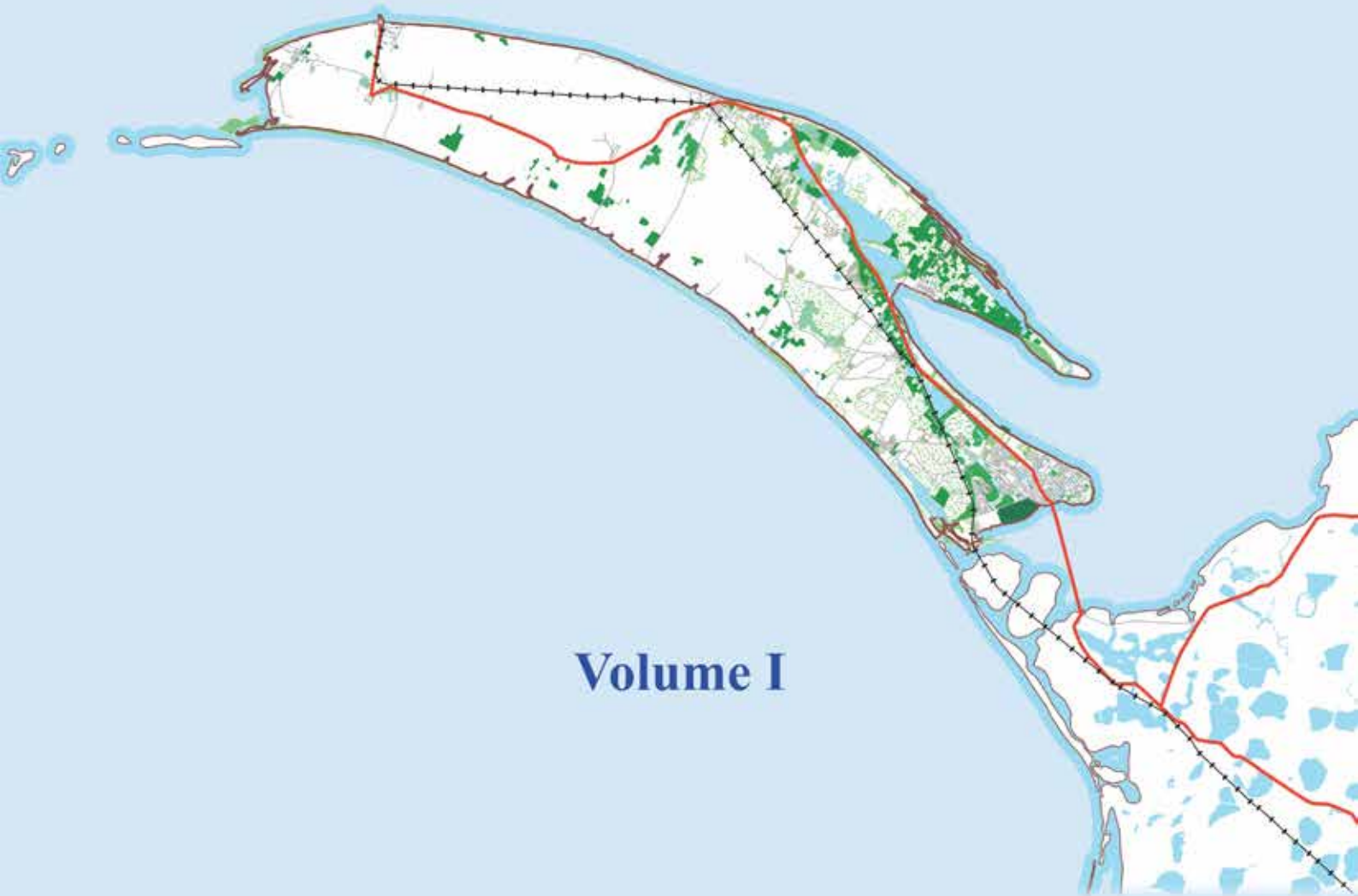


Mannar Island Development Plan 2019 - 2030



Volume I



Urban Development Authority

“Sethsiripaya”, Battaramulla.

**MANNAR ISLAND DEVELOPMENT PLAN
2019-2030**

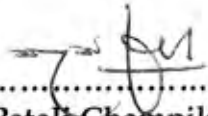
VOLUME I



Urban Development Authority
“Sethsiripaya”
Battaramulla

**APPROVAL OF THE DEVELOPMENT PLAN FOR THE MANNAR URBAN
DEVELOPMENT AREA COMPRISING OF MANNAR URBAN COUNCIL AND
MANNAR PRADESHIYA SABHA AREAS**

I, Patali Champika Ranawaka, Minister of Megapolis and Western Development do hereby approve the Development Plan for the Mannar Urban Development Area comprising of Mannar Municipal Council and Mannar Pradeshiya Sabha Areas having considered the recommendation made by the Board of Management of the Urban Development Authority on 28th June 2019 by virtue of the powers vested in me under Section 8F of the Urban Development Authority (Amendment) Act, No. 4 of 1982.


.....
Patali Champika Ranawaka,
Minister of Megapolis and Western Development.

Ministry of Megapolis and Western Development,
17th and 18th Floors,
"Suhurupaya",
Sri Subhuthipura Road,
Battaramulla.

Date: 28th June, 2019

Mannar Island Development Plan: - 2019-2030

Volume I

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Published by

Urban Development Authority – Sri Lanka
6th & 7th Floors, “Sethsiripaya”, Battaramulla, Colombo, Sri Lanka

Website – www.uda.gov.lk

Email – info@uda.gov.lk

Telephone - +94112873637

Published in June, 2019

Mannar Island Development Plan – (2019-2030) is delivered through a series of publications; Volume I & II. Volume I contains the situational analysis, explanations on the need of a plan, detailed elaboration on the plan including vision, goals, objectives, broader strategies, strategic projects and implementation mechanism. Volume II is a separate document which contains both special and general Planning & Building Regulations applicable to Mannar Island within the period of 2019- 2030.

Mannar Development Plan – (2019 – 2030) was prepared by Northern Provincial Office of Urban Development Authority with the consultation of relevant stakeholder agencies.

Direct Supervision by:

Dr.Jagath Munasinghe **Chairman – UDA**, Eng.S.S.P.Rathnayake **Director General – UDA**, Plnr.K.A.D.Chandradasa **Additional Director General – UDA**, Plnr.D.M.B. Ranathunga **Deputy Director General – UDA**, Plnr.Janak Ranaweera **Director (Western Province & R&D)-UDA**, Plnr.Lalith Wijayarathna **Director (Development Planning)-UDA**, Plnr. NPK.Ranaweera **Director (Northern Province)-UDA**.

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Urban Development Authority (Head Office)
Development Planning Division, Geographical Information System Division, Research and Development Unit, Environmental and Landscape Division.

Urban Development Authority (Northern Provincial Office)

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I. Honorable Minister's Foreword



Having been established under the provisions of the Urban Development Authority Law: Act No. 41 of 1978, the Urban Development Authority by now has completed 40 years of service contributing to planned urban development in Sri Lanka. At this moment the UDA marks another milestone by completing a comprehensive Development Plans for all urban development areas in the Northern Region.

This development plan has been prepared for the implementation of the envisaged integrated development of the Mannar Island (Urban Council and Pradeshiya Sabha) area. Mannar town which is the commercial center and the administrative capital of the Mannar District, serves a large catchment of population. Further, the Mannar Island and its surrounding area possess a large repository of marine resources and a very high potential for fishing and aquatic industries development.

Our effort is to support the entire Mannar District to be developed in par with the rest of the island by facilitating the appropriate physical environment.

My understanding is that the preparation of this Plan involved extensive consultation with professionals, experts, stakeholders and the communities, while engaging modern methods, sound techniques and innovative approaches. In this regard, I appreciate the extraordinary efforts of the Chairman, Director General, Planning Team and all staff of the Urban Development Authority those who have contributed in numerous ways to successfully complete this work. I also appreciate the support and contribution of relevant local authorities, state and private sector agencies and general public by working equally on the same platform to make the Mannar Island Development Plan a success.

Hon. Patali Champika Ranawaka

Minister of Megapolis & Western Development

II. UDA Chairman's Foreword



Today, the Urban Development Authority (UDA) is the apex planning and plan implementation body in Sri Lanka that is responsible for managing the state of the urban environments of the nation. The Authority was established in 1978 with the objective of introducing integrated planning and implementation in order to promote and regulate the developments for the common benefit of all inhabitants of the urban areas.

Under the Amendment Act No 4 of 1982; (Part II section 8A [1]) the Urban Development Authority has been mandated to prepare Development Plans for the Urban Development Areas, declared by the Minister-in-charge. The development plan for Mannar Island has been prepared and enforced under such provisions. As a result of the declaration of the Mannar as an urban development area, the Urban Development Authority initiated the preparation of Mannar development plan considering physical, economic, social and environmental aspects of the Mannar island and its surroundings.

For the implementation of this Plan, we have not forgotten that our path is not as smooth as silk, but as rough as gravel, full of challenges, filled with uncertainties, and fouled by vicious intents. Yet the UDA today is equipped with necessary systems, tools and strategies to face such challenges, withstand those uncertainties and to make the Mannar Island: the 'Speaking Seascape and Magnet Marine'.

I take this opportunity to offer my sincere gratitude to the Team of the UDA who had to work hard and was committed to deliver this comprehensive work and also to all those who have supported and contributed with various means towards its formulation and hope the equal and continuous support of the all of them will be there towards its successful implementation.

Dr. Jagath Munasinghe

Chairman - Urban Development Authority

III. Message from Chairman of Mannar Urban Council



This Plan has been prepared for the Development of Mannar Island for 2030. It is a welcome feature of this plan in that, an accurate analysis had been undertaken, priority being given on the basis of the immediate intervention areas as to which project should be undertaken in which area, which and where activities should be implemented.

There is no doubt that Mannar Island will be converted into a beautiful, fertile, resourceful area by 2030, when the implementation of all the identified projects in the plan surpassing political interventions.

Particularly, it gives great pleasure that Mannar Urban Council area had been fully incorporated in this plan. Further, the prepared project proposals for the Urban Council to be implemented efficiently and arrangement had to be undertaken to administer the Urban council in the future.

I wish to state that all should join hands beyond all projects, for this plan to be implemented properly and to undertake Development and express my best wishes for the plan to succeed.

I congratulate the Urban Development Authority who had prepared this plan in a proper manner.

Antony Davidson
Chairman,
Urban Council,
Mannar.

IV. Message from Chairman of Mannar Pradeshiya Shabha



With pleasure and pride, I welcome the Development plan for Mannar Pradeshiya Saba. I thank to Ministry of Megapolis and Western development for prepared development plan for considered the growth center of the Mannar Pradeshiya Saba.

I also welcome development work to be carried out in the areas are Pesalai Harbour, coastal roads, Mannar Frontal Park, Wind mill- Electricity project, Modern Market complex, Pesalai and Thalaimannar Public Bus Stand, planned by UDA based on the resourceful villages of the Mannar

Pradeshiya saba of Mannar Island such as Thalaimannar, Pesalai, Tharapuram and Thalvupadu. There is no doubt in that if these Development plans implemented by 2030 and this area will become a Best Town.

As our area consists of 34 Grama Niladhari Divisions of our Pradeshiya Saba, from Thalaimannar Pier to Uyilankkulam, with, more than 12,400 families, as well as, valuable historical areas, the effort put in developing this area, improving the Tourist sector is most welcome.

I am very happy in declaring with pride that, I shall provide the full cooperation of my administration, my people's representatives and myself, to complete this development Project within the 2030 period.

I wish and welcome that the famed Mannar area glitter with greatness utilizing all the untapped resources of Mannar area by 2030.

S.H.M.Mujahir
Chairman,
Pradeshiya Sabha,
Mannar.

V. Preface

This development plan has been prepared for the implementation of the development of Mannar Island (Urban Council and Pradeshiya Sabha) by 2030. Mannar town is the capital of the Mannar District which has the population approximately 66,000 with land extent of 143 km². And it has high potential for marine resources, wind and energy and tourism covering significant geographical locations like Island and coastal line which will act as major economic boost to entire Mannar Island.

In order to tap the potentials, vision, goal & objectives has been formulated. And through the strategic plans, list of projects has been identified and prioritized based on the immediate intervention areas such as North part of the Island, consisting with the fishery related developments, Southern part of the Island covering the tourism and energy developments, Western and Eastern part of the Island covering the tourism & environmental related developments project and in between the middle part of the Island encouraging the residential, mixed and the industrial activities.

VI. Acknowledgement

Mannar Island development plan has been prepared by the Northern Province Office of the UDA with the consultation from the stakeholder agencies and the support from several individuals.

Our sincere gratitude is extended to Minister of Megapolis & Western development, Honorable Patali Champika Ranawaka for given priority to prepare the development plans with his guidance & encouragements. The grateful support given by the Secretary of the Ministry of Megapolis & Western development and other officials at Ministry are also highly supported in numerous ways.

Our special thanks is extended to the Chairman, Council members, Commissioners, & Staff of the local authorities of Mannar Urban Council and Mannar Pradeshiya Sabha for their valuable contribution to prepare the plan.

Special thanks is extended to all the Stakeholder agencies for shared the datas and information and given valuable suggestions and comments to prepare a successful plan and further grate ideas and comments given by the general public, focused group discussions & business forums.

Our special gratitude is extended to Chairman of the UDA, Dr.Jegath Munasinghe is given the direct guidance & encouragement throughout the process of development plan preparation as to adopt new planning techniques and continuous supervision with discussion.

And special thanks is extended to Director General of UDA, Eng.S.S.Rathnayake, Additional director General, Deputy Director Generals & Directors of all the divisions of UDA for their valuable suggestions and supervision.

Special thanks is extended to Development planning division, Research & Development division, GIS division, Environmental & Landscape division and Enforcement division for their continuous support to complete this plan and all the staff of UDA is given their support in numerous ways.

Further special thanks is extended to every individuals who were supported for the development plan preparation in numerous ways

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Chapter 01

Introduction

Chapter 01
Introduction

1.1. Background of the Development Plan

Urban Development Authority is the regulatory body of the urban development of Sri Lanka. Thus, it has been empowered to function as the key urban planning implementing agency in the country by Urban Development Authority Act No 41 of 1978.

Development plan preparation for the declared area of UDA is vital aspect under the legal background of the authority. Considering these scenarios development plans are prepared under the Act No 4 of 1982; it explains that (Part II section 8A [1]) Urban Development Authority has power to prepare the Development Plans for the UDA declared areas in order to guide & promote the development in the area.

Accordingly Mannar Town Council area was declared as urban development area on 1st June 1979 under the Urban Development Authority Act No: 41 of 1978. Later on, in 22nd March 1993 the entire Mannar Island was declared as urban development area by the Urban Development Authority under the Urban Development Act No 41 of 1978 and Gazette Notification No 759/1.

As a result of declaration of Mannar Island area as an urban development area, UDA (NP) office has given the priority to prepare the development plan for Mannar Island while considering the social, economic, physical & environmental aspects.

1.2. Planning Team

1.2.1. Main Consultancy Agency

1. Mannar Urban Council
2. Mannar Pradeshiya Sabha

1.2.2. Consultancy Agencies

1. Sustainable Energy Authority
2. Central Environmental Authority
3. Coast Conservation Department

4. Department of Archaeology
5. Road Development Authority
6. Road Development Department
7. NARA
8. Sri Lanka Port Authority
9. National Water Supply and Drainage Board
10. Board of Investment of Sri Lanka
11. Department of Fisheries and Aquatic Resource
12. Industrial Development Board
13. Northern Provincial Council
14. Department of Fisheries
15. Manthai Saltern LTD
16. Land Use Policy Planning Department
17. Department of Wildlife Conservation
18. Disaster Management Center
19. Ceylon Electricity Board

1.2.3. Planning Team

1.2.3.1. Urban Development Authority (Head Office)

1. Development Planning Division
2. Geographical and Information System Division
3. Research and Development Unit
4. Environmental and Landscape Division
5. Enforcement Division

1.2.3.2. Urban Development Authority (Northern Provincial Office)

Chapter 01
Introduction

1. NPK.Ranaweera : Director
2. K.Jeevagan : Deputy Director
3. P.Ragavan : Planning Assistant
4. T.Premraj : Planning Assistant
5. S.Tharaga : Planning Assistant
6. Y.Arthy : Planning Assistant
7. E.Rukshana : Assistant Planning Officer

1.3. Scope of the Work

Further, mainly this development plan touched the areas of, physical infrastructure developments, industrial improvements consisting with; fishery, energy and tourism sectors. Not only that, conservation of environmental resources of Mannar Island is a major challengeable and predominant area which covered under the environmental plan. Further heritage and historical valuable places are considered to be rehabilitated under the environment and tourism plan.

Entire Mannar declared area is taken as consideration and this development plan is purely covered the local context. Through this development plan emphasis to tapped the untapped resources of Mannar Island and create a path for make a strong Economic, Environmental, Healthy and Wealthy area by the end of 2030. Also hope to develop this plan in the national level context in future.

1.4. The Planning Process

Chapter 01 Introduction

1.4.1. Background Studies	Data Collection (Primary and Secondary data was collected through Surveys, Office visits, Internet, Drone Survey, Google maps, Satellite, Archives etc)
↓	
1.4.2. Scoping	Analysis of existing situation (Basic analysis using Excel, Arc GIS, Drone based software, Google maps, SPSS)
↓	
1.4.3. Problem & Potential Identification	Identify the distinct perspectives of Problems and Potentials
↓	
1.4.4. Vision, Goal and Objective Formulation	Built-up Vision, Goals and Objectives to achieve the urban development activities. (Economic, Social, Physical, Environmental) throughout the problems and potential and development trend approach
↓	
1.4.5. Detail Analysis	To be done detail analysis based on Goals and Objectives to achieve the Vision (SWOT analysis, Sensitivity analysis, Connectivity analysis, Development pressure)
↓	
1.4.6. The Plan/Strategic Formulation	Detailed analysis of Economic, Social, Physical and Environmental factors transforms in to urban development practical process to achieve the Vision
↓	
1.4.7. Regulations	Establishment of Planning and Building Regulations in relation to above mentioned Plans
↓	
1.4.8. Consent	Forward/present the Draft Development plan to public comments (Stakeholders awareness Workshop) and Local Authority consent
↓	
1.4.9. Submission	Final Draft Development Plan submit to the Main Planning Committee/Development Planning Division
↓	
1.4.10. Approval and Publishing	Development Planning Division performs the activities and Follow legal procedure to establishment of the Development Plan.

Chapter 02

PRELIMINARY SURVEY

2.1. The Study Area

Mannar Island is covering two Local Authorities namely, Mannar Urban Council and Mannar Pradeshiya Sabha. The total land extent of the Island is 143.21 square kilometres with 66,087 population in year 2016.

The current population growth rate is in declining trend which recorded as (-8 %) in 2012, (-0.5) in 2013, (0.7%) in 2015 and (-0.3 %) in the year 2016. Gross population density in the Mannar Island is 466 persons per square kilometre in 2016. Erukkalampitti East and Pesalai North, Tharapuram East and Paddithodam GN Divisions are recorded as high population density areas and Kaddukkarankudiyiruppu, Perriyanavakulam and Thullukudiyiruppu GN Divisions are recorded as very low population density areas which have less than 90 persons per square kilometer in 2016.

(Annexure 1: Population Density, 2016)

According to the available data in the year of 2016; the ethnic composition of the Mannar Island is such as Tamils, Muslims and Sinhalese respectively as 56%, 43.9% & 0.1%. The daily commuting population around 10,000 persons are coming to the city to fulfil their needs. Most of the people are coming for the commercial purposes and to get the administrative services. When considering the night time population; within the Mannar Island, there are less activities during the night time.

(Annexure 2: Arrivals of Commuters, 2016)

When considering the housing units of the Mannar Island, it's nearly 12840 housing units which are occupied by 17835 families within the entire Mannar Island. It expresses that there is a requirement of housing units in future by considering the present housing deficits recorded as around 4995. The majority of the households (74%) belong to permanent housing units on the other hand, less number of house holders (16%) have semi - permanent housing units and there are 10% of housing units having temporary structure. The high housing density is recorded in the

Pesalai North, Pattithodam and Panankaddikottu East and low density is recorded in Tharapuram East. Gross housing density in the Mannar Island area is 90 houses per square kilometer in 2016.

The sectoral composition of the economic activities of the Mannar Island consisting with agriculture, industry & service respectively as 39.3%, 51% & 9.7%. According to the economic, sectoral composition, 36.4% of the population engaged in fishing sector out of the agriculture sector. And consisting the employment pattern of the area, unemployment rate is 7.1% which reflect higher than the national level.

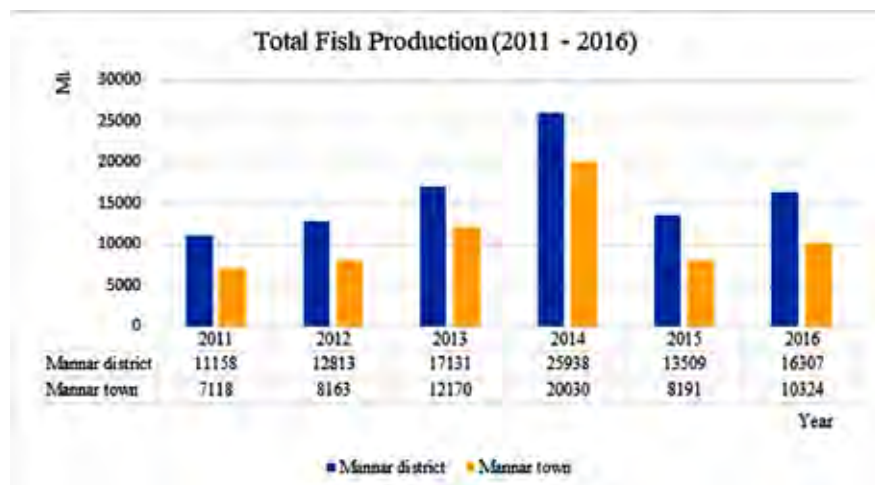
Chapter 02
Preliminary Survey

(Annexure 3: Sectoral Composition, 2016)

The Mannar Island has high potential marine resources as Gulf of Mannar, coastel belt with potential fishing areas.

Accordingly; 2016 statistical report states that total fish production of Mannar District is nearly 16000 MT. Out of that, Mannar Island produced nearly 10324 MT. When considering the dry fish production, from 2012- 2016, Mannar Island produced averagely 1800MT dry fish. In 2016, the total dry fish production is recorded as 516 MT. Out of the total population nearly 22,345 fishing population from 5779 families are engaging in fishing activities from 19 fishing villages. Around 5247 number of fishermen currently engage in these fishing activities. Fishing is an important economic activity of the people who live in Mannar Island. Most of the fishermen are living in the Thalaimannar, Pesalai, Thalvupadu, Panankaddukottu and Pallimunai areas.

Figure1: Fish Production of Mannar District and Island (Mt) 2011-2016



Source: Department of Fisheries & Aquatic Resources

According to the service sector; it is accounted about 51 % of the total population involves in service sector. Such as Government Sector is 9%, Business is 11.9%, Labour is 17.3%, Self-employment is 7.6%, Pension is 3.9% and NGO is 0.8%. The town is potential for whole sale business and retail trade and functioning as administrative capital as well as having offices such as District Secretariat, Urban Council, other Government Departments and other services such as Teaching Hospital, Schools, Financial Institution, Main Bus Stand, Market, Fish Market and Multi – Purpose Shops are found in the town center. Nearly 80% of the administrative offices are located within the town center.

Mannar District has high potential industrial resources which are Palmyrah, Sea shells, and Marine related resources. Before the local conflict, Mannar Island is completely involved with fishing related industrial activities. But at the present, only few numbers of industrial activities are being operated. Hence, the government and other institutions are ready to invest in industrial sector. In addition to that two large scale industries are identified within the Island which is namely garments and salt pan.

When considering about the infrastructure facilities; water supply is identified as prominent element. Mannar town has been facing problems to access drinking water. Because Mannar is an Island, and people depend on ground water for their day to day needs but that is salty and not suitable for drinking. Therefore main source of water for the Island is Pipe born water which is supplied by National Water Supply and Drainage Board. Three sources of water supply are available in present Mannar Island namely, Murunkan water supply scheme, Keeri well water at UC and ground water within Pesalai PS area. At present, 60% of the people are getting water from Murunkan water supply scheme and 40% of the people receiving water from ground water out of 9000m³ per day in the Mannar Island.

(Annexure 4: Existing Water Usage_ Mannar Island)

According to the Ceylon Electricity Board Report, it says that people who are living in Mannar Division have electricity connection it means 100% of the area has electricity supply from the CEB. According to the telecommunication aspect Telecom (SLT) has been providing their service to entire town and CDMA, ADSL are available in addition to that. In 2013, following service had been introduced by SLT, introduced Multiple Service Access Nodes, Business Digital Subscriber Line, Wi-Fi facilities within the Mannar Island Area.

Chapter 02

Preliminary Survey

When considering the social infrastructure aspect, health and education take place a prominent role. When considering health facilities in Mannar Island, there is one District General Hospital and three Divisional Hospitals. When considering the available bed capacity of the General Hospital nearly 350 beds and 60 beds in other Divisional Hospitals respectively. Total indoor patients (bed) days recorded as approximately 60,000 per year in the District General Hospital particularly in 2016 also above 60,000 patients are occupied that 350 beds. Bed occupy rate is 45.73. As well as other three Divisional Hospital indoor patients (bed) days recorded as below 1000 occupied nearly 60 beds. Moreover, there are 08 registered private dispensaries and also daily 100 - 150 patients are getting treatment. In addition, there are about 50 - 80 patients who are obtaining special consultancy services from these dispensaries. The Mannar District General Hospital is the only one major hospital for Mannar District. There is a severe shortage of personnel medical and services such as laboratory facilities are poor.

Mannar District has two main educational zones: Madu zone for the inner area of Madu and Mannar zone for the coastal areas which is consisted with three DS Divisions which are namely Mannar Town, Musali and Nanaatan. According to the available data only 40 schools are functioning in the Mannar Education Zone at present situation. Mannar Island itself has 25 schools.

Mannar Zone has two types of schools which are 04 National schools and 21 Provincial schools as well as there is no any Private school within the zone. These 21 schools are occupied by Tamil speaking Tamil community students at the same time balance 04 schools are occupied by Tamil speaking Muslim community students. Within the Mannar Zone there are 743 Teachers for entire student population. The student and teachers ratio is 1:17.

Table 1: Students, Teachers Ratio: 2010-2015

Year	Mannar Educational Zone		
	Number of Students	Number of Teachers	Students Teachers Ratio
2010	21417	1173	1:18
2011	22112	1188	1:18
2012	22840	1377	1:16
2013	23255	1421	1:16
2014	23240	1364	1:17
2015	23543	1428	1:17

Source: Office of the Zonal director of Education Mannar Zone 2015

When considering the drainage system, the study area contains with 18 number of water bodies. But most of them are encroached. These water bodies are connected with an existing drainage network. Under the UNOPS drainage construction project, drainage system of the Mannar town has been developed. It is supported to mitigate the flood situation through their drainage network.

(Annexure 5: Catchment Details - Drainage Project, UNOP-2012)

Currently 25.5 metric ton solid waste generated per day by the entire Mannar Island. Out of the total waste; nearly 68% produced by the residential activity and 4% produced by industrial sector and 28% produced by commercial sector. The CBD area solid waste is collecting daily and from other areas twice a week. At present there are three places used for dumping purpose which are located at UC and PS area covering 8 acres land. There are no any proper waste collection and dumping method.

Very high environmental sensitive areas are seen in the coastal belt of the Island. (Refer the Map 1: Environmental Sensitive Analysis). Almost all the area contains with flat terrain. Since Mannar is an Island it has own unique context. Around 396 ha or 2.78% of land identified as low land out of total land use of entire Mannar Island those areas are Eluthur, Panankaddikottu West, Pettah, Tharapuram East and Thulukkudiyiruppu. But higher amount of land utilized within the urban council area. When considering the development purpose, the land is a demanding factor at Mannar. Mannar Island is classified under Sri Lanka's arid zone and temperature range from 28°C to 33°C and the highest temperatures are normally recorded during the month of April and May. Considering the unique character of climate and wind, it has greater potential for renewable energy such as wind power and solar energy. Regarding the ecological systems in Mannar Island mangroves take special place. The Gulf of Mannar Island possesses unique mangrove vegetation and many kinds of mangroves can be seen in this region. It is interesting to note that such vegetation consists of species belonging to Rhizophora, Avicennia, Bruguiera, Ceriops, Lumnitzera, etc. Further the Gulf of Mannar area is rich in salt marsh vegetation than other coastal areas of the country. Also salt marshes are found near the mangroves, and are also adapted to flow-in and out of the daily tide. Plants that grow in salt marshes are adapted to tolerate water flooding and changes in salinity.

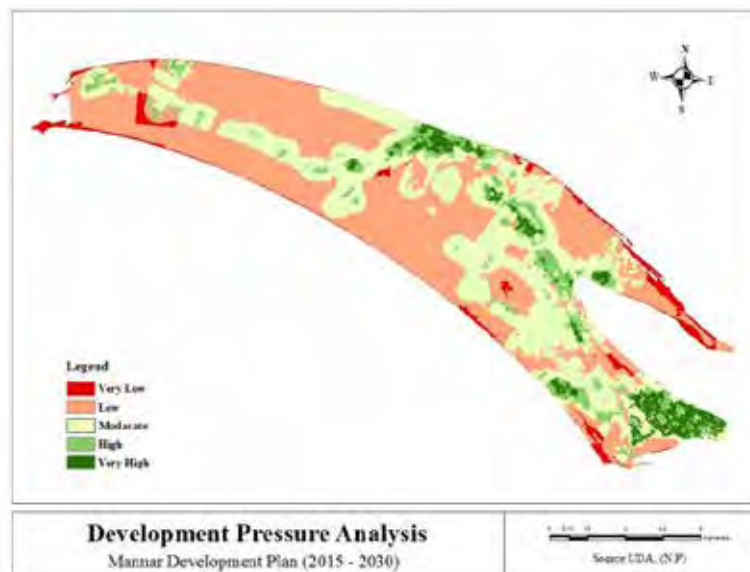
Map 1: Environmental Sensitivity Analysis

Chapter 02
Preliminary Survey



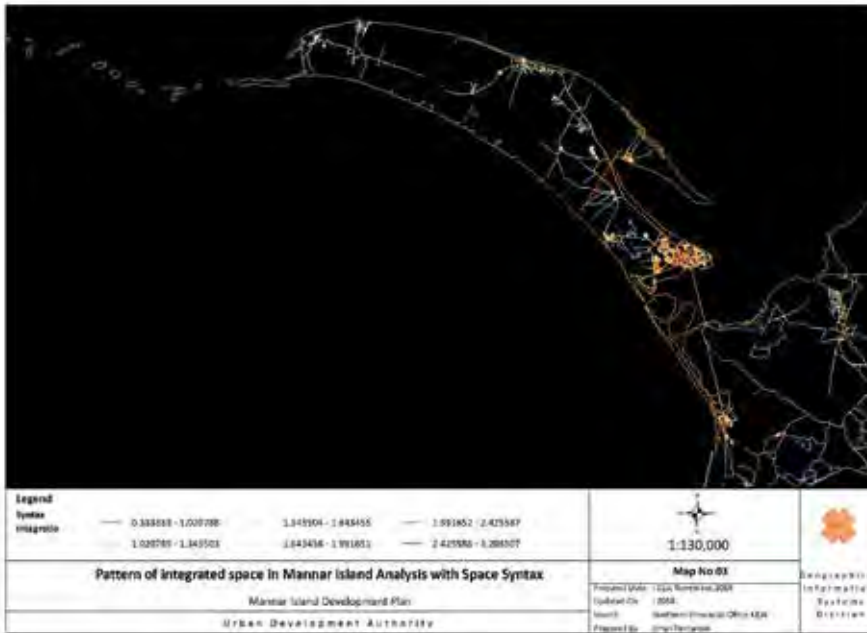
According to the development pressure analysis, high development pressure can be seen in Mannar Urban Council Area and Pesalai Town. The high development pressure area shown in the map : 2 as along the A14 Road. At the same time, rest of the areas which are having less development pressure. So there is potential to develop the Mannar Island in future and also there are many lands available for future development. Mannar Island contains several tourism hotspots which can attract local and foreign tourists such as Adams Bridge, Baobab Trees, Bird Sanctuary, Wilpattu National Park, and Mannar Fort

Map 2: Development Pressure Analysis



Space Syntax is a method for describing and analysing the integration of road network. According to this analysis, the high integration of roads are recorded in the Mannar UC area compare to the other towns in Mannar District. Moderate road intergration can be seen in Pesalai, Erukalamptiy & Thalvupadu shown in the Map No - 08. According to the analysis, above mentioned areas have the high potential for the development activities in future.

Map 3: Space Syntax Analysis



2.2. Planning and Situational Context

Mannar District is located in the Western Part of the Northern Province of Sri Lanka. And Mannar UC is the major town in the district which is located in the Island, that is called as Mannar Island, which was declared as Urban Development Area in 1993. Location of the Island shown in the Map No : 04. It has the linkages with other regional towns such as Jaffna, Vavuniya, Kilinochchi & Mullaithevu as well as it has direct link with capital of Sri Lanka which is above 312km distance. Mannar Island mainly link with the other cities of Sri Lanka via A14 (Medavachichiya – Talaimannar) and A32 (Poonakari- Navatkulli) roads also Mannar railway line runs along the Island starting from Madawachiya Sailway Station.

Figure 2: Situational Context

Chapter 02
Preliminary Survey



Source: Prepared by UDA

Mannar is an important place due to the “Adam’s bridge” or “Ram Sethu”, which is a chain of lime stone shoals that appear during low tide as a narrow ridge of sand and rock, connecting Rameswaram in South India to Thalaimannar with the distance nearly 30km

In National context, Mannar is a main service center in accordance with the National Physical Plan for 2050. Mannar acts as the district capital according to the Draft Physical Plan for the Northern Province, Mannar urban center is proposed to function as Mannar District’s Service and Administrative Centre, Mineral Industrial Center, Trading Center, Health Services Hub with District Hospital, National Fishery based Activity and Trading Center.

2.3. Delineation of the Planning Boundary

The delineation of the planning boundary is based on the following three aspects.

2.3.1. The Functional Boundary

Based on the development pressure analysis and space syntax, Functional area of the Mannar Island is Mannar UC, Erakalampity Pesalai, Thalvupatu. And the development trends and coverage of the development activities from Mannar town to Thalaimannar along with the A14 road.

Further Island has the potential for marine resource, wind energy, solar energy, tourism activities and industrial activities. Therefore whole Island has been taken as functional boundary in order to prepare the development plan for the Mannar Island.

2.3.2. The Geographic Boundary

Being an Island, It has the marine resource in and around the Island with potential geographic character as coastal, lagoon areas and the chain of limestone which Adam's brige.

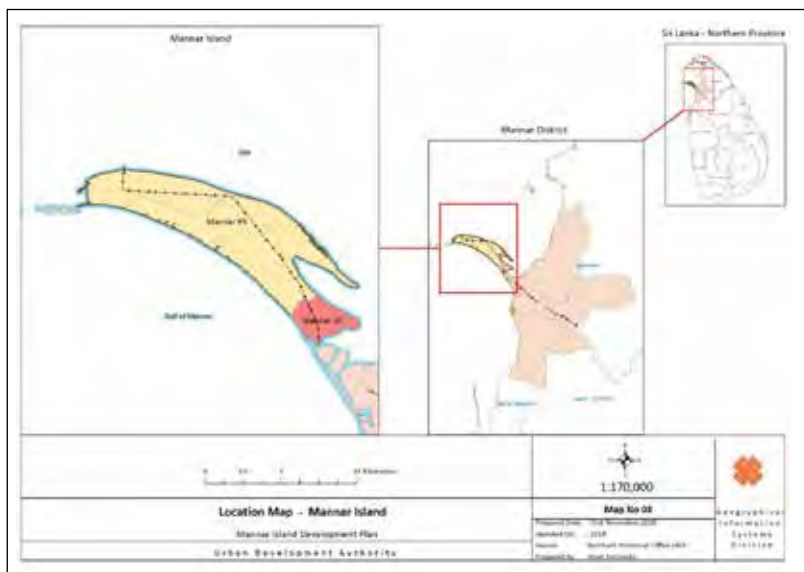
Therefore Mannar Island taken as geographic boundary in order to protect the geographic character of the Island and tap the available resources.

2.3.3. The Administrative Boundary

Mannar Island is consisted with two Local Authorities which are Urban Council area and Pradeshiya Sabha area. Both local authorities has been declared as an urban development area by Urban Development Authority.

The planning boundary is Mannar Island which is derived by considering the functions, geographic and administrative boundary of the area.

Map 4: Location Map



Chapter 03

NEED OF THE DEVELOPMENT PLAN

Chapter 03
Need of the
Development Plan

Mannar Island Development Plan is prepared to address the issues emerged as well as harnessed the potentials of the area. Plans are prepared to these areas which are already identified as significant development pressures or some of the negative effects of growth and development in an effort to find solutions to these problems. Also to manage future growth and meet and address local issues through the alignment of local area planning. Issues of the Mannar Island are identified through the view of the planner, detailed analysis and stakeholder's view regarding the area. Problems are prioritized according to the context, magnitude and significance and the need of the development plan of Mannar Island which can be identified as follows;

Mannar Island is enriched with high potential of having marine resources, sandy beaches, suitable weather and climate for fishing and energy (Availability of potential for wind and solar power) and rich bio diversity of Gulf of Mannar. It is a place which is having more natural resources but improper development guidelines and promotions influencing for "Untapped potentials".

The marine resources are the major potential of Mannar Island which is prominent at the southern part of the Island. The major potential of Gulf of Mannar is identified as a richest coastal region in the Asia and also NARA identified as comprising with over 3200 marine species of plants and animals and the first biosphere in the South-East region. It is one of the most biologically diverse coastal region. And also can be found many indigenous endemic species consisting with; 398 vertebrates including freshwater fishes, amphibians, reptiles, birds, and mammals and 98 invertebrates (dragonflies and butterflies) were reported within the six coastal DSDs in the Gulf of Mannar. Among them 31 vertebrates are endemic and proposed endemic species, 66 migrant bird species, two introduced freshwater fishes and eight domesticated mammal species specially Dugong.

Marine resources act as a catalyst for future development of the Mannar Island. Although, currently 10% of the marine resources are utilized rest of the resources are remaining as untapped.

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Development Plan

Mannar Island is still placed as a second level fishery producer in the Northern Province but if harness the potentials of Mannar can be the first level in the orders in the entire province. Based on the situational analysis, there is a potential territory for the current fish catchment area is demarcated about 200 nautical miles but the local fishing community using only 25-40 nautical miles with the lack of fishery related infrastructure such as absence of advanced fishing methods, equipment, anchoring points, storage, transportation facilities and absence of a fishery harbor. And at present only 18 numbers of multi day boats are available for fishing activity. Therefore its leads to lowest fish production which contributes 4% of the national production.

There are several constraints in the transport system in the absence of inter connection between the mode of transport, service centers and South and North coast of the Island with fishing camps. Therefore, unable to get maximum utilization of available resources in and around Island. It is proposed to get maximum utilization from available resources while create a comprehensive road network including capacity maximization to provide affordable, accessible and dynamic public transportation system for all (local and foreign people) while ensure the safe and convenient movement for people and freight.

Mannar Island having 45-50 km/h wind speed & Global Horizontal Irradiation of 2100. Due to this Sustainable Energy Authority (SEA) identified Mannar Island as one of the richest sustainable energy generating source in Sri Lanka. The developable land availability and suitable weather conditions are major supportive potentials for the enhancement and sustainability of the energy resource. But potential of resource is not yet tapped.

Even though Mannar Island covered by sandy beaches, Keeri beach is the only one which is facilitated with very limited resources as tourism related activity area. Significance is to tap the available resource is an essential future need for Mannar to preserve the available resources for the future sustainability with boost the future domestic and regional economy of entire Mannar Island.

Another major needful area is “Limited and Absence of Tertiary Education”. Due to the inadequate and absence of tertiary education, enormous amount of the total population turning into unskilled labours class which is adverse the economy and leaving an enormous number of the population into seasonal workers or into unemployment. There are 13000 individuals living in the Mannar Island under the (06-18) age group; out of this 8% of the population sitting for Advance Level Studies. And from that, only 100 to 150 number of population selected for higher education. Balance 900 student population which could be consider as the eligible population for vocational and tertiary education. At present,

they don't have any opportunities for tertiary education. Therefore, this situation creates unskilled labours as well as unemployment. In order to enhance the economic growth of the city by developing the skilled labour force through the proposed vocational and tertiary educational development in Mannar Island.

These all identified issues which are significant for the future development of Mannar. Therefore, solve these identified issues are predominant activity to boost the future economic of Mannar Island. And it is the path to achieve the futuristic vision of "The Speaking Seascape and Magnet Marine".

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Chapter 04

THE PLANNING FRAMEWORK

4.1. Vision

“The Speaking Seascape and Magnet Marine”

4.2. Vision Statement

Speaking Seascape refer to art works that represent the sea. Also consists with Marine art or Maritime art, the term seascape is most commonly used to reflect the marine variety. Seascapes typically depict views at sea or views from the fore shore. The ocean, beaches, coastlines, and boats at sea, nautical images these elements make up seascape art sense. Especially this term represents the environment of Mannar.

Magnet Marine, the entire Mannar Island will play as magnet and it will attract the people. The term represents the development of fishery and energy.

Mannar is a place which consisting with more natural and coastal marine resources. Also, it has high potential for tourism, energy and fishery sector depended on the sustainability. Not only that; but also, preservation and conservation of the environmental resources is need. Here vision focus to utilize the environmental resources of Mannar in proper way with preservation and conservation. Therefore, the term speaking seascape is used to enhance the coastal and marine resources of gulf which is having a very rich coastal biodiversity in the South Asia.

In 2030 the entire Mannar economic activities will be open directly to the other regions through boosting the development of fishery, tourism and energy through utilize the resources. Not only that; Mannar will be act as a magnet of Sri Lanka to attract the entire country and to become stable in national level economy as well.

4.3. Goals

Goal 1: To become a Fishery Giant in Northern Region

Goal 2: A Perfect place for Renewable Energy

Goal 3: Enhance the Experience of Natural Environment & Significant Sites

4.4. Objectives

Chapter 04
The Planning
Framework

Goal 1:

1. Facilitate to increase the 6% of fishery industrial sectoral contribution to national economy by 2030
2. Facilitate to educate 50% of eligible labour force population as skilled/knowledgeable people for marine industry related activities in every year
3. To create inter linkages between South and North coast of Island by connecting fishing camps/ service centers by 2030

Goal 2:

1. To facilitate to generate 10 % of energy from wind & solar per day for national grid by 2030

Goal 3:

1. The existing natural ecosystem will be conserved and preserved by 2030.
2. Archeological value of cultural and historical sites of Mannar will be enhanced by 2030
3. To attract 3000 tourists to boost the marine tourism by end of 2030.

Chapter 05

SWOT AND DETAIL ANALYSIS

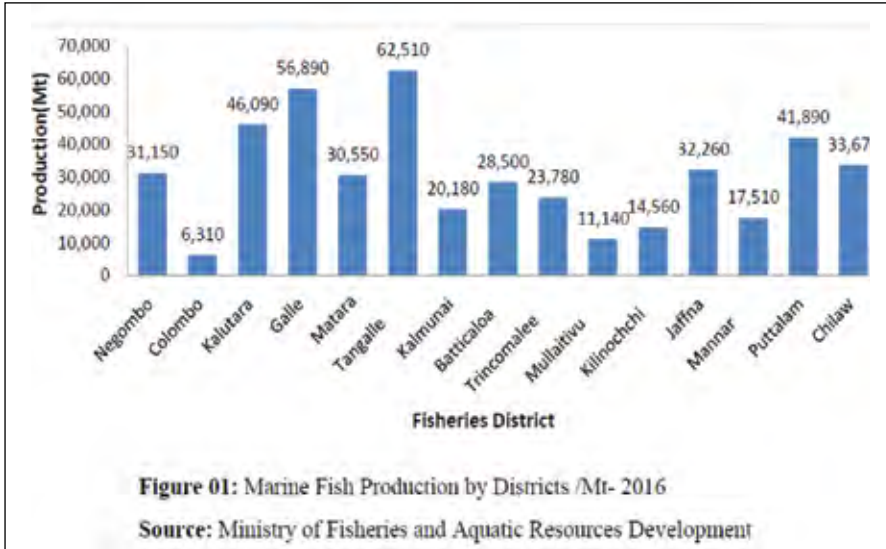
Chapter 05 **Goal 1: To become a Fishery Giant in Northern Region**
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<p>STRENGTHS</p> <ol style="list-style-type: none"> 1. Mannar is 2nd place in Fishery production in Northern region 2. 36% of the labour force are involve in fishery activities 3. Being an island (with 87km costal Line) 4. Ideal climate condition (Temp 24-35 °C, South West and North East Monsoon) 5. 200 NM for fishing activities 6. Situated in richest fishery grounds 	<p>S</p>	<p>W</p>	<p>WEAKNESSES</p> <ol style="list-style-type: none"> 1. Lack/inadequate of related facilities <ol style="list-style-type: none"> 1.1 Fishery related tertiary education 1.2 Absence of advance equipment & techniques related to deep sea fishing 1.3 Absence of harbour, anchoring points, jetties. 1.4 Inadequate fish processing centers 1.5 Inadequate linkages between fishing camps and fishery related market.
<p>OPPORTUNITY</p> <ol style="list-style-type: none"> 1. Proposed harbour project at Pesalai 			<p>O</p>	T	THREATS 1. Invasion of Indian fisherman

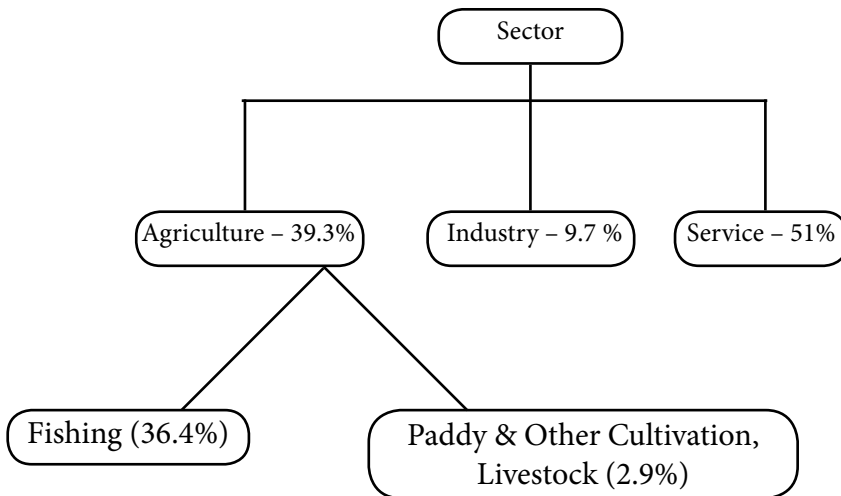
STRENGTHS

1. Mannar is Second Place in Fishery Production in Northern Region

In 2016, marine fish production of Mannar is 17 510 Mt which contributes 4% of the national production as well as 23% of the Northern Province production. At the same time Mannar is Second place in Northern region in fishery production.



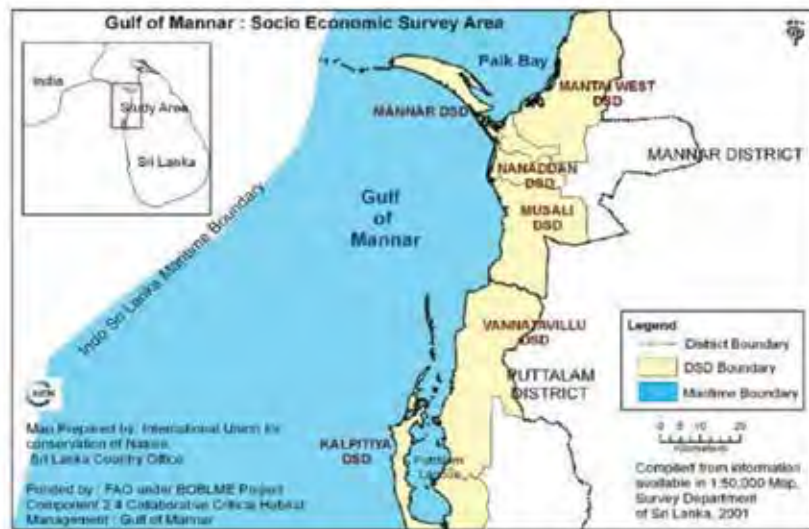
2. 36% of the Labour Force are Involve in Fishery Activities



Economy of Mannar Island is predominantly depending on the fishery sector as 36.4% of the labour force population engaged.

3. Being an Island (with 87km Coastal Line)

Chapter 05 Swot and Detail Analysis



Source: Survey Department of Sri Lanka - 2010

Mannar Island is covering with 87km length of costal belt with the potential areas of fishery activities also which is situated in the richest fishery ground of Gulf of Mannar.

4. Ideal Climate Condition (Temperature 24°C to 35°C, South West and North East Monsoon)

Mannar Island is classified under Sri Lanka’s arid zone where a tropical dry climate is prevalent. Due to that tropical climatic condition Mannar is famous for dry fish production.

When considering the dry fish production, Mannar Island produced averagely 1800 Mt dry fish from 2012 – 2015. When considering the entire Mannar district, the higher dry fish production was recorded as 7780 Mt in 2015. And also, Mannar Island is experiencing by both monsoon North East and South West which is possible for the fishing activity throughout the year.

5. 200 NM for Fishing Activities

At present, fishing activities covering out 25-40 Nautical miles due to the absence of the advanced technology and equipment usage. But obligatory sea boundary is 200 Nautical miles for Mannar Island.

Chapter 05 Swot and Detail Analysis



Source: Fishery Department, Mannar

WEAKNESSES

1. Lack of inadequate related facilities
 - Absence of harbour, anchoring points, jetties and inadequate fish processing centres
 - Inadequate linkages between fishing camps and fishery related markets
 - Fishery related tertiary education
 - Absence of advance equipment & techniques related to deep sea fishing

Although Mannar Island has high potential for fishing, fishery related infrastructure facilities are inadequate. Therefore, majority of the fishermen engaging in offshore fishing which is creating more problem in term of the production and market activity.

There is no any proper harbour, jetty or anchoring point with in Mannar Island. For example (Pallimunai): In dry season, nearly half of the year fisherman has to push or drag the boat manually more than 1.5 km to reach the water line. It creates difficult for loading and unloading of fishes and fishing equipment as well as spent unnecessary time and energy. At the same time, presently fishing boats are anchoring at sea shore where corrosion, high tide are possible to occur there is no safe for boats.

Considering the fish production, there are four ice factories functioning with the capacity of 50Mt per day. This situation creates much inconvenience for fishermen and reduces the market value for Mannar fresh fish and dry fish. Also, mostly they export their product as raw material because of absence of processing industry. There are 19 number of fishing villages are existing along the coastal belt which are not interconnected via roads especially south and north coast of the Island. Therefore, difficulties in convey the fishery products as well as market.

At present, one of the major issue is unavailability of tertiary education especially marine related education sector in Mannar and due to this most of unskilled labours in the fishery sector. Therefore, the people faced difficulties to handle new technology or equipment in fishing activity to get maximum fish production. As well as its leads to increase the cost of production and more time and energy consumption.

Absence of advance equipment & techniques related to deep sea fishing. There is no any mutli day boats available, Therefore specially practiced to fishing in the offshore area which is creating least production with available resources.

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OPPORTUNITIES

1. Proposed Harbour Project at “Pesalai”

Proposed fishery harbour project at Pesalai funded by ADB which will be implemented by 2020.

THREATS

1. Invasion of Indian Fisherman

Poaching of the Indian Fishermen was highly dominant in the Sri Lankan sea territory near Mannar Island. They able to catch more fish within short time period by using modern equipment and technology which local fishermen didn’t have that. Therefore, exploitation of local marine resource and income of local people affected to the local economy. Table shows below the details of Indian fishermen arrested within Mannar Island by the Navy of Sri Lanka in the past years.

Table: 2 Invasion of Indian Fisherman

Year	No of fishermen arrested
2015	98
2016	90
2017	60

Source: Department of fisheries and aquatic resources, Mannar district office, 2017

Goal 2: A Perfect Place for Energy

Chapter 05 Swot and Detail Analysis

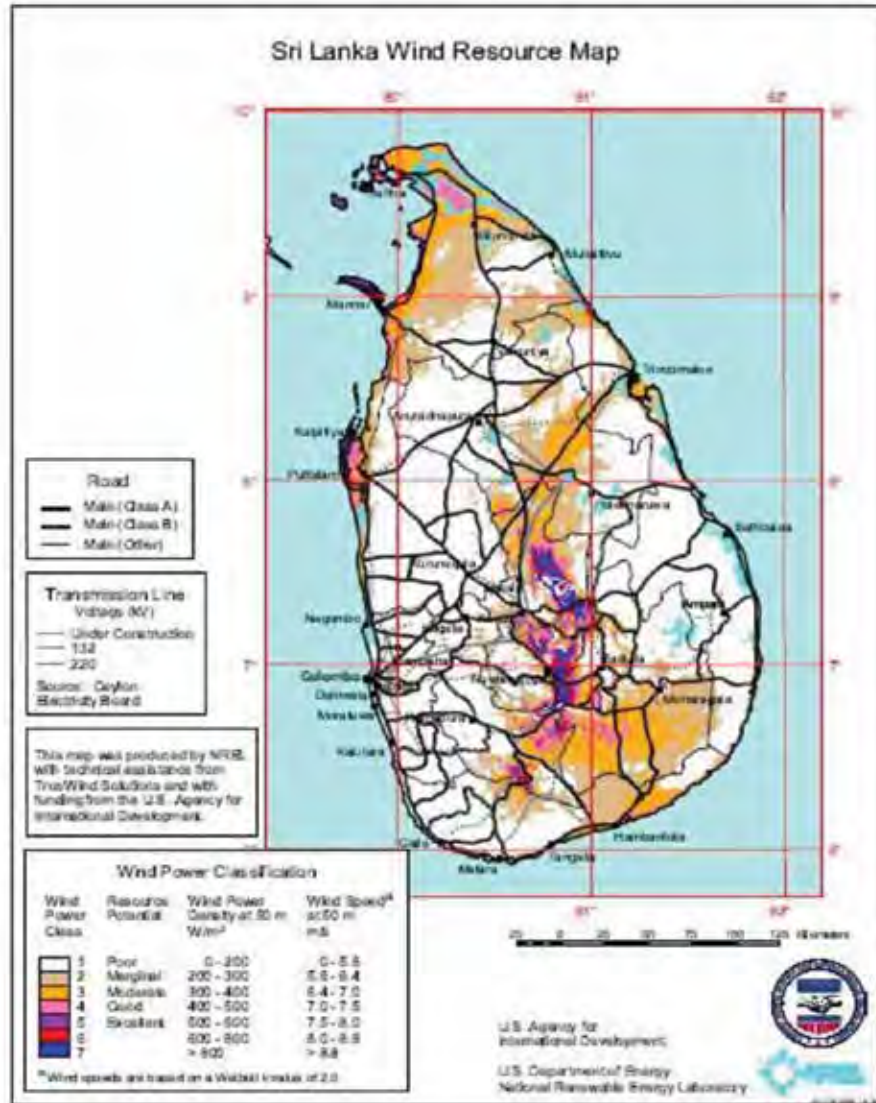
<p>STRENGTHS</p> <ol style="list-style-type: none"> 1. Wind availability (wind speed 45-50Km/h- North-East monsoon and South-West monsoon) 2. Appropriate climate for solar energy (solar 2100 Global Horizontal Irradiation) 3. 84 % of untapped developable land 	S	W	<p>WEAKNESSES</p> <ol style="list-style-type: none"> 1. Private ownership of the available land
<p>OPPORTUNITIES</p> <ol style="list-style-type: none"> 1. Wind power project by SEA 2. Declared as a sustainable energy development area by SEA 	O	T	<p>THREATS</p> <ol style="list-style-type: none"> 1. Possible renewable energy projects by SEA in other parts of the nation.

STRENGTH

1. Wind Availability (Wind speed 45-50Km/h- North/East and South/West Monsoon)

According to the study done by SEA, Mannar Island is identified as the high potential area for wind-based energy development. Mannar Island experiencing North-East and South – West monsoons respectively throughout the year with the wind speed of 45 -50 Km/h. This is identified as most ideal wind speed to generate energy by wind turbines. A technical study by SEA proved that, in the Sri Lankan Island, Mannar Island stand with elite wind speed.

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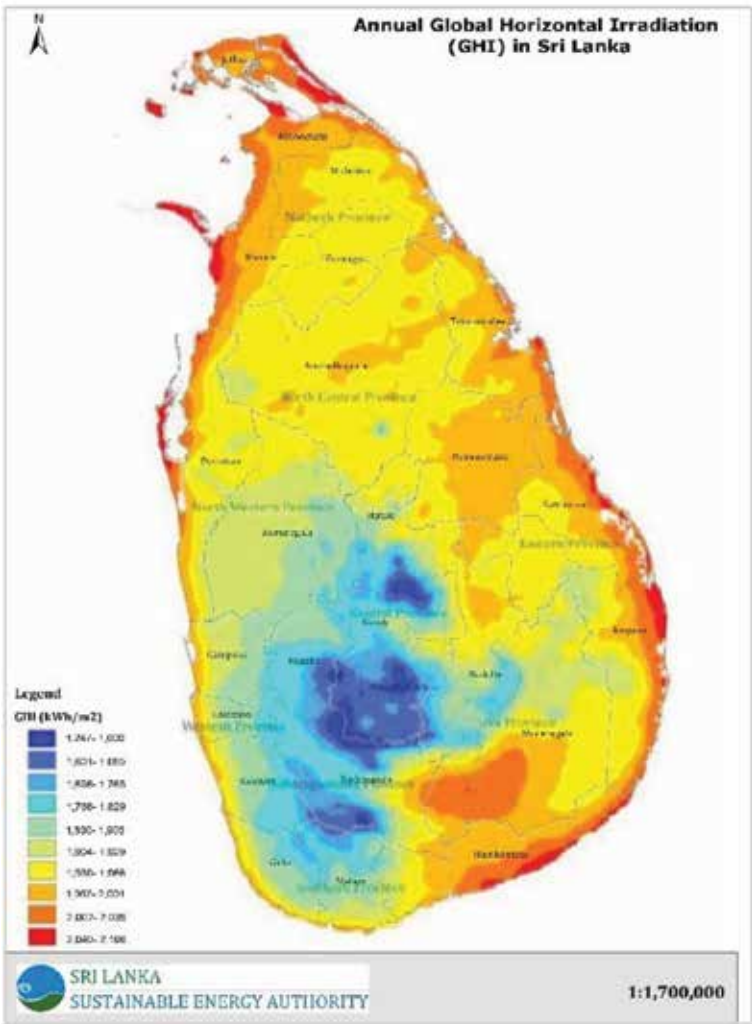
Source: National Renewable Energy Authority

2. Appropriate Climate for Solar Energy (2100 GHI)

Since Mannar Island is located in the arid zone, It is exposing to enormous amount of sunlight almost 9 months in a year. A study by SEA revealed that, only Mannar Island and Hambantotta area are stand with the high potential for solar based energy generation with the GHI of 2100. This study proves that Mannar Island with the strength to produce solar based energy almost throughout the year.

3. 84% of Untapped Developable Land

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Source: Sri Lanka Sustainable Energy Authority

Establishing renewable energy generating sources such as wind turbines and solar panel required large number of lands for implementation. There are 84% of the land of the Mannar Island is untapped developable land including vast no man areas. So, this is a great strength to develop Mannar Island as a perfect place for renewable energy.

Map 5: Existing Land use Map

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WEAKNESS

1. Private Ownership of the Available Land

Even though Mannar Island has 84% of the untapped developable land for potential renewable energy generation, when comes to the land ownership it has been identified as an obstacle for such development. According to the report of divisional secretariat office Mannar, among the 84% of the untapped developable land, more than 90% of the land ownership holds by the private owners. This private ownership of lands could cause delays and huge economical expenses while implementing renewable energy projects.

OPPORTUNITIES

1. Wind Power Project by SEA

To achieve that goal of, it has been identified the project of 39 wind turbine establishment in the south coast of the Mannar Island by SEA as an opportunity. This would be the first phase of the three-phase project which is expected to finish on 2022. At the end of the project, it would contribute 100MW energy per day to the National Grid. This is 5% of the National Energy demand per day.

2. Declared as a Sustainable Energy Development Area by SEA

Mannar Island has been declared as Energy Development area by SEA. This declaration would attract the interest of the investors to have sustainable energy generating projects which is an opportunity to achieve the ‘A perfect place for Renewable Energy’

THREATS

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1. Possible Renewable Energy Projects by SEA in other parts of the Nation.

SEA conducting the surveys and the studies all over the Sri Lanka to identify more suitable places for renewable energy. This process would decrease the importance of Mannar Islands’ stands in terms of renewable energy generation.

Map 6: Proposed Renewable Energy



Source: Sri Lanka Sustainable Energy Authority

Goal 3: Enhance the Experience of Natural Environment and Significant Sites

<p>STRENGTHS</p> <ol style="list-style-type: none"> Gulf of Mannar is the first biosphere reserve in Asia Abundance of 3600 flora and fauna species can be seen Nearly 30km sandy and shallow beaches available Historical importance and significant sites are located in Mannar (Ex: Adam’s Bridge, Dutch Fortresa, Baobab Tree and St. Lucia Church) Scenic viewpoints enrich the environmental value of the Mannar Vankalai sanctuary was declared as ‘Ramsar’ site 	<p>S</p>	<p>W</p>	<p>WEAKNESS</p> <ol style="list-style-type: none"> Improper facilities to access and experience the sites <ul style="list-style-type: none"> a. No proper access b. No proper guidance
<p>OPPORTUNITIES</p> <ol style="list-style-type: none"> Proposed Nature Park Development 			<p>O</p>	T	THREATS

STRENGTHS

1. Gulf of Mannar is the First Marine Biosphere Reserve in ASIA

The Gulf of Mannar is the biologically richest coastal region with 3,600 species of plants and animals known to live within its boundaries. In the Gulf of Mannar, several species of dolphins and whales and three species of endangered sea turtles. Furthermore, the Reserve is home to sea horses, 450 species of fish, hundreds of species of sea cucumbers, sponges, all kinds of corals and species of sea grass found nowhere else. In addition, more than 150 species of bird are found on islands in the reserve. Vital to the ecology of the reserve are the 17 species of mangrove which act as important fish nurseries.

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The reserve covers 10,500 sq. km and has 21 islands with continuous stretches of coral reef. The core area of the reserve is comprised of a 560 km² core area of coral islands and shallow marine habitat. Commercial fishing is done in about 5,500 sq. km. and nearly 50,000 people dwelling in 47 villages along the coastline bordering the Gulf of Mannar depends directly on the natural resources of the Biosphere reserve for their livelihood.

The Reserve's fishery is dominated by fish species like lesser sardine, silver belly, mackerel, anchovy, thread fin, bream, lobster, molluscs and prawns. The fragile Coral reefs and the unique flora including Sea Grasses of Gulf of Mannar, which provide homes to an abundance of marine creatures, are under multiple threats.

2. Abundance of 3600 Flora and Fauna Species can be seen in Mannar

a. Fauna Species

World's richest marine biodiversity region including estuaries, beaches, forests, alga communities, sea grasses, coral reefs, salt marshes and mangroves. Other thing is International bird migratory path identified in Mannar. Nearly 149 species of birds including the very rare migrants like spot-billed duck, the comb duck and the gadwall can be especially mentioned. Those are timely to put Mannar on the birding circuit with attractive tour package conducted by local people familiar with birding hotspots. It will boost the local economy and encourage tourist attendance and help protect birds, other wildlife and their habitats

b. Flora Species

- **Mangroves**

The largest mangrove area in the country is recorded in the Kala Oya and Malwathu Oya estuaries. Manda (*Avicennia marina*), Maha-Kadol (*Rhizophora mucronata*), Sudu-Kirala (*Sonneratia alba*), Punkanda

(*Ceriopstagal*) and *Tela-kiriya* (*Excoecariaagallocha*) are the dominant species and are distributed in more saline and flat land areas. *Avicennia marina* is more abundant as a mono-specific species towards inland. However, *Avicenna* can be seen near the coastal edge in the Mannar Pallimunai area. Scrutinizing the floristic diversity of mangroves of the area revealed that *Rhizophoramucronata* and *Avicennia marina* are the major mangrove species in the area. Associate mangrove species such as *Bu-renda* (*Clerodendruminerme*), *Suriya* (*Thespesiapopulnea*), *Beli-patta* (*Hibiscus tiliaceus*) and *Tamarixindica* were also found.



Source: Field Observation, 2017

- **Salt Marshes**

The Gulf of Mannar area is richer in salt marsh vegetation than other coastal areas of the country. Salt marshes are found near mangroves and are also adapted to flow- in and out-of the daily tide. Plants that grow in salt marshes are adapted to tolerate water flooding and changes in saltiness. Salt marshes can be seen in Kaladi, Vankalai, Arrippu, inside the Wilpattu, Ailay at Illuvankulam, inside the Mannar Island and in Pallimunai. Extensive salt marshes occur in the Mannar area (mainly on tidal flats and containing about 56 species of marsh vegetation) in the coastal belt from Mantai to Vankalai. In this region, most of the Salt Marshes are covered by non-woody, small plants. These areas become extremely dry during the very long dry period and lose a lot of water, with the result that the area become very salty. Often, salt can be seen in these habitats during the dry season.

- **Mud Flats**

Mud flats are found scattered around Mannar islands and Mantai West area lagoons and bays. (For an example Vankalai and Palakamunai). These mud flats are important in processing nutrients for the ecosystem and providing feeding areas for fish at high tide and for birds, especially migratory birds, at low tide. Mudflat habitats commonly appear in the natural sequence of habitats between sub tidal areas and terrestrial inland vegetation.

- **Sand Dunes and Beaches**

Plants trap the sand from being blown away. The wind then starts eroding sand particles from the windward side and depositing them on the side protected from the wind. Gradually, this action causes the dune to move inland, accumulating more and more sand as it does so. Sand dunes can be seen in Nadukudah. Sand dunes have Creepers such as Spinifex (Sinhala: Maha-Ravanaravula, Tamil: Ravananmeesai, Scientific name: Spinifexlittoreus) and Bermuda grass (Sinhala: Ruha, Tamil: ArugamPillu, Scientific Name - Cynodondactylon).

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Source: Field Observation, 2017

- **Sea Grass Meadows**

The Gulf of Mannar coast and Islands have relatively dense growth of sea grass meadows, mainly between the mainland and the islands, as well as towards the seaward sides of the islands. In the seaward sides of the islands, sea grass appeared as patches. They are found about 2 to 3 km wide from the Island shores towards the open sea. The area between Pamban and Tuticorin has about 101 km² cover with dominant species, Thalassiahemprichii, and Cymodoceaserrulata. Many different kinds of sea grasses as sea grass are found in these meadows sea grass is seen in Talaimannar and Pallimunai. Therefore, they serve to show us that there is damage to the environment. Also, many species of fish and other animals live among their leaves. Famous among the animals that live in sea grass meadows is the Dugong or Sea Cow.

- **Coral Reef**

Coral reefs are found in shallow seas in the Bar Reef area, Mannar (off Pallimunai), South West of Mannar Island, Arippu, Silavatturai, Vankalai and near Thomaiyar and Kokkupadyan. Nearly 100 different kinds of corals have been found in the region, including Staghorn Coral, Encrusting pore and tony Coral. Also 200 different kinds of coral reef fish, with Damsel Fish as the most common are found.

3. Nearly 30km Sandy Beaches Available in Mannar (South Coast)

Mannar possesses safe and lazy beaches with adjoining attractive Palmyra and Coconut plantation on proximity to cool fresh water stream. Into that one of the beautiful beaches in Mannar Island at Erukkalampiddy at though this beach is undeveloped and not properly maintained at present.

4. Historical Importance and Significant Sites (Adam's bridge, Dutch Fortress, Baobab tree, St. Lucia Church)

- **Adam's Bridge**

Adam's Bridge, also known as Rama's bridge or Rama Setu, is a chain of limestone shoals, between Pamban Island, also known as Rameswaram Island, off the south eastern coast of Tamil Nadu, India and Mannar Island, off the north western coast of Sri Lanka. It has an area of about 50 square kilometres, mainly covered with vegetation and sand.

- **Baobab Trees**

Mannar Island is the only one of the place in Sri Lanka where Baobab trees are available. Baobab is a unique specie of tree: with an enormous barrel-like trunk of up to 9 meters in diameter, 19.5 m circumference and 7.5 m height. The name Baobab comes from the Arabic plant name Buhibab, while the scientific name is after the French Botanist M. Adanson (1727–1806). The Arab traders brought the Baobab tree and planted it in the hot sandy lands of Mannar. Baobab tree, native to Africa, was brought in for the sole purpose of feeding Arabian Camels. The Baobab belongs to the family Bombacaceae.

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Source: Field Observation, 2017

- **Mannar Dutch Fort**

Fort is colonial monument in Mannar. It was built by the Portuguese in 1560 in the island of Mannar. Mannar Fort captured was by Dutch on 22 February 1658 and was rebuilt by the Dutch in 1696. The Mannar Fort has four bastions and it's in abandon condition. It is a square shaped fort and is located next to the new bridge that connects the mainland with the Mannar Island. It's still in good condition although the building inside the fort has not been properly maintained. Currently the Sri Lankan Police occupy this fort.



Existing Situation of Dutch Fort in Mannar

Source: Field Observation, 2017

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Aerial View of Dutch Fort
Source: Google Earth

- **St.Lucia Church**

There are few attractive Tourism Places in Mannar Division. Among them St.Lucia Church which is located at Pallimunai was built during colonial period.



St. Lucia Church in Mannar
Source: Field Observation, 2017

5. Scenic Viewpoints Enrich the Environmental Value of the Mannar

There are few scenic viewpoints which enrich the sense of Mannar and its character. Viewpoints can be seen in Vankalai Bird Sanctuary, Foreshore area, Urumalai Beach, Keeri Beach, Pesalai Beach and Thalai Mannar. In addition to that Vankalai bird sanctuary locates at the entry point of the Mannar Island which is a recreational place as bird watching spot.

After passing the Vankalai bird sanctuary area especially next to that foreshore area can be seen which consists of historical places of Dutch fort and Pallimunai Church. And other part of the foreshore area consists with salt pan activities.

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Scenic View Point of Mannar Light House at Thalaimannar
Source: Field Observation, 2017



Scenic View Point of Mannar Island
Source: Google Earth

6. Vankalai Sanctuary was Declared as ‘Ramzar’ site

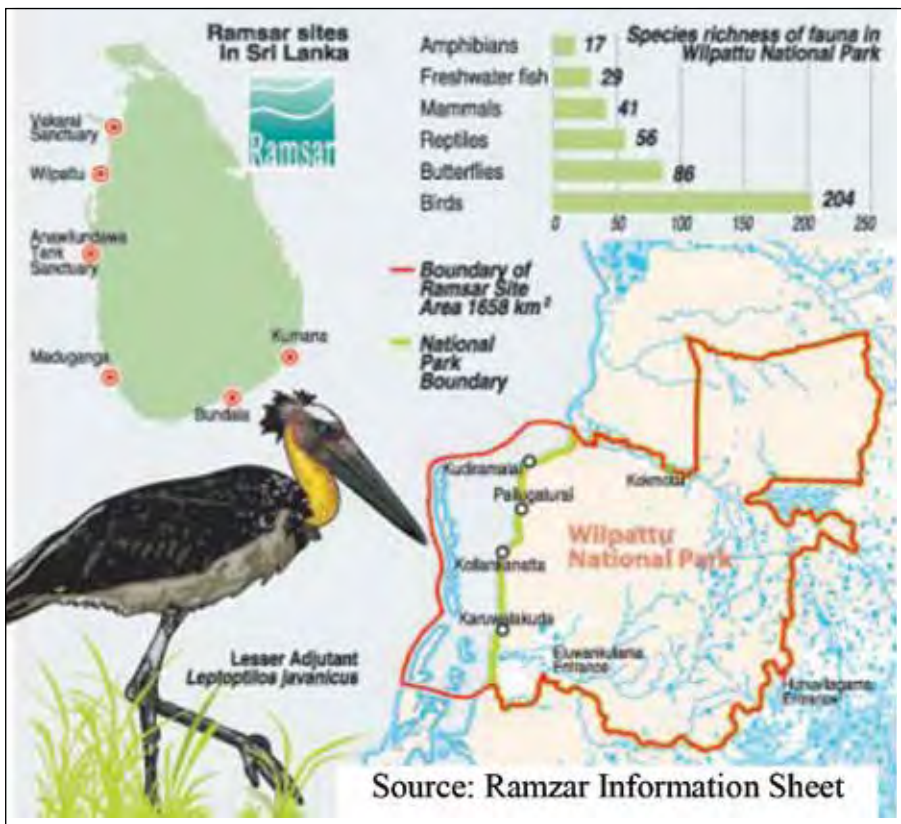
The Government of Sri Lanka has designated the Vankalai Sanctuary as its 4th Wetland of International Importance. As summarized by Marian Gwilliam, Assistant Advisor for Asia/Oceania, Vankalai Sanctuary (8°56’N 079°55’E) is located North -West of Sri Lanka in the District of Mannar. This site covers an area of 4,839 hectare and consists of several ecosystems which range from arid-zone thorn scrubland, arid-zone pastures and maritime grasslands, sand dunes, mangroves, salt marshes, lagoons, tidal flats, sea-grass beds and shallow marine areas. Due to the integrated nature of shallow wetland and terrestrial coastal habitats, this sanctuary is highly productive, supporting high ecosystem and species diversity.

The site provides excellent feeding and living habitats for a large number of water bird species, including annual migrants, which also use this area on arrival and during their exit from Sri Lanka.

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It harbours more than 20,000 water birds during the migratory season, including the Northern Pintail (*Anas acuta*), Greater Flamingo (*Phoenicopterus roseus*) and the Eurasian Wigeon (*Anas Penelope*), of which Vankalai Sanctuary supports 1% of the population of the latter two species. The site's coastal and marine ecosystems are important for over 60 species of fish, marine turtles, and rare species such as Dugongs (*Dugong*). These ecosystems provide important spawning and feeding grounds for juvenile fish species such as Trevally (*Caranx spp.*), Snappers (*Lutjanus spp.*), and also host a number of threatened species, such as the Green Turtle (*Chelonia Mydas*), Dugongs (*Dugong*), and Saltwater Crocodiles (*Crocodylus Porosus*).

Vankalai Sanctuary sustains diverse food chains, while also sustaining the livelihoods of fisheries-dependent communities in the area. Civil unrest has kept human activity out of this region for nearly two decades; hence there are only few permanent settlements in the area. Locals engage in small-scale livestock grazing, subsistence and commercial fishing. Part of the Vankalai Sanctuary is an archaeological site since it is partly located in the major port of ancient Sri Lanka, dated from 6th century BC to 13th century AD. The Department of Conservation is directly responsible for managing this diverse and culturally rich wetland. Sri Lanka presently has 4 Ramsar Sites covering 13,361 hectares – the Convention's global total is 1891 Ramsar Sites covering 185,464,092 hectares.



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1. Improper Facilities to Experience the Sites

There is another barrier to experience the sites due to lack of proper guidance and access. Mannar Island has lot of tourism related potentials. But most of the tourists are not much aware to access these places. The reason behind is that there is no any proper tourism guide plans, and sign boards to attract the tourists and to direct the tourists for the tourism potential places. Even improper infrastructure facilities especially importantly improper roads fails to give easy accessibility to reach the sites. (Ex: Dutch fort, Baobab tree, foreshore area, historical value churches, Vangalai bird sanctuary, Urumalai beach, Keeri beach and Keeri well).



Improper Facilities to Experience the Sites

Source: Field Observation, 2017

OPPORTUNITIES

1. Proposed Nature Park Development

Vankalai Sanctuary which is covered part of the Main Land of Mannar including partly a Wetland, comprises Puliyantivu Island, Thirukethiswaram, Pallimunai, Vankalai and the strips of land on either side of the causeway connecting the island of Mannar to the mainland. Covering about 4,800 hectares of area consists of arid-zone thorn scrubland and pastures, waterholes and tanks, sand dunes, mangroves, salt marshes, lagoons and sea-grass beds and maritime grasslands.

Vankalai area which is declared as Vankalai bird sanctuary by Wildlife Conservation Department in 2008 and also Vankalai was covered under Ramzar Convention in 2010 (The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat is an international treaty for the conservation and sustainable use of wetlands. Habitat is an international treaty for the conservation and sustainable use of wetlands). Vankalai sanctuary is the shelter of thousands of migratory birds like spot –billed duck, comb duck, gadwall, long-toed stint, peregrine falcon etc.

who are migrating from several parts of the country like Siberia, thousands of migrant birds arrive in Sri Lanka, making land fall in the Mannar region including Vankalai. Similarly when leaving the country at the end of the season, they use Vankalai as their last staging point. In order to the value of the Vankalai Sanctuary, UDA has decided to construct Facilitation Centre within Vankalai Sanctuary area and particularly proposed area is located near Mannar Bridge and 100 m away from the Mannar Fort.

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6.1. Conceptual Plan

Conceptual Plan interprets the entire futuristic development of Mannar Island with four major aspects such as **Township Developments, Fishery Developments, Renewable Energy Developments and Environmental Enhancement.**

Considering the township development, the present township of urban council area is functional as the administrative capital of Mannar district. The future development of township consisting with the urban council area considered as a heart of the entire Island. This area will be considered as a Central Business District area and its prominent for commercial activities also will remain as the administrative capital of the district.

The future sustainable economic development of Mannar is completely depend on fishery and renewable energy. The Northern part of the Island will be facilitated with enormous number of fishery related facilities such as harbor, industrial zone, fishing camps, jetty and markets to achieve the goal of “To become the fishery giant in Northern region”. There might be other activities can be seen in the North coastal line, even though it’s been planned to achieve fishery related developments as prominent in the Northern line of the Island.

A14 road and its future improvements will be act as a back born of the entire Island. Small township developments consisting with; Tharapuram, Thaalvuppadu, Thalaimannar and Pesalai will be further strengthen and linked between each node through this main road. A14 and its improvement with RDA standard is a predominant action which taken to assist and achieve the futuristic goal of fishery giant through expand the fishery related marketing activities within the Island and other part of the country in the local and National level. Further, Linkages of Northern and Southern part of the Island enhance through proposed roads in-between Northern and Southern part of the Island.

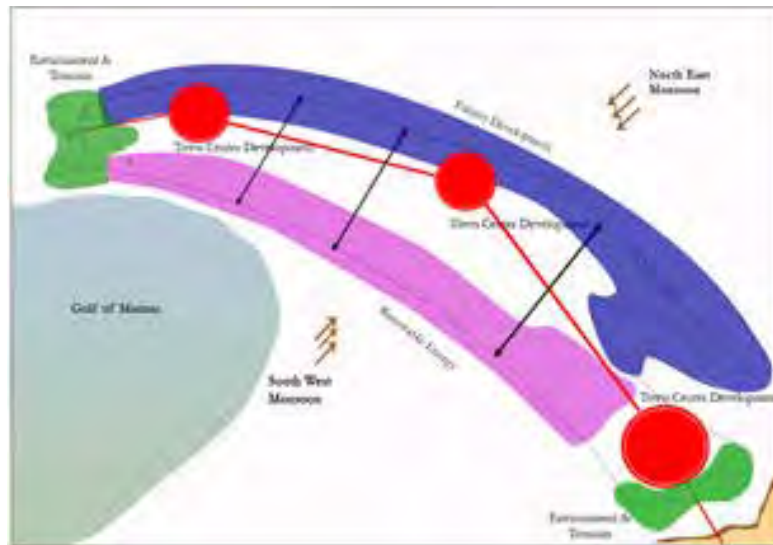
The Southern part of the Island will be prepared for renewable energy related activities since part of Island has been declared as energy development area by SEA. Through the concept of this it has been

targeted to achieve the goal of “A perfect place for renewable energy”. Further, other activities encouraged such as tourism and fishing activities while renewable energy developments as prominent in this area.

The foreshore area and West part of the Island will be consisting with environmental and tourism related activities. It’s been planned to boost the tourism activities by enhancing the environmental elements.

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Figure 3: Conceptual Plan



Source: Prepared by UDA (NP)

6.2. Proposed Land use Plan

Mannar Island is one of the strategic and ideal location in Sri Lankan Context. The main pathway of the Island is starting from South part of the Island. This major and ideal entrance is connecting Mannar Island with entire Sri Lanka. Therefore, essential need to preserve its existing natural character without collapse while the future developments.

Entire urban form of Mannar Island will be giving the sense of a more interesting variations through different activities and transitions of different height limits which giving visual coherence and organization to the buildings, streets and space that make up the future urban environment of Mannar Island.

Physical space of proposed urban form is influenced and determined by the shape and mass of the building the linkage is perceived physiologically and physically by the observer as well as the physical form of urban space and the shape of the building mass. In addition the relationship also been seen visually on the quality of a Mannar Island is determined by the shape and size arrangements of future urban space.

Access path will be given a sense of old architectural character which belongs 200years old history and colonial experience through St.Lusia church and the Dutch Fort premises. Starting from the Dutch fort observer can be experience the real sense of the marine village which expressing through low rise home staying tourism villas, tourism destination of bird sanctuary and fishery related activities. The building height of low rise villas differentiate the church height and the fort premises and highlight these points as major nodes and land mark of Mannar Island.

Gradually these path is leading via heart of the Central Business District area. Variations of the activities can be seen through prominent commercial activities. Building heights are gradually increased up to the North part of the Island. Lagoon shallow view can be experience once pass the urban council area of Mannar at the right side and commercial tall buildings and prominent commercial activities can be seen at the left side of the area.

Noticeable activity variations start the transition point with mixed use activities and it's differentiate through floor area ratio, plot coverage and mixed urban activities. Nearby essential activities comprising with schools, hospitals and administrative structures for the local dwellers which assist and promote the walkability and urban design form of entire Mannar Island. Once seen the low rise structure of mixed use activities can be experience the pure wind through the wind corridors close to 150m tallest wind turbines. Interface transition area between land and sea of experience through scenic view of coastal areas and tourist destinations and wind power plants are located at the right side of the southern coastal belt. Pesalai town centre can be emerged as a sub commercial centre which is next to the mixed activity zone and differentiating through gradually increasing of building heights. This area prominent with varieties of activities comprising with; mass scale of industries, processing centres and fishery harbour. Low-rise building structure continuing from edge of the Pesalai town centre to Thalaimannar town centre and in-between these areas giving experience of natural scenic views and nature conservation areas as well. Edge of the Thalaimannar giving sense of the view of south India.

(Annexure 6: Cross Section)

This chapter explore the entire futuristic land use patterns & urban form of Mannar Island. Variety of activities, structures and future economic developments collaboratively form the “Speaking Sea scape and Magnet Marine of Mannar.

Map 7: Proposed Land use Map - 2030

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6.3. Social and Physical Infrastructure Development Strategies

6.3.1. Service Plan

Mannar Island Development Plan has the way of achieving “The Speaking Seascape & Magnet Marine” through the main three goals and objectives. By considering the main target of the development plan there is a need of having a proper service plan for addressing the vision of 2030.

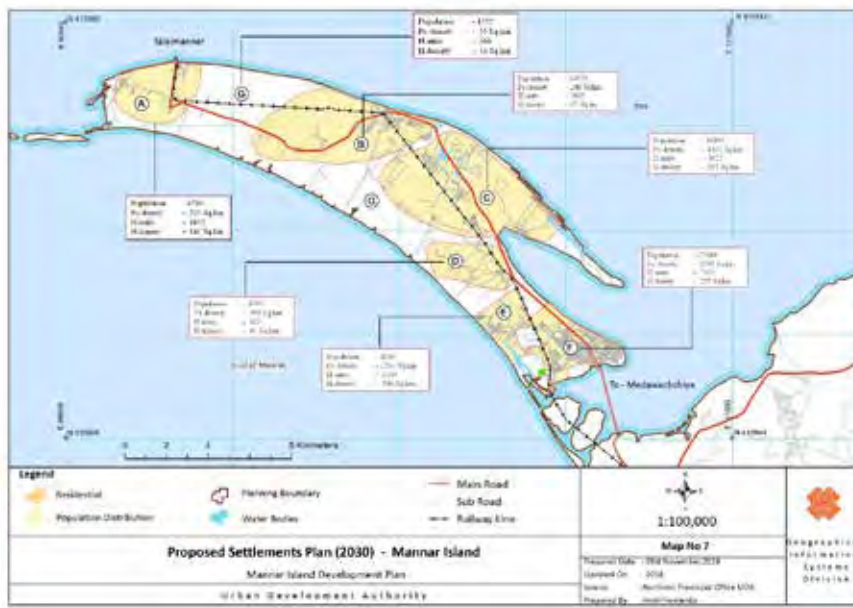
Service plan emphasis futuristic perspective of the housing, health, education and recreational sectors. The overall service plan is express how this each services will be facilitate through development plan and how these services will be transform the image of entire Mannar Island.

a. Proposed Settlement Area

The proposed settlement area was defined based on the land suitability analysis by considering the aspects of liveability, safety, comfortability of living condition. Accordingly, settlement areas were identified where the available critical urban nodes and the future development trend areas excluding environmental sensitive and special conservation areas.

Map 8: Proposed Settlement Plan - 2030

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Therefore, the establishment of the settlement area will be promote the demand for residence population distribution by 2030. The plan targeting to cater future threshold population into seven settlement areas based on natural growth rate and the commuter population. Proposed settlement plan by 2030 shown in the Map No 7.

Demand Projection: Assumptions for population and housing forecast:-

- Average growth rate size – 1.5
- Average household size – 3.7

Table 3: Forecasted Population

Year	Projected Population	Estimated Housing Requirement
2020	70100	18957
2025	75600	20422
2030	81400	22000

Source: Prepared by UDA (NP)

Accordingly, these zones will be accommodate around 81,400 population occupied by nearly 22000 housing units based on natural growth rate in 2030.

Day time commuter Population : Daily commuting population is around 10,000 in 2016 to the city in order to fulfil their needs. Most of the people are coming for the commercial purpose and also to get the administrative service.

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It is expected to attend 15,000 commuter population based on the future developments under the all aspects such as economic & tourism. Based on the existing services; The service plan will be address the issues and providing required services such as Housing, Health, Education and recreational services within the each residential zones. (Ref. Annexure No: 2)

Housing Service: The Housing Strategy is an important element of the service plan to build a town where people want to work, rest, play and stay. Service plan, provide certain number of housing units and supportive services such as health and education. On this basis, the service plan mainly considering the futuristic perspective of the housing facilities. By means, housing development is providing from service plan itself, which is targeting to maintain the threshold population and facilitating their housing needs.

In 2030, estimated housing units are 22,000 and will be accommodate around 81,400 population occupied in seven residential zones within Mannar Island. Out of that, Zone E will be a high density area while Zone G will be a low density area. Zone F and B will be in second & third order high dense area.

Map 9: Proposed Housing Density (2030)



b. Health Service

In order to cater the development trends and demand on the health sector by 2030, existing district and divisional hospitals will be upgraded in terms of the quality and quantity.

(Annexure 7: Basic Details for Hospital in Mannar Island need to be facilitate in future)

Map 10: Service Plan - Health (2030)

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C. Educational Service

At the existing situation, there are enough number of schools located within the identified each settlements zones and schools have less number of students population compare with the national standard by Education departments.

In order to accommodate the student population anticipated by 2030, Development plan recommended for physical development as required buildings for these existing schools.

At present 90% of the advanced level students represent as the school levers who are not engaging with any tertiary education and they are directly fallen into un skilled labour category and engaging with fishing activity. Therefore, through service plan proposed to develop the marine related tertiary educational development. Therefore proposed vocational training center will be located in south bar. (Refer Map : 10)

Map 11: Service Plan - Education (2030)

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(Annexure 8: Existing Schools with Classification - Mannar Island)

(Annexure 9: Physical Need of schools - Mannar Island)

d.Recreational Service

Under the service plan recreational development is one of the major component. Accordingly, there is demand for recreational activity in the urban area. In Mannar Island, there are enough bare lands and vacant lands are available without proper maintenance in terms of recreational service.

In order to provide the proper recreational facilities to the forecasted population, proposed recreational activities such as parks, playgrounds and public open spaces are provided among the proposed settlements area by 2030 in the different hierarchy. By 2030 it is expected to develop the healthy and liveable environment to local people. (Refer MapNo : 11)

Map 12: Service Plan - Recreation (2030)

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6.3.2. Transportation Plan

Transport is relatively lesser problem in Mannar Island compare with other cities in Sri Lanka when considering the requirement of serving the current socio economic activity of the city.

Map 13: Transportation Plan for Mannar Island (2030)



There is an essential need for the transport improvements to achieve the future developments of Mannar Island and support the futuristic major requirements. A14 road network considered as a main transport access way of Mannar Island. The major priority is given for the transport plan is to improve the existing A14 road based on the assumption to achieve and boost the future economic developments of entire Mannar Island.

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Improvement of this road is a predominant development to enhance the mobility of the area specially assist the future industrial developments which will be located on the next to the Pesalai town centre consisting with mass scale processing centers and value added fishery industries and future harbor development. It is proposed to create major networks between Central Business District and sub town centers such as starting from Urban Council, Thalvupaadu, Thaarapuram, Erukalamptiy, Pesalai and Thalaimannar.

Enhance the inter-linkages between Northern and Southern part of the Island development at the second priority in the overall transport plan. Coastal road which proposed around the entire Mannar Island will be create major connections between both side of the Island and will be give more accessibility throughout the area specially enhance and assist the tourism, industry and fishery developments within the Island area.

Proposed service road will be transfer the raw materials to other part of the Island from the Pesalai harbour and to cater the expected population of the Pesalai township area in future.

Map 14: Transportation Plan for Mannar UC (2030)



There is an essential task to regulate the traffic which will be created due to future developments and enhance the accessibility. Inner circular road proposed around the Urban Council area due to divert unnecessary vehicle movement which will avoid traffic jam near the Central Business District area. Further to increase the connectivity within the Island there will be road improvements mainly closer to major town centres.

Annexure 10: Proposed Road Section

And transportation related infrastructure facilities are more important to develop transportation network. Existing bus stand located at Mannar town which has inadequate facilities for the passengers. Therefore through this plan it is proposed to redevelop the existing bus stand with appropriate facilities and further proposed to develop the bus terminal at Pesalai and Thalaimannar in order to future development in Pradesiya Sabha area. And also it is proposed public transport system to cover proposed settlement area all over the Island. And existing vehicle parking area is located at causeway (in front of existing MPCS Building) which will be proposed to redevelop in order to regulate the traffic due to the proposed activities within CBD area. It is proposed to redevelop the existing public market including basement parking.

6.3.3. Water Supply Plan

Water plays a vital role in developing social, economic, environmental and physical aspects of city development. Also, water management of the city is very important in order to get optimum and sustainable usage of water in and around the city. At present, 60% of the people are getting water from Murunkan water supply scheme and 40% of the people receiving water from ground water in the Island out of 9000m³ per day. In 2030, water supply to be supplied for 81,000 populations and proposed development activities especially for the proposed industrial, tourism and town center development. The estimated total water demand is around 14000 m³ per day by 2030.

(Annexure 11: Water Demand for Mannar Island (2020-2030))

At the same time by 2030, its possible to get water from the different available sources shown in below table no : 3 such as Keeri well and Giant tank (Murunkan Water Supply) in addition to this good quality of ground water is available in the Pesalai Pradesa Sabha area. And there is a proposed Greater Mannar Water supply Project for the Mannar district by National Water Supply and Drainage Board.

Table 4: Available Water Source

Water Source	Capacity (m ³ /day) – 2030
Ground Water at Pesala PS	
Keeri Water well	2250
Giant tank (Murunkan Water Supply)	15000
Proposed Greater Mannar Project	19000

Source: National Water Supply and Drainage Board, Mannar District

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Map 15: Water Supply Plan (2030)



6.3.4. Waste Management Plan

There are two dumping yards are available which are located in UC and PS area. The urban council disposed waste in the Sinnakadai area which land owned by UC and PS dispose the waste in the Pesalai West area which land is owned by the Mannar PS. Both site are in extent of 8 acres land for dumping and composting purpose. In addition that, in Mannar UC has inadequate land allocation in order to meet the future demand. Therefore, proposed to develop the existing Pesalai dumping site as covering sanitary landfill, composting and dumping purpose which is shown in the map No 15.

Based on the future population growth and development trends, the future solid waste generation will increase and its composition will change by year. In 2030, waste will be generated from industrial, residential and commercial sectors.

There are many methods available to dispose of waste even though, the Sanitary landfill as a long-term solution to increasing waste in this particular area. Further 10 acres of land has been identified for future waste disposals at Pesalai area inside of the mixed development Zone.

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That land planned to be divide into several parts for different purpose such as one part of land the allocate for open dumps (7acre) and part of the land use for composting practices (2 acre) also separation of waste for 3R mechanisms (2 acre). Where it's expected to manage around 100 ton waste per day. industrial waste should be manage into that industrial zone area as there is a guideline “Green building certification should be obtained” by carry out solid waste management actions will be there compulsorily.

Table 5: Waste Generation by 2030

Sectors	Proposed	Total Waste Generation (per day 2030)
Resident	100,000	100,00*0.77 = 77 ton Standard – 0.77 kg per person
Commercial	900	900*30 = 27 ton Standard – 30kg per day
Industry	450	450*50 = 22.5 ton Standard – 50kg per day

Source: CEA, Mannar

Map 16: Waste Management Plan (2030)



6.4. Economic Development Strategies

6.4.1. Industrial Plan (Fishery, Energy)

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Industrial development helps in the rapid economic growth of the city while increase the per capita income. History of the economic development of the developed country shows that, there must be positive relationship with industrial sector development. It is possible to develop fishery related industries in Mannar Island while tap the available marine related potentials which will be contribute to the national demand. At present, per capita consumption of fish, dry fish, canned fish has been increased at the national level and excess demand for the fish and fishery product. Due to this, Sri Lanka had to import 120,046 MT in 2015 to cater the demand expending 30,729 Mn LKR foreign exchange.

At this situation fishery related industrial plan is required for Mannar Island to increase the fish production from the available untapped marine resource and to uplift the living standard of the local people. Main strategy of the proposed industrial plan is to locate fishery harbour within the Mannar Island considering about the physical, social and economic activities. Therefore, Pesalai area selected as the most suitable area for the fishery harbour development because it has the highest fishery production (46% of Island production) and most of the people (60%) are engaging in fishery related activities. Therefore, in order to achieve strategy, Pesalai area will be fishery-based town and to get more benefit than other fishery areas.

On the basis of Pesalai fishery harbour development project, industrial zone (zone 5) has been proposed to attract the fishery related compatible industrial activities within the proposed zone with the provision of basic infrastructure. There is a development of North costal road which will be supported to industrial development in terms of transfer the raw material and product to reach market. Also there are railway stations available in Pesalai and Thalaimannar town those can be used for freight transport of fishery products in future. Other than this, redevelopment of A14 road, improvement of roads (Refer Map No: Industrial plan) will be function as another major transport route to convey the fishery product to other region of the country.

And also, proposed to develop the fish markets at UC, Pesalai and Thalaimannar in order to create the market opportunity for the fishery products. Furthermore, to achieve the goal, it is proposed to develop the jetties (Refer Map No: Industrial plan) to get the maximum utilization

of the marine resources as well as to uplift living standard of the local people.

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In addition to this, around 3500 number of job opportunities will be facilitated and around 1200 population to be attracted inside the Island by 2030 on the basis of above proposed industrial developments.

Map 17: Industrial Plan (2030)



At the same time, Mannar Island has been identified as the high potential area for renewable energy generation by SEA and declared as energy development areas.

Therefore, it is possible to develop energy related industries within the Mannar Island. In order to tap the available potential as well as to generate energy for national grid which was the goal; solar parks will be permitted within the proposed industrial zone (zone 5) and mixed development zone (zone 3) to produce the solar energy.

Furthermore, to achieve the goal, the below guidelines to be implemented in the energy development areas by SEA:

- High priority was given to the wind turbines
- Maximum height of the building was limited to 9m
- Clearances should be obtained from SEA for any kind of development

Further, Solar panels will be encourage all over the Mannar Island. Additionally, the industries and warehouses which will be located inside the zone 5 should have to install solar panels of their roof top area. Also, the necessary infrastructure facilities will be provided through the infrastructure plan in order to achieve the goal.

(Annexure 12: Industrial Categorization)

6.5. Environmental Sustainable Strategies

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The environment is one of the most valuable assets in the world. Mannar and Mannar people profaned with magnificent and diverse landscapes, coastlines and sea. The uplifting sights, sounds and smells of the natural and urban environments are integral to people daily lives. More fundamentally, the environment is natures ‘gift. It nourishes and nurtures all life, human, animal or plant. Even Mannar rely on blue and green spaces for food, water and the air breathe.

The vision for Mannar is “The Speaking Seascape and Magnet Marine”. So the speaking seascape represents the sea also it consists with marine art. The beaches, coastlines, boats at sea and nautical images these elements makeup seascape art sense. Also one of the main goal for the vision of Mannar is “Enhance the experience of natural environment and significant sites”. Initiatives to protect and improve the natural environment of Mannar and cultural heritages are valuable assets of stewardship by which people discharge their debt to it, and so are moral imperatives in themselves, but they are also economically sensible. A healthy environment supports a healthy economy.

Environment Plan of 2030 set out the approach to safeguarding Mannar environment and future proofing Mannar’s economy for generations to come. They are complementary approaches that reinforce one another giving the relationship between the environment and the economy. Environment Plan will help to boost the productivity by enhancing our natural capital the air, water, soil and ecosystems that support all forms of life since this is an essential basis for economic growth and productivity over the long term.

Tourism sector is a main sector which boosts the local economy, in place of the reputation of Sri Lanka upturns and tourists make return visits to the island, fresh and unique destinations are required to accommodate for the ever-changing desires of tourists.

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The benefit of Mannar District, remaining largely undiscovered and undeveloped as an alternative tourist destination, is that it can more readily respond to new market demand and novel client groups compared with more established operators. A responsive industry will also explore the potential of existing untapped tourism opportunities such as the market for devout pilgrims. Satisfied and enthusiastic visitors will bring new awareness back home and encourage friends to share their experiences, providing on-going business for Mannar District. They will not only learn about Mannar but also how to help retain the character of the place while deepening their own travel experience. There are sound economic, social and environmental benefits for establishing Mannar District as an alternative tourist experience and destination.

In economic terms, tourism businesses ensure that they will employ and train local people, buy local supplies, use local services, attract “in country” and overseas investment, and as a result, stimulate a stagnant local economy. Social benefits can be achieved through maximizing the local population’s participation and involvement in decision-making. Wellbeing becomes contingent on the need to understand and respect prevailing traditions and customs so that local people are esteemed and not offended or marginalized. A green inheritance for future generations are safeguarded by maintaining or enhancing biodiversity and managing development and tourist numbers within acceptable resource limits so as to minimize any detrimental effects on the environment. Supporting Mannar’s approach to sustainable community-based tourism is social development through employment creation, income redistribution and poverty reduction.

Other positive impacts include tourism as a force for harmony, improving and strengthening communities and strengthening public participation. Most importantly valued culture and traditions preserving and promoting cultural historical traditions and events, contributing to the conservation and sustainable management of natural resources; protecting local heritage and a renaissance in native cultures, cultural arts and crafts are necessary things.

In future, civic involvement and pride involving local communities in sustainable tourism development and operation through stimulating a feeling of pride in local and national heritage and raising local awareness of the financial value of natural and cultural sites.

Map 18: Environment & Tourism Plan (2030)

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6.5.1. Conservation and Preservation

a. Conserve the Value of Archaeological, Cultural and Historical Sites

Mannar is blessed with a Portuguese and Dutch inspired fort built at a comfortable human scale at the entrance to the Island. The renovation of this historically significant structure is an important signature element in a new cultural site. So in future renovate the Dutch Fort and promote the art gallery inside the fort to make functional space. Baobab tree is one of the unique trees for Mannar district which old as five hundred years. There are some baobab trees in existence and these trees need acknowledging and protecting. The trees will be visually give sense of environmental heritage of Mannar. So propose restriction regulations regarding to the construction of buildings nearby the Baobab trees to preserve value of the historical tree at Pallimunai and Eluthoor. (50ft radius).

b. Ensure the Sustainable Utilization of Fish Species in the Gulf of Mannar Biosphere.

The Gulf of Mannar Biosphere Reserve is the first marine biosphere reserve in Asia, located in the Southern part of the Bay of Bengal. The Gulf of Mannar is the biologically richest coastal region in India with 3,600 species of plants and animals known to live within its boundaries. In the Gulf of Mannar you can still see the globally endangered dugong, several species of dolphins and whales and three species of endangered sea turtles. Furthermore, the Reserve is home to sea horses, 450 species of fish, hundreds of species of sea cucumbers, sponges, all kinds of corals and species of sea grass found nowhere else.

In addition more than 150 species of bird are found on islands in the reserve. Vital to the ecology of the reserve are the 17 species of mangrove which act as important fish nurseries. (Source: Gulf of Mannar, Biosphere Reserve Project). So the proposed project of establishment of research centre related to coastal and marine bio diversity would be promoted the Mixed development zone.

c. Conservation of Sand Dunes

Sand dunes serve an important purpose by protecting inland areas from coastal water intrusion. They are able to absorb the impact and protect inland areas from high energy storms and act as a resilient barrier to the destructive forces of wind and waves. Mannar itself consisted with sand dune areas. But it is necessary to conserve the sand dunes areas which can be seen mostly in Mannar. So in future proposed to conserve sand dune area at Pesalai area and from Old Pier to Nadukudah area to Old pier strip.

6.5.2. Landscape Management

a. Enhance the Scenic Viewpoints of Seascape

In the present situation there is a need to enhance the experience of natural environment and significant sites. Also it is very much need to give good and memorable sense for the visitors those who enter to the Mannar Island. The proposed Nature Park development located at the entry point of Mannar and to facilitate the tourists this proposal has proposed by UDA. So Nature Park development will help to boost the productivity by enhancing Mannar's natural capital of air, water, soil and ecosystems that support all forms of life since this is an essential basis for economic growth and productivity over the long term.

Additionally Mannar has some beaches which can be converted as scenic viewpoints. For an example Urumalai beach, Nadukudah beach, Olathoduvai beach, Thottavali beach and Keeri beach. In addition to that develop lagoon front landscaping, enhance the Pesalai fishing area for bird watching and improve the foreshore environment. These scenic viewpoints will be develop by seascape strategy and viewpoints should not disturb by the construction and advertisement boards. (Refer the General Regulation: Advertisement Control)

b. Foreshore Area Management (Promote Marine Tourism)

Foreshore area is located in Mannar Urban council area. The foreshore strip is giving sense to the Mannar main entrance. In the current situation, Dutch Fort, aqua culture, cause way, fishing related activities, marine village and salt pan can be seen.

There is absence of attraction along the foreshore area. There is a need to utilize the foreshore land and maximize the use of land for several purposes.

Marine village will be play for the Mannar marine cultural pattern and tourism base activity. This marine village will be consisted of the Dutch fort also. Due to this reason marine village can intake the high number of tourists. Base for the marine village establishment can control the land encroachment. The marine based village stay accommodation will offers the ultimate way to gain a deep and more personalized knowledge of the lives of local people. This option will suit those staying for longer periods.

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————— In Mannar’s marine village accommodation will range from huts to houses, open restaurants, cafes, shops, sea food selling shops, local handicraft shops, show rooms, art galleries, gift centers related to marine based products, boutiques and cabanas. Further eco-tourism activities like pleasure boat services, pedal boat services and traditional fishing for tourists also promoted in future. In addition to that village stay establishments currently being trialled have proved to be a delightful and enriching experience for host and guest alike. The local person benefits through exposure to a local view, an additional income stream, inspiration to improve their living conditions for better life.

c. Junctions Beautification

First impressions are extremely important, and the first impressions of all visitors to Mannar start with Thalladi junction and passing via the causeway. Visitors should be warmly greeted with Welcome signs at Mannar gateways and entrances to towns, flower plantings, well-kept town centers, and visitor signage promoting local attractions. City centers that are tidy, well-lit and planted with flowers and trees especially designed junctions are much more likely to attract visitors to stay and linger. Aside from the obvious aesthetic benefits, roadside junction’s beautification, including landscaping and gardens can help drivers reduce stress, frustration, and aggression.

Refer Map: Environmental & Tourism Plan

6.5.3. Disaster Risk Reduction

Mannar Island has little effects of flood, surge, drought, cyclone and tsunami. Based on that, UN-HABITAT identified some areas as multiple hazard risk zones. Apart from being at high risk from flooding, this location has several significant characteristics including that it is in close proximity to Thalaimannar light house, Adams’ bridge, and the original end point of the Mannar railway line.

As such it is anticipated that this could be a destination for tourist and would therefore benefit from a shady, livable environment for the proposed multipurpose greenbelt to be a success.

Ensuring there are different species in a greenbelt is essential for establishing a diverse ecosystem. Generally, greenbelts should be around 50m in width to ensure the impact of storms and tsunami is reduced. Greenbelts will be located within the coastal zone which is under the control of the CCD and no permanent structures are allowed in this zone. Further, increasing community activities in vulnerable areas will also increase their exposure to disasters. Therefore, all activities need to be planned and implemented with strong safety measures inherent in the design. The design and implementation of greenbelts varies significantly are site-specific requiring advice. (Source: Mannar, Disaster Risk Reduction and Preparedness Plan, Towards a Sustainable and Resilient City, Un-Habitat)

a. Increase the Volume of Water Bodies and Develop a Well-Connected Canal Network.

This will be done by focusing on three interventions:

1. Remove garbage, slit and sediments in water bodies

Garbage, slit and sediment decrease the capacity of water bodies and block the flow of drains and canals. Creating a smooth flow of water will assist in dispersing water during floods and prevent the water from stagnating.

2. Identify crucial linkages in the canal network and maintain those linkages

Some natural linkages that previously connected water bodies are now no longer functioning; some have been disturbed by sand filling or other development reasons. Reconnecting these linkages will assist in creating a smooth flow of storm water, especially during heavy rain and storm surges.

3. Create canals where necessary to carry excess water in tanks

Where existing canals cannot cope with water discharge, investigation into creating new canals should be conducted to assist in limiting overflowing. If the water can be drained then the excess material can be excavated and removed from site.

(Source: Mannar, Disaster Risk Reduction and Preparedness Plan, Towards a Sustainable and Resilient City, Un-Habitat)

b. Develop Storm Water Drainage in Built-up Areas.

The considerations when developing a storm water drainage network are peak volume of storm water runoff, geographic features of the area (elevation and slope), soil types, existing and proposed land uses and details of the existing drainage and road network. When developing a storm water drainage network the peak volume of runoff rather than the average volume needs to be considered. (Source: Mannar, Disaster Risk Reduction and Preparedness Plan, Towards a Sustainable and Resilient City, Un-Habitat)

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6.5.4. Public Open Spaces

a. Active and Passive Recreation

Parks and open spaces play an important role in making the town a desirable place to live, work and play. Parks improve our physical and psychological health, enhance community life, provide outdoor experience and serve as an anchor for strong neighbourhoods.

Public parks, and the passive and active recreation opportunities that they provide, are important contributions to the quality of life. Parks provide areas for outdoor recreation, a contrast to the highly urbanized environment, and access to natural beauty. Parks also provide a place for people to meet and a central location for socializing and community gatherings. In addition, recreation facilities provide educational opportunities

While active recreation and passive recreation refer to different types of activities, both types of activities can be located together effectively in Mannar. Active recreation refers to a structured individual or team activity that requires the use of special facilities, courses, fields, or equipment. Eg. Volleyball, Football and Tennis. Passive recreation refers to recreational activities that do not require prepared facilities like sports fields or pavilions.

Passive recreational activities place minimal stress on a site's resources; as a result, they can provide ecosystem service benefits and are highly compatible with natural resource protection. Ex: Running/jogging, cycling, swimming, wildlife viewing, observing and photographing nature, picnicking, walking, bird watching, historic and archaeological exploration etc.

- **Establishment of Parks and Playgrounds in Mannar Island**

Nearly 16.8 ha of land space covered the existing parks and playgrounds of whole Mannar Island. They have been categorized as 'Pocket Parks', 'Mini Parks', 'Local Parks', and 'Community Parks' and 'Linear Parks'. Some of the existing parks and playgrounds should be redeveloped according to the proper public open space and recreational plan. To promote indoor passive recreational space such as Cultural Hall, Cinema Hall, Auditorium and Library; the guide plan area is the most suitable place.

Refer guide plan figure 2: Identified sub zone- Development Guide Plan Area and 7.2.5. Permissible uses, Maximum Height and Guidelines

In addition to that some of the areas in Mannar UC area and Mannar PS area are identified as potential areas to promote outdoor active recreational parks.

Table 6: Proposed Public Outdoor Recreational Space Plan for Mannar Island - 2030

No	Type of Parks and Playground	Extent (ha)	Present Use/Uses	Proposed Use	GN Division
	Proposed Pocket Parks (PPP)				
1.	PPP ₁	0.2	Scrub	Pocket Park	Moor Street
2.	PPP ₂	0.1	Grassland	Pocket Park	Savatkaddu
3.	PPP ₃	0.2	Vacant Land	Pocket Park	Thalaimannar North
	Proposed Mini Parks (PMP)				
4.	PMP1	0.5	Vacant Land	Mini Park	Savatkaddu
5.	PMP2	0.6	Vacant Land	Mini Park	South Bar
6.	PMP4	1.0	Vacant Land	Mini Park	Eluthur
7.	PMP10	0.4	Vacant Land	Mini Park	Uppukkulam South
8.	PMP11	0.8	Scrub	Mini Park	Thalaimannar
9.	PMP12	1.0	Sand	Mini Park	Siruthoppu
10.	PMP13	0.3	Residential	Mini Park	Erukkulampiddy West
	Proposed Local Parks (PLP)				
11.	PLP1	2.6	Scrub	Local Park	Pattithoddam
12.	PLP2	1.7	Grassland	Local Park	Tharapuram East/Eluthur
13.	PLP5	2.8	Vacant Land	Local Park	Thottaveli
14.	PLP6	2.8	Vacant Land	Local Park	Pesalai North
	Proposed Community Parks (PCP)				
15.	PCP1	5.9	Scrub	Community Park	Pattithoddam
16.	PCP2	5.6	Vacant Land	Community Park	Thottaveli
	Proposed Town Parks (PTP)				
17.	PTP1	6.3	Vacant Land	Town Park	Eluthur
TOTAL		33.2			

Source: Environment and Landscape Division, UDA

Map 19: Proposed Public Outdoor Recreation Space (PORS) Map



6.6. Implementation Strategy

6.6.1. Strategic Action Projects

Table 6: Strategic Action Projects

Strategic Action Projects			
Prioritization No	Project	Duration of the project	Funding Source
1	Development of fishery harbor at Pesalai	Long term	Department of fisheries and aquatic resources, ADB
2	Development of Modern commercial complex at Mannar town	Medium term	LA, Public Private Partnership
3	Establishment of Marine Village at foreshore	Long term	LA, UDA, SLTDA, Public private partnership
4	Installation of Wind Turbines	Long term	SEA, Public Private Partnership
5	Create access road of harbour development	Medium term	LAs
6	Land Development for Industrial Zone	Medium term	Ministry of Industry & BOI
7	Nature park development near the causeway (Vankalai facilitation center)	Medium term	UDA, LA
8	Development of Al fatha ground at Uppukulam	Short term	LA, Ministry of Industry and Commerce
9	Administrative Complex development	Long term	Ministry of local government
10	Redevelopment of Fish market at UC	Long term	UDA, LA

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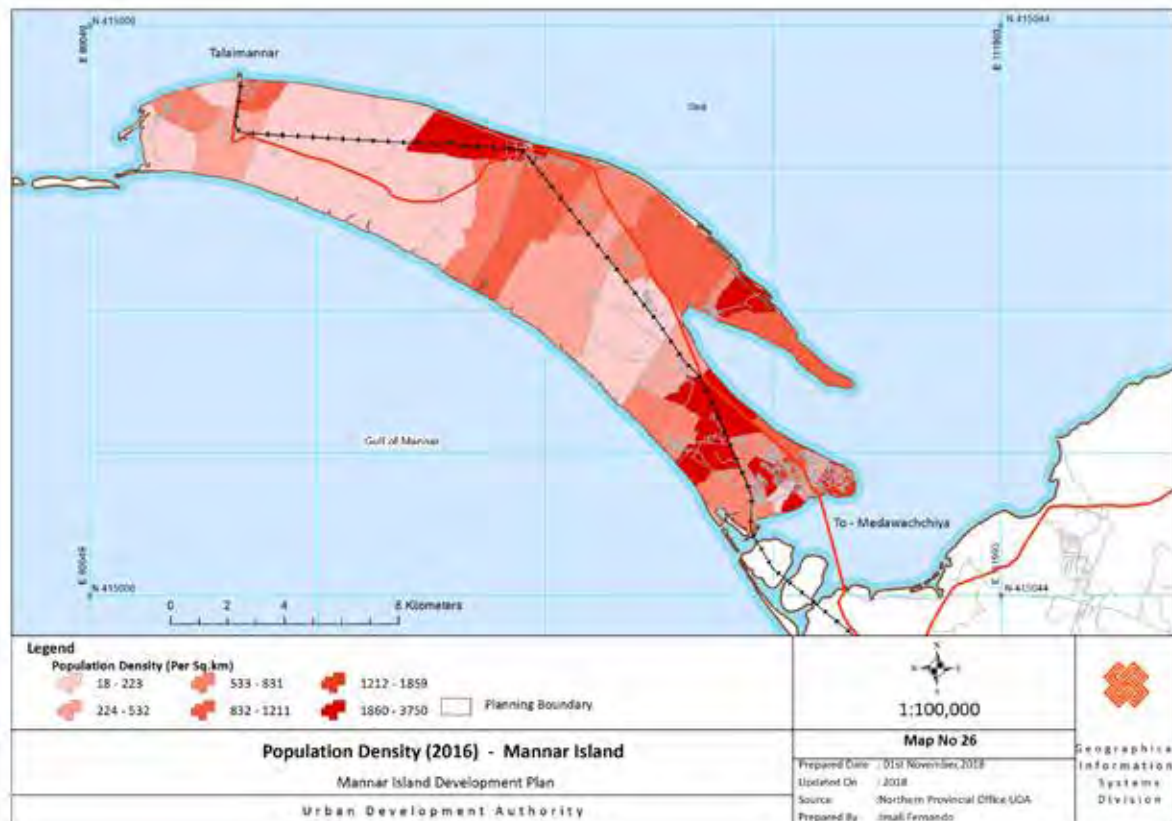
11	Redevelopment of Bus Stand (CTB and Private) at UC	Medium term	UDA,LA
12	Improve the existing drainage & develop the drainage linkage	Long term	LA, Provincial council, NGO
13	Development of Modern market at Pesalai	Short term	LA, Provincial council
14	Renovation of the Dutch fort	Medium term	Archeology department
15	Development of South coastal road	Medium term	LA
16	Development of parking area at Causeway (in front of MPCs Building)	Short term	UDA,LA
17	Pesalai beach beautification project	Short term	LA, Provincial council
18	Redevelopment of vegetable market with commercial complex at UC	Medium term	LA, Provincial Council
19	Improvement and extension of roads – Inner circular road	Medium term	LA
20	Development of bus terminal at Thalaimannar	Short term	NTC
21	Thottavali beautification project	Short term	LA, Provincial council
22	Improvement and extension of roads – service road	Medium term	Public private partnership
23	Preservation of baobab trees at Pallimunai and Eluthoor	Short term	Archeology department
24	Redevelopment of Public Stadium at hospital road	Medium term	LA
25	Improvement of A 14 road	Long term	RDA
26	Establishment of Jetty at Erukalampty	Short term	Department of fisheries and aquatic resources, NGO
27	Development of fish Market at Thalaimannar	Medium term	LA
8	Redevelopment of Salt Pan	Long term	Ministry of Industry, Manthai Saltern Pvt. LTD
29	Main junction beautification project at UC	Short term	LA, Provincial council, RDA
30	Redevelopment of Pallimunai Road	Medium term	LA
31	Keeri beautification projects	Short term	LA, Provincial council
32	Local Park Development at Pattithodam, Tharapuram, Thoddavali & Pesalai North	Short term	LA, Provincial council
33	Development of solar park	Long term	SEA, Public Private Partnership
34	Establishment of Jetty at Pallimunai	Short term	Department of fisheries and aquatic resources, ADB
35	Community Park Development at Pattithodam & Thoddavali	Short term	LA, Provincial council
36	Establishment of Jetty at Thalvupadu	Short term	Department of fisheries and aquatic resources, NGO
37	Development of North coastal road (Phase 1)	Medium term	LAs
38	Establishment of observation Tower at Urumalai	Short term	SLTDA, Provincial Council

39	Eluthur junction beautification project	Short term	LA, Provincial council
40	Establishment of Green belt selected locations	Long term	LA, Provincial council, NGO
41	Redevelopment of Southbar Road	Medium term	LA
42	Mini park Development at Savatkadu, Southbar, Eluthur, Uppukulam South, Siruthoppu, Thallaimannar & Erukalampitty	Short term	LA , Provincial council
43	Development of North coastal road (Phase 2)	Medium term	LAs
44	Establishment of Jetty at Konthaipitty	Short term	Department of fisheries and aquatic resources, NGO
45	Establishment of research center related to marine bio diversity	Short term	Education Ministry, NGO
46	Pocket park Development at Moor Street, Savatkadu & Thallaimannar	Short term	LA, Provincial council
47	Olaithoduvai beach Beautification	Short term	LA, Provincial council
48	Urumalai beautification project	Medium term	LA, Provincial council
49	Proposed Dumping & Composting Yard at Pesalai	Short term	LA, Provincial council
50	Improvements of other roads (Refer transport plan)		LA
51	Establishment of vocational training center at South bar	Medium term	Ministry of Youth Affairs & skills development
52	Hospital junction beautification project	Short term	LA, Provincial council, RDA
53	Development of bus terminal at Pesalai	Short term	NTC,LA
54	Town Pond development project behind the Bus stand	Short term	LA, Provincial Council
55	Thalladi junction beautification project	Short term	LA, Provincial council, RDA
56	Development of facilitation center at Tharapuram	Short term	LA, Ministry of Industry and Commerce
57	Replanting Project (Refer Guide plan)		LA, UDA, SLTDA, Public private partnership
58	Establishment of Jetty at Thalaimannar	Short term	Department of fisheries and aquatic resources, NGO
59	Development of children park at Tharapuram	Short term	LA, Ministry of Industry and Commerce
60	Establishment of Jetty at Panankaddikoddu	Short term	Department of fisheries and aquatic resources, NGO
61	Town Park Development at Elunthoor	Short term	LA, Provincial council
62	Improvement of road behind the Bus stand	Medium term	LA, Public Private Partnership, Provincial Council
63	Redevelopment of existing canal behind the Bus stand	Medium term	LA, Public Private Partnership, Provincial Council

Source: Prepared by UDA (NP)

ANNEXURES

Annexure No 1: Population Density (2016)

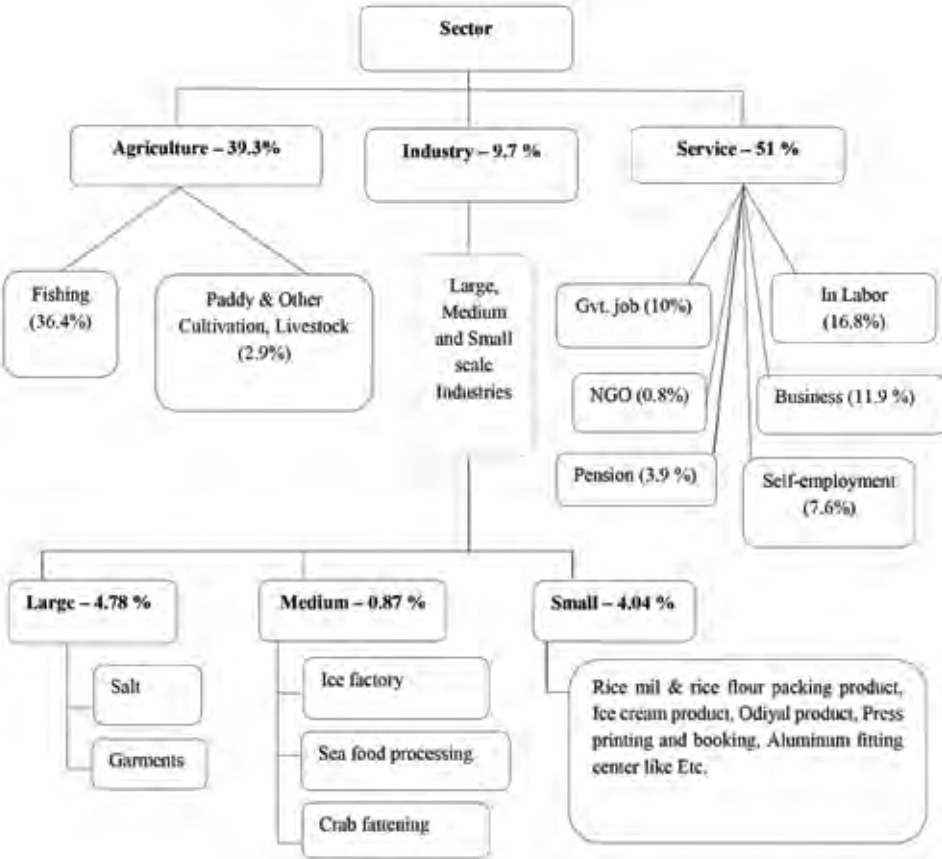


Annexure No 2: Arrivals of Commuters (2016)

Type of Population	Total Size
Trade & Commerce	2600
Education (schools/ tutions - students & staffs)	1600
Health (patients/staffs)	2000
Administrative	500
Industry	2000
Tourist	800
Total	9500

Source: Field Observation, 2016

Annexure No 3: Sectoral Composition (2016)



Source: Divisional Statistical handbook Mannar Town, 2016

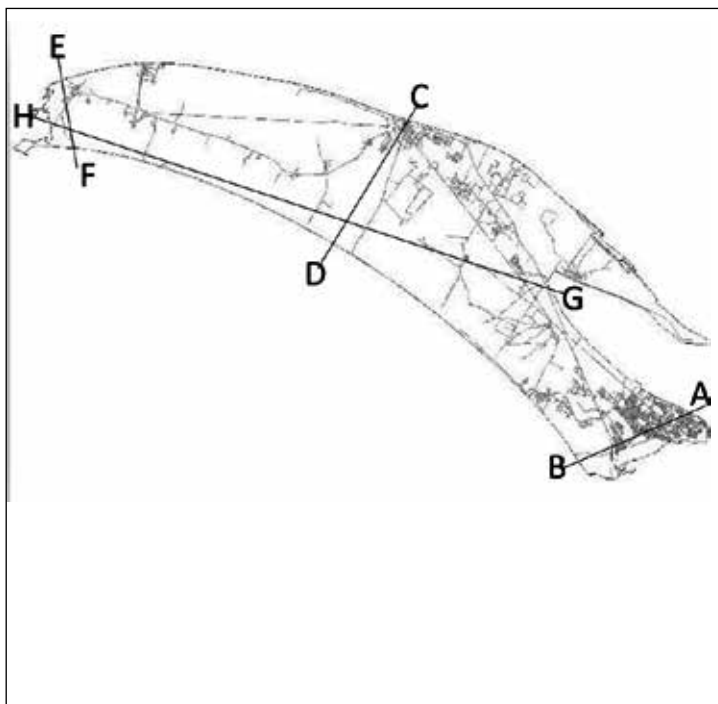
Annexure No 4: Existing Water Usage - Mannar Island (2016)



Annexure No 5: Catchment Details EU – Drainage Project



Source: UNOPS_ Drainage Project, 2012



- 01. A – B : Foreshore Area
- 02. C – D : Pesalai Area
- 03. E – F : Thalaimannar Area
- 04. G – H : Mannar to Thalaimannar

01. At Foreshore Area



02. At Pesalai Area



03. At Erukkalampitty Area



04. At Thalaimannar Area



Source: Prepared by UDA (NP)

Annexure No 7: Basic Details for Hospital in Mannar Island Need to be Facilitate in Future

No	Hospital	Location	Type	No of Doctors	No of Staff	Bed	Number of Patients visiting per day
1	District General Hospital	Chavatkadu	DGH	48	38S staffs	331	436
2	Divisional Hospital Thalaimannar	Thalaimannar Pier East	DH-B	2	24 staffs	60	70
3	Divisional Hospital Pesalai	Pesalai South	DH-B	2	28 staffs	50	107
4	Divisional Hospital Erukkalampitty	Erukkalampitty central	DH-C	2	18 staffs	19	72
5	Primary Medical Care Unit, Tharapuram	Tharapuram West	PMCU	2	9 staffs	-	34
6	MOH Mannar	Uppukulam South	MOH	1 MOH	44 staffs	-	Clinic (2 time for week)
7	GHC Erukkalampitty	Erukkalampitty East	GHC	1 MOH	5 staffs	-	Clinic (1 time for month)
8	GHC Sinakaraisal	Sinakaraisal	GHC	1 MOH	5 staffs	-	Clinic (1 time for month)
9	GHC Thalaimannar	Thalaimannar Pier	GHC	1 MOH	5 staffs	-	Clinic (1 time for month)
10	GHC Tharapuram	Tharapuram	GHC	1 MOH	5 staffs	-	Clinic (1 time for month)
11	GHC Pallimunai	Pallimunai	GHC	1 MOH	5 staffs	-	Clinic (1 time for month)

Source: RDHS, Mannar

Annexure No 8: Existing Schools with Classification - Mannar Island

AB		1C		Type 2		Type 3	
Name of the school	No. of Students	Name of the school	No. of Students	Name of the school	No. of Students	Name of the school	No. of Students
Mn/Sithyvinayakar HinduCollege	1574	MN/Punitha Valanar R.C.T.M.S	478	Mn.Eluthoor R.C.T.M.S	223	Mn/Kaddukkarankudigiruppu R.C.T.M..S	45
Mn/St.Xavier Boy's M.M.V	1716	Mn/St. Lucia M.V	548	Mn/Olaithoduvai R.C.T.M.S	64	Mn/St. Mary's Girls' Vid	600
Mn/St.Xavier Girls College	1567	Mn/Al-Mina.M.V	430	Mn.St.Lawrance R.C.T.M.S	252	Mn/Erukkalampiddy East G.M.M.S	117
Mn/Fatima M.M.V.	927	Mn/ Erukkalampiddy Mahalir MV	333	Mn/ Thullukudiyiruppu RCTMS	228	Mn/ Siruthoppu.R.C.T.M.S	106
n/Talaimannar pier GTMS	165	Mn/Thoddavelli G.T.M.S	82	Mn/Karaisal R.C.T.M.S	220	Mn/Santhipuram G.T.M.S	318
MMn/Al-Azhar MV	643			Mn/ Talaimannar pier GMMS	213	Mn/Talaimannar pier RCTMS	165
Mn/ Erukkalampiddy Muslim MMV	453						

Source: Zonal Education Office, Mannar

Annexure No 9: Physical Need of Schools - Mannar Island

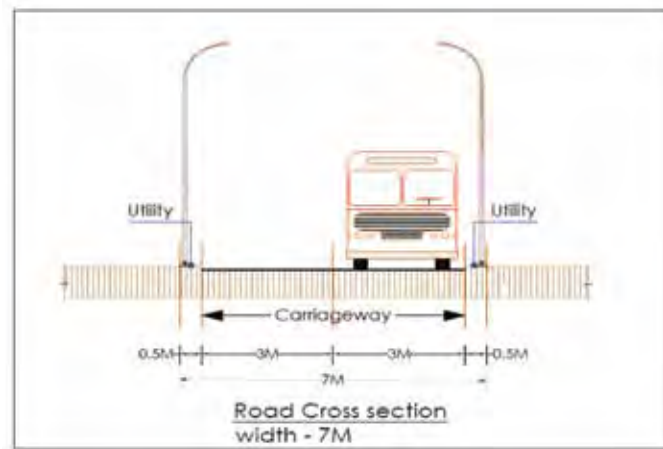
No	Name of School	Type	Required Facilities
1	Mn/St.Xavier Boy's M.M.V	1AB	Library
2	Mn/Erukkalampiddy Muslim MMV	1AB	Playground
3	MN/Punitha Valanar R.C.T.M.S	1C	Playground
4	Mn/St. Lucia M.V	1C	Playground
5	Mn/Thullukudiyiruppu RCTMS	Type ii	Playground
6	Mn/Siruthoppu.R.C.T.M.S	Type iii	Playground
7	Mn/Talaimannar pier RCTMS	Type iii	Playground

* Sanitary facilities like toilets and drinking water requirements need to be facilitate in all schools in future.

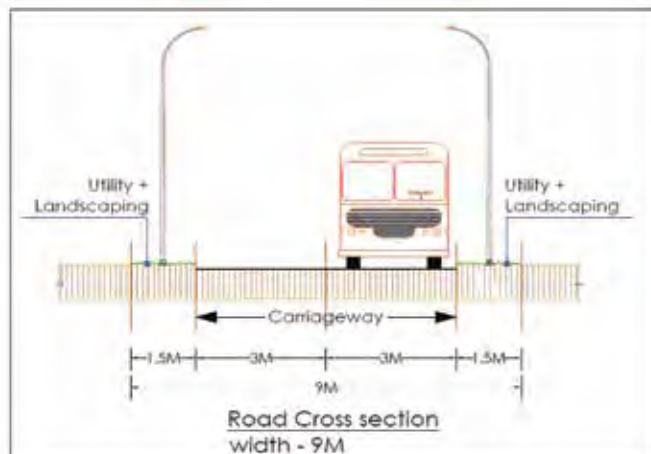
Source: Zonal Education Office, Mannar

Annexure No 10: Proposed Road Section

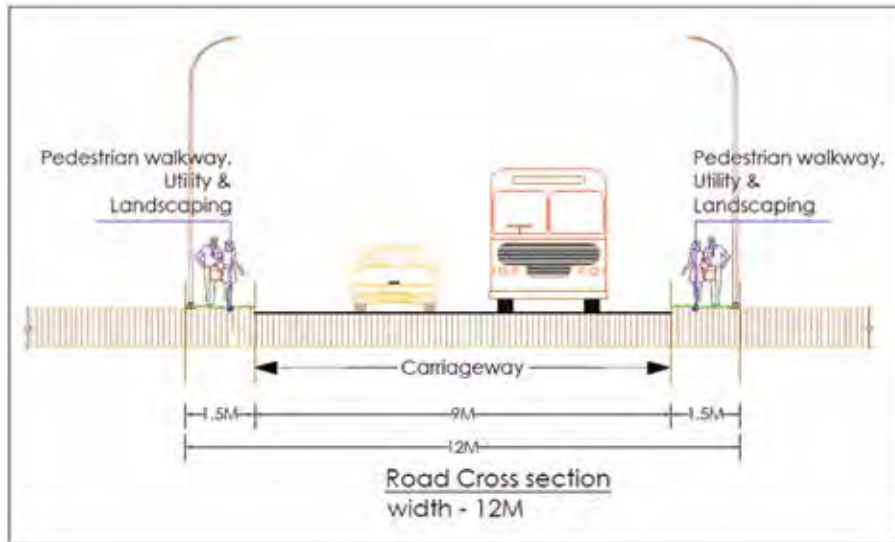
01. 7m Road



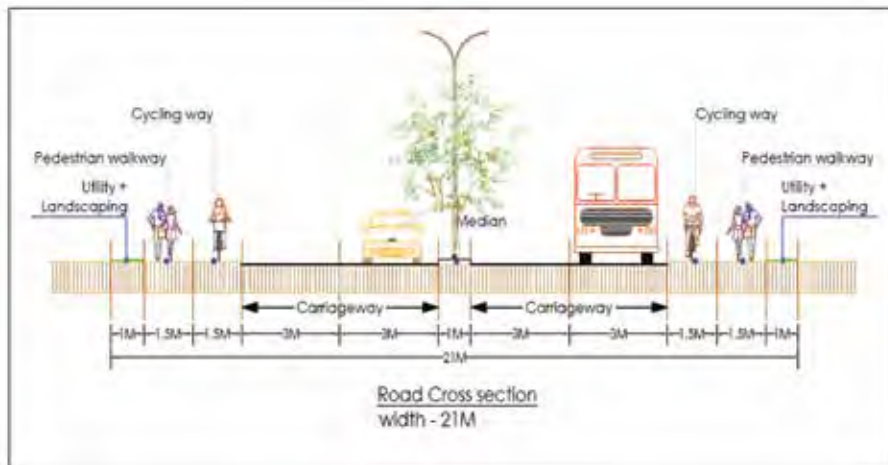
02. 9m Road



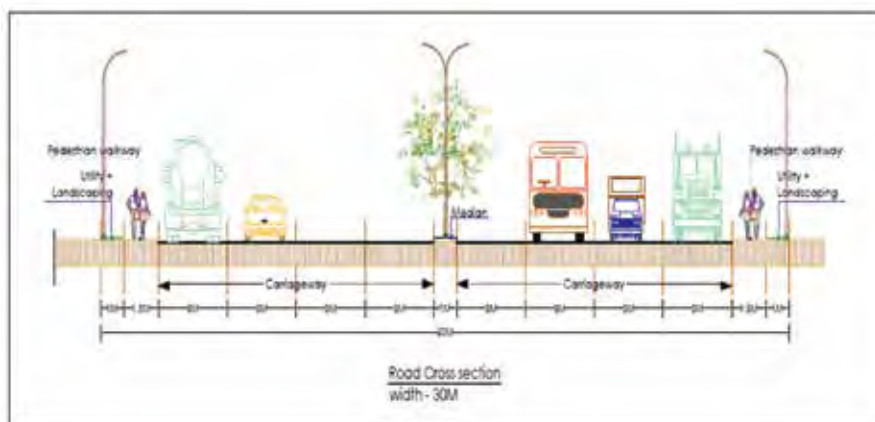
03. 12m Road



04. 21m Road



05. 30m Road



Annexure No 11: Water Demand - Mannar Island (2020 - 2030)

Water Demand for Mannar Island (2020-2030)			
	2020	2025	2030
Population	70,142	75,563	81,403
Commuters	7,000	15,000	30,000
	m ³ /day		
Residence	8,417	9,068	9,768
Education	253	272	293
Health	421	453	488
Commercial	842	907	977
Industrial	1,683	1,814	1,954
Institution	421	453	488
Other(religious and security & etc..)	84	91	98
Total Demand	12,121	13,057	14,066

Source: National Water Supply and Drainage Board, Mannar

Annexure 12: Industrial Categorization

Size Sector	Criteria	Large scale Industries	Mediumscale Industries	Small scale Industries	Micro scale Industries
Manufacturing sector	Annual Turnover (Rs. Mn)	>751	251-750	16-250	< 15
	No. of Employees	>301	51-300	11-50	< 10
Service Sector	Annual Turnover (Rs. Mn)	>751	251-750	16-250	< 15
	No. of Employees	>201	51-200	11-50	< 10

Source: Prepared by UDA

Annexure 13: Project Prioritization for Identified Action Projects

Project Prioritization for Identified Action Projects					
S.No	Action Projects	Weightage Criteria			Total
		To achieve the Vision	Social benefits	Inter dependency	weightage
1	Development of fishery harbor at Pesalai	59	60	0	119
2	Development of Modern commercial complex at Mannar town	52	59	0	111
3	Establishment of Marine Village at foreshore	60	50	0	110
4	Installation of Wind Turbines	56	52	0	108
5	Create access road of harbour development	58	48	1	107
6	Land Development for Industrial Zone	60	47	0	107
7	Nature park development near the causeway (Vankalai facilitation center)	57	49	0	106
8	Development of Al fathah ground at Uppukulam	59	46	0	105
9	Administrative Complex development	46	57	0	103
10	Redevelopment of Fish market at UC	48	52	0	100
11	Redevelopment of Bus Stand (CTB and Private) at UC	54	43	0	97
12	Improve the existing drainage & develop the drainage linkage	48	49	0	97
13	Development of Modern market at Pesalai	44	51	0	95
14	Renovation of the Dutch fort	53	42	0	95
15	Development of South coastal road	38	51	6	95
16	Development of parking area at Causeway (in front of MPCs Building)	47	45	0	92
17	Pesalai beach beautification project	43	47	0	90
18	Redevelopment of vegetable market with commercial complex at UC	39	51	0	90
19	Improvement and extension of roads – Inner circular road	44	45	0	89
20	Development of bus terminal at Thalaimannar	43	46	0	89

21	Thottavali beautification project	41	48	0	89
22	Improvement and extension of roads – service road	41	48	0	89
23	Preservation of baobab trees at Pallimunai and Eluthoor	42	46	0	88
24	Redevelopment of Public Stadium at hospital road	35	50	0	85
25	Improvement of A 14 road	48	37	0	85
26	Establishment of Jetty at Erukalampity	37	47	0	84
27	Development of fish Market at Thalaimannar	30	51	0	81
28	Redevelopment of Salt Pan	31	49	0	80
29	Main junction beautification project at UC	43	36	0	79
30	Redevelopment of Pallimunai Road	42	33	0	75
31	Keeri beautification projects	38	36	0	74
32	Local Park Development at Pattithodam, Tharapuram, Thoddavali & Pesalai North	31	43	0	74
33	Development of solar park	42	31	0	73
34	Establishment of Jetty at Pallimunai	34	39	0	73
35	Community Park Development at Pattithodam & Thoddavali	32	40	0	72
36	Establishment of Jetty at Thalvupadu	34	38	0	72
37	Development of North coastal road (Phase 1)	37	33	0	70
38	Establishment of observation Tower at Urumalai	31	38	0	69
39	Eluthur junction beautification project	26	42	0	68
40	Establishment of Green belt selected locations	26	42	0	68
41	Redevelopment of South bar Road	38	28	0	66
42	Mini park Development at Savatkadu, Southbar, Eluthur, Uppukulam South, Siruthoppu, Thallaimannar & Erukalampitty	24	41	0	65
43	Development of North coastal road (Phase 2)	45	19	0	64
44	Establishment of Jetty at Konthaipitty	32	31	0	63

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45	Establishment of research center related to marine bio diversity	36	26	0	62
46	Pocket park Development at Moor Street, Savvatkadu & Thallaimannar	22	40	0	62
47	Olaithoduvai beach Beautyfication	19	40	0	59
48	Urumalai beautification project	23	35	1	59
49	Development of Dumping yard at Pesalai	24	35	0	59
50	Improvements of other roads (Refer transport plan)	22	36	0	58
51	Establishment of vocational training center at South bar	21	35	0	56
52	Hospital junction beautification project	26	29	0	55
53	Development of bus terminal at Pesalai	7	45	0	52
54	Town Pond development project behind the Bus stand	16	33	0	49
55	Thalladi junction beautification project	18	30	0	48
56	Development of facilitation center at Tharapuram	6	39	0	45
57	Replanting Project (Refer Guide plan)	8	36	0	44
58	Establishment of Jetty at Thalaimannar	13	29	0	42
59	Development of children park at Tharapuram	8	28	0	36
60	Establishment of Jetty at Panankaddikoddu	7	27	0	34
61	Town Park Development at Elunthoor	4	29	0	33
62	Improvement of road behind the Bus stand	16	15	0	31
63	Redevelopment of existing canal behind the Bus stand	15	12	1	28

Annexure No 14: Mannar Nature Park Development Project

Project Identification

Project Title	Mannar Vankalai Facilitation Center (Nature Park) Development Project
Project	Enrich the scenic view of seascape and foreshore area of Mannar
Project Proposal	Enhancement of Landscape & Promotion of Recreational Activities

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town DSD	LA	Mannar UC
Boundary	North	East	South	West
	Sea	RDA Road (Medawachchiya-Talaimannar Road)	Sea	Sea
Access	RDA Road (Medawachchiya-Talaimannar Road)			
Location Map				
Adjacent Land Uses (explain with map)	<p>Adjacent land is consisted with sea and the main access to the Nature Park is RDA Road (Medawachchiya-Talaimannar Road)</p> <p>Mannar bridge is connecting the Mannar Main Land and the Mannar island which is having the length of nearly 3.42 km. And the Nature Park is located nearly 3.1 km away from Mannar Main Land.</p>			

Project Justification

Project Type	New	✓	Improvement		Extension		Land Development only
Project Category	Conservation	Commercial	Landscape & Recreation	Heritage	Housing	Relocation	Infrastructure
			✓				

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Project Aspect	Environment	✓	Economic	✓	Social	✓
Project Objective	<ul style="list-style-type: none"> To conserve indigenous flora and fauna of the Mannar Island To provide better shelter and safe to migrant birds To enhance eco-tourism related activities and contributing to National Economy To upgrade livelihood of the local people through involving tourism related activities To provide better impression who are visiting to Mannar Island To create foreshore of the Mannar Island as a front area of the development 					
Rational of project	<p>In the present situation there is a need to enhance the experience of natural environment and significant sites. Also it is very much need to give good and memorable sense for the visitors those who enter to the Mannar Island. The Proposed Nature Park Development located at the entry point of Mannar Island. So in order to enhance the view point of Mannar and to facilitate the tourists this proposal has proposed by UDA.</p> <p>Further this project has proposed under the Environment Plan of 2030 for Mannar Development Plan to set out the approach to safeguarding Mannar environment and future proofing Mannar's economy for generations to come. They are complementary approaches that reinforce one another given the relationship between the environment and the economy.</p> <p>So Nature Park Development will help to boost the productivity by enhancing Mannar's natural capital of the air, water, soil and ecosystems that support all forms of life since this is an essential basis for economic growth and productivity over the long term.</p>					

Property Description

Present Land Ownership	Private		State		Other	Department of Wild Life Conservation
Free Encumbrances	Yes		No	✓	If No give details	Recently reclaimed by the RDA for their yard purpose when the construction of new bridge
Details of the Ownership	Department of Wild Life Conservation					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor	Date	Land Extent		
	1720	K.Kanagasabai	2017.10.15	4 A 0 R 16.73 P		

Project Description

Project Period	Short term (1>year)	✓	Mid Term (1-3 year)	Long term (3< year)	Total Estimated Cost	40 Mn	
Financing Method	Thuruwadula Programme by UDA (Stage I), Treasury Fund and fund from Mannar UC						
Description of the Project (with map)	<p>Developing the Nature Park Development by including relevant facilities including Facilitation Center, Information Center, Open Grass Area, Underground Facility Area and Elevated Podium, Performing Stage, Open Area for Public Gathering, Water Area, Shallow Water Walk Way, Summer Hut, Wide Glider Wheel Way, Interlock Blocked Paved Pathway, Restaurant and Viewing Deck, Informal Seats under the tree, Sandy Area, Jetty, Waiting Area, 100m Running Way, Tensile Structure Cover Children Play Equipment and Restaurant that will contribute to enhance the eco – tourism related activities to Mannar.</p> <p>Map: Refer the Annexure</p>						
Infrastructure Availability	Water	Required Capacity Total: 6400 l per day			Electricity	Required Capacity	10000 kw

		Drinking Purpose: Average Person x Required Liters $200 \times 2 \text{ Liters} = 400 \text{ l}$				
		Bathing purpose including wash rooms Average Person x Required Liters $200 \times 5 \text{ Liters} = 1000 \text{ l}$				
		Restaurant purpose: 2000l				
		Watering Plants: 3000 l				
		Available Capacity	-		Available Capacity	
	Solid waste Management system	Yes	✓	No		If No give details
Zone	Near to Zone 1(Character of the Zone is forehore area which is acting as entrance to the Mannar island)		Zoning compatibility	Yes		✓ No

History (if it relevant)**Present Status (Explain Details with Measurements)****Existing Situation**

The proposed project's land is belongs to the Department of Wildlife Conservation. In the present situation there are 2 buildings located on land. One of the building is in abandon condition and another building has put up with only the foundation.

Description	No. of Units	Length	Width
Building A Foundation only available	-	11 m	3.5 m
Building B Abandon Building	-	10 m	3 m

Photographs

Existing Building 'A' (Only foundation structure is remained at the existing situation)



Existing Building 'B'



View of Entire Land of Proposed Nature Park Development

Note: The existing abandon buildings which is indicated as 'A' will be converted as restaurant and viewing deck and 'B' will be converted as Information Center in future.

Proposed Plan & Building Design Requirements
1. Existing and Proposed Level 2. Soft Landscape Design 3. Hard Landscape Design 4. Drawing of Facilitation Center 5. Drawing of Information Center <i>Refer the Annexures</i>
Project Budget

Activity		Cost (rs. Mn)
1.	Site Preparation	1.00
2.	Construction of retaining Wall	14.00
3.	Construction of Service Building	2.50
4.	Landscaping	9.00
5.	Lighting	1.40
6.	Outdoor Furniture	2.10
Sub total i		30.00
7.	10% Contingencies	3.00
8.	Project Cost	33.00
9.	Consultancy Fee (3%)	0.99
Sub total ii		33.99
10.	NBT (2%)	0.68
11.	Sub Total III	34.67
12.	VAT (15%)	5.20
GRAND TOTAL		39.87

Approval Agencies


Activity		Relevant authority	
1.	Land Clearance	Department of Wild Life Conservation	
2.	Building for Facilitation Center	Urban Development Authority Central Environmental Authority	
3.	Building for Information Center		
4.	Open Grass Area		
5.	Underground Facility Area & Elevated Podium		
6.	Performing Stage		
7.	Open Area for Public Gathering		
8.	Water Area		
9.	Shallow Water Walk Way		
10.	Summer Hut		
11.	Wide Glider Wheel Way		
12.	Interlock Blocked Paved Pathway		
13.	Restaurant & Viewing Deck		
14.	Informal Seats Under the Tree		
15.	Sandy Area		
16.	Jetty		
17.	Waiting Area		
18.	100m Running Way		
19.	Tensile Structure Cover Children Play Equipment		
20.	Restaurant		
21.	Parking	Road Development Authority	
22.	Maintenance & Management (UDA will be signed Memorandum of Understanding with Local Authority)	Mannar Urban Council	

	Regulations	Guidelines
Regulations and Guidelines	UDA Planning & Building Regulation	<p>Clearance should be obtain from Urban Development Authority, Central Environmental Authority, Coast Conservation Department & Department of Wildlife Conservation and Road Development Authority</p> <p><u>Guidelines for Zone 1:</u></p> <ol style="list-style-type: none"> 1. New development and extension should not disturb existing historical buildings of Dutch Fort and Pallimunai St.Lucia Church. 2. Recommendation should be obtain from relevant agencies 3. The maximum height should be less than 40 ft 4. Live fencing or see through fencing allowed in front of the foreshore area 5. Plot overage 50% should be main-tained
Details of Attachments	<ol style="list-style-type: none"> i. Survey plan ii. Map of Project iii. Existing and Proposed Level Drawing iv. Soft Landscape Design v. Hard Landscape Design vi. Drawing of Facilitation Center vii. Drawing of Information Center 	

Annexure No 15: Redevelopment of Bus Stand (CTB & Private) At UC**Project Identification**

Project Title	Redevelopment of bus stand (CTB & private) at UC
Project	Town center improvement
Project Proposal	Enhance the related basic infrastructure facilities for the general public

Project Location

Location	Province	Northern	District	Mannar
	S Division	Mannar Town	LA	MannarUC
Boundary	North	East	South	West
	Children Park	Park Road & Canal	Temporary commercial shops (belongs to Mannar UC)	A 14 Road & Thalaimannar Road
Access	A 14 road			
Location Map				
Adjacent Land Uses (explain with map)	Adjacent land is mostly owned by Mannar UC and consisted with children park and temporary commercial shops. The southern part of land consists with temporary commercial shops which are going to be remove and proposed to construct a commercial complex in that land. Also, many of administrative offices specially district secretariats and Mannar UC was located closer to the proposed project area.			

Project Justification

Project Type	New		Improvement	✓	Extension		Land Development only
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Infrastructure
Project Aspect	Economic			✓	Social		✓
Project Objective	<ul style="list-style-type: none"> To improve basic infrastructure facilities for the general people To provide affordable, accessible, and dynamic public transportation facilities to the passengers To integrate present CTB and private bus stand To reduce the traffic problems within core area 						

Mannar Island Development Plan 2030

Rational of project	Mannar Town is the capital of the Mannar district and providing services for the district population. As per the traffic survey carried out by the UDA, Northern Provincial Office, nearly 20,000 commuters visit Mannar Town from Mannar Island and the mainland of Mannar district to fulfill their needs related to health, educational and other services. The domestic and foreign tourists visit Mannar to spend their vacations. For such needs, they use public and private buses as the main mode of transportation. However, the public is suffering to get better facilities in the absence of proper transport related infrastructure, specially a bus stand with adequate facilities.
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Property Description


Present Land Ownership	UDA		Private		State			✓
Free Encumbrances	Yes	No		If No give details				
Details of the Ownership	Mannar UC							
Survey Plan Detail	Survey Plan No.	Name of the Surveyor		Date	Land Extent			
	F.T.S.P 15 Supplement No:8 Sheet No: 78	S. Jacobpillai		2017.10.30	2.29 Acre			

Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)	✓	Long term (3< year)		Total Estimated Cost	115 Mn
Financing Method	Ministry of megapolis and western development							
Description of the Project (with map)	The bus stand development consists with 16 bus bays and 12 number of commercial shops including relevant facilities; passengers waiting area, cafeteria, lobby area, ticketing counter, maintenance room, toilet and rest room (Refer the annexures)							
Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity			
		Available Capacity			Available Capacity			
	Solid waste Management system	Yes		No	If No give suitable SWM proposal			
Zone				Zoning compatibility	Yes	✓	No	
History (if it relevant)								
For Bus stand development, the Stakeholder's consultation conducted with all relevant authorities and the general public. The UDA negotiated with Mannar Urban Council for a MoU between the UDA and the Mannar UC for the development of the Bus stand since the land belongs to the UC.								
Present Status (Explain details with measurements)								
UDA has prepared the detail architectural drawings. The State Engineering Corporation (SEC) has prepared the Structural Engineering drawings and Contact has been awarded to Kanola Engineering and Construction, following the tender procedures.								

Existing Situation

Contact has been awarded to Kanola Engineering and Construction on June,2018. Construction was started and in progress


Description	No. of units	length	width
Layout map			
Proposed Plan & Building Design Requirements			
<ol style="list-style-type: none"> 1. Architectural design 2. Structural engineering design 			
Project Budget			
Activity		Cost (Mn)	
Preliminaries		10.0	
Site preparation		12.0	
Construction of building		75.0	
Finishing works		18.0	
Total		115.0 Mn	
Approval Agencies			
Activity	Relevant Authority	Authorized person	
	Urban Development Authority	Director General	
	Mannar PS	Chairman	
	Mannar Town Divisional Secretariat	Divisional Secretary	
Regulations and Guidelines	Regulations	Guidelines	
	Please refer guide plan, zone 1 and general regulations and guidelines		
Details of Attachments	<ol style="list-style-type: none"> 1. Front elevation 2. Side elevation 3. Floor plans 4. Roof plan 		

Annexure No 16: Development of Fishery Harbour at Pesalai

Project Identification

Project Title	Development of fishery harbor at Pesalai
Project	Fishery development in Pesalai
Project Proposal	Enhance fishing related infrastructure facilities

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar PS
Boundary	North	East	South	West
	West: sea side - 731594.19 N, 399039.32 E, land side - 731516.32 N, 399018.74 E East: sea side - 731339.39 N, 399520.00 E, land side - 731319.30 N, 399416.89 E			
Access	St. Joseph street			
Location Map				
Adjacent Land Uses (explain with map)	Adjacent land is consisted with sea and scrub area and no any permanent building. The existing landing site is near by the proposed harbor development area.			

Project Justification

Project Type	New	✓	Improvement	Extension		Land Development only		
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Infrastructure	
							✓	
Project Aspect	Economic			✓	Social			✓
Project Objective	<ul style="list-style-type: none"> To improve the marine fisheries infrastructure To improve the fish production, nutritional status, food security To enhance the livelihood of the local people 							
Rational of project	Main strategy of the proposed industrial plan in the development plan is to locate a fishery harbor within the Mannar Island considering about the physical, social and economic activities. That is Pesalai area selected as the most suitable area for the fishery harbor development because this selected area has the highest fishery production (46% of Island production) and most of the people (60%) are engaging in fishery related activities.							

Property Description

Present Land Ownership	UDA		Private	✓	State	✓
Free Encumbrances	Yes	No	If No give details			
Details of the Ownership	3.5042 ha private ownership and 5.3556 ha state land					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor		Date	Land Extent	

Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)	✓	Long term (3< year)		Total Estimated Cost	
Financing Method	ADB							
Description of the Project (with map)	Development of Pesalai fishery harbor is consist with 108030 m2 basin area, 180 m jetty length, 420 m Quay wall length, 669 m main breakwater length and 338 m secondary breakwater length with relevant facilities(Auction hall, Net mending area, Admin building, Surveillance building, Canteen, Community hall, Quarters, Toilet, Security block, Fuel office, Satellite office, Transformer room, Generator room, Restaurant, Weigh bridge operator room, Sales outlet building and land space for offloading building). Also, it is possible to accommodate 75 local IMUL (up to 20m), 150 I-day(28ft) in 2022 and 150 local IMUL (up to 20m), 250 I-day(28ft) in 2022.							
Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity			
		Available Capacity			Available Capacity			
	Solid waste Management system	Yes		No	If No give suitable SWM proposal			
Zone	Zone 3 (Mixed Development Zone)			Zoning compatibility	Yes	✓	No	

History (if it relevant)
Present Status (Explain details with measurements) In the present situation of proposed project land is a scrub area and no any permanent building.

Existing Situation

Description	No.of units	length	width

Layout map

Proposed Plan & Building Design Requirements
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1. Architectural design
2. Structural design

Project Budget

Activity	Cost
Total	

Approval Agencies


Activity	Relevant Authority	Authorized person
	Ministry of fishery and aquatic resource development	Secretary
	Coastal conservation department	Director General
	Mannar PS	Chairman
	Mannar Town Divisional Secretariat	Divisional Secretary
	Central Environment Authority	Director General

Regulations and Guidelines	Regulations	Guidelines
	Please refer zone 3 and general regulations and guidelines	

Annexure No 17: Establishment of Jetty at Pallimunai**Project Identification**

Project Title	Establishment of Jetty at Pallimunai
Project	Fishery development in Pallimunai
Project Proposal	Enhance fishing related infrastructure facilities

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar UC
Boundary	North	East	South	West
	Sea	Sea	Sea	Pallimunai road
Access	Pallimunai road			
Location Map				
Adjacent Land Uses (explain with map)	Proposed site located nearby Pallimunai road at northern part of foreshore area within Mannar town			

Project Justification

Project Type	New	✓	Improvement		Extension		Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Infrastructure	
Project Aspect	Economic			✓	Social			✓

Project Objective	<ul style="list-style-type: none"> Facilitate the tourism master plan of Northern Province Create direct access to the sea through Jetty Create safe anchoring arrangement for boats at sea shore and easiest way for loading and unloading of fishes and fishing equipment Increase the fishing capacity of the area and upgrade the living standard (Income) of fishing population
Rational of project	<p>Tourism Master Plan for Northern Province consists with 23 Islands in the western part of Northern Province. Most of the Islands have only vacant lands which have rich bio diversity with natural setting without population. Therefore, it is possible to develop this area as a tourism development area consists with islands and marine resources. Accordingly, Pallimunai become one of a strategic location which has direct and easiest access to the other island by sea route.</p> <p>Therefore, Pallimunai was identified as one of the water-based tourism development potential area consist with natural canal system which can be used for water based recreational facilities for local and foreign tourists. Although the natural canal is little far away from sea shore difficult to access to the canal. Due to this, it is difficult to tough the potential of tourism of the area. In this situation, Jetty development at Pallimunai as a priority project for this stage in order to create a direct link to the tourism potential area.</p> <p>Also, Pallimunai is one of the highest production fishery village situated within Mannar UC area while contributing nearly 16% of the total fish production of Mannar UC. Majority of the families (939 families, 3231 population) are engaging on fishing using 286 operating fishing craft. But, the village has less amount of fishing related infrastructure facilities. In dry season, nearly half of the year fisherman has to push or drag the boat manually more than 1.5 km to reach the water line. It is creating difficult for loading and unloading of fishes and fishing equipment as well as spent unnecessary time and energy. At the same time, presently fishing boats are anchoring at sea shore where corrosion, high tide, cyclone are possible to occur there is no safe for boats. Therefore, it is necessary to provide related infrastructure facilities specially Jetty.</p>

Property Description

Present Land Ownership	UDA		Private		State	✓
Free Encumbrances	Yes		No	If No give details		
Details of the Ownership						
Survey Plan Detail	Survey Plan No.	Name of the Surveyor		Date	Land Extent	

Project Description

Project Period	Short term (1 > year)		Mid Term (1-3 year)	✓	Long term (3 < year)		Total Estimated Cost
Financing Method	ADB						
Description of the Project (with map)	onsultancy study need to be done for the jetty design						

Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity
		Available Capacity			Available Capacity
	Solid waste Management system	Yes	✓	No	If No give suitable SWM proposal
Zone	Zone 3 (Mixed Development Zone)		Zoning compatibility	Yes	✓ No

History (if it relevant)

Present Status (Explain details with measurements) The fishermen are using manmade canal to drag/push the boats from sea shore

Existing Situation

Description	No.of units	Length	Width

Layout Map

Proposed Plan & Building Design Requirements

5. Structural design

Project Budget

Activity	Cost
Total	100 Mn

Approval Agencies

Activity	Relevant Authority	Authorized person
	Ministry of fishery and aquatic resource development	Secretary
	Coastal conservation department	Director General
	Mannar UC	Chairman
	Mannar Town Divisional Secretariat	Divisional Secretary

Regulations and Guidelines	Regulations	Guidelines
	Please refer zone 3 and general regulations and guidelines	
Details of Attachments		

Annexure No 18: Renovation of Mannar Dutch Fort**Project Identification**

Project Title	Renovation of Mannar Dutch Fort
Project	Conserve the value of archaeological cultural and historical sites.
Project Proposal	Renovation of Dutch Fort and marketing the historical value of Mannar for visitors

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar town DSD	LA	Mannar UC
Boundary	North	East	South	West
	Settlement	Sea	Sea	Vacant land
Access	RDA Road (Medawachchiya-Talaimannar Road)			
Location Map				
Adjacent Land Uses (explain with map)	Adjacent land is consisted with sea, settlement and vacant land and also the main access to the Mannar Dutch Fort is RDA Road (Medawachchiya-Talaimannar Road) Particularly Mannar Dutch fort has outer moat.			

Project Justification

Project Type	New		Improvement	✓	Extension		Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Other	
	✓	✓	✓	✓				
Project Aspect	Economic	✓	Environment	✓	Social			✓
Project Objective	<ul style="list-style-type: none"> • Conservation the Dutch fort and leave it for future generation. • Enhance the heritage value of Mannar • To provide better impression who are visiting to Mannar Island • To create foreshore of the Mannar Island as a front area of the development • Marketing the heritage value by proposing the museum inside the fort 							
Rational of project	In the existing situation the heritage value of Dutch fort is not reflecting the value and there is a need to be preserve the heritage value of Mannar by renovating the Dutch Fort. Also provide opportunity to develop the local business by promoting art gallery and museum which could be able to reflect the historical evidence of Mannar.							

Property Description

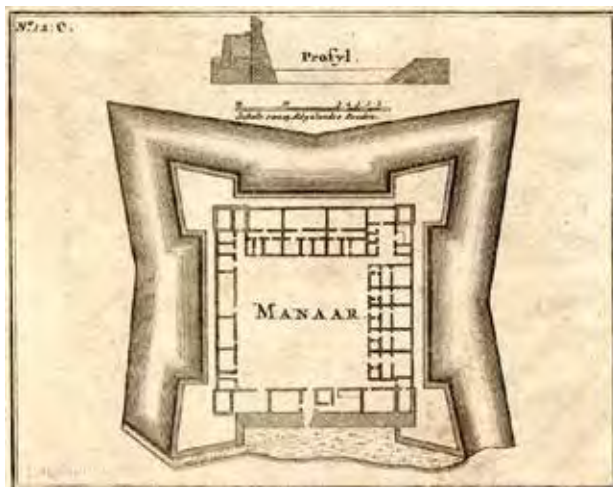
Present Land Ownership	Department of Archeology	✓	Private		State	
Free Encumbrances	Yes	No	If No give details			
Details of the Ownership	Ownership is for Department of Archeolog					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor	Date	Land Extent		
				.....A	.....R	.....P

Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)	✓	Long term (3< year)		Total Estimated Cost (Rs Mn)
Financing Method	Department of Archeology						
Description of the Project (with map)	Mannar is blessed with Dutch inspired fort built at a comfortable human scale at the entrance to the Island. The renovation of this historically significant structure is an important signature element in a new cultural site.						
Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity		
		Available Capacity			Available Capacity		
	Solid waste Management system	Yes		No Should be provide	If No give suitable SWM proposal		
Zone	Zone 1 (Character of the Zone is foreshore area which is acting as entrance to the Mannar island)			Zoning compatibility	Yes	✓	No

History (if it relevant)

Mannar Fort is located on Mannar Island, Sri Lanka. It was built by Portuguese in 1560. The fort fell to the Dutch in 1658, and they rebuilt the fort in 1696. In 1795 the British occupied the fort following the surrender by the Dutch. It is a square shaped fort with four bastions and is located next to the new bridge that connects the mainland with the Mannar Island.



Present status (explain details with measurements)

Existing Situation

Roofless top and damaged structures are remained.

Description	No. of units	Length	Width

Layout Map

Photographs



Proposed Plan & Building Design Requirements (if available)

- Proposed Activities:
- Renovate the Dutch fort with Dutch architectural style
- Proposed to have museum & art gallery inside the Fort
- Promote as a tourism place

Project Budget

Activity	Cost (Rs. Mn)
Total	

Approval Agencies


Activity	Relevant Authority	Authorized person
Issuing approval based on compatible of regulation	UDA	Provincial Director
Issuing approval based on archeological regulation	Department of Archeology	Director General
Maintenance and management		
	Regulations	Guidelines
Regulations and Guidelines	UDA Planning & Building Regulation	<p>Clearance should be obtain from Urban Development Authority, Central Environ-mental Authority, Coast Conservation Department and Road Development Authority Guidelines for Zone 1:</p> <p>All new developments and extensions should be compatible with the seascape view, colonial style, height, facade composition and character of the foreshore area.</p> <p>1. Seascape view: New developments should be compatible with the view of sea; means not to obstruct the visual link of sea; especially see through or live fencing allowed in front of the each and every plots not exceeding 6ft.</p> <ul style="list-style-type: none"> • The maximum height of the concrete post is 6ft from the ground level and the size of the concrete post is 6” x 6”
		<p>2. Height: Be height should be consistent with the height of existing colonial buildings of Dutch Fort and St.Lucia Church on the same block; should not exceed the existing height of Dutch Fort building which is 20ft and height of St.Lucia church 80ft on the skyline of the part of the zone.</p> <ul style="list-style-type: none"> • The immediate surroun-dings of the Dutch Fort should be constructed with maximum height of 15ft. • The immediate surroun-dings of the St.Lucia Church should be constructed with maximum height of 50ft.

		<p>3. Colonial style: New developments shall compliment one of the existing historic Dutch Fort colonial style to support the historic context in terms of classic colonial colours accomplish creamy yellow, almond, white, petal pink, blue, beige and muted green.</p> <p>4. Greenery: New buildings and developments should use greenery facts to reduce the urban heat.</p> <p>a) Greenery should be introduced on the roof top of the new buildings</p> <p>b) Outer moat of the Dutch fort area will have green space to increase the greenery. (Annexure 1</p> <p>c) Edge of the foreshore area and beginning of the sea area will have tree line with the maximum height of 15ft.</p> <p>d) New developments are not allowed within the 30ft buffer zone of the Baobab tree to preserve the colonial plant species of Mannar. (Annexure 2)</p> <p>5. Materials and details: New buildings should use materials similar to those in the zone or on the block, including similar colour. Materials should be used in a manner that creates details and small-scale elements that give buildings a three-dimensional character and a “human scale” especially at the ground level.</p> <p>6. Facade composition: Facade composition should include the following elements:</p> <p>a) Sufficient percentage of windows and door openings, particularly at the first floor, so as to create a pedestrian friendly scale</p> <p>b) Green facade should be introduced for new buildings</p>
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Annexure No 19: Establishment of Observation Tower at Urumalai**Project Identification**

Project Title	Establishment of Observation Tower at Urumalai
Project	By establishing the observation tower provide opportunity for local and foreign visitors to enjoy the scenic view
Project Proposal	Promotion of local tourism

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town DSD	LA	Mannar PS
Boundary	North	East	South	West
	Sea	Sea	Land	Sea
Access	RDA Road (Medawachchiya-Talaimannar Road)			
Location Map				
Adjacent Land Uses (explain with map)	Adjacent land is consisted with sea, land and also the main access to the Observation tower is local authority road			

Project Justification

Project Type	New	✓	Improvement		Extension		Land Development only
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Other
Project Aspect	Economic	✓	Environment	✓	Social	✓	Tourism
Project Objective	<ul style="list-style-type: none"> Promote coastal based tourism Enhance the scenic view point Develop the Mannar destination point 						
Rational of project	In the existing situation the end point of Thalaimannar. Especially Urumalai area has high potential for coastal based tourism. There is a need to increase the amount of tourists but there is no any tourist spots to welcome and accommodate the tourists. The future objective is "To attract 3000 tourists to boost the marine tourism by end of 2030" to achieve the goal of "Enhance the experience of natural environment and significant sites". So in future the Urumalai area will act as major tourism spot by developing the tourism potential developments.						

Property Description

Present Land Ownership	Department of Wild Life Conservation			Private	State	
Free Encumbrances	Yes		No	If No give details		
Details of the Ownership	Ownership is for Department of Wild Life Conservation					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor		Date	Land Extent	
					.....A	...R
						.....P

Project Description

Project Period	Short term (1 > year)	✓	Mid Term (1-3 year)		Long term (3 < year)	Total Estimated Cost (Rs. Mn)	
Financing Method	Department of Archeology						
Description of the Project (with map)	Provide opportunities for foreign and local tourists to enjoy the seascape of scenic view points at Urumalai area and especially provide place to observe the Adam's bridge view and the surrounding.						
Infrastructure Availability	Water	Required Capacity	Drinking Purpose: Average Person x Required Liters 100 x 2 Liters = 200 l	Electricity	Required Capacity	1200kw	
		Available Capacity	-	-	Available Capacity	-	
	Solid waste Management system	No should be provide		If No give suitable SWM proposal		Provide Garbage bins with separation method	
Zone	Zone 6 (The Zone 6 is an ideal location which reminds the historical evidences that we had connection with South India especially had connection with Rameshwaram. The zone is acting as Mannar Island's destination point which locates near to Adam's bridge)		Zoning compatibility	Yes	✓	No	

History (if it relevant)

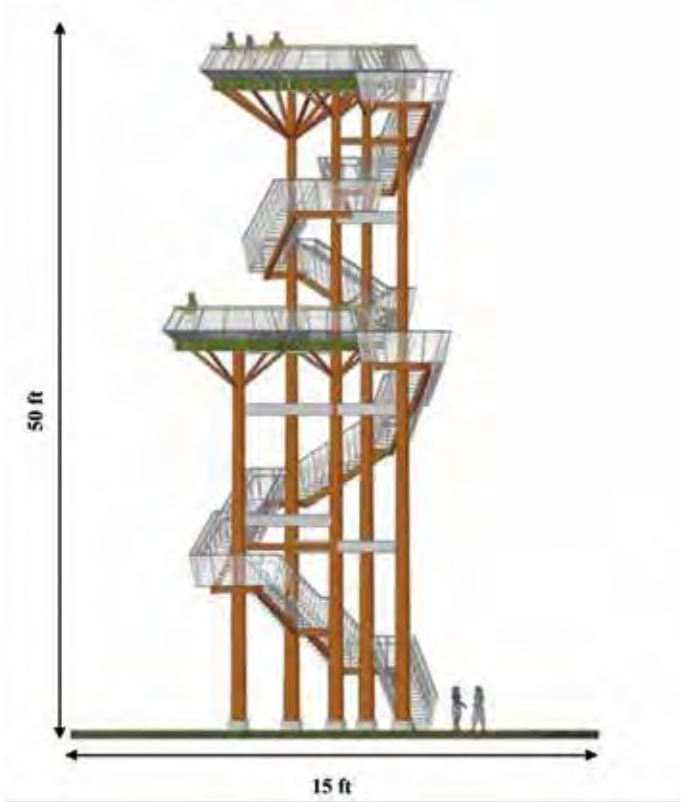
Present Status (Explain details with measurements)

At present stage the vacant land is available. Proposed observation tower will be established with the 10 perch of land extent. Surround area consists with tourist cabanas and hotel. The rest of the part is owned by Department of Wild Life Conservation. Special features can be observed in this location like bird watching and the view of Adam's bridge.

Photographs of Existing Situation



Proposed Plan & Building Design Requirements (if available)



Project Budget

	Activity	Cost (Rs. Mn)
1.	Site Preparation	0.50 Mn
2.	Excavation	0.50 Mn
3.	Timber Post Construction	0.75 Mn
4.	Steel staircase	5.00 Mn
5.	Timber Deck	0.40 Mn
6.	Safety Glass	0.45 Mn
7.	Lighting	0.40 Mn
8.	Seating	0.20 Mn
9.	Tensile Roof	0.30 Mn
	Total	8.5 Mn

Approval Agencies

Activity	Relevant Authority	Authorized Person
1. Issuing approval based on compatible of regulation	UDA	Provincial Director
2. Issuing approval based on wild life clearance	Department of Wild Life Conservation	Director General
3. Security clearance	Sri Lanka Navy	Commander of Navy
4. Clearance related to Environmental Compatibility	Central Environmental Authority	Chairman
5. Maintenance and management		
6. (UDA will be signed Memorandum of Understanding with Local Authority)	Mannar Urban Council	Chairman

Regulations and Guidelines	Regulations	Guidelines
	UDA Planning & Building Regulation	<p>Clearance should be obtain from Urban Development Authority, Central Environmental Authority, Coast Conservation Department, Department of Wild Life Conservation and for the security purpose clearance should be obtain from Sri Lanka Navy.</p> <p>Guidelines for Zone 6:</p> <ol style="list-style-type: none"> 1. Approvals should be obtain from relevant agencies 2. (CCD, CEA, Department of Wild Life) 3. Constructions are not allowed particu larly in sand dune areas 4. Natural mangrove area should be preserve and constructions are not allowed. 5. Solid waste, sewerage and waste water management systems should be adopt
Details of Attachments		

Annexure No 20: Establishment of Modern Commercial Complex**Project Identification**

Project Proposal	Enhance the social infrastructure facilities of the area
Project Title	Establishment of Modern commercial complex at Mannar town
Project	Town center development in Mannar

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar UC
Boundary	North	East	South	West
	Bus stand	Canal	Pallimunai road	A14 road
Access	Thalaimannar road			
Location Map				
Adjacent Land Uses (explain with map)	Proposed site was located in the entry point of Mannar Island and existing commercial shops are located within this land in a scatted manner. The land has surrounded by A 14 road and Pallimunai road			

Project Justification

Project Type	New	✓	Improvement		Extension	Land Development only		
Project Category	Conservation	Commercial	Landscape	Heritage		Housing	Relocation	Infrastructure
		✓						
Project Aspect	Economic				✓	Social		✓
Project Objective	<ul style="list-style-type: none"> • Provide proper place for commercial shops with better facilities • Create marketing facility for local products • Uplift the lively hood of local people especially business community • Create easy access to the general public • Increase the local authority income • Create a public gathering place • Create safety and healthy environment 							
Rational of project	<p>Mannar Island is located within Mannar district which is consists with high density population also functioning as administrative and commercial capital of the Mannar district. Although this is functioning as a commercial capital of mannar district, the existing commercial shops are located in scatted manner with lack of related facilities.</p> <p>Also, the above said location is located in a strategic location near by the entry point of Mannar Island and surrounded by A 14 road and Pallimunai road which having high land value. But, at present the land is consist with commercial shops in a scatted manner which is creating visual pollution and give a negative thought for the people who are entering to the Mannar Island. Also, at present the above said land is underutilized.</p> <p>Also, one of the major economic bases of the Mannar Island is fishing which is presently does not get maximum utilization from the available resources due to the several reasons such as lack of marketing facilities, etc. Therefore, it is necessary to build a proper commercial complex with related facilities in order to solve the above issues.</p> <p>Other than this, the proposed commercial complex can be used as a public gathering place which is less in number at present. Also, the proposed commercial complex will be increased the income of the business people as well as local authority.</p>							

Property Description

Present Land Ownership	UDA				Private		State	✓
Free Encumbrances	Yes		No	If No give details				
Details of the Ownership	Mannar UC							
Survey Plan Detail	Survey Plan No.							
	Name of the Surveyor				Date	Land Extent		
						0.5308 ha		

Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)	✓	Long term (3< year)		Total Estimated Cost	300 Mn
Financing Method	Ministry of industry & commerce							
Local Authority								
Description of the Project (with map)	Need to work out from the basic level as per the demand and requirement							
Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity			
		Available Capacity			Available Capacity			
	Solid waste Management system	Yes		No	If No give suitable SWM proposal			
Zone	Zone 2 (Commercial Zone)			Zoning compatibility	Yes	✓	No	

History (if it relevant)

Present Status (Explain details with measurements)

The part of proposed land is currently consists with commercial shops and part of the land in vacant position

Existing Situation

Description	No. of units	length	width
Commercial shops			

Layout Map

Proposed Plan & Building Design Requirements

1. Architectural design
2. Structural design

Project Budget

Activity	Cost
Total	300 Mn

Approval Agencies

Activity	Relevant Authority	Authorized Person
	Ministry of industry and commerce	Secretary
	Mannar UC	Chairman
	Mannar Town Divisional Secretariat	Divisional Secretary

Regulations and Guidelines	Regulations	Guidelines
	Please refer zone 2, Guide plan regulation, and general regulations and guidelines	
Details of Attachments		

Annexure No 21: Proposed South Coastal Road Development Project


Project Identification

Project Title	Development of South Coastal Road
Project	Road development
Project Proposal	Enhance the physical infrastructure development for the general public and investors

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar	LA	Mannar UC&PS
Boundary	North	East	South	West
	South coast settlement	South coast settlement	South coast settlement	Sea
Access	CL0742, CL0870, CL1105, CL0625, CL0483 (Refer Annexure: proposed road width)			



<p>Adjacent Land Uses (explain with map)</p>		<p>Proposed road along with the south coastal belt. Adjacent land use of West part is Sea and north part from Mannr UC to Thalaimannar is covering sandy, mixed tree with the low density scattered residential development in a small scale.</p>
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Project Justification

Project Type	New		Improvement		Extension	Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Other
							✓
Project Aspect	Economic			✓	Social		✓
Project Objective	<p>To create the inter linkages between the south coast and other part of the Island To facilitate the local community To attract the investors related to tourism related development projects</p>						
Rational of project	<p>Proposed project site is located at south coastal belt of Mannar Island which is having sandy beaches along the coastal and its having high potential for the tourism development activities as well as the wind energy also. And along the coastal belt, there are number of fishing camps are available which is major income source of the Mannar Island which are not connected with other part of the Island. At the same time, there is no inter linkages between the south and North part of the Island. Inadequate roads are available with very poor conditions which are sandy alleyways and gravel path. Therefore, required to be propose the south coastal road in order to create the inter linkages North and South coastal and to tap the available resource in an efficient manner.</p>						

Property Description

Present Land Ownership	UDA	Private	✓	State	✓
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Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)	✓	Long term (3< year)		Total Estimated Cost(Rs. Mn)	
Financing Method	LA							

Description of the Project (with map)	Proposed road is along the south coastal belt about 24.5 km length and width is 30m including 8 lanes with walking path, utility and landscapes elements				
Zone	Mixed development zone	Zoning compatibility	Yes	✓	No

Present Status (Explain details with measurements)

Existing Situation

Description	No. of units	length	width
At present, there is no continuity road along the coastal belt. But coastal roads are available in Keeri, thalvupadu and olaithoduvai beach areas with poor condition.		24.5 KM	15' available in some areas

Proposed Plan & Building Design Requirements (if available)



Project Budget

Activity	Cost (Rs. Mn)
Total	

Approval Agencies

Activity	Relevant Authority	Authorized Person
Land clearance to be obtained	District Secretariat	Government Agent
	Local Authority (Mannar UC and PS)	Chairman UC, Chairman PS
	Coastal Conservation Department	
	Urban Development Authority	
Site Clearance		

Regulations and Guidelines	Regulations	Guidelines
	Proposed road width 30m	


Annexure No 22: Proposed Al Fatha Playground Development Project

Project Identification

Project Title	Al Fatha playground Development project
Project	Town Centre Development
Project Proposal	Enhance the Physical improvements (athletic sport) for local people

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar UC
Boundary	North	East	South	West
	Uppukulam Pond	Mn/ Sithyvinayakar Hindu College	Cargills Food city	Uppukulam Mosque
Access	Pallimunai Road			
Location Map				

Adjacent Land Uses (explain with map)	<p>Proposed site located nearby Pallimunai road within mannar town</p>  <p>The Main access to the Al fathah Play ground is RDA Road (Pallimunai Road) In this Proposed site located nearby 400 m away from the A14 road</p>
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Project Justification

Project Type	New	<input checked="" type="checkbox"/>	Improvement		Extension		Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Other	
							<input checked="" type="checkbox"/> (Recreation)	
Project Aspect	Economic				Social			<input checked="" type="checkbox"/>
Project Objective	<ol style="list-style-type: none"> To provide the entertainment for local people around the area To enhance the physical development (sport specially football) of youth community in National Level Create healthy population in and around the area. 							
Rational of project	<p>The ground is situated in a high density area within the Mannar UC and it was once a famous ground for sport specially football. If it could be developed and reopened to use, many in the area would be benefited. In the present situation there is a need to enhance the physical development in and around the area via the sports activities. Further this project has proposed under the Service Plan Recreation of 2030 for Mannar Development Plan. , everybody needs leisure in their lives, to balance the stress of work and life. According to that, In this project targeting to encourage the leisure time activities of the local community. From that development people can improve their personal ability by practicing pursuits improving the mind. Not only that, through this project National Players and coaches will be developed in National level.</p>							

Property Description

Present Land Ownership	UDA		Private		State	<input checked="" type="checkbox"/>
Free Encumbrances	Yes		No	<input checked="" type="checkbox"/>		If No give details
Details of the Ownership						
Survey Plan Detail	Survey Plan No.	Name of the Surveyor		Date	Land Extent	
	-			.....A	.....R	.....P

Project Description

Project Period	Short term (1 > year)	✓	Mid Term (1-3 year)		Long term (3 < year)		Total Estimated Cost (Rs. Mn)															
Financing Method	Local Authority, Ministry of Industry & Commerce																					
Description of the Project	<table border="1"> <thead> <tr> <th>Local Authority</th> <th>Mannar UC</th> </tr> </thead> <tbody> <tr> <td>Total Extent</td> <td>20 Acres 20 Perches</td> </tr> <tr> <td>Land Ownership</td> <td>Mosque</td> </tr> <tr> <td>TEC</td> <td>185 Mn</td> </tr> <tr> <td>Funding Source</td> <td>Min of Industry and Commerce</td> </tr> <tr> <td>Design & Consultancy</td> <td>UDA</td> </tr> <tr> <td>Client</td> <td>Uppukulam Community</td> </tr> </tbody> </table>						Local Authority	Mannar UC	Total Extent	20 Acres 20 Perches	Land Ownership	Mosque	TEC	185 Mn	Funding Source	Min of Industry and Commerce	Design & Consultancy	UDA	Client	Uppukulam Community	This project has been identified to implement in 2018 and need to work out from the basic level as per the demand and requirement. Total estimate cost of this project is Rs. 20 Mn.	
Local Authority	Mannar UC																					
Total Extent	20 Acres 20 Perches																					
Land Ownership	Mosque																					
TEC	185 Mn																					
Funding Source	Min of Industry and Commerce																					
Design & Consultancy	UDA																					
Client	Uppukulam Community																					
Zone	Zone 3 (mixed development zone)	Zoning compatibility	Yes	✓		No																
Present Status (Explain details with measurements)																						

Existing Situation**Site Photos**

Proposed Plan & Building Design Requirements (if available)

Project Budget

Activity	Cost (Rs. Mn)
Total Estimation	20 Mn
Total	

Approval Agencies


Activity	Relevant Authority	Authorized person
	Ministry of industry and commerce	Secretary
	Mannar UC	Chairman
	Mannar Town Divisional Secretariat	Divisional Secretary

Regulations and Guidelines	Regulations	Guidelines
	Refer zone 3 guidelines and common general regulations	

Annexure No 23: Development of Fish Market At Mannar Project**Project Identification**

Project Title	Development of fish market at Mannar
Project	Town Centre Development
Project Proposal	Enhance the Physical improvements (athletic sport) for local people

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar PS
Boundary	North	East	South	West
	Uppukulam Pond	Mn/ Sithyvinayakar Hindu College	Cargills Food city	Uppukulam Mosque
Access	Pallimunai Road			
Location Map				
Adjacent Land Uses (explain with map)	Proposed site located nearby Beach road within mannar town and A14 Road is another main access road to the fish market In this Proposed site located nearby 400 m away from the A14 road			

Project Justification

Project Type	New		Improvement	✓	Extension	Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Other
		✓					
Project Aspect	Economic			✓	Social		
Project Objective	<ul style="list-style-type: none"> Enhance the local producers and their products. Creating the market facility to increase the local level income Create a public gathering place and business environment 						
Rational of Project	The proposed site is situated in the Mannar UC area. This area having high priority for the fishery development activities because there are number of fishing camp and transportation facilities are available in this area. Fishery is the major income source of the Mannar Island, the present situation there is a need to enhance the local economy and local procedures and their products. Therefore, required to be propose the redevelopment of fish market project within that area.						

Property Description

Present Land Ownership	UDA			Private	State	✓
Free Encumbrances	Yes	No	✓	If No give details		
Details of the Ownership	Mannar UC					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor			Date	Land Extent
	-					.....A .....R .....P

Project Description

Project Period	Short term (1> year)	Mid Term (1-3 year)	Long term (3< year)	Total Estimated Cost (Rs. Mn)
Financing Method	Local Authority, Min of Industry and Commerce			
Description of the Project	Total Extent	80 Perches		
	TEC	250 Mn		
	Design & Consultancy	UDA		
	Client	Mannar UC		
Zone	Zone 3 (mixed development zone)	Zoning compatibility	Yes	✓
Present Status (Explain details with measurements)				

Existing Situation

This project has been identified to implement in 2018 and need to work out from the basic level as per the demand and requirement

Site photos

Proposed Plan & Building Design Requirements (if available)

Project Budget

Tentative Estimate	Rs 250 Mn including Tax
Fund Requirement	Required Rs 50 Mn for completion of the project within 2018.
The Total Required Funds	Rs 250 Mn

Approval Agencies

Activity	Relevant Authority	Authorized Person
	Ministry of Industry and Commerce	Secretary
	Mannar UC	Chairman
	Mannar Town Divisional Secretariat	Divisional Secretary
Regulations and Guidelines	Regulations	Guidelines
	Refer zone 3 guidelines and common general regulations	

Annexure No 24: Development of New Market at Pesalai**Project Identification**


Project Title	Development of New market at Pesalai
Project	Town Centre Development
Project Proposal	Enhance the marketing facilities for local producers

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar Town	LA	Mannar PS
Boundary	North	East	South	West
	Madhawachiya – Thalaimannar Road	Railway station road	-	Saaminathar Road

Access	Railway Station Road
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Location Map	
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Adjacent Land Uses (explain with map)	 <p>The Main access to the Pesalai New Market is RDA Road (A14 Road) In this Proposed site located nearby 400 m away from the A14 road</p>
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Project Justification

Project Type	New	✓	Improvement		Extension		Land Development only	
Project Category	Conservation	Commercial	Landscape	Heritage	Housing		Relocation	Other
		✓						
Project Aspect	Economic			✓	Social			
Project Objective	To create the market opportunity for the marine based products (fishery)							

Rational of Project	At present, per capita consumption of fish, dry fish, canned fish has been increased at the national level and excess demand for the fish and fishery product. Due to this, Sri Lanka had to import 120,046 MT in 2015 to cater the demand expending 30,729 Mn LKR foreign exchange. At this situation fishery related industrial plan is required for Mannar Island to increase the fish production from the available untapped marine resource as well as uplift the living standard of the local people. In order to, proposed to develop the new market Pesalai in order to create the market opportunity for the fishery products.
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Property Description

Details of the Ownership	Fishery Harbour Corporation					
Survey Plan Detail	Survey Plan No.	Name of the Surveyor	Date	Land Extent		
	-			.....A	.....R	.....P

Project Description

Project Period	Short term (1 > year)	✓	Mid Term (1-3 year)		Long term (3 < year)		Total Estimated Cost (Rs. Mn)	
Financing Method	Local Authority, Provincial Council							
Description of the Project								
Zone	Zone 3 (mixed development zone)	Zoning compatibility	Yes	✓		No		
Present Status (Explain details with measurements)								

Existing Situation

Proposed Plan & Building Design Requirements (if available)

Project Budget

Tentative Estimate	Rs 300 Mn including Tax
Fund Requirement	Required Rs 50 Mn for completion of the project within 2018.
The Total required funds	300 Mn

Approval Agencies

Activity	Relevant Authority	Authorized person



Regulations and Guidelines	Regulations	Guidelines
	Refer zone 3 guidelines and common general regulations	

Annexure No 25: Proposed Establishment of Marine Village at Foreshore

Project Identification

Project Title	Establishment of Marine Village at Foreshore
Project	Establishment of Marine Village at Foreshore
Project Proposal	Marine Village at Foreshore

Project Location

Location	Province	Northern	District	Mannar
	DS Division	Mannar	LA	Mannar UC
Boundary	North	East	South	West
	Sea	Sea	land	land
Access	Pallimunai road			
Location Map				
Adjacent Land Uses (explain with map)	 <p>Land use of the marine village consist with Dutch fort, residential, religious, and open space.</p>			


Project Type	New	✓	Improvement		Extension	Land Development only		
Project Category	Conservation	Commercial	Landscape	Heritage	Housing	Relocation	Infrastructure	
			✓					
Project Aspect	Economic			✓	Social			✓

Project Objective	<ul style="list-style-type: none"> • Provide better tourism base recreational facilities to the public • To development the marine base recreational in plan manner • To reduce the unauthorized construction
Rational of Project	The proposed project is located for entrains of the Mannar foreshow area. Presently open space, small scrubs, and some residential patches are there. If we propose the marine village we can utilize the land for marine base tourism. At the same time we can control the unauthorized constructions.

Property Description

Present Land Ownership	UDA				Private			State	✓
Free Encumbrances	Yes		No	If No give details					
Details of the Ownership									
Survey Plan Detail	Survey Plan No.	Name of the Surveyor			Date	Land Extent			
						A	R	P	

Project Description

Project Period	Short term (1> year)		Mid Term (1-3 year)		Long term (3< year)		✓	Total Estimated Cost	
Financing Method									
Description of the Project (with map)	<p>The marine village consist with coastal base tourism promotion project. The surrounding area have sea, small scale scrub, residential, st.lusia church, and Dutch fort. So natural and manmade tourism related things are located around the area. This marine village project is proposed by foreshore area. This foreshore area is the main entrance for Mannar island.</p> 								
Infrastructure Availability	Water	Required Capacity		Electricity	Required Capacity				
		Available Capacity			Available Capacity				
	Solid waste Management system	No		No	If No give suitable SWM proposal				
Zone	Mixed Development Zone			Zoning compatibility	Yes		No		

History (if it relevant)
Present Status (Explain details with measurements)

Existing Situation

Description	No.of units	length	width

Layout Map

Proposed Plan & Building Design Requirements
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Project Budget

Activity	Cost (Rs. Mn)

Approval Agencies

Activity	Relevant Authority	Authorized person

Regulations and Guidelines	Regulations	Guidelines
		Should maintain character of the fort and give identity to Mannar fort. Should maintain the historic value of the identified building
Details of Attachments	viii. Survey Plan	

