



In Their Own Words:

Course Book on the Taiwan Strait's Military Geography

Translations from Chinese source documents



The “In Their Own Words” series is dedicated to translations of Chinese documents in order to help non-Mandarin speaking audiences access and understand Chinese thinking. CASI would like to thank all of those involved in this effort.

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To request additional copies, please direct inquiries to
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E-mail: Director@CASI-Research.ORG

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CASI would like to acknowledge the work and effort of the team at BluePath Labs for their help with this translation. This translation was done through an automated translation engine. While we have tried to ensure that this is an accurate and readable translation, we expect there to be inconsistencies and errors. In addition, the page numbers of this translation correspond to the page numbers of the original (i.e., the page numbered page ten in this document has the content of the page numbered ten in the original).

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TRANSLATORS’ NOTES

This translation of the original text aims to accurately capture the technical meanings, in both English and Chinese. This will ensure that the reader will not inadvertently draw the wrong substantive understanding based on inaccurate translations.

Textbooks for Master's Degree Students of the Academy of Military Sciences (Second Edition)
[军事科学院硕士研究生系列教材]

Course Book on the Taiwan Strait's Military Geography

[台海军事地理教程]

Bai Guangwei [白光炜], Editor-in-Chief

Military Science Press
[军事科学出版社]

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Issued within the military
May not be passed on to the outside world

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Deputy Editor-in-Chief Li Bo [李波]

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Committee for the Compilation and Review of Postgraduate Textbooks of the Academy of Military Sciences

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Deputy Director: Liu Jixian (former), Xu Lili

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Sub-committee on the Compilation and Review of Postgraduate Textbooks of the Ministry of Foreign Military Research

Director: Wang Weixing

Committee member: Nie Songlai, Du Jian, Yuan Yang, Chen Jianmin, and Yi Bensheng Kechunqiao

Writers of the "Military Geography Course in the Taiwan Strait"

Editor-in-Chief: Bai Guangwei

Deputy Editor-in-Chief: Li Bo

Writers: Bai Guangwei, Li Bo Ren Guozheng Zhang Lu
Song Minghai

NOTES FOR THE SECOND EDITION

In graduate education, talent is fundamental and teaching materials are the foundation. The first edition of the series of 55 textbooks for postgraduate students in military science launched by our institute in 1998 not only played a positive role in promoting the strengthening of postgraduate education and improving the quality of talent training, but also had a positive impact on the field of postgraduate education in the whole army and the whole country. In December 2008, on the basis of summarizing 20 years of experience in postgraduate education, our institute established the goal of cultivating "high-quality senior research talents and senior staff talents who are known for their theoretical skills and thinking ability" (referred to as "two high talents"), which put forward higher requirements for the postgraduate education of the college. In order to meet the needs of cultivating "two high talents" and adapt to the new discipline catalog promulgated by the Ministry of Education and the adjusted curriculum of our institute, the institute decided to revise the series of textbooks (first edition) for graduate students, and complete the publication of the second edition by 2012.

The second edition consists of 65 textbooks. Among them, 25 books have been revised and 40 new books have been compiled, involving 10 first-level disciplines and 23 second-level disciplines. In the revision work, all disciplines have always adhered to the guidance of Marxist military theory, especially President Hu Jintao's important expositions on national defense and army building, based on the military strategic principles for the new period, and taken the vivid practice of national defense and army modernization construction and preparations for military struggle in recent years as the traction, closely integrated with the actual conditions of postgraduate education and the development of military science, closely centered on the goal of cultivating "two talents from the highest level," paid attention to giving play to the superiority of military science and embodying military characteristics, and realized the organic combination of postgraduate education and military scientific research.

The first is to inherit the excellent results of the first edition of the textbook. The textbooks in the first edition of the textbooks with relatively stable ideas, viewpoints, and methods and a relatively mature theoretical system have been further refined and perfected, and efforts have been made to make them classic textbooks for postgraduate education in military science. The second is to reflect the new knowledge, new achievements, new methods and new systems of the discipline of military science. It has fully absorbed the cutting-edge achievements of various disciplines, highlighted the innovative theoretical achievements in the scientific outlook on development, the theory of military informatization construction, military reform with Chinese characteristics, and preparations for military struggle, adapted to the development of the situation, and embodied the characteristics of the times. Third, it follows the teaching characteristics and laws of military science disciplines. Based on the construction plan of the graduate education discipline of the College, it is compatible with the "Twelfth Five-Year Plan" of the Graduate Education Department and coordinated with the adjustment of the graduate course system, which reflects the knowledge structure required by the "two supremes" goal. Fourth, the relationship between teaching materials, lecture notes, and theses has been correctly handled. Courses that are relatively stable and theoretically mature are included in the textbook publication plan, and for some courses that are not yet mature in content but have strong forward-looking and urgent needs, they will first organize the preparation of teaching outlines, write lecture notes after the outline is mature, and write teaching materials after the lecture notes are mature. Fifth, it has promoted the construction of disciplines through the compilation of teaching materials. All disciplines have further improved the teaching system, strengthened basic theoretical research, trained the scientific research team, formed an academic echelon, and promoted and stimulated scientific research innovation.

The revision and publication of this set of teaching materials has condensed a lot of hard work and sweat from leaders, experts, tutors and relevant staff at all levels. President Liu Chengjun personally served as the director of the textbook editing and review committee of the academy, and Political Commissar Sun Sijing was very concerned about the revision of textbooks and requested the compilation of a set of high-quality postgraduate textbooks that reflected the characteristics of the times and the characteristics of military science. Vice Presidents Liu Jixian and Xu Lili served as deputy directors of the Editorial Review Committee and personally organized the editing work.

The experts and tutors involved in the preparation of teaching materials put into work with full enthusiasm and a high sense of responsibility, conducted extensive research, worked overtime, and completed the writing tasks on time. The Scientific Research Guidance Department has repeatedly organized and solicited the opinions of the Research Department, institutes and tutors, repeatedly studied the revision plan of teaching materials, timely grasped the progress of textbook preparation, conscientiously coordinated the approval and publication of textbooks, and done a lot of arduous and meticulous work. The Military Science Publishing House regards the publication of textbooks as a major task, and has carefully organized, carefully designed, carefully edited, and carefully proofread to ensure the quality of publication.

Limited by the time and level of preparation, the system of the second edition of the textbook is not perfect enough, and the content is still insufficient, and we implore relevant experts and the majority of graduate students to put forward suggestions for revision in order to further enrich and improve.

Academy of Military Sciences
Master's Degree Textbook Editing Committee
June 2011

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LECTURE 1: INTRODUCTION

Military geography in the Taiwan Strait is an important part of regional military geography research and belongs to the category of military geography. Each discipline has its own specific research objects, areas of study, and the body of knowledge made up of these categories. As Mao Zedong pointed out in the *Theory of Contradictions*: "The distinction of scientific research is based on the special contradictions of scientific objects. Thus, the study of a certain contradiction peculiar to the field of a certain phenomenon constitutes the object of a certain science."¹ The object of study of military geography in the Taiwan Strait is the relationship between the interdependence and constraint between the geographical environment of the Taiwan Strait and the military. In order to better study military geography in the Taiwan Strait, it is necessary to understand the basic concepts of military geography and the disciplinary basis of military geography in the Taiwan Strait, determine the content of military geography research in the Taiwan Strait, and master the theories and research methods of military geographical environment analysis.

1. THE DISCIPLINARY BASIS OF MILITARY GEOGRAPHY IN THE TAIWAN STRAIT

Military geography is a discipline that studies the relationship between military and geography and is the disciplinary basis for the study of military geography in the Taiwan Strait. Proceeding from the actual needs of military struggle, on the basis of physical geography and human geography, it applies military science, geographical science, and other modern theories and technologies to study and explore the influence of the geographical environment on military operations and national defense construction and the law of military application of geographical conditions, so as to provide a scientific basis for formulating military strategies, studying the building of armed forces, making battlefield preparations, and carrying out combat operations. It is not only an important part of military science but also an important branch of geographical science, and a comprehensive, applied and marginal discipline formed by means of the research results of military science and geographical science.

¹ The Collected Works of Mao Zedong, vol. 1, p. 309, People's Publishing House, 1991.

(1) Classification of Disciplines

Military geography reflects the relationship between military and geography. It covers both geographical issues in the military field and military applications within the geographical domain. According to the object and scope of research, military geography is usually divided into two categories: basic military geography and applied military geography.

Basic military geography, also known as general military geography, is a discipline that studies the general laws of the relationship between military and geography, mainly expounding the basic theories such as the historical development of military geography, research objects, tasks, methods and discipline systems, researching and exploring the influence and constraints of the geographical environment on national defense construction and military operations, and revealing the general laws of dependence and requirements of war, national defense and military operations on the geographical environment. It provides a theoretical basis for guiding military operations and military geography research by revealing, understanding, utilizing and transforming the laws of the geographical environment, has a relatively common theoretical guiding role, and is the theoretical basis for the application of military geography.

Applied military geography is a discipline that focuses on the study of the relationship between military application and geography for specific military purposes, mainly expounds the applied knowledge of military geography, and uses the basic theory of military geography to specifically analyze and discuss the relationship between various geographical elements of countries (regions) and theaters and military activities, or between certain elements and specific military activities, which has strong pertinence and applicability, and can provide an important basis for formulating strategic guidelines, preparing for war, building and using armed forces, and organizing and implementing military activities. According to the research object and scope, applied military geography can be divided into regional military geography and thematic military geography. Among them, regional military geography is a discipline that studies the relationship between the construction of armed forces and military operations and the geographical environment in a certain area of the earth's surface, focusing on the study of the influence of the geographical environment of countries (regions), theaters and other military zones on military activities, and providing a geographical basis for the division of military regions, the analysis of regional military geographical environment, war preparations and the implementation of combat operations. Thematic military geography is the discipline of studying the relationship between specific military operations and the geographical environment according to the needs of a certain service, branch of the armed forces or military functional departments. The study of military geography in the Taiwan Strait belongs to the category of regional military geography research, which focuses on the relationship between the geographical environment and military operations in the Taiwan Strait.

Military geography belongs to the interdisciplinary discipline of military science and geography, which draws the laws and methods of war guidance and army building from military disciplines such as strategy, campaign science, tactics, military system, army command, and military logistics, as the theoretical basis for research; from military surveying and mapping, military meteorology, military hydrology, military engineering geology and other disciplines, we will draw on the research results on the military application of geography and provide them with data, data and research means. At the same time, military geography also provides military geography theory and basic knowledge for the above disciplines, enriches and improves their research content, and forms many thematic military geography disciplines.

For example, strategic geography is a discipline specializing in the planning and guidance of the relationship between the overall situation of war and the geographical environment, which belongs to the marginal discipline between military geography and strategy; campaign geography is a discipline that studies the relationship between campaign activities and the geographical environment. Tactical geography is a discipline that studies the relationship between combat operations and the geographical environment of the battlefield. In addition, there are many sub-disciplines such as army geography, naval geography, air force geography, military logistics geography, military equipment geography, military climatology, military hydrography, military economic geography, historical military geography, military oceanography, military topography, and military geology. In short, the various sub-disciplines of military geography jointly complete the task of studying the relationship between the geographical environment and military operations, theoretically explore the general laws of the geographical environment for national defense construction and military operations, and serve the preparation and guidance of war and the organization and implementation of military operations in practice.

(2) The Formation and Development of Military Geography

Military geography is the product of human war practice, it originates from war, serves war, develops with the development of war, and is a theoretical summary of military understanding and utilization of geographical conditions.¹ It is set against the backdrop of the historical period of the development of human society and adapts to the stage of development of war. In the emergence of military geography, war is the direct determinant, economic and political is the indirect determinant, and weaponry is the influencing factor. According to the level of development of social productive forces, the practice of human society and the level of people's understanding of the relationship between military and geography, military geography is generally divided into three development periods: ancient, modern and modern.

1. Ancient Military Geography

From ancient times to the middle of the 19th century, it was a period of accumulation of knowledge of military geography. During this period, the level of development of weapons and equipment was low, the scope of war was relatively small due to the limitation of mechanical power and strike force, and the main research content of military geography was the influence and utilization of local surface forms on combat operations.

¹ See Yuan Shuyou, *Military Geography Fascicle of the Chinese Military Encyclopedia (Second Edition)*, p. 3, Encyclopedia of China Publishing House, 2007.

Ancient China was a world leader in the study of military geography. The Chinese Yin Shang oracle bones appear in the record of "the relationship between war and geography," and the word "geography" first appears in the Zhou Yi Zhi Ci, which says: "Look up at astronomy, and look down at geography." Ancient Chinese military experts have always paid attention to the time, location, and people, summed up and realized the importance of geographical advantages in practice, and explored and studied geographical advantages as a science, becoming the dimensional form of military geography. Judging from the carriers of research results, ancient Chinese military geography ideas, theoretical research and operational applications are mainly preserved in ancient geography, Fang Zhi, military history, history and military books and battle strategies. The Western Zhou "Military Chronicle" is an earlier military book in China that discusses the content of military geography. During the Spring and Autumn Period, Sun Tzu's Art of War expounded the principles of using troops under different geographical conditions and was regarded as the beginning of military geography; the Tang Dynasty *Yuanhe County Atlas* is the earliest extant national general chronicle containing military geography content in China. In the early Qing Dynasty, the *Minutes of Reading Historical Opinion* is the largest and most systematic masterpiece of Chinese historical and military geography.

Due to the constraints of the level of socio-economic and scientific and technological development in ancient Times, the research of military geography developed slowly, and it was not until the first half of the 19th century that it began to develop rapidly. In the ancient Western war history and military treatises, there have been some records and expositions on the relationship between war and geography, such as Caesar's "Gallic War" and Vigtius's "On the Military." In the 18th century, with the development of science and technology and army establishment and equipment, the influence of terrain conditions on combat operations was valued by military experts, and Prussian and British military experts once put forward the view that operations had a great dependence on terrain, believing that combat operations could be accurately calculated by familiarizing themselves with the terrain. The extensive geographical discoveries and investigations of Western colonists in the world have had an important impact on Western geographical science and military geography research, and a number of military geography works have been published successively. For example, the German geographer Hoda's "On the Military Geography of European Countries" is a monograph on the military geography of European countries; Clausewitz of Prussia, in *The Theory of War*, listed geographical elements as one of the strategic elements; A.H. Jomini of Switzerland in his *Introduction to the Art of War*, Jomini listed the elements of military geography as one of the factors of military policy.

2. Semi-Modern Military Geography

From the middle of the 19th century to the first half of the 20th century, it was a period of gradual development and improvement of military geography, forming an independent disciplinary system. Before and after the Opium War, in order to resist the aggression of Western powers, China's modern military geography gradually developed in the planning of coastal defense and border defense military struggles, and works on military geography came out one after another.

For example, Guan Tianpei's "The First Collection of Preparing the Sea" (1836), He Qiutao's "Shuofang Beicheng" (1858), Cao Tingjie's "Northeast Border Defense Essentials" (1884), Huang Peiqiao's "Tibet Tu kao" (1886), Xu Jiagan's "Outline of Foreign Defense" (1887). The main contents involve the relationship between the coastal geographical situation and the planning of coastal defense construction and the use of troops at sea, the geographical situation of the frontier and the construction of border defense, and the defense of the enemy by risk. During this period, courses on topography were also set up in Jiangnan, Hubei, and other martial arts academies to impart the basic theories and knowledge of military terrain. During the War of Resistance Against Japanese Aggression, a number of works on military geography were published successively, such as You Fengchi's "Study of Military Points" (1937), Hu Huanyong's "Geography of National Defense" (1938), and "Military Geography" (1939) co-authored by Sun Dangyue and Xu Junming. Chinese People's Liberation Army carried out military geography research and military geography surveys in the early days of its founding. Mao Zedong wrote in *Why Can China's Red Regime Exist?* (1928), "The Strategic Problems of China's Revolutionary War" (1936), "On Protracted War" (1938) and other works, as well as on the Liaoshen Campaign, the Huaihai Campaign, the Pingjin Campaign, the Battle of Crossing the River, and other operational guidelines, the construction of revolutionary base areas, armed struggle, and war. The relationship between campaign operations and geography is extremely incisively discussed¹.

The dominant idea of modern military geography in the West is "geographical determinism." In the second half of the 19th century, Germany, Britain and other Western countries formed geopolitics. Subsequently, the infiltration of geographical environment determinism into military and strategic science led to the development of the theory of "geographical strategy" (that is, geopolitics) and became the theoretical basis of Western strategic military geography. At the same time, it also formed the "theory of living space," "theory of land power," and "theory of sea power," which had an important impact on Western military geography and military geography theories such as the "air power theory." At the same time, Marx, Engels and Lenin also studied and expounded on the relationship between political and military struggles and geography. Engels, in his treatises, Po and Rhone (1859) and Savoy, Nice and Rhine (1860), explained the "military geographical system" and "military geography" Military geography "the position and role of the inter-State political and military struggles." Marx and Engels's expositions on the relationship between war and productive forces, weapons and equipment, combat operations and geographical conditions expanded the scope of military geography research.

¹ See Yuan Shuyou, Chinese Military Encyclopedia (Second Edition) Military Geography Fascicle, p. 6, Encyclopedia of China Publishing House, 2007.

In the course of the two world wars, treatises such as the geography of war, the geography of national defense, and the geography of armaments appeared, the theoretical system of military geography gradually took shape, the content of research was continuously expanded, the sub-disciplines were gradually expanded, the military geography that distinguished between the branches of the armed forces and different fields came into being, and the discipline system of military geography has become perfect.

3. Modern Military Geography

From the middle of the 20th century to the present, it has been a new stage of mutual penetration and common development of military geography with modern science and technology, military scholarship and geographical science.

After the Second World War, major changes have taken place in the world strategic pattern, modern military technology and weapons and equipment have developed rapidly, and the form of war and the battlefield environment have also undergone major changes. Under such circumstances, the research and application of modern military geography is also more extensive, the research content pays more attention to the changes in the global geographical environment and the world strategic pattern, the research field expands from the earth to outer space, the modern geopolitics and the strategic geography of superpowers and military groups begin to increase, and special discussions with the study of nuclear war and geographical relations and space military geography as the main content have also emerged.

Since the founding of New China, especially since the 1980s, a large number of military geography works, textbooks and collections of papers have been published successively, such as "Military Geography" (1988) edited by Chen Jian'an and others, "National Security Geography" (1995) edited by Shen Weilie and others, "Military Geography" edited by Jiang Chunliang (1995), and "Chinese Military Encyclopedia (Second Edition) Military Geography Fascicle" edited by Yuan Shuyou (2007), etc., and the discipline system of military geography has been further improved. The study of military geography has entered a new period of development.

The West has also produced a number of military geography research results and treatises with certain theoretical and practical characteristics. For example, *Geography and National Power* (1958), *Introduction to Military Geography* (1966), *Geography and Military Strategy* (1972), *Geography of War* (1983) of the United States, *Geography of War and Peace* (1985) of the United Kingdom, *Geopolitics and Geographical Strategy of France*, *Political and Military Geography of the Soviet Union* (1980) and so on.

4. Development Trends

With the extensive application of modern science and technology in the military field, especially due to the evolution of the world strategic pattern and the continuous improvement of the strategic status of the oceans and outer space, the research content and scope of military geography will be further expanded, and the research methods will be more modern applied mathematical methods and aerospace, remote sensing, and electronic computer technology, focusing on the combination of quantitative analysis of geographical factors and qualitative description, so as to further modernize the means of observation, collection, storage, transmission and application of military geographic information. Realize the development from the general evaluation of the military geographical environment to the direction of decision-making and prediction.

Modern warfare is no longer a simple military problem, and military geography research will no longer be limited to the scope of military science and geographical science, it needs to absorb the strengths of all in modern science and technology, absorb theories and methods in various fields, and form military geography research results at different levels through the continuous renewal and development of research content, scope, and methods and means, and constantly enrich and develop the discipline system of military geography to make it more perfect.

(3) The Status and Main Characteristics of the Discipline

Military geography occupies an important position in the modern military science system. China lists military geography as a sub-discipline of human geography, and many countries in the world list it as a category of applied geography. The Chinese Military Encyclopedia lists military geography as one of the 15 university disciplines of military science, becoming an independent scientific knowledge system. Military geography is also included in the disciplinary systems of military encyclopedias of other countries in the world. For example, the International Military and Defense Encyclopedia of the United States is a large comprehensive military encyclopedia with content and articles on military geography.

The main characteristics of military geography are concentrated in the following aspects: First, military nature. Military geography is a military discipline, which is guided by the ideas, theories and principles of military science, studies and solves geographical problems in the military field and the military application of the geographical environment, and serves military activities. All the problems it studies originate from war, are used in war, and are subordinate to war, which determines that military nature is its primary characteristic. The second is professionalism. Military geography has a variety of professional theories and technical contents with geography as the main body, which is mainly used to answer and solve geographical problems raised in the military field, and has practical military application value. The third is political. War is the continuation of politics, the result of the intensification of the contradiction struggle after the emergence of classes, and the emergence of military geography from war. Thus, military geography bears the imprint of class. The study of military geography is necessarily controlled and influenced by the worldview and methodology of the class it serves, and there is no such thing as supra-class, supra-political military geography. The fourth is practicality. Military geography is a military applied discipline whose purpose is to serve war, which determines its practicality. Even the theoretical study of military geography itself is aimed at deepening and opening up the field and practical value of military geography research. Fifth, comprehensiveness.

The earth's surface is a synthesis of the interaction of multiple elements, which determines the comprehensive characteristics of geographical research. Military geography is an interdisciplinary discipline of military science and geography, which has the comprehensive characteristics of both. Military geography includes almost all the "astronomical and geographical" content related to war, war strategy, and war command, and there are as many as a dozen disciplines that are closely related to it, and even more disciplines that are indirectly related to it. Sixth, regional. The uneven spatial distribution of natural and human phenomena on the earth's surface has different influences on military activities and determines the regional characteristics of military geography research. The applied research of military geography is based on a given regional scope, with significant regional differences between various regional scopes, while war is always linked to a specific geographical scope and is directly constrained and affected by its regional characteristics. Seventh, informational. Military geography research is based on the possession of a large number of military geography data, whether it is to solve practical application problems, or to predict future development, it is inseparable from a large number of military geography data. Only the full and conclusive possession of information can enhance the credibility of military geography research and the value of its results. Eighth, diversity. The forms of achievements in military geography research and the means of support are diverse. For example, text elaboration, graphic expression, film, video, screen display, slides, sandboxes, models and simulation demonstrations can play a complementary role and effect.

2. RESEARCH CONTENTS OF MILITARY GEOGRAPHY IN THE TAIWAN STRAIT

The Taiwan strait military geography takes the Taiwan strait and the geographical environment of the Taiwan region as the research object, explores the relationship between the geographical environment of the Taiwan strait and the Taiwan region and the military, and analyzes the impact of the military geographical environment and its constituent elements on military activities. Due to well-known reasons, Taiwan and the mainland of the motherland have not yet been reunified, and great changes have taken place in Taiwan's political, economic, military, social and cultural fields, but Taiwan's status as a part of China has not changed. The geographical scope of this book mainly includes Taiwan Island and its affiliated islands, the Taiwan Strait Strait, the Penghu Islands, Kinmen, the Matsu Islands, the Dongsha Islands and Taiping Island in the Nansha Islands. The military geographical environment is a synthesis of all the geographical situation, physical geography and human geography environment related to military activities on the surface of the earth, and it is the objective material basis for human beings to carry out war, as well as the basis for carrying out military operations and the basis for command decisions.¹

¹ See Yuan Shuyou, Military Geography Fascicle of the Chinese Military Encyclopedia (Second Edition), p. 7, Encyclopedia of China Publishing House, 2007.

Therefore, the research content of military geography in the Taiwan Strait mainly includes: the military geographical situation, physical geographical environment, economic geographical environment, transportation and communication environment, social and political environment, as well as major cities, military strongholds, and historical examples in the Taiwan Strait. The content it studies is neither a simple military element nor a simple geographical environment element, but the scientific system and content of military geography formed by the integration of military and geography. In order to better study the relationship between the geographical environment in the Taiwan Strait and the military, it is necessary to grasp the basic composition and analysis methods of the military geographical environment.

(1) The Military Geographical Situation and its Impact on Military Activities

Military geographical situation usually refers to the relative position, relationship and status of a country (region) or theater and neighboring countries (regions) or theaters. The contents to be studied in the military geographical situation in the Taiwan Strait include: the composition of the Taiwan Strait area, the geographical location, scope, area and basic characteristics of the relevant regions; land-sea boundaries and their relationship with the surrounding areas; the position and role of our country in the political, economic and military maps; military geographical conditions and their impact on war and military operations. The military geographical situation in the Taiwan Strait is determined by various factors and is closely related to its physical geographical situation, economic geographical situation, and political geographical situation.

1. Geographical Location

The coordinate or relative position of features and military activities in the military geographical environment can reflect both the true location of the features and the activities, and the interrelationship of geographical locations. Such as the coordinate location of military deployment, political geographical location, economic geographical location, military geographical location, etc. Geographical location is of great significance for assessing the world's strategic pattern, national strategic position and the campaign status of military points.

2. Geographical Distribution

The geographical scope, size, shape, distribution and layout of the military geographical environment and its constituent elements reflect the flat characteristics and layout laws of the environment and its elements.

For example, when studying the military problems of a country or region, first find out its location, the size of the geographical scope, the shape of the national territory, and the layout characteristics of various military geographical elements, which is very important for judging the nature and strategy, strength and potential, and defensive capabilities of a country, and is an important basis for studying the military geographical environment and its constituent elements.

3. Space-time Range

The spatial-temporal environment refers to the time and space conditions for the existence and change of military activities and geographical phenomena, and it together with natural military geographical factors and human military geographical factors constitutes the basic factors of the military geographical environment. Any military activity and geographical phenomenon are inseparable from the corresponding time and space conditions, and are subject to specific geographical locations, geographical distribution, geographical space and time processes, thus producing different military effects.

The temporal factor of military geography includes the concept of three levels: time, period, and season. Moment refers to a point in the course of time to define a military geography problem at a certain moment. A period is a period of time in a time process that is used to limit military geography to a certain period of time. Season refers to the change of the four seasons of the year, which is used to reflect the change of military geographical problems with the seasons and their laws in a year.

The spatial factors of military geography refer to the distribution range and degree of extension in three-dimensional space, mainly including geographical location, geographical distribution and spatial range, which are the reflection of its three-dimensional characteristics and laws. People's understanding of geographical space has been expanding with the progress of science and technology and the development of war forms. Military geographic space includes all the spatial areas that the earth can play and influence, including three-dimensional space such as aboveground, underground, water, underwater, atmosphere, and outer space. In the various components of the Earth, the main ones that have an important impact on human military activities include the lithosphere, the atmosphere, the hydrosphere, the biosphere, the Earth's magnetosphere and outer space.

(2) The Natural Geographical Environment and its Impact on Military Activities

The natural geographical environment is a natural complex composed of various geographical elements of the earth's surface, such as geography, biology, hydrology and meteorology, and is the foundation and carrier of the military geographical environment, including the natural geographical environment on land and the natural environment in the sea. Analyzing and studying the basic characteristics of the natural geographical environment in the Taiwan region and its impact on the military is an important content to be studied in the military geography of the Taiwan Strait. Because any military activity is carried out in a specific natural geographical environment, the elements of the natural geographical environment are bound to have a certain impact on all aspects of the military field and play a certain restrictive role.

Different natural geographical environments have different influences on the construction of armed forces, battlefield planning, army operations, the use of technical weapons, the exertion of combat capabilities, the course of war, and the outcome of wars. Correctly understanding, utilizing, and transforming the natural geographical environment and seeking advantages and avoiding disadvantages are important conditions for obtaining the initiative in military operations. With the exploration, development and utilization of outer space, the bottom of the ocean and the deep land of mankind, as well as the development of military equipment and technical weapons, the scope and extent of the influence of the natural geographical environment on military operations have shown a trend of increasing or decreasing in some aspects.

1. Landforms

Landforms are the natural undulating form of the earth's land surface and ocean bottom, including continents, ocean basins and their mountains, hills, plains, plateaus, basins and other forms, which is one of the basic elements of the natural geographical environment. Militarily, landforms usually refer to land landforms, also known as terrain, which can be divided into mountains, hills, plains, plateaus, basins and special topographic forms, while seabed landforms will be analyzed as marine elements. The landform is not only a geographical factor affecting the army's establishment, the construction of all branches of the armed forces, the development and use of weapons and equipment, the construction of national defense projects, the army's combat and training, and the determination of the direction of strategy and campaign, but also the topographical conditions that affect the mobility, communication and liaison, observation, shooting, concealment, and camouflage of the troops. The military role of the landform depends on the type and characteristics of the landform, which can be summarized into five functions: obstacle effect, concealment and shielding effect, protective (protection) role, support role, and rear role.

Mountainous land usually refers to areas with mountains and valleys at an altitude of more than 500 meters and a height difference of more than 200 meters. Militarily, the mountainous areas are the most reliable land battlefields, which are convenient for holding on to dangers and acting covertly, and have an obstacle effect on the combat operations of the troops; the troops' activities in the mountainous areas are better concealed, and they have a good natural protective effect against nuclear and chemical weapons attacks, but the mountainous areas are inconvenient to maneuver, the use of coordinated combat and technical weapons is limited to a certain extent, and combat support is more difficult. When troops operate in the high mountainous areas, they should be equipped with special equipment, weapons, and equipment, conduct environmental adaptation training, formulate special operational principles, and study combat methods aimed at specific environments. Suitable as a rear area for large-scale wars. Taiwan's mountainous areas are plateau-like mountains, concentrated in the central and eastern parts of Taiwan Island, from east to west by 5 parallel mountain ranges, the main watershed is the central mountain range, the mountainous terrain is high and steep, inconvenient transportation, frequent geological disasters.

Hills usually refer to areas with altitudes of 200 to 500 meters, height differences below 200 meters, slower ground ups and downs, and intricate hills.

Militarily, hilly lands often became a support for controlling the plains, or a favorable area for setting up forward positions on the coastal defense front. The hilly terrain generally has fewer restrictions on the mobility of troops and the use of weapons and equipment, which is convenient for the coordinated action of various services and arms, and is suitable for large-scale operations, but the conditions for air concealment are relatively poor. The hills of Taiwan are the remnants of the mountains, mainly distributed in the foothills from Hsinchu to Tainan in the west of Taiwan Island, which is a region with rich mineral resources in Taiwan, and the terrain is broken and rugged.

Plains usually refer to a wide area with an altitude of less than 200 meters, a height difference of less than 50 meters, and a flat ground or slightly undulating. Militarily, the plains are flat, with very few topographical obstacles, lack of terrain support, and poor concealment performance, which facilitates large-scale operations by troops. With the development of urbanization, in the plains of the war, the influence of human geography on combat operations has become prominent. Taiwan's plains are mainly distributed in the coastal and river-side areas on the east and west banks of Taiwan Island, mostly alluvial plains, flat terrain, shallow depth, dense population, is Taiwan's most important agricultural economic zone.

Basins usually refer to basin-like areas that are high around and low in the middle, and the river valleys and mountain passes inside and outside the basin are often important transportation routes and passes, which can constitute an independent combat area or a special combat environment in the military. The main basins of Taiwan Island are Taipei Basin, Taichung Basin and Puli Basin.

Plateaus, a high ground with a large and flat top and a steep slope or steep ridge at the edge, are named after tabletops due to their similar shape. The top surface of the plateau is flat, which is conducive to the mobility of troops and reconnaissance and shooting, but it is necessary to pass through the pass. The terrain of the plateau is particularly suitable for helicopter airborne landing, and there should be anti-airborne preparations when defending. Taiwan Island plateaus are widely distributed, most of which are located on the west side of the western foothills and hills, of which the larger plateaus mainly include Linkou Plateau, Hukou Plateau, Dadu Plateau and Bagua Plateau.

2. Climate

Climate is one of the important battlefield environmental conditions for military activities, referring to the general condition of the atmosphere in a certain area for many years. This includes both the average state of the atmosphere and the statistical characteristics of the various possible states and their extreme conditions. Usually described by the long-term statistical characteristics of various meteorological elements and weather phenomena in a certain region, the World Meteorological Organization will characterize the statistical cycle of the climate state with 30 years as the basic age requirement. The military role of meteorological elements is caused by the physical nature of the elements, but the way and content of their military roles need to be determined for different military activities, and can be summarized to produce 4 basic military roles, namely obstacle effect, restrictive effect, concealment effect and hazard effect.

Different climatic conditions can limit the mobility of troops, for example, storms, typhoons, etc. can destroy ships and cause harm to military operations. Taiwan Island is located in the transition range of temperate to tropical, tropical and subtropical oceanic monsoon climate, high temperature, rainy, windy and temperature vertical differences are significant, due to the long monsoon period, so that the landing period is less, the landing of military activities to bring a certain impact.

3. Vegetation, Soil, Minerals

Vegetation includes the composition of plant communities and their geographical distribution. Militarily, vegetation is usually divided into four types: forest, shrubland, grassland, and crop vegetation, and its military role is mainly manifested as obstacle effect, concealment role, guarantee role (resource) and hazard effect. For example, the same type of vegetation has different effects on military operations due to differences in distribution, shape and internal structure; vegetation has a special value for military operations under certain special environmental conditions; vegetation is prone to retention and interception of harmful substances from drifting nuclear, chemical and biological weapons, aggravating regional pollution. The forest vegetation is dominated by trees, and the obstacles to traffic and vision are the largest. Militarily, forests can constitute a natural barrier for defense, can conceal important military facilities, cover the assembly and movement of troops and weapons and equipment, provide abundant substitute food, and block and weaken the lethality of nuclear, chemical and biological weapons. However, the forest has great restrictions on the use of the army's mobility and technical weapons, hindering observation and orientation, and easily retaining poisons and causing fires. The extent to which a forested area affects military operations depends on its geographical location, area, environmental conditions, topographic characteristics, tree species, density, height and thickness of trunks, interforest clearings and interforest roads. The shrub vegetation is dominated by shrubs, which makes it easy for troops to hide, but hinders the passage on foot. Grassland vegetation is mainly herbaceous or interspersed with shrubs, which is conducive to passage and view, and is not conducive to camouflage and concealment. Crop vegetation is a crop that is cultivated in large areas by hand. Tall crops facilitate concealed camouflage, but are not conducive to myopia; the conditions of passage of dry crops and aquatic crops vary greatly; different seasons of crops have different degrees of impact on military operations.

Soil, a loose soil layer with fertility on the land surface that can grow plants, is an important factor affecting the use of military operations, engineering construction and technical weapons. Soils of different soils have different effects on military activities. The sandy soil is soft in the dry season, which is not conducive to the mobility of artillery, tanks and other technical weapons, affects the speed of troop movement, and is not easy to build strong fortifications, but it is not muddy on rainy days, and it is dry and fast, which is conducive to the action of the troops. When the clay is dry, it is hard knotted to facilitate the construction of fortifications; rainy days are muddy and long-lasting, and it is easy to delay the movement of troops. Loam soils have the advantages of both.

Rock is an important geological condition for engineering construction and military operations. Magmatic rock should be constructed with various national defense permanent fortifications, but construction is difficult, and at the same time, magmatic rock is prone to produce huge fracture and fracture zones, which increases the difficulty of construction and affects the stability of national defense projects. Sedimentary rocks are easy to construct for defense and field engineering, but it is difficult to cover and solidify the works. For example, according to Taiwanese media reports, a geological collapse occurred at a long-range radar base in Leshan, Hsinchu, Taiwan, which affected the construction process and delayed its deployment.

4. Terrestrial Hydrology

Terrestrial hydrology refers to the existence and motion characteristics of various water bodies (terrestrial water) on land. Terrestrial water includes surface water and groundwater. Surface water mainly includes rivers, lakes, swamps, glaciers and so on. Groundwater can be divided into upper stagnant water, diving and pressurized water according to its burial conditions. Land hydrology is an important factor for the troops to consider in carrying out combat operations, and has an important impact on the deployment, mobility, and water supply support of the troops.

Rivers. The general term for the flowing water and grooves on the land surface is mainly manifested in the following aspects of military activities: First, rivers are natural obstacles to offensive operations and natural barriers for defensive operations; second, the estuary is a section of the river that injects people into the ocean, lakes or other rivers, and the estuary area is distributed by many cities, often as a key place for contacting land and water transportation, and is a military landing and material transportation distribution center, such as Taipei City is located on the Tamsui River, and the Taiwan military's "Hanguang" exercise once used the Tamsui estuary as a key place to resist landing; third, when the military action of crossing the river is taken, the width of the river affects the length of the river crossing time, the depth of the water affects the choice of the method of crossing the river, the flow rate affects the difficulty of crossing the river, and the substrate affects the infiltration and passage ability of vehicles and tanks. Taiwan's rivers are greatly affected by the terrain, most of them have short processes, large drops, many dangerous beaches and waterfalls, and are not suitable for navigation.

Lakes. The wide water area formed by the accumulation of water in the land surface depression is a general term for lake basins and lake waters, and is an important water area that affects military activities on land. Militarily, lakes have a certain obstructive effect on campaigns and tactical operations, affecting geographical accessibility, and are natural offensive obstacles and defensive barriers. Fighting in areas where lakes are dense, troop movements are easily blocked, mobility and mutual support are difficult, and command and liaison are inconvenient, but large lakes can open up transport routes, which is conducive to guerrilla activities.

Swamp. The surface is chronically overly moist, with marsh and wet plants, and low-lying areas with peat accumulation or soil incubation layers, mostly distributed at the edges of rivers, lakes and seas or in shallow waters.

Militarily, the swampy areas are damp and muddy, overgrown with moss and grass, sparsely populated and roads, and difficult to navigate, which is a serious obstacle to the mobility of mechanized troops. Concealment, camouflage and fortification are difficult to construct, and the protection against nuclear weapons attacks is small, but the heat of light radiation is easily absorbed by water, the reflection is weak, and some chemical agents are easily hydrolyzed in swamps, which reduces the efficiency. A detailed survey of the accessible routes in the swamp area or the laying of special passages can help to cross the swamp and win surprisingly.

5. Ocean

According to the location and form of the sea, the ocean can be divided into four types of sea areas: ocean, sea, bay and strait.

Ocean. The center and main part of the ocean, the water depth is generally above 2,000 to 3,000 meters, the salinity and temperature are relatively stable, the hydrological characteristics are less affected by the continent, there is an independent tidal wave system and ocean current system, which is an important place for large ship activities and sea traffic, and an important area for maritime powers.

Sea. Waters at the edge of the ocean, where the ocean and the mainland are connected. The depth of seawater is generally less than 2,000 to 3,000 meters, hydrological and climatic characteristics are affected by both continents and oceans, there are obvious seasonal changes, salinity is affected by the climate of the rivers flowing into the sea and the sea area where they are located, and there is no independent tidal and current system. The sea is adjacent to the mainland, is an important water area for many important coastal cities and seaports to lead to the adjacent ocean, and is the main place for naval military activities, maritime military traffic and military conquest. Militarily, the sea varies depending on location and geographical characteristics, which have different influences on naval force formation, berthing systems and combat operations. Straits, waterways and bay mouths facilitate the deployment of surface ship forces and underwater blockades; shallow seas and archipelagic waters are suitable for sabotage operations by small, fast ships; the deep sea area is suitable for submarine and large surface ship activities.

Gulf. The sea extends to the land and has a unique hydrological nature of the part of the water. The bay is located on the edge of the land, the water depth is shallow, there are often beaches along the coast, and there are large tidal drops. Due to the large-scale advance and retreat of seawater, a large-scale intertidal beach is formed, which has become a coastal terrain with certain military value. The water in the bay is relatively calm, can avoid wind and waves, the terrain is hidden, and it is easy to form a good port and military base. Militarily, most bays are conducive to ship shelter, concealment and standby. For example, the port of Taiwan's Penghu Archipelago is very advantageous and has many ports, the largest of which is Magong Port, located in the southwest of Penghu Island, which is one of the main naval bases of the Taiwan Navy.

Strait. A narrow waterway between two land parcels connecting two seas or oceans. Usually the artery of military and maritime traffic, it is strategic to control ship navigation and shorten its range. Militarily, the strait is conducive to ship concealment, standby, attack, shorten the time of maneuver, implement hold and blockade, and so on. In war, the strait is often an important sea area and a key point of contention between the two belligerents to protect and break the engagement. The straits on important routes are mostly choke points for maritime traffic, and their strategic significance is even more important. For example, the Penghu waterway between the Penghu Islands and the main island of Taiwan is a canyon formed by the rupture of the earth's crust, which is a necessary passage for the connection between the north and south of the west coast of Taiwan and between Taiwan and Penghu.

Coast, beach, island. The coast, beach and island are the land parts of the ocean, the basic basis for the navy's port base, forward base and maritime operations, and the main battlefield of landing and anti-landing operations.

Coast. Also known as the coastal zone, it is the junction of the interaction between the ocean and the land. It is a strip area of a certain width that extends from the junction of sea surface and land to the sea and land sides. From land to sea, it consists of coastal, intertidal and underwater shore slopes. The coastal zone is an important area for coastal defense construction and landing and anti-landing operations in coastal countries. Depending on its geographical location, coastal landform, adjacent land and underwater terrain, shore beach, substrate, marine hydrology and other conditions, the coastal zone has different effects on military operations, such as coastal erosion landform, because of its tortuous shoreline, many headlands, peninsulas and islands, there are often deep-water areas near the coast, and the surface of the land near the sea is large, and it is convenient to build coastal fortifications and build good ports, which is not conducive to landing operations. According to the morphological genesis and composition of the material, coastal landforms can be divided into mountain coasts, plain coasts and biological coasts. The coastal zone of the mountain coast is rocky and hilly, with a tortuous coastline, many peninsulas and islands, and narrow water depths, which is conducive to the construction of ports and fortifications, but is not conducive to the implementation of landing operations; the coast of the plain is flat and open, the coastline is relatively straight, and the surface is muddy or sandy, which is conducive to landing operations; the biological coast is a special coast formed by the growth of living creatures, and militarily, it has both a hidden and obstructive effect on both the offensive and defensive sides, but on the whole it is still conducive to defending and not conducive to attacking. The coastline of Taiwan Island is about 1,240 kilometers long, and the landing area and the landing areas and passable landing areas account for 1/3 each, and from the coastal topographic characteristics, the north is a typical rocky coast, the western part is a sediment coast, the southern part is a coral reef coast, and the eastern part is a cliff (fault) coast.

Beach. A type of landform in the coastal zone, formed by the accumulation of seawater, it is generally divided into muddy, sandy and pebbly beaches. The beach is a necessary place for landing operations, and its distribution range, width, and undulating state of the surface have a direct impact on the weapons, equipment, and combat command of the landing troops, and are factors that must be considered in landing operations.

Ocean islands. Small land parcels in the ocean, including islands, peninsulas, archipelagos and reefs, their location, size and distribution have special military significance and role. The islands were militarily easy to hold and not conducive to attack. However, when defending, it is easy to be blocked and besieged. Islands close to the mainland are the mainland's barrier and defense outpost, as well as a forward base and important support for maritime operations, and occupying the island during the attack can be used as a springboard for landing. Islands in the strait are often the key points for controlling the strait, and islands far from the mainland can be built as relay stations for transoceanic navigation and communications. The peninsula is a favorable area for land defense and maritime offensive and coastal defense construction, and is also a springboard for attacking land by sea.

Seabed landforms. Undulating forms of the surface of the seafloor. It usually refers to the surface forms of the submarine continental shelf, continental slope, continental base, island arc, trench, ridge and basin below the low tide of the sea, and is the geographical basis for the construction of marine underwater offensive and defensive facilities and marine military engineering. The seafloor substrate is a constituent material of the seafloor surface. It generally consists of exposed bedrocks formed by various marine sediments or areas without sediments on the seabed. The subsoil of the seabed has an impact on the berthing of ships, the establishment of anchorages and port anchorages, the laying of floating navigation aids and barrier nets, the use of mine weapons, and the choice of submarines' position on the seabed. Such as a flat stony seabed, because there is no sticking phenomenon, it is convenient for submarines to sit, but the anchor grip is very small, under the influence of currents and waves, so that anchored ships, floating navigational aids, anchor mines, etc. can not be kept in a predetermined position. Substrate types have different effects on different forces, weapons, and underwater facilities. The southeastern sea of the Taiwan Strait and the continental shelf, the sea depth of more than 1,000 meters, and the seabed has a number of valleys, which is conducive to the activity of submarines and diving to the waters near Kaohsiung Port through here, and at the same time, due to the complex underwater sound background, it is more difficult for the Taiwan Navy to reverse submarine. Therefore, this sea area has always been a key defensive area for Taiwan's anti-submarine operations, and a naval exercise ground has been set up in this sea area.

Marine hydrology. It mainly includes the nature of seawater, currents and currents, tides, marine resources, etc. The adjustment and mastery of the above-mentioned hydrological data and characteristics of the combat sea area is the basis for studying the military geography of the sea area and commanding maritime operations. Among them, tides are an important factor affecting military activities at sea. Ocean tides are periodic fluctuations in seawater caused by the tidal forces of celestial bodies such as the moon and the sun, referred to as tides.

Seawater behaves as a tidal level rise and fall in the vertical direction and as a tide in the horizontal direction. The time required to complete a lifting movement is called the tidal cycle, which is generally about 12 hours, and in some sea areas it is about 24 hours. Tides have an important impact on ship navigation, coastal engineering construction, the determination of seawater datums, etc., and are also important factors affecting maritime and coastal military activities. Among the subsidiary seas of the Pacific Ocean, the Bohai Sea, yellow sea, east sea and south China Sea in China are one of the most tidal and typical sea areas. Militarily, mastering the changing laws of tides and currents and the depth of water at high and low tides is an important condition for ensuring the safety of ships navigating, entering and leaving ports, passing through narrow waterways and operating in shallow waters. Buildings such as harbour terminals and seaports should consider the extremes of tidal fluctuations. When laying anchor mines, it is necessary to accurately calculate the change in water depth caused by tides, and correctly select the mine depth according to the predetermined target. The mine is laid too shallowly and is easily exposed and found at low tide; the layout is too deep and will lose its effect during orgasm. To organize landing and anti-landing operations, tides are important factors that must be considered. In landing operations, when choosing the date and time of landing, the time and height of the high tide and the low tide should be calculated first, and generally it is beneficial to the landing operation to go downstream at high tide. In 1661, Zheng Chenggong led a fleet at Lu'erMen, which had many shallow reefs and narrow waterways, and took advantage of the high tide to successfully land, defeat the Dutch invaders, and recover Taiwan in early 1662.

(3) The Human and Geographical Environment and its Impact on Military Activities

The human and geographical environment is the regional combination of human affairs and humanistic phenomena formed on the surface by mankind through various activities such as politics, economy, culture, and military, and is an important condition for studying the world strategic situation, developing comprehensive national strength, formulating military strategies, and preparing for and implementing military struggles. The human geography environment is usually divided into three categories: political geographical environment, economic geographical environment, and socio-cultural geographical environment. Among them, the political geographical environment includes territories, borders, capitals, administrative divisions, political parties and social groups, social systems, domestic and foreign policies, etc.; the economic and geographical environment includes natural resources, economic structure, industry, agriculture, transportation and other elements; the socio-cultural and geographical environment includes the spatial distribution and structural characteristics of population, ethnicity, religion, settlement, culture and other elements. With the progress of human society and the development of science and technology, the changes in various elements of the human and geographical environment have become more rapid, and the dynamic impact on military operations has been further enhanced. Under the condition of informatization, the influence of political, economic, scientific and technological factors and other elements of the human environment on the style, scale, duration and outcome of wars has further increased.

Therefore, this book mainly focuses on the analysis and study of the basic characteristics, economic structure, layout and development level of the human and geographical environment in Taiwan, the potential for economic mobilization in wartime and the ability to support war, the distribution, development and utilization of major strategic resources, and the relationship between major economic zones and industrial and agricultural production bases and the military.

1. Population, Ethnicity and Religion

Population is a social group composed of people who constitute the main body of social life and have a certain quantity and quality, is the basis of the political, economic and military power of the country or region, and is the main condition for the conduct of war. The military role of population can be summarized as military potential and support role, that is, population is a potential soldier, a potential wartime labor force, a potential battlefield civilian worker, it provides the army with soldiers, technicians and field civilian workers and other personnel support. Militarily, the quantity, quality, distribution and structure of the population have an important impact on the strength of the troops participating in the war, the replenishment of soldiers, the support of combat materials, and the course and outcome of the war.

Nation is a stable community formed by people in history due to long-term coexistence with the characteristics of common language, common region, common economic life and common psychological qualities expressed in common cultural characteristics, and it is an attribute of population. The military role and influence of the nation are strategic, directly affect the composition of the soldiers, and are an important influencing factor of social stability and national cohesion.

Religion is a social ideology, but also an objective social phenomenon and organized social group behavior. It is generally composed of religious concepts, religious feelings, religious rituals and religious organizations. Under certain historical conditions, religion can become a powerful social and spiritual force, affect the stability of the strategic environment of countries, theaters and regions, and become a social factor that cannot be ignored in military activities. Religious issues are closely related to ethnic issues and are often an important factor in triggering national or regional wars and conflicts.

2. Science and Technology, Education, Culture, Medical care

These four elements of military geography are the special potential of modern warfare in terms of intelligence, technology, and talent. Scientific and technological elements refer to the ability and level of a country or region in scientific research and technological development, which is marked by the number and level of scientific research institutions, cutting-edge technologies, scientific and technological personnel, etc.; educational elements refer to the level of education of a country or region, reflecting the cultural quality of the people, which is marked by the education cause of the country (region) and the people's education level; cultural elements are the propaganda tools of war in wartime, mainly referring to news, radio and television, publishing, literature and art, etc.; medical elements, that is, medical and health, refer to the ability and technical level of medical and health undertakings in the country (region) and theater, mainly marked by the quantity and level of hospitals, medical personnel, medical equipment and production, and pharmaceutical production.

These four kinds of intellectual military potential play a strategic support role in the military and war, and provide high-tech personnel, high-tech equipment, and military high-tech achievements that can be directly transformed into military strength; they have a more lasting and far-reaching military promotion role than the material military potential such as economy and resources, and in particular, in the competition and contest of high-tech warfare, they have become the fundamental guarantee for creating high-tech material conditions.

3. Economy

The economy is the material production, circulation and exchange of social activities, the material basis for preparing for and carrying out war, and an important factor in maintaining and enhancing the combat effectiveness of the army. With the development of the form of war and the improvement of technological content, the status of the economy in war has become increasingly important, the dependence of war on the economy has become more prominent, economic security has become an important part of national security, and safeguarding economic security is an important part of military struggle.

Strategic resources. It is a resource that plays a decisive role in economic development and national defense construction, generally referring to energy and mineral resources. The military role of strategic resources is reflected in three aspects: First, it is an important component of the comprehensive strength of the country (region); the second is the long-term and far-reaching military and war potential; the third is the strategic guarantee and restraint of war.

Industry. Social material production activities that obtain material resources from nature and process and reprocess raw materials. The industrial categories and their technical status reflect the degree of mechanization and informatization of the country or region, and also indirectly reflect the level of mechanization and informatization of military equipment. The military role of industry is reflected in two aspects: one is military potential, which is the most important ability to support war; the second is the support role provided by industry, including the support of combat materials and production equipment, and this equipment can be used to convert military and military products in wartime.

Agriculture. It mainly includes the distribution characteristics of the agricultural economy and the production status of major agricultural products, the national economic structure, gross domestic product and per capita output value, as well as the degree of guarantee for military and civilian daily necessities, the potential for economic mobilization in wartime, and the ability to support war. In war, the core of agriculture is the food problem, that is, to ensure its own food production and supply, and to destroy the enemy's food production and supply. The military role of agriculture is reflected in two aspects: one is military potential, the ability to support war; the second is the basic source of military supplies and the role of guaranteeing war.

Structure of the national economy. The comparative relationship and combination between various fields, sectors, regions and various economic components in a country's (region's) national economy. The study of the national economic structure focuses on the industrial structure of the national economy and its geographical distribution, the economic interdependence and trade relations between countries and regions, the ownership structure, the national defense economic layout, and the geographical distribution of strategic material reserves.

4. Transportation

Transportation is a general term for transportation and post and telecommunications. It mainly refers to the transportation lines and their facilities and means of transport used to transport personnel and materials, and its main task is to complete the transshipment and transportation of personnel, materials and information. Transportation and communication support capabilities are important support for military activities, mainly including the distribution of railways, highways, waterways, aviation lines and pipelines and their transportation capacity, the distribution and facilities of transportation hubs, ports, airports, etc., and the distribution and support capabilities of communication facilities.

Transportation routes. Traffic roads that are built according to certain technical standards and have the necessary transportation facilities and technical equipment. These include railways, roads, waterways, aviation lines and pipelines. Its distribution density and technical status are important factors in the composition of traffic capacity. Depending on the mode of transport, the purpose and the level of the route, its layout has different emphases and requirements. The layout of military communication lines is generally in line with the overall economic and military layout of the country or region, the basic operational direction of the theater, and the strategic and campaign deployment.

Transportation hub. The intersection and connection of several modes of transportation or traffic trunk lines are generally composed of stations, ports, airports and various lines, as well as corresponding transportation facilities and building groups, most of which are located in important cities, industrial centers or rivers and harbors. Whether its layout is reasonable or not has an important impact on the transportation capacity, efficiency and cost of the entire transportation system.

Vehicle. These include trains, automobiles, ships, airplanes, pipelines, manpower and animal power. The main modes of transportation are railway transportation, road transportation, water transportation, air transportation and pipeline transportation. Railway transportation is the main means for the army to carry out long-distance and large-scale military mobility; road transport is an important means of rapid mobility in the army, long distance; water transport is the main means for the army to carry out personnel, material transportation and landing operations in waters; air transport is suitable for rapid mobility of the army, emergency transportation of personnel and materials, etc.; pipeline transportation is suitable for the transportation of fluids and certain loose granular goods.

5. Administrative Divisions, Cities and Military Strongholds

Administrative divisions. The regional division of administrative management at the national or regional levels has an important impact on defense construction and military administrative management regionalization.

Military administrative divisions are organizational systems that guarantee regional defense, troop operations, training, ideological and political education, administrative management, logistics supply, military service mobilization, and battlefield construction. Due to historical reasons, the administrative divisions of Taiwan Province have changed considerably, especially in the past 20 years, the Taiwan authorities have adjusted the administrative divisions of Taiwan for various purposes, which does not change the fact that Taiwan is a part of China. In order to accurately grasp the history and current situation of the administrative divisions of Taiwan Province, this book objectively introduces the historical evolution of the administrative divisions of Taiwan Province and related counties and cities based only on the needs of military geography teaching, and adopts the current administrative divisions of Taiwan Province.

City. With a certain scale of industry and commerce, and a non-agricultural population as the main settlement, it is usually a political, economic, scientific and cultural, military center and transportation hub within the scope of the country or a certain region, and it is also a special geographical environment that affects military operations. In modern warfare, cities are often important targets for strategy and campaigns, and they are also the main areas for special operations. The gains and losses of important cities not only affect the morale of the people, but also affect the economic and military industrial production capacity, the supply of military materials, and the development of the war situation. In urban warfare, observation, shooting, command, and mobility are inconvenient, and armored and mechanized units are not easy to deploy, but the city's shelter conditions are good.

Military strongholds. Specific areas that have a significant impact on national defense construction and military activities. It mainly includes important towns, military bases, fortresses, islands, passes, etc. According to the value status, it can be divided into strategic places and campaign and tactical points.

3. STRATEGIES TO RESEARCH MILITARY GEOGRAPHY IN THE TAIWAN STRAIT

When people explore objective laws and solve practical problems, they always have to use certain research methods and means. Whether the methods and means are scientific, correct and advanced is directly related to whether they can accurately grasp the objective laws and quickly solve practical problems, and also directly affect the development and practical application of the discipline. Therefore, in the study of military geography in the Taiwan Strait, we must explore and follow the correct guiding principles and apply scientific research methods and means in order to better serve the military struggle.

(1) Adhere to the Guiding Principles of Proper Research

The military serves politics, and the study of military geography is also for the service of specific political and military groups, and its political and class characteristics determine that the study of military geography is inevitably controlled and influenced by the world outlook and methodology of the class it serves.

Only by adhering to dialectical materialism and historical materialism, mastering the research methods of proletarian military science and natural science, analyzing specific problems in detail, and integrating theory with practice can we reveal and understand the law of the distribution of human military activities and scientifically explain the law of the influence and restriction of the geographical environment on military activities. For a long time, people have had different understandings of the objective relationship that has existed since the origin of human beings around the "human-land relationship," especially for the causal relationship between human social activities and the geographical environment. The "geographical environment determinism" advocated by the French bourgeois Enlightenment thinker Montesquieu and others holds that the geographical environment plays a decisive role in the existence and development of society, the geographical environment is the only cause and fundamental constraint of social development, all human social activities are the inevitable products of the geographical environment, and the geographical environment plays a one-way decisive constraint on human society. The understanding of this problem in Marxist philosophy is fundamentally different from that of it. Marxist philosophy holds that the decisive force for the development of human society is the mode of production of material materials. The geographical environment is the material premise for the emergence and existence of human society, and is the primary condition for human beings to carry out social activities, but it does not play a decisive role in social development, and it can only accelerate or continue social development through a certain mode of production. Correspondingly, in the process of studying military geography, the relationship between military and local governments, as the embodiment of the basic contradictions in military geography, runs through all aspects of military geography and is a main line in analyzing and studying military geography problems. In this pair of relations, the military is a concretized military activity or military issue, and plays a leading role, at the same time, the military problem is dependent on the geographical environment, the geographical environment is restrictive to the military problem, and the interaction between the two can produce a comprehensive effect. The purpose of studying military geography in the Taiwan Strait is to serve the military struggle, and in research, we should take the Marxist world outlook and methodology as the guide, implement the military strategic principle of active defense, adhere to the correct research direction, apply traditional and modern research methods, and objectively analyze the research objects in accordance with the ideological methods of dialectical materialism and historical materialism, so as to form correct research conclusions and results. Therefore, when studying military geography in the Taiwan Strait, we should follow the various principles of military-local relations, analyze and deal with problems arising from the geographical environment of the Taiwan Strait, dialectically and historically view the relationship between the geographical environment of the Taiwan Strait and military activities, and correctly grasp the influence of geographical factors in the Taiwan Strait on military activities.

At the same time, since the discipline of military geography in the Taiwan Strait involves two fields of military science and geography, in the process of research, in addition to following the general guiding principles of Marxist philosophical principles, it is also necessary to apply the methodologies of the two disciplines of military science and geography, and adopt interdisciplinary research methods, not only to study the influence of various factors in the geographical environment on military activities, but also to analyze the laws of such influences and constraints. Therefore, the premise for studying military geography in the Taiwan Strait is that we must master the basic theories of the two disciplines of geography and military science, have a relatively systematic understanding of the research objects, tasks, subject status, and research content of the sub-disciplines of the two disciplines in breadth, and grasp the basic theories and technologies of a certain major in military science or geographical science in a relatively deep depth.

(2) Mastering Relevant Materials on Military Geography

The informative characteristics of military geography determine that the premise of military geography research in the Taiwan Strait must be to fully and conclusively possess relevant data. Only in this way can the credibility of research and the value of research results be improved. Military geographical information is the compilation of geographical information related to military activities in a certain area for military needs, and is the most basic data for military geographical analysis and utilization. Since ancient times, military geography data has been the basic condition for studying military geography and providing geographical support for military operations. Military geography data can be divided into different types according to different standards, usually including: First, military geography documents, including monographs, papers, abstracts, cards, reports, geographical records, military chronicles, special topic data compilations, etc. Among them, military geography is a record of the impact of a geographical environment on military operations from the perspective of strategy and campaign. A geographical chronicle of military points is a kind of local chronicle that records and evaluates the physical and human geographical conditions of a certain area and its impact on military operations, and has the characteristics of content that cannot or is difficult to display on general military maps and is more detailed, specific, and targeted, and is the basis for army commanders to understand and study the geographical conditions of the theater and to implement operational command. The second is military geographic software, including military geodatabases, military geographic information systems, pictures, maps, aerial photographs, satellite photos, etc. with computer disks as the medium. Third, military geographical maps, including topographic maps of various scales, general geographical maps, military geography thematic maps, and military geographical atlases, are important maps and materials for studying the overall situation of war, planning battlefield construction, drawing up operational plans, organizing strategic campaign operations, and conducting military geographical research. Fourth, military geographical audio-visual materials are films and videos that describe the military geographical conditions in a certain region, which are mainly used for regional military geography research and situation analysis and introduction.

Military geographical data are usually compiled by the operational support departments in accordance with military needs and in accordance with uniform regulations and requirements. Because military geographical data involves the specific analysis and application of the wartime geographical environment, most of them are important military secrets, and there are strict regulations on their storage and use. In order to meet the needs of modern warfare, the compilation of military geographical data is making use of the research results of space remote sensing and electronic computer technology to develop in the direction of rapid, accurate, timely collection and timely provision of military geographic information. In studying military geography in the Taiwan Strait, it is necessary to conduct a comprehensive, systematic, and comprehensive analysis of various data in the study area on the basis of mastering a large amount of military geographical data and according to the content of the research tasks, so as to extract the rough and refined, remove the false and the true, from this to the other, from the surface to the inside, so as to reveal the comprehensive influence and characteristics of the natural conditions, social environment, and economic development level in the region on combat operations.

(3) Comprehensively Apply Foundational Research Methods

To study military geography in the Taiwan Strait, it is necessary to master the basic research methods of military geography and comprehensively apply them in combination with the characteristics of military geography in the Taiwan Strait.

One is the map method. This is the most common method used in the study of military geography. Compared with the text, the map has the characteristics of image intuitiveness, geographical orientation and geometric precision, which can make people form a correct concept of space and understand the distribution and interrelationship of various elements of nature and humanities. Maps are militarily known as the eyes of commanders. From ancient times to the present, maps are commanders to understand the geographical environment of the battlefield, as an important tool for commanding operations and widely used, in order to understand the military geography of the theater in war, in addition to field investigation is to rely on maps. According to incomplete statistics, during World War II, the Soviet Union consumed more than 500 million maps. In modern conditions of war, the use of maps will be greater in the war of various services, and during the Gulf War, the US military used 116 million maps.¹. Therefore, in the process of studying and studying the military geography of the Taiwan Strait, we must make full use of various maps, including military maps, so that we can read and map them at the same time.

The second is the field investigation method. Conducting field visits is a traditional method of studying military geography, and it is also one of the most important methods of military geography research work, which is very important for understanding the geographical environment of the battlefield.

¹ See Jiang Chunliang, "Military Geography," p. 32, Military Science Press, 1995.

Through field visits, a large number of first-hand information can be obtained, the original data can be updated, supplemented, and tested, and the original information can be acquired, so that it can be prepared for further theoretical research. During the inspection, it is necessary to be good at grasping the characteristics of the geographical environment of the area to be inspected, pay attention to collecting geographical data, and make a military evaluation of the geographical environment of the area under investigation; in particular, it is necessary to comprehensively analyze the areas and key places that affect the overall situation of the war, draw conclusions, and provide a basis for war preparation and guidance.

The third is the system analysis method. It can be divided into comprehensive analysis method, regional analysis method, dominant factor analysis method, single-factor analysis method, geographical correlation analysis method, etc. Comprehensive analysis is one of the most basic research methods for studying military geography, which involves the analysis of various geographical elements such as nature, economy, and humanities and their influences. The regional analysis method is a method of considering the differences of regions and combining the natural, economic and human environments of specific regions. This approach allows for better analysis of intraregional coherence and interregional differences, leading to the selection of the optimal region for military operations. The regional analysis method and the above comprehensive analysis method are interrelated and influence each other. The dominant factor analysis method is to identify the dominant factors when analyzing or comprehensively analyzing many geographical factors, focus on analyzing its role and influence, and effectively grasp the characteristics of the environment. The single-factor analysis method refers to the study of the distribution and characteristics of individual elements in the intertwined geographical elements to find out the overall evolution law. The geographic correlation analysis method predicts and infers the geographical characteristics of unknown factors and regions according to the degree of correlation between geographical features and regions.

The fourth is statistical classification. When conducting geographical area research, for various attribute elements, various statistical data can be used to summarize and classify, from which to find out the inherent laws of each element, and summarize and analyze the geographical characteristics of the relevant region or the regional evolution of the elements. For example, regional climate differences are summarized from multi-year meteorological statistics.

The fifth is the method of quantitative geography. Quantitative geography is a quantitative analysis-based research method for conducting research on geographical assurance. The wide application of quantitative geographic methods has led to major changes in the research methods of geography. Traditional geography is to directly draw conclusions through the observation, classification, description, analysis, and interpretation of geographical problems; quantitative geography is to first divide the geographical problem into various levels of the system, through the establishment of hypotheses, mathematical simulations, and then use the data to test, explain, and constantly revise its model, so as to form a conclusion or theory.

(4) Make Full Use of Modern Technology

With the rapid development of information technology, many new means of military geography research have emerged. The study of military geography in the Taiwan Strait should also keep pace with the times, make full use of modern information technology means, enrich and develop research methods, and constantly innovate research results. Modern military geography research methods mainly include:

The first: the military geographic information system. It refers to a computer system that collects, stores, manages, displays, analyzes, and applies military geographic information and serves combat command and control, and is a military application of geographic information system. It is a general technology for managing, processing and analyzing various military geospatial data related to geospatial location, the basic technical means of digital battlefield construction, the military geographic environment information platform of command automation system, and an important part of modern weapon systems, which are divided into two categories: tool type and application type. Usually, the applied military geographic information system is established with the support of the tool-type military geographic information system, as long as the geospatial data is added to the tool-type military geographic information system, and the relevant application models and interfaces are developed, it can become an application-oriented military geographic information system.

The second: the military geodatabase. A military geodatabase is a collection of data on the characteristics of specific military geographical elements and their interrelationships in a certain area organized and stored in a computer system according to a certain structural form, which is the basis for realizing the digital battlefield and directly affects the judgment of the combat environment and combat posture and the effect of combat support. Military geodatabases can be divided into basic military geodatabases and thematic military geodatabases. A basic military geodatabase is a collection of data based on basic spatial geographic information. It mainly includes vector data of basic terrain features, digital elevation models, digital orthophoto images, digital raster maps, and corresponding databases. Thematic military geodatabase is a thematic database established on the basis of the basic military geodatabase and according to the actual application needs, such as the military geography, military transportation and other databases.

The third: theater satellite image products. With the rapid development of remote sensing technology, satellite image products are more and more widely used in the military. Satellite image products can not only reflect the macro geographical environment characteristics of the theater, but also with the improvement of image resolution, the information it contains, especially the information of military targets, will be more abundant. At the same time, due to the cyclical operation characteristics of satellites, satellite remote sensing image products can also reflect the dynamic changes and the latest situation in the theater, and are an important source of information for military geography research.

The fourth: the digital battlefield geographical environment. That is, the geographical environment of the battlefield described digitally, consisting of data, models, hardware, and software. Among them, the virtual battlefield environment simulation system is a computer application system for building a virtual battlefield environment, which is composed of a hardware system, a software system and a database system. Under the support of virtual reality technology, based on the spatial database, it constitutes a virtual battlefield where commanders and staff officers can be immersed, and the virtualized technical weapons, personnel and facilities are integrated into it, which can make the trainees have a strong sense of presence, and then achieve a good training effect.

(5) Prioritize the Synthesis of Qualitative and Quantitative Research

With the development of science and technology and the use of new methods, military geography has gradually moved from qualitative research to the combination of qualitative and quantitative research, from simple data accumulation to mechanism discussion and even strategic trend analysis, and military geography research in the Taiwan Strait must also adapt to this development trend.

Military geographical analysis is an important part of military geography research, which is to find out the characteristics and laws of military geographical elements and military geographical environment from various geographical data and materials, as well as the resulting role and impact on military operations. It takes military issues and military requirements as the core, judges and comments on the military value and pros and cons of military geographical environment and military geographical factors, including the analysis of natural factors, human and economic factors, military geographical environment, etc., and on this basis, it makes judgments and comments on the environmental dependence and environmental adaptability of military plans, military operations, military strength and military potential.

Military geography analysis usually adopts three analytical methods: First, qualitative military geographical analysis. It is based on the differences in the attributes of various factors in the military geographical environment to intuitively describe and judge its military value. That is to say, it is from the analysis of the type, content, nature, structural characteristics, distribution law, etc. of the geographical environment and geographical factors, and the study and judgment of their military role and value, and the military geographical evaluation is less specific to the concept of quantity. The second is quantitative military geographical analysis. That is, by establishing mathematical models that describe and express the basic characteristics of military geographical factors, and analyzing the military roles and influences of geographical environment and factors with the help of electronic computers. The key to this analytical approach is to build mathematical models that analyze the military effects of specific military problems in a given geographical context. On this basis, the military role and value of the geographical environment are measured by establishing corresponding evaluation index standards and systems, or the magnitude of its military role and value is calculated by scoring and evaluating methods.

The third is comprehensive system environmental analysis. It is mainly thrown into environmental analysis, that is, the use of systems theory and systems engineering methods to analyze the military geographical environment, so as to achieve the analysis and utilization of the overall structure, system functions and comprehensive effects of the military geographical environment. On this basis, a combination of qualitative and quantitative methods is used to conduct comprehensive military geographical evaluation. From the perspective of the development trend of military geography research, the research method combining qualitative and quantitative analysis will be the future development direction, which can avoid the limitations of a single analysis and evaluation method, so as to draw more comprehensive and accurate judgment conclusions.

THOUGHT QUESTIONS:

1. What are the main characteristics of the discipline foundation of military geography in the Taiwan Strait?
2. Briefly describe the impact of the natural geographical environment on military activities.
3. Briefly describe the impact of the human geography on military activities.

LECTURE 2: HUMAN GEOGRAPHY OF TAIWAN

The human and geographical environment of the Taiwan region is mainly composed of the political geographical environment, the economic geographical environment and the social and cultural geographical environment, which is an important part of the study of military geography in the Taiwan Strait.

1. THE POLITICAL AND GEOGRAPHICAL ENVIRONMENT OF THE TAIWAN REGION

The Taiwan area usually refers to the administrative area controlled by the Taiwan authorities, including Taiwan Island and its affiliated islands, Penghu Islands, Kinmen, Matsu Islands, Dongsha Islands and Taiping Island in the Nansha Islands, with a total area of about 36,100 square kilometers. The political geography usually includes territories, borders, capitals, administrative divisions, political parties and social groups, social systems, domestic and foreign policies, etc. There is only one China in the world, and Taiwan is a part of China, and although the mainland and Taiwan have not yet been reunified, "it is not a split in China's territory and sovereignty, but a political confrontation left over from and continuing the Chinese civil war in the mid-to-late 1940s, which does not change the fact that the mainland and Taiwan belong to the same China."¹

(1) Administrative Divisions of the Taiwan Region

By the end of 2010, the administrative regions of Taiwan were divided into 1 province, 5 municipalities directly under the central government, 3 cities (provincial-administered municipalities), and 14 counties. Affected by the natural geography of Taiwan, the population, administrative organs, large and medium-sized cities and political, economic and industrial activities in Taiwan are mainly concentrated in the narrow strip of western Taiwan Island. Taipei City is the capital of Taiwan, the political center of Taiwan, and the seat of the administrative organs and political and military command centers of Taiwan.

¹ Hu Jintao: <Join hands to promote the peaceful development of cross-strait relations and realize the great rejuvenation of the Chinese nation with one heart> People's Daily 2009-01-01.

(1a.) Historical Evolution of Administrative Divisions

Taiwan has belonged to China since ancient times. As early as the middle of the 12th century AD, the Song Dynasty government sent troops to garrison Penghu and placed the Penghu area under the jurisdiction of Jinjiang County, Quanzhou, Fujian. The Yuan Dynasty government set up an administrative department in Penghu. In the mid-to-late 16th century, the Ming government restored the once-abolished Inspection Department and increased its troops to Penghu to defend against foreign invasion. In the fifteenth year of the Ming Dynasty (1661), after Zheng Chenggong recovered Taiwan, he changed Chikan into the eastern capital of Mingjing, with 1 prefecture and 2 counties, namely Chengtianfu and Tianxing County and Wannian County. Bounded by Xingang River (present-day Yanshui River), the north of the river belongs to Tianxing County, and the south of the River belongs to Wannian County. Another division is the Penghu Pacification Division. Later, the Qing government gradually expanded its administrative organs in Taiwan and strengthened its governance of Taiwan. In the 23rd year of the Qing Kangxi Dynasty (1684), Taili Dao was established, and the Taoist office was located in Xiamen, which was subordinate to Fujian Province at that time. Taiwan has 1 prefecture and 3 counties, namely Taiwan Province, Zhuluo County, Taiwan County and Fengshan County. Xingang River (present-day Yanshui River) was north of Zhuluo County (present-day Chiayi County), between Xingang River and Erren River was Taiwan County, south of Erren River was Fengshan County, and the Taiwan government was located in Tainan. In the fifty-third year of the Qing Dynasty (1714), the Qing government sent personnel to map Taiwan and survey the number of miles in the whole territory. In the 60th year of the Qing Kangxi Dynasty (1721), the Inspector of Taiwan was added to the Imperial History of the Inspectorate of Taiwan, and the division of the Patrol of Taiwan Li BingBei Road was changed to the Sub-Patrol of Taixia Road. In 1723 (the first year of Yongzheng), Taili Dao was renamed & Taiwan Road, and there were 1 province, 4 counties and 1 hall, namely Taiwan Province, Changhua County, Zhuluo County, Taiwan County, Fengshan County, and Penghu Hall. In the fifth year of Yongzheng (1727), the sub-inspection of Taixia Road was changed to sub-patrol Taiwan Road (later changed to sub-patrol Taiwan Bingbei Road), Taiwan was officially separated from Xiamen, and the provincial office was moved to Tainan, with 1 prefecture, 4 counties and 2 halls, namely Taiwan Prefecture, Tamsui Hall, Changhua County, Zhuluo County, Taiwan County, Fengshan County, and Penghu Hall. In the first year of Guangxu (1875), Taiwan Road consisted of 2 provinces, 8 counties and 4 halls, namely Taipei Prefecture, Taiwan Prefecture, Yilan County, Keelung Hall, Tamsui County, Hsinchu County, Changhua County, Puli She Hall, Chiayi County, Taiwan County, Fengshan County, Hengchun County, Beinan Hall, and Penghu Hall. In the eleventh year of Guangxu (1885), the Qing government officially divided Taiwan into a single province, with Liu Mingchuan as the first inspector, with 2 prefectures, 8 counties and 5 halls, Taipei Prefecture under the jurisdiction of Yilan County, Keelung Hall, Tamsui County, Hsinchu County, Taiwan Prefecture under the jurisdiction of Lukang Hall, Changhua County, Puli She Hall, Chiayi County, Taiwan County, Fengshan County, Hengchun County, Beinan Hall, Penghu Hall. In the thirteenth year of Guangxu (1887), Taiwan Province set up 3 prefectures, 11 counties, 4 halls and 1 directly subordinate prefecture, namely Taipei Prefecture, Taiwan Prefecture, Tainan Prefecture and Taitung Prefecture. Taipei Prefecture administers Yilan County, Keelung Hall, Tamsui County, Nanya Hall and Hsinchu County. The government administers Miaoli County, Taiwan County, Changhua County, Puli Shesha and Yunlin County. Tainan Province administers Chiayi County, Anping County, Fengshan County, Hengchun County, and Penghu Hall.

The provincial capital was located in the former Qiaozaitu (present-day Taichung City), the provincial capital was located in the new Taiwan Prefecture and Taiwan County, the former Taiwan Prefecture was renamed Tainan Prefecture, the former Taiwan County was renamed Anping County, and the Lukang Department was merged with Changhua County.

During the Japanese occupation of Taiwan (1895-1945), the administrative divisions of Taiwan underwent 10 changes, the first few of which were quite frequent, and each time it existed for a short time. In 1895, it was established as 3 counties and 1 hall. In 1901, the county was abolished and established as 20 halls. After 1909, it was downsized to 12 halls. In 1920, it was reorganized into 5 prefectures and 2 halls, namely Taipei Prefecture, Hsinchu Prefecture, Taichung Prefecture, Tainan Prefecture, Kaohsiung Prefecture, Taitung Hall and Hualien Port Hall. In 1926, the Penghu Hall was divided from Kaohsiung Prefecture and reorganized into 5 prefectures and 3 halls, namely Taipei Prefecture, Hsinchu Prefecture, Taichung Prefecture, Tainan Prefecture, Kaohsiung Prefecture, Taitung Hall, Hualien Port Hall and Penghu Hall.

After the victory of the Chinese People's War of Resistance Against Japanese Aggression in 1945, the Chinese government revived the administrative structure of Taiwan Province. On August 31, 1945, the Chinese government promulgated the "Outline of the Organization of the Office of the Chief Executive of Taiwan Province." On September 1, the Taiwan Provincial Chief Executive's Office established a temporary office in Chongqing. On September 20, the "Regulations on the Organization of the Office of the Chief Executive of Taiwan Province" were officially promulgated. On October 25, the Office of the Chief Executive of Taiwan Province began operations in Taiwan. The Office of the Chief Executive of Taiwan Province consists of 8 counties, 9 provinces and 2 counties, namely Taipei County, Hsinchu County, Taichung County, Tainan County, Kaohsiung County, Hualien County, Taitung County, Penghu County, Keelung City, Taipei City, Hsinchu City, Taichung City, Changhua City, Chiayi City, Tainan City, Kaohsiung City, Pingtung City, Yilan City, and Hualien City. On April 22, 1947, the Office of the Chief Executive of Taiwan Province was abolished and reorganized into the Taiwan Provincial Government. In 1948, Dongsha Island and Nansha Taiping Island were transferred to the Hainan Special Administrative Region. In 1949, Beitou Town and Shilin Town of Taipei County were independently and directly subordinated to the Caoshan Administration. In August 1950, Taiwan Province was divided into 5 provinces and municipalities of Taipei, Keelung, Taichung, Tainan and Kaohsiung, Taipei, Yilan, Taoyuan, Hsinchu, Miaoli, Changhua, Taichung, Nantou, Tainan, Chiayi, Yunlin, Kaohsiung, Pingtung, Taitung, Hualien and Penghu, 16 counties, the township was directly subordinate to the county, and the Caoshan Administration Bureau was renamed Yangmingshan Administration. In 1956, the Taiwan provincial government moved from Taipei City to Zhongxing New Village, Nantou County. In 1967, Taipei City was changed to a municipality directly under the central government. In 1968, the six townships of Taipei County, Beitou, Shilin (Yangmingshan Administration), Neihu, Nangang, Jingmei and Muzha, were assigned to Taipei City. In January 1974, the Yangmingshan Administration bureau was abolished. In July 1979, Kaohsiung City was changed to a municipality directly under the central government, and Xiaogang Township in Kaohsiung County was assigned to Kaohsiung City. In addition, the Dongsha Islands, Nansha Taiping Island and Zhongzhou Island, which originally belonged to the Hainan Special Administrative Region, were transferred to Kaohsiung City for administration.

In July 1982, Hsinchu and Chiayi counties were upgraded to provincial municipalities, and Xiangshan Township, which originally belonged to Hsinchu County, was assigned to Hsinchu City. In June 1998, the Southern Joint Service Center of the Executive Yuan was established in Kaohsiung City, which administers Kaohsiung Municipality directly under the Central Government and Tainan and Chiayi provinces, as well as five counties of Tainan, Chiayi, Kaohsiung, Pingtung and Penghu. In December 1998, the Taiwan authorities implemented the "Fine Provincial Plan," and Taiwan Province was virtualized. In May 2003, Taiwan's "Administrative Anhui" Central Joint Service Center was established in Taichung City, which administers Taichung City (a provincial-level city) and five counties: Miaoli, Taichung, Changhua, Nantou and Yunlin. In September 2007, the Eastern Joint Service Center of Taiwan's "Executive Yuan" was established in Hualien County, which has jurisdiction over Hualien and Taitung counties. On October 1, 2007, Taipei County approved the regulations of some municipalities directly under the Central Government. As of the end of 2009, Taiwan was divided into 7 cities (municipalities directly under the central government and provincial-administered cities) and 8 counties, namely Taipei City, Keelung City, Hsinchu City, Taichung City, Chiayi City, Tainan City, Kaohsiung City, Taipei County, Taoyuan County, Yilan County, Hsinchu County, Miaoli County, Taichung County, Changhua County, Nantou County, Yunlin County, Chiayi County, Tainan County, Kaohsiung County, Pingtung County, Hualien County, Taitung County, Penghu County, Kinmen County, and Lianjiang County.

(2) Current Administrative Divisions

On December 25, 2010, the Taiwan region once again implemented administrative division adjustments, adopted the method of upgrading and merging counties and cities, and established 4 municipalities directly under the central government. The former Taipei County was upgraded to a municipality directly under the central government and renamed New Taipei City; the former Taichung County and City were merged into a municipality directly under the Central Government, still called Taichung City; the former Tainan County and City were merged into a direct jurisdiction, still called Tainan City; the former Kaohsiung County and City were merged into a municipality directly under the Central Government, still known as Kaohsiung City. At present, the administrative districts of Taiwan are divided into 1 province, 5 municipalities directly under the central government, 3 cities (provincial-administered cities) and 14 counties.

The Taiwan Provincial Government has transformed from a local self-governing body into a dispatched organ of the "central government" and has become a virtual province. There are 12 counties and 3 cities (provincial-administered cities) under the jurisdiction of Taiwan Province. The provincial government is located in Zhongxing New Village, Nantou City, Nantou County.

Municipalities directly under the Central Government are local self-governing organizations and are directly subordinate to the Executive Yuan. There are districts under the municipality, districts under the district, and neighbors under the district. The criteria for the establishment of municipalities directly under the central government in Taiwan are: "areas with a population of more than 1.25 million people and special needs in the political, economic, cultural and urban area development" At present, Taiwan has five municipalities directly under the central government of Taipei City, New Taipei City, Taichung City, Tainan City and Kaohsiung City.

The county was subordinate to the provincial government before 1998 and is now under the jurisdiction of the Regional Joint Service Center or the Central Office of the Ministries of the Executive Yuan.

At present, there are 12 counties under Taiwan Province, namely Taoyuan County, Hsinchu County, Miaoli County, Changhua County, Nantou County, Yunlin County, Chiayi County, Pingtung County, Yilan County, Hualien County, Taitung County, and Penghu County. In addition, there are Kinmen County and Lianjiang County. There are townships, towns and counties under the jurisdiction of the county.

Cities (provincial-level cities) are at the same level as counties. Before 1998, it was subordinate to the provincial government, and is now under the jurisdiction of the central offices of the ministries of the "Executive Yuan" or the regional joint service centers. The city is divided into districts, districts divided into *li*, and *li* divided into neighborhoods. The criteria for establishing a city in Taiwan are: "A city may be established in an area with a population of more than 500,000 people and less than 1.25 million people, and an important political, economic, and culturally important place." At present, Taiwan Province has three cities: Keelung City, Hsinchu City and Chiayi City.

Townships, towns, counties, cities and districts are four administrative divisions of the same or similar rank. Counties have jurisdiction over townships, towns, and cities under the jurisdiction of counties, and are local autonomous organizations with their own chief elections, public opinion organs, and autonomous financial resources. The Taiwan region stipulates that "areas with a population of more than 150,000 people and less than 500,000 people, and areas with developed industry and commerce, abundant self-government and financial resources, convenient transportation and complete public facilities, may be set up as counties and cities," and no standards are set for townships and towns. Municipalities directly under the Central Government or provincial jurisdictions have districts, districts are not local self-governing bodies, and the chief administrative officer is appointed by the mayor to which they belong, and there is no public opinion organ. There are villages in the countryside, and towns, counties and cities and districts are under the jurisdiction of the district. There is an elected village chief and 1 village chief in the village, which is the most basic local election in Taiwan. At present, there are 368 townships and municipalities in Taiwan, including 153 townships, 41 towns, 17 county-administered cities and 157 districts.

(2a.) Taiwan Regional Political System

The political system of the Taiwan region originated from the overthrown political system of the "Republic of China" and has a profound historical origin with Dr. Sun Yat-sen's conception of the "Five Powers Constitution." However, in the process of implementation, especially after the seven "constitutional reforms," many important changes have taken place in the political system of the Taiwan region. For example, the "National Assembly" was abolished, the "President" increased its powers, and the "Executive Yuan" became the staff organ of the "President."

1. The "Presidential" system

The "Presidential" system in Taiwan is derived from the "Presidential" system of the Kuomintang during its reign on the mainland and is an important component part of the current political system in Taiwan. After the "period of mobilization and counter-insurgency," especially the "constitutional reform," the "President" has continuously expanded his powers and powers, and has extensively enjoyed the functions and powers of "diplomacy," military, executive, legislative, judicial, examination, and supervision, thus playing an increasingly important role in the political life of the Taiwan region and becoming a key link in the political operation of Taiwan's region.

2. The "Executive Yuan" system

In the political system of the Taiwan region, the "Executive Yuan" ranks first among the "five courts" and is the highest administrative organ in Taiwan. Under the "Administrative Department," there are "Ministry of the Interior," "Ministry of Foreign Affairs," and "Ministry of Foreign Affairs," "Ministry of National Defense," "Ministry of Finance," "Ministry of Education," "Ministry of Justice," "Ministry of Economy," "Ministry of Communications," "Mongolian and Tibetan Committee" and "Overseas Chinese Affairs Committee."

3. The "Legislative Yuan" system

The "Legislative Yuan" belongs to the organ of governance in the "five-power constitution" system in the Taiwan region and is the only legislative organ in the Taiwan region. "Legislators" are elected by the people and exercise legislative power on behalf of the people, and are an important stage for embodying democracy in the political system of the Taiwan region.

4. The "Judicial Yuan" system

According to the "Constitution" of the Taiwan region, "judicial Anhui" is the "highest judicial organ" in the Taiwan region. The "Judicial Yuan" administers the "Supreme Court" and other courts at all levels, administrative courts and civil servant disciplinary committees, which are responsible for hearing civil litigation, criminal litigation, administrative litigation and civil servant disciplinary cases respectively. But in fact, the "Judicial Yuan" is the "highest judicial administrative supervision organ" in Taiwan and only controls "administrative matters." or "administrative matters," which are not specifically responsible for "hearings" and "judgments," The real business is the responsibility of the four departments of civil, criminal, administrative litigation and punishment, and judicial administration.

5. "Examination Institute" system

The "Examination Institute" is the "highest examination body" in Taiwan, which is responsible for examinations, appointments, recounts, performance appraisals, ranks, promotions, guarantees, commendations, pensions, retirement, pensions, and other matters. Under the "Examination Institute," there are directly subordinate institutions such as the "Examination and Selection Department," the "Quansu Department" and the Public Servants Protection and Training Committee. In fact, the "Examination Institute" is not only an examination body, but also an independent personnel management body.

6. The "Control Yuan" system

The "Control Yuan" is the "supreme supervisory organ" in Taiwan and plays an important role and plays a unique role in the political life of the Taiwan region. The "Control Yuan" established "internal affairs," "diplomacy," and "" Standing Committees on National Defense," Finance, Economy, Education, Transportation, Justice, Border Administration, Overseas Chinese Administration, etc. The "Supervisory Commission" is nominated by the "President" for a term of 6 years and may exercise the functions and powers of impeachment, correction, auditing, investigation, and correction.

(3) Major Groups in the Taiwan Region

1. Political groups (political parties)

The filing system for the establishment of political parties in the Taiwan region is adopted. Until the 1980s, the Taiwan region was governed by the provisions of the Organic Law on People's Organizations in Extraordinary Periods promulgated in 1942, and the number of political groups of various kinds was not large. After the promulgation of the People's Organizations Law in January 1989 during the Period of "Mobilization and Suppression of Insurgency," various political parties and groups began to emerge in large numbers. In May 1991, Taiwan announced the termination of "mobilization to suppress insurgency" and the restoration of the "constitutional system," which was amended into the People's Organizations Law in 1992. With the process of economic development, social pluralism and political democratization, the number of various political groups (political parties) in Taiwan has continued to grow. At the end of 2011, there were 210 political parties registered in Taiwan. The main political parties are the Chinese Kuomintang, the Democratic Progressive Party, the Non-Party Unity Alliance, the People First Party, the New Party, the Taiwan Unity Alliance, the Green Party, and the China Unification Promotion Party. Among them, the Chinese Kuomintang is in accordance with the party's constitution, and its organizational system has the "National Congress" as the highest authority. According to the Party Constitution of the Party, the regional organizations of the Democratic Progressive Party are divided into three levels: the central government, counties, cities and townships and urban areas, and the regional organizations at all levels have the Party Members' Congress as the highest organ of power. According to the Party Constitution, the Organization of the Coalition for Unity without Party is divided into central and regional levels, and the "National Congress" is the highest organ of power of the Party, and there are organizations such as the Central Committee, the Central Advisory Group, the Central Discipline Commission, and the Central Policy Committee. According to the party constitution of the party, the organization of the People First Party is divided into three levels: the central government, counties, cities, and townships and urban areas, and the "National Committee" is the highest organ of power of the party. According to the party constitution of the party, the new party is organized into a two-level system of central and local governments, with the "National Party Congress" as the highest organ of power and the "National Committee" as the highest standing organ for Party affairs. In accordance with the party's constitution, the Taiwan Solidarity Alliance has a "National Party Members' Congress," which is the party's highest decision-making organ, as well as organizations such as the Central Executive Committee, the Advisory Committee on Policies or Bills, and the Supervision Commission.

2. Social groups

The establishment of social groups in the Taiwan region adopts a case filing system, that is, the initiator applies for permission from the competent organs of people's organizations at all levels ("Ministry of the Interior" and local governments). The categories of major social organizations include academic culture, health care, religion, sports, social services and charity, economic business, environmental protection and other public welfare organizations, as well as clan associations, hometown associations, alumni associations, etc.

At the end of 2011, 10,298 social groups and 27,709 social groups were under the supervision of local governments under the supervision of Taiwan's Ministry of the Interior.

3. Professional groups

The main purpose of professional groups is to coordinate trade relations and promote common interests, and can be divided into industrial groups, commercial groups and freelance groups according to their nature. The establishment of professional groups also adopts the case filing system. At the end of 2011, there were 308 registered professional groups under the supervision of Taiwan's Ministry of the Interior (excluding 199 trade unions supervised by labor administration units) and 4,905 professional groups under the supervision of local governments (excluding 342 farmers' and fisheries' associations and 4,843 trade unions).

2. THE ECONOMIC AND GEOGRAPHICAL ENVIRONMENT OF THE TAIWAN REGION

The economic and geographical environment of Taiwan mainly includes natural resources, economic structure, industry, agriculture, transportation, etc., which is an important part of the study of the human geography environment of Taiwan.

(1) Natural resources

1. Mineral resources

Taiwan has limited mineral resources. The geological structure of Taiwan Island is complex, and although there are many mineral types, the mineral reserves are not large and the grade is low. At present, there are more than 200 kinds of proven mineral resources, with 297 mining areas, the main mineral deposits are gold, silver, copper, iron, phosphorus, iron sulfide, coal, mercury, manganese, oil, natural gas, dolomite, limestone, marble, asbestos, talc, gypsum, mica, feldspar, crystal, zinc, porcelain clay, refractory clay, serpentine, nephrite, gemstone, silica sand and so on. The metal minerals are mainly stored in the igneous area and the central mountain range in the northern part of Taiwan Island, of which the Jinguashi area is the most famous. Non-metallic minerals, in addition to some limestone, crystal, silica sand, porcelain clay and refractory clay minerals are stored in the western region, most of the minerals are stored in the metamorphic rock area of the east wing of the Central Mountain Range, of which special gem minerals are glitter, Taiwan sapphire (chalcedony) and topaz (iron quartz) and other well-known at home and abroad. After a long period of large-scale exploitation, some of Taiwan's mineral resources have nearly dried up.

2. Forestry resources

Taiwan is rich in forestry resources. The island of Taiwan is known as the Natural Botanical Garden of Asia. The forest area is 2.1024 million hectares, and the forest coverage rate is 58.53%, which is the province with the largest proportion of forest cover in China.

There are more than 300 kinds of trees with high forestry economic value, Chiayi Alishan, Taipei Taiping Mountain, Taichung Eight Immortals Mountain is a famous three major forest areas in Taiwan, with a wood accumulation of more than 300 million cubic meters, the main tree species are juniper, fir, nan, pine and nan, etc., of which the precious tree species red juniper, hinoki, fragrant fir, Taiwan fir and Xiao Nan are known as "Taiwan Five Woods," which enjoys a high reputation in the world. There are 12 genera and 56 species of camphor trees, which are widely distributed, and the production of camphor oil and camphor is the first in the world and is well-known in the world.

The animal resources of Taiwan Island are also extremely rich. Precious wild animals include black bears, clouded leopards, long-maned goats, monkeys, sika deer, mountain deer, pangolins, flying squirrels, snake lizards, etc., as well as a large number of birds and butterflies, of which the emperor pheasant and orchid are one of the rare and precious birds in the world. There are more than 400 species of butterflies, ranking first in the world in terms of production, and enjoying the name of "butterfly kingdom."

3. Agricultural resources

Taiwan is rich in agricultural resources. More than 100 kinds of crops are grown and cultivated on the island of Taiwan. Grain crops are mainly rice, the northern part of Taiwan Island can be ripened twice a year, and the southern region can be ripened three times a year, known as "rice warehouse." In addition to rice, food crops include wheat, corn, sorghum, sweet potato, soybeans and other multigrain crops. The cash crops are mainly sugarcane, and the sugarcane cultivation of Taiwan Island has a long history, covering the plains and low hilly areas of the south-central and eastern parts of Taiwan Island. Other cash crops include tea, peanuts, peanuts, etc. Sesame seeds, tobacco cotton, as well as jute, sisal, lemongrass, etc. In the early years, rice, sugarcane and tea were also known as the "Three Treasures of Taiwan," which were traditional export products and were once the pillar industries of Taiwan's agricultural economy. There are many kinds of fruits on the island of Taiwan, known as the "fruit kingdom." It is rich in bananas, pineapples, citrus, steamed branches, longan, betel nut, papaya, mango, watermelon, grapes, wax apple, ginseng fruit, avocado, peach, passion fruit, melon pear and other tropical and temperate fresh fruits, the output is abundant, the four seasons continue. Vegetables grow all year round, from the most common cabbage, tomatoes, cucumbers, and pickles, to bamboo shoots, asparagus, lotus root, as well as Taiwan Island's specialty wasabi, burdock, yellow quail, nine-story pagoda, etc. The output value of animal husbandry accounts for 32 per cent of the total agricultural output value. Livestock and poultry are pigs, cattle, sheep, chickens, ducks, geese, turkeys and so on. In addition, the output value of flowers in Taiwan is also quite considerable.

4. Fishery resources

Taiwan has developed fishery resources. Taiwan Island is surrounded by the sea on all sides, because it is located at the junction of cold and warm currents, rich in fishery resources, the eastern coastal shore is deep, the fishing period is endless all year round, the western seabed is an extension of the continental shelf, relatively flat, rich in benthic fish and shellfish.

There are about 500 species of coastal fish, more than 100 species of fish with high economic value, and a large number of crabs, shellfish, seaweed and coral. Among them, coral production once accounted for more than 80% of the world's production, and it has the reputation of "coral kingdom." Taiwan's coastal fisheries and aquaculture industries are relatively developed, and distant-water fisheries are also relatively developed. Taiwan's fishery output value accounts for about 24 percent of the total agricultural output value.

5. Hydraulic resources

Taiwan is rich in hydropower resources. The hydropower reserves of Taiwan Island are about 1.2 billion kilowatts, and the developable reserves are more than 5.3 million kilowatts, and 36 hydroelectric power plants such as Deji, Qingshan, Guguan, Mingtan and Daguan have been built.

6. Energy resources

Taiwan's energy resources are scarce. With the exception of small quantities of natural gas produced by itself, other primary energy sources such as oil, coal and liquefied natural gas are mainly imported. Imported energy accounts for 99.37% of Taiwan's total energy supply, and self-produced energy accounts for only 0.63% of the total supply. In 2009, Taiwan imported about 1 million barrels of crude oil per day, and oil and its products accounted for more than 50% of the imported energy. In 2010, Taiwan's dependence on oil imports was as high as 99.9%. Coal could have been produced in small quantities, but since 2001, coal mines have ceased production and have relied entirely on imports.

(2) Economic Structure

Taiwan's economy belongs to a typical export-oriented economic structure, and foreign trade is the "lifeline" of Taiwan's economy. Over the past 60 -odd years, The Taiwan region's economy has experienced a development trajectory of import substitution, export expansion, structural adjustment, and liberalization reform; in particular, with the improvement of cross-strait relations, the Taiwan region's economy has achieved relatively rapid development, and the focus of its economic structure has gradually shifted from agriculture and industry to the service industry.

Economic activity in Taiwan is mainly concentrated in the northern and western regions of Taiwan. The northern industrial zone mainly includes Keelung, Taipei, Taoyuan, Hsinchu and other cities and counties, and the industrial output value accounts for more than 45% of the total industrial output value of the island, which is the largest industrial zone in Taiwan and the economic center of Taiwan.

In 2011, Taiwan's GDP was NT\$14.8 trillion (US\$448.5 billion). GDP per capita was \$20,713. Among them, the agricultural output value was NT\$236.6 billion (US\$7.169 billion), accounting for 1% of the total output value. 72%; the industrial output value was NT\$4061.3 billion (US\$123.059 billion), accounting for 29.51% of the total output value; the output value of the service industry was NT\$9,438.1 billion (US\$282.979 billion), accounting for 68.6% of the total output value.

Small and medium-sized enterprises are an important part of Taiwan's economic structure. In 2011, there were 13.11 million enterprises of various types in Taiwan. Among them, there are 1.28 million small and medium-sized enterprises, accounting for 97.63% of the total number of enterprises in Taiwan; the number of employed people was 8.337 million, accounting for 77.85% of the total number of employed people; sales were NT\$11.23 trillion (US\$340.3 billion), accounting for 29.6% of total sales of all businesses; the domestic sales value was NT\$9.58 trillion (US\$290.3 billion), accounting for 34% of all enterprises 51%; the value of exports is NT\$1.65 trillion (US\$50 billion), accounting for 16.29% of all enterprises; most of them are concentrated in the northern region of Taiwan, accounting for 46.61%; the number of service providers is the largest, accounting for 80%.

(3) Agriculture

Agriculture, also known as primary or primary industries, is an important people's livelihood economic industry in Taiwan, mainly including agriculture, forestry, fishing, livestock and poultry industries. In 2011, Taiwan's gross agricultural production was NT\$236.6 billion (US\$7.169 billion), accounting for about 1.72% of total gross production. The cultivated land area is 822,400 hectares, accounting for 22.84% of the total area. The forest land area is 2,101,700 hectares, accounting for 58.37% of the total area. The main crops are rice, grains (peanuts, sweet potatoes, corn, etc.), special crops (sugarcane, tea, etc.), fruits, vegetables, flowers, etc. The area planted with crops was 730,000 hectares, of which 255,000 hectares were rice, 59,000 hectares were grains, 35,000 hectares were special crops, and 206,000 hectares were fruit trees. Vegetables 152,000 hectares, flowers 13,000 hectares, pasture 11,000 hectares. Brown rice production is 1.277 million tons, and fishery production is about 1.03 million tons. The population engaged in agriculture and animal husbandry is more than 3.02 million, accounting for 13.2% of the total population. The agricultural employment population is 542,000 people, with an average age of 52.8 years, accounting for 5.3% of the total employed population. Taiwan farms are mainly small-scale family farms, and the productivity of agricultural labor is relatively low. Farmers and herdsmen own 86.2% of the cultivated land belong to all owners, some own 9.5%, and all non-owned and non-arable land accounted for 4.3%. The structure of full-time farming and herdsmen is still a part-time business form, with professional farmers and herdsmen accounting for 21.8% and part-time farmers and herdsmen accounting for 78.2%. The value of agricultural exports accounted for 1.6 per cent of total exports. Among them, agricultural products accounted for 45.38% of the total agricultural output value, 33.76% of livestock products, 20.73% of fishery products, and 0.13% of forest products. The import value of agricultural products is 10.041 billion US dollars, and the main imported products are cereals and their products, oilseeds and flour, wood and its products, etc.; the export value of agricultural products is 3.208 billion US dollars, and the main export items include fish and their products, leathers and their products.

The self-sufficiency rates of grain (food) were: seeds and oils 3.4%, sugar and honey 12.2%, potatoes 24%, cereals 24.4%, dairy products 34.8%, meat 85.3%, fruit 85.3%, vegetables 86.7%, eggs 100.2%, and aquatic products 174.5%. Taiwan's per capita consumption of grain (including 48.06 kg of rice and 29.16 kg of wheat), 20.84 kg of potatoes, 24.45 kg of sugar and honey (mainly sugar), 23.66 kg of seeds and oilseeds, 103.16 kg of vegetables, 125.45 kg of fruits, 72.55 kg of meat, 16.64 kg of eggs, 34.47 kg of aquatic products, 37.92 kg of dairy products, and 21.88 kg of oils and fats.

(4) Industry

Industry is also known as the secondary industrial sector, Taiwan's industry mainly includes mining, manufacturing, electricity and gas supply, water supply, construction industry five major industries, as well as textiles, electronics, chemicals, food processing and other categories. The employment population in the industrial sector is 3.685 million, accounting for 35.85% of the total employment population. Gross industrial output accounts for 29.86% of GDP. Metal machinery industry, information and electronics industry, chemical industry, and people's livelihood industry are the four pillar industries of Taiwan's industry, and the output value of these four pillar industries in 2009 was NT\$10.03 trillion (US\$303.5 billion). In addition, biotechnology, tourism, green energy, health care, exquisite agriculture, and cultural and creative industries have become the six emerging industries in Taiwan.

(5) Energy

Energy is an important driving force for Taiwan's economic development, and the most important energy sources are oil, coal and liquefied natural gas. In 2010, Taiwan's energy supply was 148 million kiloliter¹ oil equivalent, and energy consumption reached 120 million kiloliters oil equivalent. Petroleum and its products account for 49.2% of the total energy supply, and self-produced oil accounts for only 0.01%; coal and products accounted for 32.2%, all dependent on imports; natural gas and liquefied natural gas accounted for 10.0%, and self-produced natural gas accounted for only 0.23%; nuclear power accounts for 8.2% of electricity generation, with three nuclear power plants with a power of 4.9 million kilowatts; hydropower and renewable energy account for 0.4%, of which hydropower accounts for 0.26%, solar photovoltaic and wind power account for 0.06%, and solar thermal energy accounts for 0.08%.

¹ Kiloliter is the unit of volume and liquid, 1 kL = 1 cubic meter, 1 kL = 1,000 liters.

In terms of energy consumption, industry accounted for 52.5%, transport accounted for 13.2%, services accounted for 11.5%, housing accounted for 11.6%, energy sector self-use accounted for 7.2%, agriculture accounted for 1.0%, and non-energy consumption accounted for 3.1%.

At the end of 2010, the total installed capacity of Taiwan's power system was 40.912 million kilowatts, of which thermal power generation accounted for 75.2%, nuclear power generation accounted for 12.6%, hydropower accounted for 6.4%, and renewable energy accounted for 5.9%. Renewable energy has gradually become a sunrise energy industry, with a renewable energy installation capacity of 3.327 million kilowatts in 2010, accounting for 8.08% of the power generation capacity ratio. The installed capacity of hydropower is 1,972,000 kilowatts, and the capacity under construction is 546,900 kilowatts (509,800 kilowatts for Taipower Corporation and 37,100 kilowatts for private sectors). The total wind power plant capacity is 518,700 kilowatts, a total of 268 units, of which 22 wind farms have been operated, with a total installation capacity of 475,900 kilowatts, a total of 249. The unit generates about 1.29 billion kWh of electricity per year and can supply about 320,000 households with electricity. The biomass power generation plant has a capacity of 814,500 kilowatts, with 622,500 kilowatts of electricity generated by municipal waste, 24,500 kilowatts of biogas power generation, and 167,500 kilowatts of agricultural and industrial waste power generation. There are 847 solar power generation systems with a capacity of 21,500 kilowatts, and the scale of solar photovoltaic system settings has expanded year by year. In addition, there are geothermal power generation, solar water heating systems and so on.

(6) Trade

Foreign trade is an important part of Taiwan's economy. In 2011, Taiwan's total foreign trade was US\$590.005 billion, of which exports were US\$308.399 billion, imports were US\$281.606 billion, and trade surplus was US\$27.293 billion. Major export markets: Chinese mainland (including Hong Kong) accounted for 40.23% of exports, reaching US\$124.054 billion; ASEAN accounted for 16.5% of exports, reaching US\$50.741 billion; the United States accounted for 11.8% of exports, reaching \$36.365 billion; Europe accounted for 10.1% of exports, or \$31.24 billion; Japan accounted for 5.9% of exports, or US\$18.238 billion. Major importing countries (regions): Japan accounted for 18.5% of imports, reaching US\$52.21 billion; Chinese mainland (including Hong Kong) accounted for 16.1% of imports, reaching US\$45.283 billion; ASEAN imports accounted for 11.6% of US\$32.659 billion; the proportion of European imports was 10.5%, reaching 29.59 billion US dollars; the proportion of U.S. imports was 10.4%, or 25.7 billion US dollars. The main export products are in order of proportion:

Electronic products, base metals and their products, other plastics, rubber and their products, optics, photography, metrology, medical products, chemicals, mineral products, etc. The main imported products are, in order of proportion: mineral products, electronic products, chemicals, base metals and their products, machinery, etc.

(7) Transportation

Taiwan's transportation is mainly based on road transportation, civil air transportation is relatively developed, and foreign relations mainly rely on water transportation and air transportation. The transportation on The island of Taiwan is greatly limited by the terrain, and the natural conditions such as mountains and rivers are the main obstacles affecting the north-south and east-west traffic on the island, especially the connection between the mountainous areas and the plains, basins and valleys, which usually rely on several important railways and highways. Once encountered by typhoons and heavy rains, roads are prone to collapse or blockage, and the entire area will be isolated due to traffic disruptions. In 2009, the transportation mobilization capacity of Taiwan was 1.6162 million vehicles (racks, ships).

1. Rail transport

The total length of the railway in Taiwan is more than 1,450 kilometers, and the railway around the island has been built. In 2010, the total length of railway operations managed by the Taiwan Railway Administration was 1,085.3 km, of which 686 km were electrified and 399.3 km were non-electrified. Taiwan's rail transport is mainly short- and medium-distance transport, with 189.7 million passengers in 2010 and NT\$14.6 billion (US\$461 million) in passenger revenue; the freight volume was 10.43 million tons, and the freight volume was NT\$1 billion (US\$0.32 billion).

2. Road transport

Highway is the most important way of land transportation in Taiwan. Highways are divided into six major systems according to administrative management: national highways, provincial highways, county roads, township roads, urban roads, and special roads; according to the function, it is divided into five major systems: highway, expressway, main trunk road, secondary road and street road. By the end of 2010, the total length of roads in Taipeng was 40,800 kilometers, of which 21,700 kilometers were provincial, county, township and special roads, and 19,100 kilometers were urban roads. 221 million passengers were transported by road and NT\$13.752 billion (US\$435 million) in passenger revenue; 142 million passenger cars were transported in the urban area, and NT\$2.037 billion (US\$64 million) was received by passengers. Road freight volume is 631 million tons, which is 60 times the volume of railway traffic. Owns 5,698,300 cars and 12,477,900 motor vehicles; there are 9,583,500 people with motor vehicle driving licenses and 10,899,700 people with motor vehicle driving licenses.

3. Water transport

Water transportation, including ocean, offshore, inland waterway ship passenger and cargo transportation, as well as port, terminal management. Taiwan's foreign trade and trade are mainly by sea. By the end of 2010, there were 156 ship transportation industries, 409 shipping agencies, 764 maritime contracting and transportation industries, and 38 container distribution station operators registered by the Transportation Department of Taiwan. It has 136 ships of various types with a total tonnage of more than 1,000 tons, with a total tonnage of 2.733 million tons and 4.3401 million deadweight tons. Among them, 13 large oil tankers, 550,000 tons; 34 large container ships, 700,000 tons; there are 20 large bulk carriers with 931,600 tons.

There are more than 100 large and small ports in Taiwan, except for Keelung Port and Kaohsiung Port, which are two natural ports, most of the other ports around the island are small harbors. Kaohsiung, Taichung, Keelung and Hualien ports are the four most important international commercial ports in Taiwan, with a total cargo handling capacity of 683 million tons. Among them, the cargo handling volume of Kaohsiung Port was 423 million tons, Taichung Port was 170 million tons, Keelung Port was 0.76 billion tons, and Hualien Port was 0.14 billion tons. Anping Port, Budai Port, Penghu Magong Port, Longmen Jianshan Port, etc. are affiliated ports of Kaohsiung Port. Taipei Port (formerly Tamsui Port Expansion) and Su'ao Port are auxiliary ports of Keelung Port. Mailiao Port and Heping Port are industrial ports, and Magong Port, Budai Port, Kinmen Port and Matsu Port are commercial ports in Taiwan. Zuoying Port is a dedicated naval base, and there are also naval bases or military terminals in Kaohsiung, Keelung, Su'ao, Magong and other ports. In addition, the more important fishing ports are Fengziliao Port, General Port, Zhongyun Port, Donggang Port, Fugang Port, Kaiyuan Port, Suogang Port, as well as Fishing Ports such as Longmen Port, Xinhua, Luocuo and Fuguodun.

4. Air Transport

There are 8 civil airlines in Taiwan, 18 civil airports, and about 190 airworthy aircraft of various types. Zhonghua, Evergreen, CEFC, Far East, Lirong and Fuxing airlines mainly operate international routes and Routes in Taiwan, while De'an and ZTE airlines are mainly engaged in helicopter transportation, mainly operating irregular routes in Taiwan and remote routes on outlying islands. In addition, there are 44 foreign airlines operating air transport in Taiwan.

There are 10 civil airports on the main island of Taiwan, namely Taoyuan, Taipei, Kaohsiung, Taichung, Hualien, Tainan, Taitung, Chiayi, Pingtung and Hengchun Airport. There are 8 airports on the outer (outgoing) island, namely Magong, Lanyu, Green Island, Qimei, Wang'an, Kinmen, Beigan and Nangan Airports. There are also Alishan and Lishan heliports in the mountainous area. Taoyuan and Kaohsiung Airports are the most important international airports in Taiwan. As of the end of 2010, the total number of civil air passengers in Taiwan was 39.455 million passengers, the total air cargo volume was 1.8642 million tons, and 360,400 take-offs and landings were carried out.

Among them, the passenger traffic of Taoyuan Airport was 25.1444 million passengers, accounting for 63.7% of the total air passenger traffic in Taiwan; air cargo volume was 1.767 million tons, accounting for 94.78% of the total cargo volume; 156,000 take-offs and landings, with an average of 427.5 take-offs and landings per day. Kaohsiung Airport carried 4.053 million passengers, accounting for 10.27% of the total passenger traffic; the freight volume was 64,800 tons, accounting for 3.47% of the total freight volume; 41,300 take-offs and landings, with an average of 113.15 take-offs and landings per day.

The air route control business in Taiwan is the responsibility of the Taiwan Air Service General Taiwan Regional Control Center under the Civil Aviation Administration of Taiwan, and provides flight control services in the Taipei Air Traffic Information Area. There are 5 near-field control stations in Taipei, Kaohsiung, Taichung, Hualien and Taitung, which are responsible for the near-field control business in various regions. Towers were set up at Taoyuan, Taipei, Kaohsiung, Taitung, Magong, Kinmen, Lanyu, Green Island, Hengchun, Matsu Nangan and Beigan airports to control the airports. The Taipei Aviation Information Center has an automated system for air aviation announcements, which is responsible for the release and international exchange of flight announcements in the Taipei Aviation Information Region, and has established an aircraft data exchange business with 54 countries and regions. The Taipei Air Communication Center of the Air Service Headquarters is responsible for transmitting telegrams such as flight dynamics, air traffic control permits, aviation weather and flight announcements, flight plans and airline aircraft maintenance, and is responsible for providing high frequency (HF) communication services within the Central and Western Pacific (CWP) network. The Taipei Aviation Meteorological Center of the General Office of Flight Services is responsible for handling aviation meteorological business, including the regular release of terminal airport weather forecasts, transoceanic route forecast maps, significant weather forecast maps, and irregular release of significant hazard weather maps, low-altitude flight weather forecasts and other forecast operations. It has set up aviation meteorological stations at airports such as Taoyuan, Taipei, Kaohsiung, Taitung and Kinmen in Taiwan, and dispatched meteorological personnel to Orchid Island, Green Island, Matsu Beigan, Nangan and Hengchun airports to carry out weather forecasting business. The Civil Aviation Administration has 2 long-range navigation radars, 8 terminal search radars, 1 Doppler weather radar, and 1 scene search radar (ASDE) in the Taipei Aviation Information Area, 11 long-haul return stations (NDB), 15 compass stations (CompassLocator) and 1 Tactical Air Navigation system (TACAN), 8-seat UHF Multi-Directional Navigation Station (VOR), 13 Instrument Landing Systems (ILS). 4 sets of positioning aids (LDAs), aviation communication systems and airport navigation aids.

(8) Communications

1. Postal Service

The postal business in Taiwan is under the responsibility of "China Post Co., Ltd.," which is subordinate to the Ministry of Communications, and has 23 responsible central bureaus, 3 mail processing centers and 1323 post offices, with 25,800 employees.

The business scope involves communications, mail, parcels, express mail, foreign exchange, savings, life insurance, philately, loans, cross-strait logistics, etc. By the end of 2011, the people of Taiwan had received and sent 2,780.5 million letters, 27.21 million parcels, 7.671 million express mails, 16,159,400 exchanges, 642 million deposits and withdrawals, NT\$472 trillion (US\$143.018 billion) and life insurance premium income of NT\$162.504 billion (US\$4.924 billion). In addition, it is also responsible for handling financing loans such as loans for small and medium-sized enterprises, first-time home purchase loans, production undertakings and small and medium-sized enterprises, reconstruction of homes by people in disaster-stricken areas, schools, medical institutions, reconstruction and restoration of temples and churches, as well as express delivery business and cross-strait logistics business.

2. Telecommunications

On February 22, 2006, Taiwan officially established the "Communication and Communication Committee" to strengthen the supervision of the field of communications and communication in response to the rapid development of digital technology, and is specifically responsible for managing telecommunications, radio and television, cable radio and television, satellite radio and television in Taiwan, and is the competent authority for the telecommunications industry in Taiwan. After the establishment of the committee, Taiwan's "Ministry of Communications" was mainly responsible for formulating the planning of the overall telecommunications resources in Taiwan, the guidance and reward of the telecommunications service industry, the policy of the telecommunications industry, the management of the public equity of the Chunghwa Telecom Corporation, and the supervision and management of the telecommunications consortium legal person. Specific responsibilities mainly include: formulating radio frequency allocation and telecommunications number planning, formulating policies related to the opening of spectrum resources, coordinating interference in the use of radio frequencies internationally, formulating broadband convergence network policies and next-generation digital convergence network plans, new generation Internet agreement interconnection certification plans, medium- and long-term radio spectrum optimization planning studies, telecommunications coding plans overall planning studies, and revising radio frequency allocation tables. There are 6 telecommunications industry legal persons in Taiwan, including 2 public telecommunications foundation legal persons, namely the Taiwan Telecommunications Association and the Taiwan Network Information Center; there are 4 private telecommunications foundations, namely the China Telecom Foundation, the Taiwan Big Brother Foundation, the Telecommunications and Intelligent Transportation Technology Development Foundation and the China Technical Service Agency. Since the privatization of Chunghwa Telecom, the Ministry of Communications holds 35.29% of the equity of Chunghwa Telecom Co., Ltd., is the largest shareholder of the company, appoints representatives to participate in the company's operations as directors of the company, and is responsible for the management of the remaining public equity. By the end of 2011, there were 551 fixed broadband Internet users in Taiwan 60,000 households, mobile broadband Internet users reached 17.865 million households.

3. Information

The information industry includes both the software and hardware industries. The information software industry mainly includes system integration, information outsourcing, commercial software, information security software and embedded software. As of the end of 2010, the output value of Taiwan's information software industry was NT\$127.93 billion (US\$4.043 billion). The information hardware industry mainly includes notebook computers, desktop computers, mini laptops, LCD monitors, etc., with a total output value of 121.4 billion US dollars. Taiwan's notebook shipping volume was 143 million units, with an output value of 68.119 billion US dollars and a global market share of 94.6%; desktop computer shipments were \$55 million with an output value of \$15.718 billion; mini laptops were shipped at \$25.89 million with an output value of \$5.42 billion; and LCD displays shipped at \$114 million with an output value of \$13.396 billion.

3. THE SOCIAL, CULTURAL AND GEOGRAPHICAL ENVIRONMENT OF THE TAIWAN REGION

The social, cultural and geographical environment of Taiwan is mainly composed of the spatial distribution and structural characteristics of population, ethnicity, religion, settlement, culture and other elements.

(1) Population

As of the end of 2011, the population of Taiwan was 23.2249 million. Male 11.6457 million, accounting for 50.14%; there were 11.5792 million women, accounting for 49.86%. Most of the population in Taiwan is concentrated in large and medium-sized cities in the western part of The Island of Taiwan, and about 60% of the population is concentrated in Taipei, New Taipei, Taichung, Tainan and Kaohsiung cities. The population density averaged 642 people per square kilometer, of which Taipei City had the largest population density, with an average population of 9,753 people per square kilometer. The civilian population over the age of 15 (excluding armed forces labor and supervised population) is 19.253 million, of which 9.455 million are men and 9.798 million are women; the labor force is 11.2 million, of which 6.304 million are men and 4.896 million are women. The birth rate is 8.48 per thousand, the mortality rate is 6.59 per thousand, and the natural population increase rate is 1.89 per thousand. The average life expectancy is 79.18 years, with males living to 76.13 years and females to 82.55 years. The employed population is 10.709 million people, and the employment rate is 95.61%. The number of unemployed is 491,000 and the unemployment rate is 4.39%. 542,000 people engaged in agriculture, forestry, fishing and animal husbandry, accounting for 5.06% of the employed population; the industrial population is 3.892 million, accounting for 36.34% of the employed population; the service sector has a population of 6.275 million, accounting for 58.6% of the employed population.

In response to wartime mobilization and mobilization in times of extraordinary events, Taiwan has established a strict reserve military management system and mobilization mechanism, and in 2009, there were more than 2.84 million reserve soldiers registered in Taiwan, and the manpower mobilization energy was 1.546 million.

(2) Ethnic Groups

The residents of the Taiwan area are multi-ethnic. Han Chinese are the largest ethnic group in Taiwan, accounting for about 98% of the total population, and ethnic minorities are 504,500 people, accounting for 2% of the total population. There are 14 ethnic minorities, including Taiya, Saixia, Bunun, Zou, Shao, Paiwan, Lukai, Beinan, Ami, Yami, Karmalan, Taroko, Sakilaya and Saidek. The population of ethnic minorities living in flat land is 237,815, and the population of ethnic minorities living in mountainous areas is 26,6716. Among them, the Ami ethnic group has the largest number, followed by the Paiwan ethnic group, and the Taiya ethnic group is the third.

The official and lingua franca of Taiwan is Mandarin Chinese, and the script used is Chinese traditional characters. The Chinese language spoken in Taiwan is mainly more than 10 dialects of Min and Hakka, of which the majority of them are the speakers of southern Fujian. Some minorities speak Austronesian languages. Among them, the Taiya language family includes Taiya and Sidek; the Zou languages include Zou, Shah Rua, Kanakanafu, and Rukai; the Paiwan language family includes Paiwan, Beinan, Bunun, Ami, Shao, and Gemmaran. The ethnic minorities on Orchid Island speak The Yami language. With the popularization of education, Chinese has become the lingua franca of all ethnic groups in Taiwan. In addition, due to the increasing Sinicization of ethnic minorities, the Austronesian language is gradually disappearing.

(3) Religion

About 6 million people in Taiwan practice various religions. The main religions are Taoism, Buddhism, Islam (Islam), Catholicism, Christianity, in addition to Xuanyuan religion, Datong religion (Baha'i religion), Tianli religion, Rational religion, Tiandi religion, consistent Tao, Tiande religion, True Light Order, Taiwan Jesus Christ Church of Latter-day Saints (commonly known as Mormonism), world Christian unity deity association (also known as unified religion), cosmic Maitreya Emperor Religion, Maitreya Dao, Chinese Folk Religion, Taiyi religion, Haizi Dao, Chinese Confucianism, Congenital Salvation Religion, Huangzhong, Scientology Church, Xuanmen True Sect, Tiandao, Tiandao and so on. Buddhism is the largest religion in Taiwan, with more than 3 million adherents and more than 1,000 temples; Taoism is secondary, with more than 2 million believers and more than 600 Taoist temples. There are also more than 600 Mazu Temples.

(4) Education and Health Care

1. Education

Since 1968, Taiwan has been practicing nine years of compulsory education. Since 2011, the "twelve-year basic education" has been launched, and it has been gradually implemented in stages, starting with higher vocational education. The types of senior high schools include four major types: ordinary senior high school, comprehensive senior high school, single-subject senior high school, and experimental senior high school. Higher education includes specialist, bachelor's, master's and doctoral programs. By the end of 2011, there were 2,659 primary schools in Taiwan with about 1.457 million students; there are 742 junior high schools with about 873,200 students; there are 336 senior high schools with about 401,900 students; the number of colleges and universities personnel is about 1.3521 million, including about 33,600 doctoral students, about 184,100 master's students, about 1,033,000 bachelor's students, and about 101,300 junior college students.

2. Medical

Medical institutions in Taiwan show a trend of decreasing the number of hospitals year by year and increasing the number of clinics year by year. By the end of 2010, the number of beds in medical institutions was 158,922 beds, with an average of 68.61 beds per 10,000 people. In terms of medical manpower, the number of Western physicians per 10,000 population is 16.79, the number of Chinese medicine physicians is 2.31, the number of dentists is 5.03, the number of pharmaceutical staff is 12.95, and the number of nursing staff is 55.67 persons.

(5) Customs

Since the late Ming Dynasty Chinese mainland the large-scale migration of Fujian and Cantonese people to Taiwan, the Central Plains culture has been deeply rooted in Taiwan. In particular, after the defeat of the Kuomintang government in 1949 and the escape to Taiwan, the people of Chinese mainland provinces came to Taiwan one after another, and the customs and habits of the people of all nationalities were even more integrated, especially with the Fujian and Guangdong regions.

1. Clothing

Before the Republic of China, many men and women in rural areas in Taiwan wore Hanfu, and middle-aged and older women in high society liked to wear long shirts or short brown trousers. At present, the costumes of the people in the cities, towns and villages have been westernized. Only middle-aged and elderly men and women in the countryside often wear bucket hats or bandanas during their work to protect them from rain and wind.

2. Diet

Residents of Taiwan usually eat rice as a staple food for three meals a day. People's diet is now not only for a full stomach, but also for exquisite food, with restaurants with different tastes, dim sum stalls with a local taste, street markets around the world, sweet, salty, hot and cold, all kinds of betel nut stalls. In recent years, Western-style fast food restaurants have increased, and hamburgers, fried chicken, French fries, and cola are popular among teenagers.

3. Residence

The shape of houses in Taiwan can be roughly divided into three categories: Chinese, Western and Japanese. Chinese-style bungalows, mostly from the Minnan style, there is a dragon, a reel handle, a courtyard, a courtyard and so on. Rural settlements are bounded by turbid streams, with scattered settlements in the north and settlements in the south. Penghu villages are also of the residential type, mostly built in mountain passes and water valleys to protect themselves from the wind and sand. Western-style buildings are mostly built of brick, but in recent times they have been cement reinforced concrete buildings. Japanese-style buildings are now rare, with tatami mats in bungalows. Most of the town houses are Western-style, with bricks as walls, living next to each other, and there are corridors in front of them, known as "pavilion feet," can be used by pedestrians to shelter from the sun and rain. Most of the newly built apartments in the city are high-rise buildings, with novel forms, complete water, electricity, natural gas and transportation facilities, and a comfortable environment. Refrigerators, washing machines, televisions, air conditioners, telephones and other home appliances have become a must-have, DVD players, mobile phones, computers, digital cameras, handheld video recorders, financial cards, credit cards and so on are also very popular. The environment in urban areas is more complex, and high-end luxury houses coexist with chaotic and narrow houses, and there is a big gap in the quality of life.

4. Marriage and Funerals

Parts of Taiwan still retain the custom of not marrying with the same surname. There is a difference between a big marriage (formal wedding) and a small marriage, and those who follow the 6 rites (later and 4 rites, that is, marriage, engagement, completion, and kissing) are known as big marriages, and those who recruit concubines or half-moves are known as small marriages. Now most of the 4 ceremonies are simplified to 2 ceremonies (engagement and marriage), which used to be matched by matchmaking, and now mostly for the parties to enter into a marriage contract after free love, and the sedan chair has also been changed to a car, or a notarized marriage in court. Weddings are extravagant. The age of marriage is usually not more than 30 for men and 25 for women, and there has been a trend of late marriage in recent years. Funeral customs are the same as on the mainland. From the death of the deceased, he will make seven sacrifices in the home (that is, 1 sacrifice every 7 days) over a 49-day period, and the mourning period will end after 100 days. In the past, it was an earth burial, but now it is mostly changed to cremated and stored in the ashes storage facilities (columbarium), or environmentally friendly natural burial methods such as tree burial or ashes scattering.

5. Birthday Celebrations

Shouqing is one of the important customs in Taiwan. At the age of 50, it is called shou, 60 years old is called "lower life," and 70 years old is called "middle life" 80 years old is called "Shangshou," 90 years old is called "old life," and 100 years old is called "Shangshou." During each birthday, most of the children and grandchildren initiate celebrations and feast with relatives and friends. In recent years, with the progress of the times and the change of social values, Taiwan's birthday celebration customs have not been as popular as in the past. Birthday celebrations are most popular among children. In the past, whenever the birthday was celebrated, the family usually prepared plain noodles and incense candles to worship the gods. Nowadays it is usually celebrated with cakes and gifts.

THOUGHT QUESTIONS:

1. Briefly describe the status and role of human geography in the military geography of the Taiwan Strait.
2. What are the impacts of changes in Taiwan's human geography on military activities?

LECTURE 3: THE TAIWAN STRAIT

The Taiwan Strait is an important part of the military geography of the Taiwan Strait. The study of the geography, hydrology, climate and other natural geographical environmental conditions of the Taiwan Strait is of great significance for the deep people to explore its geostrategic value and impact on military activities.

1. THE NATURAL GEOGRAPHICAL ENVIRONMENT OF THE TAIWAN STRAIT

The Taiwan Strait is the largest strait in China's coastal waters, located between the southeast of Chinese mainland and Taiwan Island, and is a water connecting the East China Sea and the South China Sea, the mainland and Taiwan, and belongs to the East China Sea. It is bounded to the north by the northern tip of Haitan Island in Fujian Province and the Fuguijiao Line at the northern tip of Taiwan Island, and to the south by Zhao'antou at the junction of Fujian and Guangdong provinces and the Maobitou line at the southern tip of Taiwan Island, and is adjacent to the South China Sea. The Taiwan Strait runs in a northeast-southwest direction, with a length of about 370 kilometers from north to south, an average width of about 190 kilometers from east to west, and an average water depth of 100 meters. The strait is narrow in the north and wide in the south, the north mouth is about 200 kilometers wide, and the south mouth is about 410 kilometers wide. The narrowest point of the strait is located between Baisha Cape on the northwest coast of Hsinchu Island on Taiwan Island and Haitan Island in Fujian Province, and is about 130 kilometers wide. The area of the strait is about 83,000 square kilometers. The Taiwan Strait is an important maritime communication route along China's southeast coast and an important maritime strategic passage from Northeast Asia to Southeast Asia, which has a major strategic impact on China's national defense security and economic development.

(1) Geology and Geomorphology of the Strait

The Taiwan Strait has undergone many land and sea changes in geological times. In the Paleozoic and Mesozoic Eras, the Straits region was also part of the "Ancient Land of Huaxia." A large-scale sea flood in the Tertiary Period of the Cenozoic Era submerged the land in the Taiwan Strait and the area where the island of Taiwan is located, changing from land to sea, which greatly changed the geographical morphology of this area. In the middle and late Miocene, the Indian plate and the Pacific plate jointly impacted the Eurasian plate, triggering the Himalayan orogeny.

With the orogeny of the Himalayas, the islands of Taiwan and the Penghu Archipelago gradually rose up and re-emerged from sea level to become land, forming the basic outline of the Taiwan Strait. After the Quaternary ice age, many sea immersion movements eventually formed the landform of the Taiwan Strait today. Therefore, in terms of geological structure, the geological structure of the Taiwan Strait is the same as that of the mainland crust.

The Taiwan Strait is located on the continental shelf of the East China Sea, with complex seabed terrain, including submarine plateaus, submarine canyons, rock beaches, shoals, trenches and other types of seabed landforms, most of the substrate is sand and mud bottom, and there are some rock bottoms near the north and south ends of Taiwan Island. The northwest of the strait is relatively flat, with a water depth of 20 to 70 meters; the southeast slope is large, the water depth is 50 to 200 meters, and the southern mouth of the strait is more than 1,000 meters; the deepest water depth of the Penghu Trench is about 1,400 meters. In the middle of the strait there is a northeast-southwest uplift zone consisting of the Taichung Shoal, the Penghu Archipelago and the Taiwan Shoal. The uplift belt is flanked by two plateaus with water depths of 20 m and 50 m on each side. The plateaus on the east side are narrow, and the 50-meter bathymetric line is generally 10 to 20 kilometers from the shore; the western plateaus are wider, with a 50-meter isobath of 40 to 50 kilometers from the shore, and there are cross-cutting canyons outside several estuaries. Located at the southern mouth of the strait, the Taiwan shoal is connected to the southwest plateau, composed of more than 900 underwater sand dunes, distributed in an oval shape, about 140 kilometers long from east to west, about 75 kilometers wide from north to south, the water depth is generally 10 to 20 meters, the shallowest point is 8.6 meters, there are rapids on the beach, and the hydrological situation is complex. Located about 30 kilometers northeast of the Penghu Archipelago, Taichung Shoal is connected to the eastern plateaus, with an east-west length of about 100 kilometers, a north-south width of 18 to 25 kilometers, a water depth of less than 40 to 50 meters, and a shallowest point of 9.6 meters. Between the Taiwan Shoal and the Taichung Shoal is the Penghu Island Rocky Reef Area, which is about 70 kilometers long from north to south and about 46 kilometers wide from east to west, consisting of islands, reefs and underwater rocks, the northern islands and reefs are more concentrated, the waterways are narrow, the southern islands and reefs are scattered, and the waterways are wider. Located between the Penghu Islands and the southwest coast of Taiwan Island, the Penghu Waterway is a canyon formed by the fault of the earth's crust, which is in a north-south direction, with a length of about 70 kilometers from north to south, a width of about 46 kilometers from east to west, and the water depth gradually increases from 70 meters to 160 meters from north to south, and then to the depth of the Penghu Trench in the south reaches more than 1,000 meters, which is a necessary sea traffic artery between the north and south of the west coast of Taiwan Island and between Taiwan and Penghu.

(2) Climate and Hydrology of the Strait

The Taiwan Strait has a tropical and subtropical marine monsoon climate. Due to the direct regulation of the marine environment, the four seasons are mild and the air is humid. The average annual temperature is 18 to 25°C, and the minimum temperature is mostly above 0°C. The geographical distribution of temperatures is roughly higher than that of the south of the strait and higher than the north of the strait, and the east bank is higher than the west bank.

The average temperature in the middle of the strait is 28.1°C; the northwest is influenced by the mainland, and the annual temperature difference is large; the southeast is influenced by an oceanic climate, and the annual temperature difference and daily temperature difference are relatively small. High temperatures, rainy and windy are the basic characteristics of the strait climate. Winter and spring (1 October to March of the following year) there are many northeast monsoons, with winds of 4 to 5, sometimes up to 6 or above, high winds and waves, and long duration; in the summer (May to September), there are many southwest monsoons, the wind is about 3, and the wind is low; tropical cyclones occur from July to September, affected by typhoons an average of 5 to 6 times a year. There are more rainy days in the strait, especially in winter and spring, and less in autumn, but the precipitation is relatively small compared with the two sides of the strait, and the average annual precipitation is 800 to 1,000 mm. There are fewer foggy days in the strait, and the Penghu Islands average 3 to 4 days a year; there are more fog days near the coast on both sides of the strait, with an average of more than 30 days of fog in Dongshan, Matsu islands and Kaohsiung, mostly from March to May, and fog days in other coastal areas below 20 days.

The hydrology of the Taiwan Strait is mainly controlled and affected by the Warm Current of Taiwan, the Coastal Flow of the Mainland and the Monsoon flowing through this sea, which is manifested by the main characteristics of high water temperature, small transparency, complex tides, large tidal variations, regular currents and currents, strong monsoons and large waves. The average surface water temperature of the Taiwan Strait from January to March was 13 to 25°C; from July to September, the average surface water temperature can reach 26 to 29°C. The average annual salinity is 33. The transparency of seawater is greater than that of the west, averaging 3 to 15 meters. The water color is blue to the east and blue-green to the west, and is greenish-yellow in the estuary or in bad weather, with significant seasonality. In winter, the sea water transparency in the middle of the strait is 10 to 16 meters, and the west coast of Taiwan Island is 8 to 16 meters; in summer, the transparency of the sea water generally increases, with the middle of the strait being 12 to 16 meters and the west coast of Taiwan Island being 18 to 22 meters.

The tides in the Taiwan Strait are complex and vary from place to place. The tides on the west coast of the Strait are mostly regular half-day tides, and the tides on the east coast of the Straits have regular half-day tides, irregular half-day tides and irregular day tides. Among them, the north of the Haikou Berth on the west coast of Taiwan Island is a regular half-day tide; the section from Budai Berth to Okayama on the west coast of Taiwan Island is an irregular half-day tide; the Okayama to Fangliao section is an irregular full-day tide. The tide difference is large on the west bank and small on the east bank. The tidal difference north of Xiamen on the west bank of the strait is 4 to 6 meters, which is significantly reduced to the south; the tidal difference on the east coast of the strait is large in the middle and small at both ends. Because the current from the Pacific Ocean gushes from the north and south ends of Taiwan almost at the same time, it converges near the line from Taichung Port to Pingtan Island, so that the tidal difference near Taichung Port can reach up to 4.6 meters. The tidal difference between the northern and southwestern coasts of Taiwan Island is smaller, with 2.6 meters for freshwater ports in the north, 1.2 to 2.2 meters for Penghu Islands, and 0.6 meters for Kaohsiung Port. The tide difference is the largest around the second and seventeenth days of the first lunar calendar, the smallest around the eighth and twenty-third days of the first lunar calendar, the largest in August of the lunar calendar, and the smallest in May and June.

The tide of the Taiwan Strait, which flows to the southwest at high tide in the north and to the northeast at low tide; the opposite is true in the south. The current is divided into two systems: the Taiwan Warm Current and the Mainland Coastal Current, which are controlled by the Kuroshio West Branch of the East and the Zhejiang-Fujian Coastal Flow in the west and south, and are affected by the monsoon. In summer, the entire strait is a northeast stream combined with the southwest monsoon wind and the Kuroshio west branch, and the eastern flow rate is stronger than that in the west, with an average flow rate of 0.2 to 0.8 knots, and the fastest in July can reach 0.7 to 3.5 knots. In winter, the coastal flow affected by the northeast monsoon flows southward, the western and central parts of the strait are southwestern flows with a flow rate of about 0.5 knots, and the eastern one is the northeast current, with an average flow rate of 0.1 to 0.6 knots. When the northeast wind is strong, the surface even changes to a southwestern current. The Penghu waterway is a northerly flow all year round, with a flow rate of 2.3 knots. Taichung Port on the west coast of Taiwan Island to the north sea, at high tide, from north to south, the maximum flow rate is 2 knots; at low tide, from south to north, the maximum flow rate is 5 knots. From the south of Taichung Port to the sea surface of the Zengwen River, at high tide, from south to north, the maximum flow speed is 2.8 knots; at low tide, from north to south, the maximum flow rate is 1.5 knots. From the mouth of Zengwen River to the sea surface of Eluanbi, although the tide is irregular, the flow rate generally does not exceed 2 knots.

The monsoon in the Taiwan Strait mainly consists of the northeast monsoon and typhoons. The northeast monsoon is usually around 1,500 meters high. In most cases, the altitude of 1,500 to 2,000 meters is often the east-west wind transition layer, and above 2,000 meters it usually becomes a westerly or southwesterly wind. Typhoons that hit the Taiwan Strait usually have a transit time of no more than 48 hours, mostly blowing from the southeast to the northwest. Due to the influence of the monsoon, the Taiwan Strait has large waves throughout the year and changes seasonally with the wind. When the northeast monsoon blows, the northeast-north wave is the main one. When the southwest monsoon blows, the southwest-south wave is the main one. The basic characteristics are: the surge is greater than the wind and waves, the winter is larger than the summer, and the large waves are more. Among them, the 4-level wave accounts for 42%, the 5-level wave accounts for 28%, and the 5-level wave accounts for 8%, mainly concentrated in the northeast monsoon period. Affected by typhoons and cold waves, there are often wild waves of magnitude 8 to 9 or above. When there is no typhoon from July to September, the waves are relatively small.

(3) Coastal Terrain and Seabed Resources

The land on the west coast of the Taiwan Strait is a low hilly land in eastern Fujian. There are many coastal plateaus and plains along the coast, such as the Fuzhou Plain and the Zhangzhou Plain. The coastline is tortuous, rocky, and the islands of the Headland are numerous, forming many natural harbors. The main bays are Fuzhou Bay, Xinghua Bay, Meizhou Bay, Quanzhou Bay, Weitou Bay, Futou Bay, Zhao'an Bay and so on. The main islands are Haitan Island, Xiamen Island, Kinmen Island, Dongshan Island, Nan'ao Island and so on.

The rivers on the west bank of the strait are Mulan Creek, Jinjiang River, Jiulong River, Zhangjiang River, Zhao'an Dongxi and so on. The main ports on the west bank of the strait are Xiamen, Fuzhou, Quanzhou and so on.

The eastern shore of the strait is the plain of the west coast of Taiwan Island, with low and flat terrain, a straight shoreline, a sandy shore and lagoon, and few bays and islands. The rivers on the east bank of the strait are mainly Tamsui River, Dajia Creek, Dadu Creek, Zhuoshui River, Zengwen Creek, Gaoping River and so on. The main ports on the east coast of the Taiwan Strait are Kaohsiung, Zuoying, Magong, Taichung, Tamsui Port and so on.

The eastern seabed of the strait is rich in oil, and the beach and shallow sea have mineral deposits such as magnetic iron, ferrotitanium, zircon, titanium dioxide, and monazite. The eastern part is rich in fisheries and is an excellent fishing ground in China, mainly producing seabream, bonito, yellow croaker, etc., and other squid, hawksbill turtle, abalone and so on. Shallow sea aquaculture on both sides of the Taiwan strait is also well developed.

2. THE STRATEGIC VALUE OF THE TAIWAN STRAIT

The Taiwan Strait is the largest strait in China, a shipping link between Fujian and Taiwan, and also a key point of maritime communication between the East China Sea and its northern neighbors, the South China Sea and the Indian Ocean, and its strategic position is extremely important. The strategic value of the Taiwan Strait is usually epitomized through the security of strategic passages. Because the strait is not only a shortcut to maritime shipping and a hub of international maritime transportation, but also contains deep-seated important contents such as geostrategy, national strategy, military strategy, economic development strategy, etc., and has a direct or indirect impact on the political, economic, military and many other aspects of the region and many countries in the world, which has always been concerned by the world. This is precisely why the Taiwan Strait is valued by all parties.

(1) The Taiwan Strait is an Important Maritime Strategic Passage in the Western Pacific Region

The strategic value of the Taiwan Strait is determined by its special geographical location. The Taiwan Strait is located at the crossroads of China's southeastern maritime traffic and the north-south route of the western Pacific Ocean, and all important ports along the coast of China's mainland from the western Pacific Ocean and the South China Sea, such as Dalian Port, Qingdao Port, Shanghai Port, Ningbo Port, Fuzhou Port, Xiamen Port, Guangzhou Port, etc., are the necessary places to pass through. The safety and smoothness of this maritime strategic passage is not only a major strategic issue related to China's national security, economic development and rapid rise, but also a major strategic issue related to the national security, stability and prosperity of Northeast Asia and even the Western Pacific region, which has a profound impact on national security, state relations and international relations in the era of globalization.

Whether it is in the era of great powers competing for hegemony or today when economic globalization is constantly expanding in depth and breadth, it has played and will continue to play an increasingly important role. Because the Taiwan Strait and its surrounding waters are China's strategic outlet to the sea and a direct passage in and out of the Pacific Ocean, once this passage is strangled or blocked by others, it will surely hinder the pace of China's rapid rise and global development. The Taiwan Strait, which occupies the pivotal position of the western Pacific shipping lane, is precisely because of this that it affects the nerves of the world, so that everyone who pays attention to history and strategy has to think about its impact. Therefore, maintaining the security of strategic maritime passages is by no means a simple military act, but a strategic act of the state, and is a major strategic issue that a country and a nation must attach importance to and solve when it goes global.

(2) The Taiwan Strait and its Adjacent Waters are the Maritime Lifeline of the Countries of Northeast Asia

The Taiwan Strait and its adjacent waters are located as the transportation hubs of the western Pacific region, which is not only the key point of China's north-south maritime traffic, but also the northeast Asian countries such as Japan, North Korea, South Korea and the Russian Far East to Southeast Asia, the western Pacific Ocean, the Indian Ocean, the Middle East, Europe and Africa and many other sea routes. Due to the special geographical location characteristics of the Taiwan Strait of "one gorge overlooking both sides of the strait, and one gorge connecting the north and the south," it occupies a very important position in the regional economic development in peacetime, especially in the context of the in-depth development of economic globalization and the universal pursuit of economic growth by all countries. Take, for example, oil, the lifeblood of the modern economy. The Taiwan Strait is a necessary place for oil-producing countries in the Middle East to transport shipping routes from the Indian Ocean and the Strait of Malacca to China, Japan, South Korea and Taiwan. In the case of China alone, no matter which route overseas oil shipment takes, it must pass through the Strait of Malacca and the Strait of Taiwan before the final shipment Chinese mainland. As China's dependence on oil deepens, especially as China has in fact become the world's largest oil importer, the Straits of Malacca and Taiwan have become a key link in determining China's economic development. Similarly, the Taiwan Strait is also the main artery of Japan's economy, which is regarded by Japan as its "lifeline at sea." Geographically, Taiwan is the key to Japan's north-south route, and it is the only way for Japan to go south to Southeast Asia and west to Europe. Japan transports about 500 million tons of goods annually on the Taiwan Strait route, including 90 percent of Japan's oil needs, 99 percent of iron ore, and 100 percent of nuclear fuel, and a large part of Japan's manufactured goods are exported through this route.

Four-fifths of Japan's cargo ships pass through the Taiwan Strait, and almost every 10 minutes a Japanese ship passes through here, which is the real artery of the Japanese economy. The safety of this sea route is "directly related to the survival of Japan." At the same time, it is also the place where the United States and other Western countries have a major economic and trade transportation supply line in the Far East, and countries with inextricable economic ties with China and Japan are paying close attention to this strait. The Taiwan Strait is attracting the attention of more and more countries, and it is becoming the region where national interests and desires are most concentrated in modern times, and therefore affects the sensitive nerves of the whole world.

(3) The Taiwan Strait is a Strategic Area Related to China's National Security

The Taiwan Strait is vital to China's national security and maritime development strategy. China is a land and sea country with a long coastline of more than 18,000 kilometers, but it is surrounded by the western Pacific island chain, showing a semi-closed state, in a relatively unfavorable marine environment. Although there are more than 140 straits and waterways on the first island chain, there are only more than 20 common strait waterways that are conducive to China going to the ocean, and most of them are in the hands of other countries, which poses a potential threat to China's future national security. The ocean will be the life of China's future development, which also makes the strategic value of the Taiwan Strait across the strait and the island of Taiwan, which is located at the center of the first island chain, more prominent. It can be said that the Taiwan Strait is a "breakwater" for the Chinese nation to resist the invasion of foreign enemies, and it plays a huge role in implementing the strategic "interception and blockade" and plays a key role in China's free access to the Pacific Ocean. In a sense, the important value of the Taiwan Strait has gone beyond the limitations of sea lanes in the general sense and is more reflected in the national security and development strategy. As the pace of China's development accelerates, the markets, resources and talents that China needs in the future will increasingly rely on overseas, which has prompted China to develop towards the sea.

3. THE INFLUENCE OF GEOGRAPHY AND HYDROLOGY OF THE TAIWAN STRAIT ON MILITARY ACTIVITIES

A comprehensive analysis of the impact of the Taiwan Strait on military activities, such as geography, hydrology, and climate, is concentrated in both favorable and unfavorable aspects.

(1) Favorable Factors for Military Activities

Favorable Factors for Military Activities in the Natural Geographical Environment of the Taiwan Strait: First, the regular tides are conducive to the continuous organization of multiple waves of beach-grabbing landings. The tides on the east coast of the Taiwan Strait are dominated by regular half-day tides, rising and falling twice a day and night, which is conducive to organizing multiple waves of continuous landings on the beach. Second, the shallow water in the strait is conducive to the implementation of the mine-laying blockade by the navy's surface ships. The water depth of the Taiwan Strait is mostly about 20 to 40 meters, which is suitable for the Navy's surface ships to blockade the main ports and waterways in the Kim and Matsu regions and the west coast of Taiwan Island, cutting off their sea lines of communication. Third, the wide and favorable surface areas at both ends of the strait are maneuvered by ships. The wide waters in the southern and northern parts of Taiwan make it easy for large and medium-sized surface combat ships to carry out mobile operations at sea.

(2) Unfavorable Factors for Military Activities

Because Taiwan Island and its surrounding waters belong to a subtropical oceanic climate, the monsoon is significant, typhoons are frequent, the tides in the strait are complex, the currents are strong, and the surges are large, which brings many adverse effects to maritime military activities.

1. The Monsoon Period is Long, and There are Fewer Periods Available for Landing Operations

Due to the strong winds in the Taiwan Strait all year round, especially the northeast monsoon period from late October to mid-March of the following year, the sea surface is windy and high, which is not convenient for small ships. During the southwest monsoon period from early May to mid-September, although the winds are weak and have little impact on the activity of small ships, the large number of tropical storms between July and September will seriously affect military operations. During the two monsoon transition periods from late March to late April and from late September to mid-October, the wind and waves are low, which is conducive to the implementation of landing operations, but the duration is relatively short, which would bring certain difficulties to the organization and implementation of large-scale sea-crossing landing operations.

2. The Tidal Difference Along the Western Coast of the Strait is Large, which Has a Greater Impact on the Loading of Ships and the Navigation of Formations

The main harbors along the western coast of the strait are regular half-days, but at high tide, the north is early and the south is late, and the difference between the northernmost and southernmost is about 3 hours. At the same time, the tidal difference is also large, with an average large tidal difference of 4.5 meters. Affected by the tidal difference, small and medium-sized boats need to use the tide to dock or arrive at the beach to load, and large and medium-sized ships need to wait for the tide to enter and exit the port, which is not conducive to accelerating the loading speed. During the typhoon season, when the typhoon coincides with a large tide, a storm surge may occur, which will increase the tidal water surface by more than 2 meters, causing seawater to be backfilled, which has a greater impact on the safety of the facilities and ships loaded on the ship.

3. The High Wind and Waves at Sea are Unfavorable to Fleet Crossing, Offloading, Maintaining Formations, and Offshore Firepower Support

Due to the strong winds in the Taiwan Strait all year round, coupled with the combined effect of the Pacific tide and the Taiwan warm current, even on days with small winds, it is uneven, and the wind and waves have a greater impact on the activities of ships on the sea. It is not easy for the landing transport fleet to maintain the formation of the voyage, it is more difficult to offload and bring into formation (waves), and it is easy to cause ship damage, the seasickness rate of the passengers is increased, and the combat effectiveness is easily weakened. It has a greater impact on the accuracy of ship-borne weapons and ship-borne artillery shooting, and it is not convenient to give play to the shooting efficiency, and it is difficult to effectively support the landing troops to rush to the beach and land.

4. Natural Current Directions Cause Landing Vehicles to Become Prone to Drift

The west coast of Taiwan Island is mostly reciprocating flow parallel to the shoreline, flowing with the tide rising and falling; for example, in the sea north of Taichung Port, the tide flows from north to south at high tide, and from south to north at low tide, with maximum flow speed of up to 5 knots. Because the ships landing in formation (waves) are sailing in the case of side currents, it is easy to drift, affecting the accurate landing in the predetermined area. When landing boats pass through the sea channel, if the operation is improper, it is easy to collide with each other or deviate from the channel, causing colliding with mines or underwater obstacles, blocking the channel, and directly affecting the subsequent landing of the boat.

5. Submarine Activities are Impacted Due to a Discrepancy Between Hydrological and Geographical Conditions in Maritime Areas

The water depth of the Taiwan Strait and the East China Sea is relatively shallow, and the seabed terrain is complex and undulating, which is not conducive to the covert activities and operations of submarines. In particular, there are large shoals in the Taiwan Strait, which is conducive to the rapid laying of defensive mine barriers and increases the difficulty of submarine activities. However, the background noise at the bottom of the strait is more complex than in the ocean, which also makes anti-submarine warfare more difficult, which is conducive to submarines using background noise protection to covertly approach enemy ships or enemy ports, and achieve a tactical surprise attack effect. The southeastern part of the Taiwan Strait, southwest of Kaohsiung Port, has a large water depth and multiple valleys on the seabed, which is conducive to submarine activities.

THOUGHT QUESTIONS:

1. How to recognize the strategic value of the Taiwan Strait?
2. How to understand the status of the Taiwan Strait and its relationship with other straits in the western Pacific?
3. Briefly describe the impact of the hydrology and geography of the Taiwan Strait on operations.

LECTURE 4: TAIWAN ISLAND

Taiwan Island is China's largest island, located in the western Pacific shipping hub, control the Bashi Strait and the Taiwan Strait, is the Chinese mainland southeast of the sea barrier and the gateway to the Pacific Ocean, but also China and the Pacific region of the country contact transportation hub, the strategic position is extremely important.

1. THE NATURAL GEOGRAPHICAL ENVIRONMENT OF TAIWAN ISLAND

Taiwan Island is located on the southeast edge of Chinese mainland, in the middle of the first island chain in the Pacific Ocean, bordering the Pacific Ocean in the east, facing Fujian in the west across the Taiwan Strait, and about 130 kilometers away from each other in the nearest place; it is bordered by the Philippines across the Bashi Strait to the south, about 300 kilometers from the Philippine island of Luzon; to the northeast, it is separated from the Ryukyu Islands of Japan across the sea and is about 630 kilometers from Okinawa. Taiwan Island is shaped like a spindle, from Cape Eluanbi in the south, to Fuguijiao in the north, about 394 kilometers long from north to south, from Xiuguluan River mouth in the east to the mouth of Zhuoshui River in the west, the widest from east to west is about 144 kilometers, the area is about 35,800 square kilometers, and the coastline is about 1240 kilometers long. There are also 21 affiliated islands and their affiliated rock reefs around Taiwan Island, covering an area of about 74.80 square kilometers. The main affiliated islands are: Orchid Island, Green Island, Xiaolan Island, Seven Star Rock, etc. located in the southeast of Taiwan Island; Liuqiu Island, located southwest of Taiwan Island; located in the northeast of Taiwan Island, Pengjia Island, Mianhua Island, Huaping Island, Keelung Island and Diaoyu Islands¹ and their affiliated islands and reefs, as well as Guishan Island off the coast of Yilan, these affiliated islands constitute a natural barrier to Taiwan's main island.

(1) Geology of Taiwan Island

Taiwan Island belongs to the mainland island, which is a high mountain island formed by the collision of the Eurasian plate and the Philippine plate of the Pacific plate. In the early Paleozoic Period, the Taiwan region was still part of the ancient land of China, and it was a whole land connected to the Chinese mainland. After a long period of geological change, in the late Paleozoic era to the early Mesozoic Era, due to a large-scale sea immersion movement, the Taiwan area was turned into a vast ocean.

¹ Translator's note: each of the claimants to this disputed territory has a different name for it: China uses Diaoyu Islands, Japan as the Senkaku Islands, and Taiwan the Diaoyutai or Tiaoyutai Islands. It has also been referred to as the Pinnacle Islands.

At the end of the Tertiary Period, the Himalayan orogeny, the Folds of Taiwan were uplifted, and the Taiwan and Fujian regions rose up into land, forming the basic outline of the Taiwan Strait and the island of Taiwan. At the end of the Tertiary Miocene, the Taiwan Strait area was fractured and sunk, and seawater immersed to form the Taiwan Strait. At the same time, Taiwan was separated from Fujian, and Taiwan became an island. Geological research believes that the geological structure of Taiwan Island is consistent with the crust of Chinese mainland, but different from the crust of the ocean. The cyclical changes in the earth's cold and warm are directly related to the formation of the island of Taiwan. During the cold glacial period, the sea level dropped significantly, and the entire East Asian continent moved in the equatorial direction, while being resisted by the Pacific Plate, and the collision and squeezing of the two plates made the frontier of the continental plate form a series of northeast-pressing The mountains arranged in the southwest direction, the East Asian Fold Mountain System. The East Asian folded mountain system exposes the sea surface to form the East Asian island arc, which also creates the alpine island topography of Taiwan Island. The main strata of Taiwan Island are distributed in a narrow and long band, roughly parallel to the island axis. The Central and Snow Mountain Ranges are composed of metamorphic rocks, and the foothills of the roundabout, the coastal plains and parts of the Coastal Mountains are composed of sedimentary rocks. Since Taiwan Island is located in the contact zone of the Philippine Sea Plate, a subsection of the Eurasian Plate and the Pacific Plate, the Philippine Sea Plate moves northwest at a rate of 7 to 8 centimeters per year, and sutures with the Eurasian Plate in the Huadong Longitudinal Valley, so the folds, faults and earthquakes are significant. The main geological disasters in Taiwan are earthquakes, landslides and mud flows, and stratigraphic subsidence. In the past 100 years, there have been 25 earthquakes of magnitude 6 or above.

(2) Climate of Taiwan Island

Taiwan Island is located in the middle of the East Asian island arc on the west side of the Pacific Ocean, located in the transition range of temperate belts to the tropics, and belongs to the tropical and subtropical oceanic monsoon climate. In summer, it is mainly affected by the atmospheric circulation of the subtropical high pressure in the Pacific Ocean, and the southerly winds are blown; in winter, it is affected by the atmospheric circulation of high air pressure in Siberia on the Asian continent, and the northerly winds are blown. The monsoon climate changes with the seasons, and the vertical differences in high temperature, rain, wind and temperature are the main characteristics of the climate of Taiwan Island.

The Tropic of Cancer runs through the central part of Taiwan Island, dividing Taiwan into two different climatic zones in the north and south, the northern part belongs to the tropical oceanic monsoon climate of South Asia, and the southern part belongs to the tropical oceanic monsoon climate, with an average annual temperature of 23., an average temperature of 23.6°C in January, and an average temperature of 28°C in July. The temperature difference between the north and south ends is 5°C. The average annual rainfall is more than 2500 mm. According to Taiwan meteorological statistics (1971 and 2006), the average annual temperature in the flat area is 19 to 25°C, and the annual temperature difference is 7.7~17.6°C. The coldest month is January, with an average monthly temperature of 9.8-20.6°C.

The warmest month is in July, when the average monthly temperature is 26.2-30.1°C. The temperature in mountainous areas shows a tendency to decrease with the increase of altitude. The average annual temperature of the Central Mountain Range, Snow Mountain and Yushan Mountains is 2 to 9°C, the average annual temperature of the Ali Mountains is about 10.6°C, and the average annual temperature of the Taitung Mountains can reach up to 15 to 20°C. The average annual temperature of the Yushan Mountains is 4.0°C. The average monthly minimum temperature is 0.7°C, and the average monthly maximum temperature is 9.1°C.

Affected by the monsoon and topography, the precipitation in the northern and southern parts of the island varies with the seasons, and the distribution of precipitation is uneven, and the difference is quite obvious. It has the characteristics of more east shore than west coast, more mountainous land than flat land, and more main islands than the west side of the auxiliary islands. With an average annual rainfall of 6,000 mm and a maximum of 8,507 mm, it is the region with the highest annual rainfall in China. The average annual precipitation in the central mountains is 4,856 mm, and the average annual precipitation in the central and southern mountains is 2,300-4,000 mm. The average annual precipitation in the eastern coastal areas is about 1,800 to 2,400 mm, and the precipitation in the western plains is about 1,200 to 1,800 mm.

Affected by the northeast monsoon in the northeast region of Taiwan, the rainy season is concentrated in autumn and winter, the precipitation time is not concentrated, the dry and wet seasons are not obvious, the precipitation intensity is small, and the frequency of floods is relatively low. The southwest region of Taiwan is affected by the southwest monsoon and typhoons, and the rainy season is mainly concentrated in the spring and summer, the precipitation time is relatively concentrated, the dry and wet seasons are clear, the precipitation intensity is large, and it is prone to floods. In the mountainous areas of central and southern China, plum rain, typhoon rain and convective rain are the main ones in summer, and the precipitation intensity is large. May to October is a multi-typhoon season, and it is affected by typhoons on average as many as 6 times a year, of which July to September is the most affected. The average annual wind day above level 6 is about 150 days, and the average wind day above level 8 is about 50 days. Snow can be seen in mountainous areas above 3500 meters above sea level in winter, with snow depth of 2 to 3 meters in Yushan Mountain in winter and about 1.2 meters in Beihuan mountain in the central mountain range. The mountainous areas above 2,500 meters above sea level are foggy all year round, and the average annual fog days reach 170 days.

(3) The Water System of Taiwan Island

There are many rivers on Taiwan Island, with 129 large and small rivers, a basin area of 25,912.96 square kilometers, and a main stream length of 2,078.56 kilometers. Among them, there are only 18 rivers with an area of more than 500 square kilometers, and only 8 rivers with a length of more than 100 kilometers. The most significant characteristics of the water system of Taiwan Island are that the river basin is small, the drop is large, the length is short, the riverbed is narrow, the shore is steep and rapid, the waterfall is dangerous, the geology is fragile, the upstream erosion is fierce, the downstream accumulation is exuberant, the seasonal influence is large, and it basically does not have shipping functions.

1. Rivers

Many of the rivers on the island of Taiwan originate in mountain ranges. Since the central mountain range, the main watershed of Taiwan Island, is located in the east of the central axis of the island, the river is short in the east and long in the west, and the basin area of the western river accounts for about 2/3, and the east accounts for about 1/3. The western rivers have a gentle and long slope, from north to south, there are mainly Tamsui River, Fengshan Creek, Touqian Creek, Zhonggang Creek, Houlong Creek, Da'an Creek, Dajia Creek, Dadu River (Wuxi), Zhuoshui River, Bazhang River, Jishui River, Zengwen Creek, Erren River and Gao Pingxi and others flow into the Taiwan Strait from east to west. The eastern rivers have short steep slopes, which belong to mountain stream rivers, with a length of less than 90 kilometers, and the main rivers are Lanyang Creek, Liwu Creek, Hualien Creek, Xiuguluan Creek, Beinan Creek, etc., flowing in the Pacific Ocean or the East China Sea. The flow of the river is greatly affected by the seasons, especially in the southern part of Taiwan, the summer and autumn are rainy periods, if the rain or typhoon comes, the river flow increases rapidly, the flood rolls down, often flooding into disasters. The river is near the mouth of the foothill valley (backer area), and the riverbed is cobblestone, forming flood plains and swampy areas in the Renhaikou area. In the winter dry season (also known as the dry season), the rivers are trickling, and some wild streams even dry up, becoming dry streams, which cannot meet the needs of agricultural irrigation and water. Influenced by the five major mountain ranges running north-south, many east-west ridges and rivers are formed. The rivers flowing east-west mainly include Gaoping Creek, Lanyang Creek, Hualien River and Xiuguluan River. Flowing north and south is the Beinan Creek. The special geographical phenomena of these ridges and rivers are the main obstacles to the north-south traffic of the island.

Zhuoshui River, originating from Wuling between the main peak and the east peak of Hehuan Mountain, is called Wushe River in the upper reaches, with a total length of 186.4 kilometers and a basin area of 4,324 square kilometers, which is the longest river in Taiwan Island and the largest river in terms of basin area. Gaoping River (Lower Tamsui River), originating from the main peak of Yushan Mountain, has a total length of 171 kilometers, a basin area of 3,257 square kilometers, and flows downstream on the west side of the Pingtung Plain, entering the sea in the forest garden. Tamsui River, originating from the northern slope of Pintian Mountain in the Snow Mountain Range, the upper reaches are called Dahan Creek, and after the confluence with Xindian Creek, it is called Tamsui River, which is the third largest river on the island, with a total length of 158.7 kilometers and a basin area of 2726 square kilometers. Zengwen Creek, originating from the western foothills of Xiashan (Banzai Mountain) in the Alishan Mountains, has a total length of 137.05 kilometers and a basin area of 1186 square kilometers, flowing downstream through the Jia Nan Plain. Dajia Creek, originating from the Southern Foothills of the East Mountain of Nanhu, Siyuan Pass, has a total length of 135.5 kilometers and a basin area of 1246 square kilometers, which belongs to the mountain-type watershed, and there are hydroelectric power plants such as Deji, Qingshan, Guguan and Tianlun in the upper reaches. Tsulonong Creek, which originates between Yushan Mountain and Dashuigu Mountain and flows between the Yushan Mountains and the Central Mountain Range, is one of the main tributaries of Gaoping Creek, with a total length of 134.5 kilometers.

Dadu River (Wuxi), originating from the northwest slope of Hehuan Mountain, is located between Dajia River and Zhuoshui River, with a total length of 119 kilometers and a basin area of 2,067 square kilometers, which belongs to the hilly watershed. Nanzixian Creek, also known as Qishan Creek, originates from the southwest slope of Yushan Mountain, and flows between the Alishan Mountains and the Yushan Mountains, and is one of the important tributaries of Gaoping Creek, with a total length of 118.2 kilometers, a basin area of 943 square kilometers, and the downstream irrigation is in the Pingtung Plain.

2. Lake reservoir

There are 55 large lakes and reservoirs on Taiwan Island, most of which are artificial lakes and reservoirs, and there are very few natural lakes. Sun Moon Lake, located in the mountains of Nantou County, is the largest natural lake on the island, with a circumference of 36 kilometers, an area of nearly 10 square kilometers, and a lake surface 770 meters above sea level, mainly storing water for Jugong and Daguan power plants, and is also a very prestigious tourist attraction in Taiwan. Zengwen Reservoir, built in the upper reaches of Zengwen Creek, is the largest reservoir in Taiwan, with a water storage area of 17 square kilometers, and the water storage capacity accounts for 26.74% of the total storage capacity of all reservoirs in Taiwan, mainly for flood storage, irrigation, power generation, recreation, etc. Other larger reservoirs mainly include Shimen, Emerald Lake, Carp Lake, Deji Lake, Coral Lake, Wushantou and so on. The Deji Reservoir Dam is known as the second tallest dam in the Far East.

(4) Vegetation of Taiwan Island

Taiwan Island is one of the regions with a wide variety of plants and complex types in China, and the formation of its flora is a microcosm of Chinese mainland geographical factors, with the characteristics of unique vegetation areas, rich and diverse plant species and large differences in vegetation in various regions. There are 235 families, 1,419 genera, and 4,077 vascular plants distributed in Taiwan, and there is no endemic family or genus. At the same time, it presents different plant landscapes such as tropical, subtropical, temperate and subarctic zones, which can be called a natural botanical garden.

Important factors affecting the distribution of plant communities in Taiwan are climate and topography. Above 3,500 meters above sea level, the main growth of subarctic evergreen coniferous and evergreen broad-leaved mixed low shrubs, representative plants are fragrant green, Jade Mountain rhododendron, and alpine herbaceous plants, with an average annual rainfall of 2,800 mm, the average annual temperature is below 5°C; altitude 3,000 ~ 3,500 meters, mainly grow subarctic coniferous forest, representative plants are Taiwan fir, Yushan cypress, Yushan arrow bamboo, etc., the average annual temperature of 8 ~ 11°C; altitude 2,500 ~ 3,000 meters, mainly grow cold temperate evergreen coniferous mixed forest, there are a small number of broad-leaved trees, representative plants are hemlock, spruce, Huashan pine, etc., the average annual rainfall of 3,500 mm, the average annual temperature of 15 ~ 18°C;

At an altitude of 1,800 to 2,500 meters, it belongs to the Taiwan cloud and mist belt, which is cloudy and misty all year round, mainly growing cool temperate coniferous broad-leaved mixed forest, the vegetation is dominated by juniper forest, representative plants are Taiwan fir, Luan Da cedar, Chi Ke trees, Kunlan tree, long-tailed pointed oak, new wood, as well as subgenus, maple genus, etc., with an average annual rainfall of 3,000 to 4,200 Millimeters, the average annual temperature is 10 to 20°C; altitude 500 ~ 1,800 meters, the main growth of warm temperate evergreen broad-leaved mixed forest, there are also a small number of coniferous trees, vegetation to lauraceae, tea family, representative plants are cone oak, Chi Pi trees, wood lotus, Xiao Nan, Yanan, Qiongnan, Huangshan, Datou tea, yellow berries, potato beans, etc., the average annual rainfall changes greatly, about 2,000 ~ 4,000 mm, The average annual temperature is 17 to 23°C; below 500 meters above sea level (200 to 700 meters above sea level in the south), the main growth of subtropical evergreen broad-leaved forests, the vegetation is mainly in the genus *Ficus sylvestris* and the genus *Of the Lauraceae* family, and the representative plants are large-leaf nan, banyan trees, camphor trees, acacia trees, etc., and the average annual rainfall changes greatly, approximately between 1,000 and 4,000 mm, the average annual temperature is more than 23°C; the area below 200 meters above sea level in southern Taiwan is hot all year round, the four seasons do not change significantly, and the climate shows the characteristics of high temperature, high humidity, windy and rainy.

Taiwan Island is one of the provinces and regions with the highest forest coverage and richest forest resources in China. In the early years, the primary forest and natural forest covered more than 2/3 of the total area of the island, and all the mountains were green, which was a real forest ocean. After a long period of logging, the area of forest on the island has been shrinking, but its coverage rate still accounts for about 58% of the total area of the island.

2. TOPOGRAPHY OF TAIWAN ISLAND

The topography of Taiwan Island is mainly composed of mountains, volcanoes, hills, plateaus, plains and basins. More mountains, less flat land, and large slopes are the main characteristics of the terrain of Taiwan Island. The terrain of Taiwan Island fluctuates greatly, and according to the height of the terrain and the distance, it can be divided into five major geographical areas: alpine areas, shallow hilly areas, coastal areas, plain areas, and peripheral island areas. The mountains and hills of Taiwan Island account for about 2/3 of the total area of the island, of which the mountains at an altitude of 1,000 to 3,000 meters and the low hills below 1,000 meters above sea level each account for half.

(1) Mountains

Taiwan's mountains are plateau-like mountains, concentrated in the central and eastern parts of Taiwan Island, from east to west by the Taitung Mountains (Coast Mountains), Central Mountains, Snow Mountain Ranges, Yushan Mountains and Ali Mountains five major parallel mountain ranges, the main watershed is the Central Mountain Range.

The mountain range runs in a north-north-east-south-south-west direction, with longitudinal valleys in between, about 330 kilometers long from north to south, 40 to 110 kilometers wide from east to west, and a total area of about 22,900 square kilometers, accounting for about 2/3 of the total area of Taiwan Island. The southeastern edge of the Zhejiang-Fujian fold formed by the Pacific movement of the late Mesozoic to the early Cenozoic in the Taiwan Mountain Range system was separated from the Zhejiang-Fujian Mountains and was uplifted in a fault block during the Tertiary Neo-tectonic movement. The peaks are high, with an altitude of more than 10,000 meters, of which 258 are above 3,000 meters above sea level and 22 are over 3,500 meters. The highest peak is the main peak of Yushan Mountain, with an altitude of 3952 meters, which is the highest peak in Taiwan Island and eastern China (east of 105 degrees east longitude). The mountain is squeezed tightly, the slopes are steep in the east and slow in the west, full of faults, canyons, deep ditches, and the mountain basin is small and small. The mountainous terrain is high and steep, the traffic is inconvenient, and geological disasters occur frequently.

1. Central Mountain Range

The Central Mountain Range stretches from Dong'ao Ridge near Su'ao in Yilan County in the north to Eluanbi in the Hengchun Peninsula in the south, running through the central east-central part of Taiwan Island, with a length of about 340 kilometers from north to south, a width of about 80 kilometers from east to west, and an area of about 10,400 square kilometers. The Central Mountain Range is the main ridge and the longest mountain range of the Taiwan Mountains, and is also the watershed of the eastern and western rivers, known as the "Roof ridge of Taiwan." The eastern part of the mountain range is steep and the western part is gentler and wider. There are 139 peaks above 3,000 meters above sea level. The main peak is Xiuguluan Mountain, 3805 meters above sea level. Most of the altitude is 3,000 ~ 3,500 meters, the famous peaks from north to south include Nanhu Dashan, Central Jianshan, Bilushan, Jieshou Mountain (Hehuan Mountain), Qilai Main Mountain, Dongluan Dashan, Xiuguluan Mountain, Beinan Main Mountain, Dashuiku Mountain, Snow Peak, Guanshan Mountain, etc., and the height of all peaks is above 3,200 meters above sea level. The summit is snowy in winter and has ancient glacial terrain. To the south of the Hengchun Peninsula, the terrain is slightly gentler, and the ground elevation drops to about 500 meters.

2. Snow Mountain Range

Located on the west side of the Central Mountain Range, the Snow Mountain Range is the northernmost mountain range on Taiwan Island, running in a northeast-southwest direction, from the three sable horns in the north to the east of Taichung City in the south, with a length of about 180 kilometers and a width of 30 to 50 kilometers. The mountain is high in the south and low in the north, steep on the east side and gradually slowed down on the west side. The main peaks are Daxue Mountain, Xinglong Mountain (Snow Mountain), North Point Peak, Dabajian Mountain, Cuichi Mountain, Dajian Mountain, Pintian Mountain, etc., all of which are above 3,500 meters above sea level. The main peak is 3,884 meters above sea level, making it the second highest peak on Taiwan Island. In addition to the above peaks, the terrain is slightly lower than the central mountain range.

3. Yushan Mountain Range

Located in southern Taiwan, from the Yushan Mountains in the north to the Eighteen Luohan Mountains in the Liugui District of Kaohsiung City in the south, the Yushan Mountains are about 120 kilometers long and about 10 kilometers wide, making it the shortest of the five major mountain ranges in Taiwan. Bounded to the north by the Zhuoshui River, it is bordered by the Snow Mountain Range, which is steep and slightly lower than the central mountain range. The main peak of Yushan Mountain is located in the north of the Tropic of Cancer, with an altitude of 3,952 meters, which is the highest peak on Taiwan Island and the highest peak in southeast China. The main peak of Yushan Mountain and the four peaks of north, east, west and south, collectively known as the five peaks of Yushan Mountain, except for the west peak of 3,528 meters above sea level, the other peaks are above 3,900 meters above sea level, and the mountain is majestic. The five peaks of Yushan Mountain, together with Xiugumi Mountain, Mt. Mabolasi, and Dashui cave mountain in the central mountain range, form the highest peak of Taiwan Island, which is in a southwesterly direction and gradually decreases. Within a radius of 200 square kilometers, there are 16 peaks above 3,500 meters above sea level.

Fig. 4-1 Peaks of Yushan Mountain



4. Alishan Mountains

The Alishan Mountains, located on the western side of the Yushan Mountains, are the westernmost mountain ranges in Taiwan and run slightly parallel to the Yushan Mountains. From the south bank of the Zhuoshui River in The Market Town of Nantou County in the north to the Jiguan Mountain in the Yanchao District of Kaohsiung City in the south, it is about 135 kilometers long and about 10 to 20 kilometers wide, and the mountain is relatively gentle, with an altitude of between 1,000 and 2,500 meters, and the summit is flat. The main peak, Data Mountain, is located at the junction of Chiayi County and Nantou County, with an altitude of 2,663 meters. The Great Pagoda Mountain, together with the Front Pagoda Mountain (2,480 meters above sea level), the Middle Tower Mountain (2,540 meters above sea level), the Rear Tower Mountain (2,530 meters above sea level) and the Ali Mountain (2,481 meters above sea level), form the Shengta Mountain Group, which is the highest point of the Ali Mountains.

5. Taitung Mountains

Taitung Mountain Range, also known as the Coast Mountain Range, is located in the east of Taiwan Island, east of the Pacific Ocean, west of the Taitung Longitudinal Valley and the Central Mountain Range, north from the Mouth of Hualien Creek, south to Taitung Beinan River Mouth, about 150 kilometers long, about 16 kilometers wide, the mountains are straight and narrow, many cliffs and cliffs, some up to hundreds of meters to 1,000 meters, the situation is precarious. Xiuguluan River flows from south to north along the Taitung Longitudinal Valley, cutting through the Mizuho Mountains and flowing east into the Pacific Ocean, dividing the Coast Mountains into two sections, north and south. The terrain of the northern section is low and gentle, with an average altitude of about 500 meters; the southern section is higher, with an average altitude of about 10,000 meters, and the main peak Xingang Mountain is located at the junction of Hualien County and Taitung County, at an altitude of 1,682 meters.

(2) Shallow Hilly Land

Shallow hilly land refers to the hillside area with an altitude of less than 1,000 meters and more than 100 meters, including volcanoes and hills, with a total area of about 9,700 square kilometers, which is a region with rich mineral resources in Taiwan. Taiwan is located in the Pacific Rim volcanic belt, with many volcanoes, and mainly extinct volcanoes. The Datun Volcanic Group is distributed in the northern part of Taiwan Island, between Taipei, Keelung and Tamsui, and consists of dozens of conical volcanic bodies at an altitude below 10,000 meters. The volcanic body is composed of andesite lava flows, block rocks, tuffs, volcanoclastic rocks, etc., and there are many hot springs and sulfur pores in the mountains, which are the main natural sulfur production areas in Taiwan. The highest peak, Qixing Mountain, is 1,120 meters above sea level. The Keelung Volcanic Group is located in the northeast of Taiwan Island and consists of 7 large and small volcanic bodies, dominated by quartz andesite rocks. Among them, the three volcanic bodies of Jiufen, Jinguashi and Wudankeng contain the most important gold, copper and gold and silver deposits in Taiwan. Liyushan Mud Volcano is the most important mud volcano on Taiwan Island, a low-level dome mud volcano located in the plain area, and has a record of activity since ancient times. The Penghu volcanic group consists of basalt. In addition, there are Yingge Jianshan Volcano, Daxi Caoling Volcano, Hengchun Jianshan Volcano, Pengjia Island, Mianhua Island, Huaping Island, Guishan Island, Lanyu Island, Green Island and so on.

The hilly land is the remnant of the mountains, mostly around the narrow strip of the mountain range, from the periphery of the Taipei Basin in the north to the Hengchun Peninsula in the south, mainly distributed in the foothills between Hsinchu County and Tainan County in the west of Taiwan Island, at an altitude of less than 600 meters. The hilly geology is dominated by weak sandstone, shale and conglomerate, and the surface is mostly covered with ochre layers. The hilly area is a region with rich mineral resources in Taiwan. The hilly terrain is already sporadic, and the cutting of rivers from the alpine belt makes the area where faults are frequent even more fragmented and rugged. From north to south, there are mainly Feifeng Hills, Zhudong Hills, Zhunan Hills, Miaoli Hills, Douliu Hills, Chiayi Hills, Xinhua Hills and Hengchun Hills.

Among them, Zhunan Hills and Chiayi Hills have the widest range. Zhunan Hills, from the Keelung Sea in the north to the plains in the south, is the largest hilly area of Taiwan Island. Chiayi Hills, located in the foothills of AliShan, stretches from Zhuoshui River in the north to Kaohsiung and Pingtung in the south. Fengyuan Hills, located between the above two districts, Fengyuan via Taichung to the west of the line from Nantou, is part of the western hilly area, the east is semi-circular, between the Yushan Mountains and the Ali Mountains. Hengchun Hills, which account for almost all of the Hengchun Peninsula, border the Pingtung Plain to the west.

Fig. 4-2 Terrain of The Hilly Badlands of Xinhua



(3) Plateaus

A plateau is a flat, open highland surrounded by steep slopes. The plateau is mainly distributed in the western part of Taiwan Island, on the west side of the foothill hilly belt, belonging to the shallow hilly slope area, generally at an altitude of about 25 meters. From north to south, there are mainly Linkou Plateau, Taoyuan Plateau, Zhongli Plateau, Hukou Plateau, Houli Plateau, Dadu Plateau, Bagua Plateau and Hengchun West Plateau. The plateaus are sporadically distributed, the terrain is lower and flat than the hilly land, and the topsoil is mostly covered with ochre layers, which has high military and economic value. In addition to overlooking the urban plains, Taiwan can also effectively respond to amphibious assault operations, which is an ideal terrain for airborne landing and air mobility. However, with the rapid economic development of the Taiwan region, most of the Taiwanese land that originally had good use value has also been developed and used one after another, and many golf courses, residential areas, and small workshops have been built, all of which have caused some adverse effects on military operations.

Fig. 4-3 Linkou Plateau



(4) Plains

The plain is mainly distributed in the coastal and river-side areas on the east and west banks of Taiwan Island, mostly alluvial plains, flat terrain, shallow depth, average depth of about 25 kilometers, altitude is below 100 meters, dense population, is the most important agricultural economic zone in Taiwan. The main plains are Jia Nan, Pingtung, Yilan, Taitung Longitudinal Valley and other plains. Chia Nam Plain, the largest plain on Taiwan Island, stretches from Changhua in the north, Kaohsiung in the south, hills in the east, and the Taiwan Strait in the west, with a length of 180 kilometers, an area of 4550 square kilometers, and an altitude of less than 100 meters. The Pingtung Plain is the second largest plain in Taiwan, located in the southwest of Taiwan Island, centered on Pingtung City, about 50 kilometers long and about 20 kilometers wide, in the form of a rectangle of north-south extension, Gaoping Creek, Donggang Creek, Linbian River flow through it. Yilan Plain is located at the northeast end of Taiwan Island, on the north and south sides of the lower reaches of Yilan Lanyang Creek, and is a fan-shaped delta plain. The Hengchun Plain, which is close to the Bashi Strait, has strategic value for controlling the strait, and the communication route from the plain to the hilly mountains is also of great military value. In the southern plain, there are Penghu Islands and Ryukyu Islands as a barrier on the outside, and there are hills and mountains in the foothills of Alishan Mountain as a barrier, and the situation is better.

(5) Basins

The main basins of Taiwan Island are Taipei Basin, Taichung Basin and Puli Basin.

Taipei Basin, in the shape of a triangle, was originally a dry lake basin, surrounded by the northern hills of the Xueshan Mountains on the southeast side, bounded by the Datun Volcanic Group in the north, and Linkou Plateau and Guanyin Mountain in the northwest, with an area of about 200 square kilometers. Taipei City is located in the central part of the Taipei Basin. Taichung Basin is a slender basin with a length of about 40 kilometers from north to south and a maximum width of about 14 kilometers from east to west. It stretches from Fengyuan in the north to Nantou in the south, Fengyuan, Pitou and Nantou mountains in the east, and the coastal plains of Qingshui and Changhua in the west by Dadu and Bagua. Taichung City is located in the middle of the basin, and the Dadu River converges the north and south tributaries of the basin, leaving the basin in the west and flowing into the Taiwan Strait. The Puli Basin Group, located between the Beigang River and the middle reaches of the Zhuoshui River in the upper reaches of the Dadu River, consists of more than ten small mountain basins, with an altitude of 100 to 780 meters. Among them, the largest Puli Basin covers an area of about 42 square kilometers, and the Yuchi Basin covers an area of about 21 square kilometers. The Puli Basin is a lake basin, and it has dried up except for the Sun Moon Lake that still stores water into a lake.

3. THE COAST OF TAIWAN ISLAND

The coastline of Taiwan Island is about 1,240 km long. According to the characteristics of coastal topography, it can be divided into northern opposing coasts, western offshore coasts, southern coral reef coasts and eastern cliff (fault) coasts.

(1) The Northern Coast

The northern coast of Taiwan Island is a contralateral coast, which is also a typical rocky coast, that is, the coast is first submerged and accumulated, and then it is eroded from the water, and the accumulation layer is peeled off, so that the original terrain is exposed to the sea surface. The rocks of the coast are mainly sedimentary rocks of the Tertiary Miocene and some Quaternary volcanic rocks, and the direction of the coastline intersects with the direction of the mountain range, and under the long-term erosion of the waves, many headlands and bays are formed, and the coastline is tortuous, showing a valley bay-style submerged coast. Due to the steep terrain near the shore and the shortness of the river, most of the sand and mud carried can only form a pocket beach at the head of the bay. The coast of the northern estuarine plain, such as the Yilan Plain, Fulong, Taoyuan Coast, etc., due to the shallow and flat seabed, the river accumulation is significant, the sediment supply is sufficient, and the sand dunes are more developed. The proportion of quartz content in the sand grains of Fulong and Fuguijiao coasts is relatively high, the color is earth yellow or gray yellow, and the particles are rounded. The sand grains on the coast of the Yilan Plain are mainly slate chips and shale layers, which are gray-black and mostly flattened.

(2) The Western Coast

The western coast of Taiwan Island is a coastal coast. On the west coast, there are beaches, Chaopu, coastal sandbars, lagoons, sand dunes and other sea-accumulated terrain, showing the characteristics of offshore coasts or sediment coasts. Since the western coast faces the Taiwan Strait, the island's rivers carry a large amount of sediment to form a long stretch of sand and mudflats, especially the middle and southern sections of the western coast, and Chaopu (Haipudi) is wide. In the open sea, a number of coastal sandbars are formed roughly parallel to the coastline. Under the action of natural forces, the outer side of the sandbar is eroded by waves, and the supply of sediment on the inside of the outer sandbar is endless, so that the lagoon between the sandbar and the coast of the main island is gradually silted up, and eventually the sandbar is connected to the coast and landed, and the overall coastline is gradually pushed westward. The lagoons on the inner side of the outer sandbar gradually form swamps, which are usually developed into fish or salt pans, and can even be developed into agricultural and pastoral land. In the western coastal area of Taiwan Island, in addition to the local rocky terrain and muddy coast, due to the gentle slope of the beach, the shallow and flat seabed, the accumulation of rivers is significant, the supply of sediment is sufficient, and the dune land is relatively developed, such as Houlong, Zhuoshui River, Binwai Sandbar, Tainan and other places. The sand grains in the area of the top of the rugged and Houlong are mostly earthy yellow or grayish yellow in color, and the grains are rounded. The area around Zhuoshui River and Erren River is dominated by slate chips and shale layers, which are gray-black and flattened.

(3) The Southern Coast

The southern coast of Taiwan Island is dominated by the coast around the Hengchun Peninsula. Due to the clear water, moderate water temperature and salinity, and coral growth and development conditions, a typical skirt reef is formed along the coast, showing a unique Shan Lake reef coast. The sand dunes on the southern coast are mostly distributed in the estuary plains and coral reef platforms, such as Haikou, Jiupeng, Fongchueisha, and other places. The southern coast dune land is dominated by shell sand, and the color of the sand grains is slightly yellowish white.

(4) The Eastern Coast

The eastern coast of Taiwan Island is the Cliff Coast. The coastal geology is more complex, there are Paleo-Tertiary sandstone and slate, Paleozoic Dali rock and schist, there are also Neo-Tertiary volcanic rocks and sand shale, rock formations are roughly parallel to the coastline, and the cliffs are developed. There are certain differences in the height of the cliffs, among which the Suhua coastal section of the cliff is the highest, the land part reaches an altitude of more than 1,200 meters, and there is a steep slope under the sea surface, and the deepest depth can reach less than 4,000 meters.

Because the Taitung Mountains are close to the coast, the coast is steep and deep, the waves are large, the seabed is fast, the riverbed is steep, and the terrain of the gravel beach is more developed, so the coastal sand dunes are less developed. There are alluvial fans (plains) and sand dunes only at the mouth of the people's mouth of the larger rivers, such as Beipu and Zhiben.

4. TAIWAN ISLAND TRANSPORTATION NETWORK

The land, sea and air transportation network is an important channel connecting the internal and external links between Taiwan island and has a major impact on the political and social stability, economic development and military activities of the Taiwan region.

(1) Railway Transportation Network

The railway transportation network of Taiwan Island is mainly composed of longitudinal railways, ring railways and high-speed railways, which is an important way of inland transportation on Taiwan Island. One of the most strategic railway lines of railway transportation is the longitudinal railway connecting the north and south of Taiwan Island and the North-West Railway and the South-Way Railway connecting the east and west.

1. Railway System

Located in the western part of Taiwan Island, the Transverse Railway is the main railway traffic artery connecting important towns and strategic areas in the north and south of Taiwan Island. From the port city of Keelung in the north to Linbian in the south, from north to south, it passes through Taipei, Hsinchu, Miaoli, Taichung, Changhua, Yuanlin, Dounan, Chiayi, Xinying, Xinshi, Tainan, Okayama, Kaohsiung, Pingtung and other places, with a total length of 408.5. (Sea line) kilometers, 406.6 (mountain line) kilometers, along the line through a number of streams and canyons, bridges, tunnels more.

2. High-speed rail

Located in the western part of Taiwan Island, the high-speed railway is a high-speed rail transit trunk line connecting Kaohsiung City and Taipei City, two important cities in the north and south. It was built from 2000 to early 2007 from Taipei to Zuoying in Kaohsiung, with a total length of about 345 kilometers. Among them, the total length of the bridge is 251 km, and the total length of the tunnel is 47 km. There are 11 stations along the line, and the running time is about 90 minutes. There is a switchboard factory in Kaohsiung Yanchao, an industrial and electrical base in Xizhi Liujia, Wuri, Taibao and Zuoying, and shunting yards in Xizhi, Wuri and Zuoying.

3. North-Bound Railway

Located on the eastern slope of the northern section of the Central Mountain Range, the North Loop Railway is an important railway line linking the eastern and western parts of Taiwan Island.

It was built between December 1973 and 1980, with a total length of 79.2 km from Suaoxin Station to Hualien Station. Along the multi-stream canyon, 91 bridges and 16 tunnels have been built. From north to south, there are Su'ao No. 1 Tunnel, Su'ao No. 2 Tunnel, Su'ao No. 3 Tunnel, Su'ao No. 4 Tunnel, Yongchun Tunnel, Dong'ao Tunnel, Nan'ao Tunnel, Wuta No. 1 Tunnel, Wuta No. 2 Tunnel, Guanyin Tunnel, Gufeng Tunnel, Heping Tunnel, Heren Tunnel, Qingshui Tunnel, Chongde Tunnel, etc., with a total length of 31.137 km. Among them, the Guanyin Tunnel is 7,757 meters long, the Nan'ao Tunnel is 5,286 meters long, the Yongchun Tunnel is 3,981 meters long, the Heping Tunnel is 2,970 meters long, the Gufeng Tunnel is 2,784 meters long, the Chongde Tunnel is 2,688 meters long, the Heren Tunnel is 2,411 meters long, and the Qingshui Tunnel is 2,106 meters long.

4. South-Bound Railway

Located in the southeast of Taiwan Island, the South Loop Railway is another important railway line linking the east and west of Taiwan Island. Built from 1980 to the end of 1991, from Taitung City in the southeast of Taiwan Island to Fangliao in the southwest, it is a railway line that crosses the mountainous area and has a length of 38.2 kilometers. There are 158 bridges and 35 tunnels.

Other railway lines include the Hualien-Taitung Eastern Railway, which crosses the mountainous area, the Yilan Railway from Keelung to Su'ao, and the Chiayi-Alishan Forest Park, Ershui to Sun Moon Lake, Hsinchu to Neiao and other mountainous railway branch lines. Taipei MRT system, opened to traffic on the Inner Lake Line in 2009. The operating length is approximately 90.5 km. Kaohsiung MRT system, the total length of the red and orange lines is 42.7 km. There are 158 bridges and 35 tunnels.

(2) Highway Transportation Network

The road transportation network of Taiwan Island is mainly composed of provincial highways, highways, expressways, etc., forming a highway network with "three vertical and three horizontal" as the backbone, which is the most important way of land transportation on Taiwan Island. Among them, the most strategically valuable highway traffic lines include: the Ring Island Highway, the North Horizontal and Nanheng Highways that cross the Central Mountains of Taiwan, the Beiyi Highway from Xindian to Toucheng, the Nanhui Highway from Fenggang to Anshuo, the Suhua Highway from Su'ao to Hualien Taroko, the No. 9 Highway from Taitung Zhiben to Anshuo, and the Pinghe Highway from Fangliao to Haikou and Checheng in Pingtung.

1. Ring Road

The Ring Road is a 1,031 km long highway connected by Provincial Highway 1 and Provincial Highway 9 in the east, located in the western part of Taiwan Island. The main section of Provincial Highway 9 is located in the eastern part of Taiwan Island, from Taipei City to Fenggang via Hualien.

2. Highway

Expressway is the backbone of road transport on Taiwan Island, and there are many expressways that have been completed and opened to traffic, the most important of which are three. Zhongshan Expressway (numbered National Highway No. 1), located in the west of Taiwan Island, from Keelung to Kaohsiung via Taichung and Tainan, with a total length of 375.5 kilometers and a width of 28 to 43 meters, is the main artery of north-south traffic in the western part of Taiwan Island. Among them, some sections of Changhua Huatan, Chiayi Minxiong, Tainan Madou, Rende, Pingtung Jiadong and other sections are built according to aviation runway standards and can be used for fighters to take off and land. The Second Expressway (numbered National Highway No. 3), which includes the North Second High, The Middle Second High and the South Two High, has a total length of 518 kilometers, with 226 bridges and 34 tunnels, and is the second north-south expressway in the western part of Taiwan Island. Among them, the North Second Expressway section was built from 1987 to 1997, with 226 bridges and 24 tunnels; the subsequent expressway section was built from 1994 to 2003, with 10 tunnels; the longest tunnel is the Muzha Tunnel, which is about 1,875 meters long. The second expressway starts from the Jijin overpass in Dawulun, Anle District, Keelung City in the north, to Dapeng Bay in Donggang Town, Pingtung County in the south, passing through Keelung City, New Taipei City, Taipei City, Taoyuan County, Hsinchu County, Hsinchu City, Miaoli County, Taichung City, Changhua County, Nantou County, Yunlin County, Chiayi County, Tainan City, Kaohsiung City and Pingtung County, and runs through the main plains and hilly areas in the western part of Taiwan Island, making it the longest expressway in Taiwan. The second expressway meets the Zhongshan Expressway at the Xizhi System Interchange (Xizhi District, New Taipei City), the Hsinchu System Interchange (Baoshan Township, Hsinchu County) and the Changhua System Interchange (Changhua City, Changhua County). The Beiyi Expressway, located in the northern part of Taiwan Island, connects Taipei with the Lanyang Plain, and is the first expressway on Taiwan Island to cross the Snow Mountain Range. Built from July 1991 to 2006, it is composed of 54.3 km from Taipei City via Toucheng, Yilan North, Yilan South, Luodong to Xincheng, mainly composed of tunnels and bridges such as Xueshan Tunnel, Pengshan Tunnel and Wutu Tunnel. Among them, the Xueshan Tunnel (also known as the Pinglin Tunnel) is 12.9 kilometers long, making it the longest road tunnel in Taiwan.

3. Transverse highway

Located in the middle of Taiwan Island, the East-West Transverse Highway crosses many mountains and is an important land transportation link connecting Taiwan's east and west. The Central Transverse Highway (Provincial Highway No. 8) was built from 1956 to 1960, from Taichung City in the west of Taiwan Island (Fengyuan) across the Snow Mountain Range and the Central Mountain Range, over the mountains and mountains, through the Dayu Ridge to the east of Hualien Taroko, with a total length of about 231 kilometers, the eighth line of the main line is about 193 kilometers long, and the height difference is more than 3,000 meters.

The northern transverse highway (Provincial Highway No. 7) runs from Daxi in Taoyuan County to Yilan via Gaoyi. Nanheng Highway (Provincial Highway No. 20) runs from Tainan City from west to east via Yushan, Taoyuan, Meishan, Wulu and Guanshan to Hairui (Provincial Highway No. 20) in Taitung County.

Other important road traffic routes include: The Northern Coastal Highway (Provincial Highway 2); eastern Coastal Highway (Provincial Highway 11); provincial Highway No. 7, from Qilan, Datong Township, Yilan County, via Siyuan to Lishan; provincial Highway No. 14, from Changhua City via Puli to Renshou, Hualien County; provincial Highway No. 16, from Nantou County via Shuili to Wanrong, Hualien County; provincial Highway 18, from Chiayi to Yuli via Alishan; provincial Highway No. 21, from Taichung Tianleng through Xinyi to Kaohsiung Brick Yao; provincial Highway No. 22, from Pingtung via Wutai to Zhiben, Taitung County.

(3) Port Facilities

The port is an important transportation hub for Taiwan Island to connect with the outside world. At present, there are dozens of large and small ports around the island of Taiwan Island. Among them, Keelung Port in the north, Kaohsiung Port in the south, Hualien Port in the east, and Taichung Port in the west are the most important large-scale commercial ports on Taiwan Island, accounting for more than 95% of the total freight volume in Taiwan, and play an important role in maintaining the economy and development of Taiwan. Most of these important commercial ports have naval bases or military dock areas. Only Zuoying Port is a dedicated naval base.

1. Kaohsiung Port

Located on the west coast of Kaohsiung City, southwest of Taiwan Island, Kaohsiung Port is the largest international commercial port in Taiwan, the busiest maritime port, and an important military port. The port area is 176.78 square kilometers, of which the land area is 14.42 square kilometers, the inner harbor water area is 12.41 square kilometers, and the outer harbor water area is 149.95 square kilometers. There are 2 ports of entry and exit: the first port is located at the northwest end of the port area, with a water depth of 11 meters, an effective width of about 100 meters, a channel width of 80 meters, and can pass 30,000-ton ships; the second port is located at the southeast end, with a water depth of 16 meters, an effective width of 250 meters, a channel width of 150 meters, and can pass 100,000 tons of ships. The total length of the channel is 18 kilometers, of which the main channel is 12 kilometers and the branch channel is 6 kilometers. The Kaohsiung Military Port Area is located in the first port in the north of the Kaohsiung Port Area, with 15 docks, mainly stationed ships of the Navy's amphibious service fleet.

There are 118 terminals in Kaohsiung Commercial Port Area, including 23 container terminals, 95 general grocery, port and professional terminals, and a water depth of 4 to 16.5 meters.

There are 18 groups of pontoons, which can be used for surface mooring of ships below 10,000 to 300,000 tons. The main warehouse facilities are: 64 warehouses (stacks) with a capacity of 909,700 tons, 7 open-air dumps with a capacity of 35,000 tons; 5 container storage and transportation yards, with a storage and transportation capacity of 11 830,000 TEU.¹ There are 76 ships working in the port, 66 container cranes, 55 container straddle carriers, and 71 other loading and unloading machines. In addition, Kaohsiung Port has built a new container handling area covering an area of 75 hectares, with a water depth of 16 meters and a total length of 1,500 meters for the container terminal, which can accommodate 12,500 TEU Class container ships are berthed, which can increase the loading and unloading energy of TEU containers by 2 million per year. The port of Kaohsiung has an average of 36,000 ships entering and leaving the port every year. In 2009, the throughput reached 150 million tons, the maximum loading and unloading capacity was 450 million tons, and the container loading and unloading capacity was 10 million TEU. In 2009, the operating income was NT\$7.485 billion (US\$227 million).

2. Taichung Port

Taichung Port is located in the coastal area of Taichung City in the middle of the west coast of Taiwan Island, and is an important dual-use port for military and commercial use. Shanggang has 50 operating terminals with a total length of 12,329 meters. Among them, there are 2 cereal terminals, 8 container terminals, 18 bulk cargo terminals, 3 cement terminals, 4 bulk cargo terminals, and 4 coal terminals 1 liquid cargo terminal, 8 chemical and oil terminals, 1 scrap iron terminal, 1 passenger terminal. The port channel is 350 meters wide and 16 meters deep, which can accommodate 4,000TEU class container ships, 150,000 tons bulk carriers and 149,000 cubic meters of LNG ships enter the port and berth. In 2009, there were about 12,000 ships entering and leaving the port, with an annual throughput of 55 million tons, a maximum loading and unloading capacity of 90 million tons, and an annual operating income of 44.34 NT\$100 million (US\$134 million).

3. Hualien Port

Located on the eastern coast of Taiwan Island, bordering the Pacific Ocean to the east and the Central Mountains to the west, Hualien Port is an artificial harbor formed by the combination of east and west breakwaters. The port area is about 3.08 square kilometers, of which the water area is about 1.36 square kilometers and the land area is about 1.72 square kilometers. There are 25 operating terminals with a total length of 4,742 meters. The average annual number of ships entering and leaving the port is 4,500 times, and the annual throughput can reach 34 million tons. Among them, there are 16 inner harbor terminals, with a length of 2,455 meters, which can berth for ships under 15,000 tons;

¹ TEU, the full name of Twenty-foot Equivalent Unit, meaning "20-foot equivalent unit," is a unit for calculating the carrying capacity of containers, and is also a standard for calculating container volume. In container shipping, a 20-foot (8 x 8x20) container is used as the standard container.

There are 9 outer harbor terminals, 2,287 meters long, which can accommodate ships of 30,000 to 60,000 tons. Shallow water terminals are available for fishing and working vessels to berth. The main facilities of the port include: ship repair shop, one 15,000-ton dock, 6 general cargo warehouses, 5 cement warehouses, and 38 freight yards. There are three 3,200 horsepower tugboats, one 2,400 horsepower tugboat, and one 1,200 horsepower transportation boat. The jurisdiction of the Aviation Administration extends from Hepingxi, which borders Yilan County and Hualien County, in the north to Guanyinbi, which borders Pingtung County and Taitung County in the south, covering the waters of Hualien and Taitung counties.

4. Keelung Port

Keelung Port is located on the northern coast of Taiwan Island, southeast of Zhongshan District in Keelung City, and is an important military and commercial dual-use port. Keelung Port is one of the four major international trade ports in Taiwan. The water area is about 3.8 square kilometers, the land area is about 2 square kilometers, divided into four port areas: inner, outer, and central shores and four eight-foot gate port areas, with 2 channels, the main channel water depth of 14-26 meters, and the width of about 270 meters. There are 40 operating terminals and 16 non-operating terminals, for a total of 56 terminals. The annual throughput is 30 million tons, and the maximum loading and unloading capacity is 91 million tons.

5. Su'ao Port

Su'ao Port is located on the northeast coast of Taiwan Island, Su'ao Town, Yilan County, and is an important military and commercial dual-use port. Shanggang is now one of the auxiliary ports of Keelung International Port. The water area of the port is about 2.8 square kilometers, the land area is about 2.6 square kilometers, the main channel is about 240 meters wide, and the water depth is about 24 meters. Su'ao Port is divided into three functional areas, the northern bay is the military port area, Su'ao is the commercial port area, and the southern bay is the fishing port area. Su'ao Commercial Port is located in the west and south of Su'ao Port, with 13 operating terminals. In 2009, the annual throughput was 5 million tons, and the maximum loading and unloading capacity was 5.2 million tons.

6. Taipei Port

Taipei Port is located on the southwest bank of the Freshwater River Estuary in Bali Township, Taipei County, which was expanded by the original Freshwater Port through land reclamation, and is now one of the auxiliary ports of Keelung International Port, mainly responsible for the transportation of sand, cement and oil in Taipei. The port area is about 31 square kilometers, of which the land area is about 8.6 square kilometers. There are 14 operating terminals and 3 non-operating terminals, for a total of 17 terminals. In 2009, the annual throughput was 11 million tons, and the maximum loading and unloading capacity was 24 million tons.

7. Anping Port

Anping Port is located on the southwest coast of Taiwan Island and is one of the subsidiary ports of Kaohsiung Port. The port area is 4.77 square kilometers, of which the land area is 2 square kilometers and the water area is 2.77 square kilometers.

The port and the main channel have a water depth of 11.5 meters, which can enter and exit 20,000 tons of ships. Anping Port plans to build 32 wharves, with a total length of 5,657 meters, and the total annual loading and unloading capacity can reach 16 million tons. There are 17 operating terminals, with a total length of 2,926 meters and a water depth of 5 to 11 meters. The average annual entry and exit ship is about 1,500 times, with an annual throughput of 7 million tons and a maximum loading and unloading capacity of 7 million tons. Zhanbu facilities: 1 tourist service center; 1 warehouse, with an effective storage area of 2,859 square meters; 4 cement storage tanks with a capacity of 20,000 tons; 16 petrochemical storage tanks with a volume of 6.5 million cubic meters; car wash pool 2 seats; weighbridge 2; there are 13 open-air dumps with a total area of 81,000 square meters.

8. Budai Port

Located on the west side of Budai Town, Chiayi County, on the west coast of Taiwan Island, Budai Port is an emerging port that is now one of the subsidiary ports of Kaohsiung Port. The port is bordered by the Taiwan Strait, and to the north and northwest there is a narrow sand island composed of Tongxian Island, Ha Tsai Liao Island and Wai San Ding Island, forming a natural barrier. The diameter of the harbor is 300 meters, the depth of the middle tide is 8.6 meters, the width of the channel is 100 meters, the length is 1,430 meters, the depth of the middle tide is 7.5 meters, and 5,000 tons of ships need to wait for the tide to enter and exit the port. The south breakwater is 291 meters and the north breakwater is 273 meters. There are 5 passenger and cargo terminals, with an average annual entry and exit ship of 3,000 times, an annual throughput of 500,000 tons, and a maximum loading and unloading capacity of 500,000 tons. The port facilities include 2 administrative buildings, 2 navigation lighthouses, 2 harbor warning lights and 4 channel navigation lights.

9. Mailiao Harbor

Mailiao Port is located in Mailiao Township, Yunlin County, south-central Taiwan's west coast, and is one of the large industrial ports on Taiwan Island, mainly responsible for the transportation of strategic materials such as oil and coal. The design annual cargo throughput is 10,000 tons. The port area is about 23 square kilometers, and the maximum water depth is 24 meters. There are 18 docks of various types, 20 berths, and reliable berths of 50,000 to 260,000 tons of ships.

10. Yong'an Port

Located on the seashore of Xingang Village, Yong'an District, Kaohsiung City, Yong'an Port is one of the important industrial ports in Taiwan, mainly responsible for the import, storage, gasification processing and transshipment of liquefied natural gas. The water area of the port is about 6.5 square kilometers, and the land area is about 4.5 square kilometers. There are 2 piers, which are about 2,000 meters long. It can be used for two LNG vessels with a capacity of 125,000 to 140,000 cubic meters to berth and unloaded.

11. Shenzhen, Macao and Hong Kong

Shenzhen-Macao Port is located in Shen-Ao Bay, New Taipei City, on the northeast coast of Taiwan Island, and is one of the important industrial ports in Taiwan, mainly responsible for oil transportation business.

The water area of the port is about 1.25 square kilometers, the main channel is 300 meters wide and the water depth is 20 meters. There are 1 large oil terminal and 4 other terminals.

12. Heping Port

Heping Port is located on the south bank of Heping River in Hualien County, on the east coast of Taiwan Island, and is one of the emerging large-scale industrial ports on the east coast of Taiwan, mainly undertaking coal, cement and other transportation businesses. The land area of the port is about 0.8 square kilometers, the water area is about 2 square kilometers, and the water depth is 7 to 20 meters. The design annual freight capacity is 20.5 million tons, and there are 5 terminals.

(4) Aviation Facilities

There are 18 civil aviation airports in Taiwan, with about 190 airworthy aircraft of various types. Among them, the main island of Taiwan has 10 civil airports in Taoyuan, Kaohsiung, Taipei, Taichung, Hualien, Tainan, Taitung, Chiayi, Pingtung and Hengchun. In addition, there are Alishan and Lishan heliports in the mountainous area. Taoyuan and Kaohsiung Airports are the most important international airports in Taiwan. In 2010, the total number of civil air passengers in Taiwan was 39.455 million passengers, the total air cargo volume was 1.8642 million tons, and 360,400 flights were taken off and landed.

1. Taoyuan Airport

Located in the north of Taiwan Island and about 30 kilometers west of Taipei City, Taoyuan Airport is the largest international airport in Taiwan and the main maintenance base for civil aircraft. At the same time, it has the ability to support the take-off and landing of large military transport aircraft and fighter aircraft. The airport covers an area of 12.2 square kilometers. There are 3 runways, the length of the runway is 3,350 to 3,660 meters, and the width is 45 to 60 meters. The main ground facilities are: 2 terminals, 2 freight terminals and 1 tower. In 2010, the passenger traffic of Taoyuan Airport was 25,144,400 passengers, accounting for 63.7% of the total air passenger traffic in Taiwan. Air cargo volume was 1.767 million tons, accounting for 94.78% of the total cargo volume; 156,000 take-offs and landings, with an average of 427.5 take-offs and landings per day.

2. Kaohsiung Airport

Kaohsiung Airport, also known as Xiaogang Airport, is located in the south of the west coast of Taiwan Island and 9,000 meters southeast of Kaohsiung City, and is one of the important international airports in Taiwan. At the same time, it has the ability to support the take-off and landing of large military transport aircraft and fighter aircraft. The airport covers an area of 2.44 square kilometers. There are 2 runways, 3,050 to 3,150 meters long and 45 to 60 meters wide. The main ground facilities are:

There are 2 terminals and 1 tower. In 2010, Kaohsiung airport passenger traffic was 4.053 million passengers, accounting for 10.27% of the total air passenger traffic in Taiwan. Freight volume is 64,800 tons, accounting for 3.47% of the total freight volume; 41,300 take-offs and landings, with an average of 113.15 take-offs and landings per day.

3. Other airports

The airports of Taipei, Taichung, Hualien, Tainan, Taitung, Chiayi, Pingtung and Hengchun on the island of Taiwan are small and medium-sized civil aviation airports or dual-use airports, mainly undertaking the civil aviation regional passenger business in Taiwan. Among them, Taichung Airport, also known as Shuinan Airport, is located 4,500 meters northwest of Taichung City in the west of Taiwan Island, with a runway of about 1,620 meters long, which is an important civil airport in Taichung area. Yilan Airport is located about 2,500 meters south of Yilan City, northeast of Taiwan Island, with a runway of about 1,600 meters long, mainly responsible for civil aviation regional passenger transport business and civil aviation pilot training tasks, but also as the only air force backup airport in northeast Taiwan, can support the take-off and landing of medium-sized military transport aircraft. Fengnian Airport is located 5,000 meters west of Taitung City in the southeast of Taiwan Island, with a runway of about 2,400 meters long, which is an important civilian airport in the eastern part of Taiwan Island and can also ensure the take-off and landing of medium-sized military transport aircraft. Hengchun Airport is located about 4,000 meters northwest of Hengchun Town, Pingtung County, southern Taiwan Island, with a runway of about 1,700 meters long, which is an important civilian airport in the south of Taiwan Island, and also serves as an alternate airport for the Taiwan Air Force, which can ensure the take-off and landing of medium-sized military transport aircraft.

5. THE IMPACT OF THE GEOGRAPHICAL ENVIRONMENT OF TAIWAN ISLAND ON MILITARY ACTIVITIES

Taiwan Island is an alpine island with a complex topography. The five major mountain ranges run through the central and eastern parts of Taiwan Island, and the coastal topography conditions on the east and west sides are very different, the plateaus and hills are close to the coast or overlooking the main points, the towns are dense, and the road network is developed but unevenly distributed. These special geographical environments will have a greater impact on military operations.

(1) The Longitudinal Mountains Divide the Island into Two Large Areas in the East and West, Creating Difficulties for Troop Transportation

The mountains of Taiwan Island are steep and wide, and the main mountain ranges are in a northeast-southwest direction, arranged vertically in the central and eastern parts, dividing the entire island of Taiwan into two relatively independent areas in the east and west. Most of the peaks of the mountains are difficult to climb, the mountain roads are scarce, the land mobility is weak, the mobility of large troops is relatively difficult, and it is relatively difficult for troops on the east and west sides to move or maneuver to support each other.

The eastern region is dominated by mountains, with steep slopes, most of the mountains are directly close to the coast; only for the Yilan plains, Hualien plains and other places is the terrain relatively flat, and military operations can be carried out on a certain scale. The western region is dominated by hilly, plateau, plain, and basin terrain, with low terrain and gentle slopes, especially the terrain of Taoyuan Plain, Zhuoshui River Plain, and Jia Nan Plain, which is flat and open, with a large area, which is convenient for large troops to deploy.

(2) Inconsistent Coastal Terrains Hamper Military Activities

Taiwan Island is surrounded by the sea, and the terrain of the east, west, south, and north coasts is quite different. The west coast of Taiwan Island from the northern Tamsui estuary to the southern Fenggang River estuary, is mostly the plain coast and the sand spit lagoon coast, and mainly beaches, beachheads are relatively good, with more landing areas, especially the Taoyuan Plain, Zhuoshui River Plain, Chia Nan Plain and other open areas, where the terrain is flat, and conducive to the implementation of large-scale formal or irregular landing, suitable for establishing large-scale landing fields. Moreover, the traffic road network in the coastal areas is developed, which is convenient for the mobility of the troops and the development of them in depth. However, some coastal sections have been artificially modified to have seawalls, tidal embankments, windbreaks, and low-lying areas in the embankments, such as rice fields and fish ponds, which have a greater impact on military activities. The east coast of Taiwan Island and the coasts at the north and south ends are mostly fault coasts or coral reef coasts, except for some estuarine small plains where small-scale landings can be made; most of the shore sections have complex terrain and steep shore depths, making it unsuitable for large-scale conventional military operations.

(3) Plateaus and Hills are Close to the Coast or Overlook the Main Points, and There is a Certain Agreement on Military Activities

The plateaus and hilly terrain on the island of Taiwan are relatively large, the area is large, and most of them are close to the coast or strategic points, which have a certain influence and restriction on military activities. The terrain of Datun Volcanic Hills, Keelung Hills, Hsinchu Hills, Zhunan Miaoli Hills, Linkou Plateau, Dadu Plateau, Bagua Plateau and other terrains in the north and west of Taiwan Island are close to the coast, and the slope of the marginal area is relatively steep, most of which form a commanding height overlooking the coast or strategic place, which has many influences and restrictions on military activities. In particular, the terrain around the Taipei Basin, such as the Datun Volcanic Hills, the Nangang Hills, the Southwest Hills and the Linkou Plateau, form a security barrier in Taipei City and control the main passages in and out of the Taipei Basin. The Linkou Plateau is bordered by the Datun Volcanic Hills and overlooks the freshwater estuary. The Linkou Plateau and the Hukou Plateau together form the controlling Taoyuan Plain and the northwest coast.

The Dadu Plateau confronts the Bagua Plateau from north to south, overlooking the central shore beach on the west coast of Taiwan, forming the western barrier of the Taichung Basin and controlling the north-south traffic in the western part of Taiwan Island.

(4) The Western Road Network is Developed, the Mountainous Roads are Scarce, and the East-West Traffic Capacity is Weak

Land transportation on Taiwan Island is relatively developed, and there are a large number of roads of various grades. A number of important transportation lines such as the North-South Expressway, the Ring Road, the East-West Transverse Highway, and the Roundabout Railway run through the entire island of Taiwan, and provincial highways, county roads, and township roads crisscross each other, forming a dense land transportation network. Among them, the proportion of high-grade highways is large, the road conditions are relatively good, and the traffic capacity is relatively strong. Most of the important traffic arteries are north-south, with many winding roads, and most of them are concentrated in the western plains and hilly areas. There are few roads in the eastern part of Taiwan Island, only a small number of trunk lines such as the ring road and the ring railway, most of which run through the valley, are greatly restricted by the terrain, the road width is narrow, and the curves are steep, and there are more bridges and tunnels along the way, which have a greater impact on military activities. The number of east-west transverse roads on the island is limited, and the roads that run through the mountainous areas are narrow, with many curves, large slopes, many bridges and tunnels, and are greatly affected by climatic conditions such as rain and fog, which have a greater impact and restriction on military activities.

THOUGHT QUESTIONS:

1. What are the main characteristics of the terrain and coastal terrain of Taiwan Island and the impact on military activities?
2. How to recognize that Taiwan Island is an important gateway Chinese mainland the Pacific Ocean?
3. Briefly describe the composition and characteristics of the transportation network on Taiwan Island and its impact on military activities.

LECTURE 5: THE NORTHERN REGION OF TAIWAN ISLAND

The island of Taiwan is indexed by the interdependence and interest relationships such as geography, resources, population, and economic activities, and can usually be divided into four major regions: northern, central, southern and eastern. The northern part of Taiwan Island usually refers to the area north of Hsinchu City, Hsinchu City, Juniper Mountain, Pintian Mountain, and Heping Creek, including Taipei City, New Taipei City, Keelung City, Hsinchu City, Hsinchu County, Taoyuan County, and Yilan County. The total area is about 7,353.4 km². The population is about 10.6291 million people. The northern region has formed a metropolitan area with Taipei Keelung-Taoyuan Zhongli-Hsinchu as the core, and is the most populous area in Taiwan with the most concentrated population and the most active political, economic, cultural and educational activities.

1. THE COAST OF THE NORTHERN REGION

The coast of the northern region of Taiwan Island includes the northern coast, the northeast coast and the northwest coast, with a coastline of about 340 kilometers.

(1) North Coast

The northern coast refers to Lailaibi that stretches from Cape Santiago in the east to the oil trucks on the east side of the Tamsui estuary mouth on the west, and the coastline is about 85 kilometers long. Most of the coast belongs to the rocky coast, many headlands, only in the bay, estuary near the narrow beach intermittent distribution. The headland protrudes toward the sea, and most of the sea cliffs have platforms of varying width and narrowness, and at low tide they emerge from the sea. Near the coastline, sea caves, sea erosion gates, sea erosion concave walls, and pot holes are more developed, and there are prominent reefs and sea erosion columns along the coast.

1. The coastal section from Cape Santiago to the tip of the cape

The coastline from Cape Santiago to Lailaibi has a recessed shoreline, and due to long-term erosion, the Sungai River Valley and the wide Fulong Bay are formed. There is a large sandy beach and sand dunes at the mouth of Sungai Creeks, which has now been opened as a Fulong Beach. At the head of Fulong Bay there is a straight coast of about 3,000 meters long.

Fig. 5-1 The Fulong Coast in the North of Taiwan Island



Fig. 5-2 The Coast of Bitoujiao and Longdong Point in the Northeast of Taiwan Island



2. The Coastal Section from Bitoujiao to the Shore of Jinshan Bay

From the tip of the cape to the coast of Jinshan Bay, the coastline is roughly in an east-west straight line, part of the coast is a volcanic coast, and there are many small capes and small bays in the local area. The coast is eroded by waves to form many sea caves, and there are almost no sandy beaches near the coastline. The curved shoreline where Keelung Port is located is the largest bay in this section of the coast, with the natural conditions of a natural harbor. The coast west of Keelung to Wanli is relatively straight, and the mountains are directly against the coast. There is a sandy beach of about 1,500 meters between Cape Wild Willow and Wanli. About 5,000 meters from Cape Jinshan to Cape Yeliu, with Guosheng Bay in the middle. On the west side of Jinshan Cape is a small fan islet plain formed by the alluvial of Sulphur Creek, with a beach shore on the seashore.

Fig. 5-3 Keelung Harbor Valley Bay Coast



3. The Coastal Section from Jinshan Bay to the Mouth of Tamsui River

The coastal section from Jinshan Bay to Tamsui Estuary is a unique volcanic coast with the characteristics of rocky coast and opposing coast. There are two headlands protruding northward along the coastline on the west side of Shimen, which become the two points in the far north of Taiwan's main island, with Fugui Cape to the east, Linshan Linshanbi to the west, and Baisha Bay in the middle. The coast from the cape of Linshan to the mouth of the Tamsui River is the coast of the western foothills of the Datun Volcanic Group. The coast on the east side of the Tamsui Estuary is a wide coastal plain with sandy beaches along the coast, which have now been opened into Shalun Beach.

(2) The Northeast Coast

The northeast coast stretches from Lailaibi in the northeast of Taiwan Island to the mouth of Hualien and Pingxi in the south, with a coastline of about 160 kilometers.

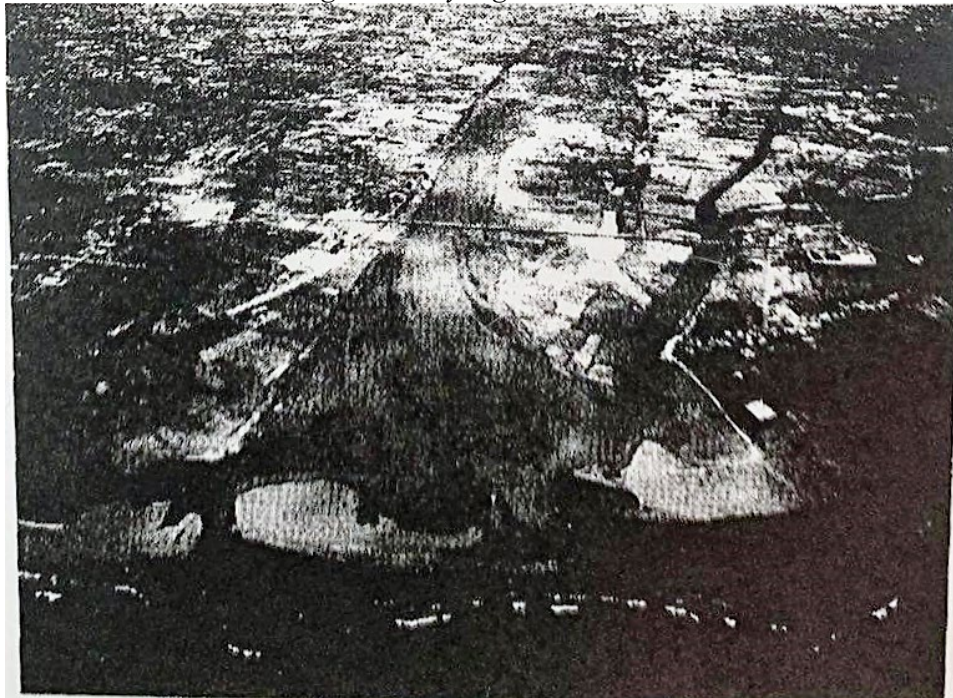
1. Jiaoxi Coastal Section

The Jiaoxi Coastal Section located between Lailaibi and Toucheng, is about 22 kilometers long. The coastline is in a northeast-southwest direction, the coastline is straight, the coastal platform is developed, and the width and meters form a stratified terrain of small one-sided mountains. Lancheng in Beiguan has a typical one-sided mountain, with diamond-shaped tofu rock on the gentle slope on one side, and there are also uplifted sea erosion concave walls, sea caves, sea erosion gates and other terrain. There are narrow sea steps below 20 meters high along the coast, and the North Loop Railway is built on the plateaus. The steep cliffs of the Snow Mountain Range on the northwest side are about 400 meters high. A River cutting the cliff, the river is short and rapid, forming a small alluvial fan under the cliff. Dali, Daxi and Gengfang are three small fishing villages along the route.

2. Lanyang Coast Section

The Lanyang coastal section, located between Toucheng and Bei'ao, is mainly based on the coast of lanyang River delta, with a coastline of about 30 kilometers. The coast is bowed and slightly concave to the west. The mouths of Lanyang Creek, Yilan River and Dongshan River protrude slightly to the east due to silt accumulation, forming a pointed-mouth delta, and there are sand mouths on the north and south sides of the estuary. On the west side of the coast, except for the estuary, there are sand dunes. The sand dunes are parallel to the coastline, with a height of less than 20 meters, the eastern slope is gentler, and the western slope is steeper, which belongs to the transverse sand dunes. The width of the dunes is about 800 meters. There are small rivers passing on the back side (i.e., the west side) of the dunes, flowing parallel to the direction of the dunes, forming a back wetland unique to the leading edge of the delta, and the poor drainage areas form swamps. For example, the swamp between Wushigang and Dakeng, the swamp between Piziwei and Dingliao, etc.

Fig. 5-4 Lanyang River Mouth

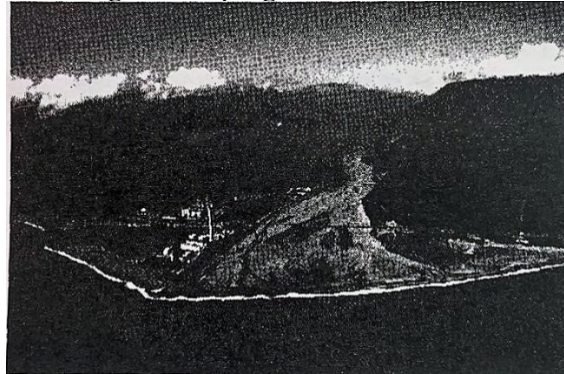


3. Suhua Coast Section

Fig. 5-5 Coasts of Su'ao and Nanfang'ao



Fig. 5-6 Heping River Mouth Fan



The Suhua Coast section is located between Su'ao and Hualien Creek, with a coastline of about 105 km. Most of the coast is a large cliff 300 to 1,200 meters high. Among them, Su'ao Bay is a sinking valley bay, which is also a natural harbor in the northeast of Taiwan Island. Nanfang'ao (Southern Ao) Bay is a fishing port. The cliffs between Nanfang'ao and Dong'ao are about 300 to 700 meters high. Dong'ao Bay is also a submerged coast. The cliff between Dong'ao and Nan'ao has retreated due to sea erosion, and there is a protruding headland black stone cape between Dong'ao Bay and Nan'ao Bay, and the nearby cliff is about 700 meters high. The area around Nan'ao is originally a submerged inner bay, because the south and north streams of Nanfang'ao bring a large amount of sediment, continuous siltation and complete the filling function, and the mouth of the Nan'ao River is slightly prominent in its fan body.

Nan'ao River fan was formed at the mouth of Nan'ao Creek, which used to be a bay, and Nan'ao North River and South River flowed into this bay, becoming an independent two-river system, of which North River is longer, 38.5 kilometers, and South River is slightly shorter, 30.5 kilometers. The estuary section of Nan'ao River is tidal and meandering, with sand dunes on the southern coast. Between Nan'ao and Heping, the coast is straight, steep cliffs force the sea, and the coast generally has beaches about 100 meters wide. At the mouth of the Heping River, an arc-shaped fan island is formed, with a sand mouth along the coast, and the estuary section forms a tidal meandering current.

(3) The Northwest Coast

The northwest coast includes the coast south of the Tamsui estuary to the north of Yanshui Harbor River, with a coastline of about 90 kilometers. The northwest coast is backed by low hills or plains formed by the Linkou Plateau and the Zhongli Plateau, and the terrain slowly slopes from east to west in the sea, and there are many obvious cliffs in between. The coast is shallow, the beach is gravel, there is sand near the estuary, and the inner edge of the beach is a sand dune belt. Located between Xudungang and Baiyu Village, the Caoluo Sand Dune Group is about 8,000 meters long from east to west, and the sand dune area is 3.9 square kilometers, including horizontal sand dunes and longitudinal sand dunes. Taoyuan Coastal Sand Dunes can be divided into two categories: coastal dune groups and inland sand dune groups. Coastal sand dunes, including Sea Lake dunes, Shalun dunes, forest dunes, Datan dunes, Yong'an dunes, etc. Haihu Sand Dunes is located at the junction of New Taipei City and Taoyuan County to Nankanxi, affected by the topography of Linkou Plateau, the height of the sand dunes gradually increases with the slope of the edge of the plateau, and the sand layer of the sand dunes along the coastal line is up to 9 meters thick, and it is hilly with the undulating terrain, and the undulating height difference is 1 to 3 meters. Located on the coast from Nankan River to Puxin Creek, The Shalun Dunes are compounded from 2 to 3 rows of sand dunes, with a larger scale of the prostrate dunes reaching a height of 10 meters, a height of about 7.5 meters on the middle dune ridge, and a height of about 8 meters for the Neilie dune ridge. From the coast of Puxin River to Xinjie Creek, the height of the Erleng dune ridge is about 6 to 7 meters. Forest Dunes, located south of Laojie River to Guanyin Creek, of which the sand dunes north of Laojie River are divided into two columns of sand dunes, the height of the outer sand dunes is 10 to 15 meters, and the height of the inner sand dunes is 8 to 12 meters. South of Laojie River to Guanyin River is a single row of sand dunes with a height of about 10 meters. The Great Pond Sand Dunes, located from Guanyin River to Xinwu Creek, are artificially fixed to form a wide single column of sand dunes. Yong'an Sand Dunes, located south of Xinwu River to Fuxing River on the border with Hsinchu County, has a height of about 5 meters. The inland crescent dunes are distributed south of the Nankan River to the south bank of Daku River with an east-west width of about 3,000 meters. Bounded by Puxin Creek, it is divided into the Shalun Crescent Hill Group and the Caoluo Crescent Hill Group. The Shalun Crescent Hill Group, close to the north bank of Puxin Creek, is about 18-27 meters high. There are about 30 large and small sand dunes in the Caoluo Crescent Hill Group, except for 2 small crescent mounds distributed on the south bank of Daku River, the rest are distributed between Laojie River and Daku River.

Low-lying areas form between the dunes, sometimes ponds or swamps, which are most common in grassy dune groups. The inland crescent mounds are artificially sand fixed and the vegetation is luxuriant.

2. TAIPEI CITY

Taipei City is located in the north of Taiwan Island, bordering New Taipei City on all sides, and adjacent to The Tamsui, Sanzhi, Jinshan, Wanli, Xizhi, Shiding, Shengkeng and other districts of New Taipei City to the north and east; west and south are adjacent to Xindian, Zhonghe, Yonghe, Banqiao, Mie, Luzhou, Wugu and other places. Taipei City administers 12 administrative districts, with a length of about 27.65 km from north to south, a width of about 18 km from east to west, a circumference of about 216 km, an area of about 271.8 square kilometers, a population of about 2.651 million, and a population density of 9,735 people per square kilometer.

(1) Physical Geography of Taipei City

1. Topography of Taipei City

Taipei City is located in the northeast half of the Taipei Basin and adjacent hilly areas, the terrain is mainly basin- with some volcanoes, hills and mountains, and the terrain slopes from north, east and south to the west. The basin area of Taipei City, from Xindian River and the east bank of the Tamsui River in the west, to the volcanic and hilly foothills in the northeast, its range starts from Jingmei in the south, reaches Guandu in the north, and reaches Nangang in the east, and the basin area accounts for about 86.33% of the total area of the city. The basin is bordered by the Datun Volcanic Group to the north, Neihu hills to the east, Nangang hills to the south, and the basin is mainly a basin plain formed by the alluvial of rivers such as Keelung River, Jingmei River and Xindian River of the Tamhe River System. The foothills on the edge of the basin plain are concave and convoluted, with peninsula-shaped prominences or Neiwang Xing'ao Ren, and there are many island-like hills, such as Qili'an Mountain, Jiantan Mountain, etc. that belong to the Wedge Plain, and Yuanshan, Zhishan Rock, Gongguan Mountain, etc. are isolated hills. The northeast and southeast sides of Taipei City are highly grounded, mainly volcanic and hilly areas. Taipei City from northwest to northeast is mainly a volcanic area, belongs to the Part of the Datun Volcano Group, mainly composed of several cone-shaped and bell-shaped volcanoes of Anshan rock, all of which belong to extinct volcanoes, and the more famous ones are Qixing, Shamao, Xiaoguan Yin, Datun and other mountains. The southeast of Taipei City is mainly the hills and mountains of Nangang. The hilly area is a hill formed by sedimentary rocks, mainly distributed in the southeast of the city, and divided into two areas, north and south; the north is the Neihu Hills, and the south is the Nangang Hills. The Neihu hills are located between the south of the Sungai River Valley and the Jilong River Valley, showing a monoclinic structure running in a northeast-east-southwest-west direction, mainly including Wuzhi Mountain, Lingtong Mountain, Zhongyong Mountain, Yuanjuejian Mountain, Jinmian Mountain, Jinan Mountain, Jiantan Mountain and other peaks, and the ridge height gradually decreases from north to south and from east to west.

Nangang Hills is located in the south of the Keelung River Valley to the north of the Qingtan Valley, including the west of the Nangang and Fushi Mountains, the Cige Mountain is 678 meters above sea level, the rest of the hills are below 300 meters, the main peaks are Wuzhi Mountain, Lingtou Mountain, Zhongyong Mountain, Yuanjue Point, Jinmian Mountain, Jinan Mountain, and Jiantan Mountain, etc., and the terrain descends from east to west. The terrain between the north and south hilly areas is low and flat, belonging to the basin and valley plains, and sloping slightly to the northwest. Volcanoes, hills and mountains account for about 8.49% of the total area of the city. Jingmei Creek, Xindian River and Tamsui River flow through the southern and western edges of Taipei City; after the Keelung River and its tributaries, Sungxi, Ziming River (Suan Creek), and Beitou Creek, flow through the urban area, they flow into the Tamsui River from near Guandu and flow through the Taiwan Strait. The area of rivers accounts for about 5.08% of the city's area.

2. Taipei City Climate

Taipei's climate is warm in winter and hot in summer, with rainy seasons and warm moisture. Affected by factors such as latitude, altitude, topography and monsoon, the temperature difference between the basin and the mountain is large, and the temperature of the mountain will decrease with the height. The average annual rainfall is 1,670 mm, the average temperature is 23.4°C, the maximum temperature is 37.2°C, the minimum temperature is 6.4°C, and the average annual relative humidity 73.6%.

(2) Human Geography of Taipei City

Taipei was formerly known as Jilong or Danshui. In the first year of the Qing Dynasty (1875), Shen Baozhen, a Chinese minister, founded Taipei Mansion and built the "Taipei Fu Yamen" (present-day Zhongzheng District), and Taipei officially became the name of an administrative region. In the tenth year of the Qing Dynasty (1884), Taipei was founded. In the thirteenth year of the Qing Dynasty (1887), Taiwan was established as a province. Liu Mingchuan, the first inspector of Taiwan Province, has always used Taipei Fucheng as his office, planned to build Taipei, build railways, open streets, set up schools, and plan Taipei Fucheng as an administrative district, thus laying the foundation for the development of Taipei City today. After the Chinese government recovered Taiwan in 1945, it designated Taipei City as a provincial municipality and established a municipal government, which was divided into 10 administrative districts, with *li* under the districts and neighborhoods under the *li*. On July 1, 1967, Taipei City was upgraded to a municipality directly under the central government, and the six townships on the outskirts of the city, Namei, Muzha, Nangang, Neihu, Shilin and Beitou, were transferred to the jurisdiction of Taipei City, with 16 boroughs. On March 12, 1990, the administrative area of Taipei City was readjusted and re-divided into 12 administrative districts, namely Datong, Zhongzheng, Wanhua, Zhongshan, Shilin, Beitou, Songshan, Nangang, Neihu, Xinyi, Da'an, and Wenshan, which have remained so far.

Taipei City is the capital of Taiwan and the political, military, economic and cultural center of Taiwan.

The "Presidential Palace," "Executive Yuan," "Control Yuan," "Judicial Yuan," "Legislative Yuan" and other administrative organs are located in Zhongzheng District, and the "Examination Yuan" is located in Wenshan District. Taipei City has perfect public facilities, with fast and convenient transportation network and advanced wireless network, most of the financial institutions and large and medium-sized enterprises in Taiwan will be headquartered and headquartered in Taipei City. Taipei City also has dozens of colleges and universities and academic research institutions such as Academia Sinica, National Taiwan University, National Taiwan Normal University, and National Chengchi University. Taipei's economy is dominated by tertiary industries (service industries), accounting for about 80% of the city's economic output value.

3. NEW TAIPEI CITY

New Taipei City is located in the northwest of Taiwan Island, southeast of Yilan County, west of the Taiwan Strait and Fujian Province, southwest of Taoyuan County as a neighbor, the coast south of Fugui Cape bordered by the Taiwan Strait, and the coast east of Fugui Cape is the Shudong Sea, coastline 122 km long. New Taipei City administers 29 administrative districts, with an area of about 2,052.57 square kilometers, a population of about 3.9165 million, and a population density of 1,908 people per square kilometer.

(1) Physical Geography of New Taipei City

The terrain of New Taipei City is high in the surrounding area and low in the middle, and can be mainly divided into basins, volcanoes, hills and mountains. The central part of New Taipei City is the Taipei Basin, which is mainly a plain formed by the alluvial formation of rivers such as Keelung River, Dahan Creek, Jingmei River and Xindian River of the Tamsui River System. The northern half is the Datun Volcanic Group, the eastern half is the Nangang Hills, the southern half is the Snow Mountain Range, and the western half is the Qianshan Hills and Linkou Plateau. The Keelung River, Jingmei Creek, Xindian Creek, Dahan River and other rivers in the territory are affected by the terrain and flow from the east, southeast, south and southwest directions to the bottom of the basin, converging with the Tamsui River, and finally injecting into the Taiwan Strait. Only the northernmost sulfur river system flows northward and finally flows to the East China Sea.

(2) Human Geography of New Taipei City

New Taipei City was restructured from Taipei County. In the fifteenth year of the Ming Dynasty (1661), Zheng Chenggong recovered Taiwan and set up 1 prefecture and 2 counties, and Taipei County belonged to Tianxing County, North Road. In the 23rd year of the Qing Dynasty (1684), Taipei County was under the jurisdiction of Zhuluo County, which was subordinate to Taiwan Prefecture. In the first year of Yongzheng (1723), the north of Dajia River was under the jurisdiction of the Tamsui Department.

In the first year of the Qing Dynasty (1875), Taipei Prefecture was established. In the fourth year of Guangxu (1879), Taipei Prefecture was established to govern between Cape Meng and Dadaocheng, and the Tamsui Hall was laid, and Taipei Prefecture had jurisdiction over Hsinchu, Tamsui and Yilan counties. In the thirteenth year of the Qing Dynasty (1887), Taiwan was established as a province with 3 provinces, and the present-day Taipei County is still under the jurisdiction of Taipei Prefecture. In June of the 21st year of the Qing Dynasty (1895), the Japanese invaded Taiwan and set up Taipei County, which had jurisdiction over three branches of Keelung, Yilan and Hsinchu, and later abolished the county office. In 1920, the department was abolished and renamed Taipei Prefecture, and the existing area of Taipei County was subordinate to Taipei Prefecture. After China recovered Taiwan in 1945, The rest of Taipei Prefecture was transferred to Taipei County, except for taipei city and Keelung city, which were originally under the jurisdiction of Taipei City and Keelung City, which were changed to provincial cities. In January 1946, the Taipei County Government was formally established, with jurisdiction over Yilan City and 9 districts of Tamsui, Wenshan, Xinzhuang, Luodong, Keelung, Yilan, Qixing, Su'ao and Haishan. In 1947, the Taipei County Government moved to Banqiao Town, merged Su'ao District into Luodong District, Qixing District into Renshui District, and abolished Haishan District, changing the 6 townships under its jurisdiction to the county government. In September 1949, the towns of Shilin and Beitou in Tamsui District were assigned to the Caoshan Administration Bureau (later known as the Yangmingshan Administration). In August 1950, the administrative region of Taiwan was readjusted, and the original jurisdiction of Taipei County, including Luodong and Yilan, was divided into 1 city, 8 townships and 3 towns as Yilan County. In 1962, the Sanchong town and Banqiao town under the jurisdiction of Taipei County were successively changed to county-level cities. From 1979 to 1999, Yonghe Town, Zhonghe Township, Xinzhuang Town, Xindian Town, Tucheng Township, Luzhou Township, Xizhi Town, Shulin Town and other townships were successively changed to county-administered cities. On December 25, 2010, Taipei County was changed to New Taipei City, which administers 10 cities, 4 towns and 15 townships, namely Banqiao City, Sanchong City, Zhonghe City, Yonghe City, Xinzhuang City, Xindian City, Tucheng City, Luzhou City, Xizhi City, Shulin City and other county-administered cities, and Yingge Town, Sanxia Town, Tamsui Town, Ruifang Town, Bali Township, Sanzhi Township, Shimen Township, Wanli Township, Jinshan Township, Gongliao Township, Shuangxi Township, Pingxi Township, Pingxi Township, Wugu Township, Taishan Township, Linkou Township, Wulai Township and other townships were changed to districts. New Taipei City currently has 29 districts, 1,017 li, and 21,722 neighbors. Now New Taipei City surrounds Taipei City and Keelung City, Form a common living circle in the Greater Taipei Metropolitan Area.

New Taipei's economy is dominated by the service industry, accounting for about 60% of the city's output value. Agriculture, forestry, fishery and animal husbandry are mostly concentrated in the outer areas (former townships), of which rice production is mainly distributed in Jinshan District and Gongliao District; tea plantation is mainly distributed in Pinglin, Shiding, San-hsia and other areas; vegetable and fruit cultivation is mainly distributed in the San-hsia Area; coastal fisheries are the most developed fishing ports belonging to the Ruifang District Fisheries Association, while offshore fisheries are more developed in the fishing ports belonging to the Ruifang District and Wanli District Fisheries Associations, and the aquaculture fisheries are mainly concentrated in Gongliao District; in animal husbandry, dairy cattle, pigs, chickens, etc. are raised the most in Linkou District, ducks are raised the most in Gongliao District, sheep are raised the most in Bali District, and relatively more deer are raised in Pinglin and Shengkeng District.

Industrial production is mainly concentrated in the western half of the city is more convenient transportation areas, of which Xinzhuang District is mainly mechanical equipment manufacturing and repair industry, Zhonghe District is mainly electronic parts, computers, power machinery products industry, Xinzhuang District, Shulin District is mainly metal products manufacturing industry. In addition, New Taipei City also has public industrial zones such as Tucheng, Wugu, Ruifang, Shulin and Linkou, as well as private industrial zones such as Xinzhuangtouqian. The service industry is mainly concentrated in the western half of the county, which is more conveniently transported, of which the wholesale and retail trade is the most prominent, followed by transportation, warehousing and communication industry, and the third is construction industry. The company has the largest manufacturing industry, followed by wholesale and retail trade, and again for the construction industry.

(3) Important Towns in New Taipei City

1. Banqiao District

Banqiao District is located in the west of New Taipei City, bounded by Tamsui River and Dahan Creek, bordering Sanchong and Xinzhuang Districts, facing Taipei City across Xindian River to the northeast, Dahan River and Shulin District to the west, and Tucheng and Zhonghe Districts to the south. The population of Banqiao District is about 550,000. The terrain is dominated by river alluvial sandbars, and the terrain is flat. Xindian River on the northeast side flows from southeast to north. Dahan Creek, formerly known as Dalailai Creek, belongs to the upper reaches of the Tamsui River, flowing through the area from the south, and then flows to the northeast, after Jiangzi Cuihui Xindian River is a freshwater river, it flows northwest to The Tamsui Port and enters the sea.

2. Zhonghe District

Zhonghe District is located in the southwest corner of the Taipei Basin, adjacent to Yonghe District in the east, Banqiao District and Tucheng District in the west, adjacent to Xindian District in the south by Hengluli Luliao Mountain, adjacent to Xindian River in the north, and connected to Taipei City across Huazhong Bridge. The terrain is dominated by plains, and the terrain is high in the south and low in the north. The northern terrain is an alluvial plain, and the terrain of the plain slopes from southwest to northeast, and the undulating is not large. The southern terrain is relatively high, mostly hilly and gravel plateaus, of which the hilly land is mostly north-south, belonging to the Clearwater Pit Mountain Block, with steep slopes, severe erosion, and mostly single-slope ridge terrain. Xindian River flows through the northern part of the district, and its tributaries, Nanshijiao River (Nanshan Ditch) and WajiaoGou. Most of the population is densely distributed in the plains on the northeast side of the border with Yonghe District.

3. Xinzhuang District

Xinzhuang District is located in the west of New Taipei City, on the northwest bank of Dahan Creek, northeast of Sanchong District, southeast of Dahan River and Banqiao District, southwest of Taliaokeng River and Shulin District as the boundary, west of Taoyuan County Guishan Township adjacent, northwest of Taishan District, north of Wugu District. The terrain is dominated by plains, the terrain slopes from southwest to northeast, the west side belongs to the hilly terrain cut from the edge of the Linkou Plateau, the Baizailing Mountain is 208 meters above sea level, and the rest are plains.

The Great Han River flows from south to north along the outer edge of the east side of Xinzhuang District. Xinzhuang District is an important industrial town in Taiwan and one of the main traditional manufacturing bases in New Taipei City, with the famous Wugu Industrial Zone and large industrial zones such as Qionglin, Xisheng and Touqian at the county level. At the end of 2006, there were 4,093 factories, ranking first among the townships in Taiwan.

4. Sanchong District

Sanchong District is located on the west bank of The Tamsui River, located in the middle of the Taipei Basin, adjacent to Luzhou District and Wugu District in the northwest, Xinzhuang District in the west, Dahan River and Banqiao District in the south, and Shilin District, Datong District and Wanhua District of Taipei City in the east. The terrain is river alluvial sandbars, flat and low-lying, vulnerable to flooding. Sanchong is located at the starting and ending point of the expressway, with convenient transportation from south to north.

5. Xindian District

Xindian District is located in the south of New Taipei City, the southern corner of Taipei Basin, adjacent to Shiding District to the east, Zhonghe District, Tucheng District and Sanxia District to the west, Wulai District to the south, and Jingmei River to the north and Jingmei and Muzha (i.e. Wenshan District) of Taipei City to the north. Xindian District is the largest district in New Taipei City. The terrain is predominantly hilly and mountainous, with only the riverbank plains to the north. The terrain is high in the south and low in the north, and the southern part belongs to the hilly area of the branch of the Snow Mountain Range, with overlapping mountains and steep terrain, with a large barrel mountain at an altitude of 1,000 meters, which gradually decreases from south to north, until the edge of the Taipei Basin.

4. KEELUNG CITY

Keelung City is located in the north of Taiwan Island, bordered by the East China Sea to the north, and surrounded by New Taipei City on the east, west and south. Keelung City administers 7 administrative districts, namely Zhongshan, Zhongzheng, Xinyi, Anle, Qidu, Ren'ai, and Nuannuan. It has an area of about 132.76 square kilometers, a population of about 380,000, and a population density of 2,862 people per square kilometer. In addition, Keelung City is also responsible for the jurisdiction of Heping Island, Tongpan Island, Zhongshan Zai Island, Keelung Island, Pengjia Island, Huaping Island, Mianhua Island and other affiliated islands.

(1) Physical Geography of Keelung

1. Topography of Keelung City

The terrain of Keelung City is mainly hilly. The terrain is high on all sides and low in the northeast, and the coast is a valley bay coast.

The highest point is Jiangziliao Mountain, 729 meters above sea level. The Keelung River flows through the city, with multi-river valley terrain on both sides of the river and a flatter alluvial plain terrain along the coast.

2. Climate of Keelung City

The climate of Keelung City belongs to the subtropical monsoon climate, with warm winters and cool summers, and rain in all four seasons. The average annual temperature is 22.4°C, with the highest average temperature in July reaching 29°C, and the lowest temperature in January and February, with an average temperature 15.8°C. The average annual rainfall is 3,755 mm and the average relative humidity is 80%. The average annual number of rainfall days is 206 days. From November to March of the following year, due to the influence of the northeast monsoon, the number of rainy days per month exceeds 20 days, known as the "rainy port."

(2) Human Geography of Keelung City

In 1924, Keelung was reorganized on the basis of the original Keelung Street and became a city, which was a state-administered city in Taipei Prefecture at that time. In 1947, Taiwan Province readjusted its administrative divisions, and placed the districts of Qiduan and Nuannuan under the jurisdiction of Keelung City, forming the current scale of 7 districts. Among them, the seven blockages have the largest area, about 56 square kilometers, and the Ren'ai district is the smallest, about 4 square kilometers. The economy is dominated by the tertiary industry, mainly in wholesale and retail trade, transportation, warehousing, communications and construction. Keelung City is a port city, the city has a famous Keelung military and commercial dual-use port in Taiwan, as well as Wanghai Lane, Changtanli, Badouzi, Bisha, Waimushan, Dawulun Aodi, Zhengbin 7 fishing ports. Keelung has developed fisheries, and fishery production is mainly in the distant and offshore fishing industry. The city's central business district is Ren'ai District, agricultural production and electronics industry are mainly concentrated in Qidu District, food manufacturing industry is mainly concentrated in Anle District, Qidu District and Zhongzheng District, machinery and equipment manufacturing and repair industry are mainly concentrated in Qidu District and Anle District. Keelung City is an important transportation node in the northern part of Taiwan Island, with Highways No. 1 and No. 3, the Western Longitudinal Railway, the Yilan Railway connecting with the counties and cities on Taiwan Island, and the shipping lines and the main outlying islands.

5. HSINCHU CITY

Hsinchu City is located in the northwest of Taiwan Island, bordering the Taiwan Strait to the west, Miaoli County to the southwest, and Hsinchu County to the east and north. It administers three administrative districts: Dong District, North District and Xiangshan District. It has an area of about 104.15 km², a population of about 420,100 and a population density of 4,033 km/km².

(1) Topography of Hsinchu City

The terrain of Hsinchu City is dominated by plains, with a small part of hilly land. Northwest Hsinchu City is the Hsinchu Plain, which is flat and below 100 meters above sea level. In the southeast is the Zhudong Hills, with an altitude of 100-200 meters.

(2) Human Geography of Hsinchu City

Hsinchu was established in 1930. In 1950, Hsinchu City was established as a county-administered city under the jurisdiction of Hsinchu County. In 1980, due to the relatively developed industry and commerce of Hsinchu City, Hsinchu City was upgraded to a provincial municipality. The development and expansion of Hsinchu City is closely related to the establishment of the Hsinchu Science And Industrial Park. In December 1980, Hsinchu Science Industrial Park was officially established, which was the first science park established in Taiwan. Hsinchu Science Industrial Park is famous for its high-tech industry in Taiwan, with nearly 400 high-tech manufacturers stationed in the area, the main industries including semiconductor industry, computer industry, communications industry, optoelectronics industry, precision machinery industry and biotechnology industry, known as Taiwan's "Silicon Valley."

In addition, about 3,000 meters northwest of Hsinchu City, there is a Hsinchu Air Force Base. Hsinchu Air Force Base is the closest air base on the island of Taiwan to the mainland.

6. YILAN COUNTY

Yilan County is located in the northeast of Taiwan Island, bordering the Pacific Ocean to the east, New Taipei City to the north, Taoyuan County and Hsinchu County to the west, Taichung City to the southwest, and Hualien County to the south. Yilan County administers 1 city, 3 towns and 8 townships, namely Yilan City, Tou Town, Luodong Town, Su'ao Town, Zhuangwei Township, Yuanshan Township, Jiaoxi Township, Wujie Township, Dongshan Township, Sanxing Township, Datong Township and Nan'ao Township, with an area of 2,143.63 square kilometers, a population of about 459,100 people, and a population density of 214 people per square kilometer. In addition, Guishan Island, Diaoyu Island and its affiliated islands are under the jurisdiction of The Head Town of Yilan County.

(1) Physical Geography of Yilan County

1. Topography of Yilan County

Yilan County is located between the mountains and the sea, mainly based on the plain terrain, the west has the Snow Mountain Range, the south has the Central Mountain Range, Lanyang River flows out from between the two mountains, and the alluvial formation of a relatively large delta plain, that is, the Yilan Plain, or Lanyang Plain.

Affected by the terrain, most of the rivers on the Yilan Plain flow from west to east, and finally into the Pacific Ocean. The rivers in Yilan County can be roughly divided into three river systems: the Lanyang River water system, including the tributaries Luodong River and the Yilan River; snow Mountain Range water system, including Fudekeng Creek, Jinmian Creek, etc.; the northern section of the Central Mountain Range includes the South Ao South River and the South Ao North Stream.

2. Climate of Yilan County

The climate of Yilan County belongs to the subtropical monsoon climate. The lowest temperature is January, the average temperature is 16 you, the highest temperature is July, the average temperature is 28.4 you, and the average annual temperature is 22.31. Due to Yilan's east sea, the air is humid and the rain is abundant, and there is no obvious dry season. May to June of each year is a rainy season; july to August is the dry season, the number of rainy days is significantly reduced, but due to the summer typhoons often attack, and often bring heavy rain; from mid-September to November, due to the dual influence of the northeast monsoon and typhoon circulation, heavy rains are still frequent; from December to April of the following year, the northeast monsoon usually blows and brings abundant water vapor from the sea, often with a gentle drizzle.

(2) Transportation in Yilan County

In addition to the Yilan Line of the North-Return Railway, there are also provincial highways No. 2 (Binhai Highway), No. 9 (Beiyi Highway) and No. 5 (Jiang Weishui Expressway) connecting the north and south, as well as No. 7 and No. 7-C Highways that run from east to west.

(3) Important Townships in Yilan County

1. Yilan City

Yilan City is located in the middle of Lanyang Plain, with Yilan River in the north, Lanyang River in the south, Jiaoxi in the west, Zhuangwei Township in the east, Yuanshan Township in the west, Lanyang River and Wujie Township in the south, and Jiaoxi Township in the north. The terrain of Yilan City is mainly plain, there are no mountains and hills in the territory, the terrain is low and flat, with an average altitude of 7.38 meters, which is part of the alluvial plain of Lanyang Creek. Yilan City is the seat of the administrative organs of Yilan County, and also the center of political, economic, cultural and educational activities in Yilan County.

2. Luodong Town

Luodong Town is located in the middle of the Lanyang Plain, bordering Lanyang River to the north, Wujie Township to the east and northeast, Dongshan Township to the west and south, and Sanxing Township to the northwest. It is topographically part of the Lanyang River alluvial fan. Luodong Town is the central township of Xi'nan in lanyang plain, known as the "wood capital."

3. Dongshan Township

Dongshan Township is located in the eastern part of Yilan County, adjacent to Xincheng River and Su'ao Town to the east, Sanxing Township to the west, Datong Township and Nan'ao Township to the south, and Luodong Township and Wujie Township to the north. The northern part of Dongshan Township is part of the Lanyang Plain, and the southern part is a hilly area at the northern end of the Central Mountain Range, with hills at an altitude of 300 to 400 meters. There are rivers such as Luodong River and Dongshan River in the territory, all of which run through the countryside from southwest to northeast, and converge in Lanyang River and then inject into the Pacific Ocean.

4. Su'ao Town

Su'ao Township is located in the south of Yilan County, east of the Pacific Ocean, northwest of Dongshan Township, Wujie Township adjacent, southwest of Nan'ao Township as a neighbor. The terrain of Su'ao Town is mainly mountainous, and the plains in the area are narrow, except for the northern end located in the southeast corner of the Lanyang Plain, most of which are mountainous. It is bordered by the Pacific Ocean to the east, and the coastline is winding and multi-bay. To the southwest lies the Central Mountain Range. The main rivers in the territory are Xincheng Creek, Su'ao Creek, Dong'ao River and Nan'ao Creek. Among them, Su'ao River flows from south to north and finally flows into Su'ao Port, and Nan'ao River and Xincheng River both flow from west to east and into the Pacific Ocean. On the coast of Su'ao Town, there are many ports such as Su'ao Port, Wuwei Port, and Powder Bird Forest Fishing Port. Among them, the most famous Su'ao Port is the largest and most complete comprehensive port integrating military, commercial and fishing ports in the east coast of Taiwan.

5. Wujie Township

Wujie Township is located in the central and eastern part of Yilan County, bordering the Pacific Ocean to the east, Lanyang River to the north and Zhuangwei Township, Yilan City and Yuanshan Township to the north, Sanxing Township and Luodong Township to the southwest, and Dongshan Township and Su'ao Township to the south. The terrain belongs to the lower plain south of Lanyang Creek, and the terrain is extremely low, with an average elevation of less than 5 meters in the whole township, below 3 meters above sea level in the eastern half, and less than 1 meter above sea level in the estuary area. There is now an embankment of Lanyang Creek.

7. TAOYUAN COUNTY

Taoyuan County is located in the northwest of Taiwan Island, bordering New Taipei City to the northeast, Yilan County to the southeast, Hsinchu County to the southwest, and the Taiwan Strait to the northwest. Taoyuan County administers 4 cities, 2 towns and 7 townships, namely Taoyuan City, Zhongli City, Pingzhen City, Bade City, Yangmei Town, Daxi Town, Luzhu Township, Dayuan Township, Guishan Township, Xinwu Township, Guanyin Township, Longtan Township and Fuxing Township.

It has an area of 1,220.95 km², a population of 2,013,300 and a population density of 1,649 people/km².

(1) Natural Geography of Taoyuan County

1. Topography of Taoyuan County

The terrain of Taoyuan County is dominated by plateaus, backed by mountains and facing the sea, and the terrain slopes from southeast to northwest. Dahan River is the main river in Taoyuan County, which exits the county from the Shimen Reservoir through the northeast of Daxi Town, dividing Taoyuan County into two parts: southeast and northwest. The south-east is smaller, with hills and mountains above 300 meters above sea level. In the northwest is the Taoyuan Plateau Group, including Taoyuan Plateau, Zhongli Plateau, Pingzhen Plateau, Longtan Plateau, Bogonggang Plateau, Dianzihu Plateau and Tongluo Circle Plateau. Among them, the north of the Pingzhen plateau is part of the alluvial fan of the ancient stone gate, and the stream is short and radial into the sea on the fan surface.

2. Climate of Taoyuan County

Taoyuan County, except for the southeast mountainous area, belongs to the subtropical monsoon climate, with a mild climate. The average annual temperature is about 23°C. The average summer temperature is 27°C, and the maximum is generally not more than 32°C. The average temperature in winter is 13°C. Due to the influence of the monsoon, from late October to March of the following year, the wind is stronger and the temperature is lower; from May to September, the wind is weak and the weather is relatively clear, but there are many thunderstorms in the afternoon, and typhoons are often seen from July to September. The average annual rainfall is 1,500-2,000 mm, and the rainfall in mountainous areas is 2,000 to 4,000 mm.

(2) Important Towns in Taoyuan County

1. Taoyuan City

Taoyuan City is located in the northeast of Taoyuan County, east of Guishan Township, southeast of New Taipei City Yingge District, south of Bade City, west of Zhongli City, north of Luzhu Township. The terrain is dominated by plateaus, which are part of the alluvial fan of the ancient stone gate, most of which are flat and flat, only the Hutou Mountain in the northeast corner of the hill is higher, and has now been opened as a park. Nankan River is the main river in Taoyuan City, flowing from Guishan Township from southeast to northwest through the northeast of Taoyuan City.

2. Zhongli City

Zhongli City is located in the north of Taoyuan County, bordering Luzhu Township, Taoyuan City and Bade City to the east, Guanyin Township to the west, Dayuan Township to the north, Xinwu Township, Yangmei Town and Pingzhen City to the south.

The terrain is dominated by plateaus, which are part of the Taoyuan Plateau, and the terrain is higher in the southeast, without undulating hills. Old Street River and New Street River run from south to north through the east and west sides of Zhongli City. Zhongli City is one of the important higher education centers in northern Taiwan, with 7 colleges and universities, including Chung Ang University, ChungYuan University, Yuanzhi University, South Asia Institute of Technology, Qingyun University of Science and Technology, Universal University of Science and Technology, and Saint Christian College.

3. Pingzhen City

Pingzhen City, formerly known as "Zhangluliao," is located in the heart of Taoyuan County, bordering Daxi Town to the east, Longtan Township to the south, Yangmei Town to the west, and Zhongli City and Bade City to the north. The terrain is dominated by plateaus, located in the middle of the Wuling Plateau in Taoyuan, which is a gentle slope plateau, but the terrain on the southeast, south and southwest sides is slightly higher. The main rivers are Laojie River and Xinjie Creek, both flowing from south to north through Pingzhen City. Ponds, fish ponds and ponds are dotted around the territory.

4. Bade City

Bade City, formerly known as "Bakuaimei," is the smallest administrative area in Taoyuan County, located in the northeast of Taoyuan County, connecting the Taipei Basin and Taoyuan Plateau, east of the former Taipei County Yingge Town, south of Daxi Town, west of Zhongli City, Pingzhen City, and north of Taoyuan City. The terrain is dominated by plateaus, located on the northeast side of Taoyuan Plateau, belonging to the top plateau, the southeast terrain is slightly higher, and the northwest is lower. Jiaping River is the main tributary of Nankan Creek, which flows through densely populated areas such as Taoyuan City, Guishan Township, Bade City, and Luzhu Township, and is seriously polluted.

5. Yangmei Town

Yangmei Town, formerly known as "Yangmeipo," is the most populous town in Taiwan, located in the west of Taoyuan County, bordering Pingzhen City to the east, Longtan Township and Hsinchu County Xipu Township to the south, Hukou Township of Hsinchu County to the west, Xinwu Township to the north, and Zhongli City to the northeast. The terrain is dominated by plateaus, the terrain slopes from south to north, and the south side is mostly low hills. The main river in Yangmei Town is Shezi Creek, which originates from the Plateau of Dianzi Lake and flows from southeast to northwest. There are also many small streams between the plateaus, and the streams are usually small and clear.

8. HSINCHU COUNTY

Hsinchu County is located in the southwest of the northern part of Taiwan Island, bordering the Taiwan Strait to the west, Taoyuan County to the north, Yilan County to the southeast, Hsinchu City to the southwest, and Miaoli County to the south.

Hsinchu County administers 1 city, 3 towns and 9 townships, namely Zhubei City, Zhudong Town, Xinpu Town, Guanxi Town, Xinfeng Township, Hukou Township, Qianlin Township, Hengshan Township, Beipu Township, Emei Township, Baoshan Township, Jianshi Township and Wufeng Township. It has an area of 1,427.54 km². It has a population of about 517,600 and a population density of 363 people per square kilometer.

(1) Physical Geography of Hsinchu County

1. Topography of Hsinchu County

The terrain of Hsinchu County is mainly plains, plateaus, hills and mountains. The terrain is high in the southeast and low in the northwest. The central and western parts are the alluvial plains of The Two Streams of Touqian and Fengshan Mountains, the coast is a narrow lowland, the southern and northern half belong to the Zhudong Hills and Hukou Plateau, and the southeast half of the mountainous terrain is the Jiali Mountains and the Snow Mountain Range.

2. Hsinchu County climate

Hsinchu County's climate is subtropical monsoon. The average annual temperature is about 22°C. There is less rainfall from November to December, and there is no obvious dry season throughout the year. In autumn and winter, the northeast monsoon is strong, and the wind is a major feature of Hsinchu's climate.

(2) Economy of Hsinchu County

Hsinchu County's economy is dominated by industry and commerce. Industry to Zhubei, Hukou and other towns as the core, commercial Zhubei, Zhudong and other towns are more developed. The main industrial zones are Hukou Industrial Zone and Hsinchu Industrial Zone. Hukou Industrial Zone is located at the junction of Hukou Township and Xinfeng Township. Hsinchu Industrial Zone is a comprehensive industrial zone, which has been developed in two phases. From 1975 to 1980, the first phase of the western development was completed, covering an area of 226 hectares. After 1980, the second phase of the development of the Eastern District (expansion of the industrial park) began, covering an area of 257 hectares, as well as 34 hectares of the original Tang Rong Company, and the total area of Hsinchu Industrial Park was 517 hectares.

(3) Important Towns in Hsinchu County

1. Zhubei City

Zhubei City is located in the west of Hsinchu County, west of the Taiwan Strait, in a narrow triangle embedded in the north of the Hsinchu Plain, south of Hsinchu City, Baoshan Township and Zhudong Township, north of Xinfeng Township, Hukou Township, Xinpu Township, east of the forest townships. The terrain of Zhubei City is dominated by plains, the terrain is gentle, the water source is sufficient, except for the plough head mountain in the southeast and the Fengbiwei Mountain in the northwest, the rest are flat Hsinchu Plain.

Touqian River flows into the Taiwan Strait from east to west, and Fengshan River flows into the Taiwan Strait from east to west through the northern part of Zhubei City. Zhubei City is a new town in Hsinchu County. After Hsinchu City was upgraded to a provincial municipality in 1980, Zhubei Township was upgraded to a county-administered city in 1982 and became the seat of the administrative organs of Hsinchu County.

2. Zhudong Town

Zhudong Town, formerly known as "Shuqi Forest," is located in the west of the central part of Hsinchu County, with a narrow terrain, bordering Hsinchu City to the west, Zhubei City and Qianlin Township to the north, Hengshan Township to the east, and Wufeng Township, Beipu Township and Baoshan Township to the south. The eastern part of the town is the living area of the alpine people. Touqian River and its upstream tributary Shangping Stream run through the center of the town, except for the alluvial plains along the stream, most of which are hilly terrain and part of the Zhudong Hills.

3. Hukou Township

Hukou Township is located in the northwest of Hsinchu County, bordering Xinfeng Township to the west, Zhubei City to the south, Xinpu Town to the southeast, and Yangmei Town, Taoyuan County to the northeast. Located at the junction of hills and plateaus between Taoyuan and Hsinchu, Hukou Township is an important gateway to the north of Hsinchu County and an important transportation artery for entering and leaving Hsinchu City. Hukou Township is the most industrially developed township in Hsinchu County. As of the end of October 2008, 625 factories were located here. At present, there are 154 chemical, plastic, rubber, petroleum products and other manufacturing plants, 124 computer, communication and audio-visual electronics manufacturing industries, and 103 electronic machinery.

4. Xinfeng Township

Xinfeng Township, formerly known as Hongmaogang, is located at the northwest end of Hsinchu County, bordering the Taiwan Strait to the west, Taoyuan County to the north, Hukou Township to the east, and Zhubei City to the south. Xinfeng Township is located in the lower reaches of Xinfeng River (Xinzhuangzixi) estuary, except for the hilly land on the western edge of the Hukou Plateau in the south, the rest is a gently inclined plain terrain.

5. Xinpu Town

Xinpu Town was formerly known as "Baliguo" which means "newly reclaimed land." Xinpu Town is located in the north of Hsinchu County, bordering Hukou Township to the north, Yangmei Town of Taoyuan County to the northeast, Guanxi Town to the east, Wanlin Township to the south, and Zhubei City to the southwest. Xinpu Town is mostly hilly terrain, Fengshan River flows from west to east through the south of the town, with Xiaoli River as the main four tributaries of Fengshan River from northeast to southwest, the stream along the formation of a small alluvial plain, becoming a low flat depression between the hilly terrain, is the town's main population settlement.

Xinpu Town is famous for its abundance of pears and persimmons.

THOUGHT QUESTIONS:

1. What are the main topographies of the northern part of Taiwan Island and their impact on military activities?
2. Briefly describe the main characteristics of the terrain off the northern coast of Taiwan Island and its impact on military activities.

LECTURE 6: THE CENTRAL REGION OF TAIWAN ISLAND

The central area of Taiwan Island refers to the area west of the main watershed of the Central Mountain Range in Taiwan, south of Miaoli, and north of Beigang creek, including Taichung City, Miaoli County, Changhua County, Nantou County, and Yunlin County, a total of 1 city and 4 counties. It has an area of about 10,506.88 square kilometers and a population of about 5,765,800.

1. THE COAST OF THE CENTRAL REGION

The coast of the central region, which covers the coast south of Saltwater Harbor River to the north of North Harbor Creek, is about 190 km long. Among them, the coastline from Qidingli to the southern end of Yuanli Town in Zhunan Town, Miaoli County is about 50 kilometers long, the coastline of Taichung City is about 40 kilometers long, and the coastline of Changhua County and Yunlin County is about 93 kilometers long. The coast of the central region is located on the west side of the alluvial plains of Zhonggang Creek, Houlong Creek, Da'an Creek, Dajia Creek, Qingshui, Changhua and River Zhuoshui River, the coastal plain is wide open, all rivers flow in the same direction from east to west into the Taiwan Strait, forming a large fan island at the mouth of the river. The middle section of the west coast is flat, the seabed is flat and shallow, and it is almost all a muddy coast. The Houlong Sand Dune Group, located between Zhunan and Baishatun, is widely distributed in the coastal area of Zhonggang River and Houlong River Estuary, with a wide range. The sand dunes north of Zhonggang River are mainly distributed along the coast, and the vegetation on the dunes is dominated by dense casuarina. From the south of Zhonggang River to Baishatun, there are many parallel and slender longitudinal sand dunes, and sometimes several rows of sand dunes are connected into wider dune hills. Near Sarum Lake on the north shore of Houlong Creek, there are 7 crescent mounds, up to a maximum of 19 meters. The coast between Dajia River and Dadu River is quite active due to the large tidal difference and wide beach. After dredging and building maintenance projects such as sand breakers and windbreaks, the port of Taichung was relieved of the risk of shallow port siltation. The north side of the port area has now been silted up into a high-beauty wetland.

2. TAICHUNG CITY

Taichung City is located in the middle of Taiwan Island, with the Taichung Basin as the core, adjacent to Yilan County and Hualien County across the Central Mountain Range in the east, the Taiwan Strait in the west, Miaoli County in the north, and Changhua County and Nantou County in the south.

Taichung City administers 29 administrative districts, with an area of about 2,214.9 square kilometers, a population of about 2,664,400, and a population density of 1,203 people per square kilometer.

(1) Physical Geography of Taichung City

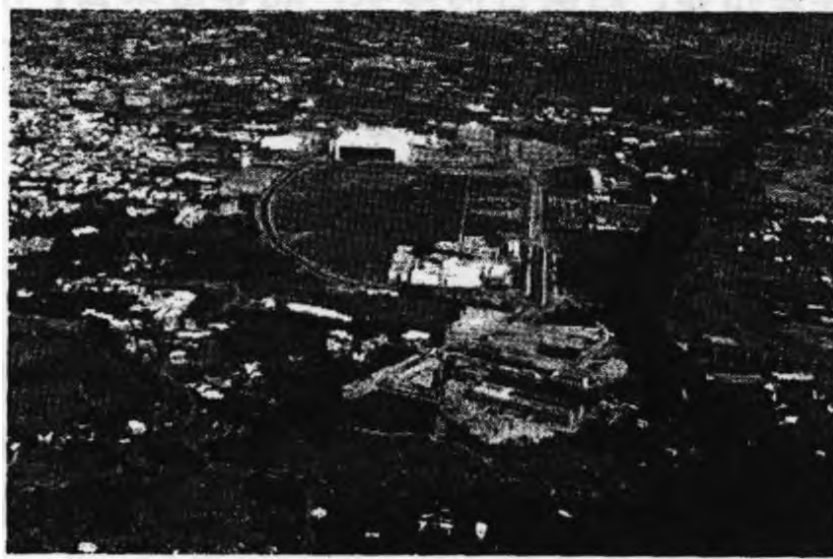
1. Topography of Taichung City

The terrain of Taichung City includes mountains, hills, basins, plateaus and plains, with a narrow east-west terrain, high terrain in the east and low in the west, and the terrain is quite complex. From east to west, they are the Central Mountain Range, the Snow Mountain Range, the Jiali Mountains, the Xinshe River Formation, the Dongshi Hills, the Fengyuan Hills, the Houli Plateau, the Dajiaxi Alluvial Fan, the Taichung Basin, the Dadu Plateau, and the Qingshui Coastal Plain. The eastern half is the southern end of the Snow Mountain Range, which is the upper reaches of the Dajia River Basin. The central part is the Taichung Basin. To the west of the Taichung Basin is the longitudinal Dadu Plateau, and to the west of the Dadu Plateau is the Coastal Plain. The terrain of the 8 districts in taichung city center is mainly basin-based, and the terrain is relatively flat, with an altitude of 50 to 150 meters, accounting for about 70% of the area of the 8 districts. There are some plateaus and mountainous terrain in District 8, of which the Tougai Mountains are higher, with an altitude of about 850 meters. The main rivers in the city are Da'an Creek, Dajia River and Wuxi River System. Part of the Da'an River water system is the boundary river between Taichung City and Miaoli County. The entire basin of the Dajia River system is in Taichung City, flowing through the northern area of Taichung City. The Wuxi (Dadu Creek) water system is the boundary river between Taichung City and Changhua County and Nantou County, and the tributaries north of the main stream are scattered in Taichung City. In addition, the rivers that flow through Taichung City include Fazi River, Dali River and Tuku Creek.

Fig. 6-1 Taichung Basin



Fig. 6-2 Rear plateau



2. Taichung Climate

Taichung has a subtropical monsoon climate. Temperatures and humidity are high. Summers are rainy, winters are dry, and there are no severe heat and cold all year round. The average annual temperature is 22 to 23°C. The average maximum temperature is about 28°C, and the average minimum temperature is about 19.4°C, the temperature is comfortable and pleasant. The northeast monsoon in winter is hampered by the central mountain range, with the north wind being the most numerous. The climate of mountains, coasts, hills and plateaus varies significantly due to topography. The climate of Taichung City can be roughly divided into three districts: the West Coast District, where the monsoon is strong and the rainfall is low; in the central basin area, the summer is rainy and the winter is dry; in the eastern hilly mountainous region, there is rain in summer and winter. The West Coast and Central Basins often experience long-term droughts in winter, especially on the West Coast. The distribution of precipitation seasons is uneven, and precipitation is mainly concentrated in May and August, accounting for about 70% of the annual precipitation.

(2) Human Geography of Taichung City

During the Qing Dynasty, the largest city in central Taiwan was Lukang and then Changhua. In the thirteenth year of Guangxu (1887), when Liu Mingchuan was in charge of Taiwan, he proposed the establishment of a Taiwan capital city in Taichung, which indirectly promoted the transfer of the administrative center of central Taiwan from Changhua to the current Taichung City, laying the cornerstone for Taichung City to become the administrative center of the central region. In 1920, Taichung was changed from Taichung Street to Taichung City, and its administrative jurisdiction included the current Central District, East District, South District, West District and North District, officially becoming the fourth largest city in Taiwan. In 1945, after China recovered Taiwan, Taichung Prefecture was changed to Taichung County, with the county seat in Yuanlin and Taichung City as a provincial municipality.

In 1947, the three townships of Beitun, Xitun and Nantun in Taichung County were transferred to the jurisdiction of Taichung City and changed to districts. In 1950, the administrative region of Taiwan was adjusted, and the former Taichung County and Changhua City were re-divided into three counties: Taichung, Changhua and Nantou, and the administrative organ of Taichung County was located in Fengyuan Town. In 1976, Fengyuan Town was changed to Fengyuan City. In 1993, Dali Township was changed to Dali City. In 1996, Taiping Township was changed to Taiping City. On December 25, 2010, Taichung County and City were merged, and the 3 cities (Fengyuan City, Dali City, Taiping City), 5 towns (Qingshui Town, Dajia Town, Dongshi Town, Wuqi Town, Shalu Town), 13 townships (Da'an Township, Waipu Township, Houli Township, Shigang Township, Shengang Township, Tanzi Township, Longjing Township, Dadu Township, Wuri Township, Daya Township, Wufeng Township, Xinshe Township, and Heping Township) under the jurisdiction of the former Taichung County were changed to districts, plus the 8 districts of the former Taichung City (West District, North District, South District, East District, Central District, Xitun District, Nantun District, Beitun District), Taichung City currently has 29 districts.

With the adjustment of administrative divisions and the development of economic construction in Taiwan, Taichung City has developed into an important town and an important transportation node in central Taiwan. Taichung City is located in the center of Taiwan's north-south transportation, the external transportation facilities mainly include Taichung Port, Qingquangang International Airport, high-speed rail Taichung Station, etc., with convenient land, sea and air transportation and other advantages, is the center of the central region of Taiwan's politics, economy, culture, education, transportation, entertainment, commerce, shipping and other fields. In addition, the Qingquangang Air Base was built in the northwest of Taichung City. Qingquangang Air Base is the largest air base on Taiwan Island, capable of taking off and landing various types of fighters, bombers and transport aircraft.

(3) Important Towns in Taichung City

1. Dali District

Dali District, formerly known as DaliDai, is the former Taichung County's most populous county-administered city, now Taichung City Dali District, located in the southeast of Taichung City, east of Taiping District, south of Caohu River and Wufeng District, west of Wuri District, north of Dry River and East District, South District as neighbors. The terrain is dominated by plains, low and flat terrain, belonging to the Taiping Joint Alluvial Fan, and only in the eastern part of the district there are hills at an altitude of about 100 meters. The terrain slopes from southeast to northwest, at an altitude of 30-100 meters, and the highest point is located in the southeast of the Jhuzihkeng, 352 meters above sea level. The main river is Dali Creek, which originates from the Dahengping Mountains, belongs to the Wuxi river system, flows from north to south, and there are tributaries such as Dry Creek, TouBeikeng Creek, and Caohu River. At the junction of Dali District and Taiping District, there is Dali Industrial Zone, which is about 9,000 meters away from the center of Taichung City. Dali Industrial Zone began construction in April 1991 and was completed in December 1992, covering an area of 77.2 hectares, planned as a low-pollution comprehensive industrial zone, with 252 registered factories, the main industries are machinery, tools, hardware.

2. Taiping District

Taiping District is located in the southeast of Taichung City, bordering Xin Community and Nantou County Guo surname township to the east, Dali District, North District and East District to the west, Beitun District to the north, and Wufeng District to the south. Taiping was formerly known as Niasongtou," and was renamed Taipingzhuang in the forty-seventh year of the Qianlong Dynasty (1782). During the Japanese occupation (1920), it was renamed "Ohira." In 1950, it was changed to Taiping Township, Taichung County. In 1996, it was upgraded to a county-administered city in Taichung County, and in December 2010, it was changed to a district of Taichung City. The terrain is mainly hilly, with an altitude of 100 to 500 meters. The western part of the country is 1/3 of the area is plain. The terrain is high in the east and low in the west. The main rivers are Dali Creek, and there are also tributaries such as Dry Creek, Kuzi Creek, Toupikeng Creek, Beikeng Creek, and Dongbeikeng Creek, and finally all converge on Dali Creek, and the river density ranks first in Taichung City. The district is one of the important emerging cities in the central region, mainly producing machinery and equipment, aluminum products and plastic products, and occupies an important position in the industrial production of Taiwan Island.

3. Fengyuan District

Fengyuan District is located in the north of Taichung City, bordering Dongshi District, Shigang District and Xin Community to the east, Shengang District to the west, Houli District to the north, and Tanzi District to the south. The terrain is predominantly hilly. The southeast is hilly land at an altitude of 300 to 400 meters, and the rest is gentle hills at an altitude of 200 meters, with high terrain in the east and low in the west. In Fengyuan District, there are Dajia Creek, Dry River and Wuniulan River flowing through. A section of the middle reaches of Dajia River flows through Fengyuan District, and its flow direction flows from east to west; Dry River belongs to the Wuxi river system, originating from Guanyin Mountain, Gonglaoping, DongjianShan and other mountainous areas, and flows northeast to southwest in Fengyuan District; Wuniulan River is one of the tributaries of the Dry Creek, flowing from east to west into the Dry Creek. Fengyuan District was originally Fengyuan Town, which was reorganized and upgraded to a county-administered city in Taichung County in 1976, and is the seat of the administrative organ of Taichung County. In December 2010, it was changed to a district of Taichung City. Fengyuan District is the transportation center of the northern Taichung Basin, and the industry and commerce are more developed.

4. Tanzi District

Tanzi District is located in the central part of Taichung City, bordering Beitun District to the southeast, Daya District to the west, and Fengyuan District and Shengang District to the north. The terrain is dominated by plains and hills. The eastern part is a hilly area of 300 to 500 meters above sea level, and the western part is a plain with an altitude of about 100 meters, which belongs to the Taichung Basin and the Dajiaxi ancient alluvial fan. The terrain slopes from east to west. The main river in the territory is dry creek, which runs through Tanzi District from north to south. In December 2010, it was changed to a district of Taichung City.

The industry in the area is mostly agriculture, and the crops are mainly vegetables. The industries are mainly mechanical equipment manufacturing and repair centers, followed by metal products manufacturing.

5. Daya District

Daya District is located in the west of Taichung City, bordering Tanzi District to the east, Shalu District to the west, Shengang District to the north, and Xitun District to the south. The terrain is dominated by plains, which is part of the Taichung Basin, and Dadu Plateau in the west, with a height of 313 meters, and the terrain is high in the west and low in the east. The streams in the area are mainly artificial canals, which are used for flood control and irrigation. The economy of Daya District was originally dominated by agriculture. After the construction of the industrial zone, the Taichung Aerospace Industrial Zone is the mainstay, covering an area of 136.23 hectares, with the potential to develop high-tech industries. All kinds of factories are mainly mechanical equipment manufacturing and repair industry, followed by metal products manufacturing industry. In December 2010, it was changed to a district of Taichung City.

3. MIAOLI COUNTY

Miaoli County is bordered by Hsinchu City by the Saltwater Harbor River to the north, Hsinchu County to the northeast by the Ridge line of the Snow Mountain Range, Snow Mountain Range to the southeast, Taichung City to the south, and the Taiwan Strait to the west. Miaoli County administers 1 city, 6 towns and 11 townships, namely Miaoli City, Zhunan Town, Toufen Town, Houlong Town, Tongxiao Town, Yuanli Town, Zhuolan Town, Zhaoqiao Township, Sanwan Township, Xihu Township, Touwu Township, Gongguan Township, Tongluo Township, Sanyi Township, Nanzhuang Township, Shitan Township, Dahu Township and Tai'an Township. It has an area of about 1,820.31 km², a population of about 562,000, and a population density of 309 people/km².

(1) Physical Geography of Miaoli County

1. Topography of Miaoli County

The terrain of Miaoli County slopes from southeast to northwest, and from east to west, it can be roughly divided into four terrain areas, including the Snow Mountain Range, the Jiali Mountain Range, the Zhunan Miaoli Hills, the Zhonggang Creek, the Houlong Creek, and the Da'an River Alluvial Plain. The main rivers are Zhonggang Creek, Houlong Creek, West Lake Creek, Da'an Creek, etc., which are affected by the terrain and flow from east to west, and are injected into the Taiwan Strait. Miaoli County starts from the northern end of Zhunan Town, Qidingli, and reaches the coast of the southern end of Yuanli Town, with a coastline of more than 50 kilometers. Geographically, the four towns of Zhunan, Houlong, Tongxiao and Yuanli belong to the sea line, the 8 townships and cities of Toufen, Zhaoqiao, Miaoli, West Lake, Touwu, Gongguan, Tongluo and Sanyi belong to the mountain line, and the 6 townships of Sanwan, Nanzhuang, Shitan, Dahu, Zhuolan and Tai'an belong to the Neishan line.

2. Climate of Miaoli County

The climate of Miaoli County belongs to the subtropical monsoon climate. Affected by the terrain, the temperature distribution of Miaoli County is uneven, showing a decreasing trend from the western coast to the eastern mountainous area. Precipitation is mainly concentrated in the spring and summer seasons when plum rains and typhoons are prevalent from March to August, and the precipitation is limited in autumn and winter, showing a clear dry season. The distribution of rainfall is more in mountainous areas than hills, hilly lands are more than plains, the average annual rainfall in eastern mountainous areas is more than 2,500 mm, and the average annual rainfall in the western coastal plains is 1,200-1,600 mm. The area around Da'an River and Huoyan Mountain at the southern end of the Taiwan region is the dividing line between the north and south climates of Taiwan, and the southern boundary of winter monsoons.

(2) Economy of Miaoli County

The economy of Miaoli County is dominated by the secondary and tertiary industries. Miaoli County is the county with the highest amount of bamboo forest in Taiwan, and the coastal areas are all town-level administrative regions, which is the main oil and gas production area in Taiwan. The industry in Miaoli County is concentrated in Miaoli City, Zhunan Town and Toufen Town. Among them, Toufen Town is mainly engaged in the manufacturing of metal products; zhunan Town is mainly engaged in the manufacturing of non-metallic mineral products, as well as electronic parts, computers, and power machinery products; miaoli City is mainly engaged in food manufacturing. Miaoli County now has three general industrial zones: Toufen, Zhunan and Tongluo, as well as Zhunan Park of Hsinchu Science Industrial Park. Hsinchu Science Industrial Park Zhunan Park is located in Dingpuli, Zhunan Town, Miaoli County, construction began in July 1999, covering an area of 159 hectares, has been the introduction of biotechnology, communications, optoelectronics and other high-tech industries. Miaoli County's transportation network takes Miaoli City, Zhunan Town, and Toufen Town as important transportation nodes, and the external transportation lines connecting the north-south direction mainly include railway mountain line, sea line, provincial highway No. 1, Taiwan 13-A, Xibin Expressway, second highway and high-speed railway, etc., and east-west traffic includes Miao 126 line, Taiwan 6 line, provincial highway 72 line Houwen Expressway, etc.

(3) Important Townships and Towns in Miaoli County

1. Toufen Town

Toufen Town is located in the north of Miaoli County, bordering Sanwan Township and Emei Township of Hsinchu County to the east, Zhunan Town to the west, Baoshan Township of Hsinchu County to the north, and Zhaoqiao Township to the south. The terrain is dominated by lowland hills, about 1/3 of the western part are plains, and the rest are lowland hills at an altitude of about 100 meters. The river that passes through the town belongs to the Zhonggang River Basin, which flows from east to west.

Miaoli County is one of the counties and cities in Taiwan where the Hakka people are concentrated, the Hakka population in the county accounts for about 60.61% of the county's population, and among the townships in the north of Miaoli County, the Hakka population in Toufen Town is the largest, about 82,000 people.

2. Miaoli City

Miaoli City is located in the western part of Miaoli County, bordering Touwu Township and Gongguan Township to the east, Xihu Township to the west, Houlong Town to the north, and Tongluo Township to the south. The terrain is mainly hilly, the western half is higher, it is a lowland hill at an altitude of about 100 meters, and the plain area of the Houlongxi River Valley in the east is a population gathering place. The main rivers are Houlong River and Nanshi Creek. Houlong River flows from south to north and then west in the city, with abundant flow, which can provide irrigation and industrial water, and is the main river in the city. In the south, there is a southern stream flowing through, flowing from south to north, with short processes, rapid water, large drops, and a huge difference in water volume in the rainy and dry seasons. Miaoli City is the seat of the administrative organ of Miaoli County, and the transportation network is mainly based on the municipal road system with Zhongzheng Road, Zhonghua Road, Guohua Road and Jingguo Road as the backbone, and forms a simple and convenient transportation network with the surrounding townships.

3. Zhunan Town

Zhunan Town, formerly known as "Sanjiaidian," is located in the northwest of Miaoli County, adjacent to Toufen Town in the east, Hsinchu City in the north, and Zhonggang River in the south across the road from Zhaoqiao Township and Houlong Town. The terrain is dominated by plains, the terrain is low and flat, only the northern Jianbi Mountain, 102 meters above sea level, is the commanding height of the town, but also the ancient battlefield of the local people's anti-Japanese resistance after the Sino-Japanese War. Zhonggang River flows from east to west, with two tributaries of River Huiliao River and Sheliu River, which flow out to sea in the south of the town. In the north of the town, there is a saltwater port stream flowing from east to west, which is the boundary river between the town and the Xiangshan District of Hsinchu City. The confluence of Zhonggang River and Sheliu River is the Zhunan Wetland, which was listed as a Mangrove Ecological Reserve in 1987.

4. Yuanli Town

Yuanli Town is located in the southwest of Miaoli County, adjacent to Sanyi Township in the east by the Huoyan Mountain Ridge Line, bordering Taichung Dajia District to the south, Taiwan Strait to the west, and Tongxiao Town to the north. The terrain is dominated by plains and hills, and the southeast is a hilly terrain of 100 to 500 meters, also known as Huoyan Hills, and the rest of the terrain is low and flat, which is the Yuanli Plain. The terrain is high in the southeast and low in the northwest. Huoyan Mountain is located in the southeast section of the hill, is the highest point of the hilly land, 602 meters above sea level, running north-south, is the natural boundary between the town and Sanyi Township. In the north, there is a Yuanli Stream, which originates from the Huoyan Mountains in the east, flows into the Taiwan Strait from southeast to northwest, and the lower reaches are the boundary rivers of Yuanli and Tongxiao. In the south, there is a stream flowing through it, and it also originates in the eastern Huoyan Mountains, flowing from southeast to northwest.

5. Houlong Town

Houlong Town is located in the west of Miaoli County, bordering Zhaoqiao Township, Touwu Township and Miaoli City to the east, Zhunan Town to the north, Tongye Town and Xihu Township to the south, and the Taiwan Strait to the west. The main terrain is plains and hills, the terrain is roughly bounded by Longxi, the north is the plain, and the south is mostly hilly, showing a high south and low north terrain. The town has Zhonggang Creek, Houlong River and West Lake Stream flowing through, and the alluvial plains downstream have fertile soil suitable for growing rice and miscellaneous grains, and there are intricate irrigation channels in the territory. Zhonggang River flows from east to west, and its downstream outlet is the boundary river between Houlong Town and Zhunan Town, Hsinchu County. Houlong River flows from east to west, and is the largest river in Miaoli County, the main tributary is Laotianliao Creek, and there is a Mingde Reservoir in its upper reaches. West Lake River flows from south to north, and the main tributaries are Yamukeng and Shuiwei Creek.

4. CHANGHUA COUNTY

Changhua County is located in the central and western parts of Taiwan Island. It is bordered by Nantou County by the Bagua Mountains to the east, the Taiwan Strait to the west, Yunlin County to the south, and Taichung City to the north. Changhua County administers 1 city, 7 towns and 18 townships, namely Changhua City, Hemei Town, Lugang Town, Yuanlin Town, Xihu Town, Erlin Town, Beidou Town, Tianzhong Town, Xianxi Township, Xiangang Township, Xiushui Township, Huatan Township, Fenyuan Township, Dacun Township, Puyan Township, Fuxing Township, Puxin Township, Yongjing Township, Shetou Township, Tianwei Township, Fangyuan Township, Pitou Township, Ershui Township, Xizhou Township, Zhutang Township, and Dacheng Township. It has an area of about 1,074.4 square kilometers, a population of about 1,303,000 people, and a population density of 1,213 people per square kilometer.

(1) Physical Geography of Changhua County

1. Topography of Changhua County

The terrain of Changhua County is dominated by plain terrain, and there are also some plateau terrain. Changhua County is located on the Changhua Plain, the plain terrain is the most important terrain of Changhua County, the most extensive area, with the Dadu Plateau and Bagua Plateau on both sides of the Dadu River as the boundary, divided into two parts of the inland Taichung Basin and the Coastal Plain. The hillside land is distributed in the Bagua Plateau area on the east side of Changhua County. In addition, in the eastern townships of Shetou Township, Tanaka Township, Ershui Township, Yuanlin Township, Huatan Township and Changhua City, there are security forest lands. The main rivers in the county are Dadu River (Wu Creek), Maoluo River and Zhuoshui River, all of which flow westward into the Taiwan Strait.

Fig. 6-3 Bagua Plateau



2. Climate of Changhua County

The climate of Changhua County is subtropical monsoon type, with summer rain and dry winter. The average annual temperature is about 23°C. The lowest temperature is January, with an average temperature of 16.2°C, while the highest temperature is July, which has an average temperature of 28.5°C. In winter, the northeast monsoon winds, due to the obstruction of the central mountain range, the climate is dry, the rainfall is very small, and drought often occurs. In summer, the southwest wind blows, the temperature is high, the sea breeze is strong, there are often typhoons, and the rainfall is extremely abundant.

(2) Important Townships in Changhua County

1. Changhua City

Changhua City was formerly known as "Banxian," and the name "Changhua" was advocated by the Fujian Governor during the Qing Yongzheng Period to take "manifestation of imperialization" Meaning. The city is the seat of the administrative organ of Changhua County, located in the northeast of Changhua County, bordering Wuri District of Taichung City to the east, Hemei Town to the west, Dadu District of Taichung City to the north, and Xiushui Township, Huatan Township and Fenyuan Township to the south. The terrain is dominated by plains. The southeast is the outer edge of the Bagua Plateau, mostly 60 to 100 meters above sea level, and there is Bagua Mountain on the east side of the city, with an altitude of 97 meters, which is the famous Bagua Mountain Giant Buddha Scenic Area, and the rest of the terrain is low. In the north of Changhua City, there is Wuxi (Dadu River), which is the natural boundary river between the city and Taichung City, and the Yangzai Cuo River in the southwest, both of which flow from southeast to northwest. Agriculture in the city is dominated by rice and grain cultivation, and industry is dominated by metal products manufacturing and machinery and equipment manufacturing and repair.

2. Yuanlin Town

Yuanlin Town is located in the east of Changhua County, bordering Fenyuan Township to the northeast, Nantou City of Nantou County to the east, Puxin Township to the west, Dacun Township to the north, Yongjing Township and Shetou Township to the south. The terrain is dominated by plateaus and plains. The east side is the Baguatai area, and the west side is the Changhua Plain area. The easternmost 1/3 of the area is the Bagua Plateau at an altitude of 100-200 meters, and the rest of the terrain is low and flat. The Changhua Fault passes through the town, during the 1999 "921" the earthquake, soil liquefaction occurred in many parts of the town. There are no large rivers in the territory, most of which are irrigation channels and large drainage ditches. Yuanlin is the main agricultural product distribution center of Changhua Plain, one of the three major fruit wholesale markets in Taiwan, and also a famous food processing and canning manufacturing center in Taiwan, with canned fruit and pineapple being the most famous. Agricultural products mainly include rice, lime, star fruit, lychee, longan, guava and so on. Yuanlin Town has developed industry and commerce, the industrial structure is mainly manufacturing, and the factories are mainly concentrated on both sides of the longitudinal highway, mostly food processing industry and manufacturing industry. There is also an industrial area in the town, covering an area of about 39.78 hectares.

3. Hemei Town

Hemei Town is located in the north of Changhua County, bordering Changhua City to the east, Line Xi Township to the west, Xiangang Township and Taichung Dadu District to the north, and Lukang Town and Xiushui Township to the south. The terrain is dominated by plains, with low and flat terrain and no uplifting highlands. There is Wuxi in the northeast, which flows from southeast to northwest, which is the boundary river between the town and the Dadu District of Taichung City. Originally based on agriculture, Hemei Town later devoted itself to the development of industry, changing the town's industrial structure. The main industries in Hemei Town are metal products manufacturing, textile industry, plastic products industry, machinery and equipment manufacturing and repair industry. Among them, hemei textile industry was once the most developed, there are more than 200 textile factories with the elegant name of "textile kingdom."

4. Lukang Town

Lukang Town is located in the northwest of Changhua County, bordering Hemei Town and Xiushui Township to the east, Line Xi Township to the north, Fuxing Township to the south, and Taiwan Strait to the west. The terrain is dominated by plains, and the terrain is low and flat. In the northwest of the Changhua Plain, the height is below 10 meters above sea level. Yangzai Cuo River originates from the Bagua Plateau and runs from east to west through the Taiwan Strait. Lukang, known as the "Luzai River," begins to blow the northeast monsoon every September, and the wind speed continues to increase in winter, often exceeding 10 per second from November to January. Meters of strong winds. Summer rainfall is abundant. Lukang, formerly known as "Luzai Harbor," is an important fishing port in the central region. Fisheries are more developed, mainly coastal fisheries. The population engaged in fishing accounts for about 10% of the total population of Lukang Town and 36.4% of the fishery population of Changhua County.

5. Xihu Town

Xihu Town is located in the middle of Changhua County, bordering Puxin Township and Yongjing Township to the east, Erlin Township to the west, Puyan Township to the north, and Pitou Township and Tianwei Township to the south. The terrain is dominated by plains. The town is located on the Changhua Plain, the terrain is low and flat, the southeast is slightly higher, there are 20 to 60 meters of small highlands. The old Zhuoshui River flows from southeast to northwest, becoming a natural boundary river between the town and Erlin Town, and there are many intricate ditches in the territory. With fertile soil, Xihu Town is one of the most important vegetable producing areas and distribution markets in Taiwan. The traffic is convenient, and there are Zhongshan Expressway, Taiwan 19 Line, Hanbao Caotun East-West Expressway and other traffic arteries passing through.

5. NANTOU COUNTY

Nantou County is located in the middle of Taiwan Island and is the only county on Taiwan Island that is not facing the sea. Nantou County is bordered by Taichung City, Changhua County, Yunlin County, Chiayi County, Kaohsiung City and Hualien County on four sides. Nantou County administers 1 city, 4 towns and 8 townships, namely Nantou City, Puli Town, Caotun Town, Jiji Town, Zhushan Town, Guoli Township, Zhongliao Township, Mingjian Township, Yuchi Township, Shuili Township, Lugu Township, Renai Township and Xinyi Township. It has an area of about 4106.44 square kilometers, a population of about 522,800, and a population density of 127 people per square kilometer. There are many tribes and ethnic groups of the local ethnic minorities, mainly Taiya, Bunun, Zou and Shao.

(1) Physical Geography of Nantou County

1. Topography of Nantou County

The terrain of Nantou County is mainly mountainous. The county is full of mountains, including Baigu Dashan, Eight Immortals Mountain, Bagua Plateau, Douliu Hills, Alishan Mountain Range, and Central Mountain Range, and the hillside area accounts for more than 92% of the county's area. The flat land is mainly located in the basin bottom terrain, scattered in the upper reaches of Wuxi Beigang River and Zhuoshui River and other watersheds, there are Puli, Yuchi, Caonan, Sun Moon Lake, Toushe and other small basin groups. With the exception of Puli and Yuchi, most of the basins are below 1 square kilometer. The overall terrain slopes roughly from east to west, and the upper reaches of the two streams of Wu River and Zhuoshui River flow from east to west. The geological conditions in the territory are complex, from east to west, there are Bilu Mountain Layer, Lushan Layer, Dami Sandstone, Jiayang Layer, Shuichang Stratum, Zhuolan Layer, Jinshui Shale, Touyan Mountain Layer, etc., showing a north-south arrangement. In addition, there are local distributions such as plateau accumulation layers and alluvial layers, the geology is relatively fragmented, and about 50% of the soil on the hillside is dominated by avalanche soil and stony soil.

2. Climate of Nantou County

The climate of Nantou County is a subtropical monsoon climate, with the average annual temperature of flat townships about 23°C and the average temperature of mountain townships below 20°C. The average annual rainfall in Pingdi Township is below 1750 mm, in the mountainous areas above 2,800 mm, and in the hilly areas, the rainfall is about 2,000-2,800 mm, and the rainy season is from April to September every year, and the dry season is from October to March of the following year.

(2) Important Towns in Nantou County

1. Nantou City

Nantou City is the seat of the administrative organ of Nantou County, located in the west of Nantou County, bordering Zhongliao Township to the east, Yuanlin Town and Shetou Township of Changhua County to the west, Mingjian Township to the south, Caotun Town and Fenyuan Township of Changhua County to the north. The terrain from west to east is bagua plateau, Nantou Plain, and Nantou hills, which are roughly in a north-south direction. The height of the Bagua Plateau is about 200 to 500 meters above sea level, and it slopes slowly from west to east. The Nantou Plain belongs to the southern edge of the Taichung Basin, formed by the alluvial of Maoluo Creek, and is a population gathering place. The height of the Nantou hills is about 100 to 300 meters above sea level, and it belongs to the western fault mountainous area. The terrain is high in the east and west and low in the middle. Maoluo River flows from south to north into Wuxi, with two tributaries of Zhangping River and Pinglin Creek. The economy of Nantou is dominated by industry and commerce. The industry is mainly integrated industry, agriculture and forestry manufacturing and processing export, and most of the factories are distributed in Nangang Industrial Zone.

2. Caotun Town

Caotun Town is located in the northwest of Nantou County, slender from east to west, narrow from north to south, bordering the township of surname in the east, Fenyuan Township of Changhua County to the west, Wufeng District of Taichung City to the north, and Nantou City to the south. The terrain of Caotun Town is dominated by plains and hills, and the terrain is high in the east and low in the west. The western part of the town is 1/3 of the area of the plain, the east and southeast are mainly hilly, the eastern hilly height is 200 to 700 meters above sea level, and the southeast is 200-1,000 meters above sea level of hilly mountainous land. The main rivers are Wuxi and Aichaxi. Wuxi originates from the western foothills of Hehuan Mountain in the Central Mountain Range, flows from northeast to southwest through Caotun Town, turns to the northwest, and flows west along the border of Caotun Town, which is the boundary river between the town and the Wufeng District of Taichung City. Ailiao River flows from east to west through the center of the town, downstream called Jia Pod Creek, and finally joins Wuxi. In the northeast of the town, there is the famous Jiujiu Peak, which belongs to the geological topographic landscape of Huoyan Mountain, and after the "921" earthquake, the Jiujiu Peak Natural Reserve was established, which is called "Taiwan's Three Major Huoyan Mountain Terrain" together with Sanyi Huoyan Mountain and Liugui Eighteen Luohan Mountain. The main agricultural specialties of Caotun Town are flowers, betel nuts, rice, tobacco leaves and grapes.

3. Puli Town

Puli Town is located in the hilly area of central Taiwan Island and is the geographical center of Taiwan Island. It is bordered by Ren'ai Township to the east, Ren'ai Township to the west, and Yuchi Township to the south. The terrain of Puli Town is dominated by basins. The center of the town is a basin with an altitude of 300 to 500 meters, which is the population of Puli Town. Surrounded by mountains, there is a triangle ridge in the north, with an altitude of 932 meters; to the west is Mount Guanyin, 838 meters above sea level; to the south there is Shirahayama, 853 meters above sea level; northeast about Dao Mountain, 1924 meters above sea level, is the highest mountain range outside Puli. The town is the northernmost and largest basin in the basin group between Zhuoshui River and Beigang Creek, and is also known as "Butterfly Town" and "Little Luoyang." The rivers that flow through Puli Town are Meixi and Nangang Creek, which converge under Guanyin Mountain and are both tributaries of the upper reaches of Wuxi. Huzi Mountain, east-central Puli Town, with an elevation of 555 meters, is the origin of geographic surveys on Taiwan Island. The climate of Puli Town belongs to the subtropical humid climate, with no severe cold in winter, no severe heat in summer, small temperature difference between day and night, abundant rainfall, cloudy fog, high humidity, small evaporation and no strong wind. Puli Town is located in the remote western part of the hilly basin in central Taiwan, with inconvenient external transportation, only Tai 14, Tai 21 and Highway 6, newly built in 2009.

4. Zhushan Town

Zhushan Town is located in the southwest of Nantou County, bordering Lugu Town to the east, Linnei Township and Douliu City of Yunlin County to the west, Jiji Town, Mingjian Township and Ershui Township of Changhua County to the north, and Gukeng Township of Yunlin County and Alishan Township of Chiayi County to the south. The terrain of Zhushan Town is dominated by plains and mountains. The northwest and west of the town are 1/3 of the alluvial plains of Zhuoshui River and its tributary Clear Water Creek, and the eastern and southern parts are mainly hilly and mountainous, with an altitude of 300 to 2,500 meters. The interior of the town is high in the south and low in the north, and the highest point is Luqu Mountain in the southeast, with an altitude of 2288 meters. The Zhuoshui River flows from northeast to southwest through the northern end of Zhushan Town, while the Clear Water River flows from south to north to confluence, and the plain formed by the alluvial two streams is the town's population gathering place. The main crops in Zhushan Town are rice, tea, betel nut, tobacco, bamboo and bamboo shoots. The public forest area is about 36.5 hectares, and the yield is 75,400 plants.

5. Mingjian Township

Mingjian Township is located in the west of Nantou County, bordering Zhongliao Township and Jiji Town to the east, Tanzhong Town to the west, Nantou City and Shetou Township of Changhua County to the north, Zhushan Town and Ershui Township of Changhua County to the south. The terrain consists mainly of plateaus, plains and hills. The terrain is a narrow valley with high sides and low in the middle. The western part of the township is a Bagua plateau with an altitude of 200 to 500 meters, the central part is a plain, and the easternmost part is the Jiji Mountain Range, with a steep slope and a turbid water mountain at an altitude of 404 meters.

The Zhuoshui River flows from northeast to southwest through the southeast of Mingjian Township, and is the natural boundary river between the township and Zhushan Township. Fanziliao River flows southwest to northeast into Maoluo Creek, which is one of the tributaries of Wuxi. The climate in Nama Township is mild, with an average annual temperature of 22 to 25°C. The average annual rainfall is 1,500 to 2,000 mm, mainly concentrated in the summer from May to August. Winters are dry and water scarce. The township has a "921" earthquake park, located 232 kilometers from the Taiwan Line 3 Provincial Highway, and there is an iron tower tilted by the earthquake on the side of the road.

6. YUNLIN COUNTY

Yunlin County is located in the south-central part of the west coast of Taiwan Island, the northernmost part of the Jia nan Plain, the central location is Huwei Town, east of Nantou County, west of the Taiwan Strait, south of Beigang River and Chiayi County, north of Zhuoshui River and Changhua County. Yunlin County administers 1 city, 5 towns and 14 townships, namely Douliu City, Dounan Town, Huwei Town, Xiluo Town, Tuku Town, Beigang Town, Gukeng Township, Dapi Township, Zhentong Township, Linnei Township, Erlun Township, Lunbei Township, Maicha Township, Dongshi Township, Baozhong Township, Taixi Township, Yuanchang Township, Sihou Township, Shuilin Township, and Kouhu Township. Yunlin County is the longest kilometer from north to south, 50 kilometers wide from east to west, and has an area of about 1,290 Square kilometers, the population of about 710,000, population density per person/km². In Yunlin County, except for Douliu City, Gukeng Township and Linnei Township, which are close to the mountainous area, the remaining 17 townships are in the plain area. Yunlin County's economy is mainly based on agriculture and animal husbandry, and it is one of the main agricultural counties in Taiwan.

(1) Natural Geography of Yunlin County

1. Topography of Yunlin County

The terrain of Yunlin County is dominated by the alluvial fan of The Zhuoshui River and the Douliu Hills, and is bounded by a contact fault. Except for the eastern half of Gukeng Township, which belongs to the Douliu Hills, most of the townships and cities belong to the left part of the alluvial fan of The Zhuoshui River. Geology of Yunlin County, except for the Douliu Hills, which belongs to the Touga Mountain Layer, most of the area is dominated by the alluvial layer of The Zhuoshui River, and there are quite rich soluble salts. The overall terrain slopes gently from northeast to southwest, and the east is mountainous, located in Jia Nanyun in the Douliu Hills of Gukeng Township, with an altitude of 1,795 meters and a grass ridge altitude of about 1,770 meters. The area around Waihu and Zhanghu Lake is about 1 meter above sea level. The average height of Douliu Hills is 200-300 meters above sea level. The plain is an alluvial fan plain of Zhuoshui Rivers.

2. Climate of Yunlin County

Yunlin County has a subtropical monsoon climate, with an average annual temperature of about 22°C, except for a few mountainous and hilly plateaus in the southeast. The average annual rainfall is about 1,029 mm, most of which is concentrated in the summer from June to September, accounting for more than 60% of the annual rainfall.

(2) Important Towns in Yunlin County

1. Douliu City

Douliu City is located in the east of Yunlin County, bordering Zhushan Town of Nantou County to the east, Dounan Town to the west, Linnei Township, Litong Township and Huwei Town to the north, and Gukeng Township to the south. The terrain of Douliu City is dominated by plains. In the east, 1/5 of the area is hilly land with an altitude of 200 to 300 meters, and the rest of the terrain is low and flat. The city is dominated by the old Huwei River and Yunlin Creek. The Old Tiger Tail River flows from east to west through the northern part of Douliu City and belongs to the Beigang River water system. Yunlin River flows from southeast to northwest. Douliu City has a subtropical monsoon climate with an average annual temperature of about 23°C. The average annual rainfall is 1,500 to 2,000 mm. Summer is hot and rainy, and the rainfall is mainly concentrated in June to August, mainly typhoon rain or tropical rain. Due to the distance from the sea, winter is basically unaffected by the northeast monsoons.

2. Huwei Town

Huwei Town is located in the central part of Yunlin County, bordering Douliu City and Dounan Town to the east, Tuku Town to the west, Lunbei Township, Erlun Township, Xiluo Town and Litong Township to the north, and Dapi Township to the south. Huwei Town is located in the northwest of the Jia Nan Plain, the terrain is dominated by plains, the terrain is flat, and it slowly descends from east to west. New Tiger Tail River flows east-to-west along the town's northwestern border. The Old Tiger Tail River flows through Huwei Town from southeast to northwest, and turns in Pingheli, flowing from northeast to southwest to join beigang creek. In the middle of the town, the Town is run by the Jia Nan Dazhen, and the plains are densely crisscrossed with irrigation canals.

3. Xiluo Town

Xiluo Town is located in the north of Yunlin County, bordering Litong Township to the east, Erlun Township to the west, Zhutang Township and Xizhou Township of Changhua County to the north, and Huwei Township to the south. The terrain of Xiluo Town is mainly plain, the terrain is tilted from east to west, and the terrain in the east is slightly higher, but the altitude is not more than 60 meters, and the terrain is flat. The main rivers are Zhuoshui River and New Tiger Tail Creek. The Zhuoshui River flows from southeast to northwest along the northern part of Xiluo Town, and the New Tiger Tail River flows from east to west in Zhenfu. Xiluo Town is located in the alluvial fan of The Zhuoshui River, the soil is fertile, the economy is mainly based on agriculture, rice is ripened twice a year, and it is one of the important rice producing areas on Taiwan Island.

At the same time, the town is also an important vegetable production township, one of the four major vegetable production townships on Taiwan Island. Xiluo Town has the famous Xiluo Bridge, completed in 1952, as an iron bridge across the Zhuoshui River connecting the town with Xizhou Township in Changhua County, which was once an important hub for north-south land transportation in Taiwan at that time, and was known as the "First Bridge in the Far East."

4. Dounan Town

Dounan Town is located in the southeast of Yunlin County, bordering Douliu City and Gukeng Township to the east, Dapi Township to the southwest, Huwei Town to the west and northwest, and Dalin Town of Chiayi County to the south. The terrain of Dounan Town is dominated by plains. In the southeast, 2/3 of the terrain is higher, but the altitude is not more than 33 meters, and the rest of the terrain is low and flat. The main rivers are Huwei Creek, Shiniu Creek, Dahukou River and Huaxing Creek. Tiger Tail River is the northernmost river in the town, flowing from east to west; shiniu River flows from southeast to northwest, leaving Dounan Town and merging into Huwei River in Huwei Town; the Great Lake Estuary Stream flows from southeast to northwest, bending the river channel and becoming a disaster in case of rain; huaxing River is the southernmost river in the town, flowing from east to west, and is part of the boundary river between the town and Dalin Town in Chiayi County. The economy of Dounan Town is mainly based on agriculture, followed by the service industry.

5. Beigang Town

Beigang Town is located in the southwest of Yunlin County, bordering Yuanchang Township and Xingang Township of Chiayi County to the east, Shulin Township to the west, Sihou Township to the north, and Liujiao Township of Chiayi County to the south. The terrain of Beigang Town is dominated by plains, and the terrain is low and flat. The terrain slowly descends from east to west, becoming an alluvial plain. The main river is Beigang Creek, which flows around the southeast boundary of Beigang, roughly northeast to southwest, and is the natural boundary river between the town and Liujiao Township in Chiayi County. Beigang, formerly known as Bengang, is located at the mouth of Bengang River (Beigang Creek), and the market spans both banks of Beigang Creek. The Qing Dynasty was an important transportation node for the southwest coastal area of Taiwan Island to travel from south to north and coastal trade with Chinese mainland.

THOUGHT QUESTIONS:

1. Briefly describe the main characteristics of the terrain in the central region of Taiwan Island and its impact on military activities.
2. Briefly describe the main characteristics of the terrain along the central and western coasts of Taiwan Island and its impact on military activities.

LECTURE 7: THE SOUTHERN REGION OF TAIWAN ISLAND

The southern part of Taiwan Island refers to the area west of the main watershed of the Central Mountain Range of Taiwan and the area south of Beigang Creek, including Kaohsiung City, Tainan City, Chiayi City, Chiayi County, and Pingtung County, a total of 3 cities and 2 counties. It has an area of 9,878.54 square kilometers and a population of 6,325,400.

1. THE COAST OF THE SOUTHERN REGION

The coast of the southern part of Taiwan Island refers to the south of Beigang River in the west of Taiwan Island, including the east and west coasts of the Hengchun Peninsula, with a coastline of about 460 kilometers.

(1) Beigang River to the Coast of Zengwen River Estuary

The coastline from Beigang River to Zengwen Creek, that is, the northern coast of Chiayi County and Tainan City, is about 70 kilometers long. The coast is a silty coast. There is a wide tidal pond on the coast, a sandbar outside the coast, and a sand mouth near the coast. The shallow sea part surrounded by sandbars and sand mouths is a lagoon with shallow water depths. Shallower shoals on the coast are often developed as salt pans, fish mounds and agricultural land, and even industrial areas. On the coast between old Huwei River and Zengwen Creek, the coastal sandbar is mainly located in the shallow sea outside the beach between the mouth of Old Huwei River and the mouth of Zengwen Creek, which can be divided into Chiayi and Tainan groups. Chiayi Binwai Sandbar Group, known as Chiayi Binwai Sandbar Group in the area of Beigang Xikou, is distributed in Yunlin and Chiayi counties, mainly including Haifeng Island, Tongshanzhou, Huiziliaoshan and Waiyingdingzhou, with a length of about 20 kilometers. Its northern end is within about 5,000 meters of the main island, the farther south it is from the coast, and the southern end is about 12 kilometers from Dongshi Port. Between the outer sandbar and the main island is a lagoon, the opening part of the lagoon is quite large, and there is also a tide in the sandbar, and the lagoon is not fresh water but saltwater. The depth of the water in the lagoon is shallow, except for the narrow waterway, the depth is generally not more than 4 meters. The width of TongshanZhou is about 1,200 meters, and the width of the continent changes with the rise and fall of sea level. The lagoon gradually silts up to form the Haipu New Land. The Binwai Sandbar Group from Bapao Xikou to Zengwen Xikou is collectively known as the Tainan Binwai Sandbar Group, including Dongshigang Islet, Baishuihu Islet, New Beimen Harbor Islet, Haishan Islet, Wangye Harbor Islet, Qingshan Harbor Islet, Wangziliao Islet, Dingtou'e Islet, and New Fulun Islet, etc., forming a series of fine sand embankments in the northeast and southwest directions, with a length of about 30 kilometers and about 3,000 meters from the coast of the island.

Fig. 7-1 The coast of Tsang Man Hsien Kou, west of Taiwan Island

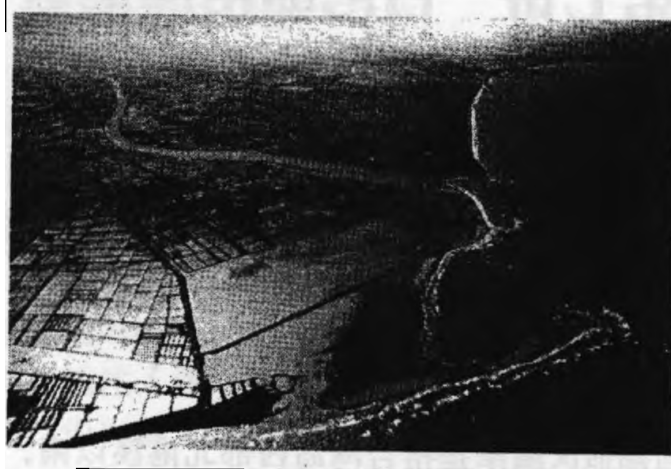


Fig. 7-2 Waisanding Island southwest of Taiwan Island



(2) The Mouth of Zengwen River is South to the Coast of Shangang Port

The mouth of Zengwen River extends south to the coast of Fenggang, including the southern coast of Tainan City, Kaohsiung City and the coast north of Fenggang in the west of Pingtung County, with a coastline of about 120 kilometers. With the exception of the coast of uplifted coral reefs in Kaohsiung, the other coasts are all sedimentary. Most of the former Chaopu, sandbar and lagoon have been terrestrialized, and there are not many remaining lagoons, mainly in Zuoying Port and Kaohsiung Port, with sandspits or sandbars on the periphery. Among them, Zuoying Port is a special military port for the Navy, while Kaohsiung Port is the largest commercial port in Taiwan, with a total length of 12.5 kilometers on the outer Qijinbin sandbar. The larger rivers between Fangliao and Fenggang form a circular fan-shaped chalk at the mouth of the valley and the estuary, with narrow gravel flats along the shore.

Fig. 7-3 Kaohsiung Harbor Andu Coast



(3) Jigang to the Coast of Xuhai

The coast from Fenggang to Xuhai includes the eastern and western coasts of the Hengchun Peninsula, with a coastline of about 270 kilometers. Hengchun Peninsula is located at the southernmost tip of Taiwan Island and is a typical coral reef coast. Due to the suitable geographical conditions, the coral skirt reef on the coast of Hengchun Peninsula is particularly developed. The sea temperature is above 18°C, the salinity is 28 ‰-38 ‰, the sun is abundant, the sea water is clean, the coral species are diverse, there are many lime algae, including red algae and green algae. Skirt reef and uplift coral reef are around the southern part of Hengchun Peninsula, skirt reef is divided into two parts of the reef platform and reef slope, there are reefs above the low tide line near the shore, and coral reefs near the sea mouth are developed. In addition to the reef platform, the coastal zone is more gravelly, mostly in the form of honeycomb rock, sea erosion potholes and water eye and other landscapes. The sand dunes west of Haikou are developed and have a height of less than 9 meters. The west coast of Hengchun Plateau has narrow sandy beaches and uplifted coral reefs. Between Wanlitong and Guanshan, the cliff is a sea cliff. On the south side of Guanshan is Baisha Bay. The coastline between Maobitou and South Bay is concave to the north, forming the head of the South Bay. Especially in the headland of Maobitou, the skirt reef is mostly characterized by sea erosion ditches, pot holes and sea erosion columns, which have now been opened up as sightseeing areas. In the area from E'man Cape to Xuhai, the existing reef and uplifted coral reef are developed, the seashore is narrow, and the coast is often bumpy. The harbors of the concave people mainly include harbor bays, Bayao Bay and so on. The protruding headlands are the Chufeng Cape, the Nanrenyu Cape, and the Gangzai Cape, etc. Among them, the terrain between the wind blowing sand and the sail rock is low, and there is a longitudinal sand dune area. Jiupeng seaside sand dunes are developed, Jiuban sand coast is about 3,000 meters long from north to south, and the widest from east to west is 2,000 meters, slightly triangular in shape.

Fig. 7-4 Maobitou coast



Fig. 7-5 Eluanbi coast



2. KAOHSIUNG CITY

Kaohsiung City is located in the southwest of Taiwan Island, bordered by the Central Mountain Range to the east, Taitung County and Hualien County as the main watershed of the Central Mountain Range, the Taiwan Strait to the west, The Erren River and Wushan Ridge to the north and Tainan City, Chiayi County and Nantou County, and the South to Gaoping River and Pingtung County.

Kaohsiung city administers 38 administrative districts, with an area of about 2,947.62 square kilometers, a population of about 2.7745 million, and a population density of 941 people per square kilometer.

(1) Physical Geography of Kaohsiung City

1. Topography of Kaohsiung City

Kaohsiung City is a plain formed by the land of the ancient Lagoon. Geology is mostly alluvial layers in the Quaternary Period, including mesa gravel layers, regenerated gravel alluvial layers, uplifted coral reefs and lake sediments. Among them, coral limestone is the most common, and all mountains in Kaohsiung City belong to coral limestone. In addition to the hilly areas where coral reefs are piled up and raised, such as Shoushan Mountain, Banping Mountain, Fuding Jinshan, and Dapingding, the terrain is low and flat, and there are many lakes and ponds. Kaohsiung City has a long and narrow topography, with a length of about 27.8 kilometers from north to south and a maximum width of about 10.4 kilometers from east to west. There are no major rivers in the city, only the Ai River, Houjin Creek, Qianzhen River and other rivers are slightly longer. The Qijin Peninsula extends from south to northwest, forming a long lagoon between the sandbar and the land.

The terrain of the former Kaohsiung County is complex, with mountains, hills and plains accounting for about 1/3 each. The mountains are mainly concentrated in the northeast, which belong to the two major mountain systems of the Central Mountains and the Yushan Mountains. The plains are distributed in the west and are part of the Kaohsiung Plain. The hills are between the mountains and the plains, which are the remnants of the Alishan Mountains, belonging to the blue-gray mudstone area, and the bare land is eroded to form a bad land. The main rivers are Gaoping River formed by the confluence of Nanzixian River and Xinong River in the east, and Erren River, Agongdian River and Dianbao River in the west. At the mouth of the river there are large inland lagoons, most of which have been converted into salt pans and farmed fish.

2. Climate of Kaohsiung City

Kaohsiung City, located south of the Tropic of Cancer, has a tropical monsoon climate. Regulated by the marine monsoon, the sun is warm and the rain turns cool. The average annual temperature is 24 ~ 25°C, the annual rainfall is about 1,500-2,000 mm, and the mountain rainfall can reach 3,000 millimeters. Summer is hot and rainy, summer and autumn are often due to typhoons, storms and rainstorms, and after the wind and rain, the sun shines. Winters are cool and dry, with little rainfall, and spring and autumn are shorter. The northeast monsoon blows more in winter and the southwest monsoon prevails in summer. Windward slopes in mountainous areas often have afternoon thunderstorms in the summer. The low-lying areas of the plains are often affected by heavy summer rains.

(2) Human Geography of Kaohsiung City

1. History of Kaohsiung City

Kaohsiung's old name is "Dagou" and "Dagu," which is derived from the Takau transliteration of the Pingpu Makadao language, meaning "bamboo forest." In the fourth year of the Ming Dynasty (1624), Kaohsiung had become a place of emigration for fishermen along the coast of Fujian and Guangdong. In the fifteenth year of the Ming Dynasty (1661), after Zheng Chenggong expelled the Dutch and recaptured Taiwan, he set up Wannian County in the old city of Zuoying, and reclaimed it in Qianzhen, Houjin, Zuoying, Qianfeng, and Youchong (present-day Youchang). In the twenty-second year of the Qing Kangxi Dynasty (1683), Shi Langzhengtai, the admiral of Fujian, officially acquired the territory of Taiwan the following year, and Kaohsiung City was subordinate to Fengshan County, the capital of Taiwan in Fujian Province. During the Japanese occupation of Taiwan, Kaohsiung City was established in 1924, which was directly under Kaohsiung Prefecture. After China regained Taiwan in 1945, Kaohsiung City was directly subordinated to the Office of the Chief Executive of Taiwan Province. In May 1947, the Office of the Chief Executive of Taiwan Province was changed to the Taiwan Provincial Government, and Kaohsiung City was also changed to a provincial municipality of Taiwan Province. In July 1979, Kaohsiung City was upgraded to a "municipality directly under the central government" in Taiwan, and Xiaogang Township, formerly Kaohsiung County, was placed under the jurisdiction of Kaohsiung City and set up as Xiaogang District. There are 11 districts in Xinxing District, Qianjin District, Lingya District, Qianzhen District, Qijin District and Xiaogang District, with a total of 454 *li* and 8,429 neighborhoods. On December 25, 2010, Kaohsiung City and County were merged, and the former Kaohsiung County was under the jurisdiction of 1 city (Fengshan City) and 3 towns (Gangshan Township, Minong Township, Qishan Township) 23 townships (Sanmin Township, Taoyuan Township, Jiaxian Township, Liugui Township, Shanlin Township, Neimen Township, Maolin Township, Hunei Township, Alian Township, Jiaye Township, Xiaogang Township, Luzhu Township, Tianliao Township, Yong'an Township, Mituo Township, Yanchao Township, Qiaotou Township, Ziguan Township, Renwu Township, Dashu Township, Niaosong Township, Daliao Township, Linyuan Township) were changed to districts. At present, Kaohsiung City has a total of 38 districts, 893 *li*, and 17670 neighbors. Among them, Taoyuan District covers an area of 928.98 square kilometers, which is the largest district in Kaohsiung City, and Yancheng District covers an area of 1.4161 square kilometers, which is the smallest district in Kaohsiung City.

2. Kaohsiung City Economy

Kaohsiung City is the largest harbor city and industrial town in Taiwan, with developed industry and commerce, and important enterprises and institutions of Taiwan such as "China Steel," "Taiwan Shipbuilding," "Taiwan PetroChina," and "Sinopec" have set up factories here. In 2009, there were 1,509 factories, 53,800 companies, 74,500 for-profit institutions in the city, and Kaohsiung software science and technology park and other parks were built. Kaohsiung City's distant-water fisheries are developed, ranking first in Taiwan, with operation areas covering three oceans and 71 distant-water supply bases.

There are 8 fishing ports in Qianzhen, Gushan, Qihou, Zhongzhou, Shangzhuli, Qijin, Xiaogang Linhai New Village and Fengbitou. In 2009, there were 2,141 large and small fishing vessels registered in Kaohsiung City, with a total tonnage of 419,300 tons and a fish production of more than 550,000 tons.

The economy of the former Kaohsiung County was dominated by traditional agriculture, and the farmland was mainly distributed in the plain areas in the west, and due to the lack of irrigation water, it was mainly dryland. Rice, sugar cane and sweet potato are the three traditional crops, and vegetables or fruits are now grown. Agriculture in the hilly area is dominated by fruit and wood economy, which is rich in guava, jujube, steamed branches of Yuhe Lane, pineapple, banana, mango, wax apple, taro and so on. Inland sea fish in coastal areas is an important economic source for coastal residents, and aquaculture and fishing are more developed, rich in grouper, milkfish, mullet and so on. With the process of industrialization and urbanization in Taiwan, many task zones have been set up, such as Fengshan Automobile Industrial Zone, Linyuan Petrochemical Industrial Zone, Dafa Industrial Zone in Daliao Township, dafa Industrial Zone, Dafa Industrial Zone, Daliao Township, Dafa Industrial Zone, Dalai Township, Dafa Industrial Zone, Dafa Industrial Zone, Dalai Township, Dafa Industrial Zone, Renmu Industrial Zone, Daeshe Petrochemical Industrial Zone, Yong'an Industrial Zone, Qiaotou Industrial Zone, Yanchao Industrial Zone, Luzhu Industrial Zone, Luosi Production Zone in Fengshan Town, and the Kaohsiung Park of the Southern Science Industrial Park (Kaohsiung Science Park) established in Luzhu Township.

3. Kaohsiung City Transportation

Kaohsiung City is located in the southwest of Taiwan Island, and many of the land traffic arteries that run through western Taiwan start or end with the city and neighboring areas, such as No. 1, No. 3, No. 10 Speed highways and high-speed railways, etc. In the north, there is Provincial Highway No. 20 (Southern Transverse Highway) across the mountainous area, which is an important transportation route connecting Taitung and Hualien. Since the port of Kaohsiung is a strategic location and a military fortress, the production and supply of various military supplies require the supply of the hinterland, so a large number of military facilities and military deployments have been built in the territory of the former Kaohsiung County. On the north side of Shoushan in Zuoying District, Kaohsiung City, there is the largest naval base in Taiwan, namely Zuoying Naval Base.

(3) Important Towns in Kaohsiung City

1. Fengshan District

Fengshan District, formerly Fengshan City of Kaohsiung County, is located in the south of Kaohsiung City, adjacent to Sanmin, Lingya, Qianzhen and Xiaogang Districts in the southwest, Daliao District in the north and Torisong District in the east. The terrain of Fengshan District is dominated by plains and flat terrain, only the chishan terrain in the north is higher, with an altitude of 33 meters. Fengshan River runs through the entire Fengshan area from north to south. Fengshan District was the administrative center of the former Kaohsiung County, which was reorganized and upgraded to a county-administered city in 1972 and changed to a district in December 2010.

Fengshan is a key military site, and the Taiwan Army Officer Academy, the Soldier Training Center, and many dependent villages are located here.

2. Daliao District

Daliao District was originally Daliao Township in Kaohsiung County, located on the west bank of the lower reaches of Gaoping Creek, xinyuan township and Banten township in Pingtung County on the east side, Fengshan and Xiaogang districts in the west, Dashu District and Torisong district in the north, and Linyuan District in the south. The terrain of The Daliao area is dominated by plains and the terrain is flat. The main terrain consists of the Dapingding Plateau and the Alluvial Plain of Gaoping Creek, with lowland hills to the southwest, with Shangping Mountain at an altitude of 98 meters above sea level, and Gaoping River running from north to south through the east side of Daliao District. In the early Qing Dynasty, the northern part of the area was the shoushou area of the Fengshan Plain leading to Pingtung, and there were many dependent villages.

3. Gangshan District

Gangshan District is the former Town of Okayama in Kaohsiung County, located in the west of Kaohsiung City, adjacent to Yong'an District in the northwest, Luzhu District in the north, Dagangshan and Alian District in the northeast, Xiaogangshan Ridge line and Tianliao District in the east, Agongdian River and Yanchao in the southeast, Qiaotou District in the south, and Gangshan Air Force Base in the southwest and west respectively. The terrain of the Gangshan Mountains is mainly plain, the terrain is relatively flat, and there is a small Okayama mountain with an altitude of 251 meters in the northeast. Agongdian River flows from east to west through the Okayama area. There is an important Okayama Air Base, an air officer school and an air force flight school in Taiwan.

4. Linyuan District

Linyuan District is the former Linyuan Township of Kaohsiung County, located in the southernmost corner of Kaohsiung City, adjacent to Pingtung County with Gaoping River in the east, adjacent to Fengshan Plateau and Xiaogang District in the west, bordered by the Taiwan Strait in the south, and Adjacent to Daliao District in the north, which can lead to Fengshan. The terrain of the forest park is mainly plain, the terrain is roughly flat, there are Phoenix Hills in the northwest, the altitude is up to 110 meters or more, the east is the downstream of Gaoping Creek, and from north to south, it is injected into the Taiwan Strait.

5. Renwu District

Renwu District is the former Renwu Township of Kaohsiung County, located in the southwest of Kaohsiung City, bordering Da Community to the north, Sanmin District, Zuoying District and Nanzi District to the west, Dashu District to the east, and Torisong District to the south. The western part of Renwu District is flat and is the main agricultural area, while the eastern part is high and hilly.

3. TAINAN CITY

Tainan City is located in the southwest of Taiwan Island, south of Bapao River and north of Erren River.

It is bordered by the Taiwan Strait to the west, the Qianshan Area of the Central Mountains to the east, Chiayi County to the north, and Erren River to the south and Kaohsiung City. Tainan City administers 37 administrative districts, with an area of about 2,191.65 square kilometers, a population of about 1,877,000, and a population density of 856 people per square kilometer.

(1) Physical Geography of Tainan City

1. Topography of Tainan City

Tainan City is located at the southern end of the Jia Nan Plain, dominated by the plain terrain, the terrain is high in the east and low in the west. The eastern part of the city is Tainan Plateau, and the western part is bordered by the Taiwan Strait, which is the Anping Plain. The main rivers that flow through the city are Zengwen Creek, Erren River, and Yanshui River, all of which flow into the Taiwan Strait from east to west. Among them, Zengwen River and Erren River are the natural dividing lines between Tainan City and the former Tainan County and Kaohsiung County.

The original Tainan County is located in the middle of the Jianan Plain, accounting for about 7/10 of the area of the Jianan Plain, surrounded by mountains and the sea, the terrain is high in the east and low in the west, and there are many breeding ponds or salt pans in the coastal area. The eastern terrain is high, belongs to the hillside hilly land, accounting for about 1/3 of the county's area. The western terrain is flat, located in the center of the Chia Nan Plain, accounting for about 2/3 of the county's area, and the soil is dominated by sand shale alluvial soil and Taiwan clay. There is a saline soil distribution in coastal areas. There are five main rivers in the territory: Bapao Creek, Jishui River, Huiwen Creek, Yanshui River and Erren River. The origin of the rivers originates from the mountainous or hilly areas in the east and flows from east to west to the Taiwan Strait.

2. Climate of Tainan City

Tainan City is located south of the Tropic of Cancer and has a tropical monsoon climate. Summers are long, winters are short. The average annual temperature is about 24°C. The coldest month is January, with an average temperature of 20.7°C. The warmest month is July, with an average temperature of 29°C. Between July and September every year, there are often typhoons, coupled with the relationship between plum rain, the summer rainfall is more, the average annual rainfall is between 1,500 and 2,500 mm. Winters have less rainfall and a northeast monsoon.

(2) Human Geography of Tainan City

1. History of Tainan City

Tainan City was the area where the Han Chinese first colonized the island of Taiwan. When the Dutch invaded Taiwan, they built Taiwan City (present-day Anping) and Hongmao City (present-day ChijianLou) in Tainan. In the fifty-third year of the Qing Dynasty (1788), Tucheng was built in Tainan, creating a history of the real city walls on Taiwan Island. In the thirteenth year of Qing Daoguang (1833), the outer castle was built. In the thirteenth year of the Qing Dynasty (1887), Tainan Province was established, and the capital city of Taiwan was changed to Tainan Province.

Tainan was the political capital of Taiwan from the 17th to the mid-19th century, and Anping Port was also the main trade port between Taiwan Island and China's southeast coastal ports, with a thriving commercial presence, and about 230 streets were built and developed in Tainan at the end of the Qing Dynasty. In 1920, Tainan was established as a city. In 1945, Tainan City was upgraded to a provincial municipality. At the end of 2009, Tainan City administered 6 districts, namely Annan District, Anping District, North District, Central and Western District, East District and South District. On December 25, 2010, Tainan City and County were merged, and the 2 cities (Xinying City, Yongkang City), 7 towns (Madou Town, Jiali Town, Xinhua Town, Xuejia Town, Baihe Town, Yanshui Town, Shanhua Town), 22 townships (Rende Township, Guiren Township, Houbi Township, Dongshan Township, Liuying Township, Beimen Township, Xiaying Township, Liujia Township, Nanxi Township, Guantian Township, Jiangjun Township, Danei Township, Qigu Township, Xigang Township, Anding Township, Xinshi Township, Shangshan Township, Yujing Township, Nanhua Township, Zuozhen Township, Guanmiao Township, Longqi Township) were changed to districts. At present, Tainan City has a total of 37 districts, 752 li, and 14,730 neighbors.

2. Economy of Tainan City

Tainan's economic structure is dominated by the manufacturing industry of the secondary industry, and it is now transforming into a service industry in the tertiary industry. About 2/3 of the city's population lives in the Sinan area, and the population of the Xi'nan area is highly concentrated in the former Tainan City and the areas of Yongkang, Rende and Guiren, which has developed into a modern metropolitan area. The Xibei area is still dominated by agriculture. The former Tainan County is an important agricultural county in Taiwan, with an area of more than 90,000 hectares of arable land, ranking first in Taiwan. The main crops are rice, sugar cane and grain. The coastal townships are mainly engaged in aquaculture and salt pans, and there are a large number of aquaculture farms, salt pans and oyster fields formed by building embankments and blocking water.

3. Transportation in Tainan City

Tainan's transportation facilities mainly include north-south railways, No. 1 and No. 3 highways, provincial highways No. 1 and No. 17, east-west provincial highways No. 8, and Tai 80, 82, 84, 86, 88 and other expressways, strengthening the connection between the Tainan Plain and the hilly mountain area. The high-speed railway has a station in The Guiren District of Tainan City and is connected to the Expressway.

(3) Important Towns in Tainan City

1. Yongkang District

Yongkang District was originally Yongkang City in Tainan County, located in the south of Tainan City, at the southern end of the Jia Nan Plain. It is bordered by Xinhua District to the east, Xinshi District and Annam District to the north and northwest, Chaitou, Gangxi and Bei District to the southwest, and Dong District, Rende District and Guiren District to the south. With a population of about 210,000, Yongkang District is the most populous and densely populated township in the former Tainan County.

The terrain of Yongkang District is dominated by plains, the terrain is flat, and the Tainan Plateau in the southwest is slightly higher, above 30 meters above sea level, and the surrounding height is gradually decreasing. The eastern area of the western trend is 10 to 50 meters above sea level, and it is the edge of the Xinhua Hills. The central and northern parts are plains, below 5 meters above sea level, that is, the Great Bay Lowlands. Yongkang District is an important industrial and commercial town in Tainan, with railways, highways, highways, etc., forming a perfect transportation network.

2. Xinying District

Xinying District is the former Xinying City of Tainan County, located in the north of Tainan City, in the center of the Jia Nan Plain. It is bordered by Dongshan District and Liuying District by Jishui River to the east and south, Saltwater District to the west, and Houbi District to the north. The terrain of the new camp area is mainly plain, and the terrain is flat. Xinying District is the seat of the former Administrative Organ of Tainan County, and is also the political, economic, cultural and educational center. Rapids streams flow through Xinying District.

3. Rende District

Rende District is a former Rende Township in Tainan County, located at the southwest end of Tainan City, bordering Guiren District to the east, East District to the west, Yongkang District to the north, and Erren River to the south and Hunei District and Luzhu District of Kaohsiung City to the south. The terrain of Rende Township is mainly plain, the terrain is flat, and only the northwest has a hilly terrain of about 25 meters above sea level. The Erren River to the south becomes a natural dividing line with the Hunei District of Kaohsiung City. Rende District has a population of about 68,100 and a population density of 1,341.58 people/km². Zhongshan Road runs from east to west and is an important liaison route entering Tainan City from the direction of Guiren and Guanmiao. Although Zhongzheng Road is a rural road, it runs through the north and south and is one of the main roads in the area.

4. Guiren District

Guiren District is a township in the former Tainan County, located in the southernmost part of Tainan City, southeast of the Jia Nan Plain, bordered by Guanmiao District to the east, Rende District to the west, Yongkang District and Xinhua District to the north, and Alian District of Kaohsiung City to the south. The terrain of Guiren District is dominated by plains and lowland hills, and the terrain is relatively flat. To the west is a plain with a low terrain. The lowland hills in the east are slightly higher, 20 to 40 meters above sea level, and there are saltwater creeks and security creeks that form a natural dividing line with the Guanmiao district.

5. Jiali District

Jiali District is a town in the former Tainan City, located in the southwest coastal area of the Jianan Plain, bordering Madou District to the east, Qigu District to the west, Xuejia District and Beimenxi District to the north, and General District to the northwest. The terrain of Jiali District is dominated by plains, with a flat terrain with an average altitude of 5.5 meters, and the highest small sand dune in the Beitou Ocean is 17 meters above sea level. There are seven streams flowing through the south, and the upper reaches of the Jiangjun River run through the middle.

4. CHIAYI CITY

Chiayi City is located in the southwest of Taiwan Island, surrounded by townships in Chiayi County. It administers the second districts of East and West, with an area of 60.03 square kilometers, a population of about 271,500, and a population density of 4,524 people.

Square kilometers.

(1) Topography of Chiayi City

The topography of Chiayi City is mainly plain and hilly. About 1/3 of the eastern part of Chiayi City is a hilly terrain called Lantan Houshan, and there is a Lantan Reservoir. The central and western parts of Chiayi City are low-lying Chia-Nam Plain, with no rivers in the city.

(2) Human Geography of Chiayi City

Chiayi was formerly known as Zhuluo, and was given the name "Chiayi" by the Qianlong Emperor in the fifty-third year (1788). After China regained Taiwan in 1945, it became a provincial municipality. In 1950, it was demoted to a county-administered city in Chiayi County. In 1982, Chiayi City was upgraded to a provincial municipality. In 1990, Chiayi City was divided into two districts, namely The East District and the West District, which is the smallest and least populous province in Taiwan.

5. CHIAYI COUNTY

Chiayi County is located in the southwest of Taiwan Island, bordering the Taiwan Strait to the west, Nantou County and Kaohsiung City to the east, Tainan City to the south, and Yunlin County to the north. In 1982, after Chiayi City was upgraded to a provincial municipality, the administrative organ of Chiayi County was changed from Chiayi City to Taibao City, and the jurisdiction of Chiayi County was redefined. Chiayi County currently administers 2 cities, 2 towns and 14 townships, namely Taibao City, Puzi City, Budai Town, Dalin Town, Dongshi Township, Liujiao Township, Yizhu Township, Xingang Township, Lucao Township, Xikou Township, Minxiong Township, Shuishang Township, Meishan Township, Zhuqi Township, Fanlu Township, Zhongpu Township, Dapu Township and Alishan Township. It has an area of 1,903.64 square kilometers, a population of about 537,900, and a population density of 283 people per square kilometer.

(1) Physical Geography of Chiayi County

1. Topography of Chiayi County

The terrain of Chiayi County is mainly plain, hilly and mountainous. The western part of Chiayi County belongs to the northern part of the Jianan Plain District, and the eastern part is a hilly mountain area. The hilly area is about 50 to 1,000 meters above sea level. Dawuluan Mountain, bounded by Bazhao Creek, belongs to the Douliu Hilly Area to the north and the Chiayi Hilly Area to the south. The eastern mountain area is mainly divided into two topographical areas of Alishan Mountain Range and Yushan Mountain Range, the boundary of the two districts is the Tataga Fault, and the highest point is the main peak of Yushan Mountain, with an altitude of 3,952 meters. The mountain area is affected by geological formations and has rugged terrain, forming many special topographic landscapes, most of which are classified into Alishan Scenic Area. The main rivers in Chiayi County are Beigang Creek, Puzi River (Niu Chou Creek), and Bapao Creek. Due to the large number of catchment waters, floods can easily occur when there is heavy rain, and the river has changed frequently in history.

2. Chiayi County Climate

The plain area of Chiayi County is hot in summer and warm in winter, with an average annual temperature of about 23 to 24°C. The average temperature in January is about 16 to 17°C, and the average temperature in July is about 29 to 30°C. In the mountainous hilly area, the monthly temperature is about 3 to 5°C lower than that of the plain area, and the mountain area above 2,000 meters above sea level has the characteristics of temperate climate. In the spatial distribution of precipitation, the annual rainfall increases from west to east. The coastal area is about 1,300 mm, the border between the plain and the hilly area is about 1,800 mm, and the mountain area can reach more than 3,000 mm. Rainwater is mostly concentrated in summer, and there are landslides in mountainous areas during the rainy season.

(2) Economy of Chiayi County

Chiayi County is an agricultural county in Taiwan. The offshore areas are dominated by aquaculture and fisheries. The inland plains are mainly planted with crops, with rice mainly growing in the east and dry crops such as peanuts, sugar cane, tomatoes and flowers in the west.

(3) Important Townships in Chiayi County

1. Minxiong Township

Minxiong Township is located in the middle of Chiayi County, adjacent to Zhuqi Township and Meishan Township in the east, adjacent to Xingang Township and Taibao Township in the west, across Niuchou River and Chiayi City in the south, and bordered by Dalin Town and Xikou Township in the north. The terrain of Minxiong Township is at the junction of plains and hills, and the terrain is high in the east and low in the west. The eastern side is part of the Douliu Hills District, and the western side belongs to the Jia Nan Plain Area. The plain area is flat, with an altitude of 20 to 40 meters, fertile soil and dense irrigation canals, and is an important agricultural grain production area in Chiayi County, mainly growing agricultural crops such as rice and pineapple.

There are two important rivers in Minxiong Township, Sandi River in the northeast and Niu Chou River in the south, both flowing from east to west along the terrain, which are the main irrigation water sources in Minxiong Township.

2. Shuishang Township

Shuishang Township is located in the south of Chiayi County, adjacent to Zhongpu Township to the east, Lucao Township to the west, Baihe District and Houbi District of Tainan City to the south, and Chiayi City and Taibao City to the north. The terrain of Shuishang Township is narrow and long, located at the junction of Chiayi Hills and Chiayi Plain, with the plain terrain as the main terrain, and the terrain is high in the east and low in the west. The east of Niu Choupu and Sanjiepu is a hilly area, and the rest belongs to the plain terrain, with an altitude of about 20 to 40 meters. The main rivers in the territory are Bapao River and its tributaries Chilan River and Touqian Creek, which flow from west to east through Zhongpu Township into Shuishang Township.

3. Zhongpu Township

Zhongpu Township is located in the southeast of Chiayi County, bordering Dapu Township to the east, Chiayi City and Shuishui Township to the west, Bazhangxi and Fanlu Township to the north, and Dapu Township of Chiayi County and Baihe District of Tainan City to the south. Zhongpu Township is located at the junction of hills and plains, and the overall terrain is high in the east and low in the west. The eastern part is a hilly area, with large undulating surfaces and an altitude of more than 600 meters; the central part is the Taiwan area, with an altitude of about 100-300 meters; the western part is an alluvial plain area, with an altitude of less than 100 meters and a relatively gentle terrain. The eastern terrain is high, and it is the source of many rivers such as Sanchongxi, Shishu River and Chilan Creek, all of which flow from east to west through Chiayi County and Tainan City.

4. Puzi City

Puzi City is the center of the seven coastal townships of Chiayi County, located in the west of Chiayi County, east of Taibao City, Lucao Township, west of Dongshi Township, Budai Town, south of Yizhu Township, north of Puzixi and Liujiao Township as neighbors. Topographically, Puzi City is part of the Jia Nan Plain, with little undulating surface and an altitude of between 3 and 10 meters. The main river in Puzi City is Puzi Creek, which flows from Liujiao Township to Dongshi Township to the southwest.

5. Zhuqi Township

Zhuqi Township is located in the northeast of Chiayi County, with a long east-west area and narrow north-south, adjacent to Alishan Township in the east, Minxiong Township in the west, Fanlu Township and Chiayi City in the south, and Meishan Township in the north. The terrain of Zhuqi Township is mainly hilly, belonging to the southern section of the Douliu Hills, the terrain is high in the east and low in the west, and the altitude difference between the east and west is quite large. The eastern part is hilly and mountainous, with a maximum altitude of 1,865 meters, which is the birthplace of NiuChou River and Bapao Creek, and the river runs through Zhuqi Township from east to west, and flows to Renminxiong, Xingang and Fanlu and Zhongpu townships respectively.

To the west is the alluvial fan valley plain area, formed by the alluvium of Niuchou River and its tributaries.

6. PINGTUNG COUNTY

Pingtung County is located in the south of Taiwan Island, bordering Taitung County with the Dawu Mountains to the east, Bashi Strait to the south, Gaoping River to the west, and Kaohsiung City to the west and north. Pingtung County administers 1 city, 3 towns and 29 townships, namely Pingtung City, Chaozhou Town, Donggang Town, Hengchun Town, Wandan Township, Changzhi Township, Linluo Township, Jiuru Township, Ligang Township, Yanpu Township, Gaoshu Township, Wanluan Township, Neipu Township, Zhutian Township, Xindai Township, Fangliao Township, Xinyuan Township, Laoding Township, Linbian Township, Nanzhou Township, Jiadong Township, Ryukyu Township, Checheng Township, Manzhou Township, Fangshan Township, Sandimen Township, Wutai Township, Majia Township, Taiwu Township, Laiyi Township, Kasuga Township, Shizi Township, Mudan Township. It has an area of about 2,775.6 square kilometers, a population of about 864,500, and a population density of 311 people per square kilometer.

(1) Physical Geography of Pingtung County

1. Topography of Pingtung County

The terrain of Pingtung County can be divided into plains, mountains, hills and other terrain areas. Pingtung County is 112 kilometers long from north to south and 47 kilometers wide from east to west. The Pingtung Plain is formed by alluvial river-like rivers such as Gaoping Creek, Chuangnong Creek, Ailiao Creek, Donggang River and Linbian Creek, with longitudinal streams and abundant water sources. Located in the east of the plain area, the mountain is steep, belonging to the southern section of the Dawu Mountain Range and the Central Mountain Range, with an average altitude of more than 1,000 meters, and is the birthplace of Gaoping Creek, Donggang River and Linbian Creek. The southern part of Fangliao is a low mountain, hilly or plateau terrain, below 600 meters above sea level, which belongs to the area where the central mountain range extends south. The Hengchun Peninsula stretches out into the sea with a fishtail-like terrain, separating the Taiwan Strait, the Bashi Strait and the Pacific Ocean. The western part of the Hengchun Peninsula is divided into a coastal plain divided by scattered hills. Located about 14 kilometers southwest of Donggang, Xiaoliuqi covers an area of 6.8 square kilometers and is the only outlying island in the prefecture. The island is a low hill of coral reefs, and the highest peak on the island is Guizilu Mountain, which is 87 meters above sea level.

2. Climate of Pingtung County

Pingtung County, located south of the Tropic of Cancer, has a tropical monsoon climate with 9 months of summer, known as the "Tropical Capital."

Winter in Pingtung is not noticeable. The lowest temperature is January, when the average temperature is 20.6°C. The highest temperature is July, where the average temperature is 28.3°C and the annual average temperature is 25.0°C. The falling mountain wind is a unique climatic phenomenon on the Hengchun Peninsula. After September every year, the northeast monsoon strengthens, because the Hengchun Peninsula belongs to the hilly area, the mountain is not high, the northeast monsoon climbs down the mountain from the east bank, to the top of the mountain straight down, forming a strong falling wind, the power is like a typhoon. After the winter solstice, the winds slowed down and subsided after April of the following year.

(2) Human Geography of Pingtung County

Pingtung County is an important agricultural county in Taiwan, with more developed agriculture and fisheries. The Pingtung Plain is a well-developed agricultural and fishery industry, once known as the "early rice barn," which is the main gathering place of the county's population, and more than 80% of the population lives in the plain area. There are three mountainous townships in the mountainous area, such as Sandimen Township, Wutai Township, Majia Township, Taiwu Township, Laiyi Township, and Kasuga Township, which are sparsely populated and economically underdeveloped. There are many roads and railways in the county to communicate with the outside world, mainly no. 3, No. 10, No. 88 highways, Nanhui railway, high-speed railway, and Kaohsiung City to form a perfect and convenient transportation network.

(3) Important Townships in Pingtung County

1. Pingtung City

Pingtung City, formerly known as "Ahou," is located in the west of Pingtung County, east of Gaoping River and Kaohsiung City, Daliao District, Dashu District as neighbors, north of Jiuru Township, west of Changzhi Township, southwest of Linluo Township, south of Wantan Township. The population is about 220,000. The terrain of Pingtung City belongs to the central and western parts of the Pingtung Plain, with an altitude of between 18 and 30 meters, the terrain is flat, slightly northeast-southwest, and the rivers such as Shashe River Wannian River and Touqian River converge along the terrain to Gaoping Creek.

2. Neipu Township

Neipu Township is located in the middle of the Pingtung Plain, bordered by Niujiaowan River in the east and Ma hometown in the east, Donggang River and Wanluan Township in the southeast, Zhutian Township and Linluo Township in the southwest, Changzhi Township in the northwest, and Yanpu Township and Sandimen Township in the north. The township slopes from northeast to southwest, with Pingdingshan Plateau and Ailiao River alluvial fan, and Niujiaowan River bypasses the east side of Pingdingshan Plateau, converging with Wan'an River and then injecting Donggang Creek. Neipu Township is mainly agricultural, producing rice, wax apple, pineapple, papaya, banana, betel nut, flowers and vegetables.

3. Chaozhou Town

Chaozhou Township is located in the south-central part of the Pingtung Plain, bordering Donggangxi and Zhutian Township to the northwest, Wanluan Township to the northeast, Xinpi Township to the southeast, and Leding Township to the southwest. The terrain belongs to the alluvial fan of the forest edge creek. Chaozhou Town is passed by railways and longitudinal highways, and is an important transportation hub in the central region of Pingtung County. The eastern half of Chaozhou Town is slightly higher, the soil is coarse gravel, and it is home to an important airfield in southern Taiwan, the Air Force Pingtung Base, which is also a parachute jumping practice ground.

4. Wandan Township

Wandan Township is located in the southwest of Pingtung plain, bordering Zhutian Township to the east, Laoding Township and Xinyuan Township to the southeast and southwest, Daliao District of Kaohsiung City to the west, Pingtung City to the north, and Linluo Township to the northeast. The terrain in the territory is flat, and the terrain slowly descends from northeast to southwest, with an average altitude of more than 10 meters. Ailiao River and Niuchou River flow through the township.

5. Donggang Town

Donggang Township is located in the southwest of Pingtung County, bordering the Taiwan Strait to the west, across the sea from Ryukyu Township to the southwest, Xizhou River and Laoding Township to the northeast, Nanzhou Township to the east, Linbian Township to the southeast, and Xinyuan Township to the northwest. The topography of Donggang Town belongs to the low-humid swamp area along the western side of the Pingtung Plain, with Donggang Creek, Xizhou River and Houliiao River flowing through the town and flowing into the Taiwan Strait.

THOUGHT QUESTIONS:

1. Briefly describe the main characteristics of the terrain in the southern part of Taiwan Island and its impact on military activities.
2. Briefly describe the main characteristics of the terrain off the southern coast of Taiwan Island and its impact on military activities.

LECTURE 8: THE EASTERN REGION OF TAIWAN ISLAND

The eastern part of Taiwan Island refers to the area east of the main watershed of the Central Mountain Range, south of Heping Creek, and north of Tawa Creek, including Hualien and Taitung counties. It is bordered by the Pacific Ocean to the east, Taichung City, Nantou County and Kaohsiung City to the west, Heping River to the north and Nan'ao Township of Yilan County to the north, and Taiwa River on the north side of Guanyin Mountain on the Hengchun Peninsula to the south and Pingtung County. It has an area of about 8,143.82 square kilometers and a population of about 565,100.

1. PHYSICAL GEOGRAPHY OF THE EASTERN REGION

(1) Taitung Longitudinal Valley

Taitung Longitudinal Valley, also known as Huadong Longitudinal Valley, is located in the eastern part of Taiwan Island, which is a narrow valley between the Central Mountain Range and the Coast Mountain Range, and is a natural corridor for north-south land transportation in the eastern part of Taiwan Island. Taitung Longitudinal Valley from Hualien County Taroko in the north to Taitung County Zhiben in the south, located between the Central Mountain Range and the Coast Mountain Range, about 150 kilometers long, 2,000 to 7,000 meters wide, usually 3,000 to 4,000 meters wide, an area of about 700 square kilometers. The Taitung Longitudinal Valley is located at the junction of the Eurasian Plate and the Philippine Sea Plate, and is a fault valley. The east and west sides of the longitudinal valley are steep, and there is a large fault on the eastern slope of the central mountain range on the west side, and the distance from the peak ridge at an altitude of more than 3,000 meters to the valley is 10 to 20 kilometers, extending to Su'ao, becoming a cliff coast between Hualien and Su'ao, and there are also cliffs on the east side, but the drop difference is smaller than the west side. The valley floor is undulating, high in the middle and low on both sides, with an altitude of between 50 and 250 meters. There are three main rivers in the valley from north to south: Hualien Creek, Xiugumi River and Beinan Creek, all of which originate in the Central Mountain Range. On the west side of the longitudinal valley, the main rivers of the Hualien River water system are Mugua Creek, Shoufeng Creek, Wanli Creek, Ma'an Creek, Qingshui Creek, Guangfu River and so on. The main rivers of the Xiuguluan River system are Fuyuan Creek, Hongye Creek, Fengping Creek, Zhuo Creek, Lele Creek, Luntian Creek, Wanchao River (Longquan Creek) and so on. The main rivers of the Beinan River system are Xinwulu Creek, Laoding Creek, Jialu Creek, Kanadian Creek, Luliao River and so on.

On the east side of the longitudinal valley, there are mainly streams such as Yamato, Lingzai, Lüfan, Gaoliao, and Jiu'an. All streams form alluvial fans at the mouth of the valley, and there are 31 alluvial fans with an area of more than 2 square kilometers on the east and west sides of the valley, 7 belong to the Hualien River system, 13 Xiuguluan Creeks, and 11 Beinan Creeks, accounting for about half of the total area of the Longitudinal Valley. Among them, the alluvial fan area of the Hualien River system is the largest, followed by Beinan River and Xiuguluan River is the smallest. The area of the west alluvial fan is larger than that of the east alluvial fan. The alluvial fan area of Mugua River in the Hualien River system is about 63.3 square kilometers, the alluvial fan area of Shoufeng River is about 55 square kilometers, and the alluvial fan area of Wanli River is about 39 square kilometers. The area of the Lele alluvial fan of the Xiugumixi system is about 16.6 square kilometers, and the other alluvial fans are smaller. The area of the alluvial fan of Xinwulu River in the Beinan River system is about 39 square kilometers. In addition to the Xiuguluan River transverse coastal mountain range overseas, Hualien River and The lower reaches of Beinan River form two more open deltas, namely the Hualien Plain and the Taitung Plain, both with an area of more than 100 square kilometers and an altitude of less than 100 meters. There is a Beisan Mountain at the mouth of the South Valley, with an altitude of 438 meters; there is Liyu Mountain at the mouth of the North Valley, which is 601 meters above sea level and overlooks the valley mouth passage.

(2) Taitung Mountains

The Taitung Mountains, also known as the Coastal Mountains, are located on the eastern coast of Taiwan Island, from Hualien River Mouth in the north to Daxi Mouth in Taitung Beinan in the south, with a length of about 150 kilometers and a maximum width of about 16.5 kilometers. The coastal mountains are bordered by the Pacific Ocean to the east, with many cliffs and cliffs, some of which are hundreds to thousands of meters high, and the situation is precarious. There are several major ridges in the Coastal Mountains, except for the southern end of the mountains, all of which are arranged in the shape of geese, roughly northeast to southwest, the mountains are upright, the south is wide and narrow, and it is roughly a slender wedge-shaped mountain range. The west side of the Coast Mountains is separated from the Central Mountain Range by the East Rift Valley, and the slope is gentler. The coastal mountains are low in the north, the highest in the middle and the south. The northern part of the Coast Mountains is low and gentle, with peaks mostly at an altitude of about 700 to 800 meters, and the highest peak is Baliwan Mountain, with an altitude of 924 meters. The middle section of the Coast Mountains (successfully to Changbin) is the highest, with peaks above 1,300 meters above sea level, the highest peak is Xingang Mountain (Machalou Mountain), located at the junction of Hualien County and Taitung County, with an altitude of 1,682 meters, other peaks such as Chengguang'ao Mountain are 1,598 meters above sea level, and Sanjianya Mountain is 1,334 meters above sea level. The peaks of the southern section of the Coast Mountains are mostly about 1,000 meters above sea level, and the highest peak is Dulan Mountain (Duluan Mountain) at an altitude of 1,190 meters. The rivers in the Coast Mountains are dominated by the valley topography of Xiuguluan Creek, which flows from south to north in the East Longitudinal Valley of Xiuguluan, cuts through the mountains in Mizuho and flows east into the Pacific Ocean. Other rivers originating in mountainous areas can be divided into two systems: the eastern slope and the western slope.

The main valleys on the eastern slope are Shuilian River (Shuilianwei Creek), Fanshuliao Creek, Fengbin Creek, Shuimuding Creek, Shimen Creek, Dabin Creek, Chong'an Creek, Fujia River (Sanxian Creek), Xingang Creek, Babian Creek, Mawu River (Mawu Cave Creek), etc. The valley is roughly parallel to the flow path, flowing from west to east to the Pacific Ocean. The main rivers on the western slope are Jialidong Creek, a tributary of Hualien Creek, Lingzai River Lingzai Zhaixi), a tributary of Xiuguluan Creek, Jiu'an Creek, Turtle Creek, and Wan'an Creek, a tributary of Beinan Creek.

Fig. 8-1 Xiuguluan Valley in the eastern part of Taiwan Island



(3) Eastern Region Coast

The eastern coast includes the coast south of Heping River in the east of Taiwan Island to the north coast of Xuhai, with a coastline of about 250 kilometers.

1. Heping to Chongde Coast Section

Fig. 8-2 Qingshui Cliff



The coastal section from Heping to Chongde is a cliff coast with a coastline of about 21 km. In the south of Heping River and the east side of Qingshui Mountain (2,408 meters), there is the famous Qingshui Cliff, which is about 21 kilometers long and more than 1,000 meters high, and the steep cliffs lead to the coast.

2. Chongde to Hualien River Coastal Section

The coastline from Chongde to Hualien River is about 20 kilometers long. To the south of Chongde is the arc-shaped fan island of Liwuxi, with an area of about 15.15 square kilometers. Liwuxi belongs to the cutting fan, starting from the southern edge of Liwuxi Fanzhou, the coast enters the range of the Hualien Plain, showing a sandy beach, and the sand dunes are more developed. Only the seashore on the east side of Meilun Plateau is a gravel beachfront. The coast from Hualien to Hualien River is a sandy beach with narrow sand dunes along the coast.

Fig. 8-3 Liwuxikou Fanzhou on the East Coast of Taiwan Island



3. Hualien to Taitung Coast Section

The coast from Hualien to Taitung, known as Huadong coast, is about 150 kilometers long and the coastline is roughly straight. The entire coast is close to the coastal mountains on the west side, and the coastal plains are narrow and full of cliffs. The east coast of Hua is the most developed place of the sea stage of Taiwan Island, and there is a drowning valley near the seabed, and the terrain along the route is diverse. The sea erosion terrain includes sea caves, sea erosion concave walls, etc., which are quite developed. The sea topography is dominated by gravel beaches, which are about 200 meters wide. There are not many sand dunes, but they only appear at the northern end of the Coast Mountains, Changguang, Sanxian, Duli and Xiaoma. With the exception of the Three Immortals, the sand dunes are narrow and long, parallel to the coastline, and vary from 10-20 meters above the flat land.

Fig. 8-4 The Sanxiantai Coast of Huadong Coast



The Huadong Coast has many special topographical landscapes. For example, the terrain between Hualien and the water chain is a conglomerate area, with narrow sea steps, steep slopes, and small canyons formed by the streams. On both sides of the landscape of the Fanshuliao Creek, the west of the bridge of the Fanshuliao River Highway Bridge is a gentle and undulating dome hill, winding around it, the farmland on both sides of the river is continuous, and the east of the bridge presents a canyon and mountainous terrain, and the cliffs are upright. Isozaki's sandy beaches, sea cliffs and sea plateaus, Isozaki Bay is sunken inward, and there are sandy beaches in the bay, which is the first bay south of Hualien. The relatives between Isozaki and Shinsha did not know that there was a sea cave under the sea cliff. The sea steps and the topography of Shanzo Reef in Shitiping, the west side of the Toyohama to Grand Port Highway are all lofty mountains, and the coastal plains are narrow. The stone gate has a sea erosion gate with 3 openings, the hole is 18 meters wide and 5 meters high. The strata of Shitiping are tuff, and the gentle slopes of the hills form a stone ladder.

Fig. 8-5 Xiuguluan River Mouth on the East Coast of Taiwan Island



On the south side of the Grand Port is the mouth of the Xiuguluan River, and the Shiqiu Island (Xi Bulan Island) in the estuary divides the estuary into two waterways. The Eight Immortals Cave in Changbin Township, Taitung County, is a sea cave, and more than 20 caves are in the volcanic breccia, with heights ranging from 20-130 meters. Sanxiantai Island is an offshore island surrounded by uplifted coral reefs, sea pillars and pot holes. The highest peak of Sanxiantai Island is 77 meters above sea level, the island is about 1,000 meters long, and the widest point is about 350 meters, which extends roughly along the northeast and east directions, and there is a sea erosion tunnel about 100 meters long on the island. The southern shore of the island is lined with uplifted coral reefs. The sand-necked cape of Kanaru, located about 500 meters south of Kanaru, exposes the sandbar of Liandao Island at low tide, connecting Lulian Island and forming the Shajing Headland.

4. Taitung to the Coastal Section of Xuhai

The coast of the section from Taitung to Xuhai is a cliff coast with a coastline of about 60 kilometers. The coast is generally straight, with cliffs about 500 to 850 meters high. In addition to the small fan islands at the mouth of the creeks such as Taimali, Jinlun and Dawu, and the small alluvial fans in the north and south of Taimali and Xinxianglan, there are only gravel beaches about 100 meters wide, which are distributed under the cliffs. The seabed off the coast of this section has a steep slope of 10 kilometers from the shore and a depth of more than 1,000 meters. The topography of the coastal estuary of Dongxu cliff is characterized by tidal meandering streams, and the mouth of the Anshuo River has horizontal sand dunes parallel to the coast. At the mouth of Beinan River and Zhiben Creek, there are sand mouths or sand banks blocking the river water, forming a low-humidity swamp. There are sand dunes at the end of the alluvial fan of Lijia River and Zhiben Creek, which are about 10 meters high and parallel to the coastline.

(4) Climate and Hydrology of the Eastern Region

1. Climate in the Eastern Region

The climate of Taitung region belongs to the humid tropical climate of South Asia. The average annual temperature is 22, with an average temperature of 18.0°C in January and 28.4°C in July. The average annual precipitation is more than 2,000 mm. There are more southeast winds in summer and more northeast winds in winter. From May to October, there are many typhoons, and it is most threatened by typhoons in the western Pacific Ocean. The streams in the Taitung Longitudinal Valley are short and have little flow. However, whenever there is a heavy rain, the water suddenly meets the bottom of the valley, which is prone to disasters.

2. Hydrology of the Eastern Sea

The eastern waters of Taiwan refer to the vast Pacific Ocean near the east coast of the island of Taiwan. In this sea area, except for the Diaoyu Dao and its affiliated islands in the northeast and several small islands in the southeast, such as Green Island, Orchid Island and Xiaolan Island, the islands are sparse, the sea surface is vast, and the seabed slope is steep and deep. The hydrological conditions of the East China Sea area of Taiwan Island are mainly controlled by the Warm Current and monsoon in Taiwan, and its main characteristics are: First, the water temperature is high and the transparency is large. The average surface water temperature in the eastern waters of Taiwan Island reaches 20 to 24°C, and the average surface water temperature from July to September is 27°C, and the sea transparency is large, 24 meters in winter and 18-28 meters in summer and autumn.

Second, the tidal changes are small, and the tidal difference is basically the same. The tides in the eastern waters of Taiwan Island are obviously different from those in the Taiwan Strait, and although they are also irregular half-day tides, the changes in tide differences are not significant at the daily high and low tides. The tidal heights of the entire coast are almost equal, the high tide gap is about 6 hours and 8 minutes, the large tidal difference is about 1.3 meters, and the small tide difference is about 0.5 meters. Third, the current is weak and the current is strong. Since the tides in the eastern seas do not change much and the tide difference is small, the tides cannot form their own. The direction of flow can only play a role in strengthening or weakening the current. Under the influence of currents, the tides almost always flow from south to north. Due to the control of the warm current in Taiwan, the current in the eastern sea area is from south to north all year round, with a faster flow rate, generally 0.8 to 1.6 knots, up to 2.2 knots, and 20 knots from the shore. The flow rate is greatest at the nautical mile. Therefore, the eastern waters of Taiwan Island are conducive to the landing of small boats in formation. However, most of the terrain in eastern Taiwan is high mountains and steep mountains, and the coast is mostly steep rocky banks, except for a few lots where small-scale landings can be implemented, most of the lots are not suitable for landing, and it is difficult for large troops to develop in depth after landing. In addition, the eastern sea of Taiwan Island has few waters and reefs, steep slopes and deep water depths, 50-600 meters from the shore, and a sea valley with a water depth of more than 3,000 meters, which is very suitable for submarine activities. For example, the implementation of underwater ambushes, covert infiltration to meet the enemy, the implementation of blockade mines outside the main harbors, or the transport of special operations and reconnaissance detachments to the coastal waters covert landing, the implementation of reconnaissance or special operations, and so on.

2. HUMAN GEOGRAPHY OF THE EASTERN REGION

The Hualien Plain and Taitung Plain in the eastern part of Taiwan are the main concentrations of the population in the eastern part of Taiwan, and are also important industrial, agricultural and commercial areas in the eastern part of Taiwan. Hualien City and Taitung City are two important cities in the eastern part of Taiwan, and are also the hubs of foreign land, sea and air transportation in the eastern region. Other important townships include Yuli Township, Chenggong Township, Taimali Township, and Guanshan Township. Yuli Town, located in the middle of the Taitung Longitudinal Valley, is the most strategically valuable. In addition, the remnants of the lateral ridges and highlands extending from the mountains, such as Liyu Mountain in Hualien Creek, Luye Shifanyuan Highland in Taitung, Luming Bridge and Chulu Farm Highland, are all important places to control the Huadong Longitudinal Valley. Hualien Creek, Xiuguluan River, Beinan Creek, and some tributaries of east-west flow have a certain impact and barrier to the movement of large troops.

The Taitung Longitudinal Valley is crossed by the Eastern Railway and the Ring Road. The Eastern Railway from Hualien to Taitung is connected to the North Hui Railway (Su'ao-Hualien) in the north and the Nanhui Railway (Fangliao-Taitung) in the south.

To the east, there are 2 highways across the Taitung Mountains to the eastern coast, and 1 transverse highway from Guanshan Town across the Central Mountains to the west to Taichung, Kaohsiung and other places in the western part of Taiwan Island. Many important towns are found along Route 9 in the foothills of the mountains.

3. HUALIEN COUNTY

Hualien County is located in the eastern part of Taiwan Island, bounded by the main watershed of the Central Mountain Range to the west, Taichung City, Nantou County and Kaohsiung City, Taitung County to the south, Heping River and Yilan County to the north, and the Pacific Ocean to the east. Hualien County administers 1 city, 2 towns and 10 townships, namely Hualien City, Fenglin Town, Yuli Town, Xincheng Township, Ji'an Township, Shoufeng Township, Guangfu Township, Ruisui Township, Fuli Township, Xiulin Township, Wanrong Township, Zhuoxi Township and Fengbin Township. It has an area of about 4,628.57 square kilometers, a population of about 336,800, and a population density of 73 people per square kilometer.

(1) Natural Geography of Hualien County

1. Topography of Hualien County

The terrain of Hualien County is dominated by mountains and the valley plains, which can be divided into the central mountain range mountain area, the coastal mountain range mountain area and the longitudinal valley plain area. The mountainous area accounts for about 87% of the county's area, and there are about 40 peaks above 3,000 meters above sea level. The area below 100 meters above sea level accounts for only 9% of the county's area, mainly including the Heping River Delta Plain, the Liwuxi Delta Plain, the Hualien Coastal Plain and the Taitung Rift Valley Plain. Rivers are spread throughout the county, distributing various river terrains such as river steps, alluvial fans, and alluvial plains, and coastal terrains such as sea steps and sea erosion platforms. The slopes and coasts have eroded heavily, with the Qingshui cliffs south of the Heping River mouth being the most dangerous.

2. Climate of Hualien County

The climate of Hualien County belongs to the tropical and subtropical monsoon climate, with abundant rainfall and no obvious dry season. Typhoons are often attacked in summer. In winter, the northeast winds are strong.

(2) Human Geography of Hualien County

Hualien County is the largest county in Taiwan. Among them, Hualien City, Xincheng Township and Ji'an Township are located in Hualien plain, and Shoufeng township and Fengbin township are located on the coast south of Hualien plain.

Shoufeng Township, Fenglin Township, Guangfu Township, Ruisui Township, Yuli Township and Fuli Township are located in the Taitung Longitudinal Valley, while Xiulin Township, which is dominated by the Taiya and Taroge ethnic groups, Wanrong Township and Zhuoxi Township, which are mainly Bunong ethnic groups, are located in the mountainous areas on the east side of the Central Mountain Range. The administrative organs of Hualien County are located in Hualien City. The main transportation facilities in Hualien County are the North Hui Railway, Huadong Railway, Coastal Highway, Zhongheng Highway, Hualien Airport, and Suhua Highway.

Fig. 8-6 Hualien Plain in the east of Taiwan Island



(3) Important townships in Hualien County

1. Hualien City

Hualien City is a county-administered city, located in the northeast of Hualien County, on the Hualien Plain formed by the alluvial of Hualien Creek, Mugua River and Meilun Creek, bordering Xincheng Township to the north, Xiulin Township to the west, Ji'an Township to the south, and the Pacific Ocean to the east. The terrain is dominated by plains, with flat terrain, with only Meilun Mountain in the southeast of the city, at an altitude of 108 meters. Meilun River flows from northwest to southeast through the western foothills of Meilun Mountain, and from the south of Hualien Port to the sea of people.

2. Ji'an Township

Ji'an Township is located in the northeast of Hualien County, bordering the sea behind the mountains, Xiulin Township in the west, Hualien City in the north, Shoufeng Township in the south, and the Pacific Ocean in the east. With a population of about 80,000, it is the second largest township in Hualien County after Hualien City. The terrain of Ji'an Township is dominated by plains, with 3/4 being plains and 1/4 being mountainous. Chuying Mountain is 905 meters above sea level and is one of the mountain systems of the Central Mountain Range. There are many rivers in Ji'an Township, and all of them are boundary rivers, with Ji'an River in the north, Mugua River in the south, and Hualien River in the southeast.

Ji'an Creek, also known as Seven Foot River Creek, flows from west to southeast to the Pacific Ocean. Mugua River flows from west to southeast into Hualien Creek, and Hualien River flows north from the west side of the Coast Mountains, passing through Ji'an Township to inject people into the Pacific Ocean.

3. Yuli Town

Yuli Town, formerly known as Pushi Pavilion, is located in the southeast of Hualien County, bordering Zhuoxi Township to the west, Ruisui Township and Fengbin Township to the north, Fuli Township to the south, and Taitung Changbin Township to the east across the Coast Mountains. Yuli Town is located in the middle of the Taitung Rift Valley Plain, sandwiched between the Central Mountain Range and the Coastal Mountain Range, the terrain from the Southeast Coast Mountains to the west, across the east and west banks of the middle reaches of Xiuguluan creek, the western half is the alluvial plain of Xiuguluan River, which is also the main gathering place of the town's population. Yuli Town is the intermediate node of the Taitung Railway, a must for Highway 9, and its geographical location is important.

4. Xincheng Township

Xincheng Township is located in the northeast of Hualien County, bordering Xiulin Township to the north and west, Hualien City to the south, and the Pacific Ocean to the east. The terrain is dominated by plains, with the southern part of the Alluvial Fan Delta of Liwuxi to the north, the narrow coastal plain in the middle, and the northern half of the Hualien Plain to the south. From north to south, there are Liwu Creek, Sanzhan River and Xumeiji River flowing through the township. Located at the northern end of the Huadong Rift Valley, Xincheng Township is a strategic location in eastern Taiwan, with Hualien Airport and Jiashan Airport at the Air Force Jiashan Base, and the proportion of military land in the township is the highest in Taiwan. The traffic is more convenient, there are sea and land roads north to Yilan, Su'ao, there are roads to Hehuan Mountain, Taichung direction, for the east exit of the Zhongheng Highway, there are North Loop Railway and Highway 9 through the place.

5. Shoufeng Township

Fig. 8-7 Mugua River alluvial fan on the east coast of Taiwan Island



Shoufeng Township is located in the northeast of central Hualien County, bordering Xiulin Township to the west, Ji'an Township to the north, Fenglin Township and Fengbin Township to the south, and Dongbin Pacific Ocean to the south. Shoufeng Township is the only township in Hualien County that straddles the Huadong Longitudinal Valley and the Coastal Mountains, the eastern half of the terrain is the Coastal mountains, the west side and the junction of Xiulin Township are the eastern slopes of the central mountain range, and the rest are low-lying longitudinal valley plains, mainly composed of Mugua River, Cha River and Shoufeng River alluvial, the three streams flow from west to east, into the Hualien River on the west side of the Coastal Mountains, and Liyu Pond is on the northwest side.

4. TAITUNG COUNTY

Taitung County is located in the eastern part of Taiwan Island, east of the main watershed of the Central Mountain Range, adjacent to Zhuoxi Township, Fuli Township and Fengbin Township of Hualien County to the north, bordering Pingtung County to the south by Tawa River on the north side of Guanyin Mountain on the Hengchun Peninsula, and the Pacific Ocean to the east. Taitung County administers 1 city, 2 towns and 11 townships, namely Taitung City, Guanshan Town, Chenggong Town, Beinan Township, Luye Township, Chishang Township, Haiduan Township, Yanping Township, Jinfeng Township, Daren Township, Changbin Township, Donghe Township, Taimali Township and Dawu Township. It has an area of about 3,515.25 square kilometers, a population of about 228,300, and a population density of 65 people per square kilometer. In addition, Taitung County also has jurisdiction over two outlying islands, Orchid Island and Green Island.

(1) Physical Geography of Taitung County

1. Topography of Taitung County

The terrain of Taitung County mainly includes the Taitung Plain, Taitung Longitudinal Valley, Mountainous and Coastal Terrain. The Taitung Plain is located on the south side of the Coast Mountains and the Huadong Longitudinal Valley Plain, and is a relatively open coastal plain with a slightly triangular shape. The Taitung plain is about 11.5 kilometers long in the north (east-west), about 15 kilometers in the west (north-south), and about 18 kilometers in the southeast (coastline, northeast-southwest).

2. Climate of Taitung County

Taitung County is located south of the Tropic of Cancer, except for the mountains of the Central Mountain Range, it has a tropical monsoon climate, with high temperature and rainy summers and warm and dry winters.

(2) Human Geography of Taitung County

In the first year of the Qing Dynasty (1875), after Shen Baozhen advocated the opening of the mountains and lifted the ban on mountain closures, the Qing government set up the "Beinan Hall" to govern the affairs of the entire eastern people.

In the thirteenth year of the Qing Dynasty (1887), Taiwan was established as a province, and the "Beinan Hall" was changed to "Taitung Prefecture," and the state capital was located in Beinan (present-day Taitung), which became the political center of the eastern region of Taiwan. In 1909, the administrative division of the eastern region was adjusted, dividing Taitung into two halls, namely Taitung Hall (the scope of which corresponds to present-day Taitung County) and Hualien Port Hall (the scope is equivalent to present-day Hualien County), and Hualien officially separated from the jurisdiction of Taitung.

Taitung County is economically underdeveloped. The main industries are agriculture and tourism. Taitung City and Beinan Township are located in the Taitung Plain and are the main population agglomeration areas in Taitung County. Luye Township, Guanshan Township and Chishang Township are located in the Taitung Longitudinal Valley. Haiduan Township and Yanping Township are two Bunun ethnic minority townships, and Jinfeng Township and Daren Township are located in the mountainous area of the Central Mountains. Changbin Township, Chenggong Township, Donghe Township, Taimali Township and Dawu Township are located on the coast of Taitung. In Taitung County, there are mainly many transportation arteries such as Huadong Highway, Coastal Highway, Nanhui Highway, Yuchang Highway, and Nanhui Railway.

(3) Important Townships in Taitung County

1. Taitung City

Taitung City is located in the central part of Taitung County, on the Taitung Plain, bordering Beinan Township to the west and north, Taimali Township to the south, and Dongbin Pacific Ocean to the south. The terrain belongs to the Taitung Delta Plain, which is mainly formed by the alluvial of Beinan Creek, Taiping Creek, Lijia River and Zhiben Creek, and is a flat land with a relatively complete terrain and a wider area in the southern part of the Huadong Longitudinal Valley. In 1974, the administrative division of Taitung was readjusted, and Taitung Town was upgraded to Taitung City (county-administered city), and 10 villages near Taitung in Beinan Township were reorganized into Taitung City. Taitung City is now the seat of the administrative organs of Taitung County and is the political, economic and cultural center of Taitung County.

2. Beinan Township

Beinan Township is located in the central part of Taitung County, bordering Taitung City to the east, Jinfeng Township and Taimali Township to the south, Wutai Township of Pingtung County to the west, and Yanping Township and Donghe Township to the north. The terrain of Beinan Township is dominated by mountainous hills, mainly the central mountain range in the southwest and the end of the coastal mountain range in the northeast, sandwiched between the upper reaches of the Taitung Plain where Beinan Creek, Taiping River and Lijia River are alluvial.

3. Chenggong Town

Chenggong Township is the largest township in Taitung County, located in the south-central part of Huadong coast, on the narrow north-south coastal plain.

It is bordered by Changbin Township to the north, Donghe Township to the south, Donghe Township to the west, Donghe Township and Fuli Township of Hualien County to the west, and the Pacific Ocean to the east. Due to its proximity to the excellent fisheries in the Pacific Ocean and rich aquatic resources, the fishery in Chenggong Town is very developed. The coastal geological conditions are good, and there is the largest new port fishing port in eastern Taiwan, with about 280 fishing vessels. In addition, Chenggong Town also has a small port, Jiyun, Baishoulian, and other boats. Land transportation mainly relies on coastal highways (Highway 19), which connect Hualien, Taitung and Kaohsiung, and can use the Dongfu Highway to reach the Longitudinal Valley, but the road is far away and inconvenient.

4. Taimali Township

Taimali Township is located on the south side of the central part of Taitung County, bordering Taitung City and Beinan Township to the north by Zhiben River, Dawu Township to the south, Jinfeng Township and Daren Township to the west, and the Pacific Ocean to the east. The terrain of Taimali Township is mainly mountainous, and there are many mountains and few plains in the territory, except for the alluvial fan of the estuarine fan of rivers such as Zhiben River, Taimali River, Jinlun River and Taizhu River, the rest are mountainous, with a maximum altitude of 1,450 meters. The coast is mostly a straight fault coast and lacks good ports. The Nanhui Railway and the Nanhui Highway (Route 9) run through the whole territory, with Jinlun Tunnel, Duoliang No. 1, Duoliang No. 2 Tunnel, Dazhu No. 2 Tunnel, Dazhu No. 3 Tunnel, Dazhu No. 4 Tunnel, Jinlunxi Bridge and so on.

5. Guanshan Township

Guanshan Township is located in the northern part of Taitung County, in the southern section of huadong longitudinal valley, adjacent to Chishang Township to the northeast, Donghe Township to the east, Luye Township to the south, and Haiduan Township to the west. Except for the shallow hilly area on the west side of the Coast Mountains in the southeast, the rest of the territory is composed of alluvial fans and plains formed by the alluvial of the foothills of the Xinwulu Creek, a tributary of the Beinan Daxi Stream, and the riverbed formed by the riverbed. Due to the staggered strata of river beaches and the fact that alluvial fans are full of rocks, there is a lack of groundwater, which is not conducive to development.

THOUGHT QUESTIONS:

1. Briefly describe the main characteristics of the terrain in the eastern part of Taiwan Island and its impact on military activities.
2. Briefly describe the main characteristics of the terrain off the eastern coast of Taiwan Island and the constraints on military activities.
3. Briefly describe the layout of the land transportation network in the eastern part of Taiwan Island and its impact on military activities.
4. Briefly describe the main characteristics of the terrain of the Taitung Rift Valley and its influence on military activities.

LECTURE 9: PENGHU AREA

The Penghu Islands are located in the southeast of the Taiwan Strait, mainly composed of 64 large and small islands and their affiliated rocks, and are the largest island group in the southeast of the Taiwan Strait, distributed in the southeast of the strait, the Bazhao Waterway and the Tropic of Cancer, which is about 60 kilometers long from north to south and about 40 kilometers wide from east to west, with an area of 126.86 (at low tide 164.12) km². The northernmost island is Mudou island, the southernmost island is Qimei Island, the easternmost island is Chamou Island, and the westernmost island is Huayu Island. The Penghu Islands are about 44 kilometers away from Chiayi on Taiwan Island in the east and about 140 kilometers from Quanzhou in Fujian Province in the west. The Penghu Waterway is located between the Qinhua Archipelago and the west coast of Taiwan Island, and is an important north-south shipping channel on the west side of Taiwan Island. Located in the middle of the Penghu Archipelago, the Bazhao Waterway is a narrow trench running east-west, with a width of about 10 kilometers and a water depth of about 70 meters, which is an important sea traffic artery from Xiamen, Quanzhou and other ports of southern Fujian to Tainan port and Kaohsiung port in Taiwan. The Penghu Archipelago is a key point of communication between Fujian and Taiwan, and it controls the throat of the Taiwan Strait, and is known as the "key to the southeast," and its strategic position is very important.

1. THE NATURAL GEOGRAPHICAL ENVIRONMENT OF THE PENGHU ARCHIPELAGO

(1) Penghu Geology and Geomorphology

In the Penghu Archipelago, except for the westernmost Huayu Island, which is mainly composed of quartzite lava, the rest are volcanic bodies composed of basalt, that is, the Penghu volcanic group. The Penghu Islands were originally a large basalt square mountain in the Miocene, which was later divided into 63 large and small square mountains due to crustal movement, channel collapse, sea erosion and land sinking, which were separated from the mainland to form today's landform. Of the 64 islands in Penghu, only Huayu is a volcanic island of the Mesozoic Era. Penghu Archipelago is located in the shallow sea area of the continental shelf of the East China Sea, the terrain is basalt lava platform, the terrain is low, the south is high and the north is low, except Huayu Island has a more convex peak, the rest are mostly plateaus, mostly square mountains, the top is flat, and the surrounding is steep. The average altitude of the islands is about 19 meters, and the southwest is the highest at Damao Island, with an altitude of 75.5 meters.

The islands are at each other's throats, restraining the strait. There are many reefs near the island, and the tide is complex and changeable. The coast is mostly steep cliffs, with the west and north sides being the steepest. There are many sea erosion platforms and coral reefs under the cliffs. The islands on the north side of the Penghu Archipelago are large and concentrated, mainly including 44 islands such as Penghu, Fisherman, and Baisha. The islands on the south side of the Penghu Archipelago are small and scattered, mainly 20 islands such as Wangan (Bazhao), Dongji, Huayu, and Qimei. The archipelago has a total coastline of 320 km and a surrounding water depth of 40-60 m.

(2) Meteorology and Hydrology of the Penghu Archipelago

The Penghu Archipelago has a subtropical oceanic monsoon climate with an average annual temperature of 22.6°C and an average temperature of 17.00° in January 1°C, the average temperature in July is 28.2°C. Because the Penghu Archipelago is located on the southeast side of the Taiwan Strait and is in the passage of the northeast monsoon and the southwest monsoon zone, the archipelago is strong and the winds are strong, and there are many winds in the day, which is a famous gale area in China. There are many typhoons in summer, and many stormy days in winter, and there are about 140 storm days in the year. From October to March of the following year, the average wind speed is about 8 meters per second, and the maximum wind speed can reach more than 20 meters per second. The average annual precipitation is 1,030 mm. The Penghu Archipelago has fewer fog days, averaging only 3 to 4 days per year. The currents in the Penghu waterway are northerly with a velocity of 2.3 knots.

(3) Topography of the Penghu Archipelago

The topography of the Penghu Archipelago mainly includes volcanoes, weathering, rain erosion, coastal, wind formation and other types. Among them, the volcanic terrain is the main feature of the penghu archipelago topography, most of the islands are square mountain terrain, and the columnar joints and plate-like cracks formed after the cooling of basalt flows are common on the sea cliffs of the islands.

1. Penghu Island

Penghu Island, also known as Magong Island, is the largest island in the Penghu Archipelago and the main island of the Penghu Archipelago, with an area of 64.24 square kilometers (79 at low tide) and a coastline of 114.52 kilometers. The main features of the topography of Penghu Island are: the northern coastline is jagged and complex, and the peninsula and inland bay are very developed; in the south, there are many straight beaches. The hills on the island are arranged in a northeast-southwest direction, and the terrain is undulating and hilly, mostly hills at an altitude of 10 to 30 meters. Gongbei Mountain in the middle of the island is 56 meters above sea level, which is the highest point of the whole island, followed by Taiwu Mountain at altitude, Shamao Mountain in the south at 45 meters above sea level, and Hutou Mountain in the north at 30 meters above sea level. The commanding heights of these islands can overlook the entire island. The island is irregular in shape, the shoreline is tortuous, there are many steep cliffs along the coast, many coral reef beaches near the shore, and the reefs under the beach are densely covered, and the northwest side is the worst. There is a sandy beach on the northwest side of the Kannon Pavilion in Magong City, stretching to the west bank of Chongguangli and is about 2,000 meters long.

Zhongliao Peninsula is the largest peninsula on Penghu Island. There is a hook-shaped sand mouth under the cliff of Hutou Mountain in the Qingluo Peninsula, which is about 300 meters long. Kuibi Mountain on the Beiliao Peninsula is a typical land island with a lighthouse. Beiliao to Sugaba is a sandy beach and sand dune terrain with a mixture of sea and wind accumulation, stretching for about 1,000 meters. The beach is a huge gravel shoal reef made up of basalt rocks, piled up on a platform made of beach rocks. Longmen Village (Liangwen Port) in the south of Penghu Island to Suogang, the coastline is about 11 kilometers long, which is a mixed beach of fine sand or gravel, of which Longmen, Wuni to Lintou, Xiaogua to Wukan are beaches, and the beach is 150 to 300 meters wide at low tide. In the southern part of the port, there are shore plateaus and sea erosion gates, and there are many small low-level craters in the middle of the sea cliff. The southernmost coastline of Penghu Island is about 1,200 meters long, and there is a wide sandy beach in the south of the landscape, which is about 500 meters long, and the beach is about 100 meters wide at low tide. There is a small sea erosion gate at the foot of the Zhumushui Mountain, and when winter comes, a dune terrain will form under the hill. The peninsula from Yingli to Fengqiao is connected by three narrow isthmuses (including island sandbars) to form a sand neck cape. There are sandy beaches and sand dunes in the country. The basalt columnar joints on the south bank of the tail of the wind cabinet are very developed, with sea erosion trenches and sea caves caused by the erosion of the waves.

There are many small islands attached to Penghu Island, such as Chiyu Island, Jishan Island, Dingluo Island, Chapo Island, Chamu Island, Xianglu Island, etc., which are administratively under the jurisdiction of Huxi Township; Jilong Island, Sijiao Island, Central Island and other islands are administratively under the jurisdiction of Magong City. Chiyu Island is located on the northeast side of Penghu Island, close to Penghu Island. The island has a small crater with an oval-shaped column top and about 20 meters long. Jishan Island is located about 4,000 meters northeast of Penghu Island. Jishan Island is composed of two islands, Jishan Island, both of which are basalt square mountains, surrounded by clear columnar joints of sea cliffs, 4 sea caves under the cliffs, and a shallow beach on the southeast side. Located about 4,000 meters northeast of Penghu Island and about 1,000 meters away from Jishan Island, it is administratively under the jurisdiction of Huxi Township. The island consists of 4 basalt reefs. The island's columnar basalt forms columnar joints in a variety of different directions. Sea erosion columns develop in groups, and the spectacle of "a line of heaven" is formed between the sea erosion columns.

2. Yuweng Island (Fisherman's Island)

Yuweng Island, also known as Xiyu Island, is located about 5,000 meters northwest of Penghu Island, bordering the Taiwan Strait in the west and Penghu Bay in the east, facing Baisha Island and Magong City, and is the second largest island in the Penghu Archipelago. The island is long and narrow, with a tortuous coast, about 10 kilometers long from north to south, about 1,300 meters wide from east to west, and about 5,000 meters at its widest point, with an area of 18.26 square kilometers and a coastline of 40.2 kilometers. At the head of the northeast corner of the island, there is a cross-sea bridge connected to Baisha Island. The terrain is high in the south and low in the north, with a maximum height of about 58 meters.

The southern terrain is higher, with several small highlands of more than 50 meters above sea level, and many coral reefs along the coast. The east coast is mostly undulating slopes, bays, sandy beaches and beachfronts. Niuxin Mountain is a small land island. The beach rocks on the east side of the north coast are uplifted, located above the coastal line, and the columnar basalt exposed in the upper surface is very well developed. The sea cliffs on the west coast are mostly columnar basalt, about 10 meters high, most of them are inclined, the top is narrow, curved into a semi-spherical shape, and then slowly thickened downwards. There are several volcanic necks on the sea cliffs on the north shore of Dachi Harbor. The south coast is a large land-linked island from the Neibei Port to the Inner Nan Port, connected by an isthmus of coral debris.

Xiaomen Island is located on the north side of Xiyu Island, separated from the West Island by a narrow waterway about 200 meters wide. The columnar joint basalts on the north and south banks of Xiaomen Island are relatively developed. The porous basalt on the east bank is well developed, and spherical weathering is very common. The erosion of the northeastern plateau by rain has created many small rain ditches, similar to the badland terrain. It is the highest in the northwest, 23 meters above sea level. "Whale Cave" is the most special sea erosion terrain of Xiaomen Island, which was originally a sea cliff of basalt, and the sand shale layer under the basalt was excavated through the sea erosion into a sea erosion gate. The basalt joints above the whale cave have well-developed weathering patterns. On the east side of the whale cave there are two sea erosion columns, which are formed by the collapse of the top of another sea erosion gate.

3. Baisha Island (White Sands Island)

Baisha Island, also known as Beiyu Island, is the third largest island in the Penghu Archipelago. It has an area of 14.11 km² (25.6 km² at low tide) and a coastline of 31.9 km². Baisha Island is named after its seashore with thousands of meters of white sand beaches. Baisha Island is located about 2,000 meters northeast of Fisherman's Island, and is connected to Fisherman's Island by a cross-sea bridge. The southeast of Baisha Island is about 2,000 meters away from the main island of Penghu across Zhongtun Island, and there is Yong'an Bridge and Zhongtun Island. Baisha Island is low and flat, the shoreline is relatively straight, surrounded by a large number of coral reefs, and the shore is windy and fast. The white sand beach extends north from Zhenhai to the bottom of Tongliang Guishan Mountain, of which the coastal area from Guishan to Yandun Mountain is the largest, with a beach length of about 2,000 meters and a depth of about 1,000 meters. Located at the northern tip of the island, Yandun Mountain, at an altitude of 38 meters, is the commanding height of the island. Located at the southeastern tip of the island, Shibantou Mountain is 25 meters above sea level.

There are more than 10 small islands (islands) around Baisha Island, such as Zhongtun Island, Yuanbei Island, Bird Island, Jibei Island, Dacang Island, Gubo Island, Dabaisha Island, Xiaobaisha Island, Jinyu Island, Xianjiao Island, Tiezhen Island, Guoyu Island, and Mudou Island, all of which are administratively under the jurisdiction of Baisha Township. Zhongtun Island is located between Baisha Island and Penghu Island, and at low tide, a large beach is exposed around it.

Yong'an Bridge is connected to Baisha Island in the north, and Zhongzheng Bridge is connected to Penghu Island in the south. Located about 2,000 meters east of Baisha Island, Yuanbei Island is named after the island's resemblance to a scallop. The columnar basalt from the northeast to the northwest shore of the island is very developed, with a small fishing port on the west side, a peninsula protruding south to the south, and a benthic sand mouth at the end, which is exposed to the water at low tide and is connected to the grass island in the south of the island. The highest point on the island, 40 meters above sea level. Bird Island is located about 3,000 meters east of Baisha Island, and the columnar basalt sea cliffs on the island extend from east to north, with a length of about 2,000 meters. There is a huge sea cave under the sea cliff. The basalt of the north shore has well-developed spherical weathered terrain. Okura Island is located in the southwest of Baisha Island, within Penghu Bay. There are vast coastal platforms around the island, and on the west coastal platform, there is a rock formation about 100 meters long. Jibei Island is located just 5,500 meters north of Baisha Island. The island's terrain is high in the east and low in the west, and the beautiful sandy beaches and sand mouths composed of sea topography are the biggest topographic features of the island. The beach is located on the southwest shore of the island, extending south from the Xikan Mountains. At the end of the beach, due to the influence of the current, the sand beak that protrudes into the sea is formed, with a total length of 700 meters and a maximum width of about 200 meters, which is the largest sand mouth in the Penghu Islands. Gu po Island is located about 5,000 meters northwest of Baisha Island. The island runs in a north-south direction, about 1,000 meters long and 300 meters wide. The whole island is mainly composed of 4 square mountains and 3 small isthmuses. There are large bays on the north shore, and a natural white sandy bay on the north and south sides of the east coast. Great Baisha Island, located between Baisha Island and Wugong Island, is jointly known as Tudigong Island with Wugong Island. Xiaobaisha Island, located about 2,000 meters northeast of Bird Island, is named after a large white sand beach in the southwest of the island. The southern part of the island has developed columnar joints, and there are beautiful curved basalts in the east and south, which are about 300 meters long and more than 20 meters high. Located between Baisha Island and Jibei Island, The Island has a volcanic neck and an east-west basalt vein running through the island. Jinyu Island is located between Baisha Island and Jibei Island, closer to Jibei Island, mainly composed of sandbars, and there are uplifted beach rocks on the east and south shores. Located on the east side of Jibei Island, the island has a variety of strangely shaped honeycomb rocks, the island is surrounded by sea cliffs, and there is a sea cave about 15 meters wide under the north cliff, which is the largest sea cave in the Penghu Islands. Located between Jibei Island and Mudou Island, the southern end of the island is a beach formed by corals and shell fragments, extending south into a benthic sand mouth, revealing a large coastal platform at low tide, which can be waded to Jibei Island. Mudouyu Island is the northernmost island of the Penghu Archipelago, and there is a sea erosion ditch and sea erosion gate that runs through the island under the sea cliffs from southeast to northwest.

4. Hujing Island

Hujing Island is located 3,000 meters southwest of Penghu Island, with an east-west length of about 4,000 meters, a north-south width of about 1,000 meters, and an area of about 2 square kilometers.

Hujing Island is composed of two land-linked islands, Dongshan and Xishan, Dongshan is the main body of Hujing island, with a height of about 61 meters, and the north and west mountains are about 57 meters high. The surface of the east and west mountains is flat, surrounded by basalt sea cliffs, and the coastal wall is steep, which is the standard square mountain terrain. Between the eastern and western mountains there is an isthmus about 100 meters wide, formed mainly by coral detritus and shell sand, forming a concave bay with a northern gap. There is a Hujing fishing port in the bay. There are roads, hospitals and primary and secondary schools on the island. Hujing Island is bordered by the Taiwan Strait in the west, about 2,000 meters from Barrel Pan Island in the north, the south mouth of Penghu Bay in the north, about 8,000 meters from the West Port of The Wind Cabinet in Magong City in the northeast, and the Wang'an Port Road in the south, opposite Wang'an Island, and the geographical location is very important.

5. Barrel Pan (Tongpan) Island

Barrel Pan Island is located about 3,000 meters southwest of Penghu Island, bordering the Taiwan Strait to the west, Penghu Bay South to the north, and about 7,000 meters from Magong Port. The island is a standard square mountain island, shaped like an inverted barrel plate, so named. There are many huge vertical columnar basalts around the island, the rock pillars are about 20 meters high and about 1 to 1.5 meters wide, and some of the basalt columns are weathered into a spherical shape and shaped like a rock fort. The southern part of the island is slightly higher, about 25 meters high, and the north side is centered on a hollow bay, which was originally a sandy beach, and has now been built as a barrel fishing port.

6. Wang'an Island

Wang'an Island, formerly known as Bayu Island, is located about 15,000 meters southwest of Penghu Island, with a length of about 4,000 meters from north to south, a width of about 2,000 meters from east to west, and an area of about 8 square kilometers, making it the fourth largest island in the Penghu Archipelago. Tiantai Mountain on the west coast of Wang'an Island is the highest point on the island, with an altitude of 54 meters; Fengmen Mountain in the middle of the island, 46 meters above sea level; Liyu Mountain in the eastern part of the island, 21 meters above sea level. On the west side of Tiantai Mountain, there are sea erosion ditches and sea caves. The beach stretches from The Port of Zhongshe (Hanaya Port) to the mouth of the net, which is about 4,000 meters long and protrudes into the sea to form a small sand mouth. The northwest shore is gravel beach. The slopes of the northeast shore have a raised rock formation. The island has built roads, Wang'an airport and lighthouse, Tianhou Temple, etc., as well as primary and secondary schools. The surrounding coasts include Budai Port, Tanmen Port, Misaki Port, Shuidai Fishing Port, Puchuandai Fishing Port, Zhongshe Port, Land Gongkou Port and so on. Wang'an Island is bordered by penghu waterway in the east, the Taiwan Strait in the west, the Menzai Strait about 500 meters wide in the east, and Jiangjun Island, the Lintoujin Harbor Road in the south, and the Wang'an port road in the north, which controls a number of waterways, the geographical location is very important, and it is an important support and barrier to control the sea area in the south of Xiaohu Lake.

There are also islands and reefs around Wang'an Island, such as Ma'anShan Island, Chuanhou Reef, and Jiuweng Reef. Ma'anshan Island is located about 500 meters east of the Yuanyang Cave in the northeast of Wang'an Island and consists of two rocky reefs.

The South Rock block has several huge sea erosion columns. Spherical weathering is common on the island, with a small stretch of sand at the northwest opening. There is a large sea cave in the east cove on the northeast shore.

7. General Island

General Island, also known as Jiangjun Aoyu, is located on the east side of Wang'an Island, about 17 kilometers north of Penghu Island, about 2,300 meters long, less than 1,000 meters wide, and an area of about 2 square kilometers. General Island is under the jurisdiction of Wang'an Township. The island is a typical basalt square mountain. Except for the beaches on the northwest coast and the central south coast, the rest of the coasts are 10 to 20 meters high sea cliffs, and there are wide coastal platforms under the cliffs. The Dajiao Mountain in the eastern part of the island, at an altitude of 30 meters, is the highest point of General Island. There are roads on the island, such as the General's Lighthouse, the General's Temple, the Tianhou Temple, the Middle School, the Primary School, etc., and the West Coast of the Island has a General Fishing Port and Hougong Fishing Port. There is Chuanfan Island Reef in the southeast of General Island, which is about 25 meters high; in the south, there are Houbao Island, Haiweng Reef, Jiuweng Reef, etc.; in the north, there are Dogshazai Reef and Jinguazai Reef. General Island is bordered by Penghu Waterway in the east, Lintoujin Harbor Road in the south, and Menzai Strait and Wang'an Island in the west, controlling a number of water traffic arteries, the geographical location is very important, and it is an important support and barrier to control the southern waters of Penghu Lake.

8. Dongji and Xiji Islands

Dongji Island, Xiji Island and Chutou Island are a group of small islands located in the southeast direction of Wang'an Island, which are also under the jurisdiction of Wang'an Township. Located more than 10 kilometers southeast of Wang'an Island, Dongji Island is composed of two square mountains, north and south, separated by an isthmus. There are vertical sea cliffs on the north coast, and a huge sea cave and sea pillar under the lighthouse in the northwest corner. Hutou Mountain is located on the southwest coast of the island, 34 meters above sea level, and is the highest point of Dongji Island. The island has facilities such as roads, primary schools and fishing ports, and there is a wide coastal platform on the south side of the fishing port, with more rocks and a sandy beach of about 300 meters. Xiji Island is located about 5,000 meters west of Dongji Island. The terrain is high in the north and low in the south, there is a beach on the south bank, there are sea cliffs stretching for about 800 meters on the west and northwest sides, columnar basalt is about 20 meters high, and sea erosion ditches and sea caves are all over the place. Yantun Mountain is the highest point of Xiji Island, with an altitude of 23 meters. The island has facilities such as roads, primary schools and a marina. Chutou Island is located 500 meters northwest of Dongji Island. On the east side of the island, under the sea cliffs, there is the deepest sea cave in the archipelago.

9. East and West Islands (Dongyu Pingyu, Xiyu Pingyu)

The islands and reefs of Dongyu Pingyu, Xiyu Pingyu, Lintoujin Island and Tiezhen Island are a group of small islands located in the south direction of Wang'an Island, which are also under the jurisdiction of Wang'an Township. It is bordered by the Taiwan Strait in the west, the Lintoujin Harbor Road in the north, and the Penghu Waterway in the east, which is geographically important.

Dongyu Pingyu island is located about 10 kilometers south of Wang'an Island. East Island Pingyu island is in a northeast-southwest direction, consisting of two square mountains in the south and north, the northern terrain is slightly higher, and the Bagua Mountain is 61 meters above sea level, which is the highest point of the island. There are steep sea erosion cliffs around the island, and there are sea erosion terrain such as sea erosion ditches, sea caves and sea erosion columns on the east and north shores. The saddle of the island has a small terrain that resembles a vicious place, and there is a bulging sea erosion gate near the Golden Dragon Tower. There is a sandy beach on the southwest coast of the island. The island has facilities such as roads, fishing ports, hospitals and primary schools. Located about 700 meters northwest of Dongyu Pingyu Island, except for the gentle central coast on the north side, the rest of the coast is composed of sea cliffs, sea erosion ditches, and sea erosion columns. The island has facilities such as roads, docks and elementary school branches. There are well-developed skirt reefs in the sea between Pingyu Island in the east and west. There are also rock reefs such as Tiezhen Island, Lintoujin Island, Xianglu, Zhumu Reef, and Zhongzai Rock in the waters around Pingyu Island in the east and west islands. Located in the northwest of West Island Pingyu Island, Tiezhen Island is composed of two huge sea erosion columns, one large and one small, standing side by side on the coastal platform. Lintoujin Island is located in the northwestern waters of Pingyu Island, about 7,000 meters south of Wang'an Island.

10. Qimei Island (Qimeiyu)

Qimei Island, formerly known as Lantau Island, is located 15 kilometers southwest of Wang'an Island, is the southernmost island of the Penghu Archipelago, and the fifth largest island of the Penghu Archipelago, with an area of about 6.9 square kilometers. The terrain of Qimei Island is inclined in the east and low in the west. Located at the top of the mountain in the southeast, 64 meters above sea level, it is the highest point of Qimei Island. The southern coast has straight columnar basalt sea erosion cliffs between Nanhu Port and Dawan, and there are 3 sea caves near the high tide line. There is a white coral destruct beach in Snapper Bay, and several basalt veins are exposed on the shore platform of the bay. The coast between Snapper Bay and Dashi Scenic Area is a columnar basalt sea cliff with an inverted, radial or staggered distribution. The eastern coast from Dongkan to Osaki is a sea cliff formed by basalt flow, with several sea erosion trenches and sea caves, and the area from Niumuping to Tohoku Bay is a huge research and stone beach composed of basalt, sandstone and coral reefs. The northern coast stretches from Northeast Bay to Northwest Bay, with a straight shoreline of continuously towering basalt, weathered basalt columns in the shape of a rock fort. On the west side of Northwest Bay is a basalt shoal. The western coast is more gentle, the southern part is connected to the platform, and the bay is composed of gravel beaches. The island is equipped with roads, airports, lighthouses, hospitals and primary and secondary schools. The roundabout has built Dinghai Port, Biandan Port, Tanzai Port, Kandai Port, Nanhu Port, Sea Bream Port and other ports.

11. Huayu Island, Cat Island

Huayu Island (Flower Island), Big Cat Island, Little Cat Island, Caoyu Island and other islands are located 15 to 16 kilometers west of Wang'an Island, all under the jurisdiction of Qimei Township. Located about 15 kilometers northwest of Wang'an Island, Huayu Island is the westernmost island in the Penghu Archipelago.

The island is a small square mountain, slightly triangular, with a length of about 1,800 meters in the southeast, about 1,400 meters in the northeast, and about 1,500 meters in the northwest. Yandun Mountain is 53 meters above sea level, which is the highest point on the island. The island is roughly a plateau, with a height of about 30 to 40 meters and surrounded by 20 to 40 meters high sea cliffs. A small part of the west coast of Huayu Island is the Shashuo Coast. The island has facilities such as roads, lighthouses and ports. Big Cat Island, Little Cat Island and CaoYu Island are located about 14 to 16 kilometers southwest of Wang'an Island. Big Cat Island is about 70 meters high, with steep sea cliffs on all sides, and a huge sea erosion gate that runs through the east and west sides. There are several sea caves on the northwest and south shores. Located on the east side of Big Cat Island, Little Cat Island is about 50 meters high and surrounded by steep cliffs. Caoyu Island is located in the southeast of Little Cat Island.

2. THE HUMAN AND GEOGRAPHICAL ENVIRONMENT OF THE PENGHU AREA

Penghu is named after the surging waters outside the harbor and the clear lake inside the harbor. Due to the special geographical location of the Penghu Islands located in the southeast of the central part of the Taiwan Strait, it is known as the key to maritime traffic between Fujian and Taiwan and the "key to the southeast." In ancient times Chinese mainland immigrants used Penghu as a springboard for relocating. Militarily, Penghu is regarded as a springboard for attacking Taiwan Island from the west and a southwest maritime defense barrier for defending Taiwan's main island, and has always been a place where soldiers must fight and has extremely important strategic value.

(1) The Historical Evolution of the Penghu Area

In the 18th year of the Yuan Dynasty (1281), the Yuan Dynasty officially set up the Penghu Inspection Department near the Mazu Palace (Tianhou Temple) in Penghu, which was under the jurisdiction of Tong'an in Fujian Province, and took Penghu into the territory of China. During the Ming Dynasty, Penghu was garrisoned and expelled the Wokou pirates. Penghu's superior geographical location has also aroused the covetousness of Western powers. In the thirty-second year of the Ming Dynasty (1604), the Dutch fleet invaded the Penghu Archipelago and was forced to retreat. In the second year of the Ming Dynasty (1622), the Dutch invaded Penghu again, and the Ming army launched the Battle to retake Penghu, which finally forced the Dutch invaders to beg and withdraw from Penghu. In December of the eighteenth year of Qing Shunzhi (1661), when Zheng Chenggong led his troops across the strait to expel the Dutch colonists and regain Taiwan, he used Penghu as a bridgehead and took the lead in landing here. After the recovery of Taiwan, a pacification department was set up in Penghu. In the twenty-second year of the Qing Kangxi Dynasty (1683), Shi Lang, the admiral of the Fujian Marine Division of the Qing Army, led his troops to conquer Taiwan, from Tongshan to Penghu Eight Cover Creek, took Hujing and Barrel Pan Islands, annihilated the main force of Liu Guoxuan's troops guarded by the Zheng army, conquered Penghu, and paved the way for the unification of Taiwan.

In the 20th year of Guangxu (1894), the Sino-Japanese Battle of Jiawu broke out, and the Qing Dynasty was defeated and sued for peace. The following year (1895), the Treaty of Maguan was signed, and he was forced to cede Taiwan and Penghu. On August 15, 1945, Japan was defeated and announced its unconditional surrender. On October 25 of the same year, the ceremony of the surrender of Taiwan in the Chinese Theater was held in the Taipei City Public Hall (Zhongshan Hall), and Penghu has since been restored to China. In 1946, the Penghu County Government was officially established. After the Chiang Kai-shek clique fled to Taiwan at the end of 1949, it has always regarded the Penghu Archipelago as an important barrier to ensure the security of Taiwan's own island. In 1970, the Penghu area was designated as the first operational zone, implemented independent garrison, and divided into two major areas, north and south, bounded by the cross-sea bridge and the "Zhongzheng Bridge." There is now a defense command in Penghu.

(2) The Current Situation of the Penghu area

Penghu County administers 1 city and 5 townships, namely Magong City, Huxi Township, Baisha Township, Xiyu Township, Wang'an Township and Qimei Township. The total area is 126.86 km². Magong City is the seat of the Penghu County Government and is the political, economic and cultural center of the region. Among the 64 islands in the Penghu Archipelago, 20 have a permanent population, with a permanent population of 97,200 and a population density of 766 people per square kilometer. Penghu Island, Fisherman Island and Baisha Island are the three largest islands in the Penghu Archipelago, where more than 90 per cent of the population is concentrated.

The Penghu region is economically underdeveloped. The high salinity of the archipelago soil is not conducive to plant growth, and the vegetation is only dwarf grass and shrubs. Crops are mainly grains and potatoes, and grain cannot be self-sufficient. Fishery resources are abundant, aquaculture and fishing industry is also more developed, rich in fish, shrimp, crabs, snails, mussels and so on. There are also specialties such as coral and aragonite.

Magong City is located in the west of Penghu Island, adjacent to Huxi Township in the east and Penghu Bay and Xiyu Township in the west. Magong City was originally Magong Street and Magong Town, which was upgraded to a city in 1981, and the administrative area remained unchanged. The famous Magong Port is located in the city and is divided into two bays, namely Magong Port and Magong Inner Port, with military ports, commercial ports and more than 10 fishing ports respectively. Magong's economy is mainly based on industrial and commercial services, and it is also the main distribution center for agricultural and fishery products in Penghu, and its GDP accounts for more than 50% of the GROSS product of Penghu.

Huxi Township is located in the eastern part of Penghu Island and is the largest township in Penghu County. Huxi Township is adjacent to Magong City in the west, and across the sea from Baisha Township in the north, with Zhongzheng bridge connected to it across the sea. The eastern part of Huxi Township is low-lying, and there is a white sand beach stretching from 3,000 to 4,000 meters long on the southern pass gate to Lintou.

The economy of Huxi Township is mainly based on agriculture, mainly including peanuts, sugarcane, cabbage, kale and other agricultural products.

The traffic in the Penghu area is mainly by sea. The sea transportation between the Penghu Islands and Taiwan Island mainly opens passenger and cargo ship routes from Yumagong Port to Kaohsiung, Taichung Port and Anping Port, the route from Suoguan Port to Chiayi Budai Port, and the route from Liangwen Port to Yunlin Taixi Port. The archipelago mainly opens maritime transportation routes from Magong to Bazhao Island and Qimei Island. Air transport mainly operates flights from Magong Airport to Taipei, Taichung, Chiayi, Kaohsiung and other airports on the main island of Taiwan, as well as flights from Magong Airport to Qimei and Wang'an Airports in the Penghu Archipelago area. Land transportation, mainly road transportation, there is no railway on the island, there are 4 main roads, with a total length of about 330 kilometers. Between the three largest islands in the Penghu region, three cross-sea highway bridges have been built, connecting Penghu Island, Fisherman Island and Baisha Island. The cross-sea bridge between Baisha Island and Yuwong Island is about 2,150 meters long, the Yong'an Bridge between Zhongdun Island and Baisha Island is about 500 meters long, and the Zhongzheng Bridge between Magong Island and Zhongdun Island is about 100 meters long.

3. THE MAIN TRANSPORTATION FACILITIES IN THE PENGHU AREA

(1) Major Harbors

There are many ports in the Penghu Archipelago. Around the main island there are Penghu, Magong, Huxi, Hongluo, Dongwei, Liangwen (Harbor Bottom) and other harbors, at the southern end of Qimei Island there is Nanhu, Wang'an Island has Jiangjun Aoyu, Wang'an and other harbors.

1. Penghu Bay

Penghu Bay is the most famous bay in Penghu area, surrounded by Penghu, Baisha and the three Fisherman's Islands, the bay is wide and deep, about 12 kilometers long from north to south, about 8,000 meters wide from east to west, and 15 to 18 meters deep, which is the most ideal sheltered anchorage in Taiwan in winter. Okura Island in the bay has an area of about 0.2 square kilometers and an altitude of about 20 meters. The reef shoals in Penghu Bay are densely packed, the waterway is winding, and there is an exit to the north and south. The south mouth is about 3,300 meters wide and 10 to 62 meters deep, and is strangled by the Windbreaker Peninsula and Fisherman's Island. The north entrance is the Niugong Bay Strait, also known as Houmen, with dense coral reefs and a cross-sea bridge connecting Yuwong Island and Baisha Island, which is not convenient for large ships to navigate.

2. Magong Bay

Magong Bay is a natural deep-water harbor in the Penghu area, located on the southwest side of Penghu Island, surrounded by the Magong Peninsula and the Fengguiwei Peninsula, with a water area of about 15 square kilometers. The inner shoreline of the bay is tortuous, with the Construction of Makung Naval Base, Makung Harbour and several fishing ports. The port is divided into two parts, north and south, and the port runs to the northwest, with a width of about 1,200 meters. The southern Tiantian island is a military port area, with an east-west length of 5,000 meters, a north-south width of about 2,000 meters, a water depth of 10.5 to 14.6 meters, the substrate is dominated by sediment, and the dock can berth dozens of ships at the same time. In the north is the fishing port area, which is about 2,000 meters long from east to west, about 1,200 meters wide from north to south, with a water depth of 3 to 6 meters, and most of the substrate is shells and sand. Outside the port, the waters south of Dachi Bay on Yuwong Island are the main anchorages for ships.

3. Magong Port

Magong Port is a horseshoe-shaped natural bay with a west-facing port, located on the southwest shore of Penghu Island, an important commercial port in the Penghu area. The water area of the port area is 0.6 square kilometers, the land area is 0.1 square kilometers, the water depth of the port area is 2.5 to 8 meters, the length of the channel is 600 meters, and there are 9 docks. Due to the narrow land area of the port area, no warehouse stack facilities have been built. In 2009, there were 3,581 ships entering and leaving the port, with a total weight of 6.1 million tons, a throughput of 469,000 tons, and a maximum cargo handling capacity of 500,000 tons. According to the port construction plan of Taiwan, in the future, Magong Port Terminal will be mainly used as a passenger terminal area in Penghu area.

4. Longmen Jianshan Port

Longmen Jianshan Port is located in the southeast of Penghu Island, in the coastal waters between Longmen Fishing Port and Jianshan Fishing Port in Huxi Township, Penghu County, and is an important commercial port in Penghu Area. The total area of the port area (watery and land) is 2.572 square kilometers, the port water depth is 5 to 8 meters, and 11 wharves are planned to be built, with a total length of 1,466 meters. According to the port construction plan of Taiwan, in the future, Longmen Jianshan Wharf will become the main freight terminal area in Penghu area.

(2) Major Airports

1. Magong Airport

Magong Airport, located in the middle of Penghu Island, about 6,000 meters southeast of Magong City, covers an area of 2 square kilometers, is the largest dual-use airport in Penghu area. It is 185 kilometers away from Xiamen City. It mainly operates civil aviation passenger routes from Penghu Island to Taipei, Taichung, Chiayi, Kaohsiung and other airports on the main island of Taiwan, as well as civil aviation passenger flights in the Penghu area to Qimei and Wang'an airports.

2. Zhumushui Airport

Zhumushui Airport, located in the south of Magong City, is the old airport of Penghu Island.

3. Wang'an Airport

Wang'an Airport, located 1500 meters northeast of Wang'an Island on the Penghu Archipelago, covers an area of about 0.12 square kilometers and is a small civil airport in the Penghu area. It is 187 kilometers away from Xiamen. It mainly operates civil aviation passenger flights from Wang'an Island to Kaohsiung, Magong and other places.

4. Qimei Airport

Qimei Airport, located in the northwest corner of Qimei Island on Penghu Archipelago, covers an area of about 0.2 square kilometers, and is a small civil airport in Penghu area. It is 190 kilometers away from Xiamen City. It mainly operates civil aviation passenger flights from Qimeiyu to Kaohsiung, Magong and other places.

THOUGHT QUESTIONS:

1. Briefly describe the main characteristics of the topography of the Penghu Archipelago and its impact on military activities.
2. Briefly describe the military value of the Penghu Waterway and the Badao Waterway and its impact on military activities.

LECTURE 10: KINMEN AND MATSU REGIONS

Kinmen and Matsu are two important island groups on the southeast coast of Fujian Province, with an area of 180.46 square kilometers, a population of 114,000, and a population density of 632 people per square kilometer. The Kinmen and Matsu region controls Xiamen Bay and the mouth of the Minjiang River, and its geographical location is very important. It is garrisoned by troops from the Taiwan region.

1. THE KINMEN ISLANDS

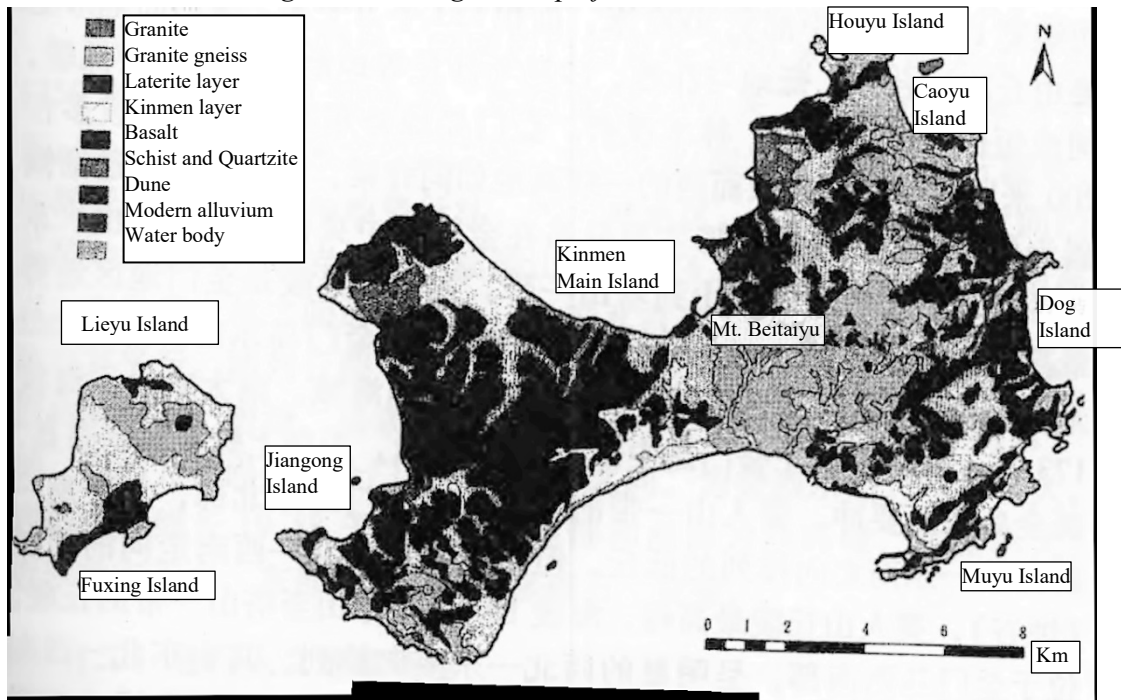
Kinmen Islands is an important island group on the southeast coast of Fujian Province, located on the west bank of the Taiwan Strait, at the mouth of Xiamen Bay in the southeast of Fujian Province, 8,000 meters west of Xiamen and 227 kilometers east of Taiwan's main island. The Kinmen Islands consist of 13 islands, Kinmen Main Island (Da Kinmen), Lieyu Island (Little Kinmen), Muyu Island, Dog Island, Caoyu Island, Houyu Island, Xiyuan Island, Jiangong Island, Kinmen Island, Houtou Island, Wuyu Island, Shiyu Island and Fuxing Island, with an area of about 152 square kilometers. The two islands of Dadan and Erdan, which stand diagonally on the southeast side of Xiamen and contain the Xiamen waterway, are a coastal defense point on the southeast coast of China. It is now garrisoned by troops from the Taiwan region.

(1) The Natural Geography of the Kinmen Islands

1. Geology of the Kinmen Islands

The Kinmen Islands were developed during the uplift of the Late Mesozoic Yanshan orogeny and the rise of the Tertiary Himalayan orogeny. Since the Pleistocene, tension fissures caused by orogeny have attracted basalt flows, penetrating the basalt rocks and sedimentary rock layers of the early Quaternary period, flowing across the surface, and the island's rock mass is mainly composed of Huagang gneiss. The surface of the area east of the central part of Kinmen Island is mostly eroded remnants of Huagang gneiss, surrounded by a near-horizontal laterite layer or modern alluvial layer; to the west of the center, there are gneiss mounds near the southwest coast, while the rest are laterite plateaus and alluvial plains.

Fig. 10-1 Geological map of the Kinmen Islands



2. Climate and Hydrology of the Kinmen Islands

Located north of the Tropic of Cancer, the Kinmen Islands have a subtropical marine monsoon climate. The average annual temperature is 22.8°C, the average temperature in January is 17.0°C, and the average temperature in July is 25.0°C. The average annual rainfall is 1049.4 mm, and the precipitation is mainly concentrated in April to September, accounting for about 75% of the annual precipitation, which belongs to the summer rain and winter dry form. From July to March of the following year, the "wind and flood" period is held. The average annual windy day is about 50 days. The average annual foggy day is 36 days, mostly from March to May. The coastal tides are half-day tides, with high tides heading west and north, setting tides east and south, and flowing about half an hour after low tides and high tides.

3. Topography of the Main Islands of the Kinmen Islands

The Kinmen Islands are the most important, with the Greater Kinmen Island and the Lesser Kinmen Island, which account for about 97.1% of the total area of the Kinmen Islands. Kinmen Island is the main island of the Kinmen Islands and the third largest island in Fujian Province. It is about 10 kilometers away from Xiamen City in the west, 10 kilometers away from Weitoujiao in Jinjiang City in the northeast, 2,000 - 6,000 meters away from Jiaoyu Island and Dadeng and Xiaodeng Islands in Limen Xiang'an District in the north, and more than 130 kilometers away from Penghu Islands in the southeast across the Taiwan Strait. Kinmen Island is shaped like a dumbbell, about 20 kilometers long from east to west, 13 kilometers wide at the eastern end, 11 kilometers wide at the west end, 3,000 meters wide in the middle, and with an area of 133 square kilometers.

The topography of Kinmen Island is mainly composed of hills, plateaus, lowlands and depressions, beaches and sand dunes. The terrain is low, the rivers are short, the coast is tortuous and the forest is dense. The terrain of Kinmen Island is high in the east and low in the west, mostly below 200 meters above sea level, and the central line of highlands from east to west is like a spine, gradually tilting to the north and south sides into low hills. The hilly terrain is mainly distributed in the Taiwu Mountains in the east-central part of Kinmen Island, the Beauty Mountains in the northeast, and the Chishan to Tashan in the southwest. The Taiwu Hills are the highest and largest hilly areas in the Kinmen region. Located in the eastern part of Kinmen Island, at an altitude of 262 meters, North Taiwu Mountain is the highest peak on the island and can overlook most of the island and the surrounding sea. South Taiwu Mountain, 173 meters above sea level. Shuangniu Mountain is located in the middle of Kinmen Island, 82 meters above sea level, which is the commanding height of the bee waist on the island, strangling the whole island from east to west. The hills around Beauty Hill are located in the northeast of Kinmen Island, mainly a group of low hills arranged in a northwest-southeast direction, but there are also some northeast-southwest rain valleys (erosion valleys), the highest peak of beauty hills, 107 meters above sea level. The hills from Chishan to Tashan are located in the southwest of Kinmen Island, in a pronounced northwest-southeast direction, with northeast-northeast The rain valley to the southwest is also well developed, with low hilly terrain and Tower Hill at an altitude of 64 meters. The old Golden City (Kinmen City) is surrounded by these hills. The plateaus are divided into two types: laterite plateaus and granite gneiss plateaus. The plateau is mainly composed of laterite, mainly distributed in the western part of Kinmen Island. The plateau is mainly composed of granitic gneiss, mainly distributed in the eastern part of Kinmen Island. Except for the plateau where the old Golden City is located at an altitude of more than 60 meters, as well as low hills such as Shuangniu Mountain, Rushan Mountain, and Xiguo Mountain, there is no protruding terrain on the plateau. On the northwest and southern coasts of Kinmen Island, there are narrow coastal plains, and the depressions are mainly composed of valleys and rain ditches, which are widely distributed but not special.

There are a total of 7 streams on Kinmen Island, distributed in the east by Jinsha, Houshui, Shanwai, Qianpu and other streams, and in the west there are Xiaojing, Xibao, and the three streams of the Hujiang River. All streams have small streams and short streams, mostly barren streams, and often dry up. The longest river is Shuishui Creek, with a total length of 7,500 meters. Other streams, such as Jinsha Creek, Houshui Creek, Trail Creek, etc., have a length of only 1,000 to 4,000 meters. In order to solve the problem of seasonal water shortage on the island, the method of barrage and damming was adopted, and many reservoirs such as Tianpu, Jinsha, Taihu Lake and Cihu Lake were built on the island, which were mainly used for farmland irrigation and water supply. Among them, Cihu Lake is the largest, with a water storage capacity of 300 million cubic meters, followed by Taihu Lake, with a water storage capacity of 1.09 million cubic meters. The coastline of Kinmen Island is as winding as a valley bay, with a total length of 75 kilometers. The eastern and southern parts of Kinmen Island are bordered by Taiwan's Meixia Gorge, with large winds and waves, steep water depths, and sandy beaches; facing Xiamen Bay in the west and north, the waves are gentle, the beach is wide and shallow, and most of them are alluvial mud beaches.

The roundabout has harbors such as Cailuo Bay, Shuitou, Lion's Head, and Guningtou. Among them, Luo Bay is the largest.

Lieyu Island, also known as Little Kinmen Island, is 5,250 meters west of Xiamen Shibeitou, 1,750 meters east of Greater Kinmen Island, about 5,000 meters long from north to south, about 4,000 meters wide from east to west, and an area of 14.6 Square kilometers. The terrain of Little Kinmen Island is high in the northeast and low in the southwest, the north and south are undulating hilly lands, the central part is low and flat, and the western coastal terrain is low-lying, which is a water network area. The hilly land between Jiugong and Hujingtou is dominated by granite gneiss, and Qilin Mountain is 114 meters above sea level, which is the commanding height of Little Kinmen Island. The hilly land between Donggang and Shanglin is located on the south side of the Hilly Land from Jiugong to Hujingtou, roughly parallel to it. In the middle of the two columns of hills, a U-shaped small basin terrain is formed, that is, Nantang. Lieyu Island has two streams, West Road and Nantang, with a short source, which is greatly affected by the season and often dries up. Between the Jiugong Wharf of Lieyu Island and the Shuitou Wharf of Kinmen Island, it is a Golden Lie waterway with a large water depth. The coastline of Lieyu Island is 19.58 km long, of which the western and southern parts are gravel beaches, with small slopes and few nearshore reefs; the eastern and northern coasts are rocky and steep.

(2) Human Geography of Kinmen

1. History of Kinmen

Kinmen was called Huanzhou in ancient times, and it was also known as Xianzhou, Huanjiang and Huandao. It was subordinate to Quanzhou during the five dynasties. The Song, Yuan, Ming and Qing dynasties belonged to Tong'an County, Fujian. In the twenty-first year of Ming Hongwu (1388), a garrison was set up, and Zhou Dexing, the Marquis of Jiangxia, built a city here, because its land was "Zhangxia is defended inside, and Taipeng is controlled outside," there is a trend of "solid as gold, Xiongzheng Haimen," so it was called "Golden Gate." In the thirty-seventh year of Ming Jiajing (1558), Wu Kou invaded Kinmen from Zhejiang and set up a nest, attacking the coast, and was later suppressed by Yu Dayi and others. In the early Qing Dynasty, Zheng Chenggong trained troops in Houpu (Jincheng) on Kinmen Island, and in the eighteenth year of Shunzhi (1661), he led an army to set sail for Luowan and retake Taiwan through Penghu. In the nineteenth year of the Qing Kangxi Dynasty (1680), the general soldier was established. In the twelfth year of Yongzheng (1734), the county was established. In the seventh year of Xianfeng (1857), the Admiralty Association was set up, which was guarded by the deputy general of the general army. Kinmen County was established in 1914. It was invaded by the Japanese army in 1937. The Chinese government recovered in 1945. On October 24, 1949, under the command of the former commander of the 28th Army of the 10th Corps of the People's Liberation Army, it was 3 Due to the unknown situation and improper choice of landing timing, all the landing ships ran aground due to low tide after arriving at the beach, and the landing troops insisted on fighting for 4 days under the condition of cutting off support, and finally lost. In 1950, the Kinmen Military District Administrative Office was established in Taiwan and military control was introduced. In 1969, the Government Affairs Committee of the Kinmen Defense Command was established to implement "field government affairs."

In 1992, the "war administration" was abolished.

2. The Current Situation of the Kinmen Area

Kinmen County administers 3 towns and 2 townships, namely Jinsha Town, Jinhu Town, Jincheng Town, Jinning Township and Lieyu Township. Jincheng Town is located in the southwest of Kinmen Island, across the sea from Liegou and Xiamen Island, is the seat of the Kinmen County Government, and is also the political, military and economic center of the Kinmen area. Jinhu Town is located in the southeast of Kinmen Island at the southern foot of Taiwu Mountain, from Fuguodun in the east, to Shuangniu Mountain in the west, to Dabiluo Bay in the south, and to Taiwu Mountain in the north. The administrative jurisdiction of Kinmen County includes Kinmen Island, Lieyu Island, Dayan, Erdan, Dongxuan, Beiding, Caoyu, Houyu, Tiger Island, Fuxing Island, Shiyu Island, Wuqu and other islands. It has an area of 151.66 km², a population of 103,900 and a population density of 685 km/km².

The Kinmen area is economically underdeveloped. Fisheries are an important industry in the economy of the Kinmen region, mainly offshore fishing and shallow sea aquaculture. Industry is mainly food processing and mechanical repair, and there are also small shipbuilding, power generation, printing, salt making and other categories. Mineral resources include heavy sand, silica sand, kaolin, granite and so on. The soil on the island is dominated by sandy soil and red soil, the natural conditions are not good, the agricultural development is limited, and the food is not self-sufficient. Crops are mainly grain crops with low economic value, mainly peanuts, potatoes, barley, sorghum and so on. The development of industry and commerce is slow, there are no large enterprises, the main enterprise is the Golden Gate Distillery, which produces Kinmen sorghum wine. In 2001, after the implementation of the Implementation Measures for the Navigation between Kinmen and Matsu and the Mainland (the "Mini Three Links"), tourism in the Kinmen area developed rapidly, and tourism has become an important industry of the local economy.

Transportation in the Kinmen area is mainly by sea, and there are 23 large and small docks that can berth ships. Among them, there are 17 docks on Greater Kinmen Island and 6 piers in Little Kinmen. However, except for the Wharf of Narok Bay, the rest of the wharf is not large in scale and has poor equipment. Luogang is an important commercial port in the Kinmen area, mainly operating passenger and cargo transportation routes from Kinmen to the main island of Taiwan and the mainland. Land transport is mainly by road, and there is no railway. The total length of Kinmen island highway is 430 kilometers, and the outer line of Jincheng Yishan is the main highway on the island, with a total length of 43.3 kilometers, and there are four roads around the east, south, west and north to form a ring road network. Air transport mainly relies on Shangyi Airport, which can take off and land large passenger aircraft.

(3) The Main Harbors and Transportation Facilities in the Kinmen Area

1. Liaoluo Bay

Located on the southern coast of Greater Kinmen Island, Liaoluo Bay is one of the most important and excellent harbors in the Kinmen area.

It is 9,000 meters long from east to west and 3,500 meters deep. There are many piers built along the coast, most of which are concentrated on the east side of Liaoluo Bay.

2. Port of Liaoluo

Located in the main Kinmen Island, the Port of Liaoluo is the largest dual-purpose military port in the Kinmen area, with 6 existing terminals. The water area of the port is 0.26 square kilometers, which is divided into two port pools: inner and outer. The port has supporting facilities such as loading and unloading, warehousing, port service and transportation, which can berth more than 10 ships of 1,000 to 2,000 tons at the same time, and can be used for anchorage of 5,000 tons of ships.

3. Xinhua Port

Located in Chenggong Bay in the south of Kinmen Island, Xinhua Port is the most well-equipped fishing port in the Kinmen area. In July 2000, Taiwan's "Ministry of Communications" designated the port as a priority trial port for cross-strait "mini three links." The port area of Xinhua Port is composed of two port pools, including 5 wharves and a water area of 0.04 square kilometers, two breakwaters built on the east and west sides. The population faces south and is 100 meters wide. Among them, the east breakwater is 295 meters long and the west breakwater is 345 meters long. There are warehouses, maintenance plants, light signs and other facilities on the shore.

4. Shuitou Port

Shuitou Port is located on the north side of Tower Hill on Greater Kinmen Island and is the main foreign trade port in the Kinmen area. It is planned to build 6 terminals, which can accommodate 5,000-ton ships to berth, with an annual throughput of 1.5 million tons. The breakwater is 2180 meters long. There is a 4-storey waiting building and several warehouses on the shore.

5. Jiugong Port

Jiugong Port is located in the prominence of Luocuo on Little Kinmen Island and is the main dual-use port of Little Kinmen Island. The port covers an area of 0.034 square kilometers and has 2 docks, which can accommodate 1,000-ton ships. The port is mainly responsible for the transportation of passengers and goods between the islands of Little Kinmen and Greater Kinmen, Dadan and Erdan. Jiugonggang Dingya Cave is located in the south of the port area, the total length of the cave is 790 meters, the widest point is 15 meters, the height is 10.6 meters, and there are 3 people. The tongku, which was originally a special tong warehouse for small military ships, is now open to the public for tourists to visit.

6. Shangyi Airport

Shangyi Airport is the only civil airport in the Kinmen area and the closest airport in Taiwan to the mainland. The airport is located 6,000 meters southeast of Jincheng Town on Kinmen Island and covers an area of about 2 square kilometers. The airport can take off and land medium-sized passenger or transport aircraft such as the MD-82. The airport has terminals, towers, cargo terminals and other facilities. It is mainly engaged in air passenger and cargo transportation from Kinmen to the main island of Taiwan.

2. THE MATSU ISLANDS

The Matsu Islands are located in the northwest of the Taiwan Strait and northeast of the Minjiang Estuary in Fujian Province. It is about 30 kilometers west of the coast of Lianjiang County, Fujian Province, and about 15 kilometers away from the mouth of the Minjiang River; it is about 210 kilometers southeast of Keelung, Taiwan island; it is about 280 kilometers south of Kinmen Island and about 330 kilometers away from Penghu Lake. The Matsu Islands consist of 28 islands, including Nangan, Beigan, Gaodeng, Dongju (Dongquan), Xiju (Xiquan), Dongyin, Xiyin, Liangdao, Daqiu and Xiaoqiu, with an area of about 29 square kilometers. The Matsu Islands and the White Dog Islands stand side by side with the mouth of the Minjiang River, and their geographical location is very important. It is now garrisoned by troops from the Taiwan region.

(1) The Natural Geographical Environment of Matsu

1. Geology and Geomorphology of the Matsu Islands

The Matsu Islands were originally connected to the mainland, and about 10,000 years ago, the end of the last ice age, the global warming, the sea level rise, so that some low-lying areas were inundated by seawater, forming the Matsu Islands. The geology of the Mazur islands is mainly composed of mesozoic granite, and the rock layers are affected by geological changes, so that some granites appear gneiss, and the surface has upper Jurassic rhyolite volcanic rocks. The archipelago has rugged terrain and undulating mountains, mostly hilly land at an altitude of 100 to 200 meters. Except for the Shanlong of the south pole, Banli of the north pole, and the field of Juguang, which are relatively flat, the rest are layered with mountains and steep peaks. The Matsu area is a coast of valley bays with staggered bay heads, and the coastal terrain is affected by tectonic movement, weathering, sea erosion, etc., forming many sea cliffs, sea caves, sea erosion gates, sea erosion columns, and many sea cliffs are steep and high. The coastal cliffs are steep and the coastal reefs are dense. The vegetation coverage of the islands is relatively high, and most of them are drought-tolerant and wind-tolerant plants. There are no rivers or lakes on the island, and the water source is poor.

2. Climate and Hydrology of the Matsu Islands

The Matsu Islands have a subtropical oceanic monsoon climate with four distinct seasons. The average annual temperature is above 19°C, the maximum temperature is 31.8°C, and the minimum temperature is 2.2°C. Spring and summer are rainy and foggy, the wet season, and autumn and winter are dry. The average annual fog days are 40.7 days. The average annual precipitation is about 1,060 to 1,230 mm, mostly concentrated in April to August. The water shortage period is from October to November every year. From April to August, there are many southeasterly or southerly winds, and typhoons often occur from July to October.

From October to March of the following year, the northeast monsoon wind blows more and the wind speed is relatively large. The coast of the Matsu Islands is a half-day tide.

3. Topography of the Main Islands of the Matsu Islands

Looking at the topography of the Matsu Islands, the large islands of Nangan, Beigan, Dongyin, Xiyin, Dongju and Xiju are all sea erosion cliffs formed by sea erosion. Many of the cliffs are steep and high, and the top surface of the cliffs sits in the undulating hills with a partially gentle plateau topography. The coastal topography is influenced by tectonic movement, weathering, erosion, etc., and many special topographic landscapes have evolved. Such as the vertical, steep, multi-joint, cape coastal landscape composed of granite, forming many different shapes, colors, lines and textures of the sea erosion trench, sea erosion wall, sea erosion cave, sea erosion gate, sea erosion column, etc., as well as the island beach, gravel beach landscape.

Matsu Island, also known as Lower Gantang and Nangantang Island, is the largest island and main island in the Matsu Archipelago. It is about 6,000 meters long from east to west, 2,000 to 4,000 meters wide from north to south, and has an area of 10.43 square kilometers. The island is shaped like a rhinoceros, with Yuntai Mountain as the main vein, and the ridges such as Niujiaoling and Niubeiling are radial, separating many mountain passes surrounded by mountains on three sides and facing the sea on the other. The island is hilly and undulating, with a low central part and saddle-shaped. The eastern Niujiao Ridge is 176 meters above sea level. In the west, Yuntai Mountain (Yuntai Mountain) is 249 meters above sea level and is the highest point on Matsu Island. The coastline is winding, with a coastline of about 23 km long and famous Niujiao Beach. On the southwest side, there are harbors such as Matsu, Fuwo and Shanlong. Matsu Island and Beigantang Island are 2,000 meters apart, and they are at opposite angles, controlling the north channel of the Minjiang River Estuary. Between the two islands is the Matsu Strait, with a water depth of 40-50 meters.

Beigan Island, also known as Shanggantang and Beigantang Island, is located outside the mouth of the Minjiang River in Fujian Province, facing Huangqi Bay in Lianjiang County, Fujian Province, mainland China. The island is long and narrow, like a crescent moon, mainly mountainous, and the terrain is steep. It is about 5,500 meters long from north to south and has an area of about 7 square kilometers. Bishan (Bishan) is located in the north of Beigan Island, with an altitude of 296.6 meters, and is the highest peak of the Matsu Islands. Bishan and Qinshan together constitute the main body of Beigan Island. The coastline is about 22.2 kilometers long, with harbors such as Baisha, Banli and Xiaotangqi. Among them, the beach near Banli Village is the largest and gentlest beach in Beigan Island.

The rest of the Matsu Islands are hilly. The East and West Islands are mainly composed of granite, with well-developed joints, forming many strange and rugged rocks. There are many sea erosion ditches and sea erosion gates in the area of Lienu Yikeng on the East Lead Island, and rat sand has rock peaks (stone forests) and rock fort terrain. The highest point of Dongyin Island is Mount En'ai (En'ai-o-san), which is 173 meters above sea level. The highest point of Xiyin Island is Hou'ao Mountain, which is 121 meters above sea level. The highest point of Xiju Island is Xilu Mountain, which is 184 meters above sea level.

The highest point of Dongju Island is Donquan Mountain, at an altitude of 120 meters above sea level.

(2) The Human and Geographical Environment of Matsu

1. History of Matsu

Matsu Island, formerly known as Nangantang. The archipelago, named "Matsu," began in the Song Dynasty and is associated with the legend of "Mazu." During the Yuan Dynasty, fishermen along the coast of Fujian and Zhejiang used the natural harbors of the archipelago as a place for fishing boats to anchor and rest, sheltered from the wind and replenish fresh water. After the first year of Hongwu of the Ming Dynasty (1368), fishermen on the southeast coast moved one after another and became villages of their own. In order to prevent the Wokou pirates, Qi Jiguang of the Ming Dynasty sent troops to garrison Nangan and build a beacon tower to monitor the sea. In order to recover Taiwan, Zheng Chenggong also used Matsu as a training base. During the Period of the Republic of China, the Chinese Government successively set up salt warehouses on the islands of Nangan, Beigan, Donggou and Xigou to develop fisheries, and set up joint security offices in Nangan and other places to implement the armor protection system. During the War of Resistance Against Japanese Aggression, the Matsu Islands were invaded and occupied by the Japanese army. After the victory of the Anti-Japanese War, the Chinese army took over and stationed itself on West Dog Island. In 1949, when the Kuomintang troops were defeated from the mainland, they were stationed on the islands and set up the Administrative Office of the Matsu Military District. In 1950, it was changed to the Fujian Provincial Government's Northeast Fujian Bureau. In August 1953, the Taiwan authorities set up a separate Lianjiang County Government on Nangan Island and another Changle County Government on Nishi Inu Island. In March 1954, the Luoyuan County Government was established in Dongyin Island. In July 1956, the administrative affairs of Matsu district were transferred to the field administrative committee of Matsu Garrison District (later renamed Matsu Defense Command), and the East Dog Island, West Dog Island and Dongyin Island under the jurisdiction of "Luoyuan County" were transferred to the jurisdiction of "Lianjiang County." On November 7, 1992, Taiwan lifted its war administration and implemented "local autonomy."

2. Current Situation in Matsu Region

The Matsu area is now under the administrative jurisdiction of Lianjiang County. Lianjiang County administers 4 townships and 22 administrative villages in Beigan, Nangan, Dongyin and Juguang, and has administrative organs such as "county government," "township office" and village office, as well as "county council" and "township congress" and other "representative organs of public opinion." It has an area of 28.8 square kilometers, a population of about 10,000, and a population density of 351 people per square kilometer. The villages are mainly concentrated near the Aokou, built by the mountains and beautiful scenery.

Nangan Township is located on Nangan Island, south of the center of the Matsu Islands, and is the township with the largest area and the largest permanent population in "Lianjiang County." The area is 10.43 square kilometers, accounting for about 35.2% of the county's area. The permanent population is about 6,000 people, accounting for about 59% of the county's population. The administrative organs of "Lianjiang County" and the Matsu Defense Headquarters are all located in Nangan Township, and have built relatively complete transportation facilities such as airports, ports, and highways, as well as cultural and educational facilities such as Matsu High School, and are the political, military, economic, transportation, cultural, and educational centers of Matsu.

Beigan Township is located in the northern part of the Matsu Archipelago, north of Nangan Township and south of Dongyin Township. Beigan Township is the second largest township in "Lianjiang County," covering Beigan Island, Gaodeng Island, Liang Island, Daqiu, Xiaoqiu and other islands, as well as many uninhabited islands and reefs, covering an area of 8.94 square kilometers, accounting for about 30.2% of the county's area. The population is about 3,500 people, accounting for about 33% of the county's population.

The Matsu region is economically underdeveloped. The economy is dominated by fisheries and agriculture. Fishing is a traditional staple industry in Matsu, dominated by offshore fishing and shallow aquaculture, but with the sharp decline in offshore fish stocks, the fishery is shrinking year by year. Due to the lack of mountains and flat land, the natural conditions are poor, and the development of agriculture is limited. The soil in the Matsu region is dominated by red and yellow soil, the soil layer is thin, only the cultivation of low-value grain crops, agricultural development is slow, and food is not self-sufficient. The manufacturing industry has always been underdeveloped, there are no large industrial and commercial enterprises, the main manufacturing enterprise is the Matsu distillery, which produces Daqu wine, sorghum wine and aged wine. The Matsu region is water stressful, and seasonal water shortages are often caused by uneven distribution of precipitation seasons due to the short size of the affected rivers. Fresh water supply mainly depends on reservoir storage or well supply, and the water quality is still good. A number of small and medium-sized reservoirs have been built near the mouth of the river valley on each island, and three desalination plants have been built on Nangan, Beigan and Dongyin Islands. Tourism in Matsu has developed rapidly, especially since the implementation of the "Implementation Measures for navigation between Kinmen and Matsu and the Mainland" ("Mini Three Links"). Tourism has gradually become an important industry in the local economy since 2001.

The Matsu area is more conveniently located. Transportation is mainly based on shipping, each major island has built a port, wharf, there are more than 10 wharves of various types, mainly operating Matsu to Taiwan island and mainland passenger and cargo transport routes, as well as passenger and cargo transportation between the islands in Matsu area. Among them, Fuwo, Tangqi, Nanwo, Tianwo and other docks can dock large ships. The water depth of Matsu'ao in the west is 5 to 14 meters, the mud bottom, it is suitable for shelter from the northeast wind, it is an ideal anchorage for ships entering the port to avoid the wind and tide, and the Aonei Wharf can dock 2,000-ton ships. The back of the water in the north is 6 to 10 meters deep, which is suitable for shelter from the south wind, and is an excellent summer anchorage. At low tide in the south, the water depth is 7 meters, the sand bottom is suitable for shelter from the north wind, and the dock can dock landing ships. Matsu Island has a water airport and Beigantang has a small airport. Larger islands such as Matsu, Beigantang, Xiju and Dongyin have helicopter landing fields. Highway is the main mode of transportation in the islands of matsu islands, and the main islands have built a ring road with a total length of more than 130 kilometers.

3) The Main Harbor and Transportation Facilities of the Matsu Islands

1. Fu'ao Port

Fu'ao Port is located on the north side of Fu'ao Village on the east bank of Hou'ao Bay on Matsu Island, and is the largest military, commercial and fishing port in Matsu area. The port is the maritime passenger and cargo transportation center in the Matsu region. The port covers an area of 0.625 square kilometers, with 7 piers with a total length of about 900 meters. There are two types of docks: embankment type and shore wall type. According to the functional use, it is divided into deep-water wharf, shallow-water wharf, military wharf, passenger wharf and fishing boat wharf. On the shore, there are facilities such as the port building, the pier plaza, the helipad, the waiting ship building, the fishery club building and the gas station. At present, Fu'ao Port is implementing an expansion, building a new deep-water terminal in the northern part of the port area, with a total length of 760 meters and a width of 80 meters, which can provide large ship berthing.

2. Baisha Port

Baisha Port is located in the southwest of Baisha Village, Beigan Island, and is an important military and commercial dual-use port on Beigan Island. It is mainly used for maritime transportation and replenishment between Beigan Island and Matsu Island and Taiwan Main Island. The water area of the port is about 0.15 square kilometers, which is composed of two harbor pools inside and outside, with a total of 5 docks. Among them, the inner harbor is mainly used for berthing fishing vessels and transportation vessels, and the outer port is mainly berthing for military ships, cargo ships and fast ships. There is a port building on the shore.

3. Zhongzhu Port

Zhongzhu Port, also known as Nan'ao Port, is located on the west bank of Dongyin East Island, and is an important military and commercial dual-use port on Dongyin Island. The water area of the port is about 0.13 square kilometers, and there are 4 docks. There are port buildings, warehouses and other facilities on the shore.

4. Nangan Airport

Located on the northeast side of Jieshou Village in the eastern part of Matsu Island (Nangantang) in the Matsu Archipelago, Nangan Airport is an important small civil airport in the Matsu area. In peacetime, it is mainly responsible for the passenger transport of civil aviation regional lines from the main island of Taiwan to the Matsu region, and can ensure the take-off and landing of military aircraft in wartime. The airport covers an area of about 0.38 square kilometers. There are terminal buildings, towers and other facilities.

5. Beigan Airport

Beigan Airport, also known as Avenue Airport, is located on the east side of Tangqi Village on Beigan Island in the Matsu Archipelago and is an important small civil airport in Matsu. In peacetime, it is mainly responsible for the passenger transport of civil aviation regional lines from the main island of Taiwan to Beigan Island, and can ensure the take-off and landing of military aircraft in wartime.

The airport covers an area of about 0.5 square kilometers and has 2 runways. There are terminal buildings, towers and other facilities.

THOUGHT QUESTIONS:

1. Briefly describe the main characteristics of the topography of the Kinmen Islands.
2. Briefly describe the main characteristics of the topography of the Matsu Islands.

LECTURE 11: OTHER ISLANDS

Other islands in the Taiwan area mainly include Diaoyu Island, Pengjia Island, Mianhua Island, Keelung Island, Huaquan Island, Guishan Island, Green Island, Orchid Island, Ryukyu Island and other affiliated islands of Taiwan Island, as well as the Dongsha Islands and Taiping Island in the Nansha Islands in the South China Sea Zhudao. Most of the islands attached to Taiwan Island are volcanic islands, and only Ryukyu Island is a coral reef island. In addition, Dongsha Island and Taiping Island also belong to coral reef islands.

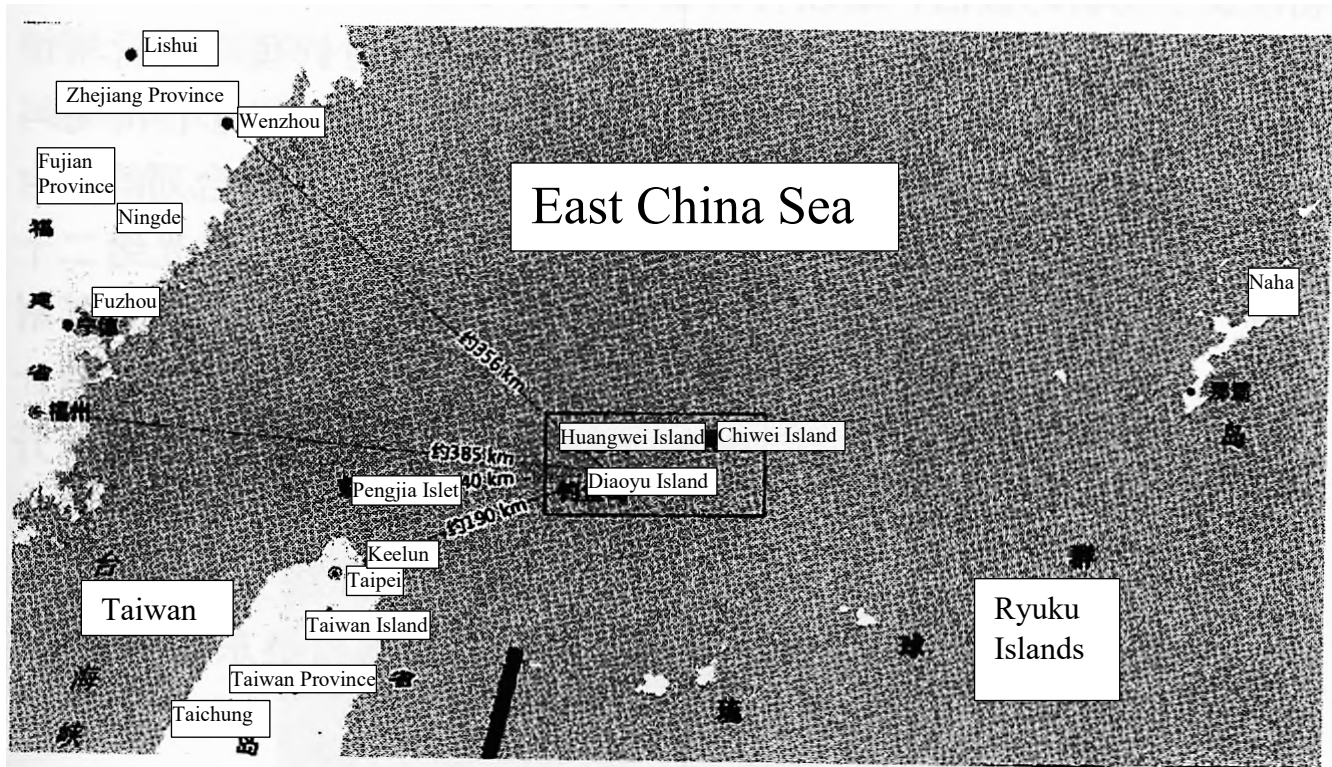
1. DIAOYU ISLANDS (DIAOYU DAO)

Diaoyu Dao is a collective name for Diaoyu Dao and its affiliated islands. Diaoyu Island is located in the northeast of Taiwan Island, slightly arranged in east and west, by the Diaoyu Island, North Island, South Island, Huangwei Island, Chiwei Island, South Island (ChongNan Rock), North Island (Chong Bei Yan) and FeiYu (Fei Se Rock) and some rock groups, with a land area of about 5.69 square kilometers. Diaoyu Islands have always been China's inherent territory and are a subsidiary island of Taiwan Island. Geography is important.

(1) The Natural Geography of Diaoyu Islands

Diaoyu Islands are located on the eastern edge of the continental shelf in the East China Sea, about 356 kilometers from Wenzhou City in Zhejiang Province, about 385 kilometers from Fuzhou City in Fujian Province, about 190 kilometers from Keelung City in Taiwan Province, and about 140 kilometers from Pengjiayu Island in Taiwan Province. The Diaoyu Islands are made up of volcanic rocks and coral reefs and are a natural extension of the continental shelf in the East China Sea. The archipelago is steep and bushy, with its highest point at 362 meters above sea level. The coast is rocky and steep. The water depth around Diaoyu Island is 140,180 meters. On the east side, there is the Okinawa Sea Trough with a water depth of more than 2,000 meters. The Okinawa Trough is the natural boundary between China and the Ryukyu Islands, through which the turbulent Kuroshio flows from southwest to northeast. There are many winds and waves around the island and reef, and ships are generally not suitable for docking. The sea area is rich in fishery resources and is an important fishing ground in the East China Sea. The surrounding seas are rich in oil and gas resources.

Fig. 11-1 Location diagram of Diaoyu Islands and their affiliated islands



(2) Human Geography of Diaoyu islands

Diaoyu Dao, also known as Diaoyutai and Diaoyutai Islands, is a collective name for Diaoyu Dao and its affiliated islands. The Diaoyu Islands have been China's inherent territory since ancient times. A large number of documents and historical materials show that the Diaoyu Dao was first discovered, named and used by the Chinese, and has been listed on the map of China at the latest in the early years of the Ming Dynasty. Chinese fishermen have been engaged in fishing and other productive activities on these islands and in the waters around them for generations. In the fifth year of Ming Hongwu (1372), Chinese first discovered the Diaoyu Island Archipelago. Ming Yongle's "Sending Off the Wind" published in the first year (1403) clearly recorded the names of Chinese sea routes and islands such as Goldfish Island (i.e., Diaoyu Island) and Chikan Island (i.e., Chiwei Island). In the thirteenth year of Ming Jiajing (1534), the Ming Dynasty envoy Chen Kan's "Records of Making Ryukyu" recorded, "Passing through Diaoyu Island, passing through Huangmao Island, and crossing Chiyu Island, and looking at it with confusion ... See Mount Gumi, which belongs to the Ryukyu people. Yiren sings and dances in the boat, and Xida is at home." In the forty years of Ming Jiajing (1561), Hu Zongxian, the top general of the Ming Dynasty stationed on the southeast coast, presided over the compilation of geographer Zheng Ruozeng, the "Compilation of Sea Charts" marked the coastal islands under the jurisdiction of the Ming Dynasty coastal defense, including the Diaoyu Dao and its affiliated islands. In the 10th year of the Ming Dynasty (1582), the Ming Dynasty once again made the Diaoyu Islands under the jurisdiction of Fujian Province as a subsidiary island of Taiwan.

The Qing Dynasty followed the Ming dynasty's approach and continued to incorporate the Diaoyu Dao and other islands into the Chinese territory and coastal defense jurisdiction. Official documents such as the Taiwan Chronicle also detail the jurisdiction over the Diaoyu Islands. In 1871, the "Re-compilation of Fujian Tongzhi" determined that the Diaoyu Islands belonged to the Karmalan Hall (i.e., Yilan County) in Taiwan. Taiwan often refers to the Diaoyu Islands as the Diaoyutai Islands, and Taiwanese fishermen call them the Jiantou Islands, and the nearby waters are traditional fishing grounds for Chinese fishermen. In the 21st year of the Qing Dynasty (1895), the Sino-Japanese War broke out, and Japan took the opportunity to illegally steal the Diaoyu Dao and its affiliated islands. Subsequently, Japan forced the Qing government to sign the unequal Treaty of Maguan, ceding "the whole island of Taiwan and all its affiliated islands." After the end of the Second World War, in accordance with the relevant provisions of the Cairo Declaration and the Potsdam Proclamation, China recovered the territories occupied by Japan such as Taiwan and the Penghu Archipelago, and the Diaoyu Dao and its affiliated islands have been returned to China under international law. The Diaoyu Islands are a subsidiary island of Taiwan Island, a barrier to the northeast of the Taiwan Island Chain, and are administratively subordinate to Daxili, a town in Yilan County, Taiwan Province.

(3) Island Topography

1. Diaoyu Islands

Diaoyu Islands, once known as Diaoyu Island, Diaoyutai, Diaoyu Mountain or Heping Mountain. The Diaoyu Islands are slightly semi-circular, about 3,640 meters long from east to west, about 1,900 meters wide from north to south, and have an area of about 3.91 square kilometers, which is the largest island among the Diaoyu Islands and belongs to the uninhabited islands due to the lack of fresh water. The northern part of the island is relatively flat, the southeast side of the mountain rock is steep and cliff-like, the east side of the reef is quite like a minaret, and the central mountain range runs from east to west. Diaoyu Island has 2 peaks, 5 headlands, 4 streams, and 1 bay, 2 waterways, 1 anchorage and 14 auxiliary islets in the surrounding sea. Gaohua Peak, located in the west-central part of Diaoyu Island, is about 362 meters above sea level, and is the highest peak of Diaoyu Island. Shennong Peak, located in the east-central part of Diaoyu Island, is about 320 meters above sea level. Among the five headlands, the East Fishing Point, the West Fishing Point and the North Fishing Point are located at the east, west and north ends of the Diaoyu Island, respectively, and the East Dragon Tail and West Dragon Tail are located at the southern end of the Diaoyu Island. Longtou River is located in the northeast of Diaoyu Islands, Sungai is located in the north of Diaoyu Islands, and Xixi River and Xiaoxi River are located in the western part of Diaoyu Islands. The shores of the Diaoyu Islands are straight, and there are many reefs near the shore, which is not conducive to the entry and exit of ships and berthing. Huiyu Bay, located in the south of Diaoyu Island, starts from the south of Dongyujiao in the east to the south of Xiyujiao in the west, and the width of the bay is about 3,000 meters. The Fishing Waterway is located between the Diaoyu Islands and the North Island and the South Island, with a width of about 4,000 meters. Shunfeng Harbor, located in the western part of the Diaoyu Islands, is a narrow and long waterway, about 80 meters long and about 10 meters wide. Diaoyu South Anchorage, located in Huiyu Bay south of Diaoyu Island.

There are also 14 subsidiary islands around Diaoyu Island, namely Longtouyu Island, Huangguyu Island, Dragon King Seabream Island, Dragon King Seabream East Island, Dragon King Seabream West Island, Dragon King Seabream South Island, Meitongyu Island, Meitongyu East Island, Meitongyu West Island, Jinqianyu Island, Jinqianyu West Island, Small Yellow Croaker Island, Big Yellow Croaker Island and Pomfret Island.

Fig. 11-2 Diaoyu Islands



2. North Island (Beixiao Island)

North Island, located about 5,000 meters east of Diaoyu Island, is about 1,030 meters long, about 580 meters wide, and has an area of about 0.33 square kilometers. The north island is nearly parallelogram and runs in a northwest-southeast direction. Eagle Peak, located in the north of the middle of the North Island, is about 125 meters above sea level, and is the highest peak of the North Island. Lion Peak, located in the south of the north island, rises from south to north, with an altitude of about 118 meters. Kong Mingshi, located in the northwest of Beixiao Island, is about 61 meters above sea level. Lotus Stone, located in the north of the north island, is about 61 meters above sea level. The Olive Gate Waterway, located between the North Island and the South Island, is about 500 meters long and about 200 meters wide, and is named after the North Island and the South Island were once called the Olive Mountain. There are also 3 subsidiary islets on the east side of the North Island, namely Bird's Nest Island, Bird Egg Island and Xiao Island.

3. South Island (Nanxiao Island)

Nanxiao Island, also known as Snake Island, is located about 5,500 meters southeast of Diaoyu Island, with a length of about 1,140 meters, a width of about 590 meters, and an area of about 0.45 square kilometers. The island is oval in shape, with a large slope on the southeast side and most of the flat ground in the middle. Quantou Ridge, located in the northwest of South Island, is an east-west ridge-type mountain with a length of about 600 meters and an altitude of about 139 meters. Muzhi Peak, located in the southeast of the South Island, is about 89 meters above sea level. There are also 11 subsidiary islands on the east and west sides of The South Island, namely Longmen North Island, Longmen Island, Longmen South Island, Wolong Island, Wolong West Island, Longzhu Island, Feilong North Island, Feilong Island, Feilong South Island, Changlong Island and Golden Dragon Island.

The Olive Gate waterway (strait) between the north and south islets can be used as a sheltered anchorage for ships.

4. Huangwei Island

Huangwei Island, also known as Huangwei Mountain, Huangwei Reef or Huangmao Reef, is located about 27 kilometers northeast of Diaoyu islands, with a length of about 1,290 meters, a width of about 1,100 meters, and an area of about 0.91 square kilometers, making it the second largest island in the Diaoyu Islands. Huangwei Island is a slightly circular extinct volcano. The highest peak on the island is Huangmao Peak, which is about 117 meters above sea level. The island is high in the middle and low in the periphery, and the cliffs on the east side are steep. In the center of the island is a depression shaped like an extinct crater, the island is full of palm trees and dwarf trees, and the coast is full of large volcanic rocks. Huangwei Island is a good symbol of ancient voyagers. There are also 20 subsidiary islands around Huangwei Island, namely Dolphin Island, Upper Huya Island, Lower Huya Island, Huangniu Island, West Niujiao Island, East Niujiao Island, Niuwei Island, Starfish Island, Turtle Island, Haibei Island, Little Scarab Island, Big Scarab Island, Wocan Island, Hedgehog Island, Swallow Island, Big Wild Goose Island, Xiaolong Island, Xiaozhu Island and Dazhu Island.

5. Chiwei Island

Chiwei Island, also known as Chiyu Island, Chikan Island, Chiwei Reef or Chiwei Mountain, is located at the easternmost point of the Diaoyu Islands, about 110 kilometers away from the Diaoyu Islands, about 484 meters long, about 194 meters wide, and has an area of 0.065 square kilometers. Chiwei Island is slightly irregularly triangular, made of lava, surrounded by cliffs, and the highest point is Chikan Ridge, which is about 75 meters above sea level. The coast of the island is a bedrock coast with steep cliffs and many reefs on the north and west sides of the island. There are also 10 subsidiary islands around Akao Island, namely Akabei East Island, Akabei West Island, Akabei South Island, Akabei North Island, Little Akao Island, Akadu Island, Akako Island, Akazui Island, Akabi Island, and Wangchi Island.

6. North Island (Beiyu Island)

Beiyu Island, also known as Chong Bei Yan, is located about 6,000 meters northeast of the Diaoyu Islands, with a length of about 193 meters, a width of about 142 meters, and an area of about 0.02 square kilometers. The island is triangular in shape, the terrain is relatively flat in the west, and the highest point is about 24 meters above sea level. There are four small islands around North Island, namely North Island, Xiaoyuanbao Island, Yuanbao Island and Feiyun Island. The Yuanbaomen waterway, located between Yuanbao Island and Xiaoyuanbao Island, is about 170 meters wide and has a small scale.

7. South Island (Nanyu Island)

Nanyu Island, also known as Chong Nan Rock, is located 7,400 meters east of Diaoyu Island, with a length of about 170 meters, a width of about 75 meters, and an area of about 0.007 square kilometers.

The island is crescent-shaped and there is no vegetation on the island. The highest point is about 4.8 meters above sea level.

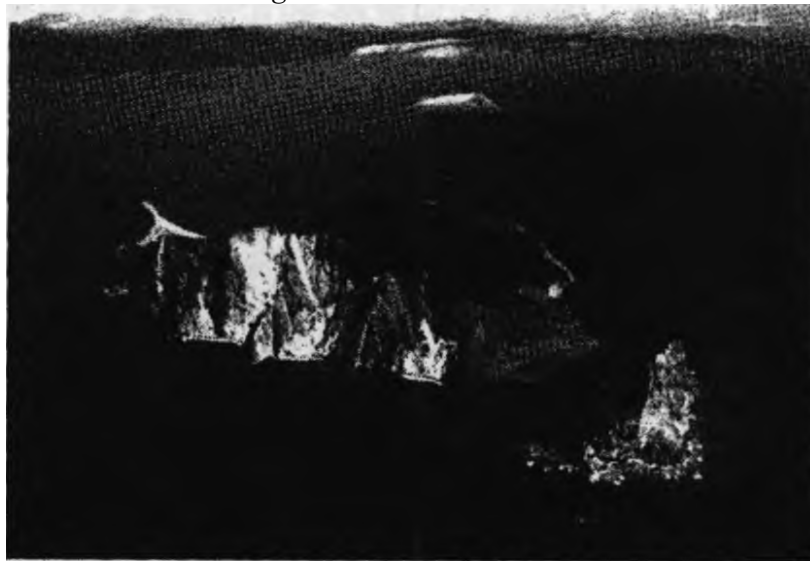
8. *Feiyu*

Feiyu Island, also known as Hidai Rock, is located about 1,500 meters southeast of the Diaoyu Islands, with a length of about 63 meters, a width of about 33 meters, and an area of about 0.001 square kilometers. The island is slightly shrimp-tailed, with steep rocks on the southwest side and no vegetation growing on the island. The highest point is about 2 meters above sea level. There is a small subsidiary island on the east side of Feiyu Island, namely Feizai Island.

2. GUISHAN (TURTLE HILL/MOUNTAIN) ISLAND

Guishan Island is located 15 kilometers east of Daxi Port in Yilan County, with an area of about 2.84 square kilometers, and is under the jurisdiction of The Head Town of Yilan County.

Fig. 11-3 Turtle Hill Island



Turtle Mountain Island is shaped like a sea turtle, and the terrain is divided into turtle head, turtle neck, turtle shell, turtle tail and other parts. The turtle's head is conical in shape and consists of volcanic ash and pyroclastic flow accumulations, with the highest point at 239 meters above sea level. The neck of the turtle is the junction of the turtle's head and the shell, with a north-south depression. The tortoiseshell is roughly square in shape, consisting of andesite lava flows and their pyroclastic flow accumulations, and the highest peak is located in the middle of the southern edge of the turtle shell, at an altitude of 398 meters, and spreads out to the north into a fan-shaped foothill, with a large cliff facing the sea behind it. The turtle's tail is composed of modern sediments, the highest point is 141 meters above sea level, the tail end is a thin sand mouth, composed of andesite shimmering stones, about 50 meters wide, 3 to 4 meters high, extending about 1,000 meters to the northwest.

The island's creeks are only found on the northern slopes of the tortoiseshell and are canyons with limited and sometimes no water. On the north shore of Kameyama Island, there are long, east-west narrow sea steps, which are 50 to 90 meters high.

Turtle Egg Island, located 4,000 meters southwest of Guishan Island, was originally a small reef about 4 meters wide and 6 meters long, exposing 2 to 4 meters above sea surface. After the collapse in 1943, it was not underwater and loomed at low tide.

3. KEELUNG OFFSHORE ISLANDS

The islands of Pengjiayu Island, Mianhua Island, Huaping Island, Keelung Island, Heping Island, Barrel Pan Island and ZhongshanZai Island in the northeast waters of Taiwan Island and their affiliated rocks and reefs are under the jurisdiction of Keelung City.

(1) Pengjiayu Island (Pengjia Islet)

Pengjiayu Island, also known as Dazhishan Island, is located about 65 kilometers northeast of Keelung Port, with an area of about 1.14 square kilometers. The island is slightly trapezoidal, with a length of 2,000 meters to the north, 800 meters to the south, a maximum width of 2,500 meters from east to west, a maximum length of 2,300 meters from north to south, and a circumference of about 4,300 meters. Pengjiayu is a volcanic island with two peaks, the highest point is at the northeast end, 165 meters above sea level, and the other high point is 141 meters above sea level, and there is a lighthouse on the mountain. There is a small stream between the highest point and the lighthouse, opening towards the northeast end of the canyon. The terrain of Pengjiayu Island is high in the east and low in the west, the north, east and south sides of the island are all sea cliffs, the west side is gentle slope, there are coastal platforms, the rock bank is several meters high, and there are many reefs. The only landing site is the eastward recess of the sea cliff at the southwest end of the island, and the rock wall has been artificially repaired to become the only port on the island. On the east side of the pier there is a sea erosion wall, which is several meters high.

(2) Mianhua Island

Mianhua Island, also known as Kangjiao Island, is located 39 kilometers northeast of Keelung. Mianhua Island is slightly oval in shape, with a circumference of about 1800 meters and an area of 0.12 square kilometers. The highest point is 61 meters above sea level. The coast of Mianhua Island is a continuous cliff, and the coast is straight. There is a small bay in the northwest of the west coast, the mouth of the bay is narrow, about 50 meters wide, the bay is slightly larger, the reef is low, and there is a small sandbar connected to the island shore, which is the only landing site on the island. The cliffs on the east coast are about 30 meters high, and there are many rocky reefs under the cliffs, and there is no one in the water when the tide is full. The platform under the cliffs on the north coast is about 100 meters wide. There is a rock reef in the middle of the east coast, about 25 meters high, standing in the middle of the sea, known as "screen rock."

(3) Huaping Island

Huaping Island, located about 39 kilometers northeast of Keelung, consists of a small island and several rocky reefs. The island is made of basalt, with the top of the island exposing volcanic rock and weathering into a jagged mountain. The main island is rectangular in shape, with a circumference of about 300 meters, surrounded by sea cliffs, and is not easy to land. The highest point is 53 meters above sea level. There is a large sea cave in the sea cliff on the southeast side, the entrance of the cave is 10 meters high, 6 to 7 meters wide, and the bottom of the cave is quite deep.

(4) Keelung Island

Keelung Island is located about 6,000 meters northeast of Keelung, with an east-west length of about 1,000 meters and a north-south width of about 450 meters. The highest point is 182 meters above sea level. It is surrounded by cliffs or steep slopes, making it difficult to climb. There are several sea caves on the northeast and northwest shores, up to tens of meters high. The island is made up of quartz andesites, whose rock quality is similar to the Keelung Mountain quartz andesites of the Keelung Volcanic Group.

Fig. 11-4 Keelung Island



4. TAITUNG OFFSHORE ISLANDS

(1) Green Island

Green Island, formerly known as 'Fire Island,' is located about 33 kilometers southeast of Taitung City, with an area of about 15 square kilometers and a circumference of about 20 kilometers. Green Island is a township-level administrative agency under the jurisdiction of Taitung County.

Green Island is a small island in the shape of an "A," with a slightly wider northern and narrower southern side. The geology of Green Island is almost entirely made up of volcanic rocks from the Pliocene. The outer edge of the island's coast is the newest uplift coral reef, which surrounds the island in the shape of a skirt reef. In the middle of Green Island is Mount Amei, which is 276 meters above sea level. At 280 meters above sea level, Huoyao Mountain in the southwest is the highest point on the island. The island coastal lowland plains are mainly distributed on the north and east coasts, with an altitude of 5 to 20 meters. The flat land between Zhongliao and Chaikou on the north shore is the most extensive, followed by the mansion to Liumagou, Nanzi Lake, Youzi Lake, SHAishenping, Hot Springs, Baishawei, Baisha, Dabaisha and other places are small flats facing the sea concave people, and the area around Nanliao on the west bank is a long narrow staircase parallel to the coast. The more prominent terrain of Green Island includes Bitoujiao, Zhongliao Beach, Gongguan Bay, Shogun Rock, Nanzai Lake, Guanyin Cave, Haishenping, Fanchuanbi and Zhaori Hot Spring, etc. Among them, Bitoujiao is located in the northwest corner of Green Island, a bulging coral reef rock, built with a lighthouse. On the east side of the lighthouse is the north coast of Zhongliao, which has the only better sandy beach on the island. There is a small civil airport on Green Island, namely Green Island Airport. Green Island Airport is about 35 kilometers away from Taitung City and covers an area of about 0.2 square kilometers, there is a runway of about 1,000 meters long, mainly to ensure the flight of civil aviation passenger flights from Green Island to Taitung, which can take off and land small and medium-sized passenger aircraft. In wartime, it can support the take-off and landing of small aircraft and helicopters, and carry out airlift, airdrop, reconnaissance and other tasks.

Fig. 11-5 Green Island



(2) Orchid Island (Lanyu), Little Orchid Island

Lanyu Island, formerly known as Hongtou Island, is located about 76 kilometers south of Green Island and has an area of about 47 square kilometers. Lanyu has a township-level administrative agency, which is under the jurisdiction of Taitung County.

The geology of Orchid Island is dominated by igneous rocks, limestone and coral reefs. The northwest corner of Orchid Island (red-headed cape) to the southeast corner (Wangnan angle) is about 13 kilometers long, and its northeast corner is about 7,800 meters wide to Mantou Mountain. The terrain of Lanyu Island is high in the north and low in the south, and the height of the main hills in the northern half is above 400 meters above sea level, and the area is also large. The highest point is Mount Hongdu, 522 meters above sea level. Mount Omori is 483 meters above sea level, and the cliffs along the sea are about 300 to 400 meters high. The Mountain is 465 meters above sea level. Qingshe Mountain is 442 meters above sea level. Lanyu River is short, the main rivers are Yeyou River, Fisherman Creek, Hongtou Creek, Langdao Dongxi, Dongqing River and Yeyin River. The canyon terrain of the streams is roughly "V" shaped. The northern half of the river and catchment area is relatively large, and the coastal estuarine lowlands are more developed. The southern half is low in terrain, with a wide range of sea steps, underdeveloped river valleys and narrow coastal lowlands. Lanyu has built a small civil airport, which mainly guarantees the flight of civil aviation passenger flights from Lanyu to Taitung, and can take off and land small and medium-sized passenger aircraft. Lanyu Airport has a runway about 900 meters long, and has facilities such as terminals and aprons.

Xiaolan Island, formerly known as Xiaohongtou Island, is located about 5,500 meters southeast of Lanyu Island, which is a small island that has not been inhabited for a long time, and is under the jurisdiction of Lanyu Township, Taitung County. Xiaolan Island is a volcanic island, slightly square in shape, with each side about 1,200 meters long. There are several peaks around Xiaolan Island, which are 175 meters, 142 meters and 139 meters above sea level. The surrounding sea cliffs are high and steep, the east side is about 100 meters high, and there are wider coastal flats on the north and south sides. Between the peaks there is a set of crater depressions consisting of four circular cavities.

5. THE OUTER SEA ISLANDS OF PINGTUNG

(1) Ryukyu Island (Liuqiuyu)

Ryukyu Island, also known as Little Ryukyu Island, is located about 15 kilometers southwest of Donggang, the island is about 4,000 meters long, about 1,500 to 2,000 meters wide, and has an area of about 6.8 square kilometers. Ryukyu Township was administratively established and was placed under the jurisdiction of Pingtung County.

The geology of Ryukyu Island is mainly composed of mudstones of Ryukyu Island in the Middle and Upper Miocene, and is covered with limestone of Ryukyu Island. The terrain of the island, influenced by the two geological tectonic lines of the central ditch and the east-west straight cliff, is divided into four major plots of northeast, northwest, southeast and southwest, and forms a mesa landform. The northeast plot is triangular, the terrain slopes from south to north and northeast, and the highest point is 87 meters above sea level.

The northwest plot is slightly rectangular, the terrain slopes slowly from southeast to west and southwest, the ground is flat and open, and the highest point is located in the narrow limestone ridge at the southeast edge, with an altitude of 67 meters. The southeastern plot is a long, northeast-oriented ridge with a flat but narrow top, surrounded by limestone cliffs, coral reefs below the cliffs, and the highest point is Daliao Mountain, at an altitude of 78 meters. The southwest plot is dumbbell-shaped, wider from north to south, narrower in the middle, the terrain is gently tilting to the west and southwest, and the east, west and south sides are limestone cliffs, and the highest point is 68 meters above sea level. The Ryukyu Island is small in size and has no rivers to develop. The coast of Ryukyu Island is straight, with four coastal concave people in Baisha, Haizikou, Daliao and Daifuku, and the coastal lowland is wider, which is the main residential area of the island's population. The rest of the coast is mostly coral reefs and limestone cliffs.

Fig. 11-6 Ryukyu Island



(2) Seven Star Rock

Seven Star Rock is located 14 kilometers south of Eluanbi, located in the Bashi Strait, composed of 9 large and small rocks, each reef arranged in a north-south direction, the highest point of 25 meters above sea level.

6. DONGSHA ISLANDS

Located in the northern waters of the South China Sea, the Dongsha Islands are the northernmost of the South China Sea Archipelagos and the closest archipelago to the mainland. It is about 260 kilometers north of Shantou City, Guangdong Province, about 260 kilometers northwest of Hong Kong, China, about 444 kilometers northeast of Kaohsiung Port in Taiwan, and about 1,185 kilometers south of Taiping Island in the Nansha Islands. The Dongsha Islands are located in the northern part of the South China Sea, the main point of maritime traffic, the north of the Taiwan Strait, the east control of the Bashi Strait, the west of the South China Sea Shipping Route, East Asia to the Indian Ocean and Asia, Africa, Australia international routes, Guangzhou, Hong Kong to Manila, Taiwan Kaohsiung routes are through its nearby waters, strategic position is important.

(1) The Natural Geographical Environment of the Dongsha Islands

The Dongsha Islands are mainly composed of Dongsha Island, Dongsha Reef, Nanwei Beach and Beiwei Beach, which are distributed in the northern part of the South China Sea in the sea area of 111 kilometers long and about 26 kilometers wide. Among them, Dongsha Island and Dongsha Reef are on the same Dongsha Atoll, Dongsha Island is located in the west of Dongsha Atoll, Dongsha Reef is located in the east of Dongsha Atoll, and there is a shallow lake between Dongsha Island and Dongsha Reef. Nanwei Beach and Beiwei Beach are located about 83 kilometers northwest of Dongsha Island, the reef body is oval, less than 58 to 60 meters underwater, no island reef is exposed to the water, and it belongs to the sunken atoll.

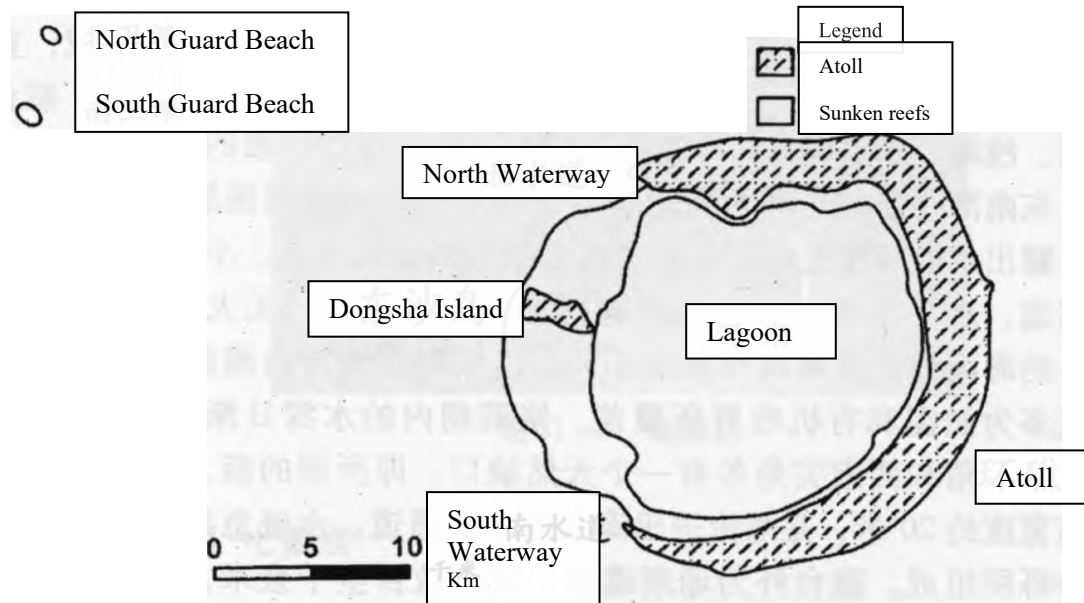
Dongsha Atoll, known as "Crescent Island" in ancient times, consists of lagoons and coral reef platforms, with a diameter of about 25 kilometers and an area of about 500 square kilometers. The topography of Dongsha Atoll mainly includes: reef platforms, lagoons, sandbars, shoals, waterways and islands. The reef platforms are mainly distributed in the east corner, northeast corner, southeast bay, northwest corner and southwest corner of the atoll. At low tide, most of the reef platforms around the atolls are exposed or approached. There are many coral mounds, small sandbars, shoals and reefs in the lagoon, with varying depths and rising and falling with the tides, the water surface is relatively calm, there are no major winds and waves, and atolls The situation of high waves in the sea outside is very different. At high tide, silt accumulates into the lagoon, and the bottom of the lake is mostly covered with silt and organic debris, making the water depth in the lagoon become shallower and shallower. There is a natural gap in the northwest corner and the southwest tip of Dongsha Atoll, the so-called north and south waterways, which are about 20 meters wide and are the main passages for the tide to enter and exit the lagoon. The substrate at the rapids of the water is composed of sand. Outside the reef platform is a coral reef slope, about hundreds to thousands of meters wide, the slope is relatively gentle, the surface has a staggered distribution of reef ridges and trenches, and the trenches are roughly radial, and the water depth is usually within 25 meters. The outer edge of the reef slope is steep or cliffy, descending almost vertically to the deep sea.

Dongsha Island is the only island in the Dongsha Islands that is exposed to the water, located in the west of Dongsha Atoll, between the two waterways of the south and north, showing a northwest-west-southeast-east direction, the island is shaped like a horseshoe, with an east-west length of about 2,800 meters, a north-south width of about 865 meters, an area of 1.74 square kilometers, and is the second largest island in the South China Sea. Dongsha Island is covered with white sand weathered by detritus such as corals and shells. The terrain of the island is low and flat, slightly higher in the northeast and slightly lower in the southwest, with an average elevation of 6 meters above sea level, and the highest point is only 7.8 meters above sea level.

There is an inland sea on the island, and the beach in the western part of the island extends all the way to the sea of people. The island's vegetation is dominated by low tropical shrubs and tall coconut trees.

Dongsha Islands has a subtropical oceanic monsoon climate with an average annual temperature of 25.3°C, an average temperature of 20.6°C in January and an average temperature of 28.8°C in July, with an average annual precipitation of 1460 mm. The rainy season is from May to October. There are many typhoons in summer and autumn. The sea surface circulation structure is complex, dominated by monsoon currents, and is affected by the warm Kuroshio current in the Pacific Ocean. Surface water temperature 22.3 ~ 26.8°C. Salinity is 33.5 to 34 in summer and 34.25 to 34.75 in winter. Rich in marine resources, mainly producing bell snails, turtles, abalone, lobsters, cuttlefish, sea cucumbers, sea urchins, etc., and also producing medicinal seaweed (melanoid algae), which is a perennial seaweed.

Fig. 11-7 Topographic map of the Dongsha Islands



(2) Human Geography of the Dongsha Islands

Dongsha Islands, known as Nan'ao Qi and Great Eastern Sand (Da Dongsha) in the early Qing Dynasty. The Taiwan region placed the Dongsha Islands under the jurisdiction of the Kichijin District of Kaohsiung City, and the Taiwan Regional Coast Guard Bureau sent troops to garrison them. The island has an airport, wharf, power plant, reservoir, weather station and other facilities. The airport is located in the northwest of the island and has navigation equipment, towers, and waiting rooms for transport aircraft to take off and land. The pier is on the southeast side of the island and allows landing ships to dock. There are 2 power plants on the island that provide electricity throughout the day. There is no fresh water on the island and there are 3 reservoirs where rainwater is stored.

The Meteorological Observatory provides meteorological information for the navigation of fishing boats and aircraft in the vicinity. There is a temple of the Great King on the island. In 2007, the Taiwan region established the Dongsha Atoll "National Park" in the Dongsha Islands, becoming the first marine "national park" in Taiwan.

7. TAIPING ISLAND

Taiping Island is the largest island in China's Nansha Islands, located in the heart of the South China Sea, located in the east of the west side of the South China Sea channel, Taiping Island is about 1,185 kilometers away from Dongsha Island in Dongsha islands and about 1,530 kilometers away from Kaohsiung Port, the geographical location is very important. It is now garrisoned by troops of the Taiwan Coast Guard.

(1) The Natural Geography of Taiping Island

Located at the northwestern end of the large atoll of the "Zhenghe Reefs" in the northern part of the Nansha Qundao in the South China Sea, Taiping Island is the main island of the "Zhenghe Reefs" and the largest and only tropical coral reef island with fresh water resources in the Nansha Islands. It is about 6,000 meters away from Zhongzhou Reef in the east, about 13 kilometers away from Dunqian Sandbar in the east, and about 30 kilometers away from Nanxun Reef in the southwest. The terrain of Taiping Island is narrow from east to west, the terrain is low and flat, showing a northeast-southwest direction, with an east-west length of about 1,386 meters, a maximum width of about 416 meters from north to south, and an area of about 0.4896 square kilometers, slightly oval. At low tide, the effluent area of the reef and land area is about 0.98 square kilometers.

Taiping Island is a sand island formed by the growth and development of tropical coral reefs and the accumulation of biological debris. The terrain of the island is low and flat, the outer edge is slightly higher, and the central part is low and flat, with an average elevation of 4 meters. Among them, the highest point in the east of the island is 4.18 meters above sea level, and the highest point in the west is 3.4 meters above sea level. The surface of the island is fine sand formed by coral reef weathering, and the lower layer is a hard coral reef disk. There are sandy beaches on all sides of the island, and the beaches on the north and south sides are narrow and about 5 meters wide; the east and west sides are relatively wide, the east side is about 20 meters wide, and the southwest side is about 50 meters wide. The fine sand piled up on the beach is red in white, mainly coral and shell debris, and the red sand grain system is formed by the fragmentation of red coral. The lower layer of the surface is the hard Shan Lake reef platform that extends outward for hundreds of meters. At low tide, the roundabout reveals white coral bands, about 30 meters wide. The outer edge of the ridge is raised, and the east and west ends are wider, 450 meters and 650 meters, respectively. The middle is narrower between the north and south sides, 100 to 150 meters. At low tide, the depth of the reef is about 0.6 meters. The northern part of the reef is the northern edge of the "Zhenghe Reefs," with cliffs and steep slopes, and the water depth drops sharply by hundreds of meters.

The southern lagoon bordering the "Zhenghe Reefs" is a gentle slope with a water depth of 50 to 80 meters. The 10-meter isobath at the western end extends about 2,800 meters to the south and serves as a ship anchorage.

Taiping Island is loosely soiled and lush with vegetation. The soil is mainly a mixture of white fine sand soil formed by coral reef weathering with guano and humus soil. Due to its geographical proximity to the equatorial windless zone, Taiping Island is less affected by typhoons, so the plants are tall and dense, forming a typical tropical coastal forest, as well as grass and scattered tree areas, and the island is overgrown with tropical shrubs. There are 81 species of native plants on the island, of which 12 are trees, 10 are shrubs, 11 are vines, and the remaining 48 are herbaceous. There is a tropical coastal forest in the east of Taiping Island, with trees up to 20 meters high, mainly composed of trees such as moringa tree, olive tree, lotus leaf tree, gotard wood, grass sea tree, white water wood, sea lemon, chrysanthemum, long-stemmed chrysanthemum, long saddle vine, kudzu grass and other trees, and the shrubs and small trees in the forest are rare. The understory herbs are mainly snaketail grass. The main plant species that grow on the open seashore are saddle vines and double-flowered chrysanthemum. Due to man-made development of the island part. The area becomes an area of scattered trees and grass. The tree species in the scattered tree area are best grown by oak trees, grass sea trees, and gotard wood. The main artificial plants are coconut trees, papaya trees, banana trees and so on. The grass grows mainly in the long-stemmed chrysanthemum and *Boerhavia diffusa*.

The island's animals are dominated by birds, with a variety of seabirds inhabiting and mostly migratory birds. Because Taiping Island is located in the heart of the South China Sea and is the route through which migratory birds in the east of Asia pass, it has become an important stopover on the migration route of migratory birds. Most of these marine birds make short stops, wintering and transiting on the island. Due to the flat terrain, small hinterland and no tall reefs, the range of activity of birds is limited. Waterbirds usually gather in the morning and dusk to feed on the sandy shores of the northeast corner of the island, the sandy land next to the piers in the southwest and around the coast, while landbirds roost on the trees and shrubs of the island. Sea turtles are a common seasonal animal on the island, mainly green turtles and hawksbill turtles. The sandy beaches on the north, east and southeast sides of the island are the main spawning grounds for sea turtles. In the waters around Taiping Island, tropical fish, coral reef fish, jellyfish and intertidal organisms are common, as well as many water type snails, Tanguan snails and treasure snails.

Taiping Island has a tropical oceanic monsoon climate with high temperatures and rainy temperatures. The average annual temperature is 27.9°C. The average annual precipitation is 1,842 mm. Foggy days are rare. From June to August every year, the southwest monsoon is strong, forming a southwest wind direction and ocean currents, and is often affected by typhoon outflows, and the rainfall is abundant. The northeast monsoon prevails from December to April of the following year and is less affected by tropical storms and typhoons. It is an irregular all-day tide, with a tidal difference of 1 to 1.5 meters.

(2) The Human and Geographical Environment of Taiping Island

Taiping Island, formerly known as Huangshan Mazhi. After the victory of the War of Resistance Against Japan, the Chinese government sent the warship "Taiping" to take over the island and erected a sovereignty monument to declare sovereignty, so it was renamed Taiping Island.

1. History of Taiping Island

As early as the 13th century, Chinese fishermen operated in the waters near Taiping Island, one of the earliest islands in China to discover and live in the Nansha Islands. The main natural resource of the island is phosphate rock, and the guano accumulation layer is 1 meter thick, with an area of about 0.32 square kilometers and a total reserve of about 74,000 tons. At the beginning of the 20th century, the island's phosphate mines had been exploited by Japan and the Philippines. Although large amounts of oil and gas have been found in the South China Sea basin, the waters around Taiping Island have not yet been officially explored and exploited.

In the first half of the 20th century, Taiping Island was repeatedly invaded by foreigners. In April 1933, French troops illegally occupied Taiping Island. In April 1939, the Japanese army illegally occupied Taiping Island, renamed it Long Island, and brought it under the administration of Kaohsiung City. In December 1945, the Chinese government established the "Nansha Management Office," which was under the jurisdiction of the Guangdong Provincial Government, and built radio stations and meteorological stations. In October 1946, French troops again illegally landed on Taiping Island, which was protested by the Chinese government. On November 24, 1946, the Chinese government sent four warships, "Zhongye," "Yongxing," "Taiping" and "Zhongjian" from Guangzhou, under the command of Lin Zun and Yao Ruyu, to the Xisha Islands and Nansha Islands to take over. On December 12, the two warships "Taiping" and "Zhongye," led by Lin Zun, who were responsible for receiving the Nansha Islands, arrived at Taiping Island. In order to commemorate the acceptance of the island by the warship "Taiping," the island was officially named Taiping Island, and a reception, monument and flag-raising ceremony was held on the island, and the stone stele of "Taiping Island" and "Taiping Island of Nansha Islands" were erected, and the Nansha Islands Management Office was established on Taiping Island, which was under the jurisdiction of the Guangdong Provincial Government. From June to October 1956, the Taiwan authorities sent naval task forces to patrol the Nansha Islands three times, and re-erected stone monuments on Taiping Island, Nanwei Island and other islands, and sent marines to garrison Taiping Island instead, and reorganized the "Nansha Garrison Area" into the "Nansha Garrison Area." In 1959, the Guanyin Hall was built on Taiping Island to enshrine the Thousand Hands Guanyin Bodhisattva. In September 1960, a postal agency was established on the island, which came under the jurisdiction of the Kaohsiung Post Office. In July 1963, it was transferred to the jurisdiction of Taipei Post Office. In February 1980, Taiwan's "Executive Yuan" approved the establishment of a management committee in Kaohsiung City to take over Taiping Island, which was subordinate to The Qijin District of Kaohsiung City, and set up a "Fishery Workstation." In January 2000, the "Coast Guard Administration" was established in Taiwan to take over the defense of Taiping Island.

2. Status Quo of Taiping Island

At present, the Taiwan region has stationed "Coast Guard" armed personnel on Taiping Island, and there is no general civilian residence. The island is home to airports, wharves, hospitals, buildings, power stations, warehouses, cisterns, water towers, sovereignty monuments and temples, as well as equipment such as lookout posts, meteorological observation stations, radar stations, navigational signs and satellite communications. There are 11 wells on the island, the groundwater level is high, and the deepest one is 1 well, which is drilled to a depth of more than 600 meters. Except for the water quality of the eastern wells, which are better and edible, the water quality of the rest of the wells contains chlorine salt and is not suitable for drinking. In 1992, facilities such as catchment platforms and reservoirs were built. In 1993, two desalination machines were set up to make water for 4 hours a day, which can produce about 27,000 liters of fresh water. The power supply is mainly powered by five 150-kilowatt diesel generators deployed on the island, and the diesel for power generation is regularly replenished by the Taiwan region. In December 2001, a solar installation with a capacity of 20.3 kilowatts was installed on the island to serve as a backup power source.

Taiping Island's transportation with the outside world mainly relies on sea and air transport. A pier was built at the edge of the reef in the southwest of Taiping Island for small and medium-sized ships. Next to the bridge pier, there is a new "L" type simple berthing platform - "Nanxing Pier," which is about 30 meters long and about 15 meters wide. On the east side of the pier, there is a shallow waterway, and the boat can reach the shore. Due to the limitations of the reef terrain of Taiping Island, the water depth is too shallow, and the replenishment ships cannot dock, so they need to be moored in the sea about 2,000 meters away from Taiping Island and be connected by small boats. Military supply ships are usually replenished once a year in April and November, mainly transporting military supplies and official use. Civilian merchant ships usually carry replenishment every 20 days, mainly for general supplies and for the rotation and vacation of the personnel stationed on the island. The Coast Guard's island troops are equipped with three M-8 speedboats, which can be stationed in four 20-ton coastal patrol boats or replenishment dinghies for a long time. There is an airstrip on the island with a runway of about 1,200 meters long and 30 meters wide, which can accommodate C-130 transport aircraft. There are 2 aprons, the east apron area is about 7,800 square meters, and the west apron area is about 1,800 square meters. The Taiwan Air Force dispatches one C-130 transport plane to and from Taiping Island every two months, mainly responsible for the rotation, vacation, evacuation, and material transportation of officers and men stationed on the island.

In addition, the Taiwan Coast Guard's troops stationed on Taiping Island also control Zhongzhou Reef. Zhongzhou Reef is located on the east side of Zhenghe Reef in the north of the South Nansha Islands, about 6,000 meters west of Taiping Island, with an area of about 2,000 square meters. Zhongzhou Reef is mainly formed by the accumulation of coral reef debris, and underneath it is a coral reef disk, which is an uninhabited coral island reef in China's Nansha Islands.

THOUGHT QUESTIONS:

1. How to recognize the strategic value of safeguarding the territorial sovereignty and maritime rights and interests of the Diaoyu Islands?
2. In safeguarding territorial sovereignty and maritime rights and interests in the South China Sea, how to deal with the issues of Dongsha Island and Taiping Island?

LECTURE 12: TYPICAL CASES OF WARFARE IN THE TAIWAN STRAIT REGION

Studying typical examples of warfare in the Taiwan Strait region is very useful for understanding the impact of the geographical environment in the region on military activities. To this end, this book selects 6 typical cases of warfare that occurred in the Taiwan Strait region and studies the impact of geographical environment on military activities in different types of warfare cases.

1. ZHENG CHENGGONG'S FIGHT TO RETAKE TAIWAN

Zheng Chenggong's^x reconquest of Taiwan was the first large-scale sea-crossing landing operation in Chinese history, which began on April 21, 1661, and ended on February 1, 1662, lasting nearly nine months. The Zheng army participated in the battle with more than 25,000 troops and 140 ships; the Dutch army participated in the war with about 2,000 troops and more than 10 ships. In this battle, the Zheng army destroyed more than 450 enemies, sank 3 enemy ships, and damaged several more ships. . It not only recovered Taiwan, which had been occupied by Dutch colonists for 38 years (1624-1662), but also created favorable conditions for the Qing government to unify Taiwan.

(1) Operational background

In August of the thirty-second year of the Ming Dynasty (1604), the Dutchman Wei Malang led a fleet to invade Penghu, when the spring flood ended, there were no Chinese defenders on Penghu Island, they "cut wood and built houses on the island, for a long time," and were later expelled by Shen Yourong, the capital of the Ming army. In the second year of Tianqi (1622), the commander of the Dutch fleet, Reyoz, once again led an army to invade Penghu and build a city, and repeatedly sent fleets to invade the Fujian coast, Fujian inspector Nanjuyi sent an army to attack, the Dutch army was forced to withdraw, and in 1624 it turned to invade Taiwan. In 1624, the Dutch defeated the Spaniards, who occupied northeastern Taiwan, and then forcibly occupied the entire island and began to colonize Taiwan. The Dutch army built a castle in a Kunshen sandbar (Shazhou, present-day Anping Town), divided into two cities, inside and outside, named Fort Zeelandia," known to the Taiwanese as Taiwan City; a small city was built on the opposite bank, the Dutch called it "Provintia," and the Taiwanese called it Chikan Tower. The Dutch colonialists used these two castles as a base to brutally exploit and oppress the people of Taiwan, and used religion to anesthetize the people of Taiwan in a vain attempt to occupy Taiwan for a long time.

^x Translator's note: also known as Koxinga.

In January 1647, Zheng Chenggong swore an oath to raise an army at Lieyu (present-day Little Kinmen Island) and captured Xiamen in 1650. Since then, Xiamen and Kinmen became his main bases. In 1659, after Zheng Chenggong's failure to resist the Qing Dynasty in the north, he deeply felt the necessity and urgency of establishing a stable and reliable base area, and began to prepare for the recovery of Taiwan. In February 1661, the Xingyuan was moved from Xiamen to Kinmen. Here, sailors are trained, supplies are gathered, ships are built, weapons are forged, and combat training is conducted. The Taiwan Attack Fleet was organized into two echelons: the first echelon had 25,000 people and 350 ships, led by Zheng Chenggong himself; the second echelon had 6,000 people and more than 20 ships, led by the generals Huang An and Liu Jun. The first dispatched fleets secretly assembled in Kinmen Zhiluo Bay and were ready to sail. At the same time, in order to consolidate the rear, Zheng Chenggong ordered his son Zheng Jing to hold on to The Gate of Limen and Kinmen to prevent the Qing army from moving south.

In 1650, in order to prevent the Zheng army from attacking, the command of Batavia (present-day Jakarta, Indonesia) in the Netherlands decided: "The castle of Zeeland, even in the Taiping period, must not be less than 1,200 defenders." In 1660, a fleet of 12 ships was dispatched, carrying 1453 men to defend Taiwan. Because Zheng Chenggong implemented some military tactics, the Dutch high command mistakenly believed that Zheng Army would not attack Taiwan, so he withdrew some of his troops. The total strength of the Dutch army in Taiwan was about 2,000 people, mainly in Taiwan City and Chikan Tower (Tainan) on the opposite bank, and the rest were scattered outside the city. The base of Taiwan City is 276 *zhang* and 6 feet long, more than 3 *zhang* high, and in two stories," with more than 30 heavy guns, and the Dutch governor of Taiwan, Coyett, personally led more than 1,100 men to defend. Chikan Tower's "fort base is 45 *zhang* long and more than three *zhang* tall," and heavy guns are set around it, defended by the Dutch army leader Valentyn led 500 men to defend the other occupied area of the defensive force of about 200 troops. Chikan Tower The eastern part of Taiwan City and the northern part of Chikan Tower are the more prosperous neighborhoods, and between the two cities is the Taijiang Bay. Between Sandbar 1 and Baxemboy Island (Sandbar 1 island north) is the big port (Dagang), the port road conditions are good, large and small ships are convenient to get out, by ship 4 several ships and galleons defended. Between Baxemboy and Jialao Bay (northeast of Baxemboy) is Luermen Port. The waterway of Luermen Port is narrow and curved, and there are many shallow reefs in the water, making it difficult for ships to enter the port. The Dutch had built a fort here to control the port of Luermen, but due to the typhoon, the fort collapsed and was flooded by the sea, and then the Dutch army sunk the harbor road with a deck. The Dutch governor in Taiwan judged that the Luermen Port Road was impassable and did not need to be fortified, as long as the castle heavy artillery commanded to control the big port, the two cities could be defended.

(2) Operation history

1. Land in Heliao Port

On April 8, 1661, the Zheng army took the oath of office at Kinmen. On the morning of April 21, Zheng Chenggong personally led the first echelon to set sail from Luowan Bay, guided by the Penghu guerrilla HongHuo, marching in the direction of Taiwan, "on the twenty-fourth day, large and small ships entered Magong Port (Magong Port)," and the ships were stationed on Penghu Island and nearby islands, "waiting for the wind to drive." On April 25, the ships set sail from Penghu and continued their journey toward the main island of Taiwan. On reaching Citrus Island (present-day East and West Ji Island), a sudden storm blew up at sea and the fleet had to turn back to Penghu. The wind did not stop for several days, and it became more and more difficult for the army to supply food. At this time, Taiwan's general secretary He Tingbin and Admiral Ma Xin suggested to Zheng Chenggong: "There is a thick fog on the morning of the second day of the first year and all night, and we cannot look far away, so we should act quickly." Zheng Chenggong immediately made a decision, leaving Chen Guang and Lin Fu to lead part of the troops to garrison Penghu, personally leading the army to cross the strait against the wind and rain, and arrived near Lumen Port at dawn on April 29. Under the guidance of He Tingbin, the Zheng army fleet, with Ma Xin as the forward, avoided the key port of the Dutch defense, and took advantage of the high tide to sail directly to the weak Dutch defense of Luermen Port. The Pioneer Marine Division quickly took control of Luermen Port, occupying Baxemboy and entering Taijiang Bay with a force, 2,000 people landed at Heliao Port, and the Zheng army cut off the connection between Chijian City and Taiwan City from the rear.

2. Capture Chikan Tower

On April 30, the Zheng army took advantage of the victory to launch a fierce attack on the Dutch army in Chikan Tower. The Dutch army first stopped the Zheng army from advancing with artillery fire, but because the distance was too far, the shells fell into the sea of people, and then counterattacked again, but they were hit head-on by the Zheng army, most of the casualties were killed and wounded, and the remnants could only shrink in the castle, did not dare to fight, and asked for urgent help from Taiwan City. On May 1, in order to save the defeat, another 3 lines of troops were organized to counterattack. The first four ships marched north from Dagang along the west side of Baxemboy island in an attempt to attack the Zheng army's follow-up echelon. Zheng Chenggong then dispatched 60 large warships from Luermen Port to the south to meet the attack. Naval warfare was fought in the western sea of Baxemboy island, and the Zheng army bombarded the Dutch main ships with 6 large ships and attacked with fire ships in close combat. The main ship was hit by the ammunition bay and the explosion sank. Two of the remaining 3 were damaged and fled to Batavia together. The second route, Captain Bader, led 240 men to land at the southern end of the Baxemboy island in an attempt to counterattack. Baxemboy is a sandbar of less than 1 square kilometer, the southern end faces Taiwan City, the northern end extends to the vicinity of Luermen, and the eastern part is across the Taijiang Bay River and Chikan Tower, and its military status is very important.

The Zheng army landed 4,000 men on the Baxemboy island, occupied favorable terrain, and launched a fierce attack on the Dutch army with archers as the main attack force. In addition, Zheng Chenggong dispatched 800 soldiers to copy the Dutch side and attack the Dutch army back and forth. After an hour of fierce fighting, the enemy troops on the road were all opened. The third route, Captain Aldop, led 200 men from Taiwan City to cross the sea to Chikan Tower for reinforcements, was blocked by the Zheng army, only 60 people landed, and the remnants returned to Taiwan City, at which point, the Dutch reinforcements were defeated.

After the Dutch army's land and sea counterattack was frustrated, it tried to hold the two isolated cities of Taiwan City and Chikan Tower. At this time, the Zheng army had completely cut off the enemy's land and water transportation. More than 25,000 Taiwanese people also armed themselves to help the Zheng army fight against the Dutch invading army. On May 4, when Chikan Tower was isolated and the drinking water source outside the city was cut off, more than 300 people of Valentyn led the troops to surrender.

3. Siege of Taiwan City

On the day of the reconquest of Chikan Tower, the Zheng army attacked Taiwan City in three ways. About 4,000 people crossed the Taijiang River in the west on the morning of May 5 and landed in the east of Taiwan City; a force of about 7,000 men landed from the southern end of the 1st Sandbar and attacked north along the sheep stables station; another naval force anchored in the east of Taiwan City. Zheng Chenggong's army converged on the outskirts of Taiwan City, forming a siege. After several unsuccessful sieges, he decided to besiege Taiwan City for a long time. On May 30, Zheng Chenggong led Huang An and Liu Jun to lead a follow-up echelon of 6,000 people and 20 ships to Taiwan, further strengthening the combat strength of the Zheng Army.

The Dutch governor of Batavia, who had fled from the defeat, learned of the critical situation in Taiwan and on 5 July ordered Commander Buyou to lead 10 ships and several brigs to reinforce 720 men, arriving in Taiwan on 12 August. Due to the strong wind, it was not suitable for landing, so it anchored in the southwest sea area of Taiwan City. On 16 September, the Buyu fleet attacked Zheng's naval division at Dagang. Zheng Chenggong's troops will concentrate several times the enemy's ships, occupy favorable positions, fight fiercely with the enemy for an hour, sink 2 Dutch ships successively, capture 1 Dutch ship and 3 small boats, kill 120 Dutch troops, take 360 prisoners, and the rest of the Dutch army flees to Batavia. Since then, the Dutch army has not dared to take the initiative to fight.

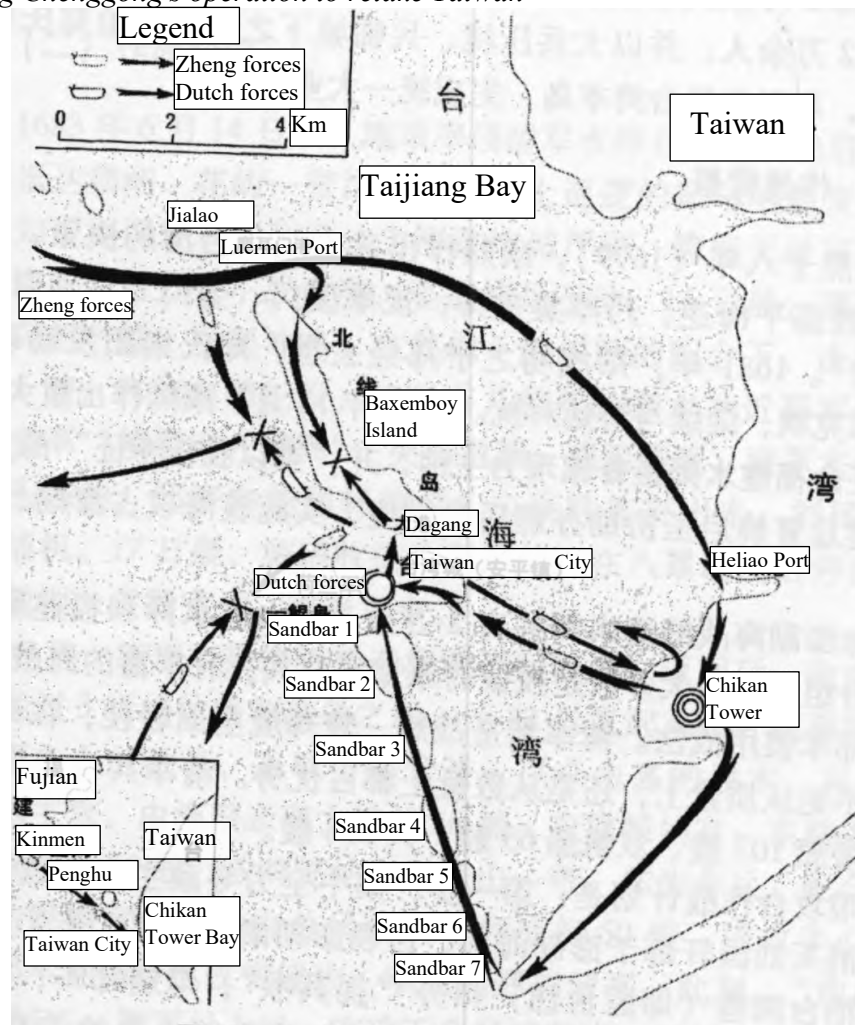
In January 1662, the Dutch army in Taiwan City was besieged for nine months. The city was short of water and food, and the defenders were exhausted, and more than 1,600 people died of starvation, war, and disease. Zheng Chenggong believed that the time had come for a general offensive, and on January 25, he relaunched the general offensive on Taiwan City, breaking the city that night. The Dutch colonists called an emergency meeting and decided to surrender the castle on favorable terms. On 1 February 1662, he signed the Instrument of Surrender on behalf of the Dutch side. At this point, Taiwan, which had been occupied by Dutch colonists for 38 years, returned to China.

3) Lessons Learned

Before the war, Zheng Chenggong conducted a thorough investigation and study of the enemy's situation, terrain, weather, tides, and other objective conditions, selected the correct timing and route for crossing the sea, and formulated a meticulous battle plan. In terms of the departure time of the fleet, Zheng Chenggong and his subordinates, who are very familiar with the climate and laws of the sea frontier, chose the date of departure on April 21. At this time, the Monsoon in the Taiwan Strait has just changed from a north wind to a south wind, and at the same time avoids the typhoon-prone period, which is suitable for fleet navigation. In addition, when the southwest monsoon prevailed, it was almost impossible for the attacking Dutch army in Taiwan to send the top of the ship to Batavia to ask for help. Even Taiwan's Dutch leader, Yi Yi, admitted that attacking Taiwan at this time was "a great opportunity" for the Zheng army. According to the experience summarized by people at that time, the time when the tide of the Taiwan Sea reached its highest level was on the first and sixteenth days of the first month of each lunar month. In terms of landing time, Zheng Chenggong chose to implement it on April 29 (the first day of the fourth month of the lunar calendar). This was due to the fact that the Zheng army's fleet planned to enter the intended landing site of Taijiang Bay from Luermen, but the Luermen Port Road was seriously silted, and large ships could only pass through with the help of high tides. More coincidentally, in the early morning of the same day, it coincided with heavy fog at sea, which provided a good cover for the landing of the Zheng army. In terms of the route of the march, since the Dutch did not fortify Penghu, the Zheng army decided to set out from Kinmen Zhiluo Bay, first arriving at Penghu, and then using this as a base to attack Taiwan. The Taijiang River, the inner harbor surrounded by a series of islands from Penghu, has two channels: one channel is between Yikunshen Island (Sandbar 1) and the tail island of the northern line, called the Southern Channel, which is wide and deep, and it is easy for ships to sail, but the Dutch army has its largest defensive fortress on Yikunshen Island, Taiwan City, which can be blocked by heavy artillery, and there are enemy ships moored in the harbor, and another fortress on the east side of the Taijiang River, Chikan Tower, can also give fire support; another channel, between the end of the northern line and Deer Gate Island, called the North Passage, is shallow and sandy, the channel is narrow, and it is difficult for large ships to pass, and the Dutch did not establish a defense here. Zheng Chenggong had learned through He Tingbin in advance that the North Passage was completely navigable during the tide, so he decided to enter the Rentai River from the North Channel and was equipped with a guide familiar with the channel. This can avoid the Dutch artillery fire, and the second can be unintended. The sudden appearance of the Zheng army was much more than expected by the Dutch army, so that the Dutch defenders at that time were "in a dilemma and had no idea."

Although Zheng army achieved the tranquility of the battle, due to insufficient calculations for the abnormal climate that may occur, the Zheng army was once trapped in the dilemma of unsustainable food supply. In August and September 1661, due to strong winds in the Taiwan Strait for more than a month, the grain ships on the Jin and Xiamen sides could not sail to Taiwan in time, resulting in the Zheng army's situation of "officers and soldiers only eating two meals a day, and many of them died of illness."

Fig. 12-1 Zheng Chenggong's operation to retake Taiwan



2. SHI LANG'S FIGHT TO RECOVER TAIWAN

The Qing government's recovery of Taiwan was a complex process of alternating war and negotiation, and a long-term struggle of strength, intelligence, and winning the hearts and minds of the people. From February 1662, when Zheng Chenggong, a general of the Ming Dynasty, drove out the Dutch colonial rulers, until June 1683, when the Qing general Shi Lang launched the Battle of Penghu and recovered Taiwan, it took 22 years.

Among them, the Battle of Penghu was a strategic decisive battle to recover Taiwan by force. The Qing government ordered Shi Lang, the admiral of the Fujian Navy, to lead more than 230 warships and more than 20,000 sailors to battle. In this campaign, more than 200 ships of the Zheng army were burned and sunk, and more than 20,000 people of the Zheng army were completely annihilated, and the Zheng clique was forced to surrender and submit, the main island of Taiwan was peacefully recovered, and the great cause of reunification completed.

(1) Operation Background

In the eighteenth year of the Qing Dynasty (1679), Kangxi made the decision to unify Taiwan by force, pointing out that "if the superior wants to take advantage of the victory and flatten the sea, he is a thick boat master, and he rules Xiamen and Kinmen two islands in order to try to Penghu and Taiwan." In 1681, Zheng Chenggong's son Zheng Jing died, and the Zheng clique launched a coup d'état, and the second son, Zheng Ketuan, continued to confront the Qing court. In November 1682, Kangxi made a major personnel adjustment, appointed Shi Lang, the admiral of the Fujian Marine Division, as his commander, and "entrusted him with the power of a sole special conscription," ordering Yao Qisheng, the governor of Fujian, to assist in handling logistics supplies and carry out the operation of crossing the sea to capture Penghu and Taiwan.

There were more than 20,000 Qing Navy personnel participating in the Penghu naval battle, consisting of two parts, the former navy and the Fujian newly trained navy, the vast majority of whom were former Officers and Men of the Zheng Army who surrendered, who had rich experience in naval warfare and were also familiar with the Zheng Army's usual tactics. The newly built warships of the Qing Army, which were stronger and lighter than the Zheng warships, had an advantage in terms of both quality and quantity in terms of strength. The Qing army had a total of 70 large black ships, 103 yao boats, and 65 double sailing ships, a total of 238 ships.

Shi Qi's operational plan for attacking Taiwan was: The first step was to concentrate all his efforts on seeking the enemy's main force for a decisive battle, destroy Liu Guoxuan's troops in the Penghu sea with a frontal attack, and occupy the Penghu islands; in the second step, a large warship was used to "strangle his throat" outside the mouth of the Taiwan Harbor (that is, the former Taijiang River), to contain the Zheng army, and to detour in two ways with brisk ships, the south road landed with a part of the troops from Dagugang (present-day Kaohsiung City, Taiwan Province), and the north road landed with the main force from Mosquito Harbor (present-day Tainan City, Taiwan Province), "picking its back." From the flank to the rear, the Zheng army was detoured, and the Zheng army was completely annihilated in the Chengtian area.

In January of the 22nd year of the Qing Kangxi Dynasty (1683), in order to defend against the Attack of the Qing Army, the Zheng Army stepped up the repair of warships and improved the defensive deployment. Liu Guoxuan, the Marquis of Wuping, made the viceroy of Penghu; with Zuo Wuwei He You as the governor of Taiwan North Road, he guarded the chicken coop (present-day Keelung City) and Tamsui and rebuilt the castle left by the Spaniards. With the loyal Bo Feng Xifan as the left viceroy, he guarded the Lu'er Gate to prevent the Qing army from landing directly. In May, Liu Guoxuan added more troops to Penghu, with a total strength of more than 20,000 troops, and 200 large and small gunboats, Black boats, rushing boats, foreign ships and other warships, which were divided into key areas in Penghu.

In addition, in Hujing Island, Jilong Island, Niangma Palace, Sijiao Mountain, Niuxin Bay and other places, 1 to 4 artillery cities were built, and short walls were built in areas where it was convenient to land, and troops were sent to guard them.

(2) Battle History

On the morning of June 14, 1683, Shi Lang led the Qing army sailors to set sail from Tongshan, Fujian Province, and arrived in the waters around Maoyu Island and Huayu Island in the afternoon. After the Sentry Ship of the Zheng army, who was patrolling the sea, found it, it immediately reported to Liu Guoxuan. Liu Guoxuan believed that the Penghu Artillery City was tight, and the Qing ships had nowhere to berth, just waiting for the storm to burst out, and the other side would collapse without a fight, and insisted on not moving. On the morning of the 16th, the Qing pioneer Lan Li led 7 Ukrainian ships to launch an attack, and with the cooperation of the other 5 warships, sank and burned 6 Zheng ships. At the time when the southern tide was in full swing, several ships of the Qing ship were rushed by the tide to the Zhengjun Cannon City, and Shi Lang personally led the "building ship to break through the thief array" to highlight the heavy siege. In the evening of the battle, the Qing army's marine divisions converged on the anchorage at Xiyutou. Qiu Hui suggested to Liu Guoxuan that he should take advantage of the victory to attack overnight, but Liu Guoxuan did not listen and lost the fighter. On the morning of the 17th, Shi Lang gathered all the warships and anchored near Bazhao Island, summing up lessons learned, rewarding and punishing officers and men, and reiterating military orders.

On the 18th, Shi Bo personally arrived near Penghu by clipper for reconnaissance, and after returning, changed the offensive deployment. After three days of rest and preparation, a general offensive was launched on the 22nd. Shi Lang learned the lesson of being attacked by the Zheng army the previous time, and adopted the tactics of advancing separately and attacking the widows with the masses, and divided the troops into 3 roads. The middle road is the main attack, led by Shi Lang personally 56 large warships, directly taking the Niangma Palace; General Chen Manglv, the commander-in-chief of the Eastern Route, led 50 warships to attack the area around Jilong Island and Sijiao Mountain, as a surprise soldier, and cooperated with the main attacking force to attack Niangma Palace; dong Yi, the commander-in-chief of the Western Route, led 50 warships to attack Niuxin Bay. At this time, Liu Guoxuan of the Zheng army also changed the method of warfare and led a warship to meet the Qing army. At this moment, "the south wind is strong, the south stream is rising," the Qing army has the upper hand, Shi Lang ordered the sails to advance, in an instant, the Qing army warships flew towards the Zheng army warships, because the Qing army had the trend of going down the river and the wind, and then attacked the Zheng army warships with firearms and fire boats, and the Zheng army was defeated. A total of 37 large warships and 107 other ships of the Zheng Army were burned, sunk and captured in this battle, and more than 300 leaders and soldiers of the Zheng Army at all levels were killed or wounded. The Zheng army's Liu Guoxuan led only 26 small boats and fled to Taiwan. The Penghu land garrison of the Zheng Army had 165 officers and 4,853 soldiers surrendered. In the Battle of Penghu, the Qing army lost 329 people, wounded more than 1,800 people, and did not lose much of its ships, and achieved a comprehensive victory in the landing operation.

After the defeat of Liu Guoxuan's forces at the Battle of Penghu, the Zheng clique, which was guarding the island of Taiwan, was in a panic. In order to implement the strategy of "suppressing Yufu," the Qing army suspended its attack on the main island of Taiwan.

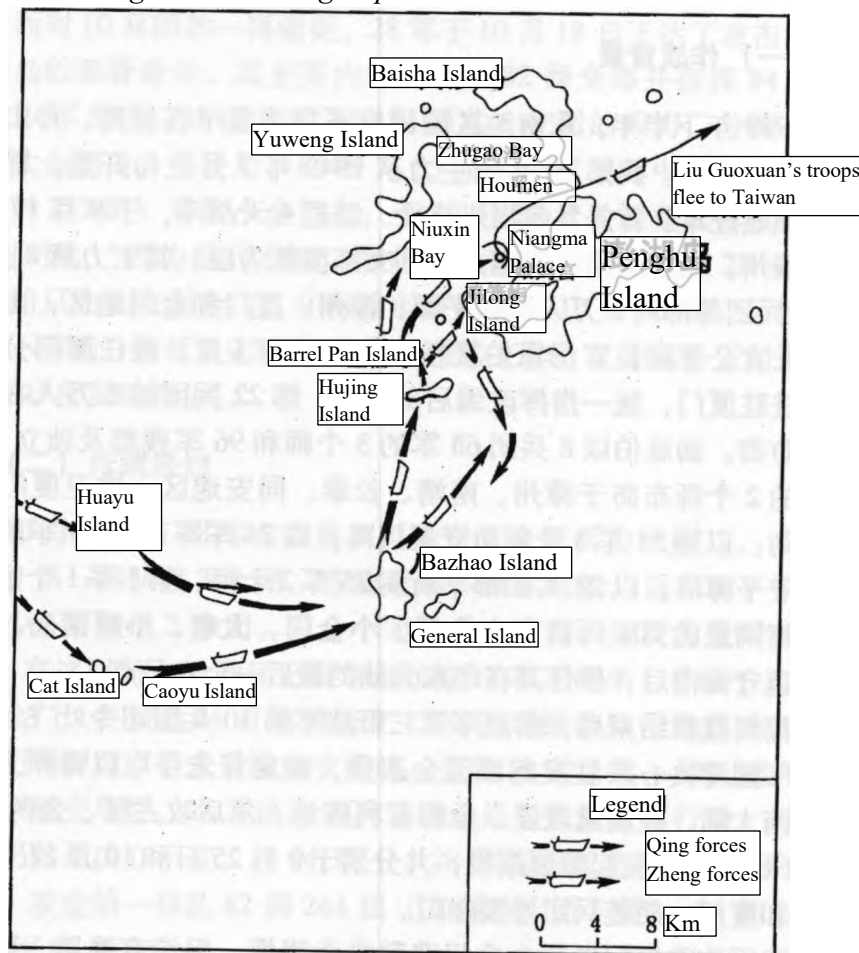
On the one hand, it was rested and replenished, and on the other hand, it actively divided and disintegrated the Zheng Army and carried out effective psychological warfare. Shi Lang treated those who surrendered and surrendered with courtesy, the soldiers gave money and food, the wounded were carefully treated, and those who were willing to return to their hometowns were sent to Taiwan by boat. This measure dealt a very heavy blow to the Zheng army. At this time, the People of Taiwan were clear-minded and the hearts of the army were scattered, making the members of the Zheng clique, who had lost their fighting spirit, even more reluctant to fight with the Qing army. At this time, Kangxi also appealed to the Zheng clique through Shi Lang, advising them to stop resisting and abandoning division, and they would be lenient. In order to dispel the suspicions of the members of the Zheng Army, Kangxi specially declared: "The glorious decree is as bright as the sun and the moon, and I will not break my word." At this time, Zheng Ketuan understood that it was the trend of the times to submit to the Qing Dynasty, and finally on July 13, 1683, he surrendered to Kangxi and submitted to the Shunyang regime. On August 18, Shi Lang led the Qing Military Port to land in Taiwan, took over the whole territory of Taiwan, and completed the peaceful reunification of the main island of Taiwan. Since then, the Qing government has taken over Taiwan into a province of Fujian Province, with 3 counties of Zhuluo, Taiwan, and Fengshan, and 1 provincial official with Xiamen, and 10,000 troops to defend.

(3) Lessons Learned

The victory in the Battle of Penghu was inseparable from the correct decision-making of the Qing government and many factors such as the well-equipped Qing warships and the bravery of the soldiers. As far as command is concerned, Shi Lang has many unique features in "strictly managing the army, passing through the formation method, especially good at water warfare, and wind weather in the sea." In terms of the time of the sea crossing, he reversed the tradition of crossing the sea in the northeast wind season, choosing mid-June when the southwest wind began. Shi Qi said: "The north wind is fierce at night, and now attacking Penghu, failing to fight a battle, the wind is scattered, why will it fight?" More than twenty days before and after the summer solstice, the wind is slight, the night is quiet, you can berth the ocean, watch the challenge and work, but seven days, it will be done. This choice has a certain risk, and has been strongly opposed by Yao Qisheng and others, but Shi Lang has never been moved. Actual combat proved that this choice was correct, and it guaranteed the assembly and safe anchorage of the Qing army's marine division before launching a general offensive. On the sea crossing route, in the past, from the mainland to Taiwan, they all sailed from Jin and Xiamen, and Shi Lang went against the usual practice and chose the departure point in Tongshan, Dongshan Island, to the south. Because after setting sail from Tongshan, the marine division can take advantage of the southwest wind, go downwind and smooth water, and directly take the undefended islands of the Zheng Army south of Penghu as a forward base, and then turn north to the Penghu sea, so that it will always be in a favorable position of upwind, which is conducive to the mobility of the fleet. Actual combat proved that this choice was correct, allowing large-scale ships to directly attack the Niangma Palace and insert into Niuxin Bay as quickly as possible, making it difficult for the Zheng army to organize effective resistance. Tactically, quick battles and quick decisions. The Penghu sea area was windy in June, and Shi Feng, who was well versed in the sea conditions, immediately grasped the preparations for the re-battle after the initial setback, and lost no time in launching a general offensive.

In addition to dividing the troops into two roads and maneuvering and containing from the east and west directions, 56 main warships were concentrated in the main direction of attack, and 5 ships were combined to attack 1 ship, annihilating the main force of the Zheng army one by one with absolute superiority, while the Qing army marine division did not lose a single ship, which is extremely rare in the history of naval warfare. After the surrender of the Zheng clique, Shi Lang put forward his own insights in the midst of the abandonment of Taiwan inside and outside the imperial court: "Taiwan is a French outer island, and the security harm of the four provinces is really related to the security of the four provinces... Abandonment will lead to great calamity, and the sincerity of what is left will forever solidify the border. Kangxi accepted his suggestion and fortified Taifu in May 1684.

Fig. 12-2 Shi Lang's operation to retake Taiwan



3. BATTLE OF KINMEN

The Battle of Kinmen took place from October 24 to 27, 1949, and was an integral part of the Battle of Zhangxiajin of the 10th Corps of our People's Liberation Army Third Field Army. Our army participated in the war with more than 9,000 troops, the Kuomintang participated in the war with more than 40,000 troops, 22 tanks, 9 ships, and 75 aircraft of various types. In this battle, our army lost the offensive and destroyed more than 3 regiments of the landing troops, which was the largest loss in the liberation war of our army. The Kuomintang army also paid a heavy price, with more than 9,000 casualties.

(1) Operational Background

In the second half of 1949, the Kuomintang troops in the southeast were mainly concentrated in Taiwan, Zhoushan, Xiajin, and Chaoshan areas. The main force of our 10th Corps began in early July 1949 and braved the sweltering heat to march to Fujian. The Fuzhou Campaign was first launched, and after four days of fighting, Fuzhou was liberated on August 17. Most of the local Kuomintang troops in Fujian collapsed into bandits, and about 80,000 people of their main forces, the 8th Corps and the 22nd Corps, retreated to the Pingtan, Zhangzhou, Xiamen, and Kinmen areas, and Tang Enbo, deputy director of the Southeast Military and Political Chief's Office, took over as chairman of the Fujian Provincial Government, concurrently served as director of the Xiamen Branch, stationed in Xiamen, and unified command of the 80,000 people of the reorganized 80,000 and 22nd Corps to organize defense in southern Fujian. Tang Enbo deployed three divisions of the 68th Army of the 8th Corps and two divisions of the remnants of the 96th Army and the independent 37th Division to the Zhangzhou, Nanjing, Changtai, and Tong'an areas, and defended the islands of Xiamen and Kinmen; defend Xiamen Island with 3 divisions of the 55th Army; defend Pingtan Island with the headquarters of the 74th Army and 2 divisions of the 73rd Army; under the leadership of the 22nd Corps, 2 divisions of the 25th Army, 1 division of the 5th Army, and the 201st Division, which had just been transferred from Taiwan, defended the Islands of Kinmen, Lesser Kinmen, Dadeng, and Xiaodeng. It was an attempt to maintain its last foothold in mainland China after its retreat to southern Fujian.

After the Battle of Fuzhou, Ye Fei, commander of the 10th Corps of the Third Field Army of the People's Liberation Army, and Wei Guoqing, political commissar, were determined to take advantage of the victory to launch the Zhangxiajin Campaign, deciding to first seize the southern Fujian mainland centered on Zhangzhou, control the favorable positions for attacking Xiamen and Jin, and then capture the Xiamen and Jin islands. On September 19, our army launched the Battle of Zhangxia and captured Zhangzhou and Xiamen on September 25 and October 17, respectively. Hu Lian's corps reinforced Kinmen.

After our army captured Xiamen Island, the enemy defending Kinmen was extremely panicked, but instead of fleeing, they strengthened their defensive measures, adjusted their defenses, and went all out to hold the island. In order to ensure the safety of Taipeng, the Kuomintang army did not hesitate to abandon Shantou and urgently dispatched Hu Lian's 12th Corps to lead the 18th and 19th Armies, and to increase the defense of Kinmen around October 20.

After the reinforcement, the Kinmen garrison increased from about 20,000 to more than 40,000 (at that time, the PLA only knew that its first 1 division arrived in Jin, and the rest was still on the way). Greater Kinmen Island is the focus of its garrison. At the same time, the Kuomintang army took advantage of the fact that its navy and air force were basically intact and still had more than 100,000 tons of combat ships and more than 200 combat aircraft, and grasped the superiority of air superiority and sea supremacy, and established a three-dimensional defense coordinated by the army and navy on Kinmen and other islands.

After the Battle of Xiamen, the energy of the leaders of the 10 corps was mainly used for the city to take over the work, and the command responsibility for the landing on Kinmen Island was given to the 28th Army Forward Commander. After receiving the mission, the 28th Army carried out multifaceted preparations for sea crossing operations, but the ships collected could only transport a maximum of 1 battalion. In the face of repeated urgings from the 10th Corps, the 28th Army issued a deployment order to attack the large and small Kinmen Island on October 18, the main content of which was: to attack the greater Kinmen Island in two echelons with the entire 82nd Division and commanding the 251st Regiment of the 84th Division, the 253rd Regiment of the 85th Division of the 29th Army, and the 259th Regiment of the 87th Division; after the victory, 2 regiments of the 85th Division of the 29th Army (including the 253rd Regiment that attacked Greater Kinmen Island) landed on Little Kinmen Island; landing operations were launched on 20 October. According to Ye Fei's recollection, "Because there were not enough ships, the PLA decided to transfer the ships of the 31st Army to the 28th Army, concentrate the ships to capture the Golden Gate first, and postpone the attack to October 20." Later, because the ships were still insufficient, it was postponed to the 23rd. In order to prepare for the work, another day was postponed, and the battle was launched on the night of the 24th."

(2) Operation History

On 24 October, the 28th Army assembled ships capable of transporting 3 regiments. The 10th Corps believes that the first echelon crosses 3 regiments, and when the ships transporting the first echelon return, the second echelon can also transport at least 2 regiments, and the strength of 5 regiments lands on the island, and the balance of forces between the enemy and the PLA can reach 1:1. During this period, the 10th Corps had discovered that the 118th Division led by the Kuomintang 18th Army had arrived in Da Kinmen on the 21st, and had detected that the follow-up troops of the Nationalist 12th Corps might have arrived in Kinmen Zhiluo Bay by ship 24 days ago, but no contingency measures had been taken. At 19:00 that night, the first echelon began to board the ship. After boarding the ship, the 28th Army pointed forward to the corps to ask whether to act according to the original plan, and the reply was still determined. At 19:30, Xiao Feng, deputy commander of the 28th Army, issued an order to cross the sea and attack, and the 244th Regiment of the 82nd Division (reinforcing the 3rd Battalion of the 246th Regiment), the 251st Regiment of the 84th Division, and the 253rd Regiment of the 85th Division of the 29th Army set sail from Lianhe, Dadeng Island, Houcun and other places north of Kinmen Island.

The sky was pitch black, the sea was blowing with three or four levels of northeast wind, and the tide was rising slowly.

At about 2 o'clock on the 25th, the 244th Regiment of the Left Road landed at Qionglin and Lancuo on the north bank of the peak waist of Kinmen Island, capturing more than 100 Kuomintang troops and capturing 10 remaining bunkers. The vanguard battalion of the 251st Regiment of the Middle Road successfully landed north of Anqi and east of Lin Dun in the northwest, but after its follow-up battalion landed, it was suddenly attacked by enemy artillery fire, with nearly 1/3 casualties. After landing at Gunningtou and Lincuo in the northwest corner, the 253rd Regiment on the right side captured Gunningtou before dawn. Before dawn on the 25th, the 253rd Regiment, in the battle to seize the enemy's beachhead position in Gunningtou, annihilated most of the 601st Regiment of the enemy's 201st Division, killed hundreds of enemy soldiers, captured more than 700 people, occupied Beishan, Nanshan, Lincuo, Putou, Shanzao and 132 highlands from north to south, and controlled the Gunningtou Peninsula and the outer positions. After the 244th Regiment on the left side landed at Ridge Pass and Housha, it was counterattacked by the enemy's 18th Division and 11th Division, and unfortunately lost at 8 o'clock on the 25th. After landing in the Area of Guanyinting Mountain and Huwei, the 251st Regiment of the Middle Road quickly seized the enemy's forward position and captured a large number of enemy troops, and the 602nd Regiment of the enemy 201st Division was beaten into chaos and fled. At 6 o'clock, the sky was already clear, and the more than 300 ships of the first echelon crossing the sea, except for those damaged in the battle, were all stranded on the Kinmen Seashore.

At about 8 o'clock on the 25th, the enemy dispatched air and navy to repeatedly bomb and strafe the positions and ships of our landing forces, and the battle was very fierce. The commanders and fighters of the subsequent echelons of the 28th Army saw ships burning across the sea during enemy bombardment and shelling, and the second and third plans originally scheduled to transport 11,000 people to the island could not be implemented. During the battle, the landing troops inflicted heavy casualties on the Nationalist army. At 12 o'clock in the battle, most of our 244 regiment was killed due to ammunition exhaustion, and the regimental commander Xing Yongsheng still led the troops to stubbornly resist the enemy's counterattack with heavy responsibilities. The main force of the 251st Regiment fought fiercely until 15:00, leaving only about 10 people, who bravely rushed out of the enemy's siege and joined the 253rd Regiment fighting at Gunningtou. The 253rd Regiment, which held Gunningtou, together with the remnants of the brother troops, repelled many counterattacks by the Kuomintang army. The 10th Corps urgently ordered all the units to concentrate all their ships and transport the second echelon regiment to reinforce our advanced landing troops on Kinmen. Until the evening of the 25th, only ships capable of carrying 4 companies of troops were collected, so it was decided that Sun Yuxiu, commander of the 246th Regiment, would lead 6 platoons of 1 battalion and 2 companies of the 85th Division to set sail for reinforcements at the same time, because the wind and waves were too large, and only 10 platoons actually landed on the island. After the reinforcements landed on the island, they rendezvoused with the troops who were holding Gunningtou, and under extremely difficult circumstances, they continuously counterattacked the enemy, and finally because the troops were too weak and the support was not sustained, it was difficult to recover the defeat situation.

At dawn on the 26th, the Kuomintang army, with the cooperation of tanks, artillery, and aircraft, fiercely counterattacked our troops who were holding Gunningtou. After fierce fighting, the few remaining commanders and fighters used strong houses to engage in street battles with the enemy, temporarily preventing the enemy's attack.

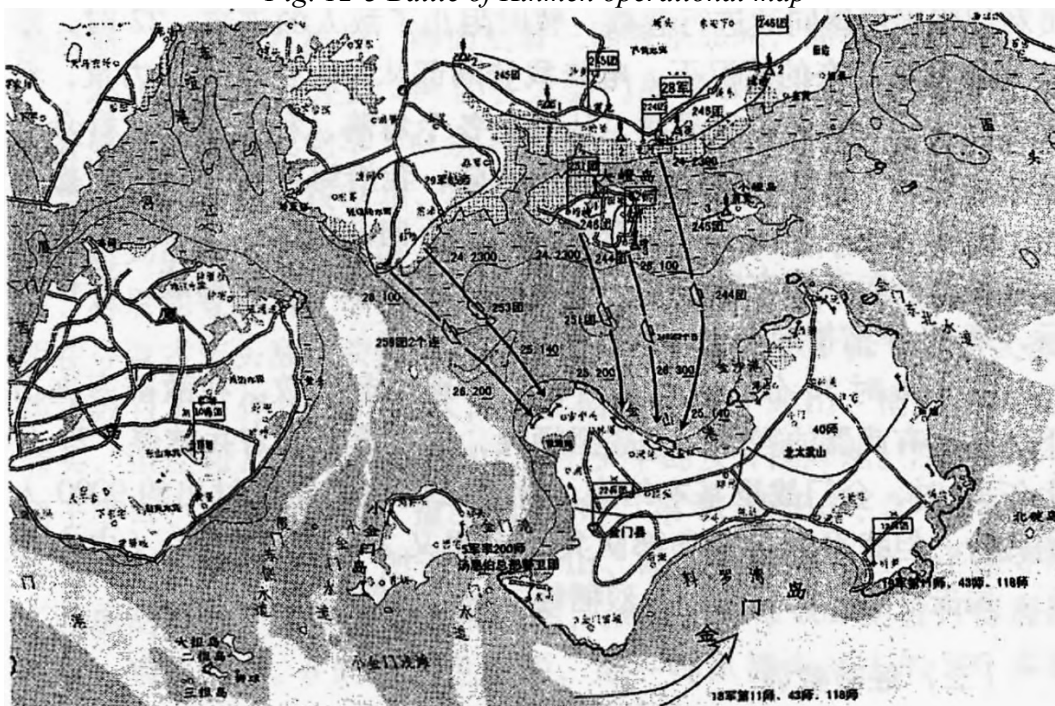
At 22:00, the former commander of the 28th Army, in desperation, telegraphed to our landing troops that in order to preserve the last strength, it was hoped that the commanders and fighters at all levels on the front line would be mobile and flexible, and from all corners of the island, using the bamboo and boats of the enemy or the masses, they would withdraw to the mainland in groups or individually across the sea, and that the retreating personnel would be received in various places along our coast. At midnight on the 26th, some of our personnel broke through to the north under the cover of night, and moved to the southeast without finding a ship on the seashore, preparing to go to the mountains to negotiate with the enemy for a long time. Late at night, the 28th Army's forward command was gradually cut off from the landing force.

At 8:30 a.m. on the 27th, the enemy launched a general offensive against our Gunningtou position. Under the attack of the enemy's land and sea, the officers and men of our army with weapons fought until they were killed, and the officers and men without ammunition were captured. At 10:00 a.m. on the 27th, the Battle of Kinmen was basically over. Although the Kuomintang army paid a price of about 9,000 people in this battle, most of the two groups of our army's landing troops on the island, including 3 regiments and 2 battalions of 9,086 people (including 350 boatmen and civilian workers), died heroically, and one was captured.

(3) Lessons Learned

The main reason for the defeat at the Battle of Kinmen, as Mao Zedong pointed out in a telegram from the Central Military Commission on October 29, 1949: "Caused by light enemies and impatience." "From a geographical point of view, there are mainly several aspects: First, the attempt to make a mistake in judging the enemy's defense attempt. Kinmen's "inner harboring of Zhangxia and outer screens" is a key position and a key position; it is the springboard for the Chiang Kai-shek clique to serve as a springboard for counterattacking the mainland in the future and a barrier to screen Taiwan, and it is also a key point for it to be determined to stick to. After the fall of Xiamen, Chiang Kai-shek sternly ordered Tang Enbo: "Kinmen cannot be lost anymore, it must supervise the battle on the spot, be responsible for performing its duties, and cannot ask for resignation." "The Kuomintang government lives and dies on this island, and lives and dies in this battle!" Our 10th Corps despised Chiang Kai-shek's determination to hold Kinmen, ignored the analysis of the details of the enemy's Jinsha troop deployment, and still blindly believed that the enemy might defend first and then run. The second is to ignore the major impact of air and sea supremacy on operations. The Kuomintang army held absolute air and sea supremacy, and the PLA did not take effective protective measures against this. The lack of cover of sea and air forces during the voyage, the failure to organize artillery and air defense well, and the loss of personnel and ships when encountered by enemy sea and air fire attacks were relatively large. When some of our ships ran aground, they became a living target for enemy naval and air fire, and all of them were destroyed. The Kuomintang navy circled from Shiluo Bay south of Kinmen to the sea off Gunningtou on the north shore, and bombarded the flanks of our landing forces with naval guns. Taiwan's Kuomintang Air Force has continuously dispatched more than 50 sorties to bomb our landing troops that have already landed on the island, while bombarding the large and small ridge islands and the artillery groups on the shore of the country.

Fig. 12-3 Battle of Kinmen operational map



Third, the beachhead and tide situation are not known. At about 2:00 a.m. on the 25th, it was the climax of the rising tide, and most of the obstacles such as the barbed wire set up by the Kuomintang troops on the beach were flooded by the tide, and many ships rushed to the top of the obstacles, and the bottom of the boat was hung, and the troops had to wade ashore, and some fighters were also hung, suffering heavy casualties. At this time, the enemy's fire was very fierce, and the mobilized shipwrights abandoned their ships to take shelter, and when our army occupied the beachhead positions, the shipwrights who were hiding everywhere were recalled to prepare for the return voyage, the tide had receded to 10 meters away, and most of the ships ran aground. Fourth, the landing field was improperly selected. Although the northern shore of the western part of Kinmen Island is convenient for troops to land, it is also a key area where the enemy concentrated and insisted on it. The beach was formed with bunkers, barbed wire, and minefields. The highlands and villages behind the beach, such as Guanyinting Mountain, Ridge Pass, Qionglin, Lincuo, and Guningtou, have built support point defensive positions that combine field fortifications with permanent fortifications, and there are minefields in addition to the gaps between the positions. This area is not convenient for the PLA to establish a solid beach position and a tactical landing field. After landing on the ground, our first echelon was stubbornly blocked and counterattacked by the enemy's beach fortress group and the first-line support points, and then suffered a joint counterattack by the enemy's heavy troops with the cooperation of tanks. Fifth, we should not attach importance to the establishment and consolidation of landing sites. In actual combat, except for the 253rd Regiment of the Right Wing, which occupied the areas of Guningtou, Nanshan, and Beishan after landing on the ground, and relied on the strong positions and solid stone houses of the Kuomintang army to establish landing field positions, the other units attacked blindly, and penetrated into the depth without waiting to capture the first-line support points. Thus, when the troops were forced to switch to the defensive when their offensive was blocked, there was no solid position to rely on. In the end, it was still relying on the support of the Guningtou and The North and South Mountain Positions that he insisted on fighting for two days and nights.

4. SHELLING OF KINMEN

The shelling of Kinmen was a punitive large-scale shelling and blockade operation conducted by the Fujian Front Troops of the Chinese People's Liberation Army against the Kuomintang troops guarding Kinmen Island in the summer and autumn of 1958, and was a typical "military and political battle" that not only effectively punished the Kuomintang authorities in Taiwan, but also effectively supported the people of the Middle East in their anti-aggression struggle. It also allowed the PLA to find out the bottom card of the US strategy toward China, which is of great historical significance. The campaign began on August 23, 1958, and lasted for more than two months until October 31, when the main operation was largely over. The main combat strength of our army is 36 battalions of ground artillery, 6 companies of coastal artillery, a total of more than 450 artillery pieces, and some ground air defense units and navy and air force participated in the battle, with a total of 6 anti-aircraft artillery regiments and 5 anti-aircraft artillery battalions, and more than 80 battalions, ships of various types, and more than 200 aircraft.

(1) Operation Background

After the founding of New China, the Kuomintang authorities in Taiwan, with the support of the United States, continuously dispatched the land, navy, and air force to use Kinmen, Matsu, and other coastal islands of the mainland as bases to harass and sabotage the southeast coastal areas of the mainland, in a vain attempt to "counterattack the mainland." The Kinmen Islands are located in Xiamen Bay, Fujian Province, about 10 kilometers from Xiamen City, and are held by Kuomintang troops. At the end of 1957, the Kinmen Defense Command of the Kuomintang army, with 6 infantry divisions and about 85,000 special forces, operated for many years and formed a solid defense system with the cooperation of its navy and air force. Among them, there are 31 battalions and 2 companies of artillery, equipped with more than 380 guns of caliber above 75 mm, and 106 light combat vehicles and self-propelled guns. In July 1958, when the United States was sending troops to invade Lebanon and interfere in the affairs of the Middle East, the Kuomintang authorities in Taiwan attempted to take advantage of the fire and robbery, clamoring to "accelerate the preparations for a counter-offensive on the mainland." The counter-offensive plan against the mainland," ordered its army, navy, and air force to be on special alert, dispatched aircraft to reconnaissance and provocations in the coastal areas of the mainland, and used artillery deployed on Kinmen Island to bombard the coastal villages and towns of Fujian Province, resulting in an increasingly tense situation in the Taiwan Strait region.

On July 18, 1958, Chairman of the Central Military Commission Mao Zedong summoned the vice chairman of the Central Military Commission and the leaders of the Navy, Air Force, and other units to a meeting in Beidaihe and pointed out: support for the Arab people in their anti-aggression struggle cannot be limited to moral support, but also must be supported by practical actions. Kinmen and Matsu are Chinese territory, and attacking Kinmen and Matsu and punishing the Kuomintang army is China's internal affair, and the enemy cannot find excuses, but it is of leading use to US imperialism. Mao Zedong also envisioned a major strike with ground artillery, ready to fight for two or three months. Peng Dehuai, then minister of national defense, pointed out at the Central Military Commission that the operations of ground troops in the Fujian area will mainly use artillery, and the focus of the struggle is still in the air. On the same day, the Air Force Command made arrangements for operations to enter Fujian, and decided that the first batch of the five aviation divisions that had undergone tests in the Korean operation would be transferred to the Manchurian operation and strive to fight the first battle. On the 25th, the Fuzhou Military Region Air Force Command Post with Nie Fengzhi as commander began to carry out command. The People's Liberation Army Air Force began to transfer to Min on the 27th, when it was the typhoon season, and it was raining for days, and the Kuomintang Air Force did not find the people of our Air Force in Fujian. On the 29th, the Kuomintang Air Force's four F-84 fighters flew in the Nan'ao Island area on the border of Fujian and Guangdong, and were intercepted by four MiG-17 fighters of the People's Liberation Army Air Force, and the Kuomintang Air Force aircraft were shot down 2 and 1 was injured. The PLAAF had no losses and created a record of 3:0 in air combat. Subsequently, Taiwan's Kuomintang Air Force dispatched more than 1,000 aircraft to patrol the skies over the Taiwan Strait every day, and constantly sent fighter planes to cover reconnaissance over Fujian. From August 7 to 22, the People's Liberation Army Air Force conducted four consecutive air battles with the Kuomintang Air Force that flew over the mainland, in which four Kuomintang aircraft were shot down, five Kuomintang aircraft were damaged, and one of ours was shot down. After four air battles, the Kuomintang Air Force learned of the strength of the People's Liberation Army Air Force, and generally did not dare to enter the air over Fujian except for reconnaissance. Since then, the air supremacy over Fujian has been controlled by the PLA Air Force, which has effectively guaranteed the safe and smooth completion of the assembly of the PLA ground artillery units.

On August 20, Mao Zedong decided to immediately concentrate his forces on a sudden and fierce blow (not to fight Matsu) against the Kuomintang forces in Kinmen and blockade it. On the 21st, Ye Fei arrived in Beidaihe to report in detail on the preparations for the shelling of Kinmen, and it was not until the afternoon of the 23rd that Mao Zedong finally decided to shell according to the predetermined plan.

(2) Operation History

On August 21, 1958, the participating units completed their assembly and combat preparations.

Main combat strength: 4 regiments of the 3rd Reserve Artillery Division, 1 regiment of the 15th Division, 28th Army, 31st Army Divisions are artillery, a total of 36 battalions of ground artillery, 6 companies of coastal artillery, 459 artillery of various types. The troops entered the firing positions covertly and completed their firing preparations at dawn on the 23rd. In order to achieve the suddenness of the shelling, the artillery did not conduct test firing in advance, but determined the firing elements by precision method. At the same time, 2 anti-aircraft artillery groups composed of 2 anti-aircraft artillery regiments of the 63rd and 64th Anti-Aircraft Artillery Divisions, the 28th Army and the 31st Army Anti-Aircraft Artillery Battalion, the Anti-Aircraft Artillery Battalion of the 192nd Division of the 64th Army, and 2 anti-aircraft artillery regiments of the 103rd Division of the Air Force Anti-Aircraft Artillery Division, a total of 6 regiments and 5 battalions, also entered the positions and were responsible for covering the ground artillery and ground air defense in the Xiamen and Lianhe areas.

Saturday, August 23. At 17:30, it was the time for the Kuomintang troops on Kinmen Island to eat. In advance, the front-line commanders of the People's Liberation Army knew through questioning the surrender personnel that the Kuomintang troops were mostly outside the fortifications during this time. At this moment, the front line suddenly bombarded the Nationalist position in Taiwu Mountain north of Kinmen with 459 artillery pieces, firing more than 30,000 shells in 85 minutes. At the beginning of the shelling, two deputy commanders of the Kuomintang Kinmen Defense Department, Zhao Jiahua and Zhang Jie, and Lieutenant General Ji Xingwen, lieutenant general of the Penghu Defense Department, were walking after a dinner and were killed by shells on the spot. The Nationalist artillery began to return fire 20 minutes after the raid, firing more than 2,000 shells, and their firepower was quickly suppressed. According to the Kuomintang army, the artillery shelling killed nearly 600 officers and men. The shelling was known as the "823" artillery battle and became a very successful model in the history of the artillery of the People's Liberation Army.

In order to expand the results of the battle and not give the Kinmen Kuomintang troops a chance to breathe, on the 24th, the Fujian Front Command ordered the artillery and naval speedboat units to carry out a second strike against the Kinmen Nationalist troops, firing nearly 10,000 shells. At 17:40, nationalist warships in The Bay of Qiluo were forced to flee to the open sea. Six torpedo boats of the People's Navy quickly attacked, and the artillery unit suppressed the artillery fire of the Kuomintang army with heavy artillery fire, covered the speedboats to enter the sea near Kinmen Dongding Island, and launched an attack on the large transport ships "Zhonghai" and "Taisheng" of the Kuomintang army, the medium transport ship "Meile" and several small guard boats. After fierce fighting, the "Zhonghai" was sunk and the "Taisheng" was severely damaged. Subsequently, the Fujian front line blockaded Kinmen with sporadic shelling, causing serious difficulties in the supply of materials for the Kuomintang troops in Kinmen, and the daily material supply on the island was only 5.5% before the shelling. While blocking Kinmen with all its might, the PLA also carried out artillery operations against the escort of American warships and counterattacked the artillery of the Kinmen Nationalist Army, and fought against the Nationalist Navy and Air Force at sea and in the air.

At the same time, the Kinmen Nationalist army continued to shell villages and towns near Xiamen. Under these circumstances, the Fujian front-line artillery units carried out two large-scale heavy shelling attacks on Kinmen on September 8 and 11. After four large-scale artillery attacks and air and sea combat operations, hundreds of officers and men below the rank of lieutenant general of the Kuomintang army were killed and wounded, 2 Kuomintang warships were sunk or wounded, 4 transport aircraft were damaged, and more than 10 of its artillery pieces and a large number of military facilities were destroyed.

After September 13, the artillery of our army began zero artillery shooting activities, fighting day and night, killing and wounding an average of 60 to 70 Kuomintang troops every day, forcing them to move from the ground to the solid fortifications. After our artillery turned to sporadic shelling, the enemy intensified its air force raids. On September 17, the US Air Force took over the air defense mission of the main island of Taiwan, and dispatched aircraft to patrol the air over the Taiwan Strait, covering the Kuomintang aircraft to drop supplies in Kinmen at night.

On October 6, Peng Dehuai issued a "Message to Compatriots in Taiwan," proposing to hold negotiations and a peaceful settlement, and announced that the shelling of Kinmen would be suspended for seven days from October 6, so that the military and civilians of Taiwan, Penghu, Kinmen, and Matsu could freely transport supplies, but on the condition that there were no American escorts, otherwise they would be shelled immediately. On October 13, the PRC again announced a two-week moratorium on shelling, still on the condition that there would be no American escorts. However, the Taiwan authorities escorted them with US warships on the night of the 19th, and at 15:00 on the 20th, our army announced the resumption of shelling. At 15:37 on the same day, the front-line artillery carried out the fifth shelling, with the fire of 32 artillery battalions and 7 artillery companies, assaulting the ships in Luowan and the Kinmen artillery positions, airfields, docks, and warehouses, consuming nearly 90,000 rounds of shells, hitting 4 Chinese-sized transport ships, 1 large cargo ship, 1 transport aircraft, positions and more than 10 observation posts of the Kuomintang army.

On 25 October, Defense Minister Peng Dehuai again issued a "Letter to Compatriots in Taiwan," announcing that the front-line artillery would not attack the Kinmen airfield, the Pier of Shiluo Bay, the beach, and the ships every two days, so that the soldiers and civilians of the Kinmen Islands would be fully supplied, but still on the condition that there was no escort from the US military. On October 31, the Central Military Commission decided: "In the future, no artillery will be fired at any target on every double day, so that Kuomintang military personnel can go out of the fortifications and move freely and bask in the sun, so as to facilitate long-term perseverance; a little cannon can be fired on a single day, and the shells generally do not exceed 200 rounds. Since then, our artillery attack on the Golden Gate has shifted to sporadic artillery fire, stopping and stopping, half fighting and half stopping, and the general requirements are: "Seal but do not die, fight but not ascend." "At this point, the main combat operation of our army's shelling of Kinmen was over.

On November 3 and January 7, 1959, Fujian front-line troops carried out two more large-scale shelling attacks on Kinmen. After December 1961, the Fujian front-line troops stopped shelling Kinmen with live ammunition and only fired some propaganda bombs in a single day. On 1 January 1979, the shelling ceased completely.

(3) Lessons Learned

The shelling of Kinmen was an island blockade campaign jointly carried out by the army, navy and air force with the main purpose of smashing the Kuomintang army's attacks and sabotage on the mainland, opposing the US invasion of Taiwan, and armed intervention in the Middle East. Before July 1958, the People's Liberation Army's troops in the Fujian area were scattered in the interior of Fujian, and after receiving the order, the artillery units quickly assembled and marched day and night to Xiamen and Lianhe. At that time, it was the typhoon season, with days of torrential rains, flash floods, many landslides on highways and railways, and more than 40 major bridges were washed away, which added many difficulties to the operation of the troops. Carrying forward the fine tradition of not being afraid of hardship and tiredness, the commanders and fighters of our army braved the storms and rains and braved hardships and hardships under the conditions of tight time, heavy tasks, and harsh climate, and together with the local government and the organized masses, they worked hard to repair and strengthen roads and bridges in the mud, thus ensuring that the troops marched forward as scheduled. The heavy rain brought many difficulties to the artillery units in advancing and constructing, but it also had the advantage of blocking the line of sight of the Kuomintang troops. In order to conceal the operation, the movement of our troops is generally carried out after dark, and the camouflage is carried out immediately after taking place, and the images on the position after dawn are no different from the previous day. In order to covertly move south to Xiamen, the Torpedo Boat Brigade of the East China Sea Fleet adopted the method of "land boating" to enter Fujian. The personnel accompanying the vehicle all loaded with army uniforms, and it was not until night that the flatbed trucks arrived at the Navy docks and hoisted the speedboats into the sea with a boom. The Air Force has also taken measures such as concealing routes, lowering altitudes, and reducing radio communications to conceal operational attempts. Before the battle was launched, the PLA organized the troops to retreat in large numbers during the day on all the sections of the road that could be observed on the enemy-occupied islands, and then turned off the lights at night to return to their original positions, so that the enemy mistakenly thought that our operation was an exercise. In the month before the artillery battle, our army's planes at Fuzhou's Longtian airport took off from time to time and occasionally fired a burst of artillery at Matsu, giving the Taiwan side the illusion that our army wanted to attack Matsu. It is this series of effective measures of "hollowing out the mind" and high concealment that ensures the suddenness of the shelling of Kinmen. Because the sea-crossing artillery battle was greatly affected by meteorological conditions, in the preparation for battle and in the course of combat, in order to improve the accuracy of shooting, the PLA strengthened the ground survey and meteorological support. In the configuration of the observation station, the observation system of depth ladder, complementary front side, and combination of distance and proximity is adopted. On the more than 50 kilometers of frontage from Weitou in the east to Zhenhai in the west, more than 160 observation posts were deployed at the most. The ground artillery reconnaissance of hundreds of targets in Kinmen was basically carried out by three pairs of rendezvous observation posts, accurately calculating the firing elements of each target by each gun. After our two blockades, the Kuomintang troops were forced to change the mode of shipping from day to night, from direct arrival to mooring outside The Bay of Luo, and then barge them with small boats and land and water combat vehicles, and transport aircraft to night transport at night.

In this regard, our artillery has made corresponding arrangement adjustments, tightly sealed with firepower, and severed the connection between the Kinmen Islands and made it impossible for them to support each other; long-range artillery blockaded Kinmen Airport and struck down transport aircraft that took off and landed, making it difficult to land. When the artillery battle entered the stage of zero artillery firing, the PLA mainly attacked exposed personnel, vehicles, traffic arteries, warehouses, anti-aircraft artillery positions, radar stations, airports, tunnel crossings, command posts, docks, and other important targets. At the same time, in combination with the application of explosives in the false positions, the result was false and real, true and false, making it difficult for the enemy to judge, returning fire and throwing empty air, wasting ammunition, and better achieving the goal of annihilating the enemy and preserving oneself. But there is also the problem of insufficient road security. Usually, only 3 roads are available in the Lianhe area, and some of the main bridges are not prepared for possible destruction. Because the Quanzhou Bridge was damaged by the water, many artillery units were blocked in Quanzhou, which greatly affected the speed of the advance.

5. THE DEFENSE OF DONGSHAN ISLAND

The Battle of Dongshan Island was a combat operation by the People's Liberation Army against the Kuomintang troops' large-scale invasion of the mainland. The campaign began at 4:30 a.m. on July 16, 1953 and ended at 6:30 p.m. on the 17th, lasting 38 hours. The Kuomintang participated in the war with about 13,000 troops, 13 ships, and 105 aircraft of various types. The PLA participated in the battle with a total of about 7,000 troops. This was the largest landing offensive action taken by the Kuomintang army after its rout from the mainland, and after being thwarted by us, it no longer dared to carry out a landing attack on the mainland.

(1) Operational Background

Dongshan Island is the second largest island in Fujian, located at the junction of Fujian and Guangdong provinces, is the seat of Dongshan County, Fujian Province, and the mainland has a 500-meter Eight Foot Gate Strait, an area of 165 square kilometers, a population of about 83,000 people, is the throat of maritime traffic between Fujian and Guangdong, and the barrier along the coast of southern Fujian. After the United States launched the war of aggression against Korea, the Kuomintang army, directly driven by the United States, constantly attacked and harassed our coastal areas. At the beginning of 1953, he began to use various reconnaissance means to collect military information in our Dongshan Island and Zhangpu areas, often came close to spy, and wantonly caught our fishermen. In April, Tang Enbo was brought back by Japan with the "Counter-Offensive Plan" and, according to this plan, it was determined that a reinforcement division of the Kinmen Defense Department would launch a surprise attack on our Dongshan Island in an attempt to annihilate our defending troops on the island, establish a counter-offensive stronghold on the mainland, encourage its armed struggle "behind enemy lines," contain the main force of our army, and coordinate the coalition forces in fighting against the DPRK.

If the enemy occupies the island, it can enter the Boping Mountains on the mainland and establish a counter-offensive base. If landed, it could be evacuated from the sea. Therefore, the Kuomintang authorities chose Dongshan Island as the first target of their "counter-offensive on the mainland." On July 7, the Kuomintang army established the "Joint Mission Command" and appointed Hu Lian as the commander, under the command of the army's 45th Division, the 53rd Regiment of the 18th Division, the 1st and 2nd Assault Brigades at sea, the 8th Squadron of the South China Sea Column, the 3rd Marine Brigade, and the Paratrooper Detachment, etc., to conduct landing training. In order to conceal the attempt, the reconnaissance activities of enemy ships and aircraft shifted from Fujian to the coastal areas of eastern Zhejiang.

Judging by the movement of the Kuomintang troops, our army may carry out landing operations on our coastal islands. The Fujian Military Region is determined to hold firm on the islands of Pingtan, Nanri, and Dadeng south of the Minjiang River and north of the old town, and to build strong fortifications and deploy garrisons on these islands; at the same time, considering the prominent location of Dongshan Island, the large area, the simple fortifications, and the close distance to the mainland, it is convenient for evacuation and reinforcement counterattack, and it is determined to implement mobile defense. The troops guarding Dongshan Island were the 1st and 2nd Battalions of the 8th Regiment of the Public Security Regiment (owed to the 4th Company) and the Mortar Company, and the 1st Company of the 1st Naval Regiment of the Bashimen Ferry. On the north side of Dongshan Island, with a total of more than 1,500 people. According to the actual situation of the enemy being strong and we are weak, regimental commander You Meiyao made specific arrangements: 1 battalion defended at the 83.3 and 188.5 heights, 2 battalions defended the 162.1 heights, the sailor company guarded the Eight Foot Gate ferry, and the county public security squadron and the salt police squadron were on standby at Chengguan.

(2) Operation History

On the morning of July 15, the landing troops of the Kuomintang army began to load. At about 15:00 on the same day, under the cover of 4 combat ships, 9 landing ships carrying landing troops set off from Kinmen Zhiluo Bay. At about 19:00, they arrived at the sea area of about 10 kilometers outside the Golden Gate to assemble a formation, and the ships were organized into two columns, the landing ships were on the left, the cover ships were on the right, the sailing distance was about 1,000 meters, and the interval between the columns was about 5,000 meters.

1. Block the Enemy Who Lands in the Direction of the Pro-Camp and the Lake

At 16:50 on July 15, the 1st and 2nd Assault Brigades of the Kuomintang Army landed in the southwest part of the Pro-Camp, and after landing, the main force was directly inserted into the Stone Altar, and a force attacked in the direction of the Pro-Camp and the port. After our reconnaissance squad at Sufeng Mountain discovered that the enemy had landed, it immediately moved to the regimental command post. The 1st company and 1 platoon of the pro-camp retreated at the end of the official road to cover the front platoon, lost the opportunity to transfer, and finally relied on the small temple to stubbornly resist the enemy, and the whole platoon died heroically.

After the 1st platoon of Guanqian Village found that the retreat road had been cut off by the enemy, it immediately used bamboo rafts to move safely from the sea to the main position. The county public security squadron failed to retreat in time and fought tenaciously with the enemy, with half of the casualties. At 5:20 a.m. on the 16th, after the enemy landed from the tail of the lake, with the support of amphibious tanks, attacked Zhangtang, was blocked by 1 platoon of our 6 companies, and was forced to retreat to Dongshen, and after adjustment, at 7 o'clock, launched an attack on Zhangtang, which was repeatedly repelled by us, annihilated more than 200 enemy personnel, and forced the enemy to retreat to Dongshen again. At about 9 o'clock, the enemy, supported by artillery fire, launched another attack on us, forming an encirclement posture on Zhangtang, and after our forward detachment completed the task of blocking the attack, it took the initiative to move to the main position. At this time, the whole island, except for the core position of Gongyun Mountain and the eight-foot ferry port, was basically occupied by the Kuomintang army, and the defense of the island entered the most intense and tense stage.

2. Strike at Enemies Who Parachute into the Rear Forest Area

On July 13, the Airborne Detachment of the Kuomintang Army entered Hsinchu Airfield in Taiwan to replenish its weapons and equipment. At 3:30 a.m. on the 16th, the enemy airborne detachment took off from Hsinchu Airport in 16 C-46 transport planes, and under the cover of 8 fighter planes, flew to the Houlin area of Dongshan Island at 4:47 a.m. on the 16th. After You Meiyao, the commander of the 80th Regiment of public security, learned of this situation, he immediately ordered the sailor company to hold on to the dock. At this time, the sailor company had boarded the ship to carry out the task, there were only 7 people on the shore, in this case, the company commander organized personnel to take out 4 machine guns from the warehouse, and fired fiercely at the enemy who landed in the air, and the formation of the enemy aircraft was immediately chaotic, and the altitude of the airborne landing rose from 200 meters in the first wave to 1,000. The entire airborne landing was scattered in a narrow strip of about 4,000 meters, and some of the Kuomintang troops fell into the sea of people, causing the Kuomintang troops to take more than 1 hour from airborne to converge and assemble. During this period, the commander of the sailor company dispatched another platoon to the shore, seized the favorable terrain, and waged a fierce battle with the airborne enemy.

3. Adhere to the Main Position of the Depth of Dongshan Island

In front of our 1st battalion, the main force of the Nationalist Maritime Assault Brigade, under the cover of artillery fire, attacked the position of the 3rd Company of Shitan at 9 o'clock on the 16th, and after being resisted by the company, it moved to the 188.5 heights, the 2nd on the sea. The assault brigade relied on the stone altar to attack the 83.3 heights, and our 2nd company repelled more than 10 enemy attacks with short weapon fire and grenades, and held the position. In front of our 2nd Battalion, the main enemy forces entering WestPort and Kasumigami. Under the cover of artillery fire began to attack the PLA several times at 10 o'clock, all of which were repelled by us.

At 15:30, after 1 hour of artillery preparation, the enemy launched an attack on our Position No. 5 and occupied the surface position, the PLA insisted on the short hole of the detachment to continue the battle, and on the 17th, the PLA cooperated with our friendly neighbors to destroy the enemy and restore the position. The 53rd Regiment of the Second Echelon of the Enemy landed at 14:00 on the 16th, and at 23:00 took over the 3rd Battalion of the 135th Regiment and continued to attack our Position No. 4. After repelling two attacks by the enemy's 134th Regiment, the detachment holding position No. 6 took the initiative to withdraw at 20 o'clock on the same day and retreated to the 162.1 heights under the condition that the enemy was outnumbered and the ammunition was exhausted.

4. The Campaign Mobile Unit Crossed the Sea into the Island to Counterattack

After the enemy landed, the military region immediately ordered all the mobile units to enter the island for reinforcements. After receiving the order of the military region, the vanguard of the 272nd Regiment of the 91st Division of the 31st Army immediately marched toward Chen Dai, crossing the sea and entering the island at 10 o'clock on the 16th. At 11:30, they attacked the enemy's airborne troops, and by 13:30, all the airborne enemies were annihilated, except for more than 80 paratroopers who met with the landing enemy. After annihilating the enemy airborne troops, our 272nd Regiment immediately reinforced the main position, cooperated with the 80th Regiment of Public Security to restore the main peak of 188.5 Highland, and replaced the 80th at dawn on the 17th. The regiment's defense repelled the enemy's many attacks in a row, held its position, and created favorable conditions for counterattacking and annihilating the enemy.

At 12 o'clock on the 16th, the commander of the Fujian Military Region decided to enter the island with 5 main regiments in accordance with the enemy's strength and the situation of our mobile units, launched a counterattack at dusk on the 17th, and took 3 regiments as reserves in the Chen Dai area, and determined 28 The chief of staff of the army entered the island to command the operations on the island in a unified manner. The 365th Regiment of the 132nd Division reinforced 1 battalion, arrived at Chen Dai at 19:00 on the 16th, and began to enter the island at 20:00. And that night took control of the 188.5 heights of the first line position. The 244th Regiment of the 82nd Division arrived at Chen Dai at 23:30 and began to cross the sea at 4:00 on the 17th. At 8 o'clock, the whole group entered the island. The first part of the 28th Army Howitzer Regiment (7 guns) entered the position on the morning of the 17th. Other troops also quickly marched toward Dongshan Island.

5. Repel the Enemy Who Landed on all Sides

On the morning of the 17th, the island was foggy, and the Kuomintang army was waiting to retreat. After discovering the enemy's attempt, the Fujian Provincial Military Region immediately resolved to counterattack without waiting for all the main forces to arrive. At 9 o'clock, the enemy on the front continued to launch a fierce attack on us, while the enemy moved in the direction of the beachhead on the seashore. At 11 o'clock, our troops began to counterattack on all fronts. The 365th Regiment of the 122nd Division first captured the stone altar, and then counterattacked in two directions in the direction of the pro camp and the lake tail. The 272nd Regiment, after destroying the enemy in front of the front, counterattacked in the direction of Xiahu Lake, Nanshan, and Huwei. After annihilating the enemy in front of Position 5, the 244th Regiment of the 82nd Division counterattacked in the direction of Wangsi Mountain through the front saddle. Our counterattack troops quickly attacked the Huwei, Qinying, and Wangsi Mountain areas, and the remaining enemies boarded ships and fled, and the battle ended at 18:30 on the 17th.

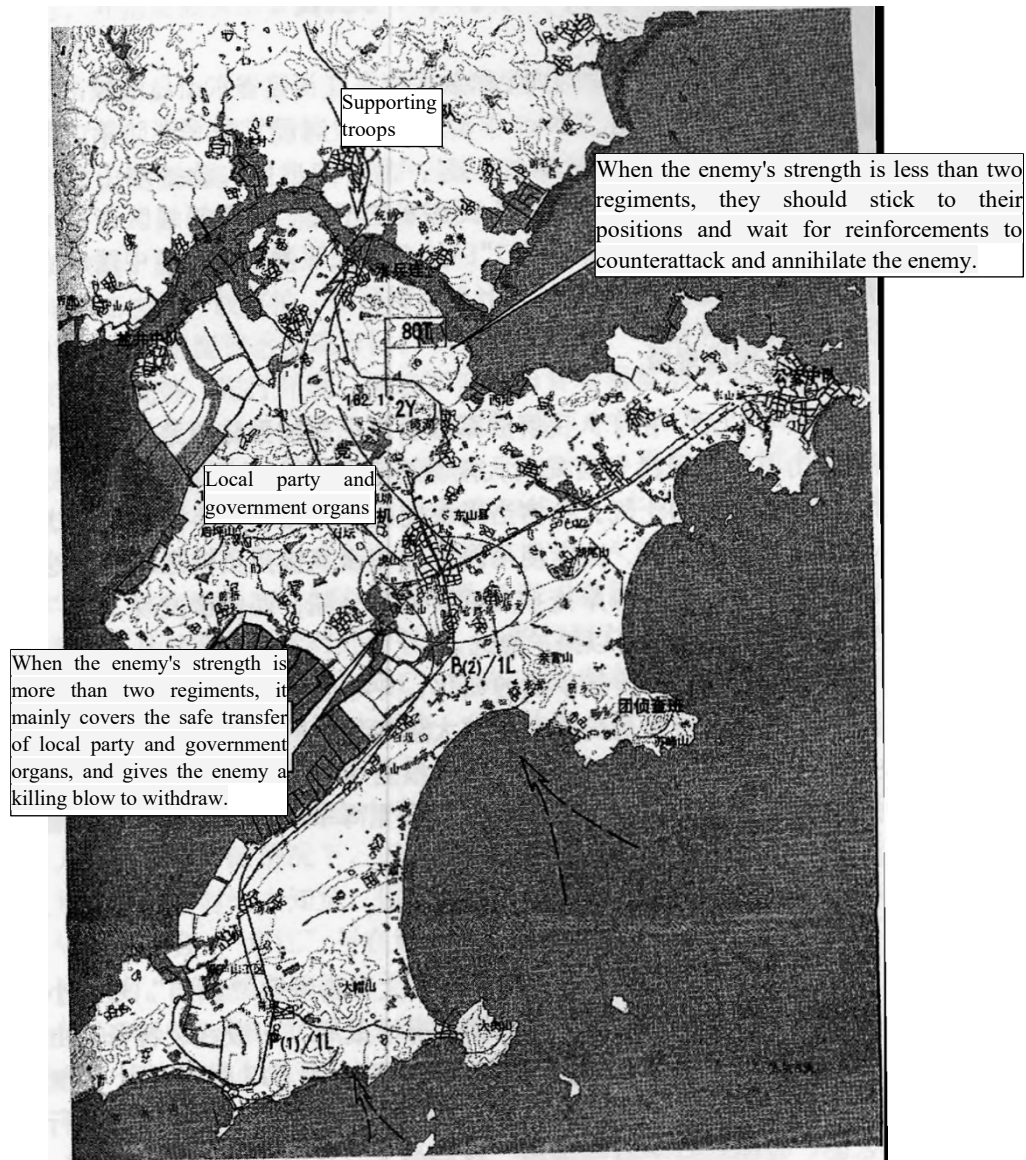
At the cost of casualties and 1,324 missing people, the People's Liberation Army annihilated 3,028 Kuomintang troops, sank 3 small landing craft, shot down 2 aircraft, and captured a large number of weapons, ammunition, and military supplies. The victory in the defense of Dongshan Island thwarted the Kuomintang army's tactic of "making a quick decision with a snack and making a quick decision," and shattered Taiwan's attempt to establish a "counter-offensive mainland" and "bridgehead position."

(3) Major Lessons Learned

In the battle to defend Dongshan Island, when the Kuomintang army, navy, and air force were in complete superiority, our army thwarted its landing attempt with active combat actions, which was a major victory for our army's coastal defense operation. Lessons learned from both sides of the operation have an important enlightening effect on guiding future near-shore island operations. Geographically speaking, on the eve of the offensive, the Kuomintang army blew up the Jiulongjiang Bridge, the only road from Quanzhou to Dongshan Island, and accordingly estimated that it would take at least 3 days for the main force of our army in Quanzhou to reinforce Dongshan. Although the Kuomintang troops sent aircraft to reconnoiter at noon the day before the attack on Dongshan and learned that the Jiulongjiang Bridge had not been repaired, the bridge was repaired at night. At the beginning of the battle, the cars of our reinforcements were unimpeded, and the Jiulongjiang Bridge played a great role. The choice of landing areas by the Kuomintang troops, the scramble for the Bashimen ferry port, the targets and routes of the main forces attacking, the beaches and surrounding points of retreat were all well considered and well organized. In the course of the battle, when the Kuomintang army discovered that most of our reinforcements had entered the island, they were faced with the situation that they could not win the battle and could not be conquered, and immediately decided to retreat in order to avoid a fiasco. During the retreat, the enemy formed two lines of defense at various points and important directions on the periphery of the embarkation point to ensure the safety of the beach. At the same time, we violently blocked our counterattack troops with naval artillery fire. As a result, only a small number of the Kuomintang landing forces were annihilated, and most of them were safely withdrawn from the sea. On the contrary, our defense preparations for Dongshan Island were insufficient, and the combat plan was not perfect. After judging the enemy's attempt to land on Dongshan Island, although the Fujian Military Region made up its mind to use mobile units for the campaign to rapidly reinforce, due to temporary preparations, a large number of units, long-distance maneuvers, and the phenomenon of congested roads and chaotic crossings in many places during the march, which had a greater impact on the reinforcement operation. Taking full advantage of the exposure of the enemy's airborne targets, unfamiliar situation, and spreading confusion in Yamato formation, our military and people made concerted efforts and fought side by side, disrupting the offensive attempts of the enemy's airborne troops. Due to the large area of the enemy's airborne dispersion, the long time of disturbance, the dispersion of forces, and the unfamiliar terrain, the enemy's nearly 500 elite airborne troops were unable to capture the position of the Eight-Foot Gate Ferry Station held by 50 sailors of ours.

Knowing that the eight-foot gate paratroopers had lost their hands, Hu Lian realized that the defeat at the Battle of Dongshan had been decided.

Fig. 12-4 Determination map of battle to defend Dongshan Island



6. THE NAVAL BATTLE OF "EIGHTY-SIX"

The "1986" naval battle was a battle in which the Chinese People's Liberation Army Navy sank a Kuomintang naval warship in the waters off Dongshan Island in Fujian Province. On August 5, 1965, the Kuomintang Navy patrolled the submarine-hunting ships "Jianmen" and "Zhangjiang" of the Second Fleet, sailing from Hewan to the waters of Dongshan Island in an attempt to send special agents to land and harass. The formation of the people's navy escort boat and torpedo boat attacked that night, and at dawn on the 6th, it sank the "Jianmen" and "Zhangjiang" successively. This was the largest naval annihilation war since the founding of New China.

(1) Operational Background

After 1965, as the People's Liberation Army and coastal militia strengthened their precautions and constantly carried out effective blows, it became increasingly difficult for the Kuomintang authorities in Taiwan to dispatch armed agents to the mainland. In order to boost their internal morale, the Taiwan authorities decided to change the original method of using small boats to transport small groups of armed agents, and decided to use naval combat boats to directly undertake the task of transportation. This allows quick access to the mainland coast to cover the landing of its armed agents, and even if it is discovered, ships with a certain naval combat capability can also cover the evacuation.

In view of the changes in the means of attack and harassment by the Kuomintang authorities, and taking into account the situation of the struggle on both sides of the Taiwan Strait and in the international community as a whole, especially the new situation of the expanding Vietnam War in the United States, the Central Military Commission decided to deal an appropriate blow to the Kuomintang army in Taiwan. In accordance with the spirit of the instructions of the Central Military Commission, the South China Sea Fleet of the People's Liberation Army (PLA) carried out an annihilating blow on two submarine-hunting ships of the Kuomintang Navy's Patrol Second Fleet that transported armed agents on August 6, 1965.

(2) Operation History

At 5 o'clock on August 5, 1965, the Kuomintang Navy's large submarine hunting ship "Jianmen" and the small submarine hunting ship "Zhangjiang" carried an armed secret agent from Taiwan's "Intelligence Bureau of the Ministry of National Defense" and set sail covertly from Taiwan's Zuoying Port in an attempt to land and dive inward along the coast of southern Fujian. At 17:45, the two ships arrived at the southeast sea of Dongshan Island. On the basis of the relevant circulars, the South China Sea Fleet of the People's Liberation Army (PLA) promptly determined the enemy's operational intentions, immediately formulated a plan for attacking the near shore, coordinating assaults, and breaking through each of them, and decided to form a maritime assault formation with 4 escort boats of the 41st Group of Escort Boats and 6 torpedo boats of the 11th Group of Torpedo Boats, with the No. 161 gunboat and 5 torpedo boats of the 11th Group of Speedboats as supporting the troops, and designated Kong Zhaonian, deputy commander of the Shantou Marine Police District, to take the No. 598 frigate to take charge of maritime command.

At 23:10 on the 5th, the General Staff approved the battle plan of the South China Sea Fleet. At this time, "Jianmen" and "Zhangjiang" were located 3.5 nautical miles southeast of Brother Island, driving southwest. The fleet immediately ordered the sea assault formation to attack. Four frigates and 6 torpedo boats, under the guidance of the shore command, advanced to 3.8 nautical miles from the target at 0:40 a.m. on the 6th, but due to a mistake in guidance, the frigates and torpedo boats failed to form a joint interception posture against the formation of the "Jianmen." Kong Zhaonian resolutely decided to abandon the plan of escort and fast coordination and ordered the escort boats to attack at high speed. At 1:42 a.m., the surveillance radar spotted the target. Soon, the "Jianmen" formation relied on the advantage of the long range of its artillery and fired first. The PLA escort boat braved intensive artillery fire to meet the enemy at high speed. Because the commanders and fighters were eager to fight, they misheard the password of "ready to shoot" as "shooting," and each boat successively fired in the direction of the flames of the "Jianmen" formation. Kong Zhaonian gave a timely order to stop this ineffective shooting, until the target outline and mast were clearly seen, and then ordered the boats to open fire at the same time. After two close-fire shots, the Sword Gate fled in a hurry. The four escort boats then clung to the "Zhangjiang." At 2:51 a.m., the fleet approached the "Zhangjiang" and, in the case of homodirectional movement, began to shoot directly from 500 meters apart to 100 meters, and the "Zhangjiang" was shot one after another. After 10 minutes, the "Zhangjiang" rushed to the group at high speed, trying to find a gap to escape. Boats No. 598 and No. 601 quickly rushed up to block the attack. The No. 611 boat slammed the "Zhangjiang" side through its route, was between its own fleet and the target, was mistakenly hit by its own side, and was hit by the "Zhangjiang" again. The boat continued to fight in 17 shots, 3 main engines were damaged, the front cabin was flooded, and nearly half of the casualties were inflicted. Engineer Soldier Mai Xiande was hit in the head by shrapnel and suddenly lost consciousness. After he woke up, with amazing perseverance, he has stubbornly stood by the host. The "Zhangjiang" was wounded by the attack of the PLA fleet and lost the ability to resist. The fleet then organized two more shocks. In order to accelerate the sinking of the "Zhangjiang," each boat directly shot its key parts below the waterline with armor-piercing shells at a distance of 50 to 30 meters, causing the ship to catch fire and explode. At 3:33 a.m., the "Zhangjiang" was buried at the bottom of the sea 24.7 nautical miles southeast of Dongshan Island.

After the "Zhangjiang" was sunk, the "Jianmen" was still hovering in the outer waters. In order to expand the results of the battle, the South China Sea Fleet also ordered the second echelon of 5 torpedo boats No. 119, 120, 121, 122, and 136 to surrender to the battle and ordered the 3 frigates and gunboat No. 161, which were already on the battlefield, to immediately pursue the "Sword Gate".

At 4:40, three frigates were forced to 6 nautical miles away from the "Jianmen," the "Jianmen" ship blocked and fired. The convoy maneuvered against artillery fire while continuing to approach the target. At 5:10 a.m., when the target was 7 to 5 chains away, 3 frigates concentrated their fire and slammed into suppressing the fire of the "Jianmen." Four minutes later, the "Sword Gate" was hit and caught fire. At 5:19 a.m., a group of torpedo boats arriving at high speed occupied the firing position, firing 10 torpedoes in a row, hitting 3 of them. At 5:22, the ship Jianmen sank 38 nautical miles southeast of Dongshan Island.

This naval battle was the largest naval annihilation battle since the founding of New China, sinking 2 warships of the Kuomintang Navy in one fell swoop, killing more than 170 people under Rear Admiral Hu Jiaheng of the 2nd Patrol Fleet of the Kuomintang Navy, and capturing the "Sword Gate" Lieutenant Colonel Wang Yunshan was under 33 men. The PLA killed 4 people and wounded 28 people, and damaged 2 frigates and 2 torpedo boats. After the war, the Ministry of National Defense issued a general order commending the troops involved in the battle and awarding Mai Xian the title of "Hero of Battle." The People's Liberation Army Navy awarded the No. 611 frigate and the No. 119 torpedo boat "Hero Boat at Sea" and "Hero Speedboat" Title. On August 17, Mao Zedong, Liu Shaoqi, Zhou Enlai, Deng Xiaoping, and other party and state leaders received representatives of the troops participating in the war.

(3) Major Lessons Learned

The "Eighty-Six" naval battle was a typical battle in which close-quarters, night combat, and group warfare were fought, in which small boats fought against large ships and struck large ships with small blows, which dealt a heavy blow to the Kuomintang Navy's activities of transporting armed agents to harass the mainland's coast. The PLA used night combat, coupled with the speed of the various escort boats, the accuracy of the artillery fire of the Nationalist Navy was poor, which effectively reduced our casualties. At the same time, taking into account the long range of the enemy ship's guns, the PLA escort boats approached the target, and when they saw the outline and mast of the Kuomintang naval warships in the night, they were ordered to gather fire and shoot, effectively reducing the enemy's equipment superiority. At about 3 o'clock on August 6, the People's Liberation Army Navy approached the "Zhangjiang" only 500 meters after the frigate approached. It was fired continuously by dense, small-caliber rapid-fire guns until they were only 100 metres apart. Although there was a danger of collision and accidental attack in the night, the four escort boats of the People's Liberation Army still clung to the "Zhangjiang" and destroyed all the artillery on its deck with rapid-fire guns, making the ship lose its ability to resist. Under the circumstance that the caliber of the frigate artillery was small and it was difficult to sink it quickly, the PLA Navy frigate adopted a method of warfare rarely seen in the history of world naval warfare, approaching the "Zhangjiang" only 30 to 50 meters, and firing continuously at the key parts below its waterline with armor-piercing shells." The Zhangjiang then entered the water, and an explosion occurred inside the ship, which was very gray and sank.

In order to expand the results of the battle, the PLA fleet calmly and tactfully carried out a tortuous maneuver of counter-artillery fire, and took advantage of the fact that the enemy's artillery shooting was still inaccurate in the sky, and rushed all the way to a distance of only about 1,000 meters from the "Jianmen." After dawn, the aviation unit was dispatched to cover the smooth return of the naval fleet. Since it was night combat and close combat, our army also had the problem of mistakes. At 0:40 on the 6th, it reached 3.8 nautical miles from the target, but due to a mistake in guidance, the escort boat and torpedo boat failed to form a joint attack posture against the "Jianmen" formation, and lost an opportunity for the enemy. At 1:42 a.m., the surveillance radar spotted the target. Because the commanders and fighters were eager to fight and misheard the password of "ready to shoot" as "shooting," each boat fired in the direction of the fire of the "Jianmen" formation, which not only did not have enough range and wasted ammunition, but also exposed the number and position of our ships. When the No. 611 boat slammed the "Zhangjiang," it crossed its course, was between its own fleet and the target, and was mistakenly hit by its own side.

THOUGHT QUESTIONS:

1. How should we understand the important role played by Zheng Chenggong and Shi Lang in paying attention to the use of military geography in the operation to recover Taiwan?
2. What are some of the military geography lessons worth seriously summarizing from the Battle of Kinmen?

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POSTSCRIPT

The "Course on Military Geography in the Taiwan Strait" is a newly compiled textbook in the plan for the preparation of postgraduate textbooks of the Academy of Military Sciences, and has been compiled under the unified leadership of the Postgraduate Textbook Compilation and Review Committee of the Academy of Military Sciences. The course is edited by Bai Guangwei and Li Bo as deputy editor- and co-written by Bai Guangwei (Lecture 1), Li Bo (Lecture 2, Lecture 4-11), Ren Guozheng (Lecture 12), and Zhang Lu (part of Lecture 3), Song Minghai (part of Lecture 3, proofreading), Bai Guangzhen and Li Bo made the final draft of the tutorial.

In the process of writing this course, it mainly refers to authoritative monographs, maps and other documents on military geography and Taiwan on military geography and the geography of the Taiwan Strait. We list the bibliography at the end of the book and thank the authors of these documents. Experts such as Cha Jinlu, Li Dajun, Huang Ping, Gao Xiang, and Ding Wei put forward valuable suggestions for revising the preparation of the tutorial, and hereby thank you.

In view of the limitations of information and capabilities, as the first postgraduate course specializing in the study of military geography in the Taiwan Strait, there are inevitably deficiencies in the book, and we sincerely invite you to criticize and correct them.

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TAIHAI JUNSHI DILI JIAOCHENG