(RESEARCH ARTICLE)

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Evaluation of socio economic status in Malabar Coast in India: An in-depth analysis of socio-economic factors shaping society

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Abstract

The Malabar Coast in India comprises of two distinct regions, the North Malabar Coast and the SouthMalabar Coast. The North Malabar Coast is located in the state of Kerala and stretches from Kasargod in the north to Kannur in the south. The South Malabar Coast is located in the state of Kerala and Tamil Nadu and stretches from Kannur in the north to Kanyakumari in the south. The North Malabar Coast is known for its scenic beauty, greenery, and pristine beaches. It is also home to several wildlife sanctuaries and historic sites, such as the Bekal Fort and the Ananthapura Lake Temple. All over the study I mainly worked on the socio economic status of Malabar Coast and used some method after that I mainly found the Malabar Coast has the highest literacy per capita income, and highest sex ratio. For more accurately I considered urban population ofdifferent district to measure the status of urban population one district to another. After the analysis we find outthe total entire area has more or less equal distribution of urban population that indicate less regional disparity and high development.

Keywords: Socio economic status; Per capita income; Population literacy; Major natural region; Urban population

1. Introduction

The Malabar Coast refers to the stretch of coastline along the southwestern part of India, facing the Arabian Sea. The Malabar Coast is divided into two regions: North Malabar and South Malabar. The socio-economic conditions of these two regions are different from each other. The North Malabar region comprises of the districts of Kasargod, Kannur and parts of Wayanad in the state of Kerala. The region is predominantly rural, and agriculture is the mainstay of the economy. The major crops grown in this region are coconut, rubber, arecanut, pepper, and cashew nut. Fishing is another important activity in the coastal areas. The region has a high literacy rate, and education is given importance. The healthcare facilities are well developed. The region also has a good road network and is well connected to other parts of the state. The South Malabar region comprises of the districts of Kozhikode, Malappuram and parts of Wayanad in the state of Kerala. The region is more urbanized than the North Malabar region and has a well-developed infrastructure. The economy is more diversified, with a mix of agriculture, trade, and industry. The region is known for its banana cultivation, especially the famous Nendran banana. The region has a high literacy rate, and education is given importance. The healthcare facilities are also well developed, with a good network of hospitals and clinics. while both North and South Malabar coasts have a high literacy rate and a focus on education and healthcare, the North Malabar region is more rural with agriculture as the mainstay of the economy, while the South Malabar region is more urbanized and diversified with a mix of agriculture, trade, and industry.

The physiography of the North Malabar Coast is characterized by a narrow coastal plain, running parallel to the Arabian Sea. The plain is hemmed in by a chain of hills known as the Western Ghats. These hills rise steeply from the coast, with an average elevation of about 900 meters. The Western Ghats are rich in biodiversity and are home to many endemic species of flora and Fauna. The Rivers that originate in the Western Ghats flow westward, cutting through the coastal

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plain and draining into the Arabian Sea. These rivers are short and swift, and many of them form estuaries where they meet the sea. The estuaries are important habitats for a variety of aquatic species, including fish, prawns, and crabs. The physiography of the South Malabar Coast is characterized by a broader coastal plain, which gradually rises to form the foothills of the Western Ghats. The plain is intersected by several rivers, which are longer and slower than those of the North Malabar Coast. The rivers of the South Malabar Coast form deltas where they meet the sea, creating important wetland habitats for birds and other aquatic species. The Western Ghats in the south are lower in elevation than those in the north, with an average height of about 600 meters. The hills are covered with dense forests and are home to many species of wildlife, including elephants, tigers, and monkeys.

2. Literature review

Today, the economy of Malabar Coast has undergone significant changes, and it has become more diversified. The region is known for its service sector, including tourism, healthcare, and information technology. The agricultural sector still plays an important role in the economy, but it has become more mechanized and commercialized. The region is also home to several large industries, including petrochemicals, fertilizers, and textiles. In terms of per capita income,

Malabar Coast Has made significant progress over the years. According to the latest available data from the Reserve Bank of India, the per capita income of Kerala, which is the state that covers most of the Malabar coast, was INR 2,03,325 ($2,721) in 2019-20, which is higher than the national average of INR 1,34,226 ($1,795).

According to Mustaquim, M., and Islam, M. (2014), socioeconomic parameters are crucial indicators of human growth. Based on factors including education, income, health, and occupation, it assesses the economic and social standing of a person, family, or group of individuals.

Malabar Coast. A study by Pradeep Kumar et al. (2015) provides a detailed analysis of the shoreline changes in the North Malabar Coast. The study used satellite imagery and ground-based surveys to identify the changes in the shoreline position over a period of 40 years. The study found that the shoreline in the region is undergoing significant erosion due to human activities, such as sand mining and coastal development and that effect the economic and social conditions. And time to to social social and economic conditions has degrade. (2015) C Ramachandran et al.In order to manage fishery resources and conserve biodiversity in marine fisheries, which are crucial for the long-term livelihoods of a significant number of people who depend on fishing, institutions like Kadalkodathy must resume their normal operations, as this paper demonstrates.

(Kenneth Hemmerechts 2016) This study found a link between early participation and reading literacy, supporting the premise that parental involvement should be tailored to the child's academic abilities. And that gauges a region's strong socioeconomic standing.

The North Malabar Coast, comprising the districts of Kasargod, Kannur, and Wayanad, has a predominantly agrarian economy. The region is known for its cashew nut and coconut production, which contributes significantly to the local economy. However, the region faces challenges such as low agricultural productivity, lack of infrastructure, and unemployment. The region has a high density of population, and the majority of the people belong to the Muslim and Hindu communities. The literacy rate in the region is relatively low compared to other parts of Kerala. In recent years, the region has made significant progress in terms of economic development. There has been a growing tourism industry, and the region has seen an increase in small and medium enterprises. The region also has a rich cultural heritage, with a strong tradition of folk music, dance, and art .The South Malabar Coast, comprising the districts of Kozhikode, Malappuram, and Palakkad, has a more diverse economy that includes agriculture, manufacturing, and service sectors. The region is known for its historical significance, with a rich legacy of trade and commerce. The region's economy is driven by agriculture, with a significant contribution from the plantation sector. The region also has a well-developed infrastructure and a growing industrial sector. The region is a hub for IT and biotechnology industries, with a number of companies setting up their operations in the region. However, the region faces challenges such as environmental degradation, inequality, and poverty. Despite these challenges, the region has made significant progress in terms of economic development. The literacy rate in the region is higher compared to the North Malabar Coast, and the majority of the people belong to the Muslim community.
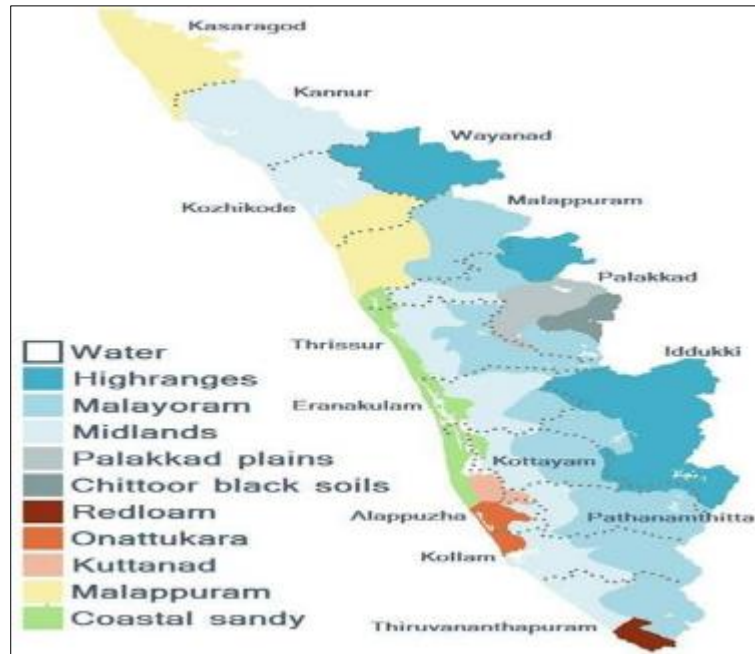
Figure 1 Major natural region of Malabar coast (source: Wikipedia)

3. Objectives

The north and south Malabar Coast has major difference of socio economic condition. This study analysis the difference between socio economic status.

- To assess the regional imbalance between different district of Malabar Coast Through a comparative study.
- To examine the trending comparative population growth rate in different districts of The Malabar Coast.
- To examine the inequality between urban population respect of total population.
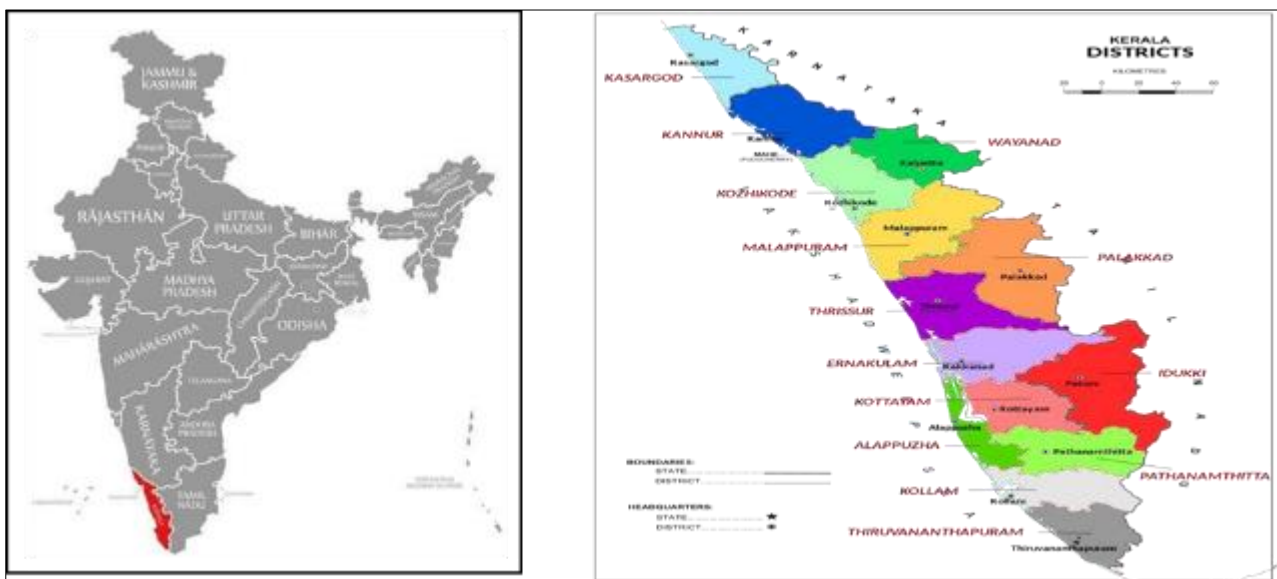
4. Study area

Figure 2 Location of Malabar coast district wise. (Source: Wikimedia common)

The Malabar Coast is a region along the southwestern coast of India, comprising parts of the states of Kerala, Karnataka, and Tamil Nadu. The latitude and longitude of the North and South Malabar Coast are as North Malabar Coast: Latitude:

11.8768° N to 12.7927° N, Longitude: 74.7577° E to 76.2961° E, South Malabar Coast: Latitude: 8.5480° N to 11.8757° N Longitude: 74.3332° E to 76.0435° E. From the total area we have mainly taken the kerala coastal area of Malabar Coast. Mainly 14 district of Kerala we have taken (Ernakulum, Kollam, Alappuzha, Thiruvananthapuram, Kottayam, Thrissur, Idukki, Kannur Kozhikode, Kasaragod, Pathanamthitta, Palakkad, Wayanad and Malappuram. According to census 2011 we have seen Malappuram district of Kerala has highest number of population. And the per capita income of Ernakulum district has highest.

The Malabar Coast is a stretch of land on the southwestern coast of India, bordering the Arabian Sea. The Malabar Coast is divided into two regions: North Malabar and South Malabar. The area of North Malabar Coast is approximately 5,016 square kilometers (1,936 square miles). It covers the districts of Kasaragod, Kannur and Wayanad in the state of Kerala. The topography of North Malabar Coast is characterized by a narrow coastal plain that rises up to the Western Ghats, a mountain range that runs parallel to the coast. The Western Ghats are home to several peaks, including the highest peak in Kerala, Anaimudi, which stands at an elevation of 2,695 meters (8,842 feet) above sea level. The area of South Malabar Coast is approximately 6,963 square kilometers (2,688 square miles). It covers the districts of Kozhikode, Malappuram and Palakkad in the state of Kerala. The topography of South Malabar Coast is also characterized by a narrow coastal plain that rises up to the Western Ghats. The Western Ghats in South Malabar are slightly lower in elevation than in North Malabar, with peaks reaching up to 2,000 meters (6,562 feet) above sea level.

4.1. Climate

The North and South Malabar coasts are located in the Indian state of Kerala, which lies along the southwestern coast of India. The climate of the Malabar Coast is primarily tropical, with hot and humid conditions throughout the year. However, there are some differences between the North and South Malabar coasts in terms of their climate. The climate of the North Malabar Coast is influenced by the Western Ghats mountain range that runs parallel to the coast. This region experiences heavy rainfall during the monsoon season, which lasts from June to september. The average annual rainfall in this region is around 3,000 mm.(IMD 2020). The rest of the year, from October to May, is relatively dry and sunny, with temperatures ranging from 20 °C to 35°C (IMD 2020).The climate of the South Malabar Coast is influenced by the Arabian Sea. This region experiences a more balanced distribution of rainfall throughout the year, with the heaviest rainfall occurring between May and November. The average annual rainfall in this region is around 3,000 mm (IMD2020) as well. The temperatures in this region also range from 20°C to 35°C (IMD2020) throughout the year. According to koppen the area is called Am (its means tropical monsoon climate).both the North and South Malabar coasts have a tropical climate with high humidity, and they experience heavy rainfall during the monsoon season. The South Malabar Coast experiences a more balanced distribution of rainfall throughout the year compared to the North Malabar Coast.

4.2. Soil

The soil of the North and South Malabar Coast in India can be broadly classified into two types: Coastal alluvial soils and laterite soils. Coastal alluvial soils are found in the low-lying areas of the coastal plains and river deltas. These soils are formed by the deposition of silt and clay by therivers and the sea. They are rich in organic matter and have good fertility. Coastal alluvial soils are suitable for the cultivation of paddy, coconut, areca nut, and vegetables. Laterite soils are foundin the hilly areas of the Malabar Coast. They are formed by the weathering of basaltic rocks under high temperature and heavy rainfall conditions. Laterite soils are rich in iron and aluminum oxides and are reddish in color. These soils are generally acidic and have low fertility. However, with proper management practices, laterite soils can be made suitable for the cultivation of cashew, coconut, and other crops. In addition to these two types of soils, there are also some areas in the Malabar Coast where black soil, red soil, and sandy soil are found. Black soil is found in the upland areas and is formed by the weathering of volcanic rocks. Red soil is formed by the weathering of laterite rocks and is found in the hilly regions. Sandy soil is found in the coastal areas and is formed by the deposition of sand by the sea.

5. Database and method

The entire study is based on mainly secondary data source which is obtained from authentic sources. In this study we have mainly used three social indicator (per capita income, literacy, sex ratio) of each district of Kerala. Per capita income, and literacy data has been taken from State Planning Board - Kerala. Retrieved 19 November 2020. The sex ratio data has been taken from (census India 2011.)

Three indicators have been chosen in this study to delineate Malabar Coast. Divided into sub regions and identify the inter district disparity in the region which is per capita income rupees, literacy and sex ratio. Weighted index method has been used in this study. And Lorenz curve and Gini coefficient is used for   urban population disparity in different district.

Table 1 Single weighted index method

Rank	District	Per capita income	Literacy	Sex ratio	NX1	NX2	NX3	NX1W1	NX2W2	NX3W3	CW	SWI
1	Ernakulam	251,104	2855676	1027	1.254579	1.420945	0.862399	0.627289	0.426284	0.17248	1.226053	0.408684
2	Kollam	247,014	2240273	1113	1.234144	1.114729	0.676551	0.617072	0.334419	0.13531	1.086801	0.362267
3	Alappuzha	234,857	1852797	1100	1.173405	0.921926	0.559535	0.586702	0.276578	0.111907	0.975187	0.325062
4	Thiruvananthapuram	222,741	2785408	1087	1.11287	1.385981	0.841179	0.556435	0.415794	0.168236	1.140465	0.380155
5	Kottayam	218,837	1749798	1039	1.093365	0.870675	0.52843	0.546682	0.261203	0.105686	0.913571	0.304524
6	Thrissur	213,799	2678548	1108	1.068193	1.332809	0.808908	0.534097	0.399843	0.161782	1.095721	0.36524
7	Idukki	207,665	923010	1006	1.037546	0.459277	0.278744	0.518773	0.137783	0.055749	0.712305	0.237435
8	Kannur	190,684	2138434	1136	0.952705	1.064055	0.645796	0.476353	0.319217	0.129159	0.924728	0.308243
9	Kozhikode	186,660	2615443	1098	0.9326	1.301409	0.78985	0.4663	0.390423	0.15797	1.014693	0.338231
10	Kasaragod	172,691	1037492	1080	0.862808	0.516242	0.313317	0.431404	0.154873	0.062663	0.899594	0.299865
11	Pathanamthitta	171,075	1062553	1132	0.854734	0.528712	0.320886	0.427367	0.158614	0.064177	0.650157	0.216719
12	Palakkad	166,412	2239492	1067	0.831436	1.11434	0.676315	0.415718	0.334302	0.135263	0.885283	0.295094
13	Wayanad	164,099	645585	1035	0.81988	0.321234	0.194963	0.40994	0.09637	0.038993	0.545303	0.181768
14	Malappuram	154,463	3311315	1098	0.771736	1.647665	1	0.385868	0.494299	0.2	1.080167	0.360056
	MEAN	200,150	2009701.714	1080.428571								0.313096
	SD	32219.9352	798416.7892	38.6997 8643								0.062454

Per capita income 2018 – 2019; Literacy in no – literacy of Kerala district wise (2018_2019) Sex ratio – sex ratio data (census 2011); CWI – Combind weighted index. SWI – single weighted index.

Table 2 Assigned Weights

Given weights	Normalized given weight
PCI-X1=50%	0.5
LIT-X2=30%	0.3
SR-X3=20%	0.2

Table 3 Sub region classified on the basis of SWI using (mean +- SD)

Region	Class	S.W.I.M	District
A	$\geq(\ddot{X}+SD)$	0.37	1,4
B	$\ddot{X}$ TO $(\ddot{X}+SD)$	0.31 TO 0.37	2,3,6,9,14
C	$(\ddot{X}-SD)$ TO $\ddot{X}$	0.25 TO 0.31	5,8,10,12
D	$\leq(\ddot{X}-SD)$	0.25	,7,11,13

According to their relative relevance, many factors have been used to assign weights. Because money is the most important element in determining a person's economic standing in a given location, Table 02 shows that per capita income has been given 50% weight. For this reason, income was chosen as the study's major variable. The districts' literacy has been given a 30%weighting. Then, the districts' sex ratio has been given a 20% weight. By dividing the value of a given district by the average of all the districts for that specific variable, the normalized weights (NX1, NX2, & NX3) have been calculated after the different assignments have been made.Following the calculation of normalized weights (NX1, NX2 & NX3), normalized provided weights (0.5,0.3, 0.2).

We discover (NX1W1, NX2W2, & NX3W3) after this phase, which aids in further computations. This weight will be the final weight used in the calculations.

The combined weighted index has been determined following this step. The final weights of each district (NX1W1, NX2W2, and NX3W3) were added independently and recorded in separate columns for the purpose of calculating the combined weighted index (CWI). As a result, the combined weighted index was computed using this method.

The single weighted index (SWI) is then used to calculate the combined weighted index for each district by dividing the CWI by the three parameters. The mean and standard deviation of a single weighted index have been derived for additional computations in order to subdivide the classes into regions. Once each district's single weighted index values have been obtained, the Using a single weighted index and the formula (Mean +- SD), different districts were quickly divided into distinct groups.

After complete the process the total region of north and south Malabar Coast divided into mainly four sub region after the observation there is more or less little variation we have seen of these parameters.

Table 4 Delineated sub regions of north and south Malabar Coast

Name of the sub region	District	Socio economic status
A	Ernakulam,Thiruvananthapuram	VERY GOOD
B	Kollam,Alappuzha,Thrissur,Kozhikode,Malappuram	GOOD
C	Kottayam,Kannur,Kasaragod,Palakkad	MODERATE
D	Idukki,Pathanamthitta,Wayanad	LOW

6. Results and discussion

After the major analysis here we can see there are not much variation with all of these context. With the analysis we concluded that the Malabar Coast is most developed region in the context of India.

We measure the socio economic status by single weighted index method and we got this region has very slight variation of values. That indicate here regional disparity much less between districts. In this area Ernakulum, and Thiruvananthapuram has the highest socio economic status. And on the other hand idduki, pathanamithitta, wayand has slightly low socio economic condition as compare to others because of

- Geographic isolation: These districts are located in the hilly and forested areas of Kerala, which makes them more difficult to access and develop.

- Less industrial base: These districts have a smaller industrial base than the other districts, which limits their economic growth.

- Less developed infrastructure: These districts have less developed infrastructure, such as roads, railways, and airports, which makes it difficult to transport goods and people.

- Less investment: These districts have received less investment from the government and private sector, which has slowed down their development.

- Less skilled workforce: These districts have a less skilled workforce than the other districts, which makes it difficult to attract and retain businesses.
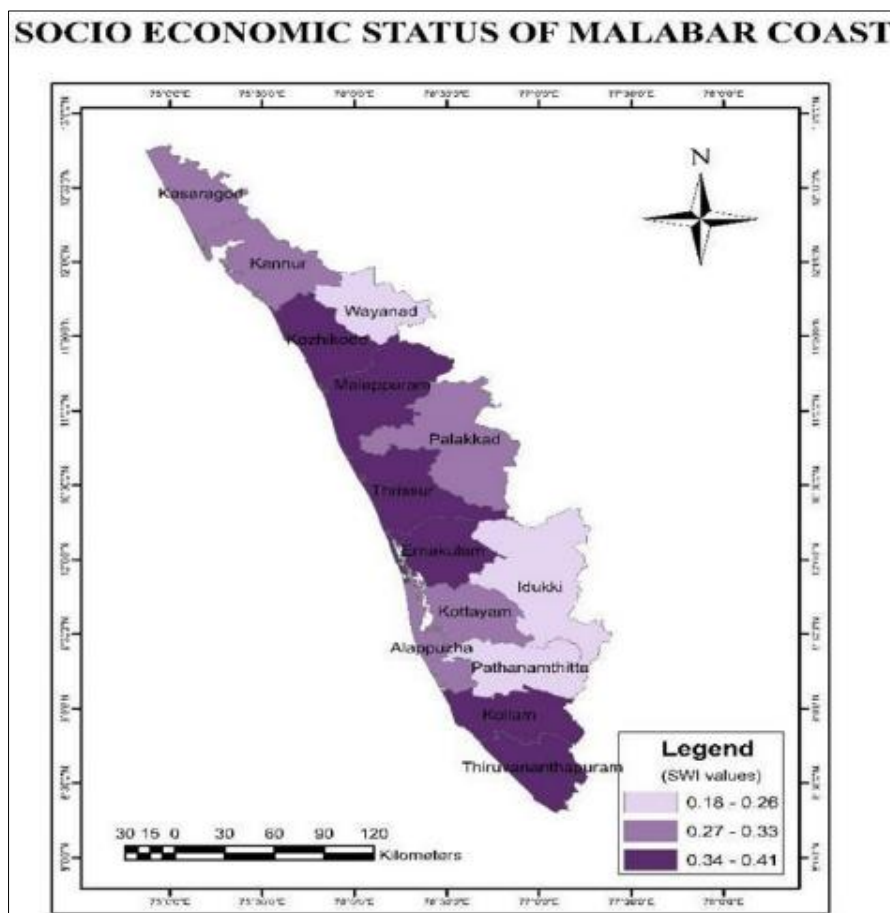

Figure 3 Regionalization of Malabar Coast on the basis of socio economic status by single weighted index method

7. Measure with urban analysis:

Urban area are the best indicator for measuring the socio economic status, so that's why we collectthe district wise urban population and try to measure the inequality of urban population in differentdistrict by using Lorenz curve and Gini coefficient

Table 5 The percentage of urban population

No	District	Total population	Urban population	% urban population
1	KASARAGOD	1307375	505176	38.64048188
2	KANNUR	2,523,003	1642892	65.11652979
3	WAYANAD	817,420	31577	3.863008001
4	KOZHIKODE	3,086,293	2074778	67.22556802
5	MALAPPURAM	4,112,920	1816438	44.16419478
6	PALAKKAD	2,809,934	677193	24.09996107
7	THRISSUR	3,121,200	2089790	66.95469691
8	ERNAKULAM	3,282,388	2232564	68.01645631
9	IDDUKI	1,108,974	52025	4.691273195
10	KOTTAYAM	1,974,551	565611	28.64504386
11	ALAPPUZHA	2,127,789	1147027	53.90698984
12	PATHANAMTHITTA	1,197,412	131461	10.97876086
13	KOLLLAM	2,635,375	1186340	45.01598444
14	THIRUVANANTHAPURAM	3,301,427	1779254	53.89348303
	TOTAL	33,406,061	15932126	

Table 6 Cumulative percentage of urban population

District ascending order	%of urban population	%distribution of ASCENDING ORDER	%distribution of TOTAL POPULATION	%distribution of URBAN POPULATION	Cunulative % of TOTAL POPULATION(xi)	Cumulative % of URBAN POPULATION(yi)	xi*yi+1	yi*xi+1
WAYANAD	3.86300800 01	2.44692123 4	0.19819702 7	2.446921234	0.198197027	1.283993 79	1.142923 03	
IDDUKI	4.6912731 95	3.31967902 5	0.32654148	5.766600259	0.524738506	7.784161 08	4.906838	
PATHANAMTHITTA	10.978760 86	3.58441541 5	0.82513156 1	9.351015673	1.349870068	52.36903	23.97702 03	
PALAKKAD	24.099961 07	8.41144964 7	4.25048734 9	17.76246532	5.600357416	162.5351 95	132.5785 05	
KOTTAYAM	28.645043 86	5.91075673 4	3.55012884	23.67322205	9.150486257	291.6845 68	252.4327 1	
KASARAGOD	38.640481 88	3.91358622	3.17080093 4	27.58680827	12.32128719	654.4250 13	491.6034 13	

MALAPPURAM	44.16419478	12.31189753	11.4011024	39.89870581	23.72238959	1243.5869	1133.6365
KOLLLAM	45.01598444	7.888912734	7.446212765	47.78761854	31.16860236	2023.15166	1797.50381
THIRUVANANTHAPURAM	53.89348303	9.882718588	11.16771233	57.67033713	42.33631469	2856.74481	2711.20942
ALAPPUZHA	53.90698984	6.369469899	7.199459758	64.03980703	49.53577445	3832.62834	3546.38189
KANNUR	65.11652979	7.552530662	10.31181903	71.59233769	59.84759347	5223.69397	4843.79804
THRISSUR	66.95469691	9.343214694	13.11683074	80.93555238	72.96442421	6959.40779	6579.51399
KOZHIKODE	67.22556802	9.238721682	13.02260602	90.17427406	85.98703023	9017.42741	8598.70302
ERNAKULAM	68.01645631	9.825725936	14.01296977	100	100		
TOTAL						32326.7226	30117.3881

Here we have shown district wise total population, urban population district wise and total urban population and we have calculate district wise percentage of urban population of north and southportion of Kerala along the Malabar coast
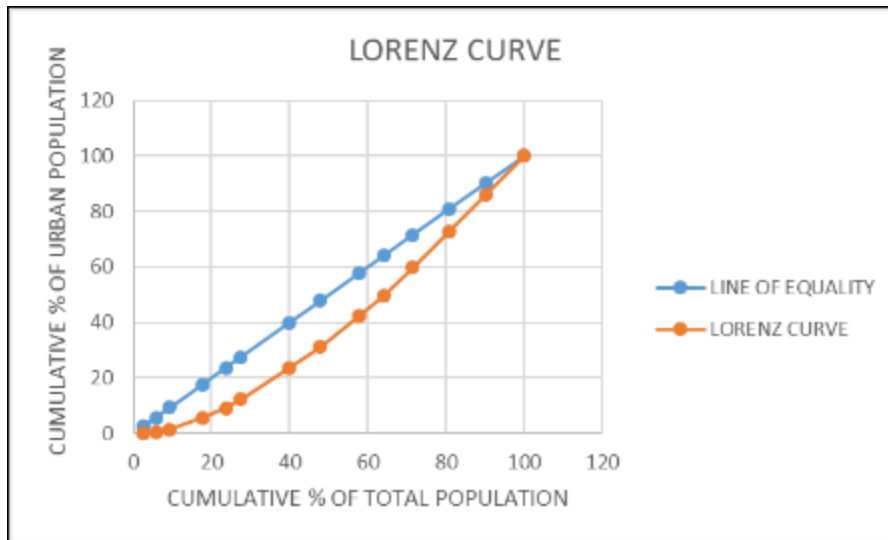

Figure 4 The inequality of urban population between different urban areas by Lorenz curve

GINI COEFFICIENT

$1/100 * 100(\sum x_i * y_{i+1}) - (\sum y_i * x_{i+1})$

$= 1/100 * 100(32326.7226 - 30117.3881)$

$= 1/10000 * 2209.334$

$= 2209.334/10000$

$= 0.22$

Here we calculate the Gini coefficient and see the urban population respect of total population so we can see the Gini coefficient value is 0.22 so its mean that its slightly higher than the (0) perfect equality but we can say it close to the equality. Its mean in this area we can see the high urbanization rate so here more or less all the district socio economic condition is very good.

7.1. Growth of population

Growth of population also a best indicator to measure the socio economic condition of an area sothat's why I will take the growth of population also. With 33 million inhabitants as per the 2011 census, Kerala is the 13th-largest Indian state by population. Kerala is home to 2.76% of India's population, and at 859 persons per km2.The average population growth rate of north and south Malabar Coast is 4.1%. Between 2011to 2011 which is much less as compare to other area

Table 7 Growth of population of Malabar Coast between 2001 to 2011

| DISTRICT	Population in 2001	Population IN 2011	Growth rate %
Ernakulam	3,105,798	3,282,388	5.7
Kollam	2,585,208	2,635,375	1.9
Alappuzha	2,109,160	2,127,789	0.9
Thiruvananthapuram	3,234,356	3,301,427	2.1
Kottayam	1,953,646	1,974,551	1.1
Thrissur	2,974,232	3,121,200	4.9
Idukki	1,129,221	1,108,974	-1.8
Kannur	2,408,956	2,523,003	4.7
Kozhikode	2,879,131	3,086,293	7.2
Kasaragod	1,204,078	1,307,375	8.6
Pathanamthitta	1,234,016	1,197,412	-3
Palakkad	2,617,482	2,809,934	7.4
Wayanad	780,619	817,420	4.7
Malappuram	3,625,471	4,112,920	13.4
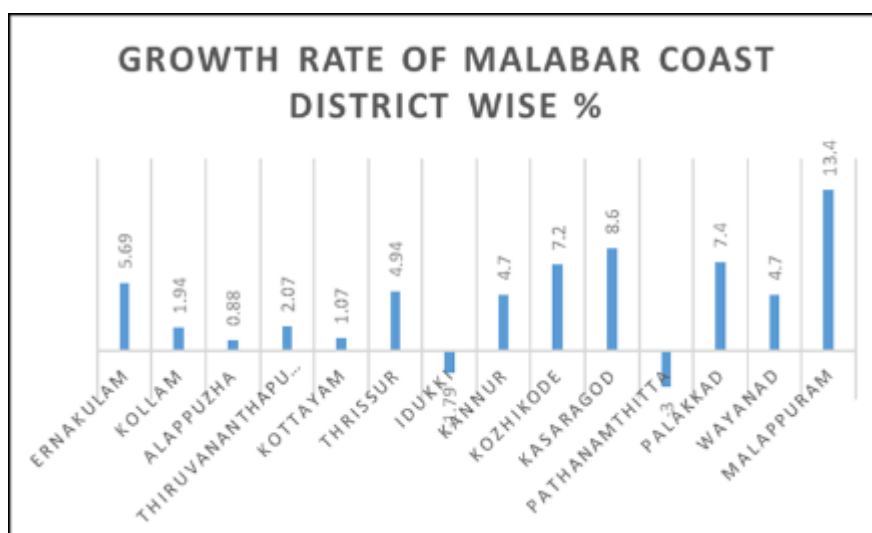
Figure 5 Growth rate of population in Malabar Coast (Kerala) between 2001-2011

Here we try to show the trend of population growth of Malabar Coast. For measuring the growth rate I have taken the one decades of data (2001 to 2011). And the using formula for calculate state wise growth rate and then I do average for overall growth of population on that area. Formula as follows:

(Present year total population-past year total population)/ Past year total population*100

So here we see that the growth of population is not too much high because

- High literacy rate: Kerala has one of the highest literacy rates in India, which means that people are more likely to use birth control and delay childbirth.

- Low fertility rate: The fertility rate in Kerala is 1.82 births per woman, which is below the replacement level of 2.1 births per woman.

- High female labor force participation rate: The female labor force participation rate in Kerala is 47.5%, which is one of the highest in India. This means that more women are working and delaying childbirth.

- Outmigration: There is a significant amount of outmigration from Kerala, especially to the Gulf countries. This means that there are fewer people to add to the population.

- Improved healthcare: The healthcare system in Kerala is relatively good, which has led to a decline in infant mortality and an increase in life expectancy. This means that people are living longer and having fewer children.

In short, the low growth of population in Malabar Coast, especially Kerala, is due to a combination of factors, including high literacy, low fertility, high female labor force participation, outmigration, and improved healthcare.

8. Conclusion

With this work we mainly find out the trend of socio economic status of Malabar Coast so after the analysis we find out this region is very developed in terms of socio economically. Ernakulum, and Thiruvananthapuram has slightly higher conditions in terms of another district of Malabar Coast. For the concentration of urban population we apply Gini coefficient and that indicate that here all over the district don't have major urban population differences, here more or less all district has same concentration of urban population that is high from the India's average urban percentage. It's a good indicator for good social conditions. Also here found the per capita income is also high. Ernakulum, Kollam has very high per capita income. Malappuram and Ernakulum has the highest literacy rate. If we see the overall context of population growth so here average population growth is 4.1 % from 2001 to 2011 that is very less as compare to another region of India. Idukki and pathanamihitta has negative population growth its means this area is much developed. This region there are no doubt has high economic conditions. But now days here also some problem occurred that need to integrate some policy that's enhance more for more better economic status.

Required policy

For better socio economic development in this area need some more improvements with these context. As follows:

- Sustainable tourism: The Malabar coast is a popular tourist destination, but unchecked tourism can lead to environmental degradation and social unrest. A policy framework for sustainable tourism should be developed, which includes measures to minimize the environmental footprint of tourism, promote local employment and entrepreneurship, and protect the rights of local communities.
- Agriculture and fisheries: The Malabar coast is known for its rich agricultural and fishing traditions. Policies should be developed to support sustainable agriculture and fisheries, such as promoting organic farming, providing access to modern technology and markets, and conserving fish stocks.
- Coastal protection: The Malabar coast is vulnerable to natural disasters such as floods, landslides, and cyclones. Policies should be developed to protect coastal areas from these disasters, such as building sea walls, promoting mangrove plantation, and developing early warning systems.
- Social development: Policies should be developed to promote social development, such as providing access to education, healthcare, and social security. This will help to ensure that the more benefits of economic development are shared by all sections of society.

In conclusion, the development of the Malabar Coast must be done in a sustainable and equitable manner, taking into account the needs and aspirations of the local communities and the environment. The policies outlined above are some of the measures that can be taken to achieve this goal.

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