26.43	63.96
26.	Pachila	29.01	14.52	18.18	61.71
27.	Nayakurana	27.55	12.66	21.49	61.70
28.	Neermaruthinpatta	38.03	3.84	18.38	60.24
29.	Chittadalodakaveru	15.88	7.33	35.79	59.00
30.	Kandakari	23.93	13.17	21.73	58.83
31.	Chandhanam	27.30	7.38	23.79	58.47
32.	Karinochi	29.43	11.33	15.93	56.69
33.	Kudakapalatholi	29.71	5.45	20.20	55.36
34.	Arayal	35.87	11.23	6.74	53.84
35.	Katukurohini	22.64	5.24	25.85	53.74
36.	Kattuthipalimulaku	25.95	15.67	10.28	51.91
37.	Neermathalatholi	20.77	19.80	10.63	51.20
38.	Adapathiyam	23.49	9.41	18.13	51.03
39.	Kattupayar	25.28	11.58	13.34	50.20

**Annual consumption between 25-50 tonnes**

Sl No	Local name	Total S	Total M	Total L	G.Total
1.	Karuvapatta	25.04	13.03	11.07	49.14
2.	Kattuzhunnu	24.29	12.40	12.20	48.89
3.	Kasthurimanjal	35.03	11.00	2.80	48.83
4.	Thakkolam	31.03	10.77	6.64	48.44
5.	Chunda	29.80	6.48	11.98	48.26
6.	Koovalayila	11.39	4.11	32.55	48.05
7.	Adayakkamaniyan	32.21	5.69	10.08	47.97
8.	Nagadhanthiveru	22.89	9.62	12.69	45.20
9.	Kolarakku	22.01	4.16	18.01	44.18
10.	Kattuthipaliveru	22.26	3.81	17.98	44.05
11.	Ithi	30.19	5.84	7.79	43.82
12.	Karimjeerakam	21.41	5.10	16.73	43.24
13.	Athipatta	31.60	4.21	7.23	43.03
14.	Blankaya	30.26	2.43	10.09	42.78
15.	Pookaittha	16.06	13.93	12.42	42.40
16.	Kattuvellari	21.48	12.47	7.74	41.69
17.	Tharthaval	17.16	12.92	11.08	41.16
18.	Lanthakuru	19.91	3.38	17.38	40.67
19.	Kudakapalayari	18.00	4.46	17.68	40.13
20.	Peral	20.65	12.10	7.08	39.83
21.	Kattuchena	13.92	3.86	21.98	39.76
22.	Puliyarila	25.85	10.38	3.36	39.58
23.	Karayampoovu	23.74	4.50	11.09	39.33
24.	Valsanabhi	9.01	0.40	26.42	35.82
25.	Thottavadi	3.99	11.27	20.19	35.44
26.	Athividayam	10.34	1.06	23.11	34.51
27.	Njavalpatta	12.43	11.50	10.52	34.44
28.	Karkadakashringi	16.08	10.16	6.68	32.92
29.	Ezhilampala	20.83	9.55	2.27	32.64
30.	Dharbaveru	8.99	10.75	12.25	31.99
31.	Kuzhalkonna	10.67	4.99	15.92	31.58
32.	Perumkurumbaveru	13.40	16.06	1.97	31.43
33.	Poovamkurunthal	14.64	5.94	10.81	31.38
34.	Karkokilari	21.18	2.85	6.83	30.86
35.	Erukku	14.11	10.53	6.21	30.85
36.	Karimkoovalam	10.19	9.45	11.02	30.66



Sl No	Local name	Total S	Total M	Total L	G.Total
37.	Athithippali	17.80	4.06	8.75	30.62
38.	Karakil	10.65	10.17	9.67	30.49
39.	Attudharbha	10.10	12.25	6.81	29.16
40.	Cherupunnayari	11.37	10.30	7.18	28.85
41.	Manikunthirikkam	21.26	3.03	4.53	28.82
42.	Seemaeruvveli	13.85	3.00	11.91	28.75
43.	Thekkadaveru	11.96	10.97	5.67	28.60
44.	Poovathu/Manjari	12.90	9.33	6.32	28.54
45.	Veppila	15.14	1.87	11.22	28.23
46.	Chinnamukkiyila	9.79	10.53	7.90	28.21
47.	Irippa	17.71	2.36	8.02	28.09
48.	Thamarayalli	12.74	10.07	4.90	27.71
49.	Njerinjampuli	6.74	10.28	10.05	27.07
50.	Kadaladi	12.57	10.48	3.57	26.62
51.	Chengazhineerkizhangu	13.64	7.48	4.72	25.84
52.	Chenchaliyam	14.17	3.04	8.53	25.74
53.	Njavalkuru	4.79	17.24	3.26	25.29

**Annual consumption between 10-25 tonnes**

Sl No	Local name	Total S	Total M	Total L	G.Total
1.	Chappanga	20.76	0.74	3.32	24.81
2.	Thakara	11.40	3.08	10.02	24.50
3.	Sangupushpam	12.15	7.46	4.66	24.27
4.	Karthottiveru	9.95	10.34	3.65	23.95
5.	Nilamparanda	8.03	2.63	12.88	23.53
6.	Thalisapathram	14.47	2.50	6.56	23.53
7.	Thamaravalayam	8.25	10.08	4.75	23.08
8.	Chiteenthalveru	11.08	5.95	5.07	22.10
9.	Kaloorvanchi	16.51	0.97	3.90	21.37
10.	Cheenapoovu	11.79	2.35	7.20	21.34
11.	Kazhanji	9.28	9.02	2.85	21.15
12.	Nanmughapullu	8.95	9.70	2.02	20.68
13.	Panikoorka	12.51	1.83	6.17	20.50
14.	Ksheerakakoli	17.47	1.12	1.58	20.18
15.	Chittelam	9.85	8.01	1.85	19.71
16.	Kakkathondi	6.08	8.94	4.64	19.66

Sl No	Local name	Total S	Total M	Total L	G.Total
17.	Channakizhangu	11.95	1.64	5.85	19.43
18.	Karinthali	2.25	0.06	16.99	19.30
19.	Amaveru	10.73	2.29	6.20	19.22
20.	Kattumuthira	6.14	10.06	2.19	18.38
21.	Perumaratholi	2.06	1.13	14.58	17.77
22.	Palvallikizhangu	13.22	2.16	2.26	17.64
23.	Peenari	6.42	9.29	1.66	17.37
24.	Ponnaveera	2.99	10.24	3.18	16.40
25.	Arenukam	7.43	6.92	1.90	16.25
26.	Seemapachila	8.58	4.20	3.25	16.02
27.	Chonakapullu/Injipullu	8.25	5.57	2.14	15.96
28.	Kakoli	13.04	1.83	1.03	15.91
29.	Thumbayila	4.14	10.38	1.31	15.82
30.	Katujeerakam	12.05	0.22	3.44	15.71
31.	Garudakodi	3.24	12.05	0.36	15.65
32.	Koval	5.54	3.22	6.76	15.51
33.	Vishnukranthi	2.22	12.70	0.59	15.51
34.	Aduthodapala	7.19	0.87	7.41	15.47
35.	Attuvanchi	3.87	6.40	5.13	15.40
36.	Anachuvadi	3.05	0.38	11.30	14.73
37.	Thettiveru	7.82	2.24	4.65	14.70
38.	Cherukadaladi	10.26	2.29	2.03	14.58
39.	Koovalthinkaya	4.03	0.33	9.76	14.12
40.	Elavulakam	9.55	2.46	1.93	13.94
41.	Mathalanarakam	5.59	2.01	6.10	13.70
42.	Kolmanchi	5.25	0.42	7.93	13.59
43.	Charalam	8.86	2.00	2.72	13.57
44.	Parvalli	6.46	1.57	5.33	13.36
45.	Somalatha	1.46	9.72	2.04	13.22
46.	Chembarathipoovu	9.41	0.63	2.88	12.92
47.	Changalmparanda	5.22	1.18	5.83	12.23
48.	Kodangal/Muthil	7.89	0.82	3.25	11.95
49.	Velipparuthi	7.29	4.20	0.40	11.89
50.	Mukkutti	6.45	2.08	3.33	11.87
51.	Ambalkizhangu	6.40	4.55	0.86	11.81
52.	Kurassani	7.49	1.79	1.86	11.13
53.	Padarchunda	5.30	4.95	0.23	10.48

**Annual consumption below 10 tonnes**

Sl No	Local name	Total S	Total M	Total L	G.Total
1.	Plassu	4.16	0.62	4.41	9.19
2.	Karimthumba	2.60	1.70	3.92	8.22
3.	Sangukuppy	7.54	0.48	0.05	8.07
4.	Kattupavakka	7.64	0.36	0.05	8.05
5.	Chakkarakolli	3.99	0.17	3.59	7.75
6.	Chittadalodakayila	5.68	0.29	1.61	7.58
7.	Thettipoovu	4.04	0.78	2.52	7.34
8.	Esakinveru	5.22	0.39	0.64	6.24
9.	Kunnikuru	2.81	0.52	2.44	5.77
10.	Idampirivalampiri	5.43	0.09	0.05	5.57
11.	Thaivela	4.65	0.50	0.28	5.42
12.	Pulichuvadi	2.71	1.03	1.68	5.41
13.	Kuppameni	4.11	0.60	0.29	4.99
14.	Thiruthali	2.05	0.73	2.03	4.81
15.	Kanjiram	2.63	0.55	0.80	3.98
16.	Naithalkizhangu	2.88	0.19	0.87	3.93
17.	Punna	2.23	0.20	1.21	3.63
18.	Karimthakkali	0.93	2.61	0.00	3.53
19.	Pullanji	2.43	0.40	0.64	3.47
20.	Elangipoovu	1.90	1.34	0.07	3.31
21.	Aghori	1.86	0.00	1.38	3.23
22.	Angolam	2.81	0.04	0.14	2.99
23.	Erumakkali	1.11	0.23	1.35	2.70
24.	Oolanthakara	1.10	0.51	0.41	2.02
25.	Asokapoovu	0.83	0.44	0.68	1.94
26.	Musumusukku	0.88	0.11	0.86	1.85
27.	Vetti	0.53	0.02	1.14	1.69
28.	Paruvakodi	0.32	0.09	1.01	1.42
29.	Chathuramulla	1.05	0.15	0.05	1.25
30.	Nangu	0.12	0.00	0.32	0.44

**Table 3. Annual consumption of raw drugs by the medicine manufacturing units in Kerala and their average (kg)**

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR		PKD		MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg
1.	Adalodakam	13169	527	18191	606	7410	674	2408	268	3845	240	11344	1621	31001	795	107768	1159	38684	1046	44885	1448	33158	1326	516	129	8581	343	270	68	321229	902
2.	Adapathiyam	1757	70	2083	69	1010	92	800	89	1499	94	3301	472	1989	51	13841	149	2438	66	10790	348	9032	361	155	39	2288	92	45	11	51028	143
3.	Adayakkamaniyan	3889	156	3947	132	6351	577	833	93	1091	68	1281	183	3197	82	10555	113	3450	93	7107	229	2870	115	335	84	2952	118	117	29	47973	135
4.	Aduthodapala	458	18	153	5			247	27	1955	122	518	74	2797	72	2879	31	2353	64	1735	56	1403	56	1		965	39	2	1	15466	43
5.	Aghori			211	7	57	5							166	4			567	15	2234	72									3235	9
6.	Amaveru	422	17	944	31	89	8	315	35	507	32	659	94	1300	33	4992	54	1229	33	4851	156	785	31	169	42	2936	117	28	7	19225	54
7.	Ambalkizhangu	271	11	228	8	64	6	61	7	288	18	108	15	278	7	1518	16	146	4	561	18	7806	312	38	10	445	18	1		11812	33
8.	Amruthu	23559	942	28147	938	18622	1693	11212	1246	10868	679	37018	5288	40142	1029	272671	2932	56586	1529	170723	5507	20856	834	785	196	36379	1455	335	84	727902	2045
9.	Amukkuram	10698	428	18368	612	7676	698	8952	995	10302	644	15022	2146	22931	588	122228	1314	31576	853	95351	3076	16840	674	717	179	10416	417	590	148	371667	1044
10.	Anachuvadi	357	14	532	18	54	5	36	4	11346	709	16	2	616	16	198	2	39	1	191	6	911	36	49	12	374	15	11	3	14730	41
11.	Angolam	2		249	8	29	3			28	2			310	8	578	6			255	8	1200	48			332	13	3	1	2985	8
12.	Arayal	1950	78	8754	292	414	38	1740	193	1188	74	869	124	6778	174	7293	78	2324	63	7728	249	9995	400	15	4	4478	179	310	78	53835	151
13.	Arenukam	349	14	1156	39	119	11	149	17	530	33	242	35	660	17	4767	51	108	3	1152	37	6492	260	20	5	491	20	14	4	16249	46
14.	Asokapoo			428	14	76	7			675	42	60	9							675	22					10		15	4	1939	5
15.	Asokatholi	3808	152	12712	424	5953	541	2890	321	2906	182	7134	1019	8274	212	25666	276	5347	145	19900	642	11357	454	187	47	3595	144	234	59	109962	309
16.	Athipatta	4094	164	7746	258	2615	238	625	69	1492	93	1108	158	5688	146	5126	55	1388	38	7103	229	1846	74	75	19	3760	150	365	91	43030	121
17.	Athithippali	2257	90	2289	76	1316	120	281	31	574	36	594	85	1924	49	11276	121	1727	47	4546	147	2379	95	164	41	1212	48	77	19	30615	86
18.	Athividayam	712	28	413	14	1043	95	265	29	3292	206	507	72	992	25	5664	61	3970	107	15960	515	881	35	192	48	555	22	70	17	34514	97
19.	Attudharbha	670	27	657	22	99	9	378	42	646	40	293	42	1700	44	4670	50	2411	65	4302	139	10857	434	179	45	2258	90	40	10	29159	82
20.	Attuvanchi	225	9	290	10			185	21	2631	164	18	3	1992	51	554	6	18		2613	84	5250	210			1628	65			15404	43
21.	Avaltholi	1401	56	2015	67	20119	1829	3771	419	1448	91	7722	1103	7885	202	41354	445	5009	135	21190	684	10456	418	133	33	2131	85	394	99	125029	351
22.	Avanakku	10950	438	11202	373	561	51	5127	570	3586	224	11590	1656	24798	636	74965	806	34852	942	55243	1782	18666	747	368	92	9980	399	210	53	262095	736
23.	Ayamodakam	6574	263	6856	229	1131	103	4066	452	4304	269	5347	764	6254	160	38803	417	6463	175	13405	432	5472	219	354	89	4609	184	37	9	103673	291
24.	Bhrahmi	4536	181	13841	461	265	24	17603	1956	3478	217	9747	1392	6299	162	41064	442	12705	343	57344	1850	11152	446	2191	548	4055	162	294	73	184572	518
25.	Blankaya	944	38	2963	99	12482	1135	499	55	1279	80	1342	192	2615	67	11223	121	1199	32	5363	173	433	17	1711	428	703	28	22	6	42777	120
26.	Chakkarakolli	320	13	1425	48	40	4			1225	77			1420	36	1020	11			1920	62	335	13			30	1	10	3	7745	22
27.	Chandhanam	1035	41	5210	174	2705	246	1565	174	2580	161	2305	329	2408	62	19475	209	3230	87	12340	398	3460	138	640	160	1420	57	95	24	58468	164
28.	Changalparanda	1320	53	65	2	130	12	30	3	130	8	178	25	950	24	6439	69	605	16	1175	38	390	16	75	19	711	28	36	9	12234	34
29.	Channakizhangu	393	16	1651	55			140	16	2545	159	979	140	1050	27	2930	32	3048	82	2090	67	2954	118	1592	398	56	2	2	1	19432	55
30.	Chappanga			290	10			1260	140	310	19	626	89	2110	54	8855	95	2945	80	3685	119	3480	139	150	38	1090	44	10	3	24811	70
31.	Charalam	440	18	1832	61	145	13	390	43	920	58	60	9	1950	50	4720	51	430	12	1188	38	125	5	82	21	1288	52	2	1	13572	38
32.	Chathuramulla			145	5	84	8			138	9	6	1	110	3	554	6					108	4	109	27					1254	4
33.	Cheenapoo	1426	57	786	26	2401	218	137	15	1819	114	1622	232	1711	44	4895	53	901	24	2932	95	1911	76	41	10	725	29	28	7	21335	60

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD			MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg		
34.	Chembarathipoo	76	3	62	2	96	9	161	18	316	20	1514	216	88	2	1576	17	206	6	2687	87	5736	229	261	65	126	5	18	5	12923	36		
35.	Chembarathiyala	1715	69	565	19	85	8	7500	833	280	18	270	39	400	10	81905	881	1440	39	5100	165	5140	206	225	56	2050	82	5	1	106680	300		
36.	Chenchallyam	1535	61	2085	70	20	2	825	92	835	52	1271	182	1735	44	10417	112	1235	33	3445	111	905	36	85	21	1321	53	21	5	25735	72		
37.	Chengazhineerkizhangu	419	17	904	30	214	19	2885	321	464	29	655	94	1924	49	4799	52	1494	40	3044	98	7315	293	304	76	1324	53	94	24	25839	73		
38.	Cherukadaladi	812	32	742	25	172	16	407	45	2042	128	181	26	894	23	4552	49	877	24	2037	66	899	36	337	84	553	22	72	18	14577	41		
39.	Cherula	675	27	845	28			3280	364	95	6	1295	185	2150	55	63494	683	25970	702	14265	460	6232	249	455	114	1245	50	15	4	120016	337		
40.	Cherupunnayari	435	17	680	23	145	13	3430	381	2042	128	1045	149	1841	47	3730	40	1526	41	3222	104	8736	349	380	95	1625	65	15	4	28852	81		
41.	Cheruthettu	650	26	2410	80	4970	452	4290	477	1045	65	1226	175	2885	74	35374	380	5382	145	8536	275	10506	420	460	115	1380	55	10	3	79124	222		
42.	Cheruvazhuthina	9148	366	30889	1030	5628	512	8483	943	12203	763	14480	2069	7130	183	88667	953	15190	411	126545	4082	35416	1417	1443	361	8858	354	528	132	364608	1024		
43.	Chinnamukkijala	1691	68	580	19	2540	231	82	9	4630	289	625	89	1540	39	3935	42	346	9	1885	61	9135	365	75	19	1145	46	5	1	28214	79		
44.	Chiteenthalveru	96	4	270	9	75	7	2125	236	501	31	910	130	915	23	2984	32	1150	31	3540	114	8873	355	75	19	585	23	2	1	22101	62		
45.	Chittadalodakaveru	1385	55	1815	61	345	31	675	75	925	58	4855	694	226	6	2025	22	2650	72	37119	1197	3487	139	605	151	2635	105	255	64	59002	166		
46.	Chittadalodakayala	979	39	603	20	163	15	272	30	228	14			803	21	548	6	390	11	863	28	1588	64			868	35	278	70	7583	21		
47.	Chittaratha	8805	352	9815	327	2885	262	3765	418	3675	230	5535	791	6390	164	15203	163	15975	432	2345	76	6849	274	320	80	2208	88	65	16	83835	235		
48.	Chittalam	840	34	1060	35	365	33	565	63	665	42	410	59	960	25	4296	46	420	11	640	21	8640	346	152	38	685	27	10	3	19708	55		
49.	Chonakapullu/Injipullu	245	10	235	8	25	2	230	26	275	17	399	57	906	23	2898	31	630	17	1615	52	7711	308	80	20	705	28	2	1	15956	45		
50.	Chukku	7930	317	11075	369	15675	1425	10933	1215	12839	802	26270	3753	18120	465	216925	2333	54900	1484	80510	2597	20860	834	995	249	7990	320	430	108	485452	1364		
51.	Chunda	2546	102	7382	246	2263	206	771	86	2951	184			4946	127	4841	52	8426	228	2481	80	2691	108	651	163	8051	322	256	64	48256	136		
52.	Chuvannaratha	4885	195	1370	46			4342	482	2923	183			3663	94	49905	537	13800	373	54915	1771	15442	618	65	16	2696	108	65	16	154071	433		
53.	Devatharam	3630	145	10040	335	3700	336	14980	1664	3075	192	14470	2067	13465	345	121475	1306	35835	969	76795	2477	11079	443	750	188	5235	209	190	48	314719	884		
54.	Dharbaveru	660	26	545	18	67	6	485	54	2625	164	1400	200	1565	40	4040	43	1794	48	8520	275	8436	337	150	38	1676	67	30	8	31993	90		
55.	Ekanayakaveru	2144	86	3237	108			1110	123	16869	1054	1028	147	5875	151	28636	308	5511	149	18409	594	1775	71	229	57	4039	162	55	14	88917	250		
56.	Elangipoo	367	15	208	7	67	6	25	3	53	3	65	9	122	3	391	4	92	2	68	2	619	25	1		1234	49			3311	9		
57.	Elavangam	2112	84	10454	348	2662	242	1531	170	1351	84	2255	322	949	24	23469	252	5645	153	12614	407	3436	137	316	79	2066	83	138	35	68998	194		
58.	Elavulakam	410	16	473	16			123	14	286	18	518	74	1130	29	5278	57	377	10	1631	53	1382	55	228	57	2103	84	1		13940	39		
59.	Erukku	634	25	859	29	1843	168	3187	354	417	26	323	46	885	23	8668	93	2289	62	2031	66	8323	333	303	76	1059	42	25	6	30846	87		
60.	Erumakkali			269	9	81	7			1240	78					548	6	2		347	11	8				201	8			2696	8		
61.	Esakinveru	1064	43	937	31	200	18	62	7	302	19			51	1	2738	29	11		850	27					27	1			6242	18		
62.	Ezhilampala	492	20	1118	37	637	58	435	48	423	26	253	36	954	24	14922	160	1789	48	1589	51	8040	322	301	75	1683	67	7	2	32643	92		
63.	Garudakodi	184	7	132	4			30	3	66	4	3		795	20	1228	13	430	12	490	16	10428	417			1860	74			15646	44		
64.	Gulgulu	2028	81	4315	144	162	15	1870	208	18715	1170	5680	811	6410	164	21432	230	14030	379	25090	809	5110	204	212	53	2875	115	30	8	107959	303		
65.	Idampirivalampiri	80	3	216	7			37	4					1517	39	943	10	187	5	635	20	1687	67			256	10	13	3	5571	16		
66.	Irattimaduram	13050	522	7886	263	1335	121	4547	505	1962	123	7945	1135	12486	320	42745	460	18896	511	30873	996	8435	337	374	93	4307	172	90	23	154930	435		
67.	Irippa	1791	72	2911	97	884	80	262	29	880	55	185	26	2613	67	9599	103	2930	79	3073	99	1503	60	150	38	1304	52	10	3	28095	79		
68.	Ithi	1376	55	8554	285	90	8	1587	176	1316	82	1378	197	3123	80	8791	95	1129	31	8359	270	3584	143	75	19	4443	178	20	5	43825	123		

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD			MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg		
69.	Kachoori/Kacholam	1104	44	8525	284	1691	154	1142	127	2574	161	4745	678	4405	113	46711	502	11419	309	18718	604	5206	208	351	88	2205	88	59	15	108855	306		
70.	Kadaladi	4188	168	1046	35	81	7	431	48	1035	65	415	59	1450	37	3346	36	283	8	3816	123	8752	350	151	38	1618	65	13	3	26625	75		
71.	Kadukka	7973	319	21734	724	18285	1662	5962	662	18410	1151	27350	3907	38186	979	240181	2583	63395	1713	112410	3626	15607	624	880	220	9225	369	362	91	579960	1629		
72.	Kakkathondi	224	9	483	16	90	8			703	44	134	19	1422	36	4470	48	960	26	2059	66	7910	316	150	38	1045	42	10	3	19660	55		
73.	Kakoli	451	18	1575	53	993	90	210	23	460	29	644	92	800	21	2789	30	140	4	738	24	5781	231	170	43	1150	46	5	1	15906	45		
74.	Kaloorvanchi	524	21	2131	71	69	6	430	48	1550	97	15	2	3449	88	4391	47	2028	55	2871	93	2082	83	225	56	1604	64	5	1	21374	60		
75.	Kandakari	4726	189	3938	131	1382	126	3420	380	4773	298	4726	675	5225	134	10816	116	2750	74	7622	246	2592	104	301	75	6532	261	23	6	58826	165		
76.	Kanikonna	1158	46	1721	57	10	1	4124	458	1102	69	1499	214	5463	140	48217	518	9719	263	34945	1127	8649	346	330	83	4009	160	110	28	121055	340		
77.	Kanjiram	139	6	404	13	76	7	403	45	545	34	361	52	92	2	547	6	372	10	374	12	90	4			564	23	15	4	3982	11		
78.	Karakil	942	38	1796	60	19	2	1432	159	749	47	670	96	1201	31	8501	91	3460	94	587	19	8747	350	321	80	2033	81	35	9	30493	86		
79.	Karayampoovu	862	34	8975	299	76	7	1155	128	913	57	1071	153	2662	68	14244	153	1053	28	5939	192	586	23	327	82	1453	58	10	3	39326	110		
80.	Karimjeerakam	1028	41	3368	112	1088	99	956	106	3100	194	830	119	3577	92	15410	166	3676	99	7217	233	1334	53	284	71	1343	54	31	8	43242	121		
81.	Karimkoovalam	3375	135	571	19	355	32	7113	790	2285	143	1178	168	1691	43	2143	23	484	13	1864	60	7969	319	290	73	1279	51	67	17	30663	86		
82.	Karimkuringi	5527	221	11270	376	12642	1149	5650	628	17539	1096	15501	2214	20861	535	71686	771	70956	1918	132513	4275	17591	704	1005	251	8722	349	368	92	391831	1101		
83.	Karimthakkali	62	2	498	17					336	21									9		2575	103			54	2			3534	10		
84.	Karimthumba	422	17	185	6	19	2			2250	141	1642	235	1763	45	1512	16	40	1	44	1	120	5			219	9			8216	23		
85.	Karingali	8372	335	12952	432	1853	168	6208	690	1716	107	3107	444	9331	239	87157	937	8059	218	24803	800	14006	560	368	92	9008	360	559	140	187498	527		
86.	Karinochi	1945	78	4659	155	133	12	5292	588	1948	122	819	117	2600	67	15102	162	5142	139	7467	241	8456	338	301	75	2813	113	10	3	56687	159		
87.	Karinthali	64	3	564	19	91	8			16985	1062					995	11									599	24			19298	54		
88.	Karivelam	3054	122	8299	277	17143	1558	1715	191	1033	65	2990	427	7597	195	9003	97	5125	139	12220	394	722	29	739	185	2058	82	85	21	71783	202		
89.	Karkadakshringi	1136	45	5138	171	1369	124	1078	120	794	50	983	140	1430	37	6095	66	1061	29	3154	102	8625	345	430	108	1554	62	75	19	32921	92		
90.	Karkokilari	1098	44	2220	74	124	11	836	93	603	38	673	96	2475	63	14198	153	1429	39	4190	135	1380	55	308	77	1271	51	60	15	30865	87		
91.	Karthottiveru	505	20	775	26	139	13	1390	154	338	21	469	67	1163	30	6730	72	820	22	1265	41	8077	323	325	81	1935	77	15	4	23945	67		
92.	Karuka	1542	62	1182	39	855	78	1435	159	1200	75	321	46	4415	113	21604	232	10306	279	34060	1099	9877	395	75	19	1645	66	50	13	88567	249		
93.	Karuvapatta	576	23	3551	118	3885	353	1221	136	2019	126	850	121	4599	118	13558	146	1365	37	5185	167	9979	399	300	75	2030	81	23	6	49141	138		
94.	Kasthurimanjal	3682	147	4560	152	713	65	3823	425	1625	102	45	6	4489	115	9711	104	2471	67	2710	87	9504	380	225	56	5172	207	100	25	48829	137		
95.	Kattavazha	13887	555	14657	489	109	10	18173	2019	2325	145	95874	13696	15681	402	118277	1272	15052	407	91124	2939	6230	249	315	79	13579	543	540	135	405823	1140		
96.	Kattuchena	2682	107	2086	70	91	8	2535	282	11757	735	622	89	628	16	5585	60	3245	88	8658	279	66	3	225	56	1476	59	100	25	39756	112		
97.	Kattumulaku	2676	107	7337	245	2696	245	1260	140	1724	108	947	135	4423	113	15510	167	8215	222	18141	585	2470	99	450	113	2418	97	176	44	68443	192		
98.	Kattumuthira	982	39	522	17	233	21	425	47	412	26	4	1	907	23	2142	23	1310	35	1700	55	8839	354	76	19	821	33	10	3	18383	52		
99.	Kattupadavalam	2293	92	2738	91	2709	246	1168	130	947	59	3500	500	6781	174	63104	679	13361	361	23551	760	7894	316	425	106	4717	189	110	28	133298	374		
100.	Kattupavakka	68	3	5641	188	68	6	191	21	178	11	115	16	68	2	539	6	136	4	382	12	68	3	68	17	456	18	68	17	8046	23		
101.	Kattupayar	1179	47	3817	127	5227	475	1074	119	2423	151	970	139	2263	58	9233	99	3775	102	8755	282	9667	387	400	100	1384	55	36	9	50203	141		
102.	Kattuthipalimulaku	640	26	1515	51	86	8	732	81	868	54	1955	279	1647	42	11874	128	5795	157	14730	475	9707	388	30	8	2295	92	34	9	51908	146		
103.	Kattuthipaliveru	2771	111	2297	77	2594	236	812	90	2751	172			2978	76	11447	123	1230	33	13544	437	1079	43	300	75	2188	88	58	15	44049	124		

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD			MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg		
104.	Kattuvellari	1171	47	1500	50	4872	443	732	81	2086	130	1341	192	2202	56	10378	112	1648	45	3221	104	9519	381	397	99	2552	102	68	17	41687	117		
105.	Kattuzhunnu	1171	47	3886	130	5276	480	879	98	847	53	746	107	1713	44	10164	109	3447	93	9020	291	9689	388	327	82	1705	68	22	6	48892	137		
106.	Katujeerakam	96	4	960	32	52	5	123	14	667	42			2792	72	6376	69	590	16	622	20	1566	63	38	10	1811	72	18	5	15711	44		
107.	Katukurohini	1028	41	1608	54	3724	339	638	71	1417	89	1867	267	3827	98	14736	158	6294	170	12942	417	3188	128	333	83	2108	84	28	7	53738	151		
108.	Kayyunni/kanjuni	11813	473	18768	626	181	16	9928	1103	24929	1558	30684	4383	10583	271	246484	2650	57553	1555	24832	801	8880	355	570	143	12339	494	500	125	458044	1287		
109.	Kazhanji	56	2	301	10	124	11	210	23	482	30	314	45	1655	42	3651	39	1817	49	1781	57	9381	375	75	19	1299	52	5	1	21151	59		
110.	Keezhamelli	2993	120	3337	111	201	18	649	72	22695	1418	564	81	976	25	6446	69	4592	124	11255	363	9709	388	349	87	3560	142	70	18	67396	189		
111.	Kiriyath	1346	54	4695	157	2488	226	1049	117	22793	1425	865	124	4266	109	7473	80	2580	70	7808	252	9438	378	392	98	2054	82	118	30	67365	189		
112.	Kodangal/Muthil	1320	53	1830	61					495	31	1913	273	935	24	2595	28	210	6	695	22	1445	58			500	20	10	3	11948	34		
113.	Kodithoova	3621	145	14671	489	7571	688	1911	212	3691	231	6860	980	8736	224	71518	769	16641	450	39246	1266	9119	365	661	165	7011	280	117	29	191374	538		
114.	Koduveli	3570	143	9255	309	3940	358	4590	510	25370	1586	6090	870	16960	435	84296	906	13355	361	57062	1841	11421	457	975	244	8817	353	260	65	245961	691		
115.	Kolaraku	2605	104	2600	87	1820	165	1845	205	630	39	1485	212	3290	84	10135	109	3667	99	10435	337	3525	141	240	60	1834	73	65	16	44176	124		
116.	Kolmanchi			505	17	20	2	350	39	1120	70	245	35	1430	37	4695	50	205	6	4370	141	330	13	21	5	285	11	15	4	13591	38		
117.	Koovalathinveru	9291	372	40191	1340	5646	513	3216	357	5059	316	12155	1736	20466	525	88489	951	43996	1189	103051	3324	13277	531	766	192	8928	357	831	208	355362	998		
118.	Koovalayila	1175	47	1424	47	139	13	694	77	16639	1040	1415	202	399	10	6245	67	5339	144	10116	326	1744	70	274	69	2376	95	69	17	48048	135		
119.	Koovalthinkaya	391	16	610	20	131	12	200	22	63	4	10	1	73	2	10619	114	155	4	795	26	355	14	300	75	314	13	106	27	14122	40		
120.	Kottam	5008	200	8572	286	1745	159	3590	399	3246	203	3099	443	5170	133	31160	335	8655	234	11970	386	4020	161	495	124	2340	94	40	10	89110	250		
121.	Koval	155	6	390	13	81	7	355	39	675	42	275	39	1530	39	3950	42	1800	49	3781	122	410	16	75	19	2030	81	5	1	15512	44		
122.	Ksheerakakoli	525	21	3118	104	250	23	303	34	681	43	510	73	1880	48	2749	30	304	8	630	20	8238	330	333	83	613	25	43	11	20177	57		
123.	Kudakapalatholi	2565	103	4791	160	5729	521	1594	177	3377	211	2765	395	3745	96	16087	173	3604	97	5679	183	1669	67	239	60	3289	132	224	56	55357	155		
124.	Kudakapalayari	771	31	2527	84	342	31	539	60	2171	136	1475	211	2139	55	12559	135	4964	134	8784	283	2072	83	264	66	1469	59	54	14	40130	113		
125.	Kumbil	8068	323	14037	468	5243	477	3258	362	2802	175	7905	1129	10290	264	17142	184	24915	673	12338	398	2615	105	810	203	5832	233	410	103	115665	325		
126.	Kunnikuru	210	8	475	16			185	21	22	1			290	7	1925	21	332	9	1589	51	535	21			194	8	10	3	5767	16		
127.	Kuppameni	3390	136	565	19	62	6	250	28			150	21	6		431	5	6		5		90	4			33	1			4988	14		
128.	Kurassani	1255	50	800	27	15	1	432	48	885	55	410	59	1525	39	3440	37	125	3	1109	36	420	17	160	40	548	22	10	3	11134	31		
129.	Kurumthotti	32175	1287	89332	2978	18915	1720	28724	3192	49765	3110	77479	11068	70180	1799	341042	3667	108563	2934	234273	7557	74412	2976	3615	904	64015	2561	981	245	1193471	3352		
130.	Kuzhalkonna	250	10	2075	69			432	48	55	3	1245	178	4260	109	19591	211	1350	36	1598	52	275	11	150	38	272	11	26	7	31579	89		
131.	Lanthakuru	913	37	2265	76	2019	184	877	97	563	35	1446	207	2430	62	10598	114	3721	101	11293	364	1225	49	1723	431	1585	63	11	3	40669	114		
132.	Mankunthikkam	687	27	1517	51			888	99	686	43	697	100	5865	150	7859	85	353	10	3990	129	1051	42	1831	458	3340	134	55	14	28818	81		
133.	Manjal	2478	99	5176	173	1494	136	5013	557	17115	1070	2772	396	5370	138	52629	566	10287	278	41865	1350	4351	174	2113	528	2964	119	152	38	153777	432		
134.	Manjatti	1427	57	2336	78	1427	130	563	63	2857	179	1673	239	2035	52	29913	322	9258	250	19627	633	1526	61	1464	366	2525	101	131	33	76763	216		
135.	Maramanjai	559	22	2073	69	1132	103	1324	147	8604	538	3013	430	3889	100	26321	283	9805	265	25844	834	9207	368	1649	412	1973	79	250	62	95643	269		
136.	Mathalanarakam	137	5	1501	50			156	17	2348	147	344	49	817	21	3700	40			3536	114	31	1	669	167	444	18	18	4	13700	38		
137.	Moovila	5625	225	15390	513	383	35	2852	317	3687	230	10125	1446	13139	337	78738	847	38203	1033	60665	1957	8717	349	1844	461	12886	515	359	90	252613	710		
138.	Mukkutti	337	13	292	10	105	10	99	11	296	19	899	128	560	14	3867	42	899	24	1253	40	1256	50	1070	268	930	37	5	1	11868	33		

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD			MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg		
139.	Munja	6115	245	14803	493	1286	117	2622	291	3213	201	7912	1130	8454	217	51870	558	31748	858	63330	2043	12214	489	2400	600	5995	240	320	80	212279	596		
140.	Musumusukku	156	6	103	3					250	16			53	1	687	7			599	19									1848	5		
141.	Muthanga	4202	168	5636	188	466	42	2308	256	4127	258	12417	1774	9771	251	170429	1833	30911	835	54979	1774	32921	1317	2785	696	5120	205	388	97	336459	945		
142.	Nagadhantiveru	400	16	1320	44	3675	334	3620	402	1245	78	562	80	4110	105	6678	72	1534	41	10915	352	9612	384	375	94	1150	46	5	1	45201	127		
143.	Naithalkizhangu	182	7	341	11					252	16	8	1	330	8	949	10	111	3	836	27	326	13	373	93	222	9	2	1	3933	11		
144.	Nangu			49	2					233	15					158	2													440	1		
145.	Nanmughapullu	216	9	445	15	193	18	143	16	1072	67	2799	400	618	16	3840	41	236	6	1008	33	8559	342	514	129	1019	41	11	3	20675	58		
146.	Naruneedi	5835	233	3980	133	3690	335	10375	1153	1765	110	4395	628	10926	280	27380	294	16500	446	53255	1718	11070	443	880	220	3275	131	130	33	153456	431		
147.	Nayakurana	1265	51	2215	74	2960	269	9775	1086	1449	91	600	86	2020	52	13508	145	4380	118	11310	365	9895	396	450	113	1845	74	25	6	61697	173		
148.	Neelayamari	4579	183	11369	379	1166	106	6245	694	2640	165	11948	1707	4076	105	51491	554	12910	349	66645	2150	11517	461	859	215	3570	143	15	4	189031	531		
149.	Neemmaruthinpatta	4445	178	3911	130	12358	1123	1604	178	6872	430	1220	174	4465	114	9848	106	3855	104	5746	185	985	39	1014	254	3872	155	49	12	60244	169		
150.	Neemmathalatholi	2211	88	862	29	152	14	5577	620	6414	401	284	41	1678	43	6107	66	3985	108	11990	387	8861	354	864	216	2164	87	48	12	51198	144		
151.	Nellikka	15755	630	25321	844	13837	1258	18944	2105	19190	1199	26406	3772	51042	1309	240367	2585	110308	2981	246915	7965	75666	3027	2073	518	13315	533	769	192	859909	2415		
152.	Nilamparanda	648	26	172	6	86	8	10	1	2452	153	1674	239	719	18	7260	78	1161	31	6653	215	930	37	673	168	1051	42	43	11	23532	66		
153.	Nilappana	2131	85	1145	38	371	34	2556	284	916	57	2399	343	2318	59	18601	200	7501	203	24332	785	9237	369	921	230	1799	72	83	21	74310	209		
154.	Njavalkuru	330	13	328	11	190	17	65	7	205	13	30	4	1420	36	5739	62	1835	50	5180	167	9444	378	25	6	490	20	10	3	25291	71		
155.	Njavalpatta	95	4	575	19			3145	349	390	24	770	110	1810	46	5824	63	5824	157	5240	169	9480	379	225	56	1030	41	35	9	34443	97		
156.	Njerinjampuli	520	21	665	22	90	8	340	38	5975	373	875	125	1655	42	3740	40	1620	44	1950	63	8640	346	40	10	960	38	2	1	27072	76		
157.	Njerinjil	9650	386	13400	447	7750	705	5710	634	24965	1560	10185	1455	18371	471	86244	927	37465	1013	79600	2568	12114	485	1050	263	6520	261	190	48	313214	880		
158.	Oolanthakara	550	22	290	10			123	14			18	3	413	11	373	4					150	6			103	4			2020	6		
159.	Orila	8766	351	18543	618	2005	182	3173	353	3529	221	8055	1151	9025	231	77775	836	36046	974	61585	1987	11873	475	524	131	11062	442	95	24	252055	708		
160.	Pachila	1150	46	7013	234	742	67	1102	122	684	43	2031	290	2519	65	18990	204	4711	127	12550	405	7608	304	984	246	1532	61	94	24	61709	173		
161.	Pachotti	2292	92	9521	317	3655	332	1512	168	8695	543	4435	634	5190	133	30655	330	6159	166	22794	735	10463	419	392	98	1983	79	99	25	107847	303		
162.	Padakizhangu	927	37	5234	174	3747	341	3395	377	2152	134	2186	312	3369	86	15263	164	9310	252	21251	686	7940	318	2034	508	2280	91	96	24	79183	222		
163.	Padarchunda	83	3	574	19	124	11	55	6	73	5	267	38	335	9	6382	69	388	10	487	16	54	2	1065	266	549	22	47	12	10483	29		
164.	Padavalam	1419	57	2985	99	1245	113	1636	182	2854	178	7022	1003	5890	151	29472	317	5521	149	5760	186	674	27	837	209	1139	46	27	7	66481	187		
165.	Palmuthukku	5588	224	6703	223	3537	322	7608	845	4142	259	2800	400	5485	141	31994	344	8643	234	40520	1307	9986	399	1942	486	4329	173	108	27	133386	375		
166.	Palvallykizhangu	1094	44	562	19	74	7	889	99	176	11	274	39	1072	27	3108	33	3700	100	3011	97	725	29	1682	420	1231	49	38	10	17636	50		
167.	Panikoorka	457	18	6844	228	451	41	196	22	1445	90	2356	337	1826	47	1440	15	257	7	1860	60	1543	62	1118	279	583	23	124	31	20502	58		
168.	Paratakappullu	1641	66	3037	101	1237	112	2998	333	1576	99	2365	338	3543	91	98535	1060	11521	311	27957	902	4497	180	1309	327	3090	124	38	9	163345	459		
169.	Paruvakodi	86	3	146	5			26	3	708	44					308	3	125	3	20	1									1419	4		
170.	Parvalli	174	7	407	14	116	11			77	5			593	15	3084	33	155	4	4400	142	600	24	2526	632	1229	49	3	1	13364	38		
171.	Pathimugham	1766	71	5498	183	1870	170	8488	943	969	61	1709	244	3780	97	83214	895	5477	148	11235	362	10603	424	1702	426	4180	167	267	67	140758	395		
172.	Pathiriveru	5149	206	14745	492	3670	334	3212	357	4886	305	7302	1043	10279	264	61390	660	31570	853	51518	1662	9134	365	2173	543	8878	355	320	80	214225	602		
173.	Payyani	5501	220	6701	223	66	6	3889	432	3560	222	6541	934	10012	257	63735	685	30927	836	59103	1907	4116	165	1981	495	8347	334	306	76	204785	575		



Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD		MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg	
174.	Peenari	105	4	525	17	121	11	155	17	98	6	109	16	995	26	2146	23	416	11	1847	60	9158	366	701	175	991	40	5	1	17371	49	
175.	Peral	1456	58	8254	275	115	10	1131	126	2174	136	1159	166	1087	28	4165	45	1088	29	5625	181	8736	349	680	170	3905	156	249	62	39827	112	
176.	Perumaratholi	28	1	139	5	118	11	1025	114	1398	87	1021	146	1135	29	4025	43	2874	78	4895	158			2		1075	43	31	8	17765	50	
177.	Perumkumbaveru	453	18	486	16	106	10	189	21	97	6	500	71	1202	31	8378	90	1925	52	5170	167	9472	379	1218	304	2161	86	67	17	31426	88	
178.	Plassu	82	3	372	12	131	12	51	6	1880	117	386	55	1090	28	1523	16	751	20	1732	56	362	14	326	81	498	20	2	1	9187	26	
179.	Ponnaveera	1008	40	438	15	124	11	209	23	1029	64	180	26	1996	51	916	10	71	2	558	18	9174	367			694	28	2	1	16400	46	
180.	Pookaitha	1105	44	6973	232	104	9	111	12	1673	105	1941	277	4233	109	8884	96	3124	84	4819	155	7550	302	518	130	1359	54	10	3	42404	119	
181.	Poovamkuruthal	1133	45	259	9			526	58	1541	96	24	3	7132	183	461	5	937	25	9673	312	8860	354	100	25	713	29	27	7	31384	88	
182.	Poovathu/Manjari	2385	95	1589	53	95	9	1323	147	173	11	195	28	1674	43	6085	65	105	3	4998	161	8412	336	316	79	1115	45	77	19	28542	80	
183.	Prasarani	2643	106	1622	54	263	24	995	111	24554	1535	3838	548	1761	45	12082	130	4424	120	15145	489	9308	372	987	247	3329	133	11	3	80962	227	
184.	Pulichuvadi	402	16	68	2			34	4	1326	83	145	21	128	3	1551	17	208	6	252	8	94	4	485	121	719	29	2	1	5413	15	
185.	Puliyarila	96	4	22860	762	107	10	30	3	1411	88	179	26	104	3	2295	25	235	6	2688	87	9389	376			167	7	23	6	39582	111	
186.	Pullanji	45	2	329	11	89	8	4		23	1	21	3	142	4	180	2	638	17	749	24	298	12	561	140	365	15	25	6	3471	10	
187.	Punna			628	21	105	10	10	1	644	40	39	6	190	5	551	6	122	3	346	11	595	24	5	1	394	16			3629	10	
188.	Pushkaramoolam	1198	48	9711	324	2897	263	737	82	21801	1363	4302	615	3359	86	36408	391	4204	114	12456	402	1158	46	1602	400	3471	139	57	14	103361	290	
189.	Putharichunda	1660	66	6975	233	3036	276	1457	162	2140	134	2882	412	1914	49	60422	650	6013	163	25335	817	10697	428	1954	489	6089	244	148	37	130722	367	
190.	Rakthachandanam	1825	73	3113	104	2084	189	1836	204	1722	108	2637	377	2851	73	31994	344	3434	93	5008	162	7950	318	1052	263	3684	147	117	29	69307	195	
191.	Ramacham	2811	112	5878	196	2208	201	2065	229	1147	72	1937	277	3885	100	35130	378	7631	206	22002	710	5416	217	1566	392	7417	297	163	41	99255	279	
192.	Sangukuppy	3007	120	41	1	134	12	2625	292	81	5			66	2	1588	17	23	1	249	8	254	10							8068	23	
193.	Sangupushpam	1101	44	557	19	204	19	1112	124	1553	97	498	71	2281	58	3980	43	717	19	2691	87	8884	355	174	44	492	20	23	6	24267	68	
194.	Sathakuppa	2101	84	1858	62	4274	389	2169	241	258	16	1116	159	6815	175	27904	300	18820	509	24701	797	2072	83	1791	448	4409	176	127	32	98416	276	
195.	Sathavari	14644	586	18826	628	4896	445	16278	1809	6306	394	16830	2404	21184	543	135663	1459	90541	2447	280805	9058	10019	401	2571	643	10852	434	660	165	630076	1770	
196.	Seemaeruvelli	839	34	1219	41	133	12	1668	185	624	39	684	98	2203	56	6906	74	4680	126	5720	185	487	19	1980	495	1328	53	278	70	28750	81	
197.	Seemanagappuvu	378	15	940	31	413	38	1136	126	2228	139	1704	243	3608	93	11549	124	29971	810	16389	529	221	9	1734	434	333	13	12	3	70615	198	
198.	Seemapachila	109	4	499	17	139	13	295	33	93	6	4047	578	2574	66	4459	48	739	20	785	25	308	12	1894	474	67	3	13	3	16020	45	
199.	Somalatha	14	1	64	2			138	15	681	43	92	13	435	11	847	9	217	6	779	25	9464	379	366	92	120	5	2	1	13220	37	
200.	Thaivela	3420	137	270	9			80	9	5		455	65	30	1	507	5	170	5	470	15					17	1			5424	15	
201.	Thakara	2035	81	985	33	125	11	525	58	1005	63	90	13	2840	73	11080	119	2515	68	1555	50	1035	41	20	5	670	27	20	5	24500	69	
202.	Thakkolam	1380	55	4085	136	10010	910	2385	265	955	60	615	88	3425	88	6685	72	1600	43	5945	192	9471	379	680	170	1100	44	100	25	48436	136	
203.	Thalisapathram	2155	86	1250	42	2310	210	410	46	1915	120	855	122	1730	44	5549	60	1045	28	3294	106	1830	73	155	39	1025	41	6	2	23529	66	
204.	Thamaravalayam	310	12	295	10	5		2889	321	385	24	960	137	385	10	2770	30	1845	50	3205	103	9257	370	150	38	608	24	20	5	23084	65	
205.	Thamarayalli	310	12	2165	72	5		5165	574	440	28	775	111	951	24	2545	27	1740	47	3175	102	9202	368	740	185	482	19	10	3	27705	78	

Sl. No.	Local names	TVM		KLM		PTA		ALP		KTM		IDK		EKM		TSR			PKD		MLM		KKD		WYD		KNR		KSD		Total	
		Total	Avg	Total	Avg	Total	Avg	ALP	Avg	KTM	Avg	IDK	Avg	EKM	Avg	TSR	Avg	PKD	Avg	MLM	Avg	KKD	Avg	WYD	Avg	KNR	Avg	KSD	Avg	Total	Avg	
206.	Thanikka	5349	214	13060	435	7300	664	8960	996	25790	1612	7405	1058	9140	234	68936	741	17671	478	43811	1413	12177	487	890	223	6655	266	140	35	227284	638	
207.	Tharthaval	5915	237	783	26	130	12	1410	157	1375	86	3700	529	6960	178	8699	94	650	18	2515	81	7201	288	450	113	1365	55	10	3	41163	116	
208.	Thathiri	12235	489	35165	1172	26935	2449	9960	1107	25150	1572	17511	2502	22960	589	117633	1265	17335	469	94410	3045	36125	1445	1795	449	6290	252	190	48	423694	1190	
209.	Thazhuthama	6060	242	8520	284	4900	445	6015	668	38105	2382	16090	2299	10445	268	86487	930	16155	437	73378	2367	5580	223	940	235	6400	256	230	58	279305	785	
210.	Thekkadaveru	540	22	560	19	95	9	2965	329	1660	104	133	19	1715	44	4760	51	550	15	4058	131	9408	376	450	113	1700	68	5	1	28599	80	
211.	Thettipoo	140	6	545	18	68	6			570	36	255	36	80	2	3210	35	190	5	882	28	925	37	75	19	390	16	5	1	7335	21	
212.	Thettiveru	535	21	2915	97	115	10	215	24	600	38	870	124	1080	28	4585	49	827	22	1120	36	540	22	75	19	1202	48	25	6	14704	41	
213.	Thippali	7095	284	14193	473	6685	608	21660	2407	28410	1776	8840	1263	14731	378	99780	1073	11870	321	58472	1886	18000	720	885	221	6015	241	120	30	296756	834	
214.	Thiruthali	75	3	105	4			125	14	712	45	790	113	320	8	825	9	140	4	980	32			75	19	660	26			4807	14	
215.	Thottavadi	2390	96	50	2	75	7	145	16	18165	1135	450	64	405	10	395	4	555	15	2195	71	9441	378			1170	47			35436	100	
216.	Thumbayala	1120	45	370	12	100	9			1155	72	573	82	120	3	545	6	1783	48	352	11	9240	370			465	19			15823	44	
217.	Uluva	1838	74	4630	154	1074	98	1550	172	926	58	495	71	4222	108	48899	526	691	19	9202	297	1229	49	157	39	3629	145	33	8	78575	221	
218.	Ummam	3772	151	3281	109	14782	1344	3805	423	786	49	12355	1765	2659	68	17196	185	750	20	2908	94	9000	360	347	87	2989	120	100	25	74730	210	
219.	Ungu	3068	123	3237	108	19	2	1358	151	1283	80	3257	465	4915	126	24612	265	2580	70	17410	562	10256	410	155	39	1716	69	120	30	73986	208	
220.	Uzhinja	9015	361	7670	256			1572	175	2181	136	10703	1529	3155	81	12919	139	5092	138	57745	1863	10651	426	302	76	2323	93	50	13	123378	347	
221.	Valsanabhi	106	4	156	5			1036	115	2840	177	1385	198	2340	60	10417	112	4289	116	9992	322	1240	50	1757	439	256	10	2	1	35816	101	
222.	Vayalchulli	1447	58	2545	85	183	17	519	58	15815	988	3552	507	6320	162	23387	251	11436	309	8559	276	8061	322	1615	404	3385	135	28	7	86854	244	
223.	Vayambu	1847	74	2371	79	265	24	3266	363	6097	381	4132	590	3814	98	63058	678	7508	203	24218	781	4721	189	1942	485	2554	102	72	18	125864	354	
224.	Veezhalar	1259	50	6866	229	2213	201	1220	136	1390	87	2134	305	4118	106	21722	234	2067	56	15355	495	1995	80	1692	423	1787	71	145	36	63962	180	
225.	Velipparuthi	3948	158	319	11	159	14	169	19	7		2562	366	149	4	1235	13	34	1	2178	70	414	17	300	75	412	16	2		11889	33	
226.	Vengakathal	5519	221	12271	409	1952	177	2264	252	1830	114	3144	449	7967	204	20215	217	7430	201	37690	1216	11656	466	1169	292	4650	186	62	15	117817	331	
227.	Veppila	2034	81	949	32	227	21	1056	117	103	6	615	88	306	8	7314	79	3023	82	8377	270	1151	46	464	116	2570	103	39	10	28228	79	
228.	Veppintholi	2591	104	4190	140	1823	166	1328	148	41342	2584	8631	1233	6525	167	56004	602	10121	274	27284	880	2582	103	1656	414	4058	162	105	26	168239	473	
229.	Vetti			47	2	126	11			928	58						179	2	119	3	272	9					24	1			1694	5
230.	Vishnukranthi	219	9	295	10			61	7	173	11	2857	408	52	1	1373	15	192	5	622	20	9329	373			330	13	2		15507	44	

TVM- Thiruvananthapuram, KLM- Kollam, PTA- Pathanamthitta, ALP-Alappuzha, KTM- Kottayam, IDK- Idukki, EKM- Ernakulam, TSR- Thrissur, PKD- Palakkad, MLM- Malappuram, KKD- Kozhikode, WYD- Wayanad, KAN- Kannur, KGD- Kasaragode, AVG - Average

**Table 4. Annual consumption of raw drugs by the small units in each District and their average (kg)**

Local name	TVM	KLM	ALP	PTA	KTM	IDK	EKM	TSR	PKD	MLM	KKD	WYD	KNR	KSD	Total	Avg
Adalodakam	6544	14258	2158	7410	1304	5	19628	14615	20852	11105	17021	516	4848	270	120533	411.38
Adapathiyar	1275	1608	350	1010	312		1505	6132	1647	3145	4975	155	1330	45	23489	80.17
Adayakkamaniyan	2826	2827	583	6351	288		2389	6379	1954	3507	2821	335	1832	117	32208	109.93
Aduthodapala	334	153	247		55		1435	1044	891	850	1383	1	795	2	7190	24.54
Aghori		211		57			166		567	859					1860	6.35
Amaveru	341	819	80	89	156	18	1097	2232	1007	1812	747	169	2136	28	10730	36.62
Ambalkizhangu	226	198	61	64	55		98	1345	62	323	3697	38	229	1	6397	21.83
Amruthu	17910	22415	4995	18622	5305		21320	27140	10950	21170	14710	785	32315	335	197972	675.67
Amukkuram	10113	12868	5083	7676	5265	5	15129	23273	9154	8191	15949	717	8316	590	122329	417.51
Anachuvadi	287	312	36	54	66		616	198	39	190	911	49	283	11	3052	10.41
Angolam		211		29	28		302	448		255	1200		332	3	2807	9.58
Arayal	630	6954	1060	414	660		6566	4318	2008	4998	4442	15	3493	310	35868	122.41
Arenukam	299	759	99	119	74		623	3214	108	1122	541	20	441	14	7433	25.37
Asokapoovu		53		76						675			10	15	829	2.83
Asokatholi	3120	8112	1010	5953	919		5606	10123	2652	5142	7912	187	3295	234	54264	185.20
Athipatta	2836	7146	25	2615	1205		5508	1939	1016	4410	1846	75	2610	365	31596	107.83
Athithippali	360	1339	281	1316	349		1374	7556	594	1013	2369	164	1012	77	17803	60.76
Athividayam	704	397	245	1043	407		878	1692	3030	328	875	192	485	70	10344	35.30
Attudharbha	284	582	213	99	155		1439	1706	1421	1312	967	179	1705	40	10101	34.48
Attuvanchi	224	290	185		6		1992	381		255	3		534		3870	13.21
Avaltholi	867	1700	1439	20119	885		5071	10478	4843	3389	3314	133	1581	394	54213	185.03
Avanakku	2136	9617	2787	561	2008	5	17098	17027	11860	16686	10150	368	7622	210	98133	334.92
Ayamodakam	3700	6406	3416	1131	2129		4479	12242	2488	4055	2892	354	4028	37	47356	161.62
Bhrahmi	3077	13531	16316	265	669	9	2027	10866	1305	7316	4954	2191	2817	294	65639	224.02
Blankaya	858	2800	235	12482	381		2117	6289	961	1351	433	1711	621	22	30262	103.28
Chakkarakolli	320	1425		40			535	860		435	335		30	10	3990	13.62
Chandhanam	920	4910	940	2705	460	25	795	7180	2990	1490	3330	640	820	95	27300	93.17
Changalmparanda	995	65		130	130		350	1660	280	955	380	75	165	36	5221	17.82

Local name	TVM	KLM	ALP	PTA	KTM	IDK	EKM	TSR	PKD	MLM	KKD	WYD	KNR	KSD	Total	Avg
Channakizhangu	366	1636	109		61		263	1419	2973	515	2954	1592	56	2	11946	40.77
Chappanga		290	1235		310		2110	8560	85	3435	3480	150	1090	10	20755	70.84
Charalam	365	1720	370	145	590		1490	2570	260	530	115	82	620	2	8859	30.24
Chathuramulla				84	133		66	554			108	109			1054	3.60
Cheenapoovu	366	711	112	2401	161		1396	3316	336	631	1886	41	406	28	11791	40.24
Chembarathipoovu	46	62	161	96	316	56	78	941	206	1311	5736	261	126	18	9414	32.13
Chembarathiyila	1715	370	7400	85	280	30	240	78735	750	4650	5055	225	1450	5	100990	344.68
Chenchaliyam	1320	1560	680	20	250		1560	5225	270	1200	855	85	1121	21	14167	48.35
Chengazhineerkizhangu	419	814	2725	214	449		1659	2564	1464	994	1514	304	424	94	13638	46.55
Cherukadaladi	182	457	407	172	1577		712	2457	617	2027	897	337	347	72	10261	35.02
Cherula	635	845	3210		80		1350	16995	9290	11600	1640	455	830	15	46945	160.22
Cherupunnayari	350	590	3390	145	90		1395	1780	561	1340	410	380	925	15	11371	38.81
Cheruthekku	340	2085	4070	4970	330		2005	3340	2730	5160	1530	460	1180	10	28210	96.28
Cheruvazhuthina	5798	22613	4983	5628	4348		6018	16668	15190	6503	8118	1443	4658	528	102496	349.82
Chinnamukkiyila	235	535	62	2540	125		1075	1100	315	1785	1575	75	360	5	9787	33.40
Chiteenthalveru	36	240	2100	75	41		610	2040	550	750	4225	75	335	2	11079	37.81
Chittadalodakaveru	260	1815	650	345	925		226	2025	2650	1355	2135	605	2635	255	15881	54.20
Chittadalodakayila	898	393	103	163	228		113	548	390	113	1588		868	278	5683	19.40
Chittaratha	3955	9255	3085	2885	1620		2245	7910	2145	2330	3415	320	1550	65	40780	139.18
Chittalam	580	1000	370	365	310		660	3385	265	485	1780	152	485	10	9847	33.61
Chonakapullu/Injipullu	245	195	185	25	260		711	1705	275	760	3500	80	305	2	8248	28.15
Chukku	3050	10175	9380	15675	2985	20	11910	23735	13380	11400	7130	995	5740	430	116005	395.92
Chunda	881	6081	571	2263	1791		1446	4841	1306	2431	2691	651	4586	256	29795	101.69
Chuvannaratha	1435	1370	4255		465		2895	14145	13800	4140	5515	65	2096	65	50246	171.49
Devatharam	2210	6590	13260	3700	1390		7050	14350	9315	12570	5905	750	4735	190	82015	279.91
Dharbaveru	345	370	245	67	475		1100	1090	960	2535	570	150	1056	30	8993	30.69
Ekanayakaveru	688	3237	1110		107		3000	17061	2757	3698	1758	229	3239	55	36939	126.07
Elangipoovu	284	148	25	67	50		107	351	79	68	612	1	109		1900	6.48
Elavangam	854	8954	1056	2662	859	254	79	13185	2125	3841	3426	316	1452	138	39201	133.79
Elavulakam	296	453	123		28		1073	4465	340	1003	1032	228	503	1	9545	32.58

Local name	TVM	KLM	ALP	PTA	KTM	IDK	EKM	TSR	PKD	MLM	KKD	WYD	KNR	KSD	Total	Avg
Erukku	456	859	3022	1843	385		883	3369	683	1581	144	303	555	25	14108	48.15
Erumakkali		269		81				448		297			16		1111	3.79
Esakinveru	1004	612	62	200	77		36	2338	11	850			27		5217	17.81
Ezhilampala	299	1118	370	637	61		533	11495	1494	1539	1675	301	1301	7	20830	71.09
Garudakodi	70	132			66		795	900	430	170	660		16		3239	11.05
Gulgulu	1432	3765	1295	162	910		3200	9000	4450	1235	4900	212	2075	30	32666	111.49
Idampirivalampiri	80	216	37				1517	889	187	544	1687		256	13	5426	18.52
Irattimadhuram	2800	6986	2467	1335	1370		9615	15938	7638	4845	8433	374	3457	90	65347	223.03
Irippa	1696	2821	247	884	330		2208	5298	639	1472	1503	150	452	10	17710	60.44
Ithi	560	6354	987	90	902		2958	6936	657	4012	3295	75	3348	20	30194	103.05
Kachoori/Kacholam	652	6575	407	1691	685		2810	8622	3253	2576	2812	351	1905	59	32398	110.57
Kadaladi	3140	616	271	81	220		1281	1926	283	2244	1287	151	1056	13	12569	42.90
Kadukka	6307	14722	4962	18285	6450		23374	23435	19945	13260	10848	880	7625	362	150455	513.50
Kakkathondi	172	453		90	28		1061	2217	466	391	618	150	425	10	6081	20.75
Kakoli	446	975	210	993	165		800	2114	140	690	5781	170	550	5	13039	44.50
Kaloorvanchi	524	2067	370	69	198		3379	3700	482	2321	2082	225	1089	5	16511	56.35
Kandakari	1368	3638	2035	1382	1139		4480	2769	1602	1318	2592	301	1279	23	23926	81.66
Kanikonna	560	1661	3428	10	176	1499	2816	2847	2074	2074	4338	330	2559	110	24482	83.56
Kanjiram	72	369	308	76	94		89	388	283	374	90		474	15	2632	8.98
Karakil	494	1471	432	19	407		842	3043	470	587	994	321	1535	35	10650	36.35
Karayampoovu	712	6775	925	76	457		2063	7250	672	2830	546	327	1100	10	23743	81.03
Karimjeerakam	534	1418	740	1088	268	5	3126	6642	2496	2338	1300	284	1143	31	21413	73.08
Karimkoovalam	355	571	127	355	203		1186	1641	406	966	2846	290	1181	67	10194	34.79
Karimkurinji	3137	10370	3925	12642	2986		6404	19262	11269	11572	9773	1005	6622	368	99335	339.03
Karimthakkali	32	498			336					9			54		929	3.17
Karimthumba	422	185		19			285	1352	40	43	120		136		2602	8.88
Karingali	8076	12502	5797	1853	990		7487	64496	4409	8075	7481	368	7296	559	129389	441.60
Karinochi	1005	3812	4872	133	644		2386	6606	822	3315	2906	301	2613	10	29425	100.43
Karinthali	64	564		91	110			822					599		2250	7.68
Karivelam	2820	7649	399	17143	694		7252	3993	659	2110	722	739	1258	85	45523	155.37

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Karkadakshringi	524	4713	798	1369	330		1217	2596	696	690	1487	430	1154	75	16079	54.88
Karkokilari	548	1645	616	124	234		2230	10304	1034	1845	1362	308	871	60	21181	72.29
Karthottiveru	445	700	1310	139	324		952	2710	429	500	621	325	1485	15	9955	33.97
Karuka	1072	1002	1085	855	242		3528	3136	652	2508	2310	75	1045	50	17560	59.93
Karuvapatta	576	2636	1171	3885	539		3439	3823	1365	5185	1425	300	675	23	25042	85.47
Kasthurimanjal	2814	4260	3823	713	671	27	4280	7979	2471	2270	1026	225	4372	100	35031	119.56
Kattarvazha	9200	11157	5673	109	1067	18	3871	15315	15052	7227	5550	315	11379	540	86473	295.13
Kattuchena	1432	2056	2405	91	495		474	3450	521	1980	66	225	626	100	13921	47.51
Kattumulaku	2406	6887	975	2696	662	112	2863	4945	3339	3937	2380	450	2018	176	33846	115.52
Kattumuthira	680	522	25	233	187		907	1278	198	1700	174	76	147	10	6137	20.95
Kattupadavalam	1309	2513	803	2709	510		4085	4595	4483	3236	7744	425	3854	110	36376	124.15
Kattupavakka	68	5641	191	68	178	68	68	539	136	68	68	68	406	68	7635	26.06
Kattupayar	991	1997	699	5227	573		1945	6645	1313	2718	1970	400	769	36	25283	86.29
Kattuthipalimulaku	88	765	432	86	193		1565	3907	1439	14730	390	30	2295	34	25954	88.58
Kattuthipaliveru	2140	1397	802	2594	393		1974	5602	1230	3324	1055	300	1388	58	22257	75.96
Kattuvellari	717	1075	582	4872	518		1749	6103	1123	1976	952	397	1352	68	21484	73.32
Kattuzhunnu	913	1923	559	5276	479		1415	6883	1216	2911	1057	327	1305	22	24286	82.89
Katujeerakam	96	960	123	52	55		2792	3520	590	621	1566	38	1622	18	12053	41.14
Katukurohini	370	1308	493	3724	182		2921	4493	2119	1700	3164	333	1808	28	22643	77.28
Kayyunni/kanjunni	5888	17568	5858	181	1628	36	5721	199310	5581	9222	8850	570	8139	500	269052	918.27
Kazhanji	56	301	210	124	479		943	1883	938	1751	1731	75	784	5	9280	31.67
Keezharnelli	788	987	439	201	187	40	708	4096	2531	622	5180	349	1111	70	17309	59.08
Kiriyath	612	2345	914	2488	289	9	3870	3694	512	1584	988	392	1754	118	19569	66.79
Kodangal/Muthil	1320	1830			165		240	1940	210	425	1445		300	10	7885	26.91
Kodithoova	1371	13921	1511	7571	1286		6526	10881	8771	10711	4821	661	4811	117	72959	249.01
Koduveli	2745	8805	2820	3940	2255		11280	21325	6025	6905	6045	975	6505	260	79885	272.65
Kolarakku	2435	2150	1545	1820	350		2385	4135	655	1300	3475	240	1455	65	22010	75.12
Kolmanchi		475	250	20	165		1170	1925	205	385	330	21	285	15	5246	17.90
Koovalathinveru	6391	25191	1616	5646	2901		12006	21841	16926	14596	7156	766	6576	831	122443	417.89
Koovalayila	285	1199	544	139	269		204	2189	1569	1069	1714	274	1864	69	11388	38.87

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Koovalthinkaya	255	610	180	131	61		73	1555	30	245	355	300	132	106	4033	13.76
Kottam	3760	7672	3090	1745	800	14	4070	11770	2400	2230	3760	495	2340	40	44186	150.81
Koval	95	315	310	81	225		915	1840	400	615	410	75	250	5	5536	18.89
Ksheerakakoli	513	2618	298	250	226		1760	1878	304	608	8238	333	403	43	17472	59.63
Kudakapalatholi	2413	4359	704	5729	399		2739	4300	1939	2359	1429	239	2874	224	29707	101.39
Kudakapalayari	531	2302	414	342	335	19	1394	5729	1749	1679	2014	264	1169	54	17995	61.42
Kumbil	5960	8517	1208	5243	2560		6800	6522	7532	12110	2615	810	1632	410	61919	211.33
Kunnikuru	105	475	185		22		270	715	142	238	535		114	10	2811	9.59
Kuppameni	3240	180	250	62			6	235	6	5	90		33		4107	14.02
Kurassani	330	675	432	15	120		1165	2545	125	1055	420	160	436	10	7488	25.56
Kurumthotti	20440	49746	4317	18915	13962	36	32664	108857	39220	36298	38640	3615	58515	981	426206	1454.63
Kuzhalkonna	90	975	432		55		2445	3445	1350	1150	275	150	272	26	10665	36.40
Lanthakuru	828	2208	411	2019	190		1842	4014	1017	3700	1112	1723	829	11	19905	67.94
Manikunthirikkam	435	1186	689		201		4724	5450	353	2635	1020	1831	2679	55	21257	72.55
Manjal	1524	4929	3259	1494	1325	4	3256	29877	2200	10066	2262	2113	2058	152	64520	220.20
Manjatti	1086	2227	563	1427	106		848	14772	2578	6172	1291	1464	1260	131	33926	115.79
Maramanjai	403	1952	710	1132	277		2235	7671	4248	7275	1218	1649	1325	250	30346	103.57
Mathalanarakam	137	970	156		164		478	1620		1114	31	669	232	18	5589	19.08
Moovila	3934	13380	311	383	1198		5290	17958	12745	13646	3789	1844	9671	359	84507	288.42
Mukkutti	78	244	55	105	13	5	335	1486	442	910	1154	1070	552	5	6454	22.03
Munja	4803	12901	655	1286	1164		4608	14382	12675	12015	4019	2400	3712	320	74940	255.77
Musumusukku	47	103					3	127		599					879	3.00
Muthanga	1906	5163	405	466	1634		6184	20024	12897	12714	4997	2785	3699	388	73261	250.04
Nagadhanthiveru	350	1020	3455	3675	450		3825	3475	1030	3130	1345	375	750	5	22885	78.11
Naithalkizhangu	182	341			251		330	918	111		326	373	40	2	2875	9.81
Nangu		49						75							124	.42
Nanmughapullu	167	394	132	193	62		549	2740	150	775	2852	514	411	11	8951	30.55
Narunedi	3275	3180	9745	3690	755	45	8222	13315	3685	6570	6025	880	1750	130	61267	209.10
Nayakurana	650	1015	9560	2960	305		1700	4475	2240	1520	1275	450	1375	25	27550	94.03
Neelayamari	4217	10748	4611	1166	578	8	2312	44711	12910	4631	2670	859	1680	15	91117	310.98

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Neermaruthinpatta	4061	3702	157	12358	288		3809	2794	2670	3175	910	1014	3038	49	38026	129.78
Neermathalatholi	2085	662	5540	152	106		1235	3471	1745	1681	1817	864	1365	48	20771	70.89
Nellikka	7191	22689	12551	13837	3647	81	36945	111164	29350	15171	8943	2073	5575	769	269987	921.46
Nilamparanda	648	172	10	86	728	4	361	1978	472	1535	909	673	407	43	8026	27.39
Nilappana	1158	1099	1551	371	126		1161	3292	4095	6634	1663	921	1058	83	23210	79.22
Njavalkuru	330	270	65	190	205		610	1980	320	705	15	25	65	10	4790	16.35
Njavalpatta	80	500	3145		165		1300	1830	2725	1890	100	225	430	35	12425	42.41
Njerinjampuli	275	365	185	90	325		1295	2050	380	700	675	40	360	2	6742	23.01
Njerinjil	5500	8200	4010	7750	3330		11900	22190	14265	7965	6490	1050	3430	190	96270	328.57
Oolanthakara	40	290	123			18		373			150		103		1097	3.74
Orila	4546	13393	1603	2005	1959		6208	23217	16708	12878	4997	524	6806	95	94938	324.02
Pachila	853	6940	644	742	225		1060	9833	1401	3697	1594	984	948	94	29014	99.02
Pachotti	1852	8988	738	3655	371		3956	6990	2856	6589	2260	392	1271	99	40018	136.58
Padakizhangu	330	5090	3199	3747	172		2229	5016	4078	6523	1325	2034	1701	96	35539	121.29
Padarchunda	3	574	55	124	67		335	2007	326	479	54	1065	164	47	5301	18.09
Padavalam	684	2985	1089	1245	153		3171	8199	5521	5738	674	837	1139	27	31463	107.38
Palmuthukku	3074	5707	5274	3537	1790		4393	14700	3129	9465	2389	1942	2139	108	57649	196.75
Palvallikizhangu	972	460	731	74	168		734	1408	2634	3011	684	1682	621	38	13216	45.11
Panikoorka	305	6844	70	451	14		170	933	257	537	1543	1118	146	124	12511	42.70
Parpatakapullu	1534	2474	1102	1237	576		1551	7915	1860	5008	1148	1309	1396	38	27148	92.66
Paruvakodi		146	26		41			90		20					323	1.10
Parvalli	6	407		116	77		84	1844	155	177	600	2526	464	3	6460	22.05
Pathimugham	849	4644	8195	1870	206		2833	15703	2118	3333	3580	1702	3220	267	48519	165.59
Pathiriveru	4404	12835	799	3670	2739		5892	24485	14189	7611	2880	2173	4676	320	86673	295.81
Payyani	3586	6701	718	66	1502		5638	23957	12969	11313	2827	1981	4607	306	76170	259.97
Peenari	40	496	38	121	98		975	980	226	1494	833	701	415	5	6422	21.92
Peral	622	7103	397	115	312		928	2421	763	3061	1820	680	2177	249	20649	70.47
Perumaratholi	28	139	295	118		4	104	1209	17	88		2	26	31	2061	7.03
Perumkurumbaveru	191	450	189	106	93		779	2286	867	5152	278	1218	1721	67	13397	45.72
Plassu	34	372	51	131	52		423	1128	564	527	319	326	231	2	4159	14.19



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Ponnaveera	106	438	24	124	56		308	721	71	545	165		427	2	2986	10.19
Pookaitha	781	6118		104	82		153	2284	393	4276	624	518	718	10	16062	54.82
Poovamkurunthal	349	259	526		54		7132	355	937	466	3852	100	580	27	14636	49.95
Poovathu/Manjari	975	1204	876	95	113		535	1314	105	4934	1237	316	1115	77	12898	44.02
Prasarani	1651	1347	422	263	691	4	1254	4083	1195	4301	1760	987	2594	11	20563	70.18
Pulichuvadi	159	68			2		64	1327	113	240	88	485	160	2	2708	9.24
Puliyarila	78	22860	21	107	69		68	1332	235	892	26		134	23	25845	88.21
Pullanji	36	329		89			91	165	95	730	298	561	13	25	2431	8.30
Punna		628	10	105	16		67	456	41	71	595	5	234		2229	7.61
Pushkaramoolam	1198	9498	713	2897	579		2834	12186	4204	7602	1158	1602	913	57	45441	155.09
Putharichunda	591	6457	152	3036	328		669	4450	3243	5574	1948	1954	2979	148	31530	107.61
Rakthachandanam	1288	2709	1608	2084	231	5	2332	8715	1335	2312	2009	1052	2068	117	27865	95.10
Ramacham	1347	4859	1467	2208	576		2664	24487	3268	7929	5235	1566	5380	163	61150	208.70
Sangukuppy	2527	41	2580	134	81		66	1588	23	249	254				7543	25.74
Sangupushpam	480	461	1011	204	195		1996	2265	340	1428	3171	174	395	23	12145	41.45
Sathakuppa	897	1684	216	4274	258		4662	7178	4300	5093	1971	1791	3363	127	35814	122.23
Sathavari	8448	15454	5277	4896	1442	33	5193	30511	27710	10962	8025	2571	6806	660	127989	436.82
Seemaeruveli	474	976	1311	133	515		1549	2354	1539	919	487	1980	1328	278	13845	47.25
Seemanagappuvu	251	671	863	413	119		2690	4411	972	1457	221	1734	333	12	14145	48.28
Seemapachila	7	499	295	139	93		1456	2327	739	739	308	1894	67	13	8575	29.27
Somalatha	14	64	114		2		73	429	168	55	56	366	111	2	1456	4.97
Thaivela	3420	270					30	315	170	425			17		4647	15.86
Thakara	1945	660	310	125	495		1220	2760	850	1490	1035	20	470	20	11400	38.91
Thakkolam	980	3285	2070	10010	395		2805	3585	1035	3680	1400	680	1000	100	31025	105.89
Thalisapathram	1790	900	250	2310	100		1585	2625	610	1795	1820	155	520	6	14466	49.37
Thamaravalayam	240	220	2835	5	60		260	1495	1090	970	550	150	350	20	8245	28.14
Thamarayalli	230	2090	5120	5	210		806	1355	1030	650	210	740	280	10	12736	43.47
Thanikka	2780	11005	7895	7300	2255		5130	12640	4715	12656	6625	890	4300	140	78331	267.34
Tharthaval	3850	600	495	130	410		3325	2587	650	1852	1840	450	965	10	17164	58.58
Thathiri	11250	28180	1360	26935	3625	5	9460	43395	17335	28250	13350	1795	3980	190	189110	645.43

Local name	TVM	KLM	ALP	PTA	KTM	IDK	EKM	TSR	PKD	MLM	KKD	WYD	KNR	KSD	Total	Avg
Thazhuthama	4025	7170	4380	4900	3650	45	6670	8170	16155	17045	5240	940	5500	230	84120	287.10
Thekkadaveru	200	485	2815	95	195		1085	3460	550	1310	560	450	750	5	11960	40.82
Thettipoovu	140	265		68	5			1505	190	615	835	75	335	5	4038	13.78
Thettiveru	40	2860	125	115	30		780	950	827	850	540	75	600	25	7817	26.68
Thippali	2740	11610	19610	6685	3570		9591	20005	11870	11410	4630	885	2450	120	105176	358.96
Thiruthali		105	125				155	620	140	425		75	405		2050	7.00
Thottavadi	2080	50	65	75	165		400	170	555	195	60		170		3985	13.60
Thumbayila	395	370		100				545	1783	280	300		365		4138	14.12
Uluva	956	4540	1480	1074	468		3877	39639	691	1998	1153	157	2978	33	59044	201.51
Ummam	3332	2831	3355	14782	330		1648	4956	750	2508	3630	347	2379	100	40948	139.75
Ungu	2312	3237	802	19	588		1897	5546	2580	2389	2699	155	1366	120	23710	80.92
Uzhinja	4497	7155	247		726		2490	5301	867	2635	3804	302	1073	50	29147	99.48
Valsanabhi	102	133	44		60		732	3640	91	1114	1193	1757	137	2	9006	30.74
Vayalchulli	405	2424	451	183	433		2127	6626	5572	2794	2556	1615	2738	28	27952	95.40
Vayambu	1353	2116	2739	265	357		2062	13338	2696	7540	2119	1942	1621	72	38221	130.45
Veezhalari	653	6515	462	2213	665		2765	7367	2067	4046	1802	1692	1260	145	31652	108.03
Velipparuthi	2517	319	93	159			129	1055	34	2070	414	300	197	2	7289	24.88
Vengakathal	5157	9777	1489	1952	319		5529	8056	1750	7181	3923	1169	1907	62	48270	164.74
Veppila	1678	853	793	227	57	25	75	5201	1526	677	1151	464	2379	39	15143	51.68
Veppintholi	1081	4025	1195	1823	314		3469	8403	9782	5420	2335	1656	3151	105	42759	145.94
Vetti		47		126				179		159			24		534	1.82
Vishnukranthi	85	295	61		13		52	1155	18	385	12		140	2	2218	7.57

**Table 5. Annual consumption of raw drugs by the medium units in Districts and their average (kg)**

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Adalodakam	6625	3933	5289	1927	22353	800	16137	3733	60797	1414
Adapathiyam	482	475	1120	83	1620	615	4057	958	9411	219
Adayakkamaniyan	1063	1120	974	335	966	60	49	1120	5687	132
Aduthodapala	124		18	9	495	30	20	170	866	20
Aghori										
Amaveru	81	125	350		810	87	38	800	2291	53
Ambalkizhangu	45	30	85		28	38	4109	216	4551	106
Amruthu	5649	5732	17653	1124	43326	2864	6146	4064	86558	2013
Amukkuram	585	5500	5335	820	18553	2985	891	2100	36769	855
Anachuvadi	70	220						91	381	9
Angolam	2	38							40	1
Arayal	1320	1800	485	82	825	180	5553	985	11230	261
Arenukam	50	397	56		385	30	5951	50	6919	161
Asokapoovu		375	60						435	10
Asokatholi	688	4600	3976	112	2755	200	3445	300	16076	374
Athipatta	1258	600	829	45	200	124		1150	4206	98
Athithippali	1897	950	414	100	460	30	10	200	4061	94
Athividayam	8	16	101	14	792	50	6	70	1057	25
Attudharbha	386	75	48	9	1244	40	9890	553	12245	285
Attuvanchi	1		18		40		5247	1094	6400	149
Avaltholi	534	315	4297	72	5450	17801	7142	550	36161	841
Avanakku	8814	1585	4714	464	13855	100	8516	2358	40406	940
Ayamodakam	2874	450	2645	158	3106	200	2580	581	12594	293
Bhrahmi	1459	309	2645	569	8688	354	6197	1238	21459	499
Blankaya	86	164	845	115	1114	25		82	2430	57
Chakkarakolli				10	160				170	4
Chandhanam	115	300	2280	115	3735	100	130	600	7375	172
Changalmparanda	325		158		125	20	10	546	1184	28
Channakizhangu	27	15	979		613	8			1641	38
Chappanga			626		60	50			736	17
Charalam	75	112	20	10	985	116	10	668	1996	46
Chathuramulla		145	6						151	4
Cheenapoovu	1060	75	80	5	754	30	25	319	2348	55
Chembarathipoovu	30				600				630	15
Chembarathiyila		195	180	60	2120	400	85	600	3640	85
Chenchaliyam	215	525	950	20	1050	30	50	200	3040	71
Chengazhineerkizhangu		90	205	10	425	50	5801	900	7481	174
Cherukadaladi	630	285	21	12	1125	10	2	206	2291	53
Cherula	40		685	30	4638	740	4592	415	11140	259

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Cherupunnayari	85	90	685	50	335	30	8326	700	10301	240
Cheruthekku	310	325	856	10	4111	20	8976	200	14808	344
Cheruvazhuthina	3350	8276	5135	270	10237	217	27298	4200	58983	1372
Chinnamukkiyila	1456	45	610	15	60		7560	785	10531	245
Chiteenthalveru	60	30	710		204	50	4648	250	5952	138
Chittadalodakaveru	1125		4855				1352		7332	171
Chittadalodakayila	81	210							291	7
Chittaratha	4850	560	5535	125	1123	10	3434	658	16295	379
Chittelam	260	60	340	15	262	10	6860	200	8007	186
Chonakapullu/Injipullu		40	270	10	625	10	4211	400	5566	129
Chukku	4880	900	15805	585	25032	500	13730	2250	63682	1481
Chunda	1665	1301				50		3465	6481	151
Chuvannaratha	3450			293	5950	225	9927	600	20445	475
Devatharam	1420	3450	7250	360	14499	100	5174	500	32753	762
Dharbaveru	315	175	840	10	825	100	7866	620	10751	250
Ekanayakaveru	1456		456	64	992	155	17	800	3940	92
Elangipoovu	83	60	63				7	1125	1338	31
Elavangam	1258	1500	1220		2400	200	10	614	7202	167
Elavulakam	114	20	243	36	80	20	350	1600	2463	57
Erukku	178		114		1500	50	8179	504	10525	245
Erumakkali						40	8	185	233	5
Esakinveru	60	325							385	9
Ezhilampala	193		105		2452	50	6365	382	9547	222
Garudakodi	114		3			320	9768	1844	12049	280
Gulgulu	596	550	3675	685	4332	310	210	800	11158	259
Idampirivalampiri						91			91	2
Irattimadhuram	10250	900	5250	194	8261	700	2	850	26407	614
Irippa	95	90			1258	66		852	2361	55
Ithi	816	2200	1100		240	96	289	1095	5836	136
Kachoori/Kacholam	452	1950	1915	167	3478	100	2394	300	10755	250
Kadaladi	1048	430	415	9	440	115	7465	562	10484	244
Kadukka	1666	7012	12225	582	73372	452	4759	1600	101669	2364
Kakkathondi	52	30			928	20	7292	620	8942	208
Kakoli	5	600	198		385	46		600	1834	43
Kaloorvanchi		64		34	302	50		515	965	22
Kandakari	3358	300	2841	75	1297	50		5253	13174	306
Kanikonna	598	60		685	4063	6826	4311	1450	17994	418
Kanjiram	67	35	358					90	550	13
Karakil	448	325	123	2	1025		7753	498	10174	237
Karayampoovu	150	2200	816	164	624	150	40	353	4497	105
Karimjeerakam	494	1950	315	75	1985	50	34	200	5103	119
Karimkoovalam	3020		987		128	98	5123	98	9454	220

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Karimkurinji	2390	900	6815	420	14328	400	7818	2100	35171	818
Karimthakkali	30						2575		2605	61
Karimthumba			1615					83	1698	39
Karingali	296	450	1525	225	4855	600	6525	1712	16188	376
Karinochi	940	847	525		3120	150	5550	200	11332	264
Karinthali					60				60	1
Karivelam	234	650	2233		260	50		800	4227	98
Karkadakashringi	612	425	783	45	710	50	7138	400	10163	236
Karkokilari	550	575	409	20	862	20	18	400	2854	66
Karthottiveru	60	75	352	9	1892	50	7456	450	10344	241
Karuka	470	180	321	68	3076	1424	7567	600	13707	319
Karuvapatta		915		210	1995		8554	1355	13029	303
Kasthurimanjal	868	300	15	9	92	440	8478	800	11002	256
Kattarvazha	4687	3500	6071	223	3984	3000	680	2200	24345	566
Kattuchena	1250	30	450		1258	20		850	3858	90
Kattumulaku	270	450	835	225	3888	188	90	400	6346	148
Kattumuthira	302				420		8665	674	10061	234
Kattupadavalam	984	225	3500		6859	100	150	863	12681	295
Kattupavakka						314		50	364	8
Kattupayar	188	1820	615	23	576	50	7697	615	11584	269
Kattuthipalimulaku	552	750	1520	82	3449		9317		15670	364
Kattuthipaliveru	631	900		52	1325	80	24	800	3812	89
Kattuvellari	454	425	817	140	832	30	8567	1200	12465	290
Kattuzhunnu	258	1963	379	43	635	94	8632	400	12404	288
Katujeerakam					32			189	221	5
Katukurohini	658	300	515	88	3258	100	24	300	5243	122
Kayyunni/kanjunni	5925	1200	16835	298	10164	785	30	4200	39437	917
Kazhanji			75		758	20	7650	515	9018	210
Keezharnelli	2205	2350	111	113	568	472	4529	2449	12797	298
Kiriyath	734	2350	402	26	325	30	8450	300	12617	293
Kodangal/Muthil			255		340	20		200	815	19
Kodithoova	2250	750	4200	160	10109	450	4298	2200	24417	568
Koduveli	825	450	3955	120	21098	300	5376	2312	34436	801
Kolarakku	170	450	780	55	2175	100	50	379	4159	97
Kolmanchi		30			385				415	10
Koovalathinveru	2900	15000	4220	180	18098	300	6121	2352	49171	1144
Koovalayila	890	225	825	75	1356	200	30	512	4113	96
Koovalthinkaya	136				5	10		182	333	8
Kottam	1248	900	1700	260	5110	100	260		9578	223
Koval	60	75	140	15	600	550		1780	3220	75
Ksheerakakoli	12	500	185		195	20		210	1122	26
Kudakapalatholi	152	432	1995	101	1915	200	240	415	5450	127

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Kudakapalayari	240	225	981	75	2500	80	58	300	4459	104
Kumbil	2108	5520	4570	270	2415	228		4200	19311	449
Kunnikuru	105			12	310	10		80	517	12
Kuppameni	150	385	60						595	14
Kurassani	925	125	340	20	210	54		112	1786	42
Kurumthotti	11735	39586	39643	2260	55640	6000	35772	5500	196136	4561
Kuzhalkonna	160	1100	1245		2386	100			4991	116
Lanthakuru	85	57	669	132	1544	28	113	756	3384	79
Manikunthirikkam	251	331	697	77	961	22	31	662	3031	70
Manjal	954	247	2768	231	5629	148	2089	906	12972	302
Manjatti	342	108	1673	253	3435	90	235	1265	7402	172
Maramanjal	157	121	1062	127	3322	81	7989	648	13507	314
Mathalanarakam		531	344		924			212	2011	47
Moovila	1691	2010	2886	387	8766	301	4928	3216	24186	562
Mukkutti	259	47	23	7	1173	95	102	379	2084	48
Munja	1312	1902	3575	333	11013	328	8194	2282	28939	673
Musumusukku	109								109	3
Muthanga	2296	473	7143	552	54487	158	27924	1420	94455	2197
Nagadhanthiveru	50	300	230	35	315	25	8267	400	9622	224
Naithalkizhangu						11		182	193	4
Nangu										
Nanmughapullu	49	51	2759		519	10	5707	609	9703	226
Narunedi	2560	800	3015	180	2915	400	5045	1525	16440	382
Nayakurana	615	1200	315	115	1258	65	8620	470	12657	294
Neelayamari	362	621	2662	162	3808	17795	8847	1890	36147	841
Neemaruthinpatta	385	209	279	73	1779	209	75	834	3843	89
Neermathalatholi	126	200	284	17	1730	9596	7044	799	19797	460
Nellikka	8564	2632	10569	884	43976	2441	66723	7740	143530	3338
Nilamparanda			1537		417	11	21	644	2630	61
Nilappana	973	46	638	101	2309	46	7574	741	12427	289
Njavalkuru		58	20		2833	4475	9429	425	17240	401
Njavalpatta	15	75	400	110	859	62	9380	600	11501	267
Njerinjampuli	245	300	820	10	90	250	7965	600	10280	239
Njerinjil	4150	5200	4840	350	12234	457	5624	3090	35946	836
Oolanthakara	510								510	12
Orila	4220	5150	3558	358	7305	368	6876	4256	32092	746
Pachila	298	73	1377	204	5824	146	6014	584	14520	338
Pachotti	440	533	2521	106	6359	44	8203	711	18919	440
Padakizhangu	597	145	785	104	5708	22	6615	579	14554	338
Padarchunda	80		254		4226	6		385	4952	115
Padavalam	735		2101	190	2067				5093	118
Palmuthukku	2514	995	1310	174	6234	114	7597	2189	21128	491

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Palvallikizhangu	122	102	163		1122		41	611	2160	50
Panikoorka	152		788		394	55		438	1826	42
Parpatakapullu	107	563	1985	567	13693	215	3349	1694	22173	516
Paruvakodi	86								86	2
Parvalli	168			27	551	64		765	1574	37
Pathimugham	917	853	691	149	6098		7024	960	16692	388
Pathiriveru	745	1910	3365	334	12087	286	6253	4202	29182	679
Payyani	1915		2679	286	13572	255	1289	3740	23735	552
Peenari	65	29	69	20	176	29	8325	576	9289	216
Peral	834	1152	778		581	115	6916	1728	12103	281
Perumaratholi					63	17		1049	1129	26
Perumkurumbaveru	262	37	329	15	5764	15	9194	440	16056	373
Plassu	48		139	82		40	43	267	618	14
Ponnaveera	903		32	14		13	9009	268	10239	238
Pookaitha	324	855	1228		3738	214	6927	642	13927	324
Poovamkurunthal	784					13	5008	133	5938	138
Poovathu/Manjari	1411	384	195	9	92	64	7174		9329	217
Prasarani	992	276	2444	64	3215	306	7548	735	15581	362
Pulichuvadi	243		145		60	11	6	559	1025	24
Puliyarila	18				962	7	9362	33	10382	241
Pullanji	9		21			18		352	400	9
Punna					35			160	195	5
Pushkaramoolam		213	2503	187	3008	107		2558	8575	199
Putharichunda	1069	518	1415	59	7116	65	8749	3109	22101	514
Rakthachandanam	537	404	900	40	1787	58	5941	1616	11282	262
Ramacham	1463	1019	1937	174	2770	113	181	2037	9695	225
Sangukuppy	480								480	11
Sangupushpam	621	96	193	67	656	19	5714	96	7462	174
Sathakuppa	1204	174	1116	226	4270	26	101	1047	8165	190
Sathavari	6196	3372	13542	478	32157	421	1994	4046	62207	1447
Seemaeruveli	365	243	684		1663	41			2995	70
Seemanagappuvu	127	270	791		873	45			2105	49
Seemapachila	102		4047			46			4195	98
Somalatha					307		9408	10	9724	226
Thaivela			450			45			495	12
Thakara	90	325	90	15	2360			200	3080	72
Thakkolam	400	800	370	90	910	30	8071	100	10771	250
Thalisapathram	365	350	640	25	589	20	10	505	2504	58
Thamaravalayam	70	75	730		215	30	8707	258	10085	235
Thamarayalli	80	75	545		160	20	8992	202	10074	234
Thanikka	2569	2055	3455	160	12837	100	5552	2355	29083	676
Tharthaval	2065	183	3630		1254	30	5361	400	12923	301

Local name	TVM	KLM	IDK	EKM	TSR	MLM	KKD	KNR	Total	Avg
Thathiri	985	6985	10150	2250	22656	600	22775	2310	68711	1598
Thazhuthama	2035	1350	9405	135	8131	298	340	900	22594	525
Thekkadaveru	340	75		15	690	50	8848	950	10968	255
Thettipoovu		280	65		90	200	90	55	780	18
Thettiveru	495	55	295		785	10		602	2242	52
Thippali	4355	2583	4570	540	12203	482	13370	3565	41668	969
Thiruthali	75		355			40		255	725	17
Thottavadi	310		350		225		9381	1000	11266	262
Thumbayila	725		558			52	8940	100	10375	241
Uluva	882	90	285	83	2068	84	76	651	4219	98
Ummam	440	450	2655	59	5120	200	5370	610	14904	347
Ungu	756		132		4397	677	7557	350	13869	323
Uzhinja	4518	515	7800	68	2864	16773	6847	1250	40634	945
Valsanabhi	4	24	99		91	12	47	118	395	9
Vayalchulli	1042	121	633	212	4381	81	5505	646	12622	294
Vayambu	494	254	1829	208	9706	42	2602	933	16067	374
Veezhalari	606	351	1149	227	2788	44	193	527	5885	137
Velipparuthi	1431		2500			54		214	4200	98
Vengakathal	363	2493	1760	109	3133	244	7733	2743	18578	432
Veppila	357	96	487		725	10		192	1865	43
Veppinholi	1509	165	3827	217	6345	82	247	907	13300	309
Vetti						20			20	
Vishnukranthi	134		2837		209	10	9317	190	12697	295



**Table 6. Annual consumption of raw drugs by the large units in Districts and their average (kg)**

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Adalodakam	250	2541	6050	9446	70800	17832	32980	139899	6995
Adapathiyan	450	1187	2181	401	6089	791	7030	18128	906
Adayakkamaniyan	250	803	307	473	3210	1496	3540	10078	504
Aduthodapala		1900	500	1353	1340	1462	855	7410	371
Aghori							1375	1375	69
Amaveru	235	351	291	203	1950	222	2952	6204	310
Ambalkizhangu		233	23	180	145	84	200	865	43
Amruthu	6217	5563	19365	17698	202205	45636	146689	443373	22169
Amukkuram	3869	5037	9682	6982	80402	22422	84175	212569	10628
Anachuvadi		11280	16				1	11297	565
Angolam				8	130			138	7
Arayal	680	528	384	130	2150	316	2550	6738	337
Arenukam	50	456	187	37	1168			1898	95
Asokapoovu		675						675	34
Asokatholi	1880	1987	3158	2556	12788	2695	14558	39622	1981
Athipatta	600	287	279	135	2987	372	2569	7229	361
Athithippali		225	180	450	3260	1134	3503	8752	438
Athividayam	20	2885	406	100	3180	940	15582	23113	1156
Attudharbha	165	491	245	252	1720	990	2950	6813	341
Attuvanchi		2625			133	18	2358	5134	257
Avaltholi	2332	563	3425	2742	25426	166		34654	1733
Avanakku	2340	1578	6871	7236	44083	22992	38457	123557	6178
Ayamodakam	650	2175	2702	1617	23455	3975	9150	43724	2186
Bhrahmi	1286	2808	7093	3703	21510	11400	49674	97475	4874
Blankaya	264	898	497	384	3819	237	3987	10085	504
Chakkarakolli		1225		875			1485	3585	179
Chandhanam	625	2120		1498	8560	240	10750	23793	1190
Changalmparanda	30		20	600	4654	325	200	5829	291
Channakizhangu	31	2484		787	899	75	1568	5845	292
Chappanga	25				235	2860	200	3320	166
Charalam	20	330	40	450	1165	170	542	2717	136
Chaturamulla		5		44				49	2
Cheenapoovu	25	1658	1542	310	825	565	2271	7196	360
Chembarathipoovu			1458	10	35		1376	2879	144
Chembarathiyila	100		60	100	1050	690	50	2050	103
Chenchaliyam	145	585	321	155	4142	965	2215	8528	426
Chengazhineerkizhangu	160	15	450	255	1810	30	2000	4720	236
Cherukadaladi		465	160	170	970	260		2025	101
Cherula	70	15	610	770	41861	16680	1925	61931	3097
Cherupunnayari	40	1952	360	396	1615	965	1852	7180	359

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Cheruthekku	220	715	370	870	27923	2652	3356	36106	1805
Cheruvazhuthina	3500	7855	9345	842	61762		119825	203129	10156
Chinnamukkiyila	20	4505	15	450	2775	31	100	7896	395
Chiteenthalveru	25	460	200	305	740	600	2740	5070	254
Chittadalodakaveru	25						35764	35789	1789
Chittadalodakayila	169			690			750	1609	80
Chittaratha	680	2055		4020	6170	13830	5	26760	1338
Chittelam	195	355	70	285	649	155	145	1854	93
Chonakapullu/Injipullu	45	15	129	185	568	355	845	2142	107
Chukku	1553	9854	10445	5625	168158	41520	68610	305765	15288
Chunda	200	1160		3500		7120		11980	599
Chuvannaratha	87	2458		475	29810		50550	83380	4169
Devatharam	1720	1685	7220	6055	92626	26520	64125	199951	9998
Dharbaveru	240	2150	560	455	2125	834	5885	12249	612
Ekanayakaveru		16762	572	2811	10583	2754	14556	48038	2402
Elangipoovu		3	2	15	40	13		73	4
Elavangam	475	492	781	870	7884	3520	8573	22595	1130
Elavulakam		258	275	21	733	37	608	1932	97
Erukku	165	32	209	2	3799	1606	400	6213	311
Erumakkali		1240			100	2	10	1352	68
Esakinveru		225		15	400			640	32
Ezhilampala	65	362	148	421	975	295		2266	113
Garudakodi	30				328			358	18
Gulgulu	575	17805	2005	2525	8100	9580	23545	64135	3207
Idampirivalampiri					54			54	3
Irattimadhuram	2080	593	2695	2677	18546	11258	25328	63177	3159
Irippa	15	550	185	405	3043	2291	1535	8024	401
Ithi	600	414	278	165	1615	472	4251	7795	390
Kachoori/Kacholam	735	1889	2830	1428	34611	8166	16042	65701	3285
Kadaladi	160	815		160	980		1457	3572	179
Kadukka	1000	11960	15125	14230	143374	43450	98698	327836	16392
Kakkathondi		675	134	361	1325	494	1648	4637	232
Kakoli		295	446		290		2	1033	52
Kaloorvanchi	60	1352	15	36	389	1546	500	3898	195
Kandakari	1385	3634	1885	670	6750	1148	6254	21726	1086
Kanikonna	696	926		1962	41307	7645	26045	78580	3929
Kanjiram	95	451	3	3	159	89		800	40
Karakil	1000	342	547	357	4433	2990		9669	483
Karayampoovu	230	456	255	435	6370	381	2959	11086	554
Karimjeerakam	216	2832	510	376	6783	1180	4829	16726	836
Karimkoovalam	6986	2082	191	505	374	78	800	11016	551
Karimkurinji	1725	14553	8686	14037	38096	59687	120541	257325	12866
Karimthakkali									

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Karimthumba		2250	27	1478	160		1	3916	196
Karingali	411	726	1582	1619	17806	3650	16128	41922	2096
Karinochi	420	1304	294	214	5376	4320	4002	15930	797
Karinthali		16875			113			16988	849
Karivelam	1316	339	757	345	4750	4466	10060	22033	1102
Karkadakashringi	280	464	200	168	2789	365	2414	6680	334
Karkokilari	220	369	264	225	3032	395	2325	6830	342
Karthottiveru	80	14	117	202	2128	391	715	3647	182
Karuka	350	958		819	15392	9654	30128	57301	2865
Karuvapatta	50	1480	850	950	7740			11070	554
Kasthurimanjal		954	3	200	1640			2797	140
Kattarvazha	12500	1258	89785	11587	98978		80897	295005	14750
Kattuchena	130	11262	172	154	877	2724	6658	21977	1099
Kattumulaku	285	1062		1335	6677	4876	14016	28251	1413
Kattumuthira	400	225	4		444	1112		2185	109
Kattupadavalam	365	437		2696	51650	8878	20215	84241	4212
Kattupavakka			47					47	2
Kattupayar	375	1850	355	295	2012	2462	5987	13336	667
Kattuthipalimulaku	300	675	435		4518	4356		10284	514
Kattuthipaliveru	10	2358		952	4520		10140	17980	899
Kattuvellari	150	1568	524	313	3443	525	1215	7738	387
Kattuzhunnu	320	368	367	255	2646	2231	6015	12202	610
Katujeerakam		612			2824		1	3437	172
Katukurohini	145	1235	1352	818	6985	4175	11142	25852	1293
Kayyunni/kanjunni	4070	23301	13813	4564	37010	51972	14825	149555	7478
Kazhanji		3	239	712	1010	879	10	2853	143
Keezharnelli	210	22508	413	155	1782	2061	10161	37290	1865
Kiriyath	135	22504	454	370	3454	2068	6194	35179	1759
Kodangal/Muthil		330	1658	695	315		250	3248	162
Kodithoova	400	2405	2660	2050	50528	7870	28085	93998	4700
Koduveli	1770	23115	2135	5560	41873	7330	49857	131640	6582
Kolarakku	300	280	705	850	3825	3012	9035	18007	900
Kolmanchi	100	955	245	260	2385		3985	7930	397
Koovalathinveru	1600	2158	7935	8280	48550	27070	88155	183748	9187
Koovalayila	150	16370	590	120	2700	3770	8847	32547	1627
Koovalthinkaya	20	2	10		9059	125	540	9756	488
Kottam	500	2446	1385	840	14280	6255	9640	35346	1767
Koval	45	450	135	600	1510	1400	2616	6756	338
Ksheerakakoli	5	455	325	120	676		2	1583	79
Kudakapalatholi	890	2978	770	905	9872	1665	3120	20200	1010
Kudakapalayari	125	1836	475	670	4330	3215	7025	17676	884
Kumbil	2050	242	3335	3220	8205	17383		34435	1722
Kunnikuru				8	900	190	1341	2439	122

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Kuppameni			90		196			286	14
Kurassani		765	70	340	685			1860	93
Kurumthotti	24407	35803	37800	35256	176545	69343	191975	571129	28556
Kuzhalkonna				1815	13760		348	15923	796
Lanthakuru	466	373	778	456	5040	2704	7565	17380	869
Manikunthirikkam	199	485		1064	1449		1333	4530	227
Manjal	1754	15790		1883	17122	8086	31651	76286	3814
Manjatti		2751		934	11705	6680	13365	35435	1772
Maramanjal	614	8327	1951	1526	15328	5556	18488	51790	2590
Mathalanarakam		2184		339	1155		2422	6100	305
Moovila	2541	2488	7239	7462	52014	25458	46718	143920	7196
Mukkutti	43	283	872	219	1208	457	248	3330	167
Munja	1967	2049	4336	3513	26476	19073	50987	108400	5420
Musumusukku		250		50	560			860	43
Muthanga	1903	2493	5274	3035	95918	18014	42107	168743	8437
Nagadhanthiveru	165	795	332	250	2888	504	7760	12694	635
Naithalkizhangu		1	8		31		825	865	43
Nangu		233			83			316	16
Nanmughapullu	11	1009	40	70	581	86	223	2021	101
Narunedi	630	1010	1335	2524	11150	12815	46285	75749	3787
Nayakurana	215	1144	285	205	7775	2140	9725	21489	1074
Neelayamari	1634	2062	9278	1603	2972		44218	61767	3088
Neemaruthinpatta	1446	6584	940	583	5275	1184	2362	18375	919
Neermathalatholi	37	6308		425	906	2240	713	10630	531
Nellikka	6393	15543	15756	13213	85227	80958	229302	446392	22320
Nilamparanda		1724	133	358	4865	689	5107	12876	644
Nilappana	1005	791	1762	1056	13001	3405	17653	38673	1934
Njavalakuru			10	810	926	1515		3261	163
Njavalpatta		225	370	400	3135	3099	3288	10517	526
Njerinjampuli	155	5650	55	350	1600	1240	1000	10050	503
Njerinjil	1700	21635	5345	6121	51820	23200	71178	180998	9050
Oolanthakara				413				413	21
Orila	1570	1570	4497	2459	47253	19338	48339	125025	6251
Pachila	458	459	654	1255	3333	3310	8707	18175	909
Pachotti	773	8324	1914	1128	17306	3304	16161	48910	2446
Padakizhangu	195	1980	1401	1036	4539	5232	14707	29090	1455
Padarchunda		6	12		149	62	1	230	12
Padavalam	547	2701	4921	2529	19206		21	29925	1496
Palmuthukku	2334	2352	1490	917	11060	5514	30941	54609	2730
Palvallikizhangu	158	8	112	338	579	1066		2260	113
Panikoorka	127	1431	1569	1656	113		1269	6165	308
Parpatapakullu	1896	1000	380	1425	76927	9661	22734	114024	5701
Paruvakodi		668			218	125		1010	51

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Parvalli				482	689		4159	5330	267
Pathimugham	293	764	1018	798	61413	3359	7902	75546	3777
Pathiriveru	2413	2147	3937	4053	24819	17381	43621	98370	4919
Payyani	3171	2058	3863	4089	26206	17958	47535	104880	5244
Peenari	117		40		989	189	324	1660	83
Peral	734	1862	382	159	1164	325	2449	7075	354
Perumaratholi	730	1398	1017	1030	2753	2856	4790	14575	729
Perumkurumbaveru		4	171	408	327	1058	4	1973	99
Plassu		1828	248	586	396	187	1165	4410	221
Ponnaveera	185	973	148	1674	195			3175	159
Pookaitha	111	1590	713	4080	2861	2731	329	12415	621
Poovamkurunthal		1487	24		105		9194	10810	541
Poovathu/Manjari	447	60		1130	4678			6315	316
Prasarani	573	23863	1389	442	4784	3229	10538	44818	2241
Pulichuvadi	34	1324		63	163	96		1680	84
Puliyarila	8	1342	179	36	1		1789	3355	168
Pullanji	4	23		51	16	544	2	640	32
Punna		627	39	122	61	81	275	1205	60
Pushkaramoolam	24	21222	1800	338	21214		4747	49345	2467
Putharichunda	1305	1812	1467	1186	48856	2770	19696	77091	3855
Rakthachandanam	228	1491	1732	479	21493	2099	2638	30160	1508
Ramacham	599	571		1046	7873	4362	13960	28410	1421
Sangukuppy	45							45	2
Sangupushpam	101	1358	305	217	1059	376	1244	4660	233
Sathakuppa	1953			1927	16455	14520	19582	54437	2722
Sathavari	11001	4864	3254	15513	72996	62831	269421	439880	21994
Seemaeruvelli	357	109		654	2889	3141	4760	11910	596
Seemanagappuvu	272	2110	913	918	6265	29000	14887	54365	2718
Seemapachila				1118	2132			3250	163
Somalatha	24	679	92	362	112	48	724	2040	102
Thaivela	80	5	5		192			282	14
Thakara	215	510		1605	5960	1665	65	10020	501
Thakkolam	315	560	245	530	2190	565	2235	6640	332
Thalisapathram	160	1815	215	120	2335	435	1479	6559	328
Thamaravalayam	54	325	230	125	1060	755	2205	4754	238
Thamarayalli	45	230	230	145	1030	710	2505	4895	245
Thanikka	1065	23535	3950	3850	43459	12956	31055	119870	5993
Tharthaval	915	965	70	3635	4858		633	11076	554
Thathiri	8600	21525	7356	11250	51582		65560	165873	8294
Thazhuthama	1635	34455	6640	3640	70186		56035	172591	8630
Thekkadaveru	150	1465	133	615	610		2698	5671	284
Thettipoovu		565	190	80	1615		67	2517	126
Thettiveru	90	570	575	300	2850		260	4645	232

Local name	ALP	KTM	IDK	EKM	TSR	PKD	MLM	Total	Avg
Thippali	2050	24840	4270	4600	67572		46580	149912	7496
Thiruthali		712	435	165	205		515	2032	102
Thottavadi	80	18000	100	5			2000	20185	1009
Thumbayila		1155	15	120			20	1310	66
Uluva	70	458	210	262	7192		7120	15312	766
Ummam	450	456	9700	952	7120		200	18878	944
Ungu	556	695	3125	3018	14669		14344	36407	1820
Uzhinja	1325	1455	2903	597	4754	4225	38337	53596	2680
Valsanabhi	992	2780	1286	1607	6686	4199	8866	26415	1321
Vayalchulli	68	15382	2919	3982	12380	5864	5685	46280	2314
Vayambu	526	5740	2304	1544	40014	4812	16635	71575	3579
Veezhalari	758	725	985	1125	11567		11265	26425	1321
Velipparuthi	75	7	62	21	180		55	400	20
Vengakathal	774	1511	1383	2329	9027	5680	30266	50969	2548
Veppila	263	46	104	231	1389	1497	7691	11220	561
Veppintholi	133	41028	4804	2840	41256	339	21781	112180	5609
Vetti		928				119	93	1140	57
Vishnukranthi		161	20			9	174	228	30

Annual consumption with regards to plant/parts viz. roots/tubers/rhizomes, constitutes 42 per cent of the total quantity. Fruits and seeds constitute 19 per cent, whole plants (herbs) 13 per cent, bark 10 per cent, leaves 8 per cent, wood 6 per cent, flowers and resin 1 per cent each (Table 7). Large units are consuming 48 per cent of the total consumption followed by small units (37 per cent) and medium units (15 per cent) (Table 8).

**Table 7. Annual consumption of raw drugs (plant/parts) and their quantity**

Sl No	Plant/parts	Quantity in kg	%
1	Bark	1267304	6
2	Flower	184241	1
3	Fruit & Seed	4074403	20
4	Leaf	1388931	7
5	Root	8613811	42
6	Resin	206688	1
7	Stem	1135387	5
8	Whole Plant	2571648	13
9	Wood	1074692	5
	<b>Total</b>	<b>20517106</b>	<b>100</b>

**Table 8. Units wise annual consumption of raw drugs and their percentage**

SI No	Unit	Qty. in kg	%
1	Small	7663847	37
2	Medium	3084510	15
3	Large	9768750	48

### **Sources of raw drugs**

The raw drugs consist of roots, rhizomes, leaves, flowers, fruits, seeds, seed oil, gums and resins, bark and wood or whole plants. In Ayurveda, the raw drugs are traditionally grouped as *Pettimarunnu* and *Pachamarunnu*. The former consists of items used in the dried form, which include several raw drugs obtained from North India. *Pachamarunnu* are used fresh and are locally available items. The medicine manufacturing units obtain raw drugs by inviting tender for the supply, through purchase from raw drug shops, supplied by agencies and from local collectors. Large units obtain their raw drugs mostly by inviting tender for supplying the required quantity annually. They also do local purchase of *Pachamarunnu* items. OUSHADHI, the Ayurvedic medicine manufacturing unit under Government sector is purchasing raw drugs by inviting tenders and very little quantity is purchased from TSCSs. Certain large units employ collection agents to procure raw drugs. The small units mostly purchase from dealers and from local collectors. Sales representatives visit the manufacturing units to canvass order for items, especially those obtained from North India and supply them on negotiated price.

There are weekly markets for the sale of raw drugs in four districts in Kerala, at Vadakara in Kozhikkode, Velanthavalam in Palakkad, Perumbavoor in Ernakulam and Chala market in Thiruvananthapuram. The raw drugs brought by the collectors are sold either by auction through commission agents or directly to the buyers. The raw drug dealers as well as medicine manufacturing units participate in the auction. Other sources of raw drugs

are the Federation and TSCSs. The Societies sell raw drugs at a price fixed by the Minor Forest Produce (MFP) Committee. The present MFP list includes 145 items of which 132 are raw drugs.

Among the 230 raw drugs taken up for assessing their annual consumption, 19 are obtained from cultivated sources, 92 from forest areas, 34 from non-forest areas and 40 from both forest as well as non-forest areas. Thirty raw drugs are obtained from outside Kerala, mostly from North India (Table 9). Geographical distribution of each raw drug is given in Table 10.

**Table 9. Raw drugs obtained from different sources**

<b>Forest Areas</b>			
Attuvanchi	Aduthodapala	Amruthu	Angolam
Avaltholi	Chathuramulla	Athi	Athithippali
Chakarakolli	Cheruthekku	Blankaya	Chandanam
Changalamparanda	Erumakkali	Cherukadaladi	Chitteenthalveru
Channakizhangu	Gulgulu	Chittelam	Elavangam
Cherupunnayari	Irippa	Elanjipoovu	Garudakodi
Cheruvazhuthina	Kallurvanji	Ithi	Kadukka
Chittadalodakaveru	Kanikkonna	Kakkathondi	Kattumulaku
Idampirivalampiri	Karakil	Kattuchena	Kattupadavalam
Karimthumba	Karimkurinji	Kattumudira	Kattuvellari
Karingali	Karivelam	Kumizhu	Kazhinji
Kattupavakka	Karthottiveru	Kunnikuru	Lanthakuru
Kattupayar	Kasthurimanjal	Maramanjal	Munja
Kattuthippali	Kattuvazha	Naikorana	Neermaruthinpatta
Kattuzhunnu	Nagadhantiveru	Njerinjil	Neermathalatholi
Manjatti	Nangu	Pachotti	Perinkurumbaveru
Moovila	Nanmukapullu	Palakappayyani	Seemanagappuvu
Pathiriveru	Nellikka	Palvallikizhangu	Vetti
Peenari	Orila	Paruvakodi	Plassu
Pullanji	Padakizhangu	Parvallikizhangu	Puthirichunda
Sathavari	Punna	Poovathu	Veppu
Ungu	Thannikka	Pushkaramoolam	Ekanayakaveru
Vizhalari	Vengakathal	Somalatha	Chenchaliyam



<b>Non-forest Areas</b>			
Bhrahmi	Agori	Adalodakam	Adakkamaniyan
Chappangam	Ambalkizhangu	Arayal	Karayampoo
Dharbhaveru	Attudharbha	Chembarathi	Karimkoovalam
Kodangal/Muthil	Koval	Chonakapullu	Kattarvazha
Muthanga	Pathimugham	Karinthali	Mukkuthi
Puliyarila	Pookaitha	Karuka	Peral
Sangupushpam	Thamara	Kiriyath	Prasarani
Thakara	Thathiri	Kuzhalkonna	Vayalchulli
Thumbayila	Thelkadaveru		
<b>Forest as well as Non-forest Areas</b>			
Keezharnelli	Adapathiyan	Ezhilampala	Cherula
Kuppameni	Anachuvadi	Kadaladi	Kanjiram
Kurunthotti	Chunda	Kandakari	Karimthakkali
Palmuthuku	Erukku	Kayyunni/Kanjunni	Karuvapatta
Parpatakapullu	Koduthoova	Kudakappala	Nilappana
Perumaratholi	Neelayamari	Naruneendi	Njaval
Pulichuvadi	Nilamparanda	Oolanthakara	Padarchunda
Thaivela	Njerinjampuli	Tharthaval	Poovankurunthal
Thetti	Ponnaveera	Thottavadi	Thazhuthama
Ummam	Uzhinja	Vishnukranthi	Thiruthali
<b>Cultivation</b>			
Chukku	Ashokatholi	Avanakku	Chinnamukkiyila
Chuvannaratha	Koovalam	Chengazhineerkizhangu	Koduveli
Kachuri	Manjal	Karinochi	Ramacham
Mathalanarakam	Pachila	Panikoorka	Uluva
Chittaratha	Padavalam	Vayambu	
<b>North India</b>			
Amukkuram	Athividayam	Amaveru	Arenukam
Ayamodakam	Devatharam	Irattimadthuram	Esakinveru
Kadukurohini	Kakoli	Kolmanchi	Karimjeerakam
Karkoli	Karkidakashringhi	Kottam	Kurassani
Kattujeerakam	Kolarakku	Ksheerakakoli	Rakthachandanam
Naithalkizhangu	Seemaeruvelli	Thalisapathram	Sangukuppy
Sathakuppa	Seemapachila	Thippali	Valsanabhi
Velipparuthi	Thakkolam		

**Table 10. Geographical distribution**

Sl. No	Local name	Distribution
1.	Adalodakam	Indo-Malesia
2.	Adapathiyam	South & South East Asia
3.	Adaykkamaniyan	Indo-Malesia, Australia and Africa
4.	Aduthodapala	Paleotropical
5.	Aghori	Paleotropical
6.	Amaveru	India, Sri Lanka and Malesia
7.	Ambalkizhangu	Indo-Malesia
8.	Amruthu	Indo-Malesia, China
9.	Amukkuram	Paleotropical
10.	Anachuvadi	Pantropical
11.	Ankolam	India, Sri Lanka, China, Vietnam, Thailand and Africa
12.	Arayal	South & South East Asia
13.	Arenukam	South Asia
14.	Asokapoovu	South Asia
15.	Asokatholi	South Asia
16.	Athipatta	Indo-Malesia
17.	Athithippali	Indo-Malesia
18.	Athividayam	Asia-tropical
19.	Attudharbha	Paleotropical
20.	Attuvanchi	Indo-Malesia
21.	Avaltholi	Indo-Malesia
22.	Avanakku	Pantropical
23.	Ayamodakam	South East Asia
24.	Bhrahmi	Paleotropical
25.	Blankaya	Indo-Malesia
26.	Chakkarakolli	Indo-Malesia
27.	Chandanam	South Asia
28.	Changalamparanda	Indo-Malesia
29.	Channakizhangu	Indo-Malesia
30.	Chappangam	South & South East Asia
31.	Charalam	North East Himalayas
32.	Chathuramulla	South East Asia and India
33.	Cheenappavu	Asia-Temperate
34.	Chembarathipoovu	Native of Pacific Islands; cultivated in Tropical and Subtropical countries
35.	Chembarathiyila	Native of Pacific Islands, cultivated in Tropical and subtropical countries

Sl. No	Local name	Distribution
36.	Chenchalyam	Asia-tropical
37.	Chengazhineerkizhangu	Indo-Malesia
38.	Cherukadaladi	Pantropical
39.	Cherula	Pantropical
40.	Cherupunnayari	Indo-Malesia
41.	Cheruthekku	Indo-Malesia
42.	Cheruvazhuthina	Indo-Malesia
43.	Chinnamukkiyila	Paleotropical
44.	Chiteenthalveru	South & South East Asia
45.	Chittadalodakaveru	Southern Western Ghats
46.	Chittadalodakayila	Southern Western Ghats
47.	Chittaratha	Indo-Malesia
48.	Chittelam	Peninsular India
49.	Chonakapullu/Injipullu	Pantropical
50.	Chukku	Pantropical
51.	Chunda	Pantropical
52.	Chuvannaratha	Himalayas- East Asia
53.	Devatharam	Himalayas-East Asia
54.	Dharbhaveru	Paleotropical
55.	Ekanayakaveru	South India and Sri Lanka
56.	Elangipoovu	Indo-Malesia
57.	Elavangam	South west India and Sri Lanka
58.	Elavulakam	North East India to East Asia
59.	Erukku	Paleotropical
60.	Erumakkali	Europe and Mediterranean, widely cultivated
61.	Esakinveru	Paleotropical
62.	Ezhilampala	Indo-Malesia
63.	Garudakodi	Indo-Malesia
64.	Gulgulu	North west India to West Asia
65.	Idampirivalampiri	Indo-Malesia, China and Australia
66.	Irattimadhuram	Native of Mediterranean, widely cultivated
67.	Irippa	India and Myanmar
68.	Iruveli	South Asia
69.	Ithi	Indo Malesia to Pacific Islands and South China
70.	Kadaladi	Pantropical
71.	Kadukka	South & South East Asia
72.	Kadukurohini	North West Himalayas
73.	Kakkathondi	Indo-Malesia
74.	Kakoli	Himalayas-E. Asia
75.	Kallurvanchi	Pantropical

Sl. No	Local name	Distribution
76.	Kandakari	Native of South America
77.	Kanjiram	Indo-Malesia
78.	Kanjunni	Pantropical
79.	Karakil	Peninsular India
80.	Karayampoo	Native of Indonesia, widely cultivated
81.	Karimjeerakam	Temperate Asia
82.	Karimkoovalam	South Asia
83.	Karimkurinji	Peninsular India
84.	Karimthakkali	Cosmopolitan
85.	Karimthumba	Indo-Malesia to Australia
86.	Karingali	South & South East Asia
87.	Karinochi	Paleotropical
88.	Karinthali	Paleotropical
89.	Karivelam	North India to North Africa through West Asia
90.	Karkadakashringi	Himalayas-E. Asia
91.	Karkokilari	Central Asia to China through India
92.	Karthottiveru	South Asia
93.	Karuka	Tropical and warm temperate region of the world
94.	Karuvapatta	Indo-Malesia
95.	Kasthurimanjal	South Asia
96.	Kattarvazha	Pantropical
97.	Kattuchena	Western Ghats
98.	Kattujeerakam	Indo-Malesia
99.	Kattumulaku	Indo-Malesia
100.	Kattumuthira	Pantropical
101.	Kattupadavalam	Indo-Malesia
102.	Kattupavakka	Indo-Malesia and China
103.	Kattupayar	South Asia
104.	Kattuthippalimulaku	Indo-Malesia
105.	Kattuthippaliveru	Indo-Malesia
106.	Kattuvazha	Indo-Malesia
107.	Kattuvellari	South Asia
108.	Kattuzhunnu	Indo-Malesia
109.	Kayyunni/Kanjunni	Pantropical
110.	Kazhanji	Paleotropical
111.	Keezharnelli	Pantropical
112.	Kiriyath	South Asia
113.	Kodangal/Muthil	Paleotropical
114.	Kodithuva	South & South East Asia
115.	Koduveli	South & South East Asia

Sl. No	Local name	Distribution
116.	Kolarakku	
117.	Kolmanchi	North West Himalayas
118.	Koovalam	Indo-Malesia
119.	Koovalathinveru	Indo-Malesia
120.	Koovalathinkaya	Indo-Malesia
121.	Koovalayila	Indo-Malesia
122.	Kottam	Western Himalayas and Pakistan
123.	Koval	Peninsular India and Sri Lanka
124.	Ksheerakakoli	Himalayas-E. Asia
125.	Kudakapalatholi	Indo-Malesia
126.	Kudakapalayari	Indo-Malesia
127.	Kunnikuru	Pantropical
128.	Kuppameni	Indo-Malesia and Tropical Africa
129.	Kurassani	Asia-Temperate, Africa, Asia-Tropical, Europe
130.	Kurunthotti	Pantropical
131.	Kuzhalkonna	Paleotropical
132.	Lanthakuru	Paleotropical
133.	Manikunthirikkam	South West India
134.	Manjal	Pantropical
135.	Manjatti	Asia, Africa, Europe
136.	Maramanjil	Indo-Malesia
137.	Mathalanarakam	Central & West Asia, West Himalaya, widely cultivated in East Himalaya, South Europe and Asia
138.	Moovila	Indo-Malesia
139.	Mukkuthi	Indo-Malesia and China
140.	Munja	South & South East Asia
141.	Musumusukku	Indo-Malesia
142.	Muthanga	Pantropical
143.	Nagadhanthiveru	Indo-Malesia
144.	Naikorana	South Asia
145.	Naithalkizhangu	Pantropical
146.	Nangu	Indo-Malesia
147.	Nanmughapullu	South Asia
148.	Naruneendi	South Asia
149.	Neelayamari	Pantropical
150.	Neermaruthinpatta	South Asia
151.	Neermathalatholi	South Asia
152.	Nellikka	Paleotropics
153.	Nilamparanda	Indo Malesia and Australia

Sl. No	Local name	Distribution
154.	Nilappana	Indo-Malesia
155.	Njavalkuru	Indo-Malesia
156.	Njavalpatta	Indo-Malesia
157.	Njerinjampuli	Indo-Malesia
158.	Njerinjal	Pantropical
159.	Oolanthakara	Native of South America
160.	Orila	Indo-Malesia
161.	Pachila	Himalayas -East Asia
162.	Padakizhangu	South & South East Asia
163.	Padarchunda	Indo-Malesia
164.	Padavalam	Tropical Asia and Africa
165.	Palakappayyani	Indo-Malesia
166.	Palmuthuku	Pantropical
167.	Palvallikizhangu	Indo-Malesia
168.	Panikoorka	Widely cultivated throughout Tropics
169.	Parpatakpullu	Pantropical
170.	Paruvakodi	Indo-Malesia and Madagascar
171.	Parvalli	Indo-Malesia and Australia
172.	Pathimugham	Indo-Malesia
173.	Pathiriveru	Indo-Malesia
174.	Payyani	South India and Sri Lanka
175.	Peenari	Indo-Malesia
176.	Peral	South & South East Asia
177.	Perumaratholi	Indo-Malesia
178.	Perumkurumbaveru	South & S. E. Asia
179.	Plassu	Tropical Asia
180.	Ponnaveera	Pantropical
181.	Pookaitha	South Asia
182.	Poovankurunthal	Indo-Malesia
183.	Poovathu/Manjari	Indo-Malesia
184.	Prasarani	Paleotropical
185.	Pulichuvadi	Pantropical
186.	Puliyarila	Pantropical
187.	Pullanji	Indo-Malesia
188.	Punna	Paleotropical
189.	Pushkaramoolam	Peninsular India and Sri Lanka
190.	Putharichunda	Indo-Malesia
191.	Rakthachandanam	Peninsular India
192.	Ramacham	India, Myanmar and Sri Lanka
193.	Sangukuppy	Paleotropical

Sl. No	Local name	Distribution
194.	Sangupushpam	Pantropical
195.	Sathakuppa	Europe and temperate Asia
196.	Sathavari	Paleotropical
197.	Seemaeruveli	Native of Sri Lanka
198.	Seemanagappuvu	Indo-Malesia
199.	Seemapachila	Himalayas, North East India
200.	Somalatha	South Asia
201.	Thaivela	Pantropical
202.	Thakara	Pantropical
203.	Thakkolam	Himalayas - & East Asia
204.	Thalisapathram	Asia-Temperate
205.	Thamaravalayam	Paleotropical
206.	Thamarayalli	Paleotropical
207.	Thannikka	Indo-Malesia
208.	Tharthaval	Paleotropics
209.	Thathiri	Paleotropics
210.	Thazhuthama	Pantropical
211.	Thekkadaveru	Pantropical
212.	Thettipoovu	Peninsular India
213.	Thettiveru	Peninsular India
214.	Thippali	Himalayas - E. Asia
215.	Thiruthali	Paleotropic
216.	Thottavadi	Pantropical
217.	Thumbayila	Indo-Malesia
218.	Uluva	Temperate Asia
219.	Ummam	Pantropical
220.	Ungu	Indo-Malesia
221.	Uzhinja	Pantropical
222.	Valsanabhi	Native of Europe
223.	Vayalchulli	South & South East Asia
224.	Vayambu	Native of Europe, widely cultivated elsewhere
225.	Velipparuthi	Paleotropical
226.	Vengakathal	India, Sri Lanka
227.	Veppila	South & South East Asia
228.	Veppintholi	South & South East Asia
229.	Vetti	Peninsular India and Sri Lanka
230.	Vishnukranthi	Pantropical
231.	Vizhalari	Indo Malesia and South China

### **Botanical identity of raw drugs**

The medicine manufacturing units always insist for the species they prefer as the source of raw drugs. But, when supply is in large quantities, checking each and every sample is practically difficult especially those of dried root and bark. In the case of fresh herbaceous raw drugs, it is not difficult to ascertain the identity of the drug plant. Though root is the preferred part of “dashamoola”, due to scarcity, wood is widely used. Cost of raw drug is another reason for substitution. A recent trend noticed in the raw drugs trade is the sale of different qualities of the same drug, consisting of cheaper substitutes. The cost of the substitutes is often determined by the dealer depending on the customer.

It is found that in some cases more than one species are used as the source of a raw drug. *Pseudarthria viscida* is the preferred source of moovila, however, it was found that roots of *Desmodium pulchellum*, *Rhynchosia rufescens*, *Desmodium heterocarpum* and *Uraria hamosa* were also used as Moovila. *Strobilanthes ciliatus* is the preferred source of Karimkuri. But other species of *Strobilanthes* such as *S. barbatus*, *S. foliosus*, *S. asper*, *S. warreensis* and *S. decurrens* are also collected and sold as Karimkuri.

There are instances of regional availability influencing identity of raw drugs. In Kerala *Coscinium fenestratum* (Maramanjil) is the preferred source of Dharuharidra, while *Berberis tinctoria* and *B. aristata* are accepted as Dharuharidra in North India. Sometimes *Mahonia leschenaultii* occurring in South India is also substituted for Dharuharidra. Similarly *Coffea travancorensis* (Rubiaceae) is accepted as Pushkaram in Kerala while in North India *Inula racemosa* (Asteraceae) is used as Pushkaram. *Sida rhombifolia* ssp. *retusa* is preferred in South India, while *Sida cordifolia* is used in North India.

Non-availability of genuine drugs, mistaken identity, indiscriminate naming, biased interpretation of Sanskrit names, lack of expertise in identifying raw drugs and increasing price are the main reasons for substitution of raw drugs. When we take into account the substitute drugs also, the actual number of raw drugs used in medicine manufacturing will go beyond the estimated 400 species. However, in the present study, the widely accepted species are chosen as the source of raw drugs and their botanical names, local names and families are given in Table 11 and images in Appendices IV & V.



**Table 11. Local names, botanical names and families of the raw drugs**

Sl. No.	Local name	Botanical name	Family
1.	Adalodakam	<i>Adhatoda vasica</i>	Acanthaceae
2.	Adapathiyam	<i>Holostemma ada-kodien</i>	Asclepiadaceae
3.	Adaykkamaniyan	<i>Sphaeranthus indicus</i>	Asteraceae (Compositae)
4.	Aduthodapala	<i>Aristolochia bracteolata</i>	Aristolochiaceae
5.	Aghori	<i>Flacourtia indica</i>	Flacourtiaceae
6.	Amaveru	<i>Saccharum arundinaceum</i>	Poaceae (Gramineae)
7.	Ambalkizhangu	<i>Nymphaea stellata</i>	Nymphaeaceae
8.	Amruthu, Chittamruthu	<i>Tinospora cordifolia</i>	Menispermaceae
9.	Amukkuram	<i>Withania somnifera</i>	Solanaceae
10.	Anachuvadi	<i>Elephantopus scaber</i>	Asteraceae
11.	Ankolam	<i>Alangium salvifolium</i>	Alangiaceae
12.	Arayal	<i>Ficus religiosa</i>	Moraceae
13.	Arenukam	<i>Corchorus trilocularis</i>	Tiliaceae
14.	Asokapoovu	<i>Saraca asoca</i>	Caesalpiniaceae
15.	Asokatholi	<i>Saraca asoca</i>	Caesalpiniaceae
16.	Athipatta	<i>Ficus racemosa</i>	Moraceae
17.	Athithippali	<i>Balanophora fungosa</i>	Balanophoraceae
18.	Athividayam	<i>Aconitum heterophyllum</i>	Ranunculaceae
19.	Attudharbha	<i>Imperata cylindrica</i>	Poaceae
20.	Attuvanchi	<i>Homonoia riparia</i>	Euphorbiaceae
21.	Avaltholi	<i>Holoptelea integrifolia</i>	Ulmaceae
22.	Avanakku	<i>Ricinus communis</i>	Euphorbiaceae
23.	Ayamodakam	<i>Trachyspermum roxburghianum</i>	Apiaceae (Umbelliferae)
24.	Bhrahmi	<i>Bacopa monnieri</i>	Scrophulariaceae
25.	Blankaya	<i>Limonia acidissima</i>	Rutaceae
26.	Chakkarakolli	<i>Gymnema sylvestre</i>	Asclepiadaceae
27.	Chandanam	<i>Santalum album</i>	Santalaceae
28.	Changalamparanda	<i>Cissus quadrangularis</i>	Vitaceae
29.	Channakizhangu	<i>Costus speciosus</i>	Zingiberaceae
30.	Chappangam	<i>Caesalpinia sappan</i>	Caesalpiniaceae
31.	Charalam	<i>Pinus longifolia (P.roxburghii)</i>	Pinaceae
32.	Chathuramulla	<i>Myxopyrum smilacifolium</i> ( <i>M. serratulum</i> )	Oleaceae
33.	Cheenappavu	<i>Smilax china</i>	Liliaceae
34.	Chembarathipoovu	<i>Hibiscus rosa-sinensis</i>	Malvaceae
35.	Chembarathiyila	<i>Hibiscus rosa-sinensis</i>	Malvaceae
36.	Chenchalyam	<i>Shorea robusta</i>	Dipterocarpaceae

<b>Sl. No.</b>	<b>Local name</b>	<b>Botanical name</b>	<b>Family</b>
37.	Chengazhineerkizhangu	<i>Kaempferia rotunda</i>	Zingiberaceae
38.	Cherukadaladi	<i>Cyathula prostrata</i>	Amaranthaceae
39.	Cherula	<i>Aerva lanata</i>	Amaranthaceae
40.	Cherupunnayari/Jyothishmati	<i>Celastrus paniculatus</i>	Celastraceae
41.	Cheruthekku	<i>Clerodendrum serratum</i>	Verbenaceae
42.	Cheruvazhuthina	<i>Solanum viarum</i>	Solanaceae
43.	Chinnamukkiyila	<i>Cassia senna</i>	Caesalpiaceae
44.	Chiteenthalveru	<i>Phoenix pusilla</i>	Arecaceae (Palmae)
45.	Chittadalodakaveru	<i>Justicia beddomei</i>	Acanthaceae
46.	Chittadalodakayila	<i>Justicia beddomei</i>	Acanthaceae
47.	Chittaratha	<i>Alpinia galanga</i>	Zingiberaceae
48.	Chittelam	<i>Elettaria cardamomum</i>	Zingiberaceae
49.	Chonakapullu/Injipullu	<i>Cymbopogon flexuosus</i>	Poaceae
50.	Chukku	<i>Zingiber officinale</i>	Zingiberaceae
51.	Chunda	<i>Solanum torvum</i>	Solanaceae
52.	Chuvannaratha	<i>Alpinia sp.</i>	Zingiberaceae
53.	Devatharam	<i>Cedrus deodara</i>	Pinaceae
54.	Dharbhaveru	<i>Desmostachya bipinnata</i>	Poaceae
55.	Ekanayakaveru	<i>Salacia oblonga</i>	Hippocrateaceae
56.	Elavangam	<i>Cinnamomum verum (C.zeylanicum)</i>	Lauraceae
57.	Elavulakam	<i>Litsea cubeba</i>	Lauraceae
58.	Elenjipoovu	<i>Mimusops elengi</i>	Sapotaceae
59.	Erukku	<i>Calotropis gigantea</i>	Asclepiadaceae
60.	Erumakkali	<i>Argemone mexicana</i>	Papaveraceae
61.	Esakinveru	<i>Azima tetracantha</i>	Salvadoraceae
62.	Ezhilampala	<i>Alstonia scholaris</i>	Apocynaceae
63.	Garudakodi	<i>Aristolochia indica</i>	Aristolochiaceae
64.	Gulgulu	<i>Commiphora mukul</i>	Burseraceae
65.	Idampiri-valampiri	<i>Helicteres isora</i>	Sterculiaceae
66.	Irattimadhuram	<i>Glycyrrhiza glabra</i>	Fabaceae
67.	Irippa	<i>Madhuca longifolia</i>	Sapotaceae
68.	Ithi	<i>Ficus microcarpa</i>	Moraceae
69.	Kachuri/Kacholam	<i>Kaempferia galanga</i>	Zingiberaceae
70.	Kadaladi	<i>Achyranthes aspera</i>	Amaranthaceae
71.	Kadukka	<i>Terminalia chebula</i>	Combretaceae
72.	Kadukurohini	<i>Picrorhiza kurroa</i>	Scrophulariaceae
73.	Kakkathondi	<i>Trichosanthes tricuspidata</i>	Cucurbitaceae
74.	Kakoli	<i>Fritillaria roylei</i>	Liliaceae

<b>Sl. No.</b>	<b>Local name</b>	<b>Botanical name</b>	<b>Family</b>
75.	Kallurvanchi	<i>Rotula aquatica</i>	Boraginaceae
76.	Kandakari	<i>Solanum xanthocarpum</i>	Solanaceae
77.	Kanikkonna	<i>Cassia fistula</i>	Caesalpiaceae
78.	Kanjiram	<i>Strychnos nux-vomica</i>	Loganiaceae
79.	Karakil	<i>Diospyros ebenum</i>	Ebenaceae
80.	Karayampoo/Grambu	<i>Syzygium aromaticum</i>	Myrtaceae
81.	Karimjeerakam	<i>Nigella sativa</i>	Ranunculaceae
82.	Karimkoovalam	<i>Monochoria vaginalis</i>	Pontederiaceae
83.	Karimkuringi	<i>Strobilanthes ciliatus</i>	Acanthaceae
84.	Karimthakkali/Manathakkali	<i>Solanum nigrum</i>	Solanaceae
85.	Karimthumba	<i>Anisomeles malabarica</i>	Lamiaceae (Labiatae)
86.	Karingali	<i>Acacia catechu</i>	Mimosaceae
87.	Karinochi	<i>Vitex negundo</i>	Verbenaceae
88.	Karinthali	<i>Diospyros assimilis</i>	Ebenaceae
89.	Karivelam	<i>Acacia nilotica</i>	Mimosaceae
90.	Karkadakashringi	<i>Pistacia chinensis</i>	Anacardiaceae
91.	Karkokilari	<i>Psoralea corylifolia</i>	Fabaceae
92.	Karthottiveru	<i>Hugonia mystax</i>	Linaceae
93.	Karuka	<i>Cynodon dactylon</i>	Poaceae
94.	Karuvapatta	<i>Cinnamomum zeylanicum</i>	Lauraceae
95.	Kasthurimanjal	<i>Curcuma aromatica</i>	Zingiberaceae
96.	Kattarvazha	<i>Aloe vera</i>	Liliaceae
97.	Kattuchena	<i>Amorphophallus paeoniifolius</i>	Araceae (Aroideae)
98.	Kattujeerakam	<i>Vernonia anthelmintica</i>	Asteraceae
99.	Kattumulaku	<i>Piper spp.</i>	Piperaceae
100.	Kattumuthira	<i>Cajanus scarabaeoides</i>	Fabaceae
101.	Kattupadavalam	<i>Trichosanthes cucumerina</i>	Cucurbitaceae
102.	Kattupavakka	<i>Momordica dioica</i>	Cucurbitaceae
103.	Kattupayar	<i>Vigna trilobata</i>	Fabaceae
104.	Kattuthippalimulaku	<i>Piper longum</i>	Piperaceae
105.	Kattuthippaliveru	<i>Piper longum</i>	Piperaceae
106.	Kattuvazha	<i>Musa acuminata</i>	Musaceae
107.	Kattuvellari	<i>Citrullus colocynthis</i>	Cucurbitaceae
108.	Kattuzhunnu	<i>Vigna radiata var. sublobata</i>	Fabaceae
109.	Kayyunni/Kanjunni	<i>Eclipta alba</i>	Asteraceae
110.	Kazhanji	<i>Caesalpinia bonduc</i>	Caesalpiaceae
111.	Keezharnelli	<i>Phyllanthus amarus</i>	Euphorbiaceae
112.	Kiriyath	<i>Andrographis paniculata</i>	Acanthaceae
113.	Kodangal/Muthil	<i>Centella asiatica</i>	Apiaceae

<b>Sl. No.</b>	<b>Local name</b>	<b>Botanical name</b>	<b>Family</b>
114.	Kodithuva	<i>Tragia involucrata</i>	Euphorbiaceae
115.	Koduveli	<i>Plumbago rosea (P.indica)</i>	Plumbaginaceae
116.	Kolarakku	---	---
117.	Kolmanchi/Jadamanchi	<i>Nardostachys jatamansi</i>	Valerianaceae
118.	Koovalathinkaya	<i>Aegle marmelos</i>	Rutaceae
119.	Koovalathinveru	<i>Aegle marmelos</i>	Rutaceae
120.	Koovalayila	<i>Aegle marmelos</i>	Rutaceae
121.	Kottam	<i>Saussurea lappa</i>	Asteraceae
122.	Koval	<i>Coccinia grandis (C.indica)</i>	Cucurbitaceae
123.	Ksheerakakoli	<i>Lilium polyphyllum</i>	Liliaceae
124.	Kudakapalatholi	<i>Holarrhena pubescens</i>	Apocynaceae
125.	Kudakapalayari	<i>Holarrhena pubescens (H. antidysenterica)</i>	Apocynaceae
126.	Kumbil/Kumizhu	<i>Gmelina arborea</i>	Verbenaceae
127.	Kunnikuru	<i>Abrus precatorius</i>	Fabaceae
128.	Kuppameni	<i>Acalypha indica</i>	Euphorbiaceae
129.	Kurassani	<i>Hyoscyamus niger</i>	Solanaceae
130.	Kurunthotti	<i>Sida rhombifolia ssp. retusa</i>	Malvaceae
131.	Kuzhalkonna, Thrikolppakonna	<i>Operculina turpethum (Merremia turpethum)</i>	Convolvulaceae
132.	Lanthakuru	<i>Ziziphus mauritiana (Z. jujuba)</i>	Rhamnaceae
133.	Manchatti	<i>Rubia cordifolia</i>	Rubiaceae
134.	Manikunthirikkam	<i>Vateria indica</i>	Dipterocarpaceae
135.	Manjal	<i>Curcuma longa</i>	Zingiberaceae
136.	Maramanjal	<i>Cosciniium fenestratum</i>	Menispermaceae
137.	Mathalanarakam	<i>Punica granatum</i>	Punicaceae
138.	Moovila	<i>Pseudarthria viscida</i>	Fabaceae
139.	Mukkuthi	<i>Biophytum sensitivum</i>	Oxalidaceae
140.	Munja	<i>Premna corymbosa</i>	Verbinaceae
141.	Musumusukku	<i>Luffa acutangula</i>	Cucurbitaceae
142.	Muthanga	<i>Cyperus rotundus</i>	Cyperaceae
143.	Nagadhanthiveru	<i>Baliospermum montanum</i>	Euphorbiaceae
144.	Naikorana	<i>Mucuna pruriens</i>	Fabaceae
145.	Naithalkizhangu	<i>Euphorbia neriifolia</i>	Euphorbiaceae
146.	Naivela	<i>Gynandropsis gynandra (G.pentaphylla)</i>	Capparaceae
147.	Nangu	<i>Mesua ferrea</i>	Clusiaceae (Guttiferae)
148.	Nanmughapullu	<i>Actinopternis dichotoma</i>	Polypodiaceae
149.	Narunedi	<i>Hemidesmus indicus</i>	Asclepiadaceae
150.	Neelayamari	<i>Indigofera tinctoria</i>	Fabaceae

<b>Sl. No.</b>	<b>Local name</b>	<b>Botanical name</b>	<b>Family</b>
151.	Neermaruthinpatta	<i>Terminalia arjuna</i>	Combretaceae
152.	Neermathalatholi	<i>Crataeva magna (C. religiosa)</i>	Capparaceae
153.	Nellikka	<i>Phyllanthus emblica (Emblica officinalis)</i>	Euphorbiaceae
154.	Nilamparanda	<i>Desmodium triflorum</i>	Fabaceae
155.	Nilappana	<i>Curculigo orchioides</i>	Amoryllidaceae
156.	Njavalkuru	<i>Syzygium cumini</i>	Myrtaceae
157.	Njavalpatta	<i>Syzygium cumini (S.jambolanum)</i>	Myrtaceae
158.	Njerinjampuli	<i>Cayratia trifolia</i>	Vitaceae
159.	Njerinjil	<i>Tribulus terrestris</i>	Zygophyllaceae
160.	Oolanthakara	<i>Cassia tora</i>	Caesalpinaceae
161.	Orila	<i>Desmodium gangeticum</i>	Fabaceae
162.	Pachila	<i>Cinnamomum tamala</i>	Lauraceae
163.	Pachotti	<i>Symplocos cochinchinensis (S.laurina)</i>	Symplocaceae
164.	Padakizhangu	<i>Cyclea peltata</i>	Menispermaceae
165.	Padarchunda	<i>Solanum trilobatum</i>	Solanaceae
166.	Padavalam	<i>Trichosanthes anguina</i>	Cucurbitaceae
167.	Palmuthukku	<i>Ipomoea mauritiana (I.palmata)</i>	Convolvulaceae
168.	Palvalli/Parvalli	<i>Ichnocarpus frutescens</i>	Apocynaceae
169.	Panikoorka	<i>Plectranthus amboinicus (Coleus amboinicus)</i>	Lamiaceae
170.	Parpatakappullu	<i>Oldenlandia corymbosa</i>	Rubiaceae
171.	Paruvakodi	<i>Pothos scandens</i>	Araceae
172.	Pathimugham	<i>Prunus cerasoides</i>	Rosaceae
173.	Pathiriveru	<i>Stereospermum colais (S.tetragonum).</i>	Bignoniaceae
174.	Payyani	<i>Oroxylum indicum</i>	Bignoniaceae
175.	Peenari	<i>Celtis philippensis var. wightii (C.wightii)</i>	Ulmaceae
176.	Peral	<i>Ficus benghalensis</i>	Moraceae
177.	Perumaratholi	<i>Ailanthus triphysa (A. malabarica)</i>	Simaroubaceae
178.	Perumkurumbaveru	<i>Chonemorpha grandiflora (C. fragrans)</i>	Apocynaceae
179.	Plassu	<i>Butea monosperma</i>	Fabaceae
180.	Ponnaveera	<i>Cassia alata</i>	Caesalpinaceae
181.	Pookaitha	<i>Pandanus odoratissimus</i>	Pandanaceae
182.	Poovankurunthal	<i>Vernonia cinerea</i>	Asteraceae
183.	Poovathu/Manjari	<i>Schleichera oleosa (S.trijuga)</i>	Sapindaceae
184.	Prasarani	<i>Merremia tridentata</i>	Convolvulaceae
185.	Pulichuvadi	<i>Ipomoea pes-tigridis</i>	Convolvulaceae
186.	Puliyarila	<i>Oxalis corniculata</i>	Oxalidaceae
187.	Pullanji	<i>Calycopteris floribunda</i>	Combretaceae
188.	Punna	<i>Calophyllum inophyllum</i>	Clusiaceae
189.	Pushkaramoolam	<i>Coffea travancorica</i>	Rubiaceae

<b>Sl. No.</b>	<b>Local name</b>	<b>Botanical name</b>	<b>Family</b>
190.	Putharichunda	<i>Solanum violaceum (S.indicum)</i>	Solanaceae
191.	Rakthachandanam	<i>Pterocarpus santalinus</i>	Fabaceae
192.	Ramacham	<i>Vetiveria zizanioides</i>	Poaceae
193.	Sangukuppy	<i>Tarenna asiatica (Chomelia asiatica)</i>	Rubiaceae
194.	Sangupushpam	<i>Clitoria ternatea</i>	Fabaceae
195.	Sathakuppa	<i>Anethum graveolens</i>	Apiaceae
196.	Sathavari	<i>Asparagus racemosus</i>	Liliaceae
197.	Seemaeruvelli	<i>Coleus zeylanicus</i>	Lamiaceae
198.	Seemanagappuvu	<i>Mesua ferrea var. thwaitesii</i>	Clusiaceae
199.	Seemapachila	<i>Cinnamomum tamala</i>	Lauraceae
200.	Somalatha	<i>Sarcostemma brevistigma</i>	Asclepiadaceae
201.	Thakara	<i>Cassia occidentalis</i>	Caesalpiaceae
202.	Thakkolam	<i>Illicium verum</i>	Magnoliaceae
203.	Thalisapathram	<i>Abies spectabilis</i>	Pinaceae
204.	Thamaravalayam	<i>Nelumbo nucifera</i>	Nymphaeaceae
205.	Thamarayalli	<i>Nelumbo nucifera</i>	Nymphaeaceae
206.	Thannikka	<i>Terminalia bellirica</i>	Combretaceae
207.	Tharthaval	<i>Spermocoe hispida (Borreria hispida)</i>	Rubiaceae
208.	Thathiri	<i>Woodfordia fruticosa</i>	Lythraceae
209.	Thazhuthama	<i>Boerhavia diffusa</i>	Nyctaginaceae
210.	Thelkkadaveru	<i>Heliotropium indicum</i>	Boraginaceae
211.	Thettipoovu	<i>Ixora coccinea</i>	Rubiaceae
212.	Thettiveru	<i>Ixora coccinea</i>	Rubiaceae
213.	Thippali	<i>Piper longum</i>	Piperaceae
214.	Thiruthali	<i>Ipomoea obscura</i>	Convolvulaceae
215.	Thottavadi	<i>Mimosa pudica</i>	Mimosaceae
216.	Thumbayila	<i>Leucas aspera</i>	Lamiaceae
217.	Uluva	<i>Trigonella foenum-graecum</i>	Fabaceae
218.	Ummam	<i>Datura metel</i>	Solanaceae
219.	Ungu	<i>Pongamia pinnata (P.glabra)</i>	Fabaceae
220.	Uzhinja	<i>Cardiospermum helicacabum</i>	Sapindaceae
221.	Valsanabhi	<i>Aconitum napellus</i>	Ranunculaceae
222.	Vayalchulli	<i>Hygrophila auriculata</i>	Acanthaceae
223.	Vayambu	<i>Acorus calamus</i>	Araceae
224.	Velipparuthi	<i>Pergularia daemia (Daemia extensa)</i>	Asclepiadaceae
225.	Vengakathal	<i>Pterocarpus marsupium</i>	Fabaceae
226.	Veppila	<i>Azadirachta indica</i>	Meliaceae
227.	Veppintholi	<i>Azadirachta indica</i>	Meliaceae
228.	Vetti	<i>Aporosa lindleyana</i>	Euphorbiaceae
229.	Vishnukranthi	<i>Evolvulus alsinoides</i>	Convolvulaceae
230.	Vizhalari	<i>Embelia ribes</i>	Myrsinaceae

## **Marketing**

Forest is a major source of medicinal plants. In Kerala, the tribal communities are engaged in the collection of medicinal plants from the forests since time immemorial. In 1978, TSCSs were established to organize the collection and marketing of NWFPs or MFPs consist mostly of medicinal plants. In 1981, an apex body of the TSCSs called the Federation was formed. The Federation was entrusted with the right of monopoly procurement and marketing of medicinal plants from the forests. Now there are 35 TSCSs and they engage the tribes for collection of NWFPs. The present list of NWFPs includes 145 items of which two are insect products, one mineral and the rest plant/plant parts. Though, there are 145 items in the NWFP list, the Societies and Federation are collecting only about 50 items which are in high demand in the market. The rest of the items are collected by tribes and others and sold to private traders in an unauthorized manner (Muraleedharan *et al.*, 1997).

The marketing practice generally includes auction, quotation and negotiation of which auction is the most common practice of the Federation. If the auction rate is very low due to reasons such as ring formation by the traders or low demand, other practices are followed (Muraleedharan *et al.*, 2003). The societies are permitted to sell items which are perishable at a price fixed by the MFP committee. The price fixed by the MFP committee is for a period of two years. In addition to the co-operative sector, medicinal plants are also marketed by the private traders. Unauthorized collection from the forest, homesteads, non-forest areas and imports constitute their supply. The private traders sell their products directly to the consumers. Though, maximum quantity of medicinal plants is sold by the co-operative sector, more items are sold by the private traders.

Marketing agents play an important role in the trade of medicinal plants in Kerala. The number of agents depends on the nature of the products and the number will be more in the case of non-perishable products and less in the case of perishable goods. The agents who purchase products from the tribes work between the gatherers and society. Generally, the auction of the

Federation is attended by the first wholesaler, who sell the products to the second wholesaler. The latter either exports it to other states or sell to retailers or to medicinal manufacturers. In each stage of marketing, agents/traders have to incur marketing costs. Apart from collection charge, marketing cost consists of godown rent, establishment charges, loading and unloading charges, shrinkage loss, miscellaneous expenses, interest of money invested, among others. The marketing cost of the middlemen, their net margins and statutory taxes constitute the gross marketing margins. The net margin consists of return from the services including the risk. Among the marketing agents, It was found that the Federation ensures maximum marketing margin (12.7%) followed by the first (11.42%) and second wholesalers (7.58%) in the sale of medicinal plants in Kerala. This is mainly due to the monopoly control over collection and marketing of medicinal plants by the Federation. Since there are middlemen like Federation, first and second wholesalers and retailers in the marketing chain of medicinal plants, marketing margins and final prices are high. For instance, the marketing margins of selected products vary from 32 % to 42%, while marketing cost range between 10 to 17 %. (Table 12). Thus the final prices of the most of the NWFPs are significantly higher than the collection charges.

Medicinal plants trade in Kerala is a very prospective one and price of most of the items is on the increase. The price increase is partially due to an imbalance between supply and demand. There are two stages of marketing of medicinal plants in Kerala, one is sale of collected products by the tribes to the Federation through the Society and other is by the Federation. The medicinal plants collected from outside the forests, private garden, homesteads, wastelands and common properties are sold directly to the dealers and medicine manufacturing firms. There are a few weekly markets in Kerala where the medicinal plants brought by the collectors and growers are sold in auction through commission agents.



**Table 12. Price spread, marketing cost and margins of selected NFPs (in %)**

Items	Share of collectors	Price spread	Marketing cost	Marketing margin
<i>Coscinium fenestratum</i>	42.00	48.00	10.32	37.68
<i>Curcuma aromatica</i>	55.41	44.59	12.62	31.97
<i>Myristica beddomei</i>	52.94	47.06	14.15	32.91
<i>Desmodium gangeticum</i>	48.52	51.48	16.05	35.43
<i>Sida rhombifolia</i> ssp. <i>retusa</i>	55.00	45.00	10.25	34.75
Honey	54.00	46.00	15.00	31.00
<i>Terminalia chebula</i>	46.19	53.81	17.09	36.72
<i>Hydnocarpus pentandra</i>	43.00	57.00	15.88	41.12
<i>Phyllanthus emblica</i>	48.46	51.54	14.25	37.29
Average	49.50	50.50	13.95	36.55

The farmers who cultivate medicinal plants are vehement about the fact that they are not getting a reasonable price for their crop. This is mainly because they have to compete with the products collected from the wild, where, there is hardly, any input such as investments in land, cost of fertilizer, pesticides, labour cost, among others. Furthermore, the ultimate consumer of medicinal plants, the Medicine manufacturing industry in Kerala is interested in sources which ensure the steady supply of the required raw drugs. This situation is exploited by the raw drug dealers by offering a low price to the farmers.

### **Price of raw drugs**

The Ayurvedic medicine manufacturing industry in Kerala is also dependent on Tamil Nadu, Karnataka, Andhra Pradesh and other Northern states of India for their day-to-day raw drugs requirement, because cultivation of medicinal plants is less in Kerala. The price of raw drugs varies according to season. During the rainy season, the price of *Pachamarunnu* items is comparatively low because they are collected mostly from the wild. Among the raw drugs Athividayam is highest priced with Rs. 2,240/kg, followed by Chandanam, Thamarayalli, Karayampoo, Adapathiyam and Kadukurohini. Kattarvazha, Chembarathiyila and Amruthu are very low-priced raw drugs (Table 13).

**Table 13. Price of raw drugs**

Sl No	Local name	Price/ kg
1.	Adalodakam	18.01
2.	Adapathiyam	210.76
3.	Adaykkamaniyan	20.79
4.	Aduthodapala	16.37
5.	Aghori	13.70
6.	Amaveru	19.78
7.	Ambalkizhangu	31.14
8.	Amruthu	8.21
9.	Amukkuram	77.56
10.	Anachuvadi	15.30
11.	Angolam	36.33
12.	Arayal	13.88
13.	Arenukam	37.00
14.	Asokapoovu	19.75
15.	Asokatholi	21.88
16.	Athipatta	17.51
17.	Athithippali	48.14
18.	Athividayam	2240.2 2
19.	Attudharbha	16.77
20.	Attuvanchi	19.33
21.	Avaltholi	15.30
22.	Avanakku	13.29
23.	Ayamodakam	43.41
24.	Bhrahmi	11.66
25.	Blankaya	40.52
26.	Chakkarakolli	22.39
27.	Chandanam	323.38
28.	Changalamparanda	14.47
29.	Channakizhangu	28.90
30.	Chappangam	88.83
31.	Charalam	30.28
32.	Chathuramulla	25.71
33.	Cheenappavu	155.76
34.	Chembarathipoovu	37.58
35.	Chembarathiyila	8.63
36.	Chenchalyam	74.72
37.	Chengazhineerkizhangu	43.32
38.	Cherukadaladi	15.96
39.	Cherula	17.15
40.	Cherupunnayari	45.06
	Cheruthekku	28.29
41.	Cheruvazhuthina	18.01
42.	Chinnamukkiyila	31.65
43.	Chiteenthalveru	28.79
44.	Chittadalodakaveru	24.76
45.	Chittadalodakayila	16.76
46.	Chittaratha	67.39
47.	Chittelam	123.18
48.	Chonakapullu/ Injipullu	21.58
49.	Chukku	131.02
50.	Chunda	21.02
51.	Chuvannaratha	41.03
52.	Devatharam	29.87
53.	Dharbhaveru	17.79
54.	Ekanayakaveru	52.34
55.	Elangipoovu	52.43
56.	Elavangam	92.20
57.	Elavulakam	183.04
58.	Erukku	14.17
59.	Erumakkalli	16.11
60.	Esakinveru	21.28
61.	Ezhilampala	14.32
62.	Garudakodi	33.49
63.	Gulgulu	194.49
64.	Idampirivalampiri	23.12
65.	Irattimadhuram	53.93
66.	Irippa	21.71
67.	Ithi	17.08
68.	Kachuri/Kacholam	56.63
69.	Kadaladi	16.64
70.	Kadukka	18.12
71.	Kadukurohini	203.56
72.	Kakkathondi	20.19
73.	Kakoli	79.17
74.	Kallurvanchi	27.26
75.	Kandakari	30.55
76.	Kanikonna	20.99
77.	Kanjiram	15.87
78.	Karakil	20.94
79.	Karayampoo	244.20
80.	Karimjeerakam	48.58
81.	Karimkoovalam	21.67

82.	Karimkurinji	19.06	127.	Kurassani	34.69
83.	Karimthakkali	22.38	128.	Kurunthotti	24.55
84.	Karimthumba	20.58	129.	Kuzhalkonna	71.44
85.	Karingali	17.39	130.	Lanthakuru	18.39
86.	Karinochi	14.46	131.	Manikunthirikkam	73.34
87.	Karinthali	25.40	132.	Manjal	33.91
88.	Karivelam	19.59	133.	Manjatti	77.14
89.	Karkadakashringi	36.99	134.	Maramanjal	38.06
90.	Karkokilari	25.17	135.	Mathalanarakam	25.34
91.	Karthottiveru	18.31	136.	Moovila	30.00
92.	Karuka	14.48	137.	Mukkuthi	13.95
93.	Karuvapatta	74.65	138.	Munja	17.98
94.	Kasthurimanjal	35.59	139.	Musumusukku	13.29
95.	Kattarvazha	9.73	140.	Muthanga	20.58
96.	Kattuchena	13.44	141.	Nagadhanthiveru	36.56
97.	Kattujeerakam	35.00	142.	Naikorana	28.02
98.	Kattumulaku	21.61	143.	Naithalkizhangu	29.28
99.	Kattumuthira	18.60	144.	Nangu	10.00
100.	Kattupadavalam	120.01	145.	Nanmughapullu	29.36
101.	Kattupavakka	16.88	146.	Narunedi	50.61
102.	Kattupayar	31.51	147.	Neelayamari	34.59
103.	Kattuthippalimulaku	25.28	148.	Neermaruthinpatta	20.66
104.	Kattuthippaliveru	28.30	149.	Neermathalatholi	26.30
105.	Kattuvellari	33.62	150.	Nellikka	40.77
106.	Kattuzhunnu	23.75	151.	Nilamparanda	22.12
107.	Kayyunni/Kanjunni	11.44	152.	Nilappana	35.34
108.	Kazhanji	17.68	153.	Njavalkuru	27.30
109.	Keezharnelli	18.64	154.	Njavalpatta	17.13
110.	Kiriyath	102.79	155.	Njerinjampuli	24.50
111.	Kodangal/Muthil	20.31	156.	Njerinjil	26.50
112.	Kodithuva	28.53	157.	Oolanthakara	13.17
113.	Koduveli	41.11	158.	Orila	27.66
114.	Kolarakku	142.66	159.	Pachila	82.37
115.	Kolmanchi	48.42	160.	Pachotti	25.98
116.	Koovalathinkaya	18.03	161.	Padakizhangu	70.27
117.	Koovalathinveru	17.94	162.	Padarchunda	34.51
118.	Koovalayila	12.71	163.	Padavalam	75.38
119.	Kottam	84.18	164.	Palmuthukku	15.84
120.	Koval	17.67	165.	Palvallikizhangu	19.76
121.	Ksheerakakoli	103.73	166.	Panikoorka	14.85
122.	Kudakapalatholi	20.65	167.	Parpatakapullu	26.18
123.	Kudakapalayari	69.23	168.	Paruvakodi	19.00
124.	Kumbil	20.95	169.	Parvalli	18.47
125.	Kunnikuru	57.51	170.	Pathimugham	194.71
126.	Kuppameni	17.18	171.	Pathriveru	14.51

172.	Payyani	17.02
173.	Peenari	22.78
174.	Peral	15.24
175.	Perumaratholi	14.15
176.	Perumkurumbaveru	18.51
177.	Plassu	20.54
178.	Ponnaveera	19.20
179.	Pookaitha	14.89
180.	Poovankurunthal	15.54
181.	Poovathu/Manjari	84.03
182.	Prasarani	19.25
183.	Pulichuvadi	25.59
184.	Puliyarila	22.49
185.	Pullanji	13.26
186.	Punna	55.26
187.	Pushkaramoolam	42.07
188.	Putharichunda	29.22
189.	Rakthachandanam	63.89
190.	Ramacham	37.71
191.	Sangukuppy	21.84
192.	Sangupushpam	25.81
193.	Sathakuppa	39.56
194.	Sathavari	14.95
195.	Seemaeruveli	53.87
196.	Seemanagappuvu	79.95
197.	Seemapachila	67.77
198.	Somalatha	48.69
199.	Thaivela	14.68
200.	Thakara	36.29
201.	Thakkolam	126.58
202.	Thalisapathram	51.00
203.	Thamaravalayam	54.28
204.	Thamarayalli	281.14
205.	Thannikka	15.32
206.	Tharthaval	13.56
207.	Thathiri	20.46
208.	Thazhuthama	27.34
209.	Thekkadaveru	20.46
210.	Thettipoovu	32.15
211.	Thettiveru	18.00
212.	Thippali	133.38
213.	Thiruthali	16.62
214.	Thottavadi	13.05
215.	Thumbayila	11.59
216.	Uluva	25.28

217.	Ummam	12.30
218.	Ungu	15.48
219.	Uzhinja	11.76
220.	Valsanabhi	188.56
221.	Vayalchulli	16.04
222.	Vayambu	35.26
223.	Velipparuthi	17.16
224.	Vengakathal	17.02
225.	Veppila	12.63
226.	Veppinholi	13.72
227.	Vetti	13.33
228.	Vishnukranthi	18.53
229.	Vizhalari	82.85

\* The price given is the average price provided by the medicine manufacturing units for the year 2006.

**Comparison of the consumption of raw drugs by the Ayurvedic medicine industry in 2000 and 2006 in the seven southern districts of Kerala**

The Kerala Forest Research Institute had conducted a study on the consumption of raw drugs by the Ayurvedic medicine industry in 2000 in the seven northern districts viz., Thrissur, Palakkad, Malappuram, Kozhikode, Wayanad, Kannur and Kasaragode (Sasidharan & Muraleedharan, 2000). In this study, the consumption of 125 major raw drugs was assessed. A comparison of the consumption of these 125 items in 2000 and in 2006 (present study) reveals that there is an overall increase of 1,943 tonnes. Among the 125 items compared, there is increase in the consumption of 101 items and decrease in consumption of 24 items. The highest increase is noticed in the case of Sathavari (243 tonnes), followed by Kurumthotti (131 tonnes), Nellikka (124 tonnes), Kayyunni (116 tonnes), Amruthu (79 tonnes), Kadukka (68 tonnes), Chukku (62 tonnes), Karimkurunji (62 tonnes), Amukkuram (53 tonnes) and Karingali (52 tonnes). The items which show decrease in the consumption are Raktachandanam (52 tonnes), Pathimukam (30 tonnes), Poovathu (25 tonnes), Maramanjil (17 tonnes), Changalamparanda (15 tonnes), Chuvannaratha (10 tonnes), Kattumuthira (9.4 tonnes), Thiruthali (8.4 tonnes), Karinochi (3.7 tonnes) and Attuvanchi (3.4 tonnes) [Table 14].

**Table 14 . Comparison of the consumption of 125 items in 2000 and in 2006**

<b>Species</b>	<b>2006</b>	<b>2000</b>	<b>Difference</b>
Adalodakam	233862	226250	7612
Adapathiyam	38589	33180	5409
Ambalkizhangu	10515	12557	-2042
Amruthu	558756	480034	78722
Amukkuram	277718	224348	53370
Arayal	32143	26423	5720
Arenukam	13044	13955	-911
Asokatholi	66286	51859	14427
Athithippali	28042	19165	8877
Attudharbha	24717	22159	2558
Attuvanchi	10063	13437	-3374
Avaltholi	80667	74363	6304
Avanakku	194284	156577	37707
Ayamodakam	69143	67132	2011
Bhrahmi	128805	107653	21152

<b>Species</b>	<b>2006</b>	<b>2000</b>	<b>Difference</b>
Chandhanam	44466	39968	4498
Changalmparanda	14033	28893	-14860
Channakizhangu	17989	12002	5987
Chengazhineerkizhangu	18374	17487	887
Cherula	111685	91542	20143
Cherupunnayari	19234	16852	2382
Cheruthekku	61648	50483	11165
Cheruvazhuthina	276647	252713	23934
Chinnamukkiyila	16526	15394	1132
Chiteenthalveru	17209	13481	3728
Chittaratha	42965	23420	19545
Chittalam	14843	13197	1646
Chonakapullu/Injipullu	13641	12413	1228
Chukku	382775	320424	62351
Chuvannaratha	136888	146774	-9886
Devatharam	251359	206864	44495
Dharbaveru	24646	24856	-210
Erukku	22698	23847	-1149
Ezhilampala	28331	28966	-635
Garudakodi	14436	12500	1936
Kachoori	84669	74895	9774
Kadaladi	17979	16060	1919
Kadukka	442060	373847	68213
Kakkathondi	16604	14943	1661
Kanikonna	105979	92074	13905
Karakil	23684	24622	-938
Karimkoovalam	14096	12404	1692
Karimkurinji	302841	240698	62143
Karingali	143960	92451	51509
Karinochi	39291	42979	-3688
Karkadakashringi	20994	18411	2583
Karthottiveru	19167	14080	5087
Karuka	77617	70103	7514
Karuvapatta	32440	26041	6399
Kasthurimanjal	29893	13272	16621
Kattarvazha	239962	215214	24748
Kattumuthira	14898	24318	-9420
Kattupadavalam	105268	95625	9643
Kattupayar	33230	24806	8424
Kattuthipalimulaku	44525	39517	5008
Kattuvellari	27783	25305	2478
Kattuzhunnu	34393	24078	10315
Kayyunni	342278	226484	115794
Kazhanji	18009	14734	3275
Keezharnelli	36043	33608	2435

<b>Species</b>	<b>2006</b>	<b>2000</b>	<b>Difference</b>
Kiriyath	29863	21679	8184
Kodithoova	144313	116472	27841
Koduveli	176368	155362	21006
Koovalathinveru	259452	229564	29888
Kurumthotti	827661	696941	130720
Manjal	114401	102889	11512
Maramanjai	75049	91890	-16841
Moovila	201495	168073	33422
Munja	167877	136945	30932
Muthanga	297675	269008	28667
Nagadhanthiveru	30298	26221	4077
Nanmughapullu	15187	11552	3635
Narunedi	112505	94471	18034
Nayakurana	41413	30876	10537
Neelayamari	147007	111492	35515
Neermathalatholi	34019	29367	4652
Nellikka	689413	565149	124264
Nilappana	62474	53904	8570
Njavalkuru	22755	22089	666
Njavalpatta	25329	22089	3240
Njerinjampuli	16952	17188	-236
Njerinjil	223483	191753	31730
Orila	199849	164959	34890
Pachila	46469	19696	26773
Pachotti	72545	66194	6351
Padakizhangu	58174	36469	21705
Palmuthukku	97522	81184	16338
Parpatakapullu	146947	125484	21463
Pathimugham	74848	104443	-29595
Pathiriveru	165014	130714	34300
Payyani	168584	124271	44313
Peenari	15264	14710	554
Peral	24448	25901	-1453
Perumaratholi	12902	14077	-1175
Perumkurumbaveru	28391	24150	4241
Ponnaveera	11415	13207	-1792
Pookaitha	26264	29529	-3265
Poovamkurunthal	20771	14123	6648
Poovathu	21108	45909	-24801
Prasarani	45286	38882	6404
Puliyarila	14797	16367	-1570
Putharichunda	110658	80934	29724
Rakthachandanam	53239	105266	-52027
Sangupushpam	16961	14924	2037
Sathavari	531111	288119	242992

<b>Species</b>	<b>2006</b>	<b>2000</b>	<b>Difference</b>
Somalatha	11795	13550	-1755
Thakkolam	25581	21448	4133
Thamaravalayam	17855	15840	2015
Thamarayalli	17894	16294	1600
Thanikka	150340	130139	20201
Tharthaval	20890	23028	-2138
Thathiri	274272	241347	32925
Thazhuthama	191681	157647	34034
Thekkadaveru	20931	18432	2499
Thippali	195288	176018	19270
Thiruthali	2680	11120	-8440
Thottavadi	13756	13059	697
Thumbayila	13076	12288	788
Ummam	33290	24280	9010
Ungu	56849	51951	4898
Uzhinja	89082	80244	8838
Vayalchulli	56471	36355	20116
Vayambu	104073	89875	14198
Vengakathal	82872	70180	12692
Vishnukranthi	11848	10535	1313

Among the seven northern districts, the highest increase in the consumption of raw drugs is noticed in the Palakkad District followed by Thrissur and Malappuram. The highest increase is in the case of items such as Nellikka, Sathavari, Karimkuringi, Kadukka and Chukku in the Palakkad district while there is decrease for Kattumuthira, Ummam, Peral, Poovathu and Arayal. In Thrissur District the highest increase is in the consumption of Kayyuni, Kurumthotti, Karingali, Neelayamari and Sathavari while the decrease is in the consumption of Rakthachandanam, Pathimugham, Maramanjil, Poovathu and Chuvannaratha. In Malappuram District the highest increase is in the consumption of Sathavari, Amukkuram, Thathiri, Putharichunda and Avanakku while the decrease is in the case of Kayyuni, Adalodakam, Ezhilampala, Karinochi and Rakthachandanam [Table 15].



**Table 15 . Comparison of the consumption of 125 raw drugs in 2000 and 2006 in the seven northern Districts of Kerala**

Species	Thrissur			Palakkad			Malappuram			Kozhikkode			Kannur			Wayanad			Kasaragode		
	2006	2000	D*	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D
Adalodakam	107768	107814	-46	38684	18833	19851	44885	65238	-20353	33158	25126	8032	8581	5984	2597	516	1425	-909	270	1830	-1560
Adapathiyam	13841	10296	3545	2438	1706	732	10790	10108	682	9032	9747	-715	2288	1285	1003	155	38	117	45		45
Ambalkizhangu	1518	724	794	146	1108	-962	561	763	-202	7806	9246	-1440	445	677	-232	38	39	-1	1		1
Amruthu	272671	256390	16281	56586	34655	21931	170723	156770	13953	20856	19429	1427	36379	11515	24864	1206	1125	81	335	150	185
Amukkuram	122228	112913	9315	31576	17742	13834	95351	73823	21528	16840	17297	-457	10416	1982	8434	717	375	342	590	216	374
Arayal	7293	4119	3174	2324	3987	-1663	7728	5336	2392	9995	10575	-581	4478	1881	2597	15	525	-510	310		310
Arenukam	4767	2486	2281	108	875	-767	1152	520	632	6492	9340	-2848	491	669	-178	20	33	-13	14	32	-18
Asokatholi	25666	18543	7123	5347	4749	598	19900	13510	6390	11357	10886	471	3595	3691	-96	187	345	-158	234	135	99
Athithippali	11276	3505	7771	1727	1583	144	4546	3819	727	9040	9522	-482	1212	709	503	164	23	141	77	4	73
Attudharbha	4670	4530	140	2411	2211	200	4302	3724	578	10857	9800	1057	2258	1871	387	179	23	156	40		40
Attuvanchi	554	1440	-886	18	518	-500	2613	1399	1214	5250	9241	-3991	1628	786	842		53	-53			
Avaltholi	41354	39385	1969	5009	3416	1593	21190	19748	1442	10456	9878	578	2131	1823	308	133	113	20	394		394
Avanakku	74965	68258	6707	34852	24538	10314	55243	36570	18673	18666	19987	-1321	9980	5680	4300	368	1313	-945	210	231	-21
Ayam odakam	38803	44950	-6147	6463	5044	1419	13405	10183	3222	5472	4723	749	4609	1884	2725	354	338	16	37	10	27
Bhrahmi	41064	38199	2865	12705	9991	2714	57344	45423	11921	11152	10710	442	4055	2782	1273	2191	323	1868	294	225	69
Chandhanam	19475	15950	3525	3230	2008	1222	12340	11691	649	7266	9621	-2355	1420	606	814	640	60	580	95	32	63
Changalmparanda	6439	15972	-9533	605	1004	-399	1175	1568	-393	4992	9467	-4475	711	844	-133	75	38	37	36		36
Channakizhangu	2930	1294	1636	3048	723	2325	2090	448	1642	8271	9344	-1073	56	169	-113	1592	24	1568	2		2
Chengazhineerkizhangu	4799	3390	1409	1494	974	520	3044	2920	124	7315	9335	-2020	1324	808	516	304	45	259	94	15	79
Cherula	63494	59928	3566	25970	12304	13666	14265	13233	1032	6232	5072	1160	1245	923	322	455	60	395	24	22	2
Cherupunnayari	3730	1939	1791	1526	1635	-109	3222	3362	-140	8736	9446	-710	1625	417	1208	380	53	327	15		15
Cheruthekkku	35374	32158	3216	5382	2400	2982	8536	4574	3962	10506	9879	627	1380	1352	28	460	120	340	10		10
Cheruvazhuthina	88667	82099	6568	15190	14157	1033	126545	117388	9157	35416	33112	2304	8858	5189	3669	1443	675	768	528	93	435
Chinnamukkiyila	3935	1806	2129	346	1826	-1480	1885	1241	644	9135	9358	-223	1145	1125	20	75	38	37	5		5
Chiteenthalveru	2984	2471	513	1150	507	643	3540	678	2862	8873	9464	-592	585	353	232	75	8	67	2		2
Chittaratha	15203	3230	11973	15975	3288	12687	2345	3194	-849	6849	9764	-2915	2208	3224	-1016	320	720	-400	65		65
Chittelam	4296	2089	2207	420	548	-128	640	606	34	8640	9465	-825	685	467	218	152	20	132	10	2	8
Chonakapullu/Injipullu	2898	1253	1645	630	556	74	1615	829	786	7711	9396	-1685	705	361	344	80	18	62	2		2
Chukku	216925	203685	13240	54900	23078	31822	80510	71933	8577	20860	17472	3388	7990	3399	4591	995	300	695	595	557	38
Chuvannaratha	49905	71262	-21357	13800	11444	2356	54915	43389	11526	15442	17398	-1956	2696	3206	-510	65	75	-10	65		65
Devatharam	121475	113794	7681	35835	15295	20540	76795	64143	12652	11079	11038	41	5235	2169	3066	750	375	375	190	50	140

Species	Thrissur			Palakkad			Malappuram			Kozhikkode			Kannur			Wayanad			Kasaragode		
	2006	2000	D*	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D
Dharbaveru	4040	7417	-3377	1794	1175	619	8520	5550	2970	8436	9475	-1039	1676	1216	460	150	23	127	30		30
Erukku	8668	4823	3845	2289	2807	-518	2031	5312	-3281	8323	9867	-1544	1059	940	119	303	83	220	25	15	10
Ezhilampala	14922	3676	11246	1789	1516	273	1589	12816	-11227	8040	9739	-1699	1683	1141	542	301	68	233	7	10	-3
Garudakodi	1228	619	609	430	399	31	490	457	33	10428	9296	1132	1860	1721	139		8	-8			
Kachoori	46711	43032	3679	11419	6258	5161	18718	18458	260	5206	4797	409	2205	2170	35	351	180	171	59		59
Kadaladi	3346	3651	-305	283	1080	-797	3816	1198	2618	8752	9424	-672	1618	677	941	151	30	121	13		13
Kadukka	240181	219343	20838	63395	29864	33531	112410	103130	9280	15607	12127	3480	9225	8793	432	880	405	475	362	185	177
Kakkathondi	4470	2328	2142	960	858	102	2059	1949	110	7910	9356	-1446	1045	422	623	150	30	120	10		10
Kanikonna	48217	45063	3154	9719	3449	6270	34945	32657	2288	8649	8210	439	4009	2500	1509	330	195	135	110		110
Karakil	8501	5659	2842	3460	1614	1846	587	6903	-6316	8747	9577	-830	2033	824	1209	321	45	276	35		35
Karimkoovalam	2143	512	1631	484	787	-303	1864	1574	290	7969	9250	-1281	1279	261	1018	290	15	275	67	5	62
Karimkurinji	71686	70170	1516	70956	29536	41420	132513	117035	15478	17591	17614	-23	8722	5313	3409	1005	1005		368	25	343
Karingali	87157	41501	45656	8059	9186	-1127	24803	22468	2335	14006	11824	2182	9008	6886	2122	368	225	143	559	361	198
Karinochi	15102	10670	4432	5142	4650	492	7467	15668	-8201	8456	9763	-1307	2813	1580	1233	301	324	-23	10	324	-314
Karkadakashringi	6095	3903	2192	1061	867	194	3154	3461	-307	8625	9371	-746	1554	789	765	430	20	410	75		75
Karthottiveru	6730	2482	4248	820	894	-74	1265	819	446	8077	9406	-1329	1935	441	1494	325	38	287	15		15
Karuka	21604	20478	1126	10306	7770	2536	34060	31248	2812	9877	9712	165	1645	880	765	75	15	60	50		50
Karuvapatta	13558	8172	5386	1365	1282	83	5185	4892	293	9979	9704	275	2030	1916	114	300	75	225	23		23
Kasthurimanjal	9711	827	8884	2471	2321	150	2710		2710	9504	9402	102	5172	722	4450	225		225	100		100
Kattarvazha	118277	112976	5301	15052	14134	918	91124	77558	13566		4726	-4726	13579	4495	9084	1390	1275	115	540	50	490
Kattumuthira	2142	1431	711	1310	6986	-5676	1700	5878	-4178	8839	9394	-555	821	618	203	76	11	65	10		10
Kattupadavalam	63104	58976	4128	13361	7870	5491	23551	21111	2440		3583	-3583	4717	3742	975	425	323	102	110	20	90
Kattupayar	9233	3737	5496	3755	3526	229	8755	7116	1639	9667	9571	96	1384	751	633	400	105	295	36		36
Kattuthipalimulaku	11874	11108	766	5795	2606	3189	14730	13898	832	9707	9681	26	2295	2141	154	90	83	7	34		34
Kattuvellari	10378	10842	-464	1648	2247	-599	3221	1064	2157	9519	9647	-128	2552	1467	1085	397	38	359	68		68
Kattuzhunnu	10164	4172	5992	3447	1889	1558	9020	6783	2237	9689	9734	-45	1705	1402	303	327	60	267	41	38	3
Kayyunni	246484	55821	190663	57553	32815	24738	24832	124503	-99671		6619	-6619	12339	6213	6126	570	413	157	500	100	400
Kazhanji	3651	1790	1861	1817	538	1279	1781	2527	-746	9381	9377	4	1299	479	820	75	23	52	5		5
Keezharnelli	6446	5780	666	4592	4252	340	11255	10340	915	9709	9469	240	3560	3297	263	349	345	4	132	125	7
Kiriyath	7473	4841	2632	2580	2016	564	7808	4440	3368	9438	9470	-32	2054	829	1225	392	83	309	118		118
Kodithoova	71518	66652	4866	16641	8141	8500	39246	29440	9806	9119	7359	1760	7011	4470	2541	661	405	256	117	5	112
Koduveli	84296	79600	4696	13352	12597	755	57062	47775	9287	11421	9223	2198	8817	4912	3905	1160	1095	65	260	160	100

Species	Thrissur			Palakkad			Malappuram			Kozhikkode			Kannur			Wayanad			Kasaragode		
	2006	2000	D*	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D
Koovalathinveru	88489	86573	1916	43996	20403	23593	103051	103395	-344	13277	12393	884	8928	5610	3318	880	825	55	831	365	466
Kurumthotti	341042	281200	59842	108563	83981	24582	234273	238285	-4012	74412	74784	-372	64015	14591	49424	4375	4050	325	981	50	931
Manjal	52629	49201	3428	10287	8819	1468	41865	38639	3226	4351	3740	611	2964	2080	884	2113	233	1880	192	177	15
Maramanj	26321	56429	-30108	9805	5752	4053	25844	16685	9159	9207	10718	-1511	1973	1861	112	1649	345	1304	250	100	150
Moovila	78738	76944	1794	38203	14346	23857	60665	58108	2557	8717	11705	-2988	12886	5559	7327	1844	1005	839	442	406	36
Munja	51870	47983	3887	31748	14119	17629	63330	57915	5415	12214	11347	867	5995	5056	939	2400	225	2175	320	300	20
Muthanga	170429	158760	11669	30911	18264	12647	54979	53858	1121	32921	32737	184	5120	4139	981	2785	750	2035	530	500	30
Nagadhanthiveru	6678	4429	2249	1533	1423	110	10915	9981	934	9612	9482	130	1150	836	314	375	38	337	35	32	3
Nanmughapullu	3840	978	2862	236	402	-166	1008	458	550	8559	9365	-806	1019	331	688	514	18	496	11		11
Narunedi	27380	21018	6362	16500	9774	6726	53255	50040	3215	11070	10190	880	3275	3119	156	880	195	685	145	135	10
Nayakurana	13508	4311	9197	4380	4082	298	11310	10770	540	9895	9793	102	1845	1783	62	450	113	337	25	24	1
Neelayamari	51491	21438	30053	12910	12112	798	66645	63052	3593	11517	11250	267	3570	3340	230	859	300	559	15		15
Neermathalatholi	6107	3612	2495	3985	3760	225	11990	11207	783	8861	9641	-780	2164	944	1220	864	203	661	48		48
Nellikka	240367	221905	18462	110308	25662	84646	246915	228625	18290	75666	74854	812	13315	12326	989	2073	1455	618	769	322	447
Nilappana	18601	24126	-5525	7501	4496	3005	24332	13865	10467	9237	9620	-384	1799	1419	380	921	263	658	83	115	-32
Njavalakuru	5739	5415	324	1835	1732	103	5180	4985	195	9444	9440	4	490	464	26	57	53	4	10		10
Njavalpatta	5824	5415	409	3495	1732	1763	5240	4985	255	9480	9440	40	1030	464	566	225	53	172	35		35
Njerinjampuli	3740	1870	1870	1620	1320	300	1950	4223	-2273	8640	9301	-661	960	451	509	40	23	17	2		2
Njerinjil	86244	81133	5111	37465	17555	19910	79600	73833	5767	12114	11937	177	6520	6159	361	1050	683	367	490	453	37
Orila	77775	73407	4368	36046	14896	21150	61585	58100	3485	11873	11586	287	11062	5559	5503	1082	1005	77	426	406	20
Pachila	18990	3840	15150	4711	3318	1393	12550	1093	11457	7608	9506	-1898	1532	1894	-362	984	45	939	94		94
Pachotti	30655	28416	2239	6159	6072	87	22794	19949	2845	10463	10029	434	1983	1566	417	392	128	264	99	34	65
Padakizhangu	15263	12210	3053	9310	2376	6934	21251	11006	10245	7940	9555	-1615	2280	1180	1100	2034	90	1944	96	52	44
Palmuthukku	31994	22570	9424	8643	5933	2710	40520	37868	2652	9986	10273	-287	4329	3730	599	1942	810	1132	108		108
Parpatakapullu	98535	90399	8136	11521	5786	5735	27957	21868	6089	4497	4342	155	3090	2862	228	1309	195	1114	38	32	6
Pathimugham	41384	76695	-35311	5477	4498	979	11235	10400	835	10603	10247	356	4180	1728	2452	1702	825	877	267	50	217
Pathiriveru	61390	48534	12856	31570	13554	18016	51518	50695	823	9134	11737	-2603	8878	5194	3684	2173	675	1498	351	325	26
Payyani	63735	48109	15626	30927	13670	17257	59103	52195	6908	4116	3888	228	8347	5394	2953	1981	675	1306	375	340	35
Peenari	2146	2991	-845	416	566	-150	1847	1326	521	9158	9439	-281	991	350	641	701	38	663	5		5
Peral	4165	4119	46	1088	3419	-2331	5625	5372	253	8736	10510	-1774	3905	1921	1984	680	525	155	249	35	214
Perumaratholi	4025	2552	1473	2874	897	1977	4895	549	4346		9403	-9403	1075	653	422	2	23	-21	31		31
Perumkurumbaveru	8378	7867	511	1925	1783	142	5170	3815	1355	9472	9446	26	2161	1188	973	1218	45	1173	67	6	61

Species	Thrissur			Palakkad			Malappuram			Kozhikkode			Kannur			Wayanad			Kasaragode		
	2006	2000	D*	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D	2006	2000	D
Ponnaveera	916	2021	-1105	71	617	-546	558	796	-238	9174	9204	-30	694	554	140		15	-15	2		2
Pookaitha	8884	6262	2622	3124	1894	1230	4819	10115	-5296	7550	9629	-2079	1359	1624	-265	518	5	513	10		10
Poovamkurunthal	461	1083	-622	937	397	540	9673	2503	7170	8860	9472	-612	713	660	53	100	8	92	27		27
Poovathu	6085	30241	-24156	105	2355	-2250	4998	1524	3474	8412	9589	-1177	1115	2110	-995	316	90	226	77		77
Prasarani	12082	9669	2413	4424	3091	1333	15145	14022	1123	9308	9784	-476	3329	2151	1178	987	165	822	11		11
Puliyarila	2295	376	1919	235	903	-668	2688	5458	-2770	9389	9420	-31	167	195	-28		15	-15	23		23
Putharichunda	60422	56633	3789	6013	4687	1326	25335	6297	19038	10697	10397	300	6089	2501	3588	1954	338	1616	148	81	67
Rakthachandanam	31994	79554	-47560	3434	2419	1015	5008	11441	-6433	7950	10146	-2196	3684	1434	2250	1052	180	872	117	92	25
Sangupushpam	3980	2109	1871	717	1075	-358	2691	1718	973	8884	9385	-501	492	595	-103	174	30	144	23	12	11
Sathavari	135663	107686	27977	90541	35746	54795	280805	123835	156970	10019	9916	103	10852	9643	1209	2571	1020	1551	660	273	387
Somalatha	847	692	155	217	794	-577	779	2443	-1664	9464	9473	-9	120	145	-25	366	3	363	2		2
Thakkolam	6685	5946	739	1600	1467	133	5945	3776	2169	9471	9624	-153	1100	527	573	680	83	597	100	25	75
Thamaravalayam	2770	3003	-233	1845	759	1086	3205	2072	1133	9257	9419	-162	608	560	48	150	27	123	20		20
Thamarayalli	2545	3629	-1084	1740	945	795	3175	1738	1437	9202	9369	-167	482	592	-110	740	6	734	10	15	-5
Thanikka	68936	65077	3859	17671	9276	8395	43811	37605	6206	12177	11261	916	6655	6330	325	890	405	485	200	185	15
Tharthaval	8699	6850	1849	650	2053	-1403	2515	3835	-1320	7201	9387	-2186	1365	778	587	450	75	375	10	50	-40
Thathiri	117633	110350	7283	17335	16113	1222	94410	73310	21100	36125	34004	2121	6290	5880	410	1795	1050	745	684	640	44
Thazhuthama	86487	79346	7141	16155	14957	1198	73378	55553	17825	8091	3352	4739	6400	3879	2521	940	488	452	230	72	158
Thekkadaveru	4760	2052	2708	550	1787	-1237	4058	3943	115	9408	9615	-207	1700	930	770	450	105	345	5		5
Thippali	99781	90545	9236	11870	11413	457	58472	50226	8246	18000	17593	407	6015	5569	446	885	428	457	265	244	21
Thiruthali	825	484	341	140	678	-538	980	236	744		9286	-9286	660	430	230	75	3	72		3	-3
Thottavadi	395	338	57	555	523	32	2195	1677	518	9441	9422	19	1170	1091	79		8	-8			
Thumbayila	545	411	134	2474	2343	131	352	180	172	9240	9207	33	465	145	320					2	-2
Ummam	17196	5807	11389	750	3498	-2748	2908	3027	-119	9000	9688	-688	2989	2110	879	347	150	197	100		100
Ungu	24612	22726	1886	2580	2442	138	17410	16119	1291	10256	9565	691	1716	955	761	155	120	35	120	24	96
Uzhinja	12919	9262	3657	5092	4768	324	57745	54068	3677	10651	9806	845	2323	2265	58	302	60	242	50	15	35
Vayalchulli	23387	12708	10679	11436	4823	6613	8559	5813	2746	8061	10171	-2110	3385	2519	866	1615	240	1375	28	81	-53
Vayambu	63058	59154	3904	7508	5103	2405	24218	18749	5469	4721	4373	348	2554	2233	321	1942	263	1679	72		72
Vengakathal	20215	15489	4726	7430	6944	486	37690	34575	3115	11656	10277	1379	4650	2235	2415	1169	660	509	62		62
Vishnukranthi	1373	255	1118	192	181	11	622	447	175	9329	9328	1	330	321	9		3	-3	2		2

D = Difference

The increase in the consumption of raw drugs reveals the growth of the Ayurvedic Medicine Industry in Kerala. Among the raw drugs, the highest increase is in the case of Sathavari. Due to scarcity of Ashtavarga drugs, they are being substituted with Sathavari. In Ayurveda, Sathavari is considered as an Abhavarga plant, which can be used as substitute for Ashtavarga. Substantial increase has also noted in the consumption of Nellikai (Gooseberry), Kayyunni, Amruthu and Kadukka. Apart from the use in Ayurvedic medicines, these are ingredients of herbal cosmetics, particularly hair tonics. Increase in the consumption of these raw drugs may partly be due to the increase in the production of herbal cosmetics.

There is decrease in the consumption of raw drugs like red sandal and sappan wood. During the last six years, there is decrease of 49 per cent in the consumption of red sandal. This is mainly due to non availability. Sappan wood is the main ingredient of Dhahasamani (herbal preparation used for boiling water for drinking). The cultivation of sappan tree has increased during the past eight years and wood is now available at Rs.70-80 per kg. Several cottage industrial units are now selling small packets of sappan costing Rs.5/- and Rs.10/-. People prefer these small packets which are cheaper compared to the Dhahasamanis prepared by the drug industries.

#### **4. CONCLUSION AND RECOMMENDATIONS**

Annual consumption of 230 raw drugs by the Ayurvedic medicine manufacturing industry in Kerala is about 20,517 tonnes. Consumption of raw drugs is highest in Thrissur, Malappuram and Palakkad districts as some of the large units are located in these districts. The raw drugs are mostly sourced from the wild (forests and non-forests) and only very little quantity is procured from cultivated areas. Among the plant/parts used as raw drugs, roots and rhizomes constitute 45 per cent. Among these, roots of 5 tree species constitute 14 per cent of total consumption. Collection of roots of trees is mostly destructive in nature and there is scarcity for the roots of many tree species.

The present requirement of raw drugs, especially *Pachamarunnu*, is met from Kerala and neighbouring states. *Pettimarunnu* items are imported from North

India and there is scarcity for these drugs. Considering the present rate of consumption and growth of the Ayurvedic medicine industry, future requirements can be met only through cultivation. However, long term planning is essential for meeting the required raw drugs for the industry through cultivation.

Cultivation of medicinal plants, especially those prioritized by the National/State Medicinal Plants Boards has been taken up by farmers with financial assistance from the Board. The stipulation to have a minimum of 2 hectares of land for availing subsidy from the Board is a serious handicap to the farmers, whose land holding is very small compared to other States.

Farmers cultivating medicinal plants state vehemently that they are not getting a reasonable price. In Kerala, farmers are raising only a few preferred species while the requirement of the industry is of about 400 raw drugs. Therefore, the industrial units, particularly larger ones prefer sources which can ensure steady supply of maximum items as per their requirement. The raw drugs consist of Pachamarunnu (used in fresh forms) and Pettimarunnu (used in dried form). The entire requirements of Pachamarunnu for the Ayurvedic medicine industry can be raised through cultivation in Kerala. Considering the problems faced by the farmers and Ayurvedic medicine industry, there is need for strong linkage between farmers and industry to ease the problems. The marketing of medicinal plants can be solved to a great extent, through this linkage. It is suggested that the cultivation and marketing of medicinal plants may be taken up as a Co-operative venture involving farmers and industry. The monthly requirement of raw drugs of each unit in a district or taluk may be informed to the farmers group in the taluk or district. The price of the raw drugs may be fixed through negotiation. The farmers can take up the cultivation of medicinal plants and supply to the units as per their requirement and on the agreed price. The present study has generated data on the consumption of medicinal plants in each district by the Ayurvedic Medicine Manufacturing Units. The farmers can select the species which are in high demand in each district. Awareness on good agricultural practices and post harvest processing and storage of medicinal plants may be created among farmers through workshop and seminars for producing quality raw drugs.

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**Appendix I. List of selected registered Ayurvedic medicine  
manufacturing units in Kerala**

**THIRUVANANTHAPURAM**

1. Indigenous medical Laboratories, Vakkom
2. Sarathi Pharmaceuticals, Nemom
3. C.V.N. Ayurvedic Pharmaceuticals, East Fort
4. Sukumaravilasom Vaidyasala, Perookkada
5. Bhaskaravilasom Vaidyasala, Nedumangad
6. S.K.V. Ayurveda Vaidyasala, Attingal
7. Ouhada, Nirmana Vyvsaya Sala Co.Op. Society Ltd., Thycaud
8. Sree Dhanwanthiri Madom Ayurveda pharmacy, Thiruvananthapuram
9. Mukthi Pharma, Chirayinkeezhu

**KOLLAM**

1. Kollam District Ayurveda Nirmana Vyvasaya Co-Operative Society Ltd.,  
Mundakkal
2. S.K.V. Pharmaceuticals, Chennampetta
3. Hema Ayurvedic Centre Market Jn. Anchal
4. Aswini Herbal Products, Veliyam
5. Sadanandapuram, Kottarakkara
6. Raas Herbal Products, punalur
7. S.V. Indegenous Medical Research & Manufacturing Company, Punalur.
8. Pourasthya Pharmacy, Perinad
9. Alappat Pharmacy, Kundara
10. Jaya Bharatham arya Vaidya sala, Punalur
11. Ayurveda Pharmacy& Hospital, perinad
12. Divya Ayurvedic Vidya sala, Ayoo

**PATHANAMTHITTA**

1. Medicines Chamber, Adoor
2. Veda Herbs & Drugs (P) Ltd. Parakanam
3. Aswagandha Pharmaceuticals Kulanada
4. Kalpaka Pharmaceuticals, Adoor

### **ALAPPUZHA**

1. Falcon Pharma, Pazahaveedu
2. Sree Dhanwanthiri Bhavan Arya Vaidyasala, Chenganoor
3. S.D.Pharmacy, H.O.Alapuzha
4. Sreenikethan Arya Vaidya Sala, Cherthala
5. M.V. Ayurveda Vaidyasala, Trikunnappuzha.

### **KOTTAYAM**

1. Indian Herbs Pharmaceuticals (P) Ltd Vaikam
2. Olesha Dhanwathari Vilassam Ayurveda Vaidyasala, Olassa
3. Sree Sankara Ayurveda Vaidyasala Chenganassery
4. Vyshak Herbal remedies Nattakam
5. Bipha drug Laboratories, Kalarikkal Bazar
6. Kannanmalil Pharmacy Changanachery
7. Vakayil Vaidyasala, Thalayolaparambu
8. Moosad Pharmaceuticals, S. Nada, Ettumanoor

### **IDUKKI**

1. Dhanwanthiri Vaidyasala H.O. Thodupuzha
2. Omkar, Thodupuzha
3. Nagarjuna Herbal Concentrates Ltd. Thodupuzha

### **ERNAKULAM**

1. Fair Pharma, Eranakulam
2. Velayudha Pharmacy, Padma
3. Karippai Pharmacy & Nursing Home, N.Paravoor
4. Madhava Pharmaceuticals & Laboratories, Banerji Road
5. Nalanda Ayurvedic Pharmacy, Moovattupuzha
6. Santhimadam Pharmaceuticals (P) Ltd. N.Paravoor
7. S.N. Ayurveda Pharmacy, Always
8. S.V.Pharmacy & Nursing Home, Always
9. Vindhya Research Remedies, Kurumassery

10. Sree Vijayananda Pharmacy, Chottanikkara
11. Select Drugs & Pharmaceuticals, Moovattupuzha
12. Amrutha Pharmaceuticals, Mulamthuruthy
13. Yogarathnam Ayurvedalayam, Vengoor
14. Madassery Ayurvedavaidyasala, Ankamali
15. Kerala Ayurveda Pharmacy Ltd., Alwaye
16. Kerala Ayurveda Vaidyasala, Palluruthy
17. Chand's Pharmaceuticals Works, Basin Rd
18. Axion Pharmaceuticals (P) Ltd., N.Pravaoor

### **THRISSUR**

1. Ayur Sidha Pharmaceuticals, Varandarapilly
2. Amba Pharmacy, Urakm
3. Cosmo Vision Herbals (India) P Ltd., Kundukad
4. Ayurveda Medicals, Kunnamkulam
5. Amala Cancer Hospital & Research, Amalanagar
6. Ancient remedies, Marathakkara
7. 7.Arya Vaidya Ashramam, Kodungalur
8. Arya Herbals, Kunnamkulam
9. Cherupushpam Pharmacy, Mala
10. Combined Pharmaceuticals, Chalakudy
11. Chettiparambil Ayur Products, Annamanda
12. Everest Pharma, Chiyaram
13. Harisree Ayurvedics (P) Ltd., Nellai
14. K.P.Pathrose Vaidyan's Kandamkulathi Vaidyasala, Mala
15. Prabha Ayurvedic Pharmacy, Kodungallur
16. Indian Pharmacy, Chalakudy
17. Kalan Herbal Products, Nellai
18. Malabar Ayurvedic (P) Ltd, Chengaloor
19. Palayamkote arya vaidyasala (P) Ltd., Chavakkad
20. Pharmaceuticla Corperation (IM) Kerala Ltd., Thiruvambadi
21. A.T.M. Vaidyaraj Oushadasala, Anandapuram
22. S.N.A.Oushada Sala (P) Ltd., Moospet Rd
23. Ashtavaidya Samskrithi, Engadiyoor
24. Sreeram Herbal Remedies (P) Ltd., Anandapuram

25. Vaidyaratnam Oushadasala, Thaikkattussery
26. Vaidyaratnam Oushadasala (P) Ltd., Chuvannamannu
27. Sitaram Ayurveda Pharmacy Ltd
28. Sanjeevani Ayurvedics, Kuriachira

#### **PALAKKAD**

1. Aryavaidyodhayam vaidyasala, Ottapalam
2. Vijaya Ayurvedic Pharmacy, Mele Pattambi
3. Vaidyamadam Vaydya Sala & Nursing Home, Thrithala
4. Quality Drugs & Pharmaceuticals, Pirayiri
5. Mini Pharma, Pattambi
6. Ushus Ayurvedics, Manissery, Ottappalam
7. National Ayurvedic Pharmacy. Thiruvallathur
8. Kevees Pharmaceuticals, Thrithala
9. K.P.R.C. Pharmaceuticals, Akattethara
10. Arya Vaidya pharmacy CBT. Ltd, Kanjikode

#### **MALAPPURAM**

1. Arya Vaidya Sala, Kottakkal
2. Changampilli Ayurvedic Vaidyasala, Valanchery
3. Govinda Pharmacy, Pulamanthole
4. Acheerithodi Vaidya Sala, Perinthalmanna
5. Vimala Smaraka Pharmacy, Perinthalmanna
6. Prasad Ayurvedic Products, Karuvarakundu
7. M.V.S. Ayurvedic Research Centre, Kundotti
8. Mohan Pharmacy, Up-Hill
9. Santhosh Pharmacy (Regd.), Kadalundinagaram

#### **KOZHIKODE**

1. Aranya Ayurveda Vaidyasala, Oorallur
2. Arogyapradayani Oushadasala, Nanmanda
3. Kerala Ayurvedic Corporative Society Ltd., Meenchanda
4. Kadathanad Ayurveda Pharmaceuticals, Puthur
5. K.V.S Medicals, Quilandi
6. Karthika Pharmaceuticals and Researchers, Elathoor

7. Malabar Ayurvedic Pharmacy, Chaliyam
8. Nityananada Ayurvedic Pharmacy, Quilandi
9. Sadananda's Ayurvedic Pharmacy, Mankavu
10. Chakola Ayurvedics, R.S.Link Rd
11. Shafi Ayurveda Kalary Marma, Vadakara
12. PVS Vaidyasala, Kakkodi

#### **WAYANAD**

1. Kozhikode Ayurveda Pharmacy & stores, Sulthan Bathery
2. Aswini Ayurvedic Pharmacy Pancha Karma Centre, Sulthan Bathery

#### **KANNUR**

1. Kerala Ayurveda Vaidyasala Ltd., Thaliparambu
1. 2.Pappinissery VishaChikilsa Society Ltd, Pappinissery
2. Sunson Herbal Products, Payyannur
3. 4.Kurumathoor Arya Vaidya sala &Nursing home, Thaliparamba
4. 5.Dhanwathiri Nilayam, Cherukunnu
5. 6.Sreesadan Ayurveda Oushadasala, H.O.Kannur
6. 7.Asoka Pharmaceuticals, Thalikkavu Road
7. 8.Arogyarakshasramam Pharmacy, Payyannur
8. Raghava Ayurvedic Pharmacy, Thalassery
9. Arogyadhayani Oushada sala, Chokli

#### **KASARGOD**

1. Ojus Pharmaceuticals, Kanhangad
2. Focus Drugs Research Laboratories (P) ltd, Pullur
3. Vimala Ayurvedic Pharmaceuticals, Balal
4. Prasadam Pharmacy, Thrikkaripur



**KERALA FOREST RESEARCH INSTITUTE, PEECHI**  
**THE RAW DRUGS REQUIREMENTS OF AYURVEDIC MEDICINE**  
**MANUFACTURING INDUSTRY IN KERALA**  
**[STUDY SPONSORED BY NATIONAL MEDICINAL PLANTS BOARD]**

Sl.No	Name of medicinal plants	Total Quantity		Price/kg	Source
		2004-05	2005-06		
1.	Amruthu				
2.	Asokatholi				
3.	Asokapoovu				
4.	Arenukam				
5.	Athipatta				
6.	Angolam				
7.	Arayal				
8.	Adapathiyan				
9.	Athithippali				
10.	Aghori				
11.	Adaykkamaniyan				
12.	Amaveru				
13.	Amukkuram				
14.	Athividayam				
15.	Ayamodakam				
16.	Adalodakam				
17.	Avanakku				
18.	Ambalkizhangu				
19.	Attudharbha				
20.	Aduthodapala				
21.	Attuvanchi				
22.	Avaltholi				
23.	Anachuvadi				
24.	Elavangam				
25.	Ithi				
26.	Irattimadhuram				
27.	Irippa				
28.	Idampirivalampiri				
29.	Elangipoovu				
30.	Uluva				
31.	Ungu				
32.	Ummam				
33.	Uzhinja				
34.	Oolanthakara				
35.	Erumakkali				
36.	Erukku				
37.	Esakinveru				
38.	Ezhilampala				
39.	Ekanayakaveru				

40.	Elavulakam				
41.	Orila				
42.	Kadukka				
43.	Karimkurinji				
44.	Karimthakkali				
45.	Kattarvazha				
46.	Kayyunni/Kanjunni				
47.	Karinochi				
48.	Kasthurimanjal				
49.	Karkadakashringi				
50.	Karimkoovalam				
51.	Karingali				
52.	Kallurvanchi				
53.	Kanikkonna				
54.	Kadaladi				
55.	Kazhanji				
56.	Karinthali				
57.	Karuka				
58.	Karuvapatta				
59.	Kandakari				
60.	Karimthumba				
61.	Karivelam				
62.	Kadukurohini				
63.	Kachuri/Kacholam				
64.	Karayampoo				
65.	Karimjeerakam				
66.	Karkokilari				
67.	Kattujeerakam				
68.	Kattumulaku				
69.	Kattupavakka				
70.	Kakkathondi				
71.	Kattuchena				
72.	Karakil				
73.	Kattuthippalimulaku				
74.	Kattuthippaliveru				
75.	Kattupayar				
76.	Kattuzhunnu				
77.	Kattuvellari				
78.	Karthottiveru				
79.	Kattumuthira				
80.	Kanjiram				
81.	Kakoli				
82.	Kattupadavalam				
83.	Kiriyath				
84.	Keezharnelli				
85.	Kurunthotti				
86.	Kumbil				
87.	Kudakapalayari				
88.	Kudakapalatholi				



89.	Kunnikuru				
90.	Kuppameni				
91.	Kuzhalkonna				
92.	Kurassani				
93.	Koovalathinkaya				
94.	Koovalathinveru				
95.	Koovalayila				
96.	Kodithuva				
97.	Koduveli				
98.	Kodangal/Muthil				
99.	Kottam				
100.	Kolarakku				
101.	Kolmanchi				
102.	Koval				
103.	Ksheerakakoli				
104.	Garudakodi				
105.	Gulgulu				
106.	Changalamparanda				
107.	Pathimugham				
108.	Chathuramulla				
109.	Chandanam				
110.	Chakkarakolli				
111.	Charalam				
112.	Chittelam				
113.	Chiteenthalveru				
114.	Chittadalodakaveru				
115.	Chittadalodakayila				
116.	Chinnamukkiyila				
117.	Chittaratha				
118.	Cheenappavu				
119.	Chunda				
120.	Chukku				
121.	Chuvannaratha				
122.	Chenchalyam				
123.	Chembarathiyila				
124.	Chembarathipoovu				
125.	Cheruvazhuthina				
126.	Cherukadaladi				
127.	Cheruthekkku				
128.	Cherula				
129.	Cherupunnayari				
130.	Chengazhineerkizhangu				
131.	Chonakapullu/Injipullu				
132.	Njavalpatta				
133.	Njavalkuru				
134.	Njerinjampuli				
135.	Njerinjil				
136.	Thazhuthama				

137.	Thakkolam				
138.	Thakara				
139.	Thalisapathram				
140.	Thamaravalayam				
141.	Thamarayalli				
142.	Tharthaval				
143.	Thannikka				
144.	Thathiri				
145.	Thippali				
146.	Thiruthali				
147.	Thumbayila				
148.	Thettiveru				
149.	Thettipoovu				
150.	Thekkadaveru				
151.	Thaivela				
152.	Thottavadi				
153.	Dharbhaveru				
154.	Devatharam				
155.	Narunedi				
156.	Nagadhanthiveru				
157.	Naikorana				
158.	Nanmughapullu				
159.	Nangu				
160.	Nilamparanda				
161.	Nilappana				
162.	Neelayamari				
163.	Neermaruthinpatta				
164.	Neermathalatholi				
165.	Naithalkizhangu				
166.	Nellikka				
167.	Plassu				
168.	Panikoorka				
169.	Paruvakodi				
170.	Pachila				
171.	Parpatakapullu				
172.	Padavalam				
173.	Channakizhangu				
174.	Pathimugham				
175.	Padarchunda				
176.	Payyani				
177.	Pathiriveru				
178.	Palmuthukku				
179.	Palvallikizhangu				
180.	Pachotti				
181.	Padakizhangu				
182.	Parvalli				
183.	Peenari				
184.	Puliyarila				
185.	Pulichuvadi				

186.	Pullanji				
187.	Putharichunda				
188.	Pushkaramoolam				
189.	Punna				
190.	Poovankurunthal				
191.	Pookaitha				
192.	Poovathu/Manjari				
193.	Perumkurumbaveru				
194.	Perumaratholi				
195.	Peral				
196.	Ponnaveera				
197.	Prasarani				
198.	Bhrahmi				
199.	Blankaya				
200.	Manikunthirikkam				
201.	Manjal				
202.	Manjatti				
203.	Maramanjai				
204.	Mathalanarakam				
205.	Munja				
206.	Muthanga				
207.	Moovila				
208.	Musumusukku				
209.	Mukkuthi				
210.	Rakthachandanam				
211.	Ramacham				
212.	Lanthakuru				
213.	Vetti				
214.	Vizhalari				
215.	Valsanabhi				
216.	Vayambu				
217.	Vishnukranthi				
218.	Vayalchulli				
219.	Velipparuthi				
220.	Veppila				
221.	Veppinholi				
222.	Vengakathal				
223.	Sathavari				
224.	Sangukuppy				
225.	Seemaeruveli				
226.	Sangupushpam				
227.	Seemapachila				
228.	Seemanagappuvu				
229.	Sathakuppa				
230.	Somalatha				

### Appendix III. List of important Ayurvedic medicines

<i>Abayarishtam</i>	<i>Chavikasavam</i>
<i>Abhayachoomnam</i>	<i>Chinchadi Lehyam</i>
<i>Agasthyarasayanam</i>	<i>Chiruvilwadi Kashayam</i>
<i>Ajamamsarasayanam</i>	<i>Chithraka Choomnam</i>
<i>Amrithadhichoomnam</i>	<i>Chyavanaprasam</i>
<i>Amrithaprasam</i>	<i>Dadimadhi Ghritham</i>
<i>Amrothotharam Kashayam</i>	<i>Dadimashtaka Choomnam</i>
<i>Amrutharishtam</i>	<i>Danthyarishtam</i>
<i>Amruthathi Thylam</i>	<i>Dasamoolaharithaki</i>
<i>Amruthotharam Kashayam</i>	<i>Dasamoolakaduthrayam</i>
<i>Aragwadarishtam</i>	<i>Dasamoolakadutryamkam</i>
<i>Aravindasavam</i>	<i>Dasamoolarasayanam</i>
<i>Arimedha Thylam</i>	<i>Dasamoolarishtam</i>
<i>Arukaladhi Thylam</i>	<i>Dhanadanayanadi Kashayam</i>
<i>Asanaeladi Thylam</i>	<i>Dhanwandhararishtam</i>
<i>Asanamanjishtadithylam</i>	<i>Dhanwanthara Ghritham</i>
<i>Asanavilwadhi Thylam</i>	<i>Dhanwantharam Gulika</i>
<i>Ashta Choomnam</i>	<i>Dhanwantharam Kashayam</i>
<i>Ashtakshari Gulika</i>	<i>Dhanwantharam Kuzhambu</i>
<i>Asokarishtam</i>	<i>Dhanwantharam Thylam</i>
<i>Astavargam Kashayam</i>	<i>Dhathryadi Gritham</i>
<i>Aswagandhachoomnam</i>	<i>Dooshivishaharigulik</i>
<i>Aswagandharishtam</i>	<i>Drakshadhi Kashayam</i>
<i>Aswagandhadi Lehyam</i>	<i>Drakshadi Kashayam</i>
<i>Avaltholadi Bhasmam</i>	<i>Draksharishtam</i>
<i>Avipathi Choomnam</i>	<i>Duralabharishtam</i>
<i>Badradarvadhi Kashayam</i>	<i>Durdhurapathradhi</i>
<i>Bala Thylam</i>	<i>Durva Ghritham</i>
<i>Baladhathryadi Kashayam</i>	<i>Dusparsakadi Kashayam</i>
<i>Balaguluchyadhi Kashayam</i>	<i>Eladi Thylam</i>
<i>Balaguluchyadi Thylam</i>	<i>Eladigana Choomnam</i>
<i>Balahatadhi Thylam</i>	<i>Elakanadi Kashayam</i>
<i>Balajeerakadhi Kashayam</i>	<i>Elaneer Kuzhambu</i>
<i>Balarishtam</i>	<i>Gandha Tailam</i>
<i>Balasangadhadi Thylam</i>	<i>Gandharvahasthadi Kashayam</i>
<i>Balasangadhadi Thylam</i>	<i>Gokshura Choomnam</i>
<i>Brahathyadhi Kashayam</i>	<i>Gopichandanadi Thylam</i>
<i>Brahmi Ghritham</i>	<i>Gulgulumarijadi Thylam</i>
<i>Chandanadi Thylam</i>	<i>Gulgulupanchapalam</i>
<i>Chandanadivarthi Gulika</i>	<i>Gulguluthiktakam Gritham</i>
<i>Chandanasavam</i>	<i>Gulguluthikthakam Kashayam</i>
<i>Chandraprabha Gulika</i>	<i>Gulguluthikthakomkas</i>
<i>Charngeryadi Gulika</i>	<i>Guluchi Choomnam</i>

*Guluchyadhi Kashayam*  
*Guluchyadi Kashayam*  
*Guluchyadi Kashayam*  
*Haridraghandam*  
*Hinguthrigunam*  
*Hinguvachadi Choornam*  
*Hridhyavirechanam*  
*Indukantha Ghritham*  
*Indukantham Kashayam*  
*Jadamayadhilepa Choornam*  
*Jathyadi Ghritham*  
*Jathyadi Thylam*  
*Jeerakarishtam*  
*Jeevanthyadi Ghritham*  
*Jeevanthyadiyamakam*  
*Kachoorathivattu Gul*  
*Kachuradhi Choornam*  
*Kaidaryadi Kashayam*  
*Kaisoragulgulu Gulika*  
*Kallianaka Ghritham*  
*Kallyanagulam*  
*Kallyanaksharam*  
*Kanakasavam*  
*Kanjunnyadi Thylam*  
*Kantha Sindhooram*  
*Karappan Thylam*  
*Karaskara Ghritham*  
*Karkadakakanji*  
*Karnapoorana Thylam*  
*Karppasasthyadi Kuzambu*  
*Karppasasthyadi Thylam*  
*Karppuradi Choornam*  
*Karppuradi Kuzhambu*  
*Kathakakadhiradhikas*  
*Khadirarishtam*  
*Khathira Gulika*  
*Koosmandarasayanam*  
*Kottamchukkadi Kuzhayam*  
*Kottamchukkadi Thylam*  
*Kottanchukkadi Choornam*  
*Krimignavati Gulika*  
*Ksheerabala Thylam*  
*Kumaryasavam*  
*Kurunthotti Enna*  
*Lakshadi Kuzhambu*  
*Lakshadi Thylam*

*Lakshmivilasa Thylam*  
*Lodhrasavam*  
*Loha Sindhooram*  
*Lohasavam*  
*Madhukasavam*  
*Madhuyashtyadi Thylam*  
*Mahachandanadi Thylam*  
*Mahakalyanaka Ghritham*  
*Mahalpanchagavya Gritham*  
*Mahamasha Thylam*  
*Mahapaisachika Ghritham*  
*Maharasnadi Kashayam*  
*Mahathikthaka Ghritham*  
*Mahathikthakam Kashayam*  
*Mahathikthakam Kashayam*  
*Mandoorabasmam*  
*Mandooravatakam Gulika*  
*Manibadra Lehyam*  
*Manjishtyadi Kashayam*  
*Marichadhi Thylam*  
*Moolakasavam*  
*Mruthweekarishtam*  
*Mukkamukkadukadi Gulika*  
*Mustakaranjadi Kashayam*  
*Mustakaranjadi Kashayam*  
*Mustharishtam*  
*Nagaradi Thylam*  
*Nalpamaradi Thylam*  
*Narasimharasayanam*  
*Narayana Thylam*  
*Navayasam Gulika*  
*Nayanasukhavarthi Gulika*  
*Nayopayam Kashayam*  
*Neeleedaladi Ghritham*  
*Neeli Ghritham*  
*Neeli Thylam*  
*Neelikaranjadi Kashayam*  
*Neelimooladi Kashayam*  
*Neelithulasyadi Kashayam*  
*Neelolpaladi Thylam*  
*Nimbadhichoornam*  
*Nirgunyadhi Kashayam*  
*Nisakatakadi Kashayam*  
*Padadarvadhi Ghritham*  
*Padoladhiganam Kashayam*  
*Panchajeerakagudam*

Panchakola Choornam  
Panchathikthakam Kashayam  
Paranthyadi Thylam  
Pathyadi Kashayam  
Pathyakshadathrayadikam  
Patoladi Ghritham  
Patyakshadathrayadikam  
Phalasarphis  
Pinda Thylam  
Pippallyadhyanuwasan  
Pippalyasavam  
Poothikasavam  
Prabhanjanavimardhan  
Pramehoushadhi  
Prasarany Thylam  
Pulinkuzhambu  
Punarnavadi Kashayam  
Punarnavasavam  
Puranadhathriphalach  
Pushyanugachoomam  
Pushyanugam Gulika  
Rajannyadi Choornam  
Rasnadasamoola Ghritham  
Rasnadi Choornam  
Rasnadi Thylam  
Rasnasaptakam Kashayam  
Rasnerandadi Kashayam  
Rasothamadi Lepam  
Sahacharadi Kashayam  
Sahacharadi Kuzhabu  
Sahacharadi Thylam  
Sangupushpadi Oil  
Sapthasaram Kashayam  
Saraswatha Choornam  
Saraswathagritham  
Saribadyasavam  
Sarvarogakulanthakam  
Sathahwadi Kuzhambu  
Sathavari Choornam  
Sathavarigulam  
Shaddharna Choornam  
Shadphala Ghritham  
Sooranava Lehyam  
Sudarsana Choornam  
Sudhabala Thylam  
Sukumara Ghritham

Sukumaram Kashayam  
Sukumararasayanam  
Sundi Choornam  
Suryaprabha Gulika  
Swasanandam Gulika  
Thalisavadakam  
Thalispatheradi Choornam  
Tharamanduram  
Thekaraja Thylam  
Thenginpookulamrutha  
Thikthaka Ghritham  
Thriphaladi Gulika  
Thriphala Ghritham  
Triphaladi Thylam  
Uramarunnu Gulika  
Vacha Choornam  
Vachadhi Thylam  
Vachalasanadi Thylam  
Vaiswanara Choornam  
Vajraka Ghritham  
Vajraka Thylam  
Vajrakam Kashayam  
Valiyamadhusnehirasa  
Vara Choornam  
Varanadi Kashayam  
Vasaguluchyadi Kashayam  
Vasarishtam  
Vathamardhanam Kuzhambu  
Vathavidhwamsani Thylam  
Vayu Gulika  
Vettumaran Gulika  
Vidanga Choornam  
Vidaryadhi Kashayam  
Vidaryadi Ghritham  
Vilwadi Gulika  
Vilwadi Lehyam  
Vyoshadi Kashayam  
Vyoshadi Vadakam  
Vyoshadi Kashayam  
Yashti Choornam  
Yogarajachoomam  
Yogarajagulgulu Gulika