CHAPTER 1
INTRODUCTION AND RESEARCH DESIGN

1.1 Introduction
1.2 Statement of the Problem
1.3 Objectives of the Study
1.4 Scope of the Study
1.5 Operational Definition of the Concepts
1.6 Methodology
1.7 Tools of Analysis
1.8 Period of the Study
1.9 Limitations of the Study
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2.1 REVIEW OF LITERATURE

A review of conclusions arrived at in the past studies was made to define precisely the concepts relevant to the present study. It is also useful to have a review of past literature to gain better perspectives of the problem under study.

John Kurien in his study has made a descriptive analysis of the technology employed in the fishing industry in Kerala. He has analysed the ownership pattern of crafts and gears in the mechanized and non-mechanized boat sectors which had
a close link on the distribution of catch. In his study, he had exposed the
deplorable state of affairs of the fish production co-operative societies\(^1\).

Prabhakaran in his thesis had focused its attention mainly on the socio-
economic conditions of fishermen and did not go into the other important areas
like marketing, financing and price variations in marine fishing industry.\(^2\)

Rao in his study had stated that the rapid mechanization of fishing industry
has increased the output to a greater extent. He has recommended the adoption of
marketing mix strategy and training strategy to develop fish marketing to keep
pace with the increased production.\(^3\)

\(^1\) John Kurien, “Towards an Understanding of the Fish Economy of Kerala
State”, Working Paper, Centre for Development Studies, Trivandrum, 1978,
pp.1-10.

\(^2\) J. Prabhakaran, A study on the Economics of Fishing and Living Condi-
tions of Marine Fishermen in Tirunelveli District”, M.Sc., (Agri.) Project, Submitted
to Tamilnadu Agricultural University, Coimbatore, 1978, pp.1-22.

\(^3\) P.S. Rao, “Fish Marketing and Management”, Industrial Fisheries Association

Chandra in her article had suggested that an institutional frame work would
be the most effective for successful adoption of the technology and fishery co-
operatives are considered to be the best via-media in this regard. In her opinion,
fishermen are not able to increase their catch because in most of the cases, they
continue fishing with their out-dated boats and nets. Though there has been a lot
of improvement in the technology, it has not reached the poor fishermen.
Consequently the country has not been able to fully exploit the marine and inland sectors.⁴

Man Mohan Singh in his study had discussed that export prices are determined by world demand and supply. If the exporting country is small, the exporter can not much influence the world demand and supply. If a country is a major world exporter of any particular commodity, it has distinct possibilities of exercising control over the export prices by influencing the volume supplied. Those who regard a lack of external demand as the major cause of India’s poor export performance are presumably referring to those variables of the demand functions for Indian exports which are beyond India’s influence as an exporting country. The domestic factors that determine India’s export, according to him, are domestic demand and the like.⁵


Sangay Kathura and Nisha Taneja in their study had established that the lure of domestic market, rather than competition, might be turning Indian exporters away from exports. Internal demand will be repressed if the need for foreign exchange dictates export boost.⁶

Deepak Nayar in his study argued that the fundamental explanation for the actual trends in exports is to be found in internal rather than external factors. Inadequacy of supplies for traditional goods, domestic policies, like investment licensing or inadequate infrastructure facilities, shortage of material inputs, the non-price factors designing effective advertising, after sale service and delivery high price are the internal factors.⁷

Venkateswaran, had stressed the processors to produce more value added shrimp based products for export. He has notified that the use of antibiotics in shrimp hatcheries and farms will create trouble, which will restrain the growth of the industry.⁸

Khairul Azam, had observed that the differences in microbiological parameters between the different points, receiving and processing, block within one company and among the different companies.\(^9\)

Paulraj and Thirunavukkarasu, had stated that the demand for sea foods had gone up in the state due to increase in population, increase in export demand, increase in per capita income, and increase in standard of living.\(^10\)

Alagarswami had observed that to provide better marketing services to producers and consumers, supply of marketing information, demand forecasts, consumer education, strict enforcement of grading and storage system, application of quality control method are essential.\(^11\)

Yadava had made it clear that adherence to internationally accepted standards will improve consumer protection and will facilitate export of Indian marine products to international markets. Failure to adopt this could result in exclusion from international markets and increased marginalisation of India’s competitiveness in export of marine products.\(^12\)


Ayyappan and Krishnan in their article they had analysed that there is a need to shift the composition of seafood exports in favour of higher value items. Indian seafood exports need to diversify in both products and markets. Gains from trade and terms of trade are functions of not only appropriate and sustainable production technologies but also suitably modified domestic and international trade pacts and marketing arrangements.\footnote{13}

Punnathara says that Indian seafood exporters today confront the onerous task of not only remitting the anti-dumping duty upfront but also undertaking bond obligations which can be liquidated only after a couple of years. As a result, the number of Indian shrimp exporters to the US has already fallen from around 30-35 to around 15-20 today. With the current anti-dumping duty which is expected to remain in force for five years, the US can no longer be a primary focus for Indian exporters.\footnote{14}

Balaji emphasises that India’s marine exports will have to stand on three legs viz, US, Japan and Europe. It cannot depend on one market either US or Japan, as was the case earlier. Europe, though important is a fragmented market and US market looks cloudy. Exports to US have become costlier because of the

\footnote{13}
anti-dumping duties and the need for exporters to set up overseas representatives and issue bonds to US customs.

The bond value is about 10 per cent of the value of exports and this pushes up transaction costs more than two per cent, a huge increase when margins are thin. So, there is a renewed interest in exporting to Japan.\textsuperscript{15}

Sarada, et.al., explain that to make use of Japan and U.S.A’s vast market potential Indian seafood items should be priced competitively and the quality should be kept superior, compared to the fish and fish products of competing countries.\textsuperscript{16}

Uma Maheswari, et.al., explain that the relative export competitiveness measured by export performance ratio ranged from 0.21 to 0.47 in the post-reform period, which indicates that India is yet to attain global competitiveness in marine exports. Hence efforts need to be made for diversification and quality control of products for the export market.\textsuperscript{17}

\begin{flushleft}
\end{flushleft}
Arjun Singh, et.al., have emphasized that the scope and future of fishery sector is quite bright and sustains a good hope for providing rich diet to the people and earning large foreign exchange, provided proper attention is given and proper multi funding is done in this sector in the competitive age of globalization, modernization and liberalization.\textsuperscript{18}

Pagire, et.al., explain that the advanced scientific technologies like remote sensing techniques are required to locate marine resources which would increase export earnings of marine products. Moreover, product diversification and value addition of Indian marine products along with adoption of proper marketing strategies and co-ordinated efforts of the marine product exporters and export development authority. Government holds the key role to the success of Indian marine products export in future.\textsuperscript{19}


Ayyappan and Biradar stated that our country should encourage fisheries export of processed and high value commodities. Diversification of export product range as well as exploration of new markets should get priority. A favourable support mechanism including marketing intelligence, harmonization of quality standards, simplification of export procedures, export incentives and infrastructure development are required to be undertaken periodically.\(^{20}\)

Punnathara explained that Indian shrimp exporters are exploring fresh inroads into the US markets while the industry is exploring several new legal avenues to take its case forward in the US courts. Marine exports to US had fallen by 5.55 per cent during 2004-05 to 345 million dollars mainly on account of the anti-dumping duty. However US still remained the second largest destination for the country’s 1.4 billion dollars seafood exports.\(^{21}\)

Kokate and Upare stated that export of marine products accounted for about 4 per cent of our gross national export during 1999-2000. Fishery sector in India has been providing employment to about 59.60 lakh fishermen full time or part time.


In addition, another six million people are engaged in fishery related ancillary activities. The contribution of fishery sector to the gross domestic product of the country is approximately 1.3 per cent.\textsuperscript{22}

Satapathy stated that the Indian exporters need to be educated regarding the basis of the WTO regime an anti-dumping and countervailing measures so that they adopt an appropriate pricing strategy for domestic and export sales so as not to invite anti-dumping and countervailing action. They also need to maintain accounts of production, sales and export incentives in a way which would enable them to furnish detailed information in a short time, in case anti-dumping action is initiated against their exports.\textsuperscript{23}

Khokhar had stated that India ranks fourth in the total fish production in the world and second to China in inland fish production. Around seven million people are engaged in fisheries and ancillary activities. The fisheries sector contributes around 1.5 per cent to the total GDP and around 5 per cent to the GDP from the agriculture sector. The fisheries sector contributes over Rs.6000 crores to the export earnings. India with diversified agro climatic regions is endowed with potentially rich and varied marine population. Resources are offering ample scope and opportunities for fisheries development in the country.\textsuperscript{24}

\textsuperscript{22} K.D. Kokate and Upare S.M., “Role of Fisheries in Rural Development”, \textit{Kurukshetra}, July 2005, pp.3-8.


Tripathy stated that India is the third largest producer of fish and second largest producer of inland fish in the world. This sector is a source of livelihood for over 11 million people and one of the major foreign exchange earners through exports. Considerable infrastructure facilities are needed for processing of marine products. Considering India’s vast coastline and rich and under exploited marine resources, efforts should be made to increase various infrastructure facilities required for the growth of this sector viz setting up of improved and qualitative canaries, pre-processing units and dry fish storages, freezing units and so on.\(^\text{25}\)

Iyyampillai and Balamurugan in their article stated that World Trade Organization regime has created excellent opportunities for the developing countries to increase their exports. However, the developing countries have to improve the quality of products upto the international standards. The WTO agreement addresses the food quality standards to be followed by the member countries in the international trade for marine food products.\(^\text{26}\)

Verma, Manju Baghamar and Vijay Saradana pointed out that no consumer can live without food and no consumer wants substandard food. But non-tariff barriers in the name of food safety, environment protection and welfare are also

not justified. The only way to defend the commercial interest in international trade is to improve competency and competitiveness in marine industry.  

Punnathara viewed that exporters to the US have also been badly affected with shrimp importers into US from countries such as India having to pay up duty before hand, a large number of Indian exporters have withdrawn from the market. Only about five per cent of the shrimp exporters to the US are big league players in the market.  

Ayyappan and Krishnan analysed that the export of marine products is one of the important items of India’s exports accounting for approximately 4 per cent of the total exports from India. Due to introduction of new deep sea fishing vessels and modification of the existing trawlers to suit deep sea fishing a large quantity of fish became available for export. These frozen fish items had greater demand in the South-East Asian countries as well as in the middle east. 


Shyam Salim and Ananthan described that decomposition analysis of the Indian marine products export earnings indicated that the revenue had been generated primarily from the changes in the export quantities and interaction between the export quantity and export value with no sizable contribution and realization from the unit value. Thus, there is an immediate need for the value addition and diversification of the seafood exports, upholding a brand image that would be imperative to maintain India’s position in the world seafood markets.\(^{30}\)

Anjani Kumar and Praduman Kumar reported that the technical barriers to trade and sanitary and phyto-sanitary measures have adversely affected the exports from developing countries. The European Union’s import ban on fish and fish products from several countries on the pretext of outbreak of cholera, Australia’s ban on the import of Salmon, EU’s import ban on shrimp from Bangladesh and India are some examples of setbacks arising from the application of food safety measures. Nearly 15 per cent of the total fisheries exports in 1996-97 to USA was lost because of automatic detention by U.S.A on the ground of their poor sanitary conditions. Thus the gain of market access under WTO negotiations may be eroded as a result of non-tariff measures.\(^{31}\)

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Shyam, et.al., described that the export growth estimates for the commonalities indicated that there was significant growth in the export quantity, value and unit value for the major marine products. This is because of the emergence of new commodities for export, even though there exists concerns of decreasing unit value realization. The revealed comparative advantage analysis suggested that the share of Indian fisheries to the total Indian export was more when compared with the pre–liberalisation period. The competitiveness of the major marine products except for shrimp has decreased during the post-liberalisation period when compared with the share of world fish export to the world total exports.32

Sathiadhas and Kanagam in their article stated that demand and price of marine fish are continuously increasing in our domestic and export markets. Fish marketing system in India is rapidly changing in recent years due to the vast improvement in handling technology, transaction and consequent market penetration. The exports of live fish items have gained momentum in the seafood industry. The flourishing live fish trade should be given adequate attention for its expansion as it receives better returns even with high cost of handling.33


Ganapathy Subramanian had stated that exports of marine products stands at around $1.4 billion and the industry is also facing difficulties due to anti-dumping duty imposed by US on Indian shrimp. The global market for seafood is
estimated as $50 billion and is growing. It had sought reduction in import duty on capital goods as well as raw materials. The focus, however, is now on concessions for import of equipments.\(^{34}\)

Ayyappan and Srinath had stated that marine fisheries of India, beset with problems of over capitalization, problems of over capacity and reduced catch rates, are at cross roads seeking proper direction and guidance. In the context of global competition in trade and economics, there is an urgent need for policy interventions both at the state level and the national level to meet the increasing internal and external demand of protein for the millions and to ensure better livelihood for the beleaguered fisherfolk.\(^{35}\)

Shyam Salim and Brijesh Kumar Halavi had stated sanitary and phyto-sanitary (SPS) that the value of market share of shrimp and its products from India declined following the 1997 ban by EU and the subsequent threat by USA relating to the Turtle Extruder device.

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Shrimp exports were 69.50 per cent of the total value of marine export lines during 2001–02, the unit value realization remained low. This is mainly due to the high compliance cost of SPS (sanitary and phyto-sanitary) measures that are estimated to increase operating expenses by a substantial factor.\(^\text{36}\)

Anjanikumar in his article had made it clear that the export of fish and fish products have performed well and liberalisation policies too seem to have augmented their growth. To give exports a further boost various sanitary measurers should be taken up vigorously to ensure international hygiene standards for Indian fisheries products. The impressive growth performance of India in fisheries may be limited by the stringent international regulations being pursued by importing countries under the guise of safety and environment protection. Many analysts have indicated that trade in fisheries may lead to increasing food for certain groups of people whose livelihoods depend largely on fisheries related activities.\(^\text{37}\)

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Ganesh Keremane and Naik had stated that in order to reach the targets for increased production, consumption and exports, developmental efforts by the Government should help the fishing systems on traditional crafts to be improved, fishing activity to be diversified and mechanised boats to be used to enable fishermen to exploit the resources and infrastructure facilities in an effectively judicious manner in areas of handling, processing and distribution.\textsuperscript{38}

Shanthana Gouda and Basavana Gouda, had stated that water is used for a number of purposes in the food industry. Sea food processing requires a copious supply of potable water. The implementation of Hazard Analysis and Critical Control Path (HACCP) concept in quality assurance, the greatest emphasis is the use of adequate quality water in food processing, as most of the post processing problems in developing countries are related to quality of water used in various steps of the process. To avoid these problems and to export a quality sea food, quality water is insisted more strongly.\textsuperscript{39}

Surayit Das and Shruti Chatterjee had stated that it has been found that all the stakeholders of the fishing business accept the monsoon fishing ban although reluctantly and pushing to the back of their mind their mythical beliefs.


They are also conscious of the advantages of conservation of sea wealth. This is a measure to conserve the fishery resources and to avoid exploitation since raw material supply is the major problem for sea food industry.\textsuperscript{40}

Nero Shahin and Asha Parameswaran had stated that from a modest beginning in 1950 through the export of 19,700 tonnes of marine products valued at Rs.2.46 crores, India’s export endeavor has reached a level nearly Rs.5095 crores by 1999-2000. There has been a remarkable diversification of export products including value – added ones also to the countries to which they are exported. The shrimp now has a significant place in the exports, accounting for 50 per cent of total exports.\textsuperscript{41}

Ayyapan and Diwan remarked that sustainable management of exploited stocks, targeting the under exploited and unconventional resources of zones, identification of potential fishing zones, stock enhancement through sea ranching, regulated fishing and fisheries management, installation of FADAS and AR, diversified fishing efforts, assessment and exploitation of resources available

around islands and infrastructural support in terms of deep sea vessels, on board and onshore facilities, harbours, landing centres, fish markets will increase fish production and productivity in India.\textsuperscript{42}

Bojan noted that the export of marine products has been showing an increase over the period from 1992 – 2000 to 2005 –06 but for some decline in one or two years. India contributes to 2.58 per cent share of world sea food export trade, stands 16\textsuperscript{th} position in world sea food export. Shrimp is the major export product giving huge earnings to the country. Indian was been able to increase its share in the global fish export form 1.7 per cent in the year 1978 to 2.07 per cent in 2003.\textsuperscript{43}

Syam Salim and Palanisami explained that export growth estimates for the commodities indicated that there was significant growth in the export parameters for the major marine products with the emergence of new commodities for export, although there was decrease in unit value realization.

\begin{itemize}
\item \textsuperscript{42} S. Ayyapan and A.D. Diwan “Road Map to Increase Fish Production and Productivity in India”, \textit{Fishing Chimes}, Volume 24, No.4, July 2004, pp.26-28.
\item \textsuperscript{43} J. Bojan “Issues on Production, Quality Control and Export of Fish and Fishery Products from India,” \textit{Seafood Export Journal}, Volume XXXVI, No.5, May 2006, pp.4-8.
\end{itemize}
The post liberalisation period scenario of marine products export registered considerable geographic diversification with the emergence of export markets like South East Asia and Middle East as compared with the pre liberalisation period. The absence of proper infrastructure to maintain quality standards of marine products is likely to affect Indian exports to a large extent because of rejection of consignments on quality grounds.\textsuperscript{44}

Ramamohana Rao and Vijaya Prakash opined that the fisheries sector has been an important source of foreign exchange resources over a period of time in the country. Out of the total Indian exports, the share of marine product is 3.32 per cent and this sector is the fourth largest contributor of foreign exchange resources of the country. Fisheries sector is regarded as a powerful income and employment generator as it stimulates the growth of number of subsidiary industries.\textsuperscript{45}

In the present study, an attempt has been made to go beyond the conclusions arrived at in these past studies. The present status of the marine fishing industry, the conditions of the wholesalers, and exporters along with their practices and problems in the fishing industry are analysed in this study with a discerning concern to make the industry to stand on par with global standards.


\subsection*{2.2 PROFILE OF THE STUDY AREA}
Ramanathapuram district was carved out in 1910 AD by the British out of portions from the erstwhile larger Madurai and Thirunelveli Districts. This district was named as Ramanathapuram with the name of the important Zamindar Town, Ramanathapuram. The town was also called Mugavai Nagaram. The town happens to be very near the sea. This district has an area of 4233.44 Sq.Km according to the 2001 census. In the year 1985 this district was trifurcated, forming three separate entities viz, Ramanathapuram, Sivagangai, and Virudhunagar districts. Ramanathapuram is one of the coastal districts of Tamil Nadu having a sea coastline extending to nearly 271kms accounting for 1/4 of the total length of the coastal line of the state. It is bounded on the north by Sivagangai and Pudukottai districts, on the east and south by the Bay of Bengal, and on the west by Thoothukudi and Virudhunagar districts. Ramanathapuram district is one among the 30 districts in Tamil Nadu, that are located in the coastal area. Regarding fish production in Tamil Nadu, Rameswaram in Ramanathapuram District is considered as one of the important centres. The district head quarters is located at Ramanathapuram.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the District</th>
<th>Number of Fishing Villages</th>
<th>No. of Fish Landing Centres</th>
<th>Major</th>
<th>Minor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chennai</td>
<td>44</td>
<td>2 10 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Thiruvallur</td>
<td>58</td>
<td>1 24 25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Kancheepuram</td>
<td>44</td>
<td>2 37 39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Villupuram</td>
<td>19</td>
<td>1 18 19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Cuddalore</td>
<td>49</td>
<td>2 26 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Nagapattinam</td>
<td>51</td>
<td>4 42 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Thiruvarur</td>
<td>13</td>
<td>-- -- --</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Thanjavur</td>
<td>27</td>
<td>2 19 21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Pudukkottai</td>
<td>32</td>
<td>3 17 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Ramanathapuram</td>
<td>184</td>
<td>5 70 75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Thoothukudi</td>
<td>21</td>
<td>2 20 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Tirunelveli</td>
<td>7</td>
<td>1 7 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Kanyakumari</td>
<td>42</td>
<td>3 42 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>591</td>
<td>28 332 360</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Endeavour and Achievements, (Department of Fisheries, Government of Tamil Nadu), 2004–05.

From Table 2.1, it could be seen that Ramanathapuram district stands first among the fishery districts as it has 184 fishing villages, 5 major fish landing centres. So, Ramanathapuram district is of more importance in marine fish production.

The details of the name of the taluks and area can be seen in Table 2.2.
## TABLE 2.2

### Ramanathapuram District Taluks and Area

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the Taluk</th>
<th>Area in sq.km</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ramanathapuram</td>
<td>819.83</td>
</tr>
<tr>
<td>2.</td>
<td>Rameswaram</td>
<td>562.35</td>
</tr>
<tr>
<td>3.</td>
<td>Paramakudi</td>
<td>730.73</td>
</tr>
<tr>
<td>4.</td>
<td>Thiruvadanai</td>
<td>963.28</td>
</tr>
<tr>
<td>5.</td>
<td>Kamuthi</td>
<td>398.23</td>
</tr>
<tr>
<td>6.</td>
<td>Muthukulathur</td>
<td>977.55</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>4451.97</strong></td>
</tr>
</tbody>
</table>


The population of Ramanathapuram district has grown from 869,867 in 1961 to 11,44,040 in 2001. The growth rate indicates that there has been a significant increase during the 1981-82 to 1990-91 decade with the average growth rate being 1.75 per cent per annum.

According to the 2001 census, Ramanathapuram taluk is the most thickly populated and Kamuthi taluk is the least populated in the district. The details of population growth in Ramanathapuram district along with the growth rate is presented in Table 2.3.
TABLE 2.3

Census - Ramanathapuram District

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Year</th>
<th>Population (in Lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1961</td>
<td>8.96</td>
</tr>
<tr>
<td>2.</td>
<td>1971</td>
<td>8.43</td>
</tr>
<tr>
<td>3.</td>
<td>1981</td>
<td>9.73</td>
</tr>
<tr>
<td>4.</td>
<td>1991</td>
<td>11.44</td>
</tr>
<tr>
<td>5.</td>
<td>2001</td>
<td>12.53</td>
</tr>
</tbody>
</table>

Source: Endeavour and Achievements, (Department of Fisheries, Government of Tamil Nadu), 2004–05.

From Table 2.3 it is seen that population from 1961 to 1991 was in an increasing trend. The population of 1961 was 8.69 lakhs, in 1971 showed 8.43 lakhs, in 1981 it rose to 9.73 and in 1991 was 11.44 lakhs and as per the last census conducted by the Government in the year 2001 it was 12.53 lakhs. There is a drastic increase of population between 1981 and 1991. The district has a low population density of 279 persons per square kilometer.

2.2.1 Geographical Location

The district lies between $9^0\ 09^{1}$ and $9^0\ 98^{1}$ North latitude and $78^0\ 23^{1}$ and $79^0\ 23^{1}$ and $79^0\ 45^{1}$ east longtitude. The general geographical information of the district is simple and flatted. Vaiga river and Gundar river are flowing in the
district and they go dry during the summer season. The total geographical area of the district is 3889.62 sq.km.

2.2.2 Administrative Structure

Ramanathapuram district comprises 6 taluks, 11 blocks and 2087 villages. As regards the hierarchy of administrative arrangement, there are three municipalities, 8 town panchayats and 444 village panchayats. The community development blocks are Thiruvadanai, Rajasingamangalam, Paramakudi, Bogalur, Nainarkovil, Kamuthi, Muthukulathur, Kadaladi, Ramanathapuram, Tiruppillani and Mandapam.

2.2.3 Climate

The climate of this district in the inland plains is generally hot and dry with a low degree of humidity except within a radius of about 20 kilo metres from the coast, where the temperature is tolerable and cool on account of the sea breeze. The district receives the bulk of its rain from the north east monsoon which is often late, irregular, erratic and scanty. The monthly average rainfall in the district was 75.73mm. The months of October, November and December receive a rainfall that is more than annual average.

2.3 INDUSTRIAL DEVELOPMENT
The district is considered as an industrially backward area and the Government is providing incentives like sites at cheap prices, adequate power supply and loans on low rates of interest to entrepreneurs for setting up industries. The Government on its own also has set up a few establishments in the public / co-operative sectors for providing employment to local population. The major industries found in the district are handloom weaving, spinning and weaving of textiles in factories, salt and chemical industries. Handloom weaving of cotton textiles is an ancient occupation followed in this district.

The important handloom centres are situated in Paramakudi taluk. Silk weaving, using China silk as raw material, is taken up in Ramanathapuram and Paramakudi. Textile industries functioning in the district produce a variety of yarn. Mat weaving is practised in the vicinity of Ilayankudi. Boxes and other articles from Palmyrah leaves are being manufactured in a number of places in Ramanathapuram taluk. Coconut coir fibre making units are functioning in the district, important centre being Periyapattinam.

2.3.1 Fisheries Production

The Ramanathapuram district has a 271 km of coastal line. No information was available for inland fresh water areas and estuaries or brackish water areas. Marine fishing is done in almost all coastal villages. The fish production has increased both in quantity and value recently. The fish seed production of
standard fry had fluctuated from 1991 – 1996 and the highest production was in the year 1991 – 1992. The inland fish production had also under some fluctuations between 1991 and 1996 in the district. There has been an increasing trend in coastal fish production in the district between 1991 and 1996.

2.3.2 Places of Tourist Attraction

Ramanathapuram district has a number of places of tourist attractions like temples, famous for antiquity and sculpture. This region having been known from early times and mentioned in Ramayana and later in Tamil puranas, naturally has a good number of places of worship associated with Hindu Gods. Of these, Rameswaram deserves mention which continues to attract a large number of pilgrims from all over India. Rameswaram is an island, but very close to the main land. It is the Pamban canal which separates it from the main land. Rameswaram can be reached by train and lies on the Chennai – Rameswaram main line of the Southern Railway.

Rameswaram is a sacred place for the Hindus and is equally as renowned as Varanasi in the northern India. It is 12 miles from Mandapam, the nearest place on the main land, and it is from here that Rameswaram is linked by rail.

The town is built on an Island in the Palk Straits at the extreme south–eastern tip of the Indian Peninsula. It contains one of India’s most venerated temple, a fine example of South Indian architecture. The presiding deity
of the temple is Arul Migu Ramanathaswamy, said to have been installed in Linga form by Lord Rama himself on his return from Sri Lanka after defeating Ravana. The Ramalingam at Rameswaram is one of the twelve Jyothi Lingams (Light form of Linga) in India. Dhanushkodi, another holy place is situated at a distance of 8 kms from Rameswaram and has a temple for Arul Migu Kothanda Ramaswamy. There are 12 tourist places located at various villages and towns in the historical, cultural and natural heritage area of the district.

The special significance of the area is due to the existence of the palace of the Raja, saint Temples, Hindu Temples, Sanctuary, pilgrim centres, mosque and beach.

2.4 INFRASTRUCTURE FACTORS

2.4.1 Urbanisation Pattern

The proportion of urban population to total population increased during the years 1981 – 96 from 21.61 per cent to 23.29 per cent and had increased about 15 per cent during 1991 – 96. Among the towns, Paramakudi Municipality accounts for a greater share of urban population when compared with the other towns. The proportion of rural population to total population decreased from 78.39 per cent to 77.07 per cent between the years 1981 – 1991 and further decreased to 76.71 per cent in 1996.

2.4.2 Services

Surface and ground water are the major sources for protected water supply system in municipalities and town panchayats respectively. The per capita water supply for municipalities and town panchayats is 52 litres of Per Capita of
Drinking (LPD) and 49 litres respectively. The average water supply is around 50.43 LPD for the district. The Ramanathapuram Municipality has the highest consumption, while the town panchayat of Kilakarai has the lowest consumption of water. The Paramakudi Municipality has a maximum of 15 per cent and the town panchayats Kamuthi and Muthukulathur have a maximum of 10 per cent for each with unprotected water supply.

2.4.3 Transportation

The district is served by the metre gauge section of the southern railways. The main line from Chennai, Egmore to Rameswaram runs through the district linking Karaikkudi and Manamadurai of the adjoining districts. Road transport is another important aspect in transportation facilities. The district is connected by the national highway NH 49 Madurai - Dhanushkodi road connects Manamadurai, Paramakudi and Ramanathapuram. There is no major ship transport in the district. A small port at Rameswaram provides a ferry service to Talaimannar, situated in the north of Sri Lanka. Which is non-operational at present. Kilakkarai port had lost its importance in sea transport with the development of railway line to Thoothukudi and the opening of the Pamban – Madurai Railway line. However, a little foreign trade is done with Jaffna, Kaits, Thalaimannar and Colombo from this port.