CHAPTER 3

BACKGROUND OF THE STUDY:
NARATHIWAT PROVINCE
CHAPTER-3
BACKGROUND OF THE STUDY:
NARATHIWAT PROVINCE

3.1 The History

The original Narathiwat was a village called “Manaro”. It was a dependency of Saiburi but in 1901 King Chulalongkorn had to change the mode of government and legislate the governing laws for seven provincial divisions. In 1901, the prevailing style of administration was abolished and a new administrative system was established. Seven provinces were separated from Nakornsrithammarat precinct and the Pattani precinct was established. There were four towns: Pattani, Yala, Saiburi and Ra-ngae. The erstwhile village of Manaro was included in Ra-ngae Township.

Between the second to fourteenth centuries, this area was an important trading center in the area locating Malasian peninsula, and Java which is a part of the present Indonesia. One of the oldest Kingdoms known as Langkasuka empire was centered in Pattani and encompassed the Malaysian state of Kalantan, Terengganu, and northern part of Kedah. Islam and Buddhism were established religions of this region. Though it is debatable whether Pattani was Islamized, it was certainly one of the earliest Malay kingdoms to adopt the Middle Eastern religion around mid-thirteenth century. The Langkasuka Empire declined in the fourteenth century.

In the fourteenth century, King Ramkhamheng the Great of Sukhothai Kingdom occupied the Malaya peninsula because of the decline of the empire ruled by Nakornsrithammarat along with the vassal states that included Pattani. It is not known precisely when Pattani was first founded, but evidence points to sometime in the fourteenth century.

When Sukhothai Kingdom declined and combined to Ayutthaya Kingdom, Pattani was considered as semi-independent state. The Sultanate of Pattani sent
royal tributes to the King of Ayutthaya Kingdom every three years and also sent troops, weapons and supplements when Ayutthaya was at war, to show its submission. By the time the Burma Kingdom had defeated and destroyed Ayutthaya Kingdom, Siam had separated as a result Pattani declared its independence from Thonburi Kingdom.

King Taksin the Great, of Thonburi Kingdom, managed to defeat the Burmese and reunify the country in the fifteen years of his reign paving the way for the establishment of the Chakri dynasty of his successor, King Rama I. Prince Surasi, the younger brother of the king, sought the submission of Pattani and took away symbols of Pattani’s military strength to Bangkok. These are displayed in front of the Ministry of Defense in Bangkok even now. In the beginning of the rule by the Chakri dynasty, Pattani tried to fight for independence many times. In 1909, Pattani was formally annexed by Siam, followed by the Bangkok Treaty, recognized by the British. King Rama VI made a policy change that allowed the Islamic areas to administer themselves, calming the brewing political turmoil.

In 1907, the government moved Ra-ngae town hall from Tam Bon Ban Tanyong Mus to Ban Manaro, Bang Nara District. In 1915, King Mongkut went to the southern precinct. He gave the sword called “Pha sang Radchasuttha” to the town to be made its symbol. He also thought that when Bang Nara got the sword it would gain in importance and would be given the importance of Muang since Muang is more significant and recognized than Tam Bon. King Mongkut change the name “Bang Nara” to “Muang Narathiwat” on the 10th of June 1915. The word “Narathiwat” means “The place where the good people live” on the 16th of February 1931, King Prajadhipok dissolved four precinct and nine provinces to save expenses. Pattani precinct was dissolved and the provinces in Pattani precinct were merged with Songkhla province. Which were in Bacho district formerly, were accepted into Narathiwat.
In 1939, General Plak Phibulsongkhram, Prime Minister of the Kingdom of Thailand issued and implemented the Rathaniyom policy also called the Pan-Thai national policy, in order to bring back the area inhabited by Thai people which was lost during imperialism period to the western powers that had colonized them. This policy was contrary to the culture and tradition of Thai-Malaya people who were living in five provinces in southern Thailand and wanted to pursue Islamic religion. As a result, there was a mass migration of Thai-Malaya people who immigrated to the northern states of Malaysia. There were conflicts and suspicions between government officials and Thai-Malay leaders because of the policy. It had created more than sixty insurgent groups operating in the area and a number of uprisings occurred between 1940s-1980s.

In the early 1980s, General Prem Tinasulanonda, Thailand’s prime minister, who was originally from the area recognized the root causes of conflicts. He reversed the assimilation policy and offered political participation to the dissenting group by supporting Muslim cultural rights and religious freedom, granting general amnesty to insurgents and providing economic opportunities to the people in southern Thailand. As a result, a lot of insurgents accepted the amnesty. Besides, he established Southern Border Provincial Administration Center (SBPAC) to coordinate the work between the RTG in Bangkok and local provincial administration government. The Civilian-Police-Military Combined Forces 43 (CPM-43) task forces coordinated all security operations to resolve the problem in the south and worked closely with the SBPAC. It has been said that the SBPAC and CPM-43 were key elements in the RTG’s successful counter insurgency campaign.

3.2 General Description of Narathiwat Province, Thailand

a) Location of the Province

Narathiwat is one of the southern provinces of Thailand. Neighboring provinces are Yala and Pattani. To the south, it borders the Malaysian state of Kelantan. The southern railway line ends in this province which is one of the
nation’s five provinces that border Malaysia. The province showcases a range of cultures, is a store house of natural resources, and has land that is relatively fertile. Narathiwat is about 1,149 kilometers south of Bangkok and has an area of 4,475.43 square kilometers. The topographical mapping of this province show that two-third of the total area is covered by forests and mountains while dense mountains located in the south west separates Thailand from Malasia. This region slopes from west to east. (See Figure 3.1)
Figure 3.1 Political Map of Thailand
b) Symbols

The provincial seal shows a sailing boat with a white elephant on the sail. A white elephant is a royal symbol, and was put on the seal to commemorate the white elephant Phra Sri Nararat Rajakarini which was caught here and presented to the king. (See Figure 3.2)

![Figure 3.2 The Symbol of Narathiwat Province](image)

The provincial symbol is the longkong fruit (Lansium domesticum). The provincial tree is the Chengal (Neobalanocarpus heimii). The provincial flower is the Odontadenia macrantha.

c) Climate

The climate is tropical. There are two seasons namely the rainy season from May to January, for 9 months, and the hot season from February to April. The mean maximum temperature is 31.4°C while mean minimum temperature is 23.9°C. The annual average temperature is 27.6°C.
d) Government

Narathiwat is subdivided into 13 districts (amphoe), which are further subdivided into 77 sub-districts (tambon) and 551 villages (muban). The list of the districts with the respective population associated numbers, are given in Table 3.1.

In Narathiwat, most government offices are located within the premises of the town hall. This concrete structure has five floors. The government center is located at Moo 9, Tam Bon Kokkian, Mung Narathiwat District. (See Figure 3.3)

Figure 3.3 Political Map of Narathiwat Province
d) Population

The population is 729,817 in 2012. Narathiwat is one of the three Thai provinces (Yala and Pattani) which has a Muslim majority; 83% are Muslims, 16.45% are Buddhists and 0.55% are Christians and other denominations. Also 80.4% speak the Pattani-Malay as their first language. Narathiwat Malays are very similar in terms of ethnicity and culture to the Malays of Kelantan, Malaysia (Summary Report of Narathiwat Province, 2012). The list of the districts with the number of the population is in Table 3.1.

Table 3.1 Population of Narathiwat Province

<table>
<thead>
<tr>
<th>Name of District</th>
<th>Population</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>Mueang Narathiwat</td>
<td>56,076</td>
<td>57,575</td>
<td>113,651</td>
</tr>
<tr>
<td>Tak Bai</td>
<td>32,895</td>
<td>33,852</td>
<td>66,747</td>
</tr>
<tr>
<td>Bacho</td>
<td>24,270</td>
<td>24,868</td>
<td>49,138</td>
</tr>
<tr>
<td>Yi-ngo</td>
<td>20,895</td>
<td>21,446</td>
<td>42,341</td>
</tr>
<tr>
<td>Ra-ngae</td>
<td>42,252</td>
<td>43,975</td>
<td>86,227</td>
</tr>
<tr>
<td>Rueso</td>
<td>32,643</td>
<td>33,076</td>
<td>65,719</td>
</tr>
<tr>
<td>Si Sakhon</td>
<td>17,756</td>
<td>16,992</td>
<td>34,748</td>
</tr>
<tr>
<td>Waeng</td>
<td>24,830</td>
<td>25,135</td>
<td>49,965</td>
</tr>
<tr>
<td>Sukhirin</td>
<td>12,218</td>
<td>11,407</td>
<td>23,625</td>
</tr>
<tr>
<td>Su-ngai Golok</td>
<td>35,173</td>
<td>38,412</td>
<td>73,585</td>
</tr>
<tr>
<td>Su-ngai Padi</td>
<td>26,498</td>
<td>27,180</td>
<td>53,678</td>
</tr>
<tr>
<td>Chanae</td>
<td>17,127</td>
<td>16,534</td>
<td>33,661</td>
</tr>
<tr>
<td>Cho-airrong</td>
<td>18,577</td>
<td>18,455</td>
<td>37,032</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>361,210</strong></td>
<td><strong>368,607</strong></td>
<td><strong>729,817</strong></td>
</tr>
</tbody>
</table>

Source: Summary Report of Narathiwat Province, 2012

f) Religion and Society

About 83 percent of people in Narathiwat are Muslims (See Figure 3.4). 16.45 percent is Buddhists 0.55 percent are Christians and other denominations and groups. People in Narathiwat speak many different types of dialects since there are several cultural groups in Narathiwat. People who have come from the middle part of Thailand speak standard Thai. In the south of Thailand, there are several dialects of Thai language depending on whether local regional dialect prevalent in the northern part of southern Thailand or the southern part of
southern Thailand. There is also a special dialect that is called “Jaehae”. “Jaehae” gives a specific and unique identity to the people who live in Tak Bai District. Muslims use “Marau” or “Yavi”. It resembles the language that is used in Malaysia, Indonesia and Brunei. Nowadays, people who can speak Marau can also speak Thai. For Buddhists who can speak Thai, can speak Marau too.

![Figure 3.4 About 83 percent of people in Narathiwat are Muslims.](image)

The provincial seal shows a sailing boat with a white elephant on the sail. A white elephant is a royal symbol. The slogan means “Taksin palace, people respect religion, beautiful Narathiwat beach, impressive Bajo waterfall, vest store of gold mineral, sweet Longkong fruit.” The provincial tree is the Chegal which can be found on top of the mountain in Narathiwat. It is a big tree. Its wood can be used to build houses and buildings. The provincial flower is the Odontadenia macrantha.

Buddhist cultures in Narathiwat; “Ching Praid” is traditionally celebrated in September in all the temples, to gain spiritual merit. “Bang Kul Bua” is the traditional ancestor worship. Obeisance ceremonies are held every may. Farmers pay respect to the goddess of rice by holding “La Sung”. The farmers believe that this ceremony will make rice crop during the following year. “Chug Pra” is the traditional harvest festival for the villagers, similar is the
festival of harvest celebrated in the middle part of Thailand called “Long Kake”.

Muslims cultures in Narathiwat; “Ma-Ga-Poo-Loh” means “Eating sticky rice”. This type of rice is used during wedding ceremonies and religious ceremonies. Eating sticky rice doesn’t mean eating only sticky rice since many other kinds of food are also served. “Sunnah” is the removal of some of the foreskin from the penis of a boy who is 2-10 years old for cleaning purposes.

There are two main Islamic holidays, “Eid-Al-Fitr” and “Eid-Al-Adha”. Muslim holidays generally follow the lunar calendar. “Fasting” Ramadan is the month in which Muslims must fast from sun-up to sun-down. “Mawlid” is a term used to refer to the observance of the birthday of the Islamic prophet Muhammad which occurs in Rabi’ al-awwal, the third month in the Islamic calendar. The term “Mawlid” is also used in some other parts of the world.

“Ashure Day”: The Prophet Noah called his people to the religion of God for nine hundred and fifty years. When his people remained unbelievers and persisted with their wrongdoings, God ordered him to build an ark. After completing the construction of the ship, Noah embarked in it, upon God’s command, “…of each kind two, male and female, his family-except those against whom the word (of punishment) had already gone forth and the believers”. When the waters of the great Flood began to recede, there was great joy and the believers offered thanks to God. Prophet Noah and his family are said to have gathered up all the food remaining on the Ark and transformed it into a delicious pudding.

Since that day, Muslims prepare this delicacy yearly in remembrance of what Noah and his people had experienced. This sweet dish is called “ashure”.

110
g) Economy

The economy in Narathiwat generally depends on agricultural productivity. Agriculture is essential for the economic well-being of Narathiwat. The main occupations depend on rubber plantations (See Figure 3.5), coconut groves, fruit farming, fishery and animal husbandry. Agricultural income is the number one contributor to the economy. Income from trade and services takes the second place.

![Rubber Plantations](image)

**Figure 3.5 The main occupations depend on rubber plantations.**

The interesting places in Muang District are Khow Kong Temple, Central Mosque, Narathat beach, Taksin Palace, How-Ma-Now and Khow Tan Yong National Park, Education Development Center is located in Pikulthong due to the initiative of communities; Mo Ban Ya-kung and Mo Ban Ban Ton. Important places in Tak Bai include Chontharasingha Temple, Koh-Your, Bu-Gu and Ban Klong Tun coasts and Tak Bai immigration center. In Su-ngai Kolok District; Su-ngai Kilok immigration center, Tho-Mo Shrine Research and study center, and Sirindhorn Peat Swamp Forest. In Su-ngai Badi District; Chatwarin waterfall. In Wang District; Sirindhorn waterfall and Hara-Bara Wildlife Sanctuary. In Ba-Joh District; Bu Do-Su-ngai Pa-Di National Park, “Wa Di Hun Hu Zen Mosque” or “300 years mosque” and Cherng Kour Temple.
h) Education

The educational system in Narathiwat can be divided into two sectors: The Government sector and the Private sector. The government supports Primary schools, Elementary schools, Secondary schools, High schools, Training and Higher education. There are two academies; Princess of Naratiwat University (Courses that are regarded as less than Bachelor Degree, Bachelor Degree and Master Degree) and Narathiwat Community Colleges (Courses that are regarded as less than Bachelor Degree) The private sector operates educational institutions like Islamic Private school, Po Noh institute and Education Center Time mosque (Ta-Di-ka). These private schools operate under the supervision of the government.

3.3 Narathiwat Natural Resources

The analysis of Narathiwat’s overall economic structure and the study of characteristics of the Narathiwat economy, as well as the relationship between agricultural development and exploitation of natural resources presented indicate that a majority of people of Narathiwat live directly and indirectly on agriculture. The continually expanding agricultural economy has been associated with the utilization of natural resources, especially land, forest and water resources. This chapter, therefore, is to review and present facts on the circumstances of Narathiwat natural resources, their role and significance in Narathiwat development, including the impact resulting from the intensive use of natural resources. This study will lead to a consideration of the need to review the management of natural resources in Narathiwat and development.
Narathiwat Province has a total area of 4,475.43 square kilometers. The geography of this province is 2/3 forests and mountains of the total area (See Figure 3.6). Land use can be categorized under three parts, agricultural areas, forested areas and the areas occupied for other purposes (e.g., housing and communities, water sources, public land and mining and manufacturing sites). In Narathiwat province, the main source of income is dependent on the available natural resources. The rich natural resources in this region have supported the livelihood of most of the people in Narathiwat households numbering more than 170,000 (NSO, 2012). However, the long-time intensive use of natural resources has steadily led to their depletion and degradation. Unless remedial measures are undertaken, the attempts to increase production and income, people’s quality of life, as well as the nation’s economic development will be difficult if not futile.
### 3.3.1. Land Resource

Land is fundamental to agricultural development. Though agricultural land has been more and more extensively cultivated for a long time, it has become much more over the past three decades when population pressure and demand for cultivable land rose substantially. The rubber plantations, rice and field crops planted area has increased from 1,280 square kilometers (12.3 percent of the overall Narathiwat area) in 1980 to 2,720 square kilometers (56.7 percent of the overall Narathiwat area) in 2012. Considering further details, it is found that the expansion of cultivated land occurred at higher rates in the earlier period than in the subsequent period (2-4 percent per year in the earlier period, slowing down to 0.5 percent per year in the later period) (Narathiwat Provincial Agricultural Extension Office, 2012). Today, expansion of cultivated areas is proceeding in land unsuitable for cultivation or with much lower productivity, thus decreasing the country’s average yield per square kilometer. A survey conducted in 2010 reveals that the areas appropriately planted with rubber tree totaled 320 square kilometers (20.4 percent of the overall rubber tree-planted area) and the areas appropriately planted with rice totaled 22.5 square kilometers (12.4 percent of the overall rice-planted area). Cultivated areas also expanded into land with problem soils, i.e. acid, salinized, shallow, sandy, and peat soils, which altogether totaled 64 square kilometers, equal to 2.5 percent of the overall cultivated area (Forest resource management office 13 Narathiwat, 2012). This misuse of land not only renders lower yields per square kilometers but also results in severe adverse environmental impacts (See Figure 3.7).
3.3.2. Forest Resource

Forest in Narathiwat can be categorized into 2 types; Tropical Rain Forest and Peat Swamp Forest, Narathiwat has high mountains sandwiched between Thailand and Malaysia and includes National Conserved Forest, Wilderness Prepare to Conserve, National Permanent Forests, and natural forests (Forest resource management office 13 Narathiwat, 2012).

Table 3.2 Forest Resources area of Narathiwat Province

<table>
<thead>
<tr>
<th>Type of Forest (Legal)</th>
<th>Number</th>
<th>Areas (square kilometer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Conserved Forest</td>
<td>2</td>
<td>1,113.03</td>
</tr>
<tr>
<td>Wilderness Prepare the Conserve</td>
<td>4</td>
<td>309.56</td>
</tr>
<tr>
<td>Forests National Permanent</td>
<td>-</td>
<td>223.45</td>
</tr>
<tr>
<td>the Other Wild Forest</td>
<td>-</td>
<td>229.43</td>
</tr>
</tbody>
</table>

However, during 1990-2012, forest area shrank from 1,835.47 square kilometer (41.01 percent of the Narathiwat’s area) to only 704.75 square kilometer (15.75 percent of Narathiwat’s area). In other words, Narathiwat lost more than half of its forest area within only 22 years.

Decreases in forest area have been considerably related to increases in cultivable land, i.e., while forest area has declined by 1,130.72 square kilometers (an average of 51.4 square kilometers per year), cultivable land has increased by 847.5 square kilometers (an average of 38.5 square kilometers per year) within the same period. This certainly implies that losses of forest area have been mostly due to an expansion of cultivated land. For the remaining 265.53 square kilometers of forest area lost, the available data do not allow a determination of contributing factors or identification of socio-economic and environmental repercussions. However, part of the increase in cultivable land is due to the fact that land is being utilized by low-income farmers who have migrated into areas that used to be designated ‘forest reserves’. Occupiers of such land could not be provided with land titles or any freedom from exploitation testimonials issued by the State. Although they are cultivating the land, these farmers, due to a lack of land certificates, are defined by law as forest encroachers. At present, the area of national forest reserves which have been encroached totals to land area of 150 square kilometers, encompassing and accounting for more than 10,000 households (Forest resource management office 13 Narathiwat, 2012).

The issues related to forest resources are, in fact, involved with the conflict between the people’s rising demand for cultivable land and the State’s need to achieve a targeted forest area of 40 percent of the country’s total area to retain ecological balances. Throughout the past 80 years, the government’s attempts at reforestation have been ineffective indicating that restoration of large-scale forest areas has not been able to overcome the conflict mentioned above. Solving this problem, therefore, rests greatly on the government’s ability to remove forest encroachers from the forest reserves by compensating them by
providing alternative land areas or providing other employment and income and making alternative arrangements all these are restoration of livelihood problems. However, since the available land which is suitable for cultivation has become scarce and the government budget has always been limited, the likelihood of successful large-scale reforestation schemes by government agencies is low.

3.3.3. Water Resource

There are two sources of water, i.e., surface water and groundwater. Narathiwat province has 4 major rivers: Bang Nara, Sungai Golok, Sai Buri, and Tak Bai. These major rivers have already been harnessed through large and medium scale projects which have benefited the people living in Narathiwat province and adjacent region.

1) **The Bang Nara River** is situated in the north eastern part of Narathiwat Province and the total drainage area of the Bang Nara River, 1,401 square kilometers; the river flows through a total length of about 60 kilometers through the low-lying coastal plain along the east coast of the Thai peninsula (See Figure 3.8).

The river rises in the mountainous area of the Budo-Su-ngai Padi, then runs east through the Su-ngai Padi canal, Tun Yong canal, district of Tak Bai, Su-ngai Pad, Ra-ngae and flows into the Gulf of Thailand at Mueng district of Narathiwat.

However, the Bang Nara River is tidal and brackish throughout the entire reach, being directly affected by the tidal oscillations with salinity intrusion into the river during the high tides. This condition has the availability of freshwater for agriculture significantly (JICA, 2004).
2) **The Sungai Golok River** is a river that lies on the border between Malaysia and Thailand. It is spanned only by the Malaysian-Thai friendship bridge. The name of the river in Malay is Sungei Golok, meaning "River of Swords". It borders the Malaysian state of Kelantan and the Thai province of Narathiwat. The friendship bridge connects the Malaysian town of Rantau Pajang and the Thai town of Sergei Golok. Rantau Pajang is a duty-free zone.

The river flows into the Gulf of Thailand at Tak Bai district, Narathiwat Province. It floods seasonally with the monsoon. An unusually large flood occurred on 21 December 2009, necessitating an evacuation in parts of Kelantan.

The river originates in the mountainous area of Waeng district then flow through Su-ngai Golok and Tak Bai districts. It extends 103 kilometers (See Figure 3.9).
3) **Sai Buri River** rises in the mountainous area of the Sukhirin district then flows through the district of Chanae, Si Sakhon, and Rueso in Narathiwat province then runs east through Raman district in Yala province, then turns south and flows into the Gulf of Thailand at Sai Buri district in Pattani province. The total length of the river is 195 kilometers (See Figure 3.10).
4) **Tak Bai River** is a river caused by the changing tides of the sea. Moreover, the sea waves swept up the sand into a sandbank. Which consequently became a deep channel and then a linear stream of water which has become a river. The river runs east through the sub-district of Jahe, Sala Mai and then joins the Sungai Golok River at Taba village in Jahe sub-district, Tak Bai, Narathiwat. It is 14 kilometers long (See Figure 3.11).

In addition, though groundwater resources exist throughout the province, the quantity and quality of groundwater varies with the region. Therefore, further development to increase utilization is limited and bogged by such constraints. The areas with good quality and adequate quantity of groundwater include the alluvium and terrace aquifers under the flood plains of the Bang Nara, and Sai Buri; some areas in the flood plains of the Sungai Golok and Tak Bai rivers; and the coastal plain on the eastern side of Narathiwat province.

The important role of water resources in relation to agricultural development can be viewed with the perspective of extending cultivation areas, cultivating crops during dry season, and raising the general productivity of the area. But the irrigation systems which have already been developed and have contributed to the increase in agricultural productivity are still insufficient. In addition, the past development of water resources has greatly benefited farmers of the province. Development efforts have been mainly undertaken by the State through large-scale projects. Although the main objectives of the large-scale water resources development projects are to increase access to water for
agriculture, manufacturing, consumption and electricity generation, emphasis is also given to the irrigation projects which increase the productivity of major crops, especially rice (by following the guidelines for agricultural development throughout the implementation period between the First and the Tenth National Economic and Social Development Plan, show in the Page 161).

Along with water resources development projects, water management projects have been developed to optimize water consumption as well as water utilization in agricultural activities. However, water management has been subject to the problems mentioned previously. Consequently, the increasing demand for water cannot be adequately met by the regionally available water resources according to a survey done on drinking water needs and water utilization. Water available for agricultural purposes fell short of the requisite amount by 36.5 percent. Most of the province had water supply problems (Narathiwat Community Development Office, 2012).

3.3.4. Fishery Resource

Fishery resources are fish, shrimps, crabs, and clams. There are three categories of aquatic plants along with freshwater fishery resources, brackish water fishery resources and marine fishery resources (Arbhabhirama et al, 1988, pp. 332-333).

- Freshwater Fishery Resources

Freshwater fishery resources are found in streams, canals, rivers, marshes, swamps, lakes, man-made reservoirs and ponds. There are a number of different species of these fishery resources. Production depends on the location, fertility and environmental quality of the area.

- Brackish Water Fishery Resources

The range of water salinity in brackish water areas is about 3 to 28 parts per thousand (ppt). There are many kinds of economically important species in brackish water areas such as cockle (Anadara gramosa), oysters (Ostrea spp.,
Crassustrea spp.), mud crab (Scylla serata), marine shrimps (Penaeus spp.), and white sea bass (Lates calcarifer).

- Marine Fishery Resources

The marine areas are abundant in living resources. In Southern Thailand, the Gulf of Thailand is located in the east coast and the Andaman Sea in the west coast. The typical fishery resources are the Indo-Pacific fauna and flora.

![Figure 3.12 A coastal shoreline 57 kilometers](image)

Natural waters and reservoirs in Narathiwat for fishery around 9.6 square kilometers together with a coastal shoreline of 57 kilometers (See Figure 3.12) serve as fishery habitats and play an important role in supporting the livelihood of Narathiwat people. The total production of freshwater fish had increased from 4,000 tons in 2000 to 62,000 tons in 2010, and is anticipated to continue increasing to 70,339 tons in 2014 (See Figure 3.14). About three quarters of the increased production can be attributed to natural waters, whereas the rest comes from farm-level aquaculture (Coastal Fisheries Research and Development Bureau in Narathiwat province, 2010). However, this ratio will be reversed in the forthcoming period as a result of the increasing deterioration of natural waters. Thus, the production of aquacultural production of freshwater fish will rise to 43.8 percent in 2014.
Although the annual catch of marine fish has slightly increased during the past decade the scarcity of fish as measured by catch efficiency (kg/hr) has become more evident over time. Despite the slight increase of total marine fish catch, artisanal fishery is showing a downward trend in the overall annual catch, i.e., decreased from 14.5 percent of the total catch in 2000 to 10.5 percent in 2010 (Coastal Fisheries Research and Development Bureau in Narathiwat province, 2010). This decline is owing to the considerable advancement of fishing technology and equipment, thus leading to overfishing and affecting artisanal fishermen.
3.4 Environmental Policy and Related Law

Some organizations and regulations related to environmental planning and management have existed for many years, for example, the Forest Protection Act of 1897 (B.E. 2440), Public Health Act of 1941 (B.E. 2484) and Factories Act of 1969 (B.E. 2512). In addition, An Environmental Quality Committee was set up by the government on 9th February, 1971. This organization consisted of a chairperson who was the Secretary-General of the National Research Council (NRC) and committee representatives of 13 other agencies. The major contribution of this organization was the preparation of a report on environmental problems that have persisted for a long time. This report was presented at the UN. Conference on the Human Environment at Stockholm on 5-16 June 1972. The organization was then established at two levels. The first level was the National Environmental Control Committee and the Minister of Health was appointed as a chairperson. The second level is the Executive Committee from which Secretary-General of the NESDB was appointed as a chairperson.

In 1975, a new committee on Environmental Quality was formed under the Office of the Prime Minister by the Improvement, Conservation of National Environment Quality Act 1975 (B.E. 2518) (Stubbs, 1981) and Conservation of National Environmental Quality Act 1992 (B.E. 2535). It was formed so as to allow the Office of the NEB to enforce environmental policies. Several years later, the government passed the new Enhancement and Conservation of National Environmental Quality Act 1992 (B.E. 2535).

3.4.1 Environmental Policy

The statements of environmental policy are addressed through many sources including the Constitution, government policy and the national plan.
3.4.1.1 Constitution

Thailand had its first Constitution in 1932 when the country became a Constitutional monarchy. In the previous Constitutions, there was not much attention given to the environmental matters. By reviewing the environmental policy in the Constitution, several important statements are illustrated as follows:

The Constitution of 1968 (B.E. 2511) in which Section 63 states:

“The state should maintain places and objects of historical, cultural and traditional values.”

The 1974 Constitution (B.E. 2517) states:

“The state should maintain and preserve the balance of the environment and natural beauty, including forest, watersheds, waterway and territorial waters.” (Section 77)

“The state should exploit natural resources for economic use of the Thai population in harmony with environmental conservation.” (Section 78)

“The state should maintain and preserve the environment in clean condition and eradicate any pollution which is harmful to the welfare and health of the people.” (Article 93)

In the 1978 Constitution (B.E. 2521) states:

“The state should promote and conserve the national culture” (Section 64).

“The state should conserve the balance of environment and eliminate pollution which jeopardizes the health and hygiene of the people” (Section 65).

“The state should have a demographic policy appropriate for natural resources, economic and social conditions, and technological progress for the purpose of economic and social development and for the security of the State” (Section 69).
In the 1991 Constitution (B.E. 2534) states:

“The state should maintain and preserve the environment, the balance of natural resources and non-renewal resources, protect them and eliminate pollution including planning for appropriate land and water use” (Section 74).

In the 2007 Constitution (B.E. 2550) states:

“The state shall act in compliance with the land use natural resources and environment policies as follows (section 85):

(1) Preparing and applying the policies on the use of land throughout the country with due regard to preserving and promote other wholesome environmental condition, nature of land and water and the way of life of local communities, the efficient measures for preservation of natural resources, the sustainable standard for land use and opinion of the people in the area who may be affected by the rule on the use of land;

(2) Distributing the right to hold land fairly, enabling farmers to the ownership or the right in land for agriculture thoroughly by means of land reform or by other means, and providing water resources for the distribution of water to farmers for use in agriculture adequately and appropriately;

(3) Preparing town and country planning, and developing and carrying out the plan effectively and efficiently for the purpose of sustainable preservation of natural resources;

(4) Preparing systematic management plan for water and other natural resources for the nation, and encouraging the public to participate in the harnessing and conservation of natural resources and biological diversity;

(5) Promotion, conservation and protection of quality of the environment under the sustainable development principle, and controlling and removing pollution which may affect health and hygiene and welfare and quality of life of the public by encouraging the public, the local communities and the local governments to participate in the formulation of measures.”
Environmental policies in the Constitution are only policy guidelines. They are broad statements which direct attention to implementation, in terms of environmental plans and specific projects. At the national level, the NESDB and NEB are the major organizations for the formulation of environmental plans. Every Ministry is required to implement its plans and projects under these environmental policy guidelines.

3.4.1.2 Government Policy

One of the political problems in Thailand is the instability of the government. In the past, there were many coups d’état from the military officers although the intervention by undemocratic means was not accepted by either domestic or international communities. In the Thai political system, there are many political parties. From 2012 the government of Prime Minister Yingluk Chinnawat is a coalition of three parties. The coalition government can collapse any time when there is no consensus amongst the parties. From 2002 to 2012, there were six changes of government. These are the government of General Taksin Chinnawat, General Sorrayut Julanon, Samuk Suntorrawet, Somchai Wongsawat, Apisit Wetchacheewa and Yingluk Shinnawat. Actually, the policies of these governments do not differ much. All these governments have policies that are formed and implemented by the bureaucracy and the national plan. The representatives of political parties are appointed to form a government policy when the parties win the election. Although the winning party forms the government, it is usually a coalition government. The Prime Minister Yingluk Shinnawat (2012) presented his government policy especially for natural resources and the environmental policy as follows:

“The Government intends to restore, conserve and develop deteriorating natural resources and decaying environment by encouraging greater participation of the general public, community organizations, and local administrative agencies through the following measures:
(a) Accelerate efforts to promulgate laws concerning public parks by providing opportunities for the public and the community organizations to participate in the maintenance and joint utilization of the parks.

(b) Enhance the effectiveness and strengthen the mandate of the concerned agencies responsible for management and conservation of natural resources.

(c) Settle disputes regarding the use of natural resources through land use planning.

(d) Introduce plans of action and set priority on environment related investment for managing environmental quality nationwide.

(e) Accelerate efforts to prevent and solve problems relating to water, air, and noise pollution, as well as treatment of waste from households and industrial plants, based on the premise that those responsible for causing damages to the environment will have to bear the financial costs the polluter to pay principle.

(f) Promote international cooperation in monitoring and solving environmental problems.

(g) Encourage the involvement of the general public, community organizations, and local administrative agencies in the conservation and protection of the environment.”

The government policy on the environment is more clear and enforceable than the broad provisions of the Constitution. But it is still a broad policy which must be practically implemented by planning and project work by government agencies and it leaves a great deal of room for interpretation or discretion.
3.4.1.3 National Planning

Thailand uses five year national plans as a national development guideline. These plans are prepared by NESDB. The first First Plan (1962-1966), the Second Plan (1967-1971) the Third Plan (1972-1976), the Fourth Plan (1977-1981), the Fifth Plan (1982-1986), the Sixth Plan (1987-1991), the Seventh Plan (1992-1996), were national plans among which the first three concentrated on economic and social development.

The Eighth Plan (1997-2001) is the first plan with an entire chapter devoted to the environment. A short summary of this chapter is worth quoting in full.

“The deterioration of environmental conditions of major natural resources particularly forest, land, water and mineral resources is a fundamental problem which has considerable consequences for national survival and Thailand’s future development potential. During the Third Plan period, this problem was compounded as a result of population growth and the pattern of human settlements associated with the evolving structure of the Thai industrialization process. The lack of clear cut policy on resource management and ecosystem preservation added to the problem.

The serious problem of environmental deterioration and resources mismanagement is made obvious by the rapid depletion of forest land. At present, (1997) the actual forest area constitutes only about 38 percent of the total land area of Thailand. The depletion of forest area is mainly due to illegal selling, destruction of watershed areas as well as the expansion of cultivated areas into forest land. So far, the Government has not been able to implement effective measures for the preservation of forests nor measures for ensuring that different types of land are put to their best or optimal uses. To date, the annual rate of forest destruction has tremendously outpaced the rate of replacement by the government’s reforestation program. In addition, the techniques used for extracting mineral resources, at present, have been chosen without regard for resource and ecosystem preservation. As a result, social costs are avoidably high and social benefits tend to be on the low side.
At the same time ad hoc methods of urbanization in Thailand have resulted in over-urbanization of the Bangkok Metropolitan Area, which is regarded as one of the most dominant prime cities in Asia; and the under urbanization in other regions of Thailand. This urban growth pattern has contributed significantly to the deterioration of environmental conditions in the Bangkok Metropolitan Area.

From the foregoing discussion, it is evident that priority has to be given to alleviating this critical problem in a systematic way.” (The Seventh Plan, 1992-1996, p. 29)

The Eighth Plan (1997-2001) expressed that the “Deterioration of the country’s natural resource base and socio-economic environment resulting from the rapid economic growth in the past has created two problems:

a) Deterioration of land and water resources, forest areas, and fishing grounds due to the expansion of cultivated land in all regions without proper natural resources conservation. As a result the forest area has declined to less than 30 percent of total area, and cultivated land has been used unproductively with low land productivity causing the agricultural growth rate to decline continuously. It is expected that the expansion of cultivated area will no longer be possible during the next five years. Therefore, pressure on cultivated land will increase and it will be necessary to restructure the agricultural production process and provide for the more efficient utilization of major natural resources in order to increase productivity and production. Otherwise, the agricultural growth rate during the next 5-10 years will decline further, causing increasing social tensions in the rural areas.

b) Rising urban congestion and environmental deterioration in the Bangkok metropolitan area due to the over concentration of industrial and economic activities.

Similar to the Fifth Plan, the Sixth Plan had more concern for environmental issues and some of the main new policies were:
(a) Soil

(i) Restore soil quality, in the south areas previously used for mining activity which caused environmental deterioration; mine operators must bear the full costs for restoring the quality of the soils which have deteriorated due to mining operations.

(ii) Prevent soil erosion in highland areas by introducing the farmers to new and scientific soil conservation techniques.

(iii) Formulate measures to prevent the expansion of urban areas on to good agricultural land or areas in which the government has already invested funds for making efforts towards development irrigation system.

(b) Water resources

(i) Study and formulate remedial measures for the negative environmental effect caused by the construction of dams or large reservoirs.

(ii) Systematically formulate a water allocation plan in the main river basins such as Chao Phya and Maeklong river basins. There must be sufficient water to drain away pollution water and prevent the intrusion of saline water. For the Chao Phya river basin, the water allocation system must also be complementing the alleviation of flooding problems in the Bangkok Metropolitan area.

(iii) Conserve and preserve the quality of water resources in order to prevent pollution which will damage agricultural production and endanger marine life.

(c) Forestry

(i) Conserve and seriously restore 40 million rai of watershed areas in the North and Northeast by planting a variety of trees, avoiding monoculture.

(ii) Conserve the 15 million rai of the 17 existing national park.
(iii) Expand the 21 existing wildlife conservation areas from 11.5 million rai to 12.8 million rai” (The Eighth Plan, 1997-2001, p. 57)

Next, the Ninth Plan (2002-2006) developed new policies giving even greater attention to the natural resources and environment. Some salient points from the Ninth Plan are as follows:

“(a) emphasize the use of natural resources in generating employment. In particular the private sector will be encouraged to use land for growing trees for economic purposes. Resources in Thai territorial waters will be conserved to ensure continued and consistent economic use, and water resources will be used with increased efficiency.

(b) Establish appropriate types of land ownership. This would be a continuation of rules that were implemented in the Sixth Plan. In addition, it is necessary to improve the system of agricultural production according to the productivity of the land and to solve problems which arise from soil depletion and other types of soil problem.

(c) Locate and continuously develop additional natural resources. In particular an aerial geophysical survey of the entire country and exploratory drilling will be undertaken at various points where data indicate the existence of energy resources and economically valuable minerals. For water resources, support will be given to efforts to use underground water sources wherever feasible; elsewhere support will be given to the construction of small water resource centers or projects for household consumption and agricultural use.

(d) Provide instruments in the form of master plans and maps. These will be used in natural resource and environmental planning; for example, standardized land maps will be made for use by various government units; master, plans - will be formulated for the country’s national parks and wildlife sanctuaries and for developing the economic potential of natural resources in coastal areas; and studies will be undertaken to solve the problems relating to the generation and control of toxic substances.
(e) Put in place and standardize a system for management of natural resources and the environment. Local organizations will be encouraged to set up infrastructural bases near the location of natural resources in order to participate more in the administration and management of these resources and the environment.” (The Ninth Plan, 2002-2006, p. 10)

However, the Tenth Plan (2006-2011) envisaged the development of natural resources and the environment as follows:

“Develop environmental quality hand in hand with national economic and social development by emphasizing development of management mechanisms to deal with pollution problems in water, air, solid water and disposal of hazardous wastes. Greater efficiency is sought to be ensured in the following way:

(a) Enforce the “polluter-pays-principle” which was formulated during the Seventh Plan period.

(b) The Tenth Plan sought to improve organization and create a role and legal framework to improve efficiency in environmental management, such as strengthening role of the local authority in management and pollution treatment system in the local areas. The local authorities should be given the necessary authority and power to manage the treatment services, both where public agencies offer the services themselves, and in where there is subcontract to the private sector. The local authorities should be empowered to collect appropriate service charges.

(c) The Tenth Plan sought to mobilize funds for reduction and control of various forms of pollution. For instance, the government may offer subsidies for construction of central sewage treatment plants for communities and partial or total subsidy for garbage collection in local communities. Similarly, the government may invest or carry out joint investment, or grant a concession to the private sector, and make provisions for a central hazardous wastes disposal system for industrial plants etc.
(d) The government is proposed to join hands with the private sector, communities, and the people in protecting the environment, as well as in the prevention and solution of environmental problems. For instance, a tripartite form of organization including communities, private enterprises and the government may be set up to supervise, protect and take care of environmental quality to maintain acceptable standards, particularly in urban areas, industrial zones, and tourist destinations etc. (The Tenth Plan, 2012-2016, pp. 17-18)

To improve the administrative system in relation natural resources, which serve as basic means of livelihood for rural people, as national heritage and as an important basis for sustainable development, the following measures were proposed.

“(a) Encourage people to cooperate with the government in natural resources conservation by promoting a greater role for people’s organizations, and non-governmental organizations, making a transitional policy shift from central to local areas for empowering local authorities to have a role in formulation of natural resources management projects, as well as monitoring, supervising and evaluating successes of these projects.

(b) Control and ensure implementation in accordance with existing natural resources management provisions, such as the national park management plan, and development plans covering wildlife conservation, mangrove forests, and coral reefs. Emphasis will be on adequate provision of budget and mobilization of personnel for protection of the environment, and cultivation of a sense of awareness among interested and affected parties. Furthermore, public relations campaigns through the media, and open assessment of the rate of natural resources destruction at frequent intervals will be carried out, and measures to enhance efficiency of environmental conservation will be formulated and implemented.

(c) Reduce future conflicts that could occur due to sharing of natural resource use, by speeding up formulation of land use plan such as designation of rock salt production zone in the northeast, and designation of mineral
resource development in national forest reserves. In this regard, information for planning and implementation should be open and accessible to the public.

(d) Employ monetary and fiscal measures in natural resources management to promote a sense of social justice and to ensure a fairer distribution of benefits from natural resources in a more widespread manner. Some of these measures include review of water rates for the private sector and big volume users of irrigation water, establishment of a fund for post-mining rehabilitation, and readjustment of land tax to reduce land speculation as well as phased or allocated distribution and authorised occupation of unutilized and large pieces of land.

(e) Set up a natural resources information system to serve as a basis for reliable and efficient planning, and, to reduce confusion caused due to inconsistent information given by different agencies as is the case at present. Furthermore; forest reserve zones must be clearly demarcated, together with designation of land use along the coastal areas to develop fishery resources, hand in hand with conservation of mangrove forests and coral reefs.

(f) Accelerate enactment of laws to ensure appropriate natural resources conservation in line with changing situations such as law on community forests to enable the people and non-governmental organizations to have a legal role in forest conservation.” (The Tenth Plan, 2007-2011, pp. 18-19)

Next, Eleventh Plan (2012 – 2016) defined managing natural resources and the environment directed towards sustainability as follows:

(a) Conserve and create security for natural resource and environmental bases by safeguarding and restoring forest and conservation areas. A database system to organize information should be developed to serve as a tool for planning and management. Meanwhile, the management system governing land ownership and marine and coastal resources should undergo reform. Integrated water resource management should be urgently pursued. In addition, efforts should be made to restore and improve water resources to
increase the water supply. It is essential to promote more efficient use of water. This requires a master plan of water infrastructure to systematically manage water consumption. Encouragement should be given to conservation and to sustainable utilization of biodiversity.

(b) Shift the development paradigm and transform the country to a low-carbon and environmentally friendly economy. The country’s production and consumption behavior should be restructured to prepare for a transition toward a low-carbon and environmentally healthy economy. To this end, energy efficiency in the transportation and logistic sectors should be enhanced in order to reduce greenhouse gas emissions. Eco-cities should be developed to represent structured urban planning and must integrate cultural, social and ecological factors.

(c) Upgrade the ability to adapt to climate change. This should be achieved by enhancing knowledge and management tools to handle and respond to challenges from climate change. Community capacity and preparedness to cope with climate changes should be improved.

(d) Ensure preparedness to respond to natural disasters. Maps and priority lists of risk areas should be prepared at the national, regional and provincial levels. Disaster management efficiency should be improved while database systems and telecommunication networks should be developed. Support is also needed to provide for the development of science and technology in disaster management. The national volunteer work system should be improved to meet international standards. Moreover, the private sector, enterprises, schools and local authorities should be well prepared with action plans for disaster response.

(e) Foster resilience towards trade measures associated with environmental conditions and climate change impacts. Special efforts should be made for surveillance and monitoring measures that are related to environmental conservation and that may have effects on international trade and investment. Planning should be introduced to deal with the anticipated effects from trade measures and international agreements on environment and
climate change. It is essential to conduct research on the effects of these threats and develop strategic plans together with alleviating measures for relevant products and businesses. Firms should consider the carbon footprint for export goods. Incentives for new industries that will create an environment for sustainable development.

(f) Enhance the role of the country in international arenas whenever it is related to environmental framework agreements and international commitments. There is a need to study these agreements in detail to ensure that they are thoroughly understood and to monitor the status of negotiations and the positions of other countries. It is also important that government officials be equipped with negotiation skills and techniques. Moreover, cooperation within ASEAN and with major trading partners should be enhanced. The implementation of international agreements and commitments on natural resources and environment should be supported.

(g) Control and reduce pollution. It is necessary to reduce air pollutants. The efficiency of solid waste disposal and community waste water treatment should be improved. In addition, a management system for hazardous wastes, electronic wastes and bio-medical infected wastes should be established. Development of warning systems and responses for toxic accidents are needed.

(h) Enhance the natural resource and environmental management system to be more efficient, transparent and equitable. Support should be given to empower communities and to advocate their rights to gain access to and utilize natural resources. Amendments to legislation are needed to address inequality among communities regarding access to and utilization of natural resources. Changes in government investment policies to facilitate conservation and restoration are also needed. An environmental tax should be collected to provide incentives for efficient use of natural resources and pollution reduction. Ways and means to generate revenue from biodiversity should be explored. Databases, monitoring and evaluation systems should be developed. Research
should be supported to establish an efficient management system for natural resources and the environment. The national plan is a five year economic and social development plan which provides a guideline to government agencies from ministerial level, department level, province level to the district level so as to form and implement the plan. Government agencies have to follow the framework of national plan for their individual plans. Generally national plans do not contain project level detail and still leave room for interpretation as to how they will be implemented.

3.4.2 Environmental Law

Thai legislation is based on the Constitution as is usual with any country’s legislation. There are four basic codes namely the penal code, the criminal procedure code, the civil procedure code and the civil and commercial code and various acts that make up the regulatory system of the administration. The main laws which are related to the environment are:

(a) Laws on control of industrial and agricultural pollution, such as the Town Planning Act of 1975 (RE. 2518) and the Factories Act of 1969 (B.E. 2512).

(b) Laws on conservation or protection of resources and aesthetic values, such as the first Forest Protection of 1897 (B.E. 2440), and the Preservation of Forests Act of 1938 (RE. 2481).

(c) Laws on special problem areas, including the growing need for energy, and on the problems connected with the environment, population control, and public health such as the Public Health of 1941 (B.E. 2484).

(d) Emergency laws for controlling pollution in cases that cause imminent danger to life, threats to personal safety damage to the properties of the people or of the states. An example of this is the provision of Section 9 of Enhancement and Conservation of National Environmental Quality Act 1992.
(e) In the 2007 Constitution (B.E. 2550) states: a local government organization has the powers and duties to promote and preserve the quality of the environment as provided by law;

The law under paragraph one shall contain the following matters as its substance:

1. The management, preservation and exploitation of the natural resources and environment in the area of the locality;

2. The participation in the preservation of natural resources and environment outside the area of the locality only in the case where the living of the inhabitants in the area may be affected;

3. The participation in considering the initiation of any project or activity outside the area of the locality which may affect the quality of the environment, health or sanitary conditions of the inhabitant in the area;

4. The participation of local community.

3.5 Organizations involved in Environmental Planning

The organizations which are involved in environmental planning are NESDB and NEB. NESDB is responsible for national planning while NEB is responsible for environmental planning. The environmental matters are included in the national plan. Other ministries have role in environmental planning and management too.

3.5.1 NESDB

NESDB is the major organization responsible for national development planning. At present, NESDB has 18 units which are categorized in five groups as follows:

“(a) Data and information for planning categories namely Office of the Secretary, National Account Division, and Economic Studies and Information
Division.

(b) Central policy and planning categories namely Central Planning Division, Human Resources Development Division, Technology and Environmental Planning Division and Economic Preparedness Planning Division.

(c) Plan coordination categories namely Rural Development Coordination Division, Urban Development Coordination Division, Public and Private Sector Coordination Division, and Operation Plan Coordination and Analysis Centre.

(e) Program and project analysis categories namely Economic Project Division, Fundamental Project Division and Social Project Division.

(f) Regional planning centre categories namely Northern Regional Development Centre, North-eastern Regional Development Centre, Southern Regional Development Centre and Central Regional Development Centre,” (see Figure 3.15)

NESDB prepares the national plans in cooperation with the Budget Bureau, various sectorial agencies, and other policy-oriented units, of which the NEB has been a part.
Figure 3.15 Organization Chart of Office of the NESDB

OFFICE of NESDB

Data and Information
- Office of the Secretary
- National Account Division
- Economic Studies and Information Division

Central Policy and Planning
- Central Planning Division
- Human Resources Developing Division
- Technology and Environment Planning Division
- Economic Preparedness Planning Division

Plan Coordination
- Plan Development and Coordination Division
- Urban Development Coordination Division
- Public and Private Sector Coordination Division
- Operation Plan Coordination and Analysis Centre

Program and Project Analysis
- Economic Project Division
- Fundamental Project Division
- Social Project Division

Regional Planning Central
- Northern Regional Development Centre
- Northeastern Regional Development Centre
- Southern Regional Development Centre
- Central Regional Development Centre

Source: NESDB

3.5.2 NEB

At present, NEB is under the administration of MOSTE. The evolution of this organization began when NEB was established in the Office of the Prime Minister by the Improvement and Conservation of National Environment Quality Act of 1975 (RE. 2518).

Then on 4th April, 1992, the government declared the new Enhancement and Conservation of National Environmental Quality Act B.B. 2535. There are some changes in the NEB and Office of NER.

NEB is a high level government agency consisting of the Prime Minister as Chairman, a Deputy Prime Minister designated by the Prime Minister as the first Vice Chairman, the Minister of Science, Technology and Environment as
the second Vice Chairman. The Minister of Defence, the Minister of Finance, the Minister of Agriculture and Cooperatives, the Minister of Transport and Communications, the Minister of Interior, the Minister of Education, the Minister of Public Health, the Minister of Industry, the Secretary-General of the National Economic and Social Development Board, the Secretary-General of the Bond of Investment, the Director of the Bureau of the Budget are members ex officio. This committee has also included members qualified in environmental matters (not more than eight persons of which no less than half shall be representatives from the private sector) and the Permanent Secretary of the Ministry of Science, Technology and Environment as member and secretary.

The appointment of qualified members shall be made by drawing from persons who are knowledgeable and known for their expertise, contributions and experiences in the matters concerning the enhancement and conservation of environmental quality (Enhancement and Conservation of National Environmental Quality Act 1992, Article 12). The NEB shall have the power and duty as follows:

“(a) Submit policy and plan for enhancement and conservation of national environmental quality to the cabinet for approval.

(b) To prescribe environmental quality standards pursuant to section 32.

(c) To consider and give approval to the Environmental Quality Management Plan proposed by the Minister according to section 35.

(d) To consider and give approval to the Changwat Action Plan for environmental quality management according to section 37.

(e) Make recommendations to the cabinet, respected to financial, fiscal, taxation and investment promotion measures for the implementation of the policy and plan for enhancement and conservation of national environmental quality.
(f) Propose for amendment or improvement of laws relating to the enhancement and conservation of environmental quality to the cabinet.

(g) To consider and give approval to the action plan for prevention and remedy of danger caused by contamination of pollutants or spread of pollution proposed by the Pollution Control Committee pursuant to section 53 (1).

(h) To consider and give approval to the setting of emission or effluent standards proposed by the Minister pursuant to section 55.

(i) To supervise, oversee and expedite the enactment of royal decrees and issuance of ministerial regulations, rules, local ordinances, notifications, bye-laws and orders which are necessary to ensure systematic operation of the laws relating to enhancement and preservation of environment quality to the fullest extent possible.

(j) To submit opinion to the Prime Minister for his directions in case it appears that any government agency or state enterprise infringes or refrains from complying with the laws and regulations for environmental protection this may cause extensive damage to the environment.

(k) To specify measures for the strengthening and fostering of cooperation and coordination among government agencies, state enterprises and the private sector in matters concerning the promotion and conservation of environmental quality.

(l) To supervise the Fund management and administration.

(m) To submit reports on national environmental quality situation to the cabinet at least once a year.

(n) To perform other functions as may be provided by this Act or other laws to be within the authority of the National Environment Board.”

(Enhancement and Conservation of National Environmental Quality Act 1992, Section 13)
The office of NEB has been changed under the new Enhancement and Conservation of national Environmental Quality Act B.E. 2535. The organization chart is shown in Figure 3.16.

**Figure 3.16 Organization Chart of the Office of NEB**

Office of Environmental Policy and Planning has the following functions:

“(a) To prepare the national policy and plan for enhancement and conservation of environmental quality in accordance with other national policies as well as to follow up and evaluate the policies.

(b) To coordinate the preparation of environmental quality management plan according to the enhancement and conservation of national environmental quality act.

(c) To monitor and prepare the report on a natural resources profile of problem/situation

(d) To coordinate the natural resources management according to the national policy and plan for enhancement and conservation of environmental quality, the national policies on socio-economic development plan and the environmental quality management plan.

(e) To provide guidelines, Terms of Reference, and review any governmental and non-governmental program/project which may cause deterioration of environmental quality.

(t) To initiate and provide guideline and role, also to cooperate by being one among various countries which are already in the international environmental obligation.

(g) To make recommendations on policy and guideline as well as coordinating in the administration and management of the environmental fund, including fund-raising campaign for environmental fund in accordance with the act for enhancing and conserving national environmental quality.

(h) To coordinate the management of regional environmental issues, program and project

(i) To perform other functions as may be required by authority of the Office of Environmental Policy and Planning, the Ministry, and/or the
The Department of Pollution Control has the following functions:

“(a) To submit opinion for the formulation of policy and plans to promote and conserve national environmental quality and pollution control.

(b) To make recommendation for the formulation of environmental quality standards and pollution control standards by sourcing and compiling information from reliable sources.

(c) To formulate environmental quality management plan and measures to control, prevent and mitigate environmental problems caused by pollution.

(d) To monitor and to prepare a report on the state of pollution.

(e) To develop systems, scheme and appropriate methodologies for application in management of water quality, air quality, noise, hazardous substances and solid waste.

(f) To perform functions stipulated in the Improvement and Conservation of National Environmental Quality Act concerning pollution control.

(g) To take actions on the petition concerning pollution.

(h) The department has to perform other functions as designated by law, entrusted by the ministry or assigned by the Council of Ministers.” (Royal Decree for the Organization Chart of Department of Pollution Control, 1992)

The Department of Environmental Quality Promotion has the following functions:

“(a) To provide public education and liaise with media on environmental protection.

(b) To collect and establish database on environmental information and technology.
(c) To provide environmental knowledge to other government agencies and the private sector.

(d) To perform other functions specified by law.” (Royal Decree for the Organization Chart of Department of Environmental Quality Promotion, 1992)

3.5.3 Non-Government Organizations (NGOs)

Non Government Organizations (NGOs) are significant in the policy making and planning process for the development projects. NGOs are mostly voluntary and nonprofit organizations. Yoodee and Tips (1988) explained that NGOs differ substantially in terms of their size, administrative style and affiliation. Some organizations are large and well established in terms of personnel and budget and have a wider area of operation. Others, although smaller in size, may have an even wider scope of operation. In Thailand, some experienced NGOs that have been working for a long time have their activities mainly in the rural area for community development, health and so on while the others have activities in the urban area. Well-known NGOs in Thailand, for example Population and Community Development Association chaired by Mr. Meechai Veeravaitaya, has been successful in family planning. NGOs cover areas such as youth, public health promotion, consumer’s protection, education, human right, environment protection etc.

Under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the government promotes NGOs registered with the Ministry of Science, Technology and Environment. NGOs receive some assistance and support from the government to participate in environment protection matters. Recently there are 77 NGOs registered with the Ministry of Science, Technology and Environment (MOSTE). This is an attempt to have participation from NGOs in the development planning process. But there is no formal legal and administrative process set up to accommodate NGOs input and contribution within the government’s environmental policy and planning in Thailand. Conflicts between government and NGOs in some development and environmental projects have occurred, for example solid waste treatment plant.
The role of NGOs is greater in the on-going political and environmental debate. Their activity on political matters is to promote democracy for the country. For environmental matters, the process of approval of environmental projects mainly aims to provide more details and to be inspected by the community. NGOs activity in the community is mainly to help people to deal with problems faced by the community. NGO’s initially identified the problem and try to voice the people’s demand to the government to solve each kind of problems. Their opinions may be sent to the responsible government officials by letter, Sometimes, their demands are published in the newspaper for wider public awareness. If the government officials are not active, a group of people in the community is formed to protest against the government. If there is no attention by the local officers, NGOs may move to Bangkok to put forth their demands. Also NGOs may be involved when government officials invite or recruit them to committees to solve the problems.

The discussion of NGOs role and activities in the development or environmental project showed that there is no formal legal and administrative processes set up for the NGOs to be involved in the decision making even though NGOs have an informal role and an informal involvement in activities. This often leads to conflict between government officials and NGOs. The decision making processes should be formally set up for the NGOs to participate effectively so that it enables the government officials and NGOs to work together to advance and boost the development of Thailand.

The Thai Development Support Committee (TDSC) and the Third World network are NGO’s that have long campaigned on environmental issues and especially on prawn aquaculture. TDSC published a Thai Development Newspaper (1990) which focused on the invasion of the prawn farms in the mangrove areas and the impact of prawn fanning industry on paddy farmers and fishermen. In this newspaper, it was reported that mangrove areas have been destroyed to create prawn farming business. Publicity was given to the fact that saline water had adverse effect on the paddy fields and consequently
Paddy production was going down. The fishermen were also affected by poisonous waste from prawn farms which poured into the sea and waterway. This newspaper campaigned on behalf of the people especially paddy farmers and fishermen living in this area and forecasted that if the prawn farming business is continued without correcting environmental problems, there will be dire consequences.

There are some NOD’s namely Lae-tat (Look South) at the local level involved in the process of prawn farming. This NOD played some role in framing a response and explained the problems to the government officials. In this research, The representatives of NGOs were interviewed and the details of NGOs activities on prawn farming which had been reported in the newspaper are included.

3.6 Administrative System for Natural Resources and the Environment under the Administrative System for Narathiwat province Development

The administration of natural resources and the environment is under the administration system for rural development (See Figure 3.17). At the national level, there are three organizations which are strongly involved in administration for rural development including: Budget Bureau, Civil Service Commission and the NESDB. These organizations are units of the Office of the Prime Minister.

There is a committee on national rural development. This committee concentrates on the National Operation Centre and four main ministries namely: Interior, Agriculture and Cooperative, Public Health and Education. Besides, there are three support ministries namely: Industry, Commerce, the Ministry of Science, Technology and Environment (MOSTE).

The Ministry of Interior (MOI) has a major role in the administration of natural resources and environment. The objectives of the Ministry are to alleviate poverty and to promote social and economic welfare of the people. The MOI consists of various administrative levels: province (Changwat), district
(Amphoe), sub-district (Tambon) and villages (Muban). The organization chart is shown in Figure 3.17.

**Figure 3.17 Administrations of Natural Resources and the Environment under the Administrative System for Narathiwat province Development**

Sources: NESDB
At the provincial, district and sub-district level, there are provincial, district and sub-district plans. In addition, there are sub-committees or working groups at each level to formulate the rural development plans. Natural resources and environment plan are parts of each provincial, district and sub-district rural development plan.

There are special sub-committees or working groups to formulate natural resources and environmental plans. This sub-committee or working group is composed of the representatives from the major Ministries in the province such as Interior, Agriculture and Cooperative, Education, Public Health etc. Besides, this group is answerable to the Centre for coordination in provincial rural development.

In 1990, every province in Thailand was required to formulate a natural resources and environmental plan. The Office of Policy and Planning, agency under MOI, is the secretariat unit overseeing these plans. This plan has major characteristics as follows:

“(a) to raise concern for the management of natural resources;
(b) provinces should be given the power to initiate or take the initiative and define guidelines for implementation;
(c) provinces should be responsible for implementation;
(d) there will be special funding from policy and planning department and the budget from government and private sectors in the province.”

3.7 To Conclusion

All the details presented above show the heavy dependence of agricultural and regional development upon natural resources utilization and describe some of the difficulties of increasing water use without creating adverse environmental effects. Since the majority of Narathiwat inhabitants still earn their living from agriculture which depends greatly on the natural resource base, it is necessary
to reformulate the national development concepts in response to the existing issues and constraints of natural resources.

Besides, this chapter reviewed environmental policies, plans and laws for control and implement in Narathiwat province from various Sources such as the Constitution, government policies and plans. At the national level, NESDB is responsible for economic and social development planning while NEB is responsible for environmental planning. Other ministries such as MOI, Ministry of Industry are responsible for the implementation of the environmental policies. At the provincial and district level, the Provincial Governor and Head of the District are responsible for the provincial and district plan respectively. The provincial and district administration needs good cooperation between the government agencies in the province and district. The following chapter will present opinions of people in Narathiwat province with the situation of natural resources, the problems of natural resources, and the recommendation for solving the problems of natural resources by the people in province.