

karappuram – land and people

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Karappuram

The narrow strip of land between the towns of Alappuzha and Shertalai bounded by the Vembanad Lake in the east and the Arabian Sea in the west, our project area (Map-1), used to be traditionally called “Karapuram” – *The Land Above*. From the perspective of Vembanad Lake system lying below the sea level, it was indeed an appropriate name for the sandy coastal plains with all evidences pointing to a recent geological formation. The dominant landform of Karapuram consists of sandy beach ridges with swales/runnels of marine origin. The human intervention, particularly, indiscriminate sand mining, has converted most of the beach ridges into sandy flats interspersed with sand pits and blocked drainage. Along the Vembanad Lake, the landform is marshy, with lagoonal clays and peat beds and flood plain deposits with numerous artificial drainage channels. Considerable portion of the northern part of the region, in Thannermukkom and Shertalai South panchayat, consists of such lagoonal land formation.

The region experiences tropical humid monsoon type of climate with fairly long monsoon rains and very hot summer. The region receives 2900 to 3100 mm of rainfall with more than 60% of the rain falling during the southwest monsoon period (June to September). The region continues to receive rather heavy post monsoon rainfall during October – November months. However, the rainfall during the Northeast monsoon (December to February) is meagre accounting for 4 – 5% of the annual rainfall. Evening local convective showers occurs frequently during the summer season under the influence Vembanad Lake ecosystem in the eastern portions of the region. Thundershowers also occur in other parts of the region under the influence of Arabian Sea. On the whole, the region receives considerably more rain during the summer season than during the northeast monsoon season, i.e. 15-16 % of the annual rainfall. During this period the temperature also peaks to between 25 to 32°C. June- July is the coolest period with temperature between 23 and 29°C.

Hydrology

Despite sandy soil, the Vembanad Lake system, geomorphology and the rainfall of this region ensures that the water is available at a depth of less than 2 metres. However, the ground water has seriously affected by salt-water intrusion around the seacoast and most seriously contaminated by century old practice of coconut husk retting and dye effluents of coir factories. The high level of sulphides and fluorides has made the ground water unfit for human consumption. The low water retention capacity of sandy soil has necessitated a large number of big and small ponds for preserving water. Most of these ponds, which are also used for coconut husk retting, nearly dry up during the winter and summer months and become favourite mosquito breeding grounds. The Thannermukkom barrage erected to prevent salt-water intrusion from the Vembanad Lake has put an end to the tidal flows, adversely affecting the artificial channel maintenance in the eastern part of the region. High pollution level and growth of weeds has steadily tended to choke the channels. The resources such as lime and fish had depleted steadily due this 4500 feet long barrage.

Water logging has also recently emerged as a severe environmental problem, not only along the backwater shores where it had been a perennial problem but also even along the coastal beach. In discriminate sand mining, road and construction activities and closure of traditional drainage channels have contributed to the above situation. The seacoast except for a few kilometres in the middle has been protected by a sea wall. The sea wall, constructed with very little beachhead and without annual maintenance, provides little protection in the southern parts while in the northern regions there has been steady head accretion of land through wave activity. The southern parts have been subjected to severe erosion. The seas erosion has become a natural annual calamity in the unprotected parts causing heavy damage to property and cultivation.

Half a century old transportation canal connecting the towns of Alappuzha and Shertalai has also degenerated into major health hazard and a cause of water logging during rainy season. The degeneration of the canal started in the 60's when the national highway was built across the canal dividing it into two un-connected stretches. Today, the flow of water in the canal has been totally disrupted due to 22 bunds that have been built across the canal for transportation purposes and keep up the water table in the adjoining areas during summer. The canal has been turned into a cess pole with an over growth of weeds and place for dumping the wastes.

Vegetation

The appearance of the sandy soil of the region with little organic content is deceptive. Mainly due to the rains available through out the year the soils are able to support heavy growth of a variety of tropical trees and fairly heavy under growth. The expansion of cultivation has left very little original vegetation forms, but in certain patches around the sacred grooves. Of the total geographical area of 17059 hectares more than 75% is currently under cultivation and cultivable fallow land constitute only less than 5% of the area.

Traditionally certain varieties of rice with low water requirement were grown in the troughs and the low-lying areas. Evidence has also point out that removing the top layers of sand also created large tracts of paddy land. However, now the trend is to reclaim the paddy for housing and other perennial crops. Coconut is today the main crop accounting to 80% of the cultivated area. Cashew nut is also widely grown. The homestead farms also grow variety of bananas and vegetables. However, the cultivation intensity is low, the ratio being slightly higher than unity. Due to the low retention capacity of the sandy soil all crops but cashew require artificial watering particularly during the post monsoon and summer periods.

Eco-zones

Broadly the region may be divided into the following five ecozones: 1) beach region facing problems of salt water intrusion and soil erosion; 2) the sandy ridges where the human settlement and tree crops are situated; 3) the sandy shallows between the ridges where traditionally rice was grown but currently under pressure from other purposes causing water logging problems; 4) Clayey soil region along the backwater and the north eastern part and 5) the marsh lands. (See the ecozones in Map 2).

Population

The sandy tracts of Karapuram have supported surprisingly high level of population. In 1991, the population of 258889 works out to be 1518 per sq. km. Historically the region has been a labour supply source for the Kayal rice cultivation in the adjacent Kuttanad and the coir factories in Alappuzha town. The density of population is generally lower along the eastern backwater region and highest in the southern region bordering the town of Alappuzha (see table 2). As in most parts of Kerala the sex ratio is higher than unity. The total number of households in 1991 was 53868 with an average number of around 5 persons per household.

Table 2
**Area, Population and Work Participation Characteristics
of the Project Area**

Area, Population and Work Participation Characteristics of the Project Area

Panchayats	Area in square kilometres			Population	Density per sq. km	Work participation	
	Geographical Area	Cultivated land	Fallow land			Male	Female
Mararikulam North	16.97	15.20	0.20	26883	1584	49.6	46.0
Kanjikuzhy	16.62	14.05	2.37	25296	1522	51.2	43.1
Thannermukkom	31.44	30.78	0.40	38937	1238	48.3	37.0
Muhamma	26.76	11.63	0.40	22128	827	49.4	37.2
Cherthala South	18.34	16.10	0.20	34884	1902	50.2	42.7
Aryad	6.87	5.76	0.11	24043	3500	48.3	26.4
Manamcherry	34.52	28.84	1.11	41383	1199	47.3	34.4
Mararikulam South	19.07	18.80	0.07	45335	2377	48.9	30.6
Regional Total/Average	170.59	140.76	4.50	258889	1518	49.1	36.1

Figures in Italics are the regional averages.

Literacy is relatively lower along the coast. However, on the average the regional literacy rate is 94%. The religious composition is predominantly Hindu accounting for 44.2% of the population, followed by Christian's with 12.7% and Muslims with 6.8%. The proportion of schedule castes is less than the all Kerala average (6% vs. 11%). The proportion of scheduled tribes is only 0.4%. However, more than 80% of the population would belong to backward castes with Ezhavas constituting the major Hindu caste. The Christians almost entirely belong to the backward communities.

Work Participation

The region has relatively higher rate than the Kerala average. The male participation rate is 49.1% and that of female 36.1% giving a regional average of 42.3%. However, the workers are mostly employed artisans or manual activities. In table 3, we have presented the distribution of the main workers by broad occupational categories as per 1991 census. One

point that is readily brought out is the relative unimportance of agriculture as an occupation. Cultivators constitute only 3.1% and agricultural labourers 10.2% of the work

Occupational Distribution of work force in Karapuram

Occupation	Percentage of total workers	Sex ratio
Cultivators	3.1	202
Agricultural Labourers	10.2	544
Livestock, Fisheries. Etc	11.7	20
Mining	2.2	47
Manufacturing, Processing, Servicing, & Repair in household	28.5	5311
Manufacturing, Processing, Servicing, & Repair in other than household	16.5	382
Construction	3.0	65
Trade and Commerce	10.4	165
Transport, Storage and Communication	4.1	93
Other Services	12.0	483
Main Workers Total/Average	100	633

force. The landholdings are too fragmented for land to constitute the dominant source of household income. 93.6% of the holdings are below 0.5 hectares accounting for 61.3% of the cultivated area. Land size holdings above 0.5 hectares and below 2 hectares account for 5.9% of the holdings and 30.3% of the cultivated area. There are no holdings above 10 hectares. The large landholdings with 2 to 10 hectares of land are 247 and the total area under their control is 758 hectares or 8.3% of the cultivated area.

Agriculture

The region has increasingly become a mono-crop coconut cultivation system with 79.7% of the gross cropped area devoted to it. The coconut crop has been debilitated due to root wilt disease and with recent fall in prices of the coconut. Most of the traditional cropping practices are also neglected. The result is extremely low level of productivity. Despite the rapid decline in area, rice is still the second major crop in the area accounting for 10% of the gross cropped area. Rice cultivation in the shallow sandy fleets is very low productivity. In terms of area, cashew nut and banana are also equally important crops. The estimate of area under vegetables (about 2%) is an under estimate. However, the published figure is an indication of the low level of land utilisation. The area and productivity figures of the major crops presented in table 4, points the very low level of crop productivity when compared to the state average. The parcelisation of land and low productivity of crops has led to marginalisation of agriculture into a subsidiary occupation.

Fisheries

Fishing accounts for around 10% of the work force, of which majority are involved in marine fisheries. There has been a steady decline in the marine fish landings indicating severe resource depletion crisis. The mud banks seem to have shifted southwards. Rising level of pollution and disruption of natural fish migration cycle due to Thannermukkom barrage have had devastating impact on inland fisheries.

Mining

Sand and shell mining constitutes another minor occupation in the primary sector. The lime shells in the shallow waters, which are area amenable to manual mining, are getting rapidly exhausted. The traditional shell miners are unable to compete with mechanical dredgers or imports of cheaper substitutes. Similarly most of the sand dunes have already been mined.

Industry

Given the crisis in the primary sectors majority of the people depend upon industrial and service sectors for livelihood. Nearly 45% of the work force is employed in the manufacturing sector mainly in coir yarn spinning and coir products manufacturing industry. The coir yarn spinning is predominantly a female occupation and carried entirely in the household sector. Coir weaving is also carried out in the household sector. However, it is predominantly organised in non-factory and non-household small-scale sector. Coir weaving is mainly a male occupation with women employed in ancillary activities. Coir hand spinning in which the region used to specialise in the past has disappeared. The coir-weaving sector faces severe unemployment due to over capacity, mechanisation, and fluctuations in demand. Recent changes in the Industrial Policy have undermined safe guards created to ensure minimum wages to workers such as export for prices and minimum purchase prices. The result has been a visible decline in the earnings and standard of living of the coir workers.

Coconut processing for making Copra has been an important occupation in areas adjoining the Alappuzha town employing directly around 2000 workers. Most of the copra yards are today closed down due to changes in the tax structure. Imposition of inter-state tax on coconut import into Kerala has disrupted the flow of coconut from Tamil Nadu on which the industry was largely dependent.

Area and Productivity of Major Crops in Karapuram

Crop	Gross Cropped Area (ha)	Percentage of GCA	Productivity per year
Coconut	11213	79.7	4052 Nuts
Cashew	489	3.5	0.21 Tonnes
Pepper	67	0.5	0.34 Tonnes
Banana	436.1	3.1	12.41 Tonnes
Tapioca	102,6	0.7	21.1 Tonnes
Paddy	1410	10.0	1.54 Tonnes

Poverty

To sum up, the region has been facing a severe livelihood crisis due to resource depletion and adverse market conditions. Even though the participation rate is relatively high the acute under employment has led to very low earning. This situation has converted the region into a pocket of severe economic depression and poverty. It is seen from table 5 below that 59.6% of the households are below the poverty line according to recent poverty estimate survey.

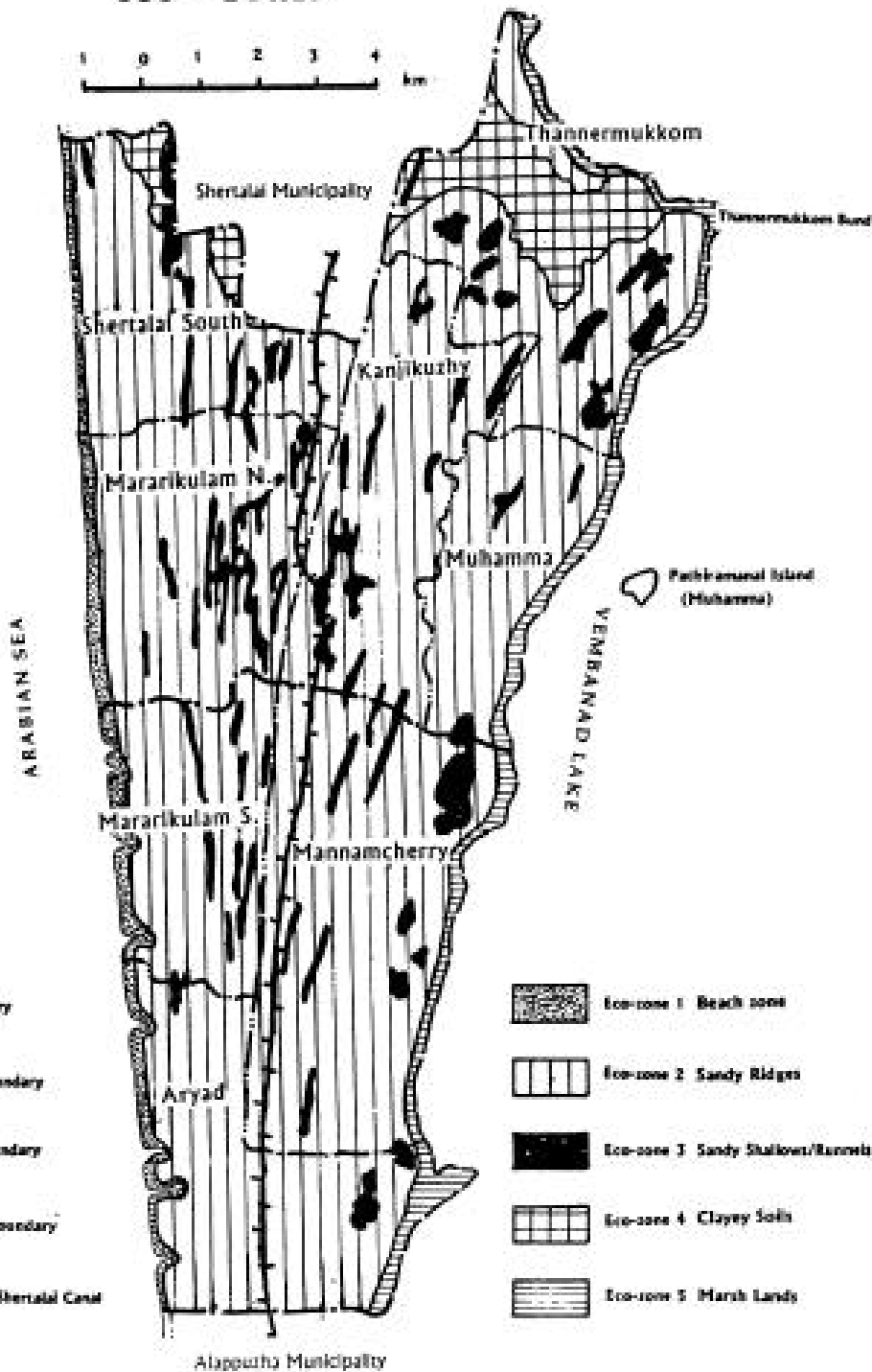
Estimates of families Below Poverty Line – 2000

<i>Panchayat</i>	<i>Total number of families</i>	<i>BPL families</i>	<i>Percentage</i>
Mararikulam North	6258	3790	60.6
Kanjikuzhy	6580	4168	63.3
Thannermukkom	10100	5427	53.7
Muhamma	5326	3438	64.6
Shertalai South	7643	5532	72.4
Aryad	7000	3778	54.0
Manamcherry	15859	6949	43.8
Mararikulam South	12561	8037	64.0
Regional Total	71327	41119	59.6






Who are the poor? 35% of the poor belong to the fisher folk. Thus there is regional concentration of poor along the coast and backwaters, which are reflected in very poor housing conditions, lack of sanitation facilities and poverty related diseases. Another the 40% of the poor are coir workers who are employed in the household sector. The rest of the poor are agricultural workers and other rural labourers. The poor are marginal landholders. A small proportion of them do not own even house plots. 90% of the poor belong to the scheduled caste and backward communities. The gender impact of poverty is visible in the higher level of malnutrition and morbidity among women. These specific features of the poor are kept in mind while choosing the key activities and micro-enterprise development programme.

ARYAD & KANJIKUZHY BLOCK PANCHAYATS

ECO - ZONES



-  Block Boundary
-  Panchayat Boundary
-  Lagoonal Boundary
-  Eco-zone Boundary
-  Alappuzha - Shertalai Canal

-  Eco-zone 1 Beach zone
-  Eco-zone 2 Sandy Ridges
-  Eco-zone 3 Sandy Shallows/Runnels
-  Eco-zone 4 Clayey Soils
-  Eco-zone 5 Marsh Lands