

**RESOURCES, INVESTMENT-ENVIRONMENT
AND DEVELOPMENT PROSPECTS OF
INDIA'S OCEANIC ISLANDS**

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in partial fulfilment of the requirements
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19th July 1991

CERTIFICATE

Certified that the Dissertation entitled "Resources, Investment-Environment And Development Prospects of India's Oceanic Islands" submitted by Mr. RATANA RAM VISHNOI in fulfilment of Nine Credits out of total requirements of Twenty-four credits for the award of Degree of Master of Philosophy (M.Phil) of this University, is his original work and may be placed before the examiners for evaluation. This Dissertation has not been submitted for the award of any other degree of this University or of any other University to the best of our knowledge.

Sumitra Chishti
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DEDICATED

TO

MY

MOTHER

AND

GURU

PREFACE

The present study may be termed as an attempt made to trace the geo-politics and economy of India's oceanic islands (the A & N islands and the Lakshadweep islands).

Since these islands have a great bearing on the mainland in certain spheres like national security & defence and economy. So, these areas need to be studied more purposefully.

Here, it is worth-mentioning that the growing importance of the Indian Ocean in the international politics has been increasing the significance of India's oceanic islands largely on account of their strategic locations.

All these factors necessitate greater knowledge of and more interaction with these areas. This work, therefore, is intended towards the realization of ideas mentioned above.

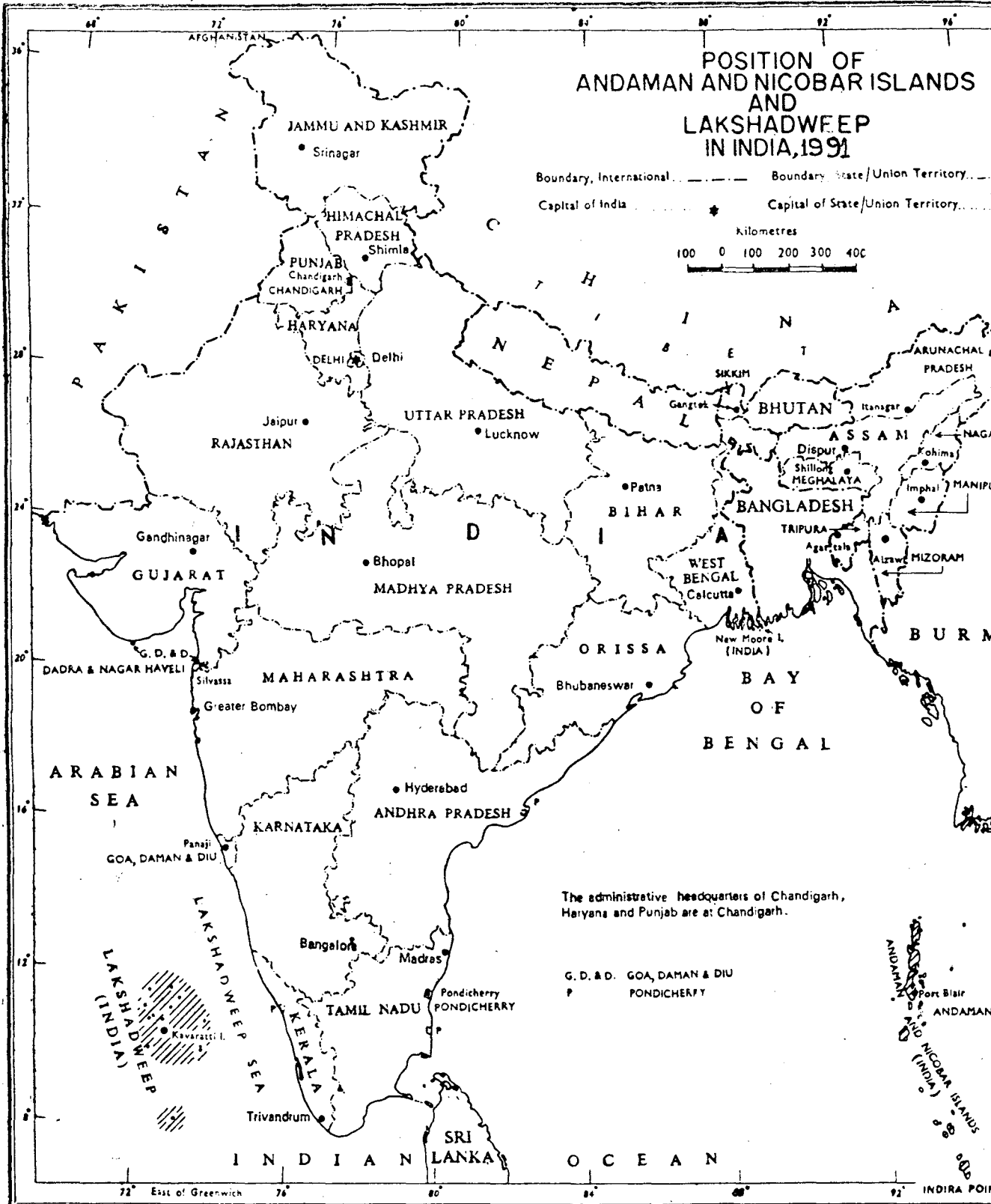
The study is deliberately maintained more informative and suggestive than specific one because of the very nature of the topic of research. Hence, it is a general study of the A & N islands and the Lakshadweep islands which form India's oceanic islands.

The entire work is based on secondary data. So, every attempt has been made to get the latest, authentic and relevant data. But, the paucity of such data-base hindered this work substantially.

Therefore, in certain cases the quality of work could have been improved even further had there been a proper data-base regarding these hitherto neglected islands.

Here, I want to record my gratitude to Prof. R.C. Sharma whose guidance was indispensable for the completion of this work.

POSITION OF ANDAMAN AND NICOBAR ISLANDS AND LAKSHADWEEP IN INDIA, 1991



72° East of Greenwich 76° 80° 84° 88° 92° INDIA POINT

(ii)

At the same time, I am also thankful to my many friends whose help in various ways and at various levels was of great value to this exercise.

DATE : 19th July 1991

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CHAPTER-I

INTRODUCTION

There are two main groups of islands in the Indian territory besides some other scattered ones. Since these two groups are located in the Indian Ocean and therefore known as India's oceanic islands. One group consists of the Andaman & Nicobar Islands and the other the Lakshadweep Islands.

The present study deals with these two groups of islands. It is an inquiry into the broad economic and geo-political parameters of these islands which have been lagging far behind the national average in spite of their reasonable potentials for development. Thus, the broad objectives of this work would be:—

1. to highlight the economic and geo-political importance of these islands to the mainland;
2. to survey their resources, state of development and find out the kind of investment-environment prevalent there, and on the basis of analysis of the above factors;
3. to suggest an alternative model of development for these islands.

The significance of the topic "*Resources, Investment-Environment And Development Prospects of India's Oceanic Islands*" needs to be judged in the context of these island's (A & N islands+Lakshadweep islands) vital importance to the mainland mainly in terms of economics and national security.

As we all are well aware of the limited sustainability of our land resources. The growing pressure on land resources chiefly owing to unchecked population growth with no corre-

sponding increase in necessary resources has necessitated the discovery of new potential areas for livelihood.

And in this series, the proper utilization of water resources mostly oceanic resources is fast assuming a greater significance everywhere in the modern world including India. The idea is to supplement the scarce land resources.

To be specific, currently India is in a dire need of harnessing oceanic resources to supplement her's land resources which are under heavy pressure and consequently depleting rapidly. The Indian islands are said to be reasonably rich in marine resources notably fish, various minerals, polymetallic nodules, etc.

The A & N islands have abundant economically-viable rich forest cover but remains underexploited. Such rich forest resources may generate employment and thus income substantially if exploited properly.

Both the A & N islands group as well as the Lakshadweep islands group possess a tremendous potentiality for the promotion and development of tourism. This is one of the areas which can effectively be used in attracting foreign tourists and thereby much-needed foreign exchange in softening India's BOP¹ problem.

Indian EEZ² covers a vast sea-area of the Indian Ocean and this area is presumed to be fairly rich in various living and non-living marine resources including crude oil. Here, the tapping of vast quantum of living marine resources like fish may lessen India's national food problem substantially.

At the same time, the possibility of discovering of crude oil and natural gas in India's EEZ is rated pretty high. Therefore, India should intensify oil-exploratory operations in this area in the light of the Bombay High experiment. If proved successful, it can reduce India's crucial dependence on crude oil

imports to a greater extent.

Now, it is clear from the above analysis that various economic compulsions in India justify the need to exploit marine resources and this can be done more effectively and more efficiently through the development of these Oceanic islands on the priority basis.

Besides it, these islands are very important from India's national security and defence point of view largely because of their crucial geo-political and strategic locations. Their strategic importance can be analyzed in the backdrop of ever-important international politics of the Indian ocean whose growing militarization owing to world-power rivalries and regional conflicts has internationalized this ocean.

It is putting an enormous pressure on India's national security and defence system. And, strangely enough this pressure gets heightened even further on account of India's non-aligned stand and her's emergence as a strong Third World power unacceptable to the traditional world-power for very obvious reasons.

Hence, the emergence of anti-Indian regional and local conflicts can be seen as manifestation of either direct or indirect anti-India stand and policies of the imperialist forces.

The another important factor responsible for the internationalization of the Indian ocean is its possession of various natural resources notably crude oil and its related international manoeuvrings. Therefore, these divergent factors warrant India to be active and remain active and vigilant in this zone. And, this can be realized effectively by strengthening her's oceanic islands.

Also, these inlands are part and parcel of the composite culture of India and therefore they represent a distinct cultural heritage. But, unfortunately these areas still remain backward and to some extent unknown.

Among other factors, one major drawback here is that so far no important and substantial research work about these parts of India has been undertaken. This failure has resulted in little knowledge of them and consequently their neglect.

So, the present work is intended to know something substantially of these far-flung islands. Moreover, a research work of this sort is supposed to help plan and policy formulation for the comprehensive development of these geo-politically important areas of Indian Union.

Methodology and Data Base:

The entire exercise has been divided into various chapters by and large in accordance with the logical sequence of the topic.

The first chapter begins with general introduction.

Their resource-base is discussed in the second chapter.

It is pertinent here to have an overview of the present state of development of these islands in consideration in order to get a better understanding of their economies. To this end, certain standard indicators of development have been taken into account. And, this is dealt with in the third chapter.

In the era of modern industrialization, an environment conducive to investment has become central which has a direct and significant bearing on economic development. Hence, the fourth chapter is designed to analyze this aspect of these islands.

These India's oceanic islands possess vast development potentials in certain sectors. So, it is necessary here to identify such viable areas in these islands. Therefore, this has been done in the fifth chapter under the title of development prospects.

It is very important to note that compared to the rest of the country, India's oceanic islands are characterized by certain different and peculiar socio-eco-geographical conditions such as high degree of tribalism, primitive economy, greater inaccessibility, etc.

Therefore, the development of such areas necessitates a particular model of development consistent with their sociology, economics and of course, geography. And, it is discussed in the last chapter in the form of conclusion.

And, bibliography finds place at the end of the exercise.

In nutshell, here the whole study follows a mix of informative, analytical and suggestive approaches.

The secondary data form the basis of our study. The major sources of these data are published reports of government of India as well as the basic statistics brought out by the respective administration of India's oceanic islands.

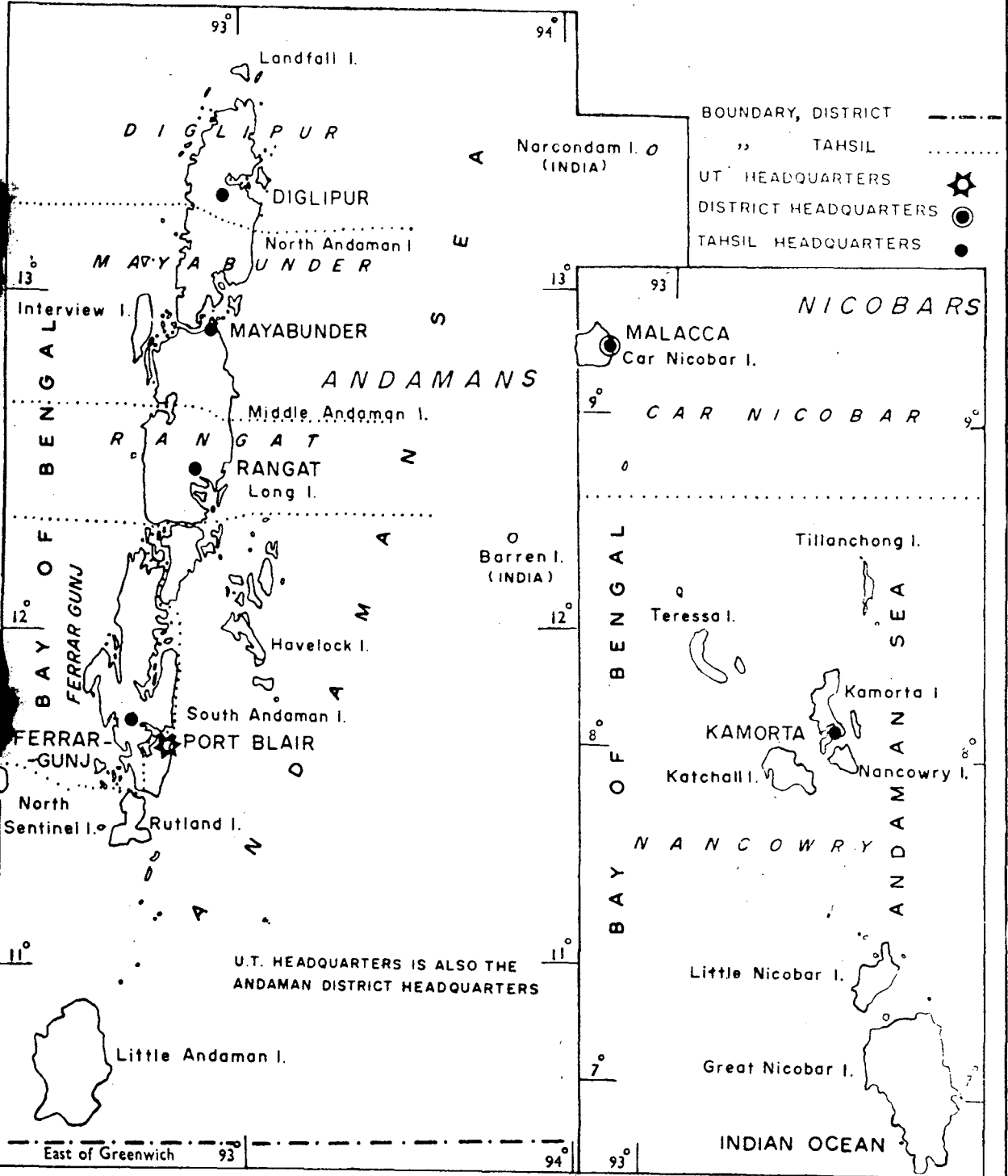
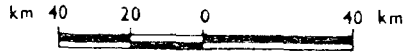
Various economic and planning documents published by the government of India and the Planning Commission also constitute an authentic data-base.

The various census reports of the government of India have been consulted in many ways here. In addition to these, many references have been made from different books, articles, seminar papers, newspaper reports, research work done related to these islands, etc.

Here, it is worth-noting that the research work done so far regarding India's oceanic islands is highly inadequate. Therefore, the paucity of relevant literature here poses a great difficulty to develop a desired research framework.

ANDAMAN AND NICOBAR ISLANDS, INDIA

ADMINISTRATIVE DIVISIONS 1991



The General Introduction to the islands:—

The A & N islands are a group of 321 islands in the Bay of Bengal of which 302 are in the Andamans and remaining 19 in the Nicobars³. But, inhabited islands are only 38.

On the other hand, Lakshadweep is a group of coral reefs in the Arabian Sea and there are a total of 36 islands⁴ of which only 10 are inhabited.

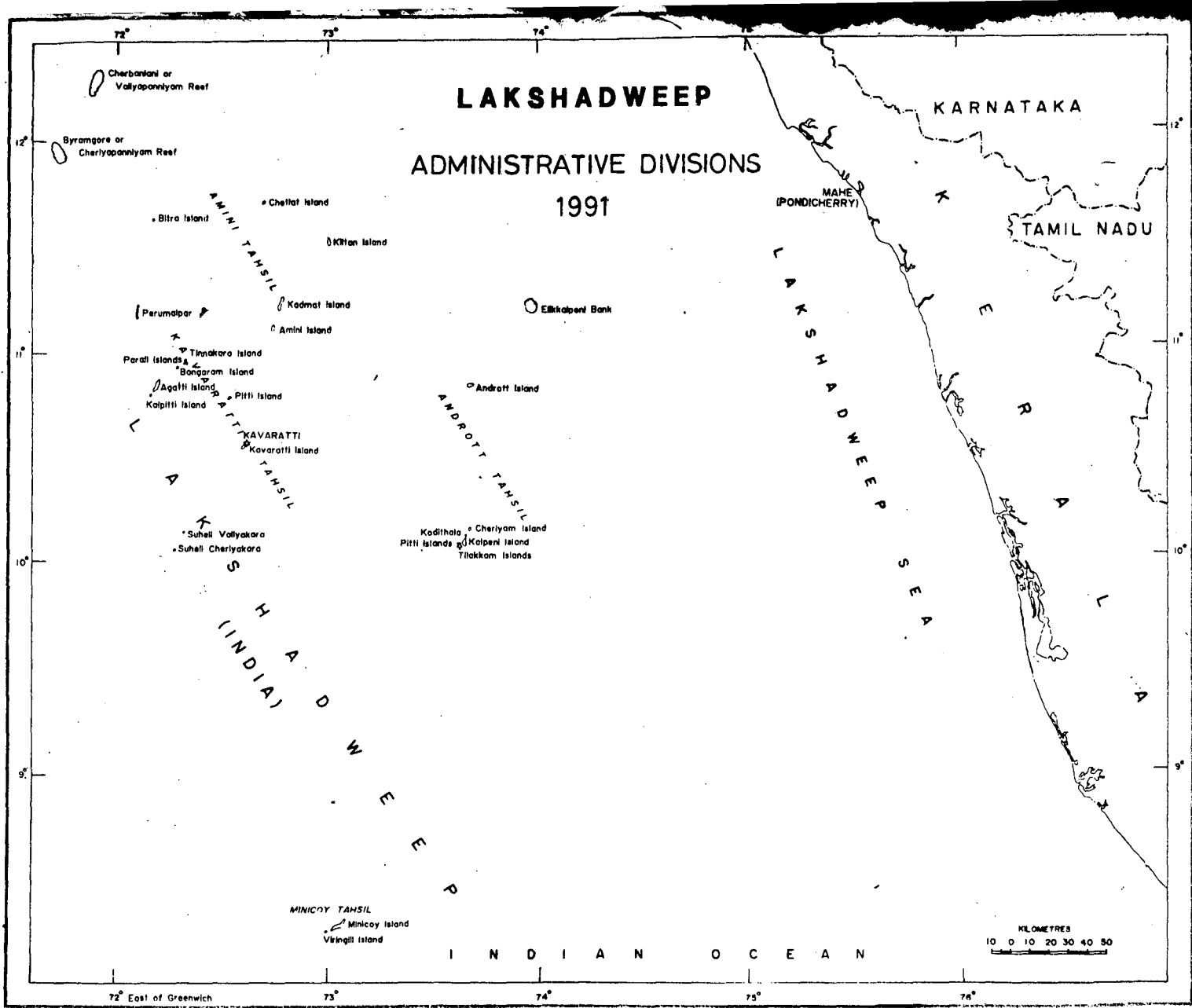
The A & N islands are located between 6⁰N to 14⁰N latitudes and 72⁰E to 74⁰E longitudes with an area of 8,249 sq. km⁵. The Andamans cover 77.68% of area and the Nicobars 22.32%. The Lakshadweep islands lie between 71⁰E to 74⁰E longitudes and 8⁰N to 12⁰³'N latitudes⁶ with total geographical area of only 32 sq. km.

According to census 1991, population of A & N islands⁷ is 2,77,989 with density of 34 persons sq. km. The corresponding figures for Lakshadweep islands⁸ are 51,681 and 1,615 respectively.

The climate of India's oceanic islands is tropical. The A & N islands are very rich in forests which cover 86.43%⁹ of total area whereas Lakshadweep islands are poor in forest-cover.

Paddy is the main food crop and coconut and arecanut are main cash crops in the A & N islands while coconut is the only major crop in the Lakshadweep islands. The level of industrialization in India's oceanic islands is very poor.

At the same time, the transport sector is also underdeveloped. Inaccessibility still remains one of the major impediments to rapid development. The major potential areas of development in these islands are tourism and fisheries.



An Overview of Literature:

As has been stated earlier, the study of literature available on India's oceanic islands reveals inadequacy of relevant and authentic literature. The factors responsible for this poor literature-base may be many. However, the low level of cultural interaction between these islands and the mainland and their geographical inaccessibility, are major hurdles in this regard. And, due to these factors very little research has been undertaken so far.

Currently, the government agencies at various levels are engaged in collection and compilation of data about these islands. Yet it is insufficient. Nonetheless, the literature available provides some information regarding geographical and socio-economic aspects of these islands.

Clifton¹⁰ mentions about the geological formation and climate of the A & N islands¹¹. Montagerie¹² gives an account of the Nicobar islands.

Leigh¹³ had visited to the Indian islands¹⁴ and wrote about their forest resources, nature of people of coastal areas and their way of living. The geographical conditions of these islands had been described by Fredrick¹⁵ also.

Among the recent works, Bose¹⁶ talks of population-distribution, settlements and factors affecting distribution of population in the Andaman islands.

Geography, relief, rainfall, population, drainage, etc., regarding the A & N islands find a place in the personal observation of Hussain¹⁷. More or less, these same things have been described by Singh¹⁸ and Brown¹⁹ also.

The study of ecology of Nicobar islands has been done by Upadhya²⁰ who says that the degree of dependence of

these islands on nature is very high. Kanwar²¹ discusses the mineral wealth, distribution of people and impact of immigration regarding the A & N islands.

The economic importance of Indian islands is reasonably good particularly in the field of tourism as has been highlighted by Gopal Singh²².

Barai²³ and Sudershan discuss the settlement structure in the A & N islands. However, work done by Pandha²⁴ on population and settlement structure in the A & N islands deserves appreciation.

The socio-economic set-up of these islands is markedly different from that of the rest of the country. In this respect, the work of Brown²⁵ is worth-mentioning where he gives a systematic account of socio-economic conditions of Indian islands.

At the same time, a good description by Das²⁶ about customs and traditions of the A & N islands is found.

The people of these islands are often referred to be the purest races. It is to a greater extent true. This can be explained mainly in terms of their unaffected culture by external influences according to Cipriani²⁷.

The A & N islands and the Lakshadweep islands differ from each other in various respect, viz., geological formation, culture, economy, etc. The availability of authentic and relevant literature about the Lakshadweep islands is meager compared to its counterpart. However, Das²⁸ deals with almost all aspects of this group of islands.

Kutty²⁹ gives information about the social system of the Lakshadweep islands and discusses marriage and kinship. Encyclopaedia of Nations³⁰ mentions of these islands. A brief presentation of these islands is given by Ellis³¹. Ramunny³² pro-

vides some preliminary tips about these islands.

The major concentration of population in the islands is around coconut trees and along the coastal areas. This indicates the nature and type of their economic pursuits. Chack³³ support this version. Unlike the Lakshadweep islands, there are some hostile tribes in the A & N islands. These are Jarawas of Andamans and Shompens of Nicobars³⁴.

The differences in customs and traditions between tribal and non-tribal communities of these islands have been discussed by Kloss³⁵. Here the studies of Bomington³⁶ and Sanyal³⁷ are also useful.

As far as the economic and planning informations and literature with respect to India's oceanic islands are concerned, various Techno-economic survey undertaken, various census works and reports, Economic Abstracts of India, Economic Survey, various five year plan papers and documents, India Year Book, Basic Statistics of these UTs*, different government and experts reports, etc., provide the basic data and literature.

However, 'Penal Settlement in Andamans' by R.C. Majumdar³⁸ is the most authentic all-round description of the A & N islands.

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CHAPTER-II

RESOURCE-BASE

Resource-base is one of the important ingredients of development-process, which dictates the terms of planning alongwith technology and management. However, here the terms 'resource-base' is defined in terms of different varieties and quantum of economically useful resources. Broadly, natural resources and human resources both are covered by the above definition. However, here we would discuss only major and important resources.

Forests:

The A & N islands except a few islands in the Nicobar group are abundant in forest resources. Forests occupy 7171 sq. km. area out of total geo-graphical area of 8249 sq. km. Thus, forests cover nearly 86% of total area.

The main types are tropical evergreens moist deciduous and the mangrove forests. There are about 200 tree species¹.

The principal trees are Gurjan, Badam, White Dhoop, Papita, White Chunglam, Padauk, Koka, Marblewood, Chooi, etc.

Among these, Padauk is the most valuable due to its high value and multiplicity of use. The major reason behind such enormity and diversity of forests in the A & N islands is favourable soil-climatic conditions. Due to dense and varied forest-cover these islands are called a gold mine of timber.

Every year timer extraction in the A & N islands amounts more than 10,00,00 cum. It was 123678 cum in 1988-89². Management-wise, government extracted 68.43% of timber in 1988-89³ while remaining 31.56% of timber was extracted by private parties but on payment of royalty.

In the A & N islands, out of total forests area of 7171 sq. km., reserved forests account for nearly 41% and remaining are protected forests—59%⁴. The revenue earned by forest department was Rs. 1539.310 lakhs in 1988-89⁵.

The phenomenal growth of mangroves supply the quality firewood abundantly in the A & N islands. The *Bruguiera* variety is pole-yielding one and *Bania* trees whose growth is profound provide juicy fodder for elephants.

In addition to these, betelnut, palm trees, ferns, bamboos, cane, etc., are also found. These forests are also full of milky climbers used to produce rubbers. Nonetheless, the islands of Lakshadweep are very poor in forest resources compared to their counterparts. Here, forest-cover is limited and thin with a few varieties and thus it is of no much economic-value.

It should be noted here that the forest department owns all the area of 7171 sq. kms.⁶ covered by the forests in the A & N islands.

Marine Resources (Living):—

The relative importance of marine resources is steadily increasing the world over because of fast depletion of land resources.

Water around the A & N islands is quite rich in fishes of various varieties. Unlike the mainland, there is no traditional fishing community in these islands. There an area of 450 hectare⁷ has been identified suitable for brackish water aqua culture.

The sea-shore provides a good stock of edible fish, crabs, bivalve shells, turtles, etc., in the A & N islands. The lagoon and the deep sea around the Lakshadweep islands are abound in fish which is the major diet-item of the people there. But, there are more species of fishes in the A & N islands compared to the Lakshadweep islands. As many as 490 varieties of fishes are

available in the A & N islands from the coastal and deep seas.

The economically important fishes in the Lakshadweep islands are limited to the Tunas, Wahoo and Sail fish whereas they are numerous in the A & N islands in variety and quantum largely because of great movement of planktonic fauna and shallowness of the sea basin.

The coastal fishes in the A & N islands are mostly food fishes like sharks, skets, herrings, cat fishes, eels, Indian Salmon, etc. The no. of fishermen engaged in fishing in the A & N islands in 1988-89 was 3006 and quantity was 11267 tonnes with a value of Rs. 6,76,470⁸.

And, the no. of fishermen engaged in fishing in the Lakshadweep islands in 1987-88 was 4980 and quantity was 7299 tonnes with a value of Rs. 3,64,95,000⁹. However, the Lakshadweep islands produce surplus fishes and sometimes they are exported. The quantity of fish products exported in 1987 from the Lakshadweep islands was 684 tonnes¹⁰.

The production of marine fish was 10237 tonnes and that of inland fish was only 15 tonnes in 1987-88 in the A & N islands. In both the groups of islands deep sea fishing is practised by men only .

The major drawback of fisheries here in these islands is the slow pace of mechanization. Nonetheless, the Lakshadweep islands stand first in the country in terms of per capita availability of fish¹¹.

However, there is possibility of non-living marine resources in India's oceanic islands but it would be discussed under 'mineral resources' section.

Mineral Resources :—

Virtually there is no mineral wealth of economic use

in India's oceanic islands. However, in the neighbouring area of Port Blair some minerals like chromium, copper, iron and sulphur have been located.

Some nests of lignite and bands of pure limestone have been found in scattered places, and small crystals of bronzite have been discovered in the serpentine rocks especially in the north-east part of Rutland.

And, it is generally held that none of these minerals is economically exploitable.

The Lakshadweep islands are richer than their counterparts in terms of mineral resources. Some minerals such as coral, limestone, phosphates, etc., are found there.

Most of these materials are extensively used for construction purposes. The sands on the beach are said to contain 90 to 98% of calcium carbonate which is in confirmation with the geological formation of these islands. But, these islands are poor in basic and commercially viable minerals.

The poor minerals base of India's oceanic islands does not permit fast economic development especially the lack of good quality coal poses a serious problem of power generation which in turn affects badly the development of big industries.

There has been so far no comprehensive surveying-project undertaken to locate mineral potentials in these islands. The deposits of coal, iron and precious metals are expected in the A & N islands as has reportedly been found by a survey team of Japanese¹².

Although, currently crude oil is also not found in these inlands. But, the possibility of oil deposits in the off-shore areas of these islands cannot be ruled out according to the indications of the off-shore drilling undertaken in the past years in the

Port Blair off-shore area where rich deposits of gases have been discovered.

Therefore, a comprehensive geological survey of these islands for the discovery of potential minerals and crude oil and natural gas appears imperative to be under taken.

Soils:—

There is much variety of soil formation in the A & N islands and therefore this leads towards a diversity of vegetation. Contrary to it, the soil varieties in the Lakshadweep islands are limited and consequently the vegetation is also less-varied.

The soils of the A & N islands are ideal for the growth of paddy because of high humus content.

The soils of the Lakshadweep islands are best suited for the cultivation of coconut and that is why it is the main economic activity of the islands.

The tropical climatic conditions with suitable soils in the A & N islands permit plantation trees like rubber, coffee, tea, coconut, etc., and these are in plenty there. In sandy loams tapioca can be grown profoundly.

The soils of the Lakshadweep islands can also support some fruit plants like Banana, Papaya, Guava, Sopota, and certain vegetables like chillies, tomato, bringal, sweet potato, etc.

However, unlike the soils of the Lakshadweep islands, much of soils of the A & N islands are under thick forest-cover.

Human Resources:—

As far as the human resources of India's oceanic islands are concerned, here also they are poor. The working population of the A & N islands¹³ was only 33.20% of their total population in 1981.

The percentage of total workers to total population in the Lakshadweep islands in 1981 was 24.39¹⁴ which is very low figure.

At the same time, the female work participation rate in the Lakshadweep islands in 1981 was as low as 9.16%¹⁵.

The corresponding figure for the A & N islands (female work participation rate) was 6.59% which is even lower than that of the Lakshadweep islands¹⁶.

The overall low level of the work participation rates in these islands indicate heavy dependency rate and resultant low levels of savings.

The total population of the A & N islands according to 1991 census stands at 2,77,989 with 55% male population and 45% female population. The population density is 34 persons per sq. km. with sex ratio of 820.

The corresponding figure for the Lakshadweep islands' total population is 51,681 with 51.43% male population and remaining 48.56% female population. The density of population in the Lakshadweep islands is 1615 persons per sq. km. and the sex ratio is 944.

Although the level of literacy in these islands is quite high-74.74% in the A & N islands and 79.23% in the Lakshadweep islands but there is no commensurate high level of trained and skilled manpower required in certain specialized areas.

The above analysis reveals the poor base of resources in India's oceanic islands and at the same time their management is also not optimum. These factors act against rapid economic development of these areas.

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CHAPTER-III

STATE OF DEVELOPMENT

Here certain important sectors of the economies of India's oceanic islands are discussed in order to ascertain their pattern and level of development.

Agriculture—**Table : 1 Land utilization, 1987-88**

<i>(Area in hect.)</i>			
<i>S.No.</i>	<i>Item</i>	<i>A & N Islands¹</i>	<i>Lakshadweep Islands²</i>
1.	Total geographical area	6,40,800.00	3,200
2.	Total reporting area	75,246.88	2,810
3.	cultivable area	67,454.62	2,420
4.	Area not available for cultivation	7,792.26	390
5.	Fallow land	4,400.97	—
6.	Other uncultivated land excluding fallow land	39,757.88	—
7.	Total cropped area	15,095.25	2,785
8.	Net area sown	14,386.57	2,785
9.	Area sown more than once	708.68	460

The data reveal that the total reporting area is only 11.74% of total geographical area in case of the A & N islands. Certainly, it is very low figure indicating high unreporting area. The corresponding figure for the Lakshadweep islands is as high as 87.81%.

However, the proportion of area available for cultivation to the total reporting area in both the cases is quite high. It is 89% and 86% for the A & N islands and the Lakshadweep islands respectively.

The net sown area is 100% of the total cropped area in case of the Lakshadweep islands while it is nearly 95% for the A & N islands.

Table: 2 Major crops in the A & N Islands³

(As on 31-3-89)

<i>Item</i>	<i>Area in hect.</i>	<i>Production in tonnes</i>	<i>Productivity per hect (tonnes)</i>
1. Rice	12789.50	23625.00	1.84
2. Sugarcane	621.00	15525.00	25.00
3. Arecanut	2967.00	4450.00	1.49
4. Banna	1389.00	2678.00	1.92
5. Tappoca	239.00	1912.00	8.00
6. Rabi pulses	3008.00	1805.00	.60
7. Coconut	23248.00	813.68	.03
8. Papaya	195.00	775.00	3.97
9. Cashewnut	529.00	195.00	.36

The major crops in the A & N islands are coconut and rice which occupy 80% of area cultivated and contributed only 47% to total production.

The overall level of productivity in agriculture here is more or less equal to the national average. This can be verified in case of rice and rabi pulses *except sugarcane*.

The yield of rice for all India in 1988-89 was 1,686 kg. per hectare. It was 1847.22 kg. per hectare in case of the A & N Islands.

The yield of sugarcane for all India in 1988-89 was 60,073 kg. per hectare while it was 25000 kg. per hectare in the A & N islands.

The all India average yield of pulses in 1988-89 was 589 kg. per hectare compared to 600 kg. per hectare in the A & N islands.

There is total absence of production of oilseeds in the A & N islands. The only major crop in the Lakshadweep islands is copra where agriculture is confined to the cultivation of coconut in addition to some fruit plants like Banana, Papaya, gauva, sopota, etc. In 1980-81, production of copra was 1289.1 tonnes and it was 902.4 tonnes in 1987.88⁴. The prominence of copra in the Lakshadweep islands is on account of suitable soil and climatic conditions.

Table:3 Distribution of fertilizers, Pesticides, Seedlings, Seeds, etc.

<i>Item</i>	<i>A & N Islands</i>		<i>Lakshadweep Islands⁶</i>	
	<i>1983-84</i>	<i>1988-89</i>	<i>1983-84</i>	<i>1986-87</i>
1. Seeds				
(a) Paddy (tonnes)	35	95		
(b) Vegetables (kgs.)	1175	7000	160	44.5
2. Seedlings (nos.)	350396	607717	11504	32338
3. Fertilizers (tonnes)	75	425	70	255.39
4. Pesticides-dry (tonnes)	77	265	122	5

The table indicates an overall upward trend in the use of fertilizers, pesticides, increase in seedlings and an increase in the distribution of seeds.

The agriculture sector provides direct employment to 20% of total main workers in the A & N⁷ islands. There is no any significant direct employment in the Lakshadweep islands from agriculture but coconut cultivation which is the only major economic activity accounting for 14% employment⁸.

Table: 4 Live Stock and Poultry

<i>Item</i>	<i>A & N Islands⁹</i>		<i>Lakshadweep Islands¹⁰</i>	
	<i>1972</i>	<i>1982</i>	<i>1972</i>	<i>1982</i>
<i>(Nos.)</i>				
1. Cattle	18,685	36,560	1311	2601
2. Buffolows	8,013	11,869	—	—
3. Goats	11,602	33,581	3817	9863
4. Pigs	38,648	96,029	—	—
5. Total livestock	76,948	1,78,039	5128	12464
6. Total poultry	1,57,245	3,19,916	25410	33514

The decadal rate of growth of livestock in the A & N islands was 131% during 1972 and 1982 compared to 143% in the Lakshadweep islands. These growth rates are quite impressive

However, the growth in poultry was 103% and 32% for the A & N islands and the Lakshadweep islands respectively during the same period. Here, the rate of growth in poultry in the Lakshadweep islands was rather slow with respect to its counterpart

Table: 5 Animal Husbandry

<i>Item</i>	<i>A & N Islands¹¹</i>		<i>Lakshadweep Islands¹²</i>	
	<i>31-3-84</i>	<i>31-3-89</i>	<i>31-3-84</i>	<i>31-3-88</i>
1. Veterinary hospitals	7	8	—	—
2. Veterinary dispensaries and Sub-dispensaries	27	33	6	6
3. Key Village units	10	16	—	—
4. Artificial Insemination centre	2	5	—	2
5. Govt. poultry farms	2	2	1	1

The data represent underdevelopment of basic animal husbandry facilities. There was much slower progress in veterinary facilities in the Lakshadweep islands compared to the A & N islands' case. However, above facilities are by and large in confirmation with the requirements of these islands.

Industrial Sector—**Table: 6 Industrial Units**

<i>Item</i>	<i>A & N Islands¹³</i>		<i>Lakshadweep Islands¹⁴</i>	
	<i>1984</i>	<i>1989</i>	<i>1984</i>	<i>1987</i>
1. Large-scale	5	6	Nil	Nil
2. Small-scale	270	709	NA	62
3. Industrial training centre	9	10	—	—
4. Industrial estates	1	1	—	—
5. Total	285	726	—	62

The analysis of data points out that the pattern of industrialization in India's oceanic islands is based on small-scale industries overwhelmingly. There are over 95% small scale units in total no. of industries.

However, there were only 6 large-scale industries in the A & N islands in 1989 and none in the Lakshadweep islands till 1987. There were 10 industrial training centres and 1 industrial estate in the A & N islands and these were totally absent in the Lakshadweep islands till 1987

The A & N islands recorded an impressive growth rate (162%) in terms of increase in the no. of small scale units between 1984 and 1989.

Table: 7 Registered factories and factory labour

	<i>A & N Islands¹⁵</i>		<i>Lakshadweep Islands¹⁶</i>	
	<i>No. of working factory</i>	<i>Average workers employed daily</i>	<i>No. of working factory</i>	<i>Average workers employed daily</i>
1982	32	4712	4	10
1984	29	4809	5	14
1987	35	4847	8	46

The figures show that the level of industrialization is much higher in the A & N islands compared to that of the Lakshadweep islands where the no. of factories are very few with low level of daily employment.

The factory labour in the A & N islands accounts for 7.65% of its total main workers¹⁷.

However, the growth trends in terms of the increase in no. of factories and daily employment in both the islands are almost stagnant which needs to be reversed.

At the same time, it should be noted here that the no. of factories and its related employment-level both are economically insignificant in case of Lakshadweep islands.

Table:8 Composition & Regional Distribution of Small-scale Industrial units in A & N islands, 1988-89¹⁸

<i>Types</i>	<i>South Andaman</i>	<i>Middle Andaman</i>	<i>North Andaman</i>	<i>Nicobars</i>	<i>Total</i>
1. Wood-based	136	21	19	4	180
2. Chemical-based	145	7	2	1	155
3. Agro-based	62	14	5	7	88
4. Food-based	45	7	6	10	68
5. Textiles-based	42	—	2	—	44
6. Leather-based	40	—	1	—	41
7. Marine-based	33	2	2	2	39
8. Mineral-based	35	4	—	—	39
9. Miscellaneous	42	10	2	1	55
Total	580	65	39	25	709

The A & N islands alike the rest of the country are faced with the problem of uneven spatial industrialization mainly due to heavy concentration of industrial units in the South Andaman as is shown by the above data.

Nearly 81% of total small-scale units are located in the South Andaman alone and the Nicobars have only 3.5% units of the total.

This heavy concentration of industrial units in the South Andaman is largely due to more developed infrastructure there.

The types of small-scale industrial units indicate the majority of wood-based and chemical-based units which together account for 47% of the total units.

The agro-based and food-based units taken together constitute 22% of the total units.

The predominance of above four groups of small-scale units is more or less consistent with the resource-pattern prevalent in the A & N islands.

But, the units based on marine resources are very few considering their vast potentialities. These units are only 5.5%¹⁹ of the total units. It indicates the low exploitation of enormous marine resources of these inlands.

Here, modern industrial units such as electronics, engineering, etc. are virtually non-existent.

However, the units based on textiles, leather and minerals which account for 17.48% of the total units represent a satisfactory scenario.

The above analysis reveals the spatially-skewed industrial growth, low level of diversification and therefore poor industrial-base in the A & N islands.

Unfortunately, this type of discussion regarding the Lakshadweep islands is not possible here mainly because of non-availability of relevant data.

Fisheries:—

Fisheries is one of the major economic activities of India's oceanic islands owing to the vast sea-space which provides a natural and unlimited supply of fish resources. Their economic significance for these areas is crucial as far as their food supply and employment are concerned.

Table: 9 Fisheries in India's oceanic Islands²⁰

<i>Item</i>	<i>A & N Islands¹³</i>		<i>Lakshadweep Islands¹⁴</i>	
	<i>1984-85</i>	<i>1988-89</i>	<i>1984-85</i>	<i>1987-88</i>
1. Employment (nos.)	1950	3006	4580	4980
2. Quantity of fish (tonnes)	6036	1005	5331	7299
3. Value of fish (Rs. lakhs)	194.45	676.47	213.24	364.95

The above figures show that the fisheries absorb 5% of main workers in the A & N islands and 63% in the Lakshadweep islands.

The growth trends in employment and output are positive. Employment and output grew by 54% and 87% in the A & N islands during 1984-85 and 1988-89. The corresponding growth rates in the Lakshadweep islands were only 9% and 37% during 1984-85 and 1987-88. The growth in monetary terms was 248% in case of the A & N islands and only 71% in case of the Lakshadweep islands. Lakshadweep exported fish products to the tune of 612 tonnes in 1984 and 638 tonnes in 1986²¹.

Forestry:—

Forests in the A & N islands cover around 86% of its total area and they generate a large chunk of employment there.

Table:10 Major forest produce in the A & N Islands²²

<i>(in cum.)</i>		
<i>Year</i>	<i>Timber (logs)</i>	<i>Fuel wood</i>
1982-83	1,49,975	42,698
1988-89	1,23,678	41,310

The data show some minor fluctuation in the major forest produce during 1982-83 and 1988-89. Yet, they are highly significant to the economy of the A & N islands.

Table:11 Forest Produces in the A & N Islands, 1979-80²³

<i>(Rs. '000)</i>	
1. Major produce	45,617
2. Minor produce	1,426
3. Total value	47,043

Forest produces of all kinds constitute a major portion of the state domestic product for the A & N islands. The figure Rs. 4,70,43,000 represents 9% of the total monetary value of the forests produces of all kinds for the country as a whole.

Table: 12 Revenue from forests in the A&N Islands²⁴

	<i>Revenue (Rs. lakhs)</i>	<i>% of total revenue</i>
1982-83	655.870	67.5%
1985-86	978.310	61.0
1988-89	1539.310	66.5%

The forests are a major source of revenue in the A&N islands as has been shown in the above table.

Although, the rate of growth in absolute revenue during 1982-83 and 1988-89 was 135% but its relative share in total revenue remains by and large the same.

There are 180 small-scale industries based on wood but there are only 2 major saw mills in these islands. Both are Government-run mills with the combined in-take of 22372 cum and the combined out-turn of 12367 cum in 1988-89²⁵.

The total timber extraction in the A&N islands was 1,49,975 cum in 1982-83 which declined to 1,23,678 cum in 1988-89. The extraction by government was 67% in 1988-89²⁶.

The shipment of timbers from these islands through forest department to the mainland takes place every year. It was 18,357 cum in 1982-83 and only 2,094 cum in 1988-89²⁷.

Infrastructure:-

Table:13 Roads.

<i>Item</i>	<i>A & N Islands¹³</i>		<i>Lakshadweep Islands¹⁴</i>	
	<i>1982-83</i>	<i>1988-89</i>	<i>1982-83</i>	<i>1985-86</i>
1. Black topped roads	644	751	—	—
2. Other roads	51	34	4.56	33.16
3. Roads in progress	37	60	—	—

The above data indicate very poor standard of road sector in these islands. It hinders the process of development. However, comparatively the A&N island are better placed than the islands of Lakshadweep.

Table:14 Electricity Installed, Capacity generation and consumption

		<i>Installed (K.W.)</i>	<i>Generated (K.W.H.)</i>	<i>Consumption (K.W.H.)</i>
	1981-82	8,765	1,26,35,244	95,88,364
1. A & N Islands ³⁰	1988-89	15,189.4	3,26,98,197	2,85,17,167
	1981-82	1,584	1,300	10,70,000
2. Lakshadweep Islands ³¹	1987-88	4,162	5,639.139	54,68,000

These islands are better off in power sector. They are surplus-power areas. In 1988-89, there was 41,81,030 KWH surplus power in the A&N islands and in 1987-88 in the Lakshadweep islands it was only 171.139 KHW.

82%³² capacity installed and generated in 1984-85 in the A&N islands was from oil and in case of the Lakshadweep islands³³ oil is the only source of electricity generation.

Table:15 Consumption pattern of power 1987-88.

	A & N Islands ³⁴ (25239056KWH)	Lakshadweep Islands ³⁵ (5468000KWH)
1. Commercial	35.65%	25%
2. Domestic	41.73%	62%
3. Industrial	17.52%	5%
4. Street-light and others	5.10%	8%
Total	100%	100%

The consumption pattern of power in these islands shows the larger share of domestic and commercial purposes. Relatively lower share of industrial sector is indicative of industrial backwardness.

The per capita electricity consumption index in the A & N islands was 77.5, in the Lakshadweep islands 79.7 and it was 168.5 for the country as a whole³⁶.

Table: 16 Electrification³⁷

	<i>Total towns</i>	<i>Electrified towns</i>	<i>%</i>	<i>Total Villages</i>	<i>Electrified Villages</i>	<i>%</i>
1. A & N Islands	1	1	100%	390	242	62%
2. Lakshadweep	Nil	Nil	—	10	10	100%
3. INDIA	3126	3126	100%	576126	370332	64%

The table shows that in the field of electrification, the progress made by India's oceanic islands is more or less similar to that of all India average.

Nonetheless, in terms of telecommunication and banking facilities, India's oceanic islands lag behind the national average.

Table: 17 Tourist Arrivals

	<i>A & N Islands³⁸</i>			<i>Lakshadweep Islands³⁹</i>		
	<i>Domestic</i>	<i>Foreign</i>	<i>Total</i>	<i>Domestic</i>	<i>Foreign</i>	<i>Total</i>
1981-82	12721	1808	14529	490	470	960
1987-88	33851	3529	37380	1638	316	1954
1988-89	3506	2438	37500	NA	NA	NA

The data indicate very low level of development of tourism. These islands account for only 0.26% of foreign tourists who visit India. The growth trends in tourist arrivals in these areas are not very encouraging considering their enormous tourist potentials.

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CHAPTER-IV

INVESTMENT-ENVIRONMENT

Economic development is directly related to rate of productive capital formation which in turn depends mainly upon the kind of economic environment under which investment takes place.

A proper investment-environment which depends upon various economic and non-economic factors, supposedly ensures a minimum acceptable level of return to investments made.

And an improvement in investment-environment may attract more new investments mostly private ones which brighten the prospects of development provided other relevant factors remain supportive.

One of the most important factors responsible for slower growth almost in the entire Third World is the lack of a proper environment for investment which keeps the level of capital formation low perpetually. By and large the same trend is prevalent in India also.

As far as the case of India's oceanic islands is concerned, the situation is even worse where the level of productive capital formation is very low in comparison with the national average. This is largely on account of poor investment-environment there.

Table: 1 Capital formation and Net Value added¹

(Rs. crores)

	<i>A & N Islands</i>	<i>Lakshadweep Islands</i>	<i>INDIA</i>
1. No. of factories	40	NA*	96947
2. Productive capital	12.4	NA	77,165.3
3. Gross capital formation	2.1	NA	10274.8
4. Net value added	2.0	NA	20887

The following results are derived from these data:—

The per factory gross capital formation in case of the A & N islands was only 0.0525 units whereas it was 0.1059 units for all India.

The per factory net value added index for the A & N islands was 0.050 while it was 0.215 for all India.

Here, the per factory productive capital index was only 0.3100 and in case of all India it was 0.7959.

The net value per unit productive capital was only 0.1612 units in case of the A & N islands whereas it was 0.2706 units for all India.

These results reflect the relative inefficiency of capital invested in the A & N islands with respect to India and this inefficiency does not provide sufficient incentives to attract private capital in these areas.

Table:2 Financial Infrastructure²*(As on last Fri. of Dec., 1984)*

	<i>A & N Islands</i>	<i>Lakshadweep Islands</i>	<i>INDIA</i>
1. No. of bank offices	13*	5	48,079
2. Deposits (Rs. lakhs)	1,674	258	7,20,23,61
3. Advances (Rs. lakhs)	574	53	4,95,22,80
4. % of advances to deposits	34.30%	20.50%	68.80%

The analysis of above data present a poor financial structure in these island areas. It has been a major hurdle towards the mobilization of financial resources and hence it limits the creation and subsequent growth of a proper investment-environment. Also, there has been a low level of lending with respect to deposits.

The major private investment areas in the A & N islands include small-scale industrial units based on wood, chemical, agro and food. Other areas are leather based units, textiles, marine-based units mineral based units etc. The major areas of private investment in the Lakshadweep islands are saw mill, flour mill, bakery, oil mill, soda factory, etc.

However, recently the direction of private investment in these islands is towards tourism which has become pretty lucrative economic activity.

The public investment in India's oceanic islands is directed mainly towards the development and promotion of basic and critical infrastructural framework like transport, energy, telecommunication, etc., with a view to create a suitable economic climate and thereby a proper investment-environment where the scope for new and more private investment can be widened.

Here, no precise description of investment is possible because of non-availability of relevant data. However, Public investment can be analyzed with the help of following data.

Table: 3 Plan outlays

(Rs. crores)

	<i>A & N Islands³</i>		<i>Lakshadweep Islands⁴</i>	
	<i>Outlay</i>	<i>% increase over previous level</i>	<i>Outlay</i>	<i>% increase over previous level</i>
2FYP*	603.135	—	73.85	—
3FYP	979.320	62.37%	98.38	33.21%
4FYP	1400.00	42.95%	200	103.29%
5FYP	3372.00	140.85%	622.73	211.36%
6FYP	9660.500	186.49%	2035	226.78%
7FYP	28500.00	195.01	43.90	115.72%

The data show that there has been steady increase in the volume of plan outlay of these islands but the size of their plan needs to be enlarged adequately in order to match with their requirements.

There has been underutilization of plan outlay in these oceanic islands and this can be seen in the data given below.

Table:4 Per cent of per capita Expenditure to Per capita outlay

	<i>A & N Islands⁵</i>	<i>Lakshadweep Islands⁶</i>	<i>INDIA⁷</i>
2FYP	60%	54.54%	96%
3FYP	65%	110.29%	108%
4FYP	105%	94.86%	113%
5FYP	63%	61.17%	107%
6FYP	104%	138.28%	103%
7FYP	60%	92.0%	NA

The figures show a poor level of utilization of financial resources under various plans. On an average it was 91.85% in case of the Lakshadweep islands and the case of the A & N islands is worse with only 67.42% plan outlay utilization when compared with the national average of 105.40%.

Such trends indicate poor financial management and hence low fiscal discipline and Indian economy can ill-afford it especially when faced with severe resource crunch. This poor plan outlay utilization acts against the rapid economic development of key areas such as infrastructure.

Plan Priorities:—

The order of plan priorities in India's oceanic islands indicates heavy preference for the development of infrastructural framework. However, here only the case of the latest five year plan-7th FYP is taken to analyze the pattern of public investment.

Table:5 Plan outlay for public Sector (by heads of development) for the 7th Plan (1985-90)⁸

	<i>A & N Islands⁵</i> <i>(Rs. 285 lakhs)</i>	<i>Lakshadweep Islands⁶</i> <i>(Rs. 43.83 lakhs)</i>	<i>INDIA⁷</i> <i>(Rs. 84266 lakhs)</i>
1. Agriculture & allied activities	9.14%	27.37%	7.73%
2. Rural development	0.19%	4.24%	4.95%
3. Special area programme	—	—	3.73%
4. Irrigation and flood control	0.94%	2.28	19.15%
5. Energy	8.77%	9.12%	27.44%
6. Industry and minerals	0.72%	3.46%	4.63%
7. Transport	61.93%	21.00%	7.72%
8. Communications etc.	0.22%	2.00%	0.12%
9. Science & Tech and Environment	0.12%	0.57%	0.19%
10. Social services	15.80%	28.24%	22.54%
11. Others	2.11%	1.68%	1.74%
TOTAL	100%	100%	100%

The data show that the priority sectors in the A & N islands during the 7th FYP were transport (61.93%), social services (15.8%), agriculture & allied activities (9.14%) and energy (8.77%). In case of the Lakshadweep islands the order of priorities was social services (28.24%), agriculture & allied activities (27.37%), transport (21%) and energy (9.12%).

The order of national priorities was energy (27.44%), social services (22.54%), agriculture & allied activities (7.73%) and transport (7.72%).

Though the 8th FYP is under consideration, the A & N administration⁹ proposes Rs. 758.21 crores for the 8th plan according highest priority to transport (50.77%), social services (18.18%) and irrigation & flood control (14.76%).

Now, it is by and large established that the investment-environment in India's oceanic islands is poor. There seems to be many explanations for this. But, according to the present work this poor investment-environment is largely on account of (i) poor resource-base, (ii) inadequate infrastructural facilities, (iii) limited market-size and (iv) inaccessibility.

These adverse factors maintain low level of profitability which discourages investment mostly private investment. At the same time, this deficiency of private investment is hardly matched by more public investment in order to neutralize the adverse impact of poor investment-environment. This reflects the neglect of these areas on the part of government.

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CHAPTER-V

DEVELOPMENT PROSPECTS

India's oceanic islands possess vast potentialities for development in certain areas such as forestry, marine fisheries, and tourism. At the same time, various location-specific small-scale industries mainly wood-based in case of the A & N islands and ago-based in the Lakshadweep islands may be developed further which have greater employment generation capacity.

However, tourism in these islands has been emerging as an economic activity with maximum development potential. But, the current state of development of tourism in these areas is poor and subsequently its utilization is below its full strength.

At present, these islands absorb only around 0.26%¹ of foreign tourists visiting India. In 1987-88², only 3846 foreign tourists visited these islands. These are very low figures considering the high scope of tourism in these islands.

The overwhelming majority of tourists visiting these islands are domestic and consequently the proportion of foreign tourists is quite low. In 1981-82, domestic tourists were 85% of the total arrivals and remaining 15% were foreign tourists³.

The trend shows further increase in the proportion of domestic tourists and resultant decline in foreign tourists. In 1987-88, these islands received 90% domestic tourists and only 10% foreign tourists⁴.

The growth of overall tourist arrivals to India's oceanic islands stands by and large at 17% per annum of which the growth of foreign tourists comes only around 9.5% per annum between 1981-82 and 1987-88⁵.

The decline in the no. of foreign tourists leads towards serious and adverse implications as far as inflow of foreign exchanges is concerned.

Here, in addition to other factors, the primary reason responsible for such low level-utilization of enormous tourist potential is poor ground infrastructural facilities and its related other administrative and managerial hurdles.

The proper development of tourism in these islands is expected to boost the local economy in many respects like generation of employment, raising of incomes, etc., in particular and in general the greater inflow of foreign exchange which would lessen India's BoP problems.

Therefore, government should accord higher development priority to tourism in these areas by involving private sector also.

Another major potential area of economic development in these islands is marine fisheries. This is mainly because of vast sea-area which provides a natural and unlimited supply of fish resources cheaply.

At the same time, here the underdevelopment of other economic activities like agriculture, industry, etc., necessitate a penetration on other areas like fisheries which have a greater employment and income potentials.

The fisheries sector provides employment to 5% and 63% of main workers in the A & N islands and the Lakshadweep islands respectively⁶ which can further be increased substantially through proper policies.

The production of fish⁷ in 1988-89 in the A & N

islands was 11267 tonnes and it was 7299 tonnes in the Lakshadweep⁸ islands in 1987-88.

And, the combined production of fish in these islands in 1988-89 accounted only for around 0.50%⁹ of the national total. This indicates under-utilization of fisheries there.

The significance of fisheries in these islands should also be seen in terms of food and nutrition where limited food-availability may adequately be supplemented by this sector.

The proper development of fisheries here requires adequate infrastructural and financial facilities including warehousing and refrigeration.

Special emphasis needs to be laid on mechanization and modernization of this traditional sector but not at the cost of marginalization of small and poor fishers.

The A & N islands possess enormous development potential for forest-based industries because of wide and rich forest resources. Currently, there are around 180 wood-based small-scale industrial units which account for roughly 25% of total small-scale units¹⁰.

Yet there is great possibility of faster development of saw mills, plywoods, paper pulp, newsprint, match industries, hard-boards, furniture units, timber units, etc. Now there are only two major saw mills¹¹.

The entire forest area in the A & N islands is controlled and managed by the forest department. Therefore, government should explore the possibilities of fullest and optimum utilization of abundant forest resources.

The timber extraction operations need to be operated

on scientific basis with the help of modern technology. At present, total extraction was 1,23,678 cum in 1988-89¹² and it can be increased further.

However, the Lakshadweep islands do not possess any significant development potential for wood-based forest-cover.

The development prospects for agriculture sector in India's oceanic islands are rather limited mainly owing to lower availability of cultivable land. But allied activities such as poultry, animal husbandry, small and cottage units, etc. have a fairly bright future. Poultry grew by 10.34% per annum between 1972 and 1982 in the A & N islands¹³ which shows good prospects.

Animal husbandry can be developed further in both the groups of islands where their combined growth in terms of no. of total livestock¹⁴ was between 13-14% during 1972 and 1982.

The cultivation of coconut is the main economic activity in the Lakshadweep islands but there is little scope for further expansion of it because almost the entire area has already been planted thickly with coconut trees.

But, copra-making and coir-spinning are two areas which have high development prospects in the Lakshadweep islands. Coir-spinning alone provides employment to 2/3 of the total working population in this UT¹⁵. Thus, small-scale and cottage industries related to coir-spinning could suitably be developed there in order to generate more employment and incomes.

Hence, concrete efforts are needed to be made in the sub-sectors of agriculture in these oceanic islands. Properly developed animal husbandry and poultry are required to overcome the deficiency of milk & milk products and other nutrients in these food-scarce areas.

The development prospects of heavy industries in India's oceanic islands is bleak. The most important impediment towards rapid large-scale industrialization here is poor resource-base.

The absence of indigenous source of power-generation¹⁶ and limited size of local market are other factors which retard development of heavy and big industries. But more important factors is lack of proper environment for investment in these underdeveloped areas.

Therefore, here cottage and small-scale industrial units based on locally-available raw materials and resources have far more development potentialities. So, government should undertake an in-depth study to find out such specific economic activities which are better suited to these islands.

All these warrant a greater emphasis to be laid on faster development of minimum essential physical and financial infrastructure-base which is very poor now, in order to initiate the process of industrialization suitable to the characteristics of these oceanic islands.

In addition to these sectors, these oceanic islands of India need to be upgraded in the field of human resource development.

However, it is to be noted that these islands are better placed at least in terms of level of literacy.

The rate of overall literacy in the Lakshadweep islands is the third highest in the country—79.23%¹⁷, second highest in male literacy —87.06% and fourth highest in female literacy —70.88%.

However, compared to the Lakshadweep islands, the A & N islands are somewhat behind in this field. The A & N islands' overall literacy rate is 73.74% (8th highest) while they stand ninth highest in male literacy—79.68% and seventh highest in female literacy —66.22% in the country.

The above data suggest quite satisfactory position of these islands in terms of literacy in comparison with the national average of 52.11% literacy (male literacy—63.86% and female literacy—39.42%).

But, otherwise these islands are very poor in human capital formation. The most important reason is the very low base of scientific, vocational and other training centres and courses in particular and educational institutions in general.

This has resulted into lack of skilled and trained manpower in these islands. It hinders fast and balanced economic development.

Analyzing all the relevant indices of standard of living, it is also found that the quality of life in the oceanic islands of India is poor compared to that of Punjab, Haryana, etc. This is also probably due to weak social infrastructure—low per capita income, poor health & medical facilities, etc. Here, the remedy lies in effective implementation of proper human resource development programmes.

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CHAPTER-VI

CONCLUSION

The India's oceanic islands (the A & N islands and the Lakshadweep islands) are geo-politically very important to the mainland mainly because of their strategic locations.

They are also important from economic point of view as they could be good supplements to the land resources of the mainland.

At the same time, the overall resource-base of these islands is very poor with the exception of few areas.

But, the current state of development of these islands is quite low largely on account of poor resource-base, unfavourable investment-environment and under-utilization of available resources. The level of diversification in the economies of these islands is also limited.

The principal factor responsible for the lack of industrialization and resultant backwardness in these areas has been adverse investment-environment alongwith poor resource-base.

This adverse investment-environment is direct manifestation of inadequacy of infrastructural set-up and consequently poor marginal efficiency of capital.

However, these islands possess tremendous development potentialities in certain areas such as *tourism* and *marine fisheries*. Also, the growth rates and trends of development in many cases are positive and encouraging

Meantime, planning and development efforts are on. But, they need to be accelerated for identification and subsequently development of high development-potential activities under a comprehensive planning mechanism in order to raise the level of all-round development and hence to improve quality of life.

Now, the pertinent and crucial question is what should be the ideal *model of development* for these islands.

First of all, it should clearly be noted that these far-flung areas of India are characterized by certain unique and special socio-eco-geographical conditions which are quite uncommon to other parts of the country such as high degree of social and economic underdevelopment; wide-spread tribalism; primitive mode of living, sharp intra-island cultural, racial and physical heterogenities; negligible outside contact and exposure; poor integration with the mainland; non-existence of substantial industrialization with no off-setting agricultural development; inaccessibilities; geographical specialities; etc. Therefore, these islands require special plan strategies and policies keeping in view all the above special features.

A comprehensive and faster development of these areas require a *multi-pronged development strategy*.

The oceanic islands of India are notorious for their

inaccessibility and thus it needs to be minimized through speedier development of basic physical as well as financial infrastructural framework such as roads, power, banking, P & T, air-link, etc.

The development in these fields would lead towards more integration of these island areas with the mainland.

At the same time, these factors initiate and accelerate the process of industrialization and economic development. So, the top most plan priority should be accorded to infrastructural development.

As it has already been discussed that investment-environment prevailing in India's oceanic islands is adverse and unfavourable to attract more capital and investment. And, it keeps the level of productive capital formation low.

The unfavourable investment-environment in these islands is due to inadequacy of basic infrastructural facilities which keep the level of marginal efficiency of capital low and this in turn leads to poor and sometimes uneconomic returns to investment. Therefore, public sector's more and active participation in this area becomes crucial.

At the same time, concerted efforts should be made towards faster development of *social infrastructure*, viz., education, health & medical, employment, literacy, quality of life, etc. This supposedly reduces tribalism and thereby increases socialization of tribes which do not readily accept new, modern and progressive ideas and values.

Thus, decline in rigidity and traditionalism and increase in progressiveness would create more favourable conditions for human resources development which in turn is equally important for faster and balanced development. So, government should devise proper schemes and plans for the development of human resources in these islands.

Nonetheless, here utmost care should be taken that such rapid process of economic development does not disturb seriously the social equilibrium and rich cultural heritage of the tribals. So, there needs to be a reasonable harmony in their economics and sociology.

Therefore, development of physical and social infrastructures should go together with maximum-possible harmony which is essential for a better socio-economic order in the long-run.

The process of infrastructural-development needs to be accompanied by the identification and subsequently development & promotion of those economic activities in these islands which have relatively higher development potentials and are suitable in terms of availability of local resources and employment generation. It requires a comprehensive tech-eco survey to be undertaken.

However, as per the findings of the present study, tourism and marine fisheries are the areas with maximum devel-

opment potentialities and suitable to India's oceanic islands. So, relevant government agencies are required to develop and promote these sectors optimally.

Small-scale industrial units based mainly on forest raw materials are very much suitable to the A & N islands. The coir-spinning, copra-making and its related activities on small scale are well suited to the Lakshadweep islands. This is only an illustrative list, not an exhaustive one which can be made only after a proper and detailed survey has been undertaken.

All these require a larger flow of financial resources to these islands. The priority sectors may be financed adequately by the Central Government. But, public sector financing alone may not be adequate. So, on the other hand, private financial resources could be mobilized by creating a favourable and conducive economic and investment environment in these areas.

Here, again the development of desired infrastructural facilities by the public sector is must. The liberal and attractive economic, and industrial policies involving special fiscal concessions, incentives, subsidies, tax rebates & relief, etc. assume a critical significance.

Thus, in brief the ideal development model for India's oceanic islands should possess the following points:—

1. Rapid development of minimum essential infrastructural facilities.
2. Top priority to the development of certain identified

sectors which are suitable to these areas and have high development prospects.

3. Greater involvement and active participation of private sector in the economies of these islands.

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