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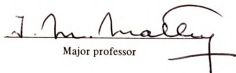
THE CHANGING ROLE OF POLITICAL CONDITIONS
IN THE ECONOMIC DEVELOPMENT OF TWO CHINESE REGIONS:
HAI-NAN AND T'AI-WAN, 1895-1975

presented by

Donald Leonard Batkins

has been accepted towards fulfillment
of the requirements for

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Major professor

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1895-1975

Michigan State University

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1979

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IN THE ECONOMIC DEVELOPMENT OF TWO CHINESE REGIONS:
HAI-NAN AND T'AI-WAN, 1895-1975

By

Donald Leonard Batkins

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ABSTRACT

THE CHANGING ROLE OF POLITICAL CONDITIONS IN THE ECONOMIC DEVELOPMENT OF TWO CHINESE REGIONS: HAI-NAN AND T'AI-WAN, 1895-1975

By

Donald Leonard Batkins

The purpose of this study was to determine why two similar geographical regions experienced different economic conditions. A review of development theory revealed that social and political variables are considered the most important factors in determining a region's economic growth. Since the study selected two regions with similar cultural backgrounds, this research focused on the effects of political conditions on development. It was hypothesized that political conditions, as reflected in development policies and administration of government, are the major factors in changing a region's development pattern.

Hai-nan and T'ai-wan, two Chinese islands with very similar geographical and cultural features, were selected as study sites. The study covers the years 1895 to 1975, a period when both islands experienced a variety of political and economic conditions. Data collected from a wide range of sources were analyzed by use of the comparative method which, in this research, organizes data into a geographical matrix. This organization and classification system greatly simplifies and strengthens the research by providing a framework from which to analyze the data.

The data showed that Hai-nan experienced little development during the years 1895-1939 and 1945-1949, and that Hai-nan's economy expanded during the years 1939-1945 and 1949-1975. During each of these periods Hai-nan's economy was based on the exploitation of natural resources. The island's meager industry was also primarily focused on the processing of natural resources. It was clear from the data that while the level of Hai-nan's economy changed over the years, the development pattern was much the same throughout the study period.

T'ai-wan, like Hai-nan, experienced several years with little growth (1945-1949), and two periods of considerable development (1895-1945 and 1949-1975). Unlike Hai-nan, T'ai-wan's economy did not follow the same trends throughout the study period. Before 1949, the island's economy was based on the exploitation of natural resources, especially agricultural, but after 1949 the economy continued to shift toward manufacturing. Unlike Hai-nan, both the pattern and level of T'ai-wan's economy changed over the study years.

Analysis of the data clearly showed that policies and administration of government led to changes in development levels and patterns on the islands. Thus the hypothesis was accepted. While the degree to which government was involved in economic matters was tied to ideology, this alone did not explain certain major changes in economic policies. For example, it did not appear that the economic policies followed on T'ai-wan after the mid-1960's were based on Sun Yat-sen's ideology. However, all policies reviewed in this study produced development, provided that they were properly carried out (i.e. administered). Thus, effective and efficient administration appears to be a major prerequisite for development regardless of ideology. The analysis further suggests that, for T'ai-wan,

it was a change in the situational characteristics brought about by "independence," rather than ideology, which caused a major shift in that government's economic policies.

This study reinforces development theory (e.g. Fairbank, Eckstein, and Yang) which contends that political variables are important factors in economic development. It appears desirable, however, to further examine the impact which changing situational variables have on development. Geographers have a major role to play in this area since most, if not all, situational variables have spatial characteristics and are thus geographical phenomena.

To Linda

PREFACE

This study was a result of discussion between myself and my adviser, Jack Williams. Professor Williams suggested that since I had an interest in regional development and China, an analysis of development on T'ai-wan and Hai-nan since 1895 would be a natural choice of topic. The challenge was to find sufficient data on Hai-nan, a region little studied in the West, so as to adequately analyze its economy. There was already considerable data about T'ai-wan's economy available. At times the search was frustrating; statistical data were often unavailable and descriptive data were difficult to locate. Nevertheless, perseverance and a lot of hard work finally brought this study to a successful conclusion.

The help of Dr. Ian Matley, who acted as committee chairperson while Jack Williams was in T'ai-wan, was indispensable. My other committee members, Dr.'s Walter Gourlay and Lawrence Sommers were also most helpful, especially in the final stages of the dissertation. The unnamed members of the Interlibrary Loan staff at Michigan State University (MSU) Library, who so efficiently processed my many loan requests, deserve special praise.

New materials are constantly being published, and researchers know that they must draw a line someplace. Unfortunately, my limit preceded the publication of a major work on T'ai-wan's economic history, Samuel P. S. Ho's book, Economic Development of T'ai-wan, 1860-1970,

(Yale University Press, 1978). For those who desire a more detailed review of certain aspects of T'ai-wan's development (in particular, the U.S. aid period and its effect on T'ai-wan's growth), Dr. Ho's book is well worth consulting.

Finally, I wish to thank my wife, Linda, who put up with me when things did not go well. She never gave up hope that this project would eventually end successfully.

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LIST OF ABBREVIATIONS

CNA	Chinese News Analysis
JPRS	Joint Publications Research Service
NCRRS	News from Chinese Regional Radio Stations
SCMM	Survey of China Mainland Magazines
SCMP	Survey of China Mainland Press
SPRCP	Survey of Peoples Republic of China Press

CHAPTER I.

INTRODUCTION

The world is divided into numerous economic systems. At the extreme macro level socialism and capitalism are two such systems. While the spatial dimensions of these economic systems vary depending on the level of generalization, most political states, and therefore geographical regions, have an economic system which is identifiable with either capitalist or socialist economic principles. However, economic systems are not the only economic phenomena which have a geographical dimension. Regional economic development is by definition a geographical phenomena. Since the term "region" means a geographical area defined by the same criteria, "regional economic development" therefore simply means that the criteria used is economic development.

The major underlying fact about regional development is that the world is not made up of areas which have similar levels of economic development. While it is easy to understand why there is little agriculture in the Sahara Desert and why no one grows cotton commercially in northeastern Minnesota, it is difficult to come to grips with the question of why similarly endowed regions have such different development patterns and, conversely, why dissimilar regions can have similar developmental patterns.

The Research Base

Traditionally the natural resources base has been used to explain developmental differences, but more recently researchers (e.g. Ginsburg, Schultz, and Adler), have downplayed the deterministic effect of resources in development theory.¹ Ginsburg, for example, claims that resources are important and give a region a developmental advantage although they possess no deterministic value. Additionally, he feels that resources need not necessarily be found in a region, but that they must be easily accessible for growth to take place. In Adler's argument, resources are co-determinants which speed economic development by permitting the expansion of exports, thus causing infusions of capital. A good example of this in the current world is the oil exporting nations. Along the same line, Schultz points out that in a relative sense resources decline in importance as development increases.

Ginsburg contends that resources need not be located in a given region for them to influence the region's development. Perloff and Wingo's work uses the same logic while presenting the theory that "relative economic growth of a region is directly related to its relative advantage in the production of goods and services for the national market: these may result from resource endowment on the one hand, or from a favorable degree of access to the national markets on the other--more generally from a combination of the two."² In this case relative advantage of a region means that it has some combination of efficient transportation, cheap or skilled labor, low taxes, and other goods that other regions lack. Once a region has an advantage over others, it is easy to understand why it would also have more development.

This concept of regional advantage is used to explain developmental differences between regions. As Schultz points out, natural resources decline in importance as a region's economy grows, however, according to Myrdal, the region is able to maintain its developmental advantage over time since development carries with it a cumulative effect.³ This results in a condition where development improves regional advantage, which increases development, which in turn improves regional advantage.

While regional advantage appears important in explaining development, it does not answer all the questions. For example, how is Japan's recent development explained, or China's relative lack of it during the late nineteenth and early twentieth centuries? It appears that in part Japan had a regional advantage which could explain its development. In a world economy, Japan's ability to use ocean transportation was certainly advantageous. However, in the area of natural resources, Japan was woefully lacking. Even though Japan had access to such resources by use of ocean transportation, these costs reduced her regional advantage. Moreover, the theory of cumulative effect should have worked against Japanese development since many European states were well ahead of Japan in the nineteenth century, but today the opposite is true.

China's case is different and much more complicated. Here a large nation-state with numerous regions containing large amounts of natural resources experienced little development. Even those regions which theoretically had a regional advantage in a national economy experienced little or no development.

Up to now few, if any, social-political variables have been cited in development theory. The apparent limitations of theory which does not consider these inputs has spawned considerable research seeking to define theory which contains numerous social and political variables. For example, Hagen claims that economic growth is the result of an "accelerating cumulation of scientific and technical knowledge" and the accumulation of this knowledge is a result of social variables.⁴ He states that early scientific or technical advances occur more or less randomly and that the growth of such knowledge and its cumulative effect is quite slow. But he goes on to say that at some point a social group, not necessarily in government, works to remove the barriers to acceptance of these new ideas. Kristensen also stresses the value of technical knowledge but stops short of Hagen's broad generalizations about the influence of social factors on the evolution of technology.⁵ By accepting the idea that social groups promote development, directly as Hagen claims, or indirectly, as Kristensen does, the question arises as to the role of the state. This is especially true in places where the state controls social activity, but it is also a concern in societies where the state reflects society. William Lockwood's study of Japan looks at the relationships between development, the state, and social groups.⁶ While he claims that the real drive and momentum for the development of Japan lay outside of state activity, it nevertheless set a "favorable psychic milieu."⁷ His arguments are less than convincing since he points out that it was the state which opened the country to new ideas, and spurred initiative by building transportation and communication systems. Obviously while the Japanese state was not socialist it was nevertheless involved

in development, though it certainly was influenced by social groups promoting Japan's development.

All the research cited up to now has dealt with development in a positive sense. Those factors inhibiting development have only been implied. Thus it is important to cite Fairbank, Eckstein, and Yang's claim that it was the political arrangements in China which hindered that country's modernization during the late nineteenth and early twentieth centuries. The authors maintain that the "Chinese state failed to provide certain minimum pre-conditions essential to economic growth outside of the treaty ports."⁸ For example they cite the fact that government in China during these years was unable to provide peace and order, a unified monetary standard, stable administration, and a uniform system of weights, among other things. Additionally, only a minimal system of education, transportation, and communication was maintained. The authors maintain that in not providing these minimum necessities the Chinese government was a major hindrance to development.

Statement of the Problem

Based on the cited research, there are two major areas of theory about regional development. The first centers on regional advantage, which in turn focuses on natural resources and regional location. The second revolves around various social and political conditions existing in a region.

A review of the literature clearly indicates that social and political theories about regional development are more widely accepted today than are those which ignore social and political conditions. That is not to say that ideas about regional advantage have been abandoned,

rather, these theories now encompass social and political factors. Since social and political variables are so important to development theory it is necessary to better understand how they influence development. Lockwood's study of Japan showed how social and political variables were interrelated to each other and Japanese development. Similarly, in the case of China, Fairbank, Eckstein, and Yang point out that social conditions were reflected in the Chinese government's inability to provide necessary leadership, while in both cases political conditions reflected certain social attitudes which either aided or hindered development. The important point is that political conditions were directly related to development.

By accepting the theoretical premise that political conditions are reflected in development, one is confronted with a number of questions. For example, if political conditions change, will development change; do similar types of political conditions spawn like development; and do political conditions influence regional advantage? Theoretically, if political conditions are reflected in development, then as they change through time, so too should development. In a sense Lockwood's study reflects this idea since the government of Meiji Japan differed from that of the Tokagawa; however, it was not a major premise of the study. The same is even more true with the work of Fairbank, Eckstein, and Yang, since they never discussed the post-1911 years in China, and thus did not deal with the Nationalist or Communist periods which saw major political change. Therefore, it seems that a study which looks at changing political conditions and their effect on development would provide useful input into development theory.

The Hypothesis

Since theory predicts that changing political conditions will affect a region's development and may influence regional advantage, it is therefore necessary to construct a hypothesis, select a study site, and then test the hypothesis. One problem is how to measure political conditions. From a practical point of view, it seems that political conditions are reflected in the development policies and administration of government. An example of such a situation is when political conditions in China were directly reflected in governmental policies of the Great Leap Forward, which in turn had such a major impact on Chinese development. By definition a socialist government's policies would naturally have an impact on development, but based on the Japanese example it appears that the policies of a non-socialist government can also have a tremendous impact on development. Therefore, it is hypothesized that political conditions, as reflected in development policies and administration of government, are the major factors in changing a region's development patterns.

The Study Site

The logical place to test the hypothesis is a region which has experienced a wide range of political conditions and has had varying development patterns. There are a great many such sites in the world, especially in Africa and Asia. By selecting sites which are not only similarly endowed but which have also experienced similar as well as differing political conditions, the study can not only determine whether changes in political conditions are a major factor in changing a region's development patterns, but it can also determine whether analogous political conditions produce comparable economic

development in two similar regions. Two regions which fit this study's requirements are the Chinese islands of Hai-nan and T'ai-wan. These islands not only have very similar physical and cultural characteristics, but prior to 1895, they also experienced analogous political conditions. However, after that date, and right up to the present time, both islands have experienced differing political and economic situations. Thus these two islands make ideal sites for the study.

Methodology

Hai-nan and T'ai-wan were selected as study sites and the data for the research was gathered from a wide range of sources. Information about T'ai-wan was readily available, since that island's development history has been well documented and there is considerable published data regarding more recent events. A sample of the sources consulted for information on T'ai-wan includes Davidson's comprehensive survey of the island done at the beginning of the Japanese period, Barclay's book on the colonial years, Lin's research on the post-war times, and T'ai-wan's Sixth Four Year Plan. These and similar sources provided the basic data from which T'ai-wan's economic and political geography of the past 80 years was analyzed.

Data on Hai-nan was more difficult to acquire, since there is little published research about the island. However, there is a considerable amount of information available from a wide range of sources which, when assembled in one place, provides a good overview of Hai-nan's economic and political geography. For example, for the years 1895 to 1941, the Chinese Maritime Customs reports provide both statistical and other information. This period of time also produced

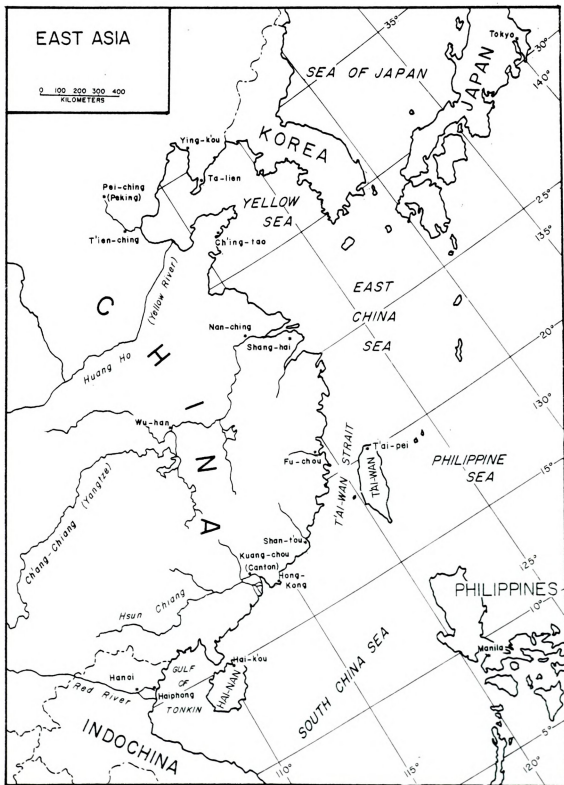


Figure 1. EAST ASIA

a number of articles about Hai-nan which are of value in determining conditions on the island. American intelligence and consular sources provide the bulk of the data for the more recent period.

While T'ai-wan's source material contains considerable amounts of statistical data, that on Hai-nan is very incomplete. For example, the Chinese Maritime Customs reports for the years 1895 to 1933 contain a mass of statistical information about Hai-nan's exports and imports. However, after 1933, little statistical information about Hai-nan can be found. Because of the lack of consistent statistical material for both islands a statistical analysis cannot be used in this research.

As the collection of data continued it became clear that a certain amount of generalization and interpretation was necessary and that a macro level analysis was appropriate for this study. Handling the data at the regional level rather than at the hsien or lower level results in certain detail being lost, but since the study is concerned with the relationship of political change to development and since each island has experienced the same political conditions throughout its area, a regional level analysis is deemed sufficient.

The Comparative Method

This study deals with two regions and the relationship of political change to development over the past 80 years. Such a study is comparative in nature and, as Hartshorne points out, such an approach is not new to geography.⁹ Hartshorne briefly describes how the comparative method is used in regional geography but his discussion does not provide information on how to incorporate time into the method.¹⁰ The method as used in this context allows one to

compare two or more regions, or several parts of a single region, to each other during a set time period. But because change over time is a major part of this study, a simple comparison of the two islands' present political and economic geographies will not suffice. Since the present is a direct result of the culmination of past political and economic situations, the comparative method as outlined by Hartshorne is not entirely suitable for this study, rather it is necessary to include an historical analysis of development trends. Hartshorne's explanation of the comparative method in historical geography allows the researcher to better understand relationships between historical events and geographical distributions.¹¹ In this context, the technique, as described, requires that the researcher focus on a single region and construct "geographies" of it for several time periods which are then compared. Since this study deals with two regions, the technique as used by historical geographers will not work here. Unfortunately, neither of these explanations provides a proper methodological and organizational framework upon which to proceed with this study. Therefore, a search was undertaken to find a methodology, comparative in nature, which would fit the needs of this study.

On the surface, such a search seemed easy for geographical literature abounds with comparative work. However, as soon as a review of the literature got underway, it became apparent that the task was more difficult than anticipated. For example, Murphey's book on India and China is comparative, but nowhere in it does he describe the methodology he followed,¹² and the same holds true for an earlier work he did on western Chinese cities.¹³ Lowenthal's

study of four American cities is titled as a comparative analysis.¹⁴ While he goes to great lengths to justify his study and analyzes his data, he spends no time describing his methodology. Along the same lines, King's study of urban growth patterns in Ontario and Quebec, while not comparative in title, was comparative in fact.¹⁵ Although he says "there remains a great deal to be learned about the comparative structure of these provincial urban systems," he never claims that he is following a comparative methodology.¹⁶ Other examples include Proudfoot's study of Britain and the United States in the Caribbean,¹⁷ Lewthwaite's study on Wisconsin and Waikato dairying,¹⁸ Ward's comparison of streetcar suburbs of Boston and Leeds,¹⁹ Hoffman's study of Romania, Yugoslavia, and Greece,²⁰ and Barbour's article on north and south Sudan.²¹ All of these works have one thing in common--they all compare and they all neglect to mention a comparative methodology. More importantly, none of the authors ever defines or justifies the methodology used for the study.

Since the comparative method has received such widespread use, even though it has not been well described by those using it, it must have some basic methodological underpinnings. However, a review of geographical methodological literature gives little insight into the comparative method. Recent books on methodology by Amedeo and Gollidge,²² Chisholm,²³ Minshull,²⁴ and Harvey²⁵ contain no reference to the comparative method. Daly²⁶ refers to doing things comparatively, but does not mention a comparative methodology. Beaujeu-Garnier defines the comparative method as "a system for classification and explanation of spatially dispersed phenomena of the same order (cuesta relief, textile industries, urban regions, transcontinental railway

networks . . .)" but she never expands beyond that definition.²⁷ Similarly, Mikesell says that "the aim of comparative studies is to build a foundation for generalization that extends beyond the particular conditions found in a given area at a given time," but he too does not describe how the method works.²⁸ In fact there appears to be no recent geographical source, except Hartshorne, which both defines and explicitly describes the comparative method.

While it appears that geographers may not have written much in this area, writers in other disciplines have published materials dealing with the comparative method. For example, Eckstein²⁹ and Prybyla³⁰ have both edited books on comparison in economics, while Holt and Turner,³¹ Ashford,³² and Scarrow³³ have produced similar works in political science. In sociology and anthropology, one can find works by Nadel³⁴ and Murdock³⁵ which deal with the topic of comparative analysis. No matter which of these sources one consults, there is a considerable similarity between them. First, the bulk of the sources deal with the problems encountered in the classification of systems. Classification is important, since no matter what the discipline, comparative analysis depends on the classification of things into groups, with the resultant groups being used in a comparative analysis. The second similarity between the reviewed sources is that they never present a design for a framework upon which to do the comparative analysis. The texts implied that given a good classification system, the analysis would, by default, be good. Perhaps the reason for this lack of an analysis framework is that frequently a quantitative analysis is implied for the comparison and thus the authors find no need to explain any further. However, none of the

sources rule out descriptive comparative analysis, they just neglect to provide an outline for such a methodology.

One source comes close to providing the necessary framework for a descriptive comparative analysis. An article by Apter³⁶ on the comparative method in the study of politics graphically presents an idea on stratification of data which results in a matrix. While Apter's interest focuses on sociological studies of politics, his ideas about organization relate very closely to those presented by Berry.³⁷ Berry's conceptualization of a geographic matrix is designed to help isolate regional characteristics, but it also could be used in comparative analysis. First the matrix provides a classification scheme, a major prerequisite of comparative studies. But the matrix also forms a convenient organizational framework for analysis, since once the data is classified into cells one can easily compare the information in one cell to that in another cell of the same type. Figure 2 presents this idea as it would apply to a regional historical study of a comparative nature, which deals with the systemic topic of regional development.

For this study material about the islands of T'ai-wan and Hai-nan has been divided into a number of time periods, similar to those shown in Figure 2. Likewise, the economic, social, and political data have also been classified to fit the logic of the matrix. Since the study focuses on changing economic and political conditions, it is necessary to establish a base point from which both economic and political change can be measured. The base point for this study is the political and economic geography of Hai-nan and T'ai-wan in 1895. Then for each island the eighty years following 1895 are divided into

REGION THREE			
REGION TWO			
REGION ONE			
CHARACTERISTIC	TIME		PERIOD
	FIRST	SECOND	THIRD
ECONOMIC			
AGRICULTURE			
INDUSTRY			
INFRASTRUCTURE			
OTHER			
POLITICAL			
IDEOLOGY			
POLICIES			
ADMINISTRATIVE			
OTHER			

Figure 2. A COMPARATIVE ANALYSIS MATRIX FOR POLITICAL AND ECONOMIC VARIABLES

periods of time which correspond to political situations. In T'ai-wan's case this produces four and in Hai-nan's case, five separate periods for analysis. These analysis periods are then handled in the following fashion: the base point (1895) becomes the starting place, or a place from which all things can be measured. This then allows for a sequential description of all political and economic deviations which occurred after the zero point. The same base point was not used to analyze all the study's periods, it was only used for the first period with each succeeding period becoming the base line for the following period. By using this technique the political and economic geography for each period can be constructed and analysis of the relationships between political changes and economic development based on changes from the previous period is possible.

Because the political situations on each island did not coincide, each island was analyzed separately. However, that analysis was not sufficient to make a decision about the hypothesis. Therefore, a final section compares periods with similar political or economic conditions with the intention of isolating political conditions which are basic for certain types of development. The hypothesis is that similar political conditions should produce analogous economic development in the two islands. It is also believed that this approach better separates developmental tactics from policies, thereby providing more insight into what determines development patterns. This is important since it appears that differing tactics can produce similar development providing that analogous geographical conditions exist.

Organization of the Study

As was shown in the previous discussion, Hai-nan and T'ai-wan make suitable sites for this study. Because of their similarities the complexity of the analysis is greatly reduced, while the few differences, if anything, enhance the analysis. For example, the fact that both islands experienced the rule of the same political systems and governments, although at different times, allows for a more complete analysis of the hypothesis.

All that has been said up to this point refers to an analysis over time and this requires that the study be assigned a specific time frame. 1895 was chosen as the date to commence analysis as it marks the year T'ai-wan ceased to be a part of the Chinese Empire and became a colony of the Empire of Japan. From that date T'ai-wan and Hai-nan no longer had a sequential commonality of government. The study thus begins with the year 1895 and ends in the mid 1970's.

The study is divided into five chapters. The first is the Introduction. Chapter II provides the control point and describes the state of development on the islands in 1895. Chapters III and IV are concerned with analyzing the development of Hai-nan and T'ai-wan after 1895. Each of these chapters is subdivided into historical time periods which coincide with major political events. The chapter on T'ai-wan is divided into three subsections: (1) the Japanese occupation; (2) the years immediately after the second Sino-Japanese War; and (3) the period after 1949, when T'ai-wan became the Republic of China. The chapter on Hai-nan is divided into four sub-sections: (1) the first covers the last years of the Chinese Empire and includes the period from the end of the Ch'ing Dynasty (1911) to the start

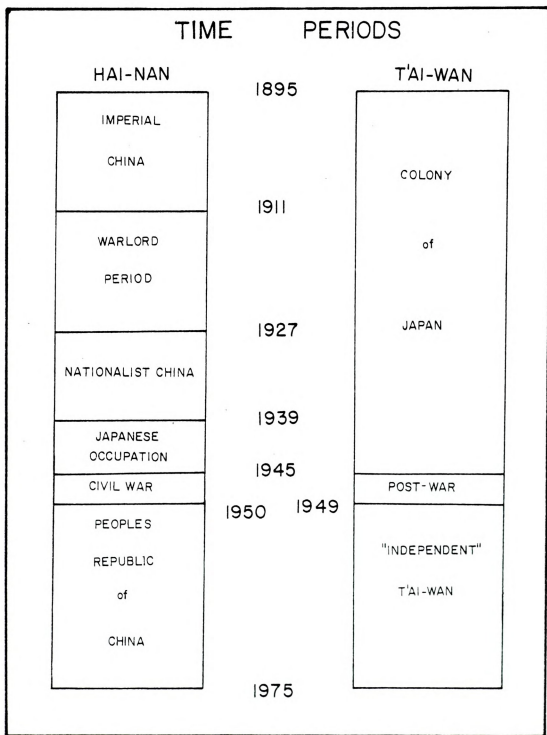


Figure 3. TIME PERIODS

of the second Sino-Japanese War (1939); (2) and (3) cover the years of the Japanese occupation and return of Hai-nan to the Republic of China after the war, and the final period (4) covers the years since 1950. Chapter V is the Summary and Conclusion.

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CHAPTER II.

A REVIEW OF CONDITIONS ON HAI-NAN AND T'AI-WAN PRIOR TO 1895

Introduction

Historically, Chinese control dates back much further for Hai-nan than it does for T'ai-wan. Chinese administration of Hai-nan began in 111 B.C., when the Han Dynasty gained control over parts of the island. T'ai-wan's relations with China go back only to the T'ang Dynasty, although T'ai-wan was not under Chinese administration until the Manchu Dynasty. Up until the 1880's, both islands were governed as part of larger provinces, Hai-nan was part of Kuang-tung and T'ai-wan was part of Fu-chien Province. In 1887, T'ai-wan became a separate province.

Both islands experienced numerous foreign contacts prior to 1895. during the last years of the Ming Dynasty Japanese pirates used T'ai-wan as a base from which to raid coastal China. Later in the seventeenth century the Spanish and Dutch fought for control of the island, resulting in Dutch control for about 20 years. The Dutch were expelled in 1662 by Ming Dynasty loyalists who fled the mainland from the invading Manchus. From that time until 1895 T'ai-wan was under Chinese control. Hai-nan's foreign contacts were much less dramatic than T'ai-wan's. The earliest reported European contact was through a Jesuit mission established on the island in 1630. This mission was abandoned after the founding of the Ch'ing Dynasty

and was not reestablished for over 200 years. Since Hai-nan was near the European trade routes to China, there was interest in the island from an early date. The French in particular were interested and in 1884 threatened to invade the island. However, nothing happened and Hai-nan remained Chinese.

The year 1895 marked a major turning point in modern Chinese history, with the signing of the Treaty of Shimonoseki which ended the first Sino-Japanese War. Through the treaty China was forced for the first time in recent history to transfer sovereignty of a Chinese province to a foreign power. The province, of course, was T'ai-wan, and for the purposes of this study the year 1895 marks the divergence of T'ai-wan and Hai-nan. T'ai-wan began a fifty-year period as a colonial appendage of Japan, while Hai-nan remained a part of China and experienced, to a varying degree, all the turmoil that was part of Chinese history for the next fifty years. These events, coupled with change in the development patterns of the two islands, make the year 1895 an ideal point to begin this study.

Physical Characteristics of the Islands

In terms of physical geography, both islands are remarkably similar. Hai-nan is a large island off the southern coast of China, separated from the mainland by a narrow (24 kilometer) strait of water. T'ai-wan is also a large island, located off the southeastern coast of China, separated by a 99 kilometer strait of water. Historically, neither of the two straits has been a major barrier to travel between the islands and the mainland.

The islands contain almost the same land area, with T'ai-wan covering 35,880 square kilometers while Hai-nan contains about 34,000

square kilometers of land. The bulk of the land on each island is either mountainous or hilly.

On Hai-nan the mountains are located in the southwestern part of the island and run northeast to southwest. The Wu-chih shan constitutes the heart of the mountainous area reaching a maximum elevation of 1,879 meters; most of the other mountains have relatively low elevations, ranging from 500 meters to 1,000 meters.¹ The mountains split the island into a northern low level and southern mountainous area.

In contrast to the mountains of the south, the low areas of the north contain Hai-nan's rolling hills and plains. The northern and eastern parts of the island consist of relatively low sandy plains, while the west coast contains savanna and desert steppes. Most of the island's agricultural activity occurs in this northern low level area, but whatever advantages the low areas have, the mountains are nevertheless the dominant physical feature of the island--they cover the largest land area and have a significant influence over the island's weather, which in turn affects the agricultural regions of the north. Hai-nan is located in a monsoon region with the mountains acting as a barrier for the monsoons coming from the south thus depriving the north and especially the western parts of the island of the full benefits of the rains.

In T'ai-wan, the plains lie mostly on the western side of the island with the mountains rising toward the east. The mountains run north-south along the eastern side of the island which is by far the most rugged part of T'ai-wan. They reach a height of 3,992 meters at Yu shan, with over 60 peaks over 3,048 meters. The alluvial plains

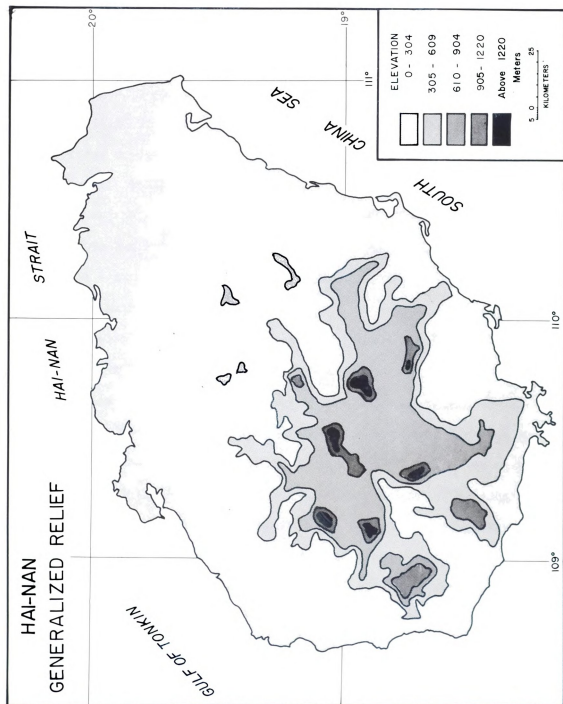


Figure 4. HAI-NAN, GENERALIZED RELIEF

area contains most of the productive agricultural land although the soils require fertilization for peak production.

As on Hai-nan, T'ai-wan's mountains have a great impact on the island's weather. The climate ranges from sub-tropical in the north to tropical at the extreme southern end of the island. The average annual temperature at T'ai-pei in the north is 21.7° C., and reaches 24.5° C. at Hung-ch'un Peninsula in the south.² July is the hottest month and January and February are the coldest months of the year. Because of the monsoon and T'ai-wan's mountains, the rainfall on the island varies greatly in amount, location, and time of the year in which it falls. On the northern part of the island the dry spell extends from April to September and the wet season from October to March, while in the south it is dry from October to March and wet from April to September. Also, the north has cool drizzling rains while the south has frequent thunderstorms with tremendous down-pours. Annual average rainfall ranges from 211 centimeters at T'ai-pei to 229 centimeters on the Hung-ch'un Peninsula with the southwest part of T'ai-wan receiving 184 centimeters of rain. Yet with all this rainfall, irrigation is required for year-round agriculture.

Hai-nan, on the other hand, has a tropical climate giving the island a constant growing season. Two rice crops per year are the norm, though because of the variable weather, two good harvests are not an automatic occurrence. Hai-nan's climate provides the conditions for the production of numerous crops which cannot be grown on the Chinese mainland. Hai-nan is the only Chinese territory capable of nuturing rubber trees.

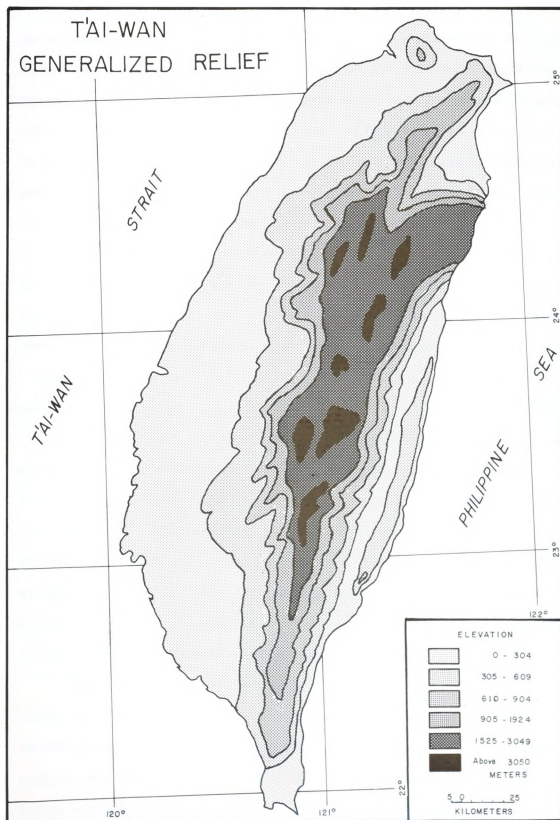


Figure 5. T'AI-WAN, GENERALIZED RELIEF

Because of their climate and topography, the islands' agricultural resources are very similar. Both have year-round growing seasons but because of the seasonality of rainfall, natural conditions for multiple cropping are limited. Major crops on both islands include rice, sugarcane, sweet potatoes, peanuts, jute, pineapples and bananas. In terms of natural resources, T'ai-wan has a somewhat better agricultural base than Hai-nan as evidenced by the fact that T'ai-wan has long been an exporter of rice while Hai-nan often had to import the grain.

In the area of mineral resources, Hai-nan is somewhat better endowed than T'ai-wan, but neither has complimentary resources (e.g. iron ore and coal) needed for many types of industry. The principal mineral resources of Hai-nan include iron ore, copper, tin, and salt; while T'ai-wan's mineral resources include coal, sulfur, a limited amount of oil, and salt.

Hai-nan's rainy season is from June to October when 60-70 percent of the island's precipitation occurs. Precipitation varies depending on location though most of the island receives over 127 centimeters of rainfall per year.³ Unfortunately, because of the mountains' effect on rainfall and the island's monsoon climate, precipitation does not fall evenly throughout the year. This causes serious problems in a place which has a two-crop agricultural economy, for it is not always possible to plan so that both crops coincide with the rains.

Hai-nan lies in an area frequented by typhoons with most of the storms occurring in the months from May to November. The island experiences, on the average, four to five typhoons per year. The smaller typhoons are useful in that they bring precipitation, but the larger storms with their high winds and heavy rains often cause serious damage to crops, property, and people.

Like Hai-nan, T'ai-wan also experiences typhoons and receives three to six of these tropical storms per year. The typhoon season is from May to November with typhoons often damaging the island's crops with their strong winds and heavy rainfall. Because of the configuration of the rivers the storms' heavy rainfall can cause severe flooding. Besides typhoons, T'ai-wan is located in an earthquake belt and experiences numerous slight shocks each year. T'ai-wan suffered about 8,000 shocks between the years 1895 and 1945, or an average of 160 quakes per year.⁴ Fortunately for Hainan this is one physical similarity not shared with T'ai-wan.

In addition to affecting the island's climate, the location and size of T'ai-wan's mountains have a great influence over other of the island's features. T'ai-wan's rivers are all fairly short and steep because of the island's relief. The longest river on T'ai-wan is the Cho-shui, which is only 165 kilometers long and only six of the island's rivers exceed 96 kilometers in length. Also the island's topography causes most rivers to flow west. Of the 20 rivers which exceed 48 kilometers in length, only four flow toward the east. The island's rivers have a steep gradient until they reach the alluvial coastal plains where they abruptly change into shallow streams of low gradient. These factors in combination with the variable flow of water cause T'ai-wan's rivers to be poor transportation arteries.

Similarly, on Hai-nan the island's topography creates short and shallow rivers, with the volume of flow varying greatly throughout the year. The longest river, the Nan-tu Chiang, is only 311 kilometers in length. The variability in water flow is exemplified by the difference between the maximum flow of 11,680 cubic meters and the minimum flow of 4 cubic meters per second found on the Wen-hua, another important river

on Hainan.⁵ Unfortunately, none of these rivers have the depth or evenness of flow necessary to support large scale use as transportation arteries. Also, the variability of the rivers' water flow limits their use for irrigation.

The Overview of Hai-nan

Hai-nan's Economy

Hai-nan's economy was based primarily on its agricultural resources in 1895 with sugar, rice, sweet potatoes, betelnuts, animals and animal products among the island's principal products. There was little manufacturing and industry beyond that traditionally found in an agricultural economy and these industries were, without exception, based on Chinese technology rather than that of the West. The same was true of other facets of the economy, for modernization had made few inroads on Hai-nan by 1895. Agricultural dominance of the island's economy is indicated by the fact that farm products constituted over 90 percent of the island's exports, and most of the remainder were farm-related.

Although agriculture on Hai-nan at this time was non-commercial and mostly family farms, a number of valuable products were raised. For example, pigs and sugar products were the two most valuable agricultural products exported at this time (see Table 1). However, the island's agriculturally based economy had at least one serious shortcoming--an unfavorable balance of trade. The major reason for this was that Hai-nan was not self-sufficient in rice production even though the island's climate permitted at least two rice crops per year and rice production was a major business. In 1894 over 377 thousand piculs (27,500 metric tons) of rice were imported to compensate for a

TABLE 1
PRINCIPAL EXPORTS OF HAI-NAN FOR THE YEARS 1894 AND 1895

Item	Measure	1894		1895	
		Quantity	Value*	Quantity	Value*
Betel-nuts	piculs	5,865	40,908	4,842	46,549
Eggs, fresh	pieces	10,878,800	27,196	9,014,800	23,383
Galangal	piculs	20,377	17,538	17,232	20,676
Glue, cow	"	4,080	23,496	4,176	24,161
Grasscloth, fine	"	506	55,689	364	52,844
Ground-nut cake	"	19,159	28,738	19,914	31,882
Hemp	"	1,512	39,321	1,521	39,532
Hides, cow & buffalo	"	3,974	28,695	2,942	22,354
Leather	"	4,064	63,767	3,617	65,032
Pigs	No.	59,345	356,070	45,237	271,345
Poultry	No.	322,721	24,203	340,946	33,335
Seed, sesamum	piculs	8,936	37,711	11,033	47,638
Sugar, brown	"	104,922	322,697	60,224	173,593
Sugar, white	"	12,634	63,168	8,794	43,704

*in Haikwan Taels

Source: Compiled from the Chinese Maritime Customs Reports,
Ch'iung-chou, for the years 1894 and 1895.

TABLE 2
HAI-NAN BALANCE OF TRADE, 1892-1895*

	1892	1893	1894	1895
Imports	861,773	1,731,245	1,817,810	1,305,244
Exports	1,001,865	1,157,219	1,283,821	1,100,792
Difference	140,092	-574,026	-533,989	-204,452
Select Imports				
Rice	4,295	119,951	689,881	175,443
Opium	82,852	533,114	149,690	153,139
Total	87,147	653,065	839,571	328,852

*by value, in Haikwan Taels

Source: Compiled from the Chinese Maritime Customs Reports,
Ch'iung-chou, for the years, 1892-1895.



poor harvest. (Table 2). The primary reason for this was that Hai-nan's weather often prevented the island's farmers from raising two good crops. There was either too little moisture or too much. The annual customs reports for the years immediately prior to 1895 often refer to one good harvest and state that the other was poor due to the weather. In really bad years, both harvests might be poor, resulting in serious problems.

Irrigation was used, but not to the extent necessary to offset the island's periodic dry spells. There was little provision for storage of naturally available water on Hai-nan and the island's agricultural economy required larger scale irrigation works than were available. Whether irrigation works could have been provided by the local economy is a moot point at this time, for they were needed and not available.

Obviously it is not necessary for a region to be self-sufficient in all things. However, shortages in certain areas should be offset with surpluses in others. Unfortunately, the surpluses of sugar, animals and animal products were seldom large enough to offset the shortages on Hai-nan. For example in 1895, the island's imports were worth over 300 thousand Haikwan taels more than exports, with rice making up 85 percent of the deficit. The major reason for large rice imports was the island's unreliable weather and when the weather was good (as in 1892), the island came close to having a balanced trade.

Hai-nan had relatively extensive forest resources which were underdeveloped and commercially unexploited at this time. Calder, in 1882, reported hardwoods as an export item from several of the southern ports, but neither wood nor timber appear on the Chinese Customs export

lists for Hai-nan in 1894 and 1895.⁶ Writing in 1906, Customs Commissioner Kliene identified the problem of forest exploitation as one of poor transportation.⁷ Even though commercial lumbering did not take place, much deforestation occurred, especially in the agricultural areas of the island.⁸ This was done, no doubt, to meet the needs of the local people and to clear land. In 1894 and 1895, the island imported few wood products, indicating that most wood and timber needs were locally met. It should be noted that rubber, a principal forest product even at this early date, was not grown for commercial purposes on the island in 1895.

During this period the extent of Hai-nan's mineral resources was unknown and no minerals were exported during the years 1894 and 1895. Copper had been mined using native techniques, but a mine described by Swinhoe in 1872 was reported abandoned by a later visitor in 1886.⁹ Henry observed that there must be magnetic ore on Hai-nan because of severe compass deviations which occurred when he sailed around the island in the 1880's and although other writers describe the mineral wealth of Hai-nan, there is no hard evidence that it existed or was exploited during this time period.

There was an extensive salt industry at this time as mentioned by several observers. Hai-nan's salt was all produced by the evaporation of sea water and the industry was centered on the southern part of the island. In 1895, salt production was part of a Chinese government monopoly and export figures did not appear in the Chinese Customs reports for these years. However, descriptions of the industry indicate that it was a significant part of the island's economy.

Hai-nan is well located for a fisheries industry and these resources of the sea supplemented her food supply. In the 1880's Henry reported "the variety of fish around the coast is simply endless-- the great fleets of junks that come and go in the fishing trade are evidence of the immense industry carried on."¹⁰ Squid, shrimp, various kinds of herring, mackerel and sharks are but a few of the species of fish found in the waters off Hai-nan. Yet an analysis of Hai-nan's exports for 1894 and 1895 shows that fisheries related items accounted for only 2.6 and 4 percent, respectively, of the island's total trade (see Table 3). Even excluding pigs and brown sugar, Hai-nan's largest exports, fisheries related items account for less than 10 percent of the total trade. The export figures lead one to believe that the great fleets Henry reported must have produced for the local market or come from other parts of southern China to exploit the waters off Hai-nan's coast.

As already indicated, Hai-nan's economy was primarily based on agricultural resources and by inference it can be surmised that there was little industry. In fact there was no European-style industry on the island in 1895. The products (which could be classified as industrial) shown as export items on the Chinese Customs list were all produced by local methods or techniques. The term industrial here refers to some type of manufacturing beyond what would be considered simple processing of a product. An examination of Table 4 shows that industrial products made up 5.9 and 9.1 percent by value of Hai-nan's total export trade for the years 1894 and 1895, respectively. As would be expected, many of the industrial products such as leather trunks and gunny bags have a close relationship to agriculture.

TABLE 3

HAI-NAN EXPORTS: FISHERIES ITEMS, 1894 AND 1895

Item	1894		1895	
	Amount*	Value**	Amount*	Value**
Cuttle Fish	1,327	15,869	1,084	18,010
Fish, salt	1,025	6,217	2,131	13,319
Fish, maws	67	2,529	56	2,165
Prawns and Shrimps, dried	74	979	--	--
Sharks fin, black	148	4,753	175	5,251
Sharks fin, white	37	2,978	59	4,742
Shell fish	53	1,240	64	1,585

* in Piculs ** in Haikwan Taels

Source: Compiled from the Chinese Maritime Customs Reports, Ch'iung-chou, for the years 1894 and 1895.

TABLE 4

HAI-NAN EXPORTS: MANUFACTURED ITEMS, 1894 AND 1895

Item	1894		1895	
	Amount*	Value**	Amount*	Value**
Bags, gunny	85,857	2,268	50,925	1,332
Brassware	18	530	--	--
Fire-crackers	25	358	--	--
Grasscloth	506	55,689	--	--
Grasscloth, fine	--	--	365	52,844
Grasscloth, coarse	--	--	225	15,715
Leather Trunks	338	7,300	483	12,102
Sundries	--	9,554	--	11,183
Silk, fish lines	--	--	33	5,231
Mats, straw	10,847#	650	33,240#	1,993

*in piculs #in pieces **in Haikwan Taels

Source: Compiled from the Chinese Maritime Customs Reports, Ch'iung-chou, for the years 1894 and 1895.

Hainan: Trade and Communications

Hai-nan was quite far removed from most of the major economic centers of eastern Asia such as Japan, north China, and the Yang-tze Valley. Moreover, the island was considerably north of much of south-east Asia. Nevertheless, while Hai-nan was not ideally located for trade with southeast Asia, it was still better situated to that area than it was to east Asia, thus it is easy to understand why most of the island's trade was with southeast Asia and southern China. An examination of the destination and origin of Hai-nan's exports and imports in 1894 shows that trade was limited to six foreign ports, or areas, and two Chinese ports. The foreign ports were Hong Kong and Singapore, and the foreign areas were Thailand, Cochin China, Tonkin and Annam (the three parts of modern Viet-nam). The Chinese ports listed in the customs statistics were Shan-tou (Swatow) and Pei-hai (Pakhoi). Similarly, the Chinese Customs statistics for 1894 and 1895 show passenger connections with Hong Kong, Shan-t'ou, Pei-hai, Haiphong, Da Nang, Singapore, and Bangkok--all places in southern China or southeast Asia. This suggests that Hai-nan's trade area was spread over a relatively small area of southern China and southeast Asia, and that Hai-nan's economic relationship to China proper was somewhat tenuous.

Hai-k'ou, located in the northeast, was the major port of the island and it also served Ch'iung-chou as the defacto treaty port for Hai-nan. Hai-k'ou's harbor was extremely poor; ships had to anchor far offshore and lighters were used to load and unload. When the Reverend B. C. Henry visited Hai-nan in the 1880's, it took him five hours to get from his ship to Hai-k'ou by small boat.¹¹ Yet foreigners realized as early as 1872 that Hai-k'ou was far surpassed as a harbor by Yu-lin

in the south.¹² Nevertheless, Yu-lin remained undeveloped in 1895, with Hai-k'ou the only port receiving steamer trade.

The island's overseas communications were quite limited. Overseas postal service was mostly in the hands of the British and French who operated post offices from their respective consulates and used their own stamps. The Chinese postal system was not established until 1896 with service to Hai-nan beginning in 1897. A telegraph cable to the mainland was laid in the late 1880's and at the same time some of the major Hai-nan towns were connected by telegraph. Twenty years later no trace of this internal system existed and the underwater cable had fallen into disrepair.¹³ Thus Hai-nan's communications system was poor even by the standards of the nineteenth century.

In the late nineteenth century, land transportation on Hai-nan was mostly on foot or, in the western part of the island, by buffalo cart.¹⁴ There were few roads except for some built by the military in 1887. These were not maintained and by the turn of the century they could not be used.¹⁵ The best road on the island linked Ch'ung-chou and Hai-k'ou, a grand distance of five kilometers (3 miles). Goods were transported by human carrier, wheelbarrow or, in a few cases, by buffalo cart. Water transportation in and around Hai-nan was limited by the lack of navigable rivers and good harbors. Still there was some intraport shipping and a little river transport, especially during periods of high water.

Social and Political Conditions on Hai-nan

The islands' population, as reported in the official census of 1835, was 1,350,000 persons. Of this, Han Chinese comprised approximately

80 percent of the total population with the remaining 20 percent of the island's inhabitants divided between Li and Miao peoples. The Han Chinese were not native to Hai-nan, most of them were descended from peoples who migrated from either Kuang-chou and Shan-t'ou or the Fu-chien regions of China in the years before 1895. Both the Chinese and the minority peoples were fairly homogeneous, although differences did occur between various sub-groups such as the variations in their spoken language which were quite widespread throughout the island. In fact even in 1922 Pope reported seven distinct dialects spoken in Nodoo, a district located in the central southwest part of the island. These dialects were "local (Sung style) Mandarin, Hainanese, Hakka, Domchiu, Lim-ko Loi, and Cantonese."¹⁶

In terms of the distribution of the island's population, the Chinese occupied the northern lowland areas while the native peoples lived in the southern and central mountainous regions. The Chinese had taken over most of the good agricultural land from the native peoples by 1895, and principally because of the competition for land and other resources, the Chinese and the native peoples did not get along very well together.

Education and health care on the island followed traditional Chinese practices. With the exception of the missionary schools and hospitals, no foreign style of education or health care was available to the population. Chinese education, generally private, was centered on the study of the classics, and the examination system was still the accepted means for government and social advancement. Disease was common on the island. Based on reports, bubonic plague made its first appearance in 1895 and rapidly became a serious problem.¹⁷ Henry, in 1886,

refers to "malaria, cholera and other diseases"¹⁸ commonly found on Hai-nan. The health problem was compounded by the large opium trade. In 1894 and 1895 approximately 20 tons (18,140 kilograms) of opium were landed at the Hai-k'ou customs shed and health services available on Hai-nan in 1895 did little to address what was obviously a large drug addiction problem.

The island's labor supply seems to have been more than sufficient to meet its needs, for in both 1894 and 1895 there was an outmigration. In 1894, 5,583 more persons left than returned, while in 1895 the figure was 6,994. The vast majority of these migrants traveled to Hong Kong, Singapore and Bangkok. This outmigration indicates a serious labor surplus or lack of opportunity on Hai-nan, for travel was quite expensive. For example, in 1896 the cost of travel to Singapore was seven dollars and to Bangkok, eight dollars--not an insignificant amount when ducks sold for four cents a pound on the island.¹⁹ Thus the inducement to travel to Singapore or Bangkok must have been quite high and the rewards worthwhile.

The policies followed by the government on Hai-nan and the provincial government of Kuang-tung were not much different than those found elsewhere in China. A land tax, salt monopoly and other traditional means of generating income were used to support the district, provincial, and national government. With the exception of the telegraph and the hiring of a foreign engineer to examine and recommend improvements in Hai-k'ou Harbor in the 1880's, the government spent little on Hai-nan's development. In fact, the engineer's recommendations for improvements to Hai-k'ou Harbor were never implemented.²⁰

A military garrison was maintained on the island and in 1871 it consisted of 5,500 men distributed among thirteen walled cities.²¹

In the late 1880's there was a serious Li rebellion and the military was called upon to suppress it, which they did. The extent of military forces on the island after the rebellion in 1895 does not appear in the record, but while bandits and pirates were reported during this time, no serious trouble developed. Whether the island's relative peace during these years was due to an efficient military presence is not clear. Still Hai-nan was known as "the haven of pirates and desperate characters,"²² not an enviable reputation.

Certain foreign influences were felt during the late 1800's. The French threatened to invade the island during the Sino-French War of 1884-85, though the invasion never took place. However, in 1898 "France obtained the promise of the Chinese government . . . that Hai-nan would never be ceded to any other power."²³ Nevertheless, both the British and Germans maintained consulates on the island, with the French not establishing one until 1897.²⁴ In the early 1880's only ten or twelve Europeans were reported living on the island.²⁵ A French Roman Catholic mission was established in 1849 and an American Presbyterian mission in 1881. Both missions operated schools, provided various social services to the island's population, and tried to convert the Chinese people.

The Overview of T'ai-wan

T'ai-wan's Economy

As was true on Hai-nan, the economy of T'ai-wan in 1894-95 was based primarily on agricultural resources although there was some industry and minimal exploitation of mineral resources. The principal agricultural crops included tea, rice, sweet potatoes, pineapples, longan, hemp and turmeric. T'ai-wan's agriculture centered on the production

TABLE 5
PRINCIPAL IMPORTS TO HAI-NAN FOR THE YEARS 1894 AND 1895

Item	Measure	1894		1895	
		Quantity	Value*	Quantity	Value*
Opium	piculs	294	149,698	291	153,139
Shirting, white plain	"	13,632	41,480	16,029	54,685
Cotton yarn (Indian)	"	11,667	204,580	15,789	272,838
Woolen goods	value	--	24,700	--	19,666
Beans and Peas	piculs	24,304	36,546	20,662	35,485
Betel-nuts	"	6,558	36,100	3,306	12,585
Cloth, native and nakeens	piculs	501	20,026	515	20,613
Cotton, raw	"	3,591	49,334	2,899	41,881
Flour	value	--	81,913	--	61,576
Ginseng, American	piculs	57	39,697	55	38,591
Hemp	"	2,984	21,532	2,867	21,489
Lighthouse material	value	--	33,000	--	--
Matches, Japan	gross	199,550	37,535	201,510	39,454
Medicines	value	--	47,598	--	45,190
Oil, kerosene	galls.	506,995	65,873	537,310	71,472
Rice	piculs	376,733	689,881	93,730	175,443
Vermicelli	"	6,833	44,937	5,290	36,783
Sundries, unenumerated	value	--	30,569	--	25,016

* in Haikwan Taels

Source: Compiled from the Chinese Maritime Customs Reports, Ch'iung-chou, for the years 1894 and 1895.

of crops with only limited involvement in animal products. In fact, the only animal product listed in the Chinese Customs export statistics for 1894 was cow and buffalo horn. The island's largest agricultural export by value during this time was tea, with sugar a poor second (see Table 6). However, the island was self-sufficient in rice and in fact exported the grain.

Because of the relief, considerable terracing was done on T'ai-wan, especially in the rice growing areas. The Chinese farmers utilized traditional farming methods and techniques much like those found elsewhere in southeast China. As on the mainland, farm sizes were small, seldom covering more than five acres (two hectares) and were often sub-divided into irregular plots.²⁶ T'ai-wan's climate was suitable for multi-crop agriculture in many parts of the island, but variations in rainfall limited such activity without irrigation. Privately owned or communal irrigation systems were used but they were not widely available.

T'ai-wan had considerable forest resources with the island's forest industry centered on the production of camphor. The method the Chinese used to obtain camphor necessitated the destruction of the camphor tree, and resulted in the production of both oil and a certain amount of wood and timber, some of which was exported. Camphor itself was T'ai-wan's third largest export in 1894 and 1895, while timber and wood from the camphor tree were the only other forest products listed in the Customs reports. But beyond the camphor tree, there was a "large area in Formosa [Taiwan] covered with virgin forest and timber--trees of great value abound . . . but there is little immediate prospect of extensive development of these great resources."²⁷ The lack of transportation was the major factor which limited the exploitation of T'ai-wan's

TABLE 6
PRINCIPAL EXPORTS FROM T'AI-WAN FOR THE YEARS 1894 AND 1895

Item	Measure	1894		1895 **	
		Quantity	Value*	Quantity	Value*
Bullion	value	--	109,948	--	46,326
Camphor	piculs	39,547	733,243	15,804	418,683
Coal	"	24,243	80,696	6,389	26,624
Hemp (Rhea Fibre)	"	1,982	23,518	680	8,011
Lung-ngan pulp [longan] #	"	7,399	44,860	1,756	9,750
Rice	"	11,576	19,728	--	--
Sugar, brown	"	671,974	1,603,414	570,996	1,020,908
Sugar, white	"	63,690	294,552	59,484	223,700
Tea, black, oolong	"	3,602,677	137,245	47,368	1,417,743
Tea, black, pouchong	"	480,588	17,177	4,450	135,055
Timber, camphor	pieces	7,088	15,220	40	175
Turneric	piculs	29,584	65,769	19,009	43,546

* In Haikwan Taels ** First six months of year

Source: Compiled from the Chinese Maritime Customs Reports, Tan-shui and Tai-nan, for the years 1894 and 1895.

A litchie-like fruit

forest resources. The major part of the island's forest cover in 1895 was composed of hardwood trees which could not always be floated even if streams were available to do so. As there were no roads in the mountainous regions, alternative forms of transport were not available. Therefore, even with extensive forest resources of her own, T'ai-wan imported some timber and wood products during the years 1894 and 1895.

T'ai-wan extracted minerals in 1895 and many of her mineral resources were known by that date. Coal, sulfur, and gold were all mined and were important exports. In terms of export value, gold was the most important mineral, but coal ran a close second in 1894. The Chinese government got involved in the mining of coal in 1876, though mining was interrupted during the Sino-French War of 1884-85. The government put pressure on local producers to stop coal mining (since after 1876, coal was a government monopoly) with only limited success. The government coal mine utilized foreign experts and methods in its operations, but by 1891 the operations were abandoned and "the Mandarins obtained their coal thereafter from private companies."²⁸ Also in the 1870's the government declared the formation of a sulfur monopoly. The industry did poorly for the next ten years, partly due to decreased demand for sulfur, but after 1887 the demand increased and the industry improved considerably. Unlike coal, the T'ai-wanese government was never involved in the mining of sulfur--rather it was the only buyer and seller of sulfur on the island. In 1894, 5,950 piculs (359,183 kilograms) were exported.

Another mineral which does not appear in the Chinese Customs reports but was nonetheless important on T'ai-wan was salt, which was produced on the island in large quantities by the system of sea-water evaporation. Salt production on T'ai-wan, as elsewhere in China,

was subject to the government salt monopoly and all salt produced was sold to the Chinese government for distribution and resale. The Japanese government, which continued the monopoly, purchased 41,023,584 kilograms of salt in 1900--this gives some idea of the size of the salt industry during this time.

While T'ai-wan is well located for a fisheries industry, the island's fisheries produced less than one percent of the total exports for the year 1894. Sharks' fins, fish maws and roe were the only fisheries related items listed in the Chinese Customs tables for the years 1894 and 1895 (see Table 7). Yet reports indicate a fairly large fishing industry centered on the island at this time and since fish products did not account for exports, the industry must have supplemented the island's food supply.

As already shown, T'ai-wan's economy was based on agriculture, at least insofar as the export economy was concerned, for items classified as manufactured products made up less than one percent of the total exports in 1894 (see Table 8). All manufactured products were made by traditional Chinese methods.

T'ai-wan: Trade and Communications

As on Hai-nan, T'ai-wan was dependent on water transportation for movement of products to other parts of China and the world. T'ai-wan lies alongside the major north-south coastal trade routes of China, giving her an extremely good location relative to these shipping routes. For example, during the year 1894 (the 1895 data were not complete due to the war), the island received imports and shipped exports to 15 separate Chinese ports. These ports, stretching from Ying-k'ou (New-chwang) in the northeast to Kuang-chou (Canton) in the south, included

TABLE 7

T'AI-WAN EXPORTS: FISHERIES ITEMS, 1894 AND 1895

Item	1894		1895	
	Piculs	Taels	Piculs	Taels
Sharks fins, white	14.24	469	15.41	404
Sharks fins, clarified	14.95	1,755	8.30	999
Sharks fins, black	98.58	896	--	--
Fish maws	7.68	306	--	--
Fish roe	20.68	299	--	--

Source: Chinese Maritime Customs Reports for Tan-shui and Tai-nan for the years 1894 and 1895.

TABLE 8

T'AI-WAN EXPORTS: MANUFACTURED ITEMS, 1894 AND 1895

Item	1894 (TLS)	1895 (TLS)*
Bags, gunny	977	--
Bags, hemp	211	--
Goldware	4,386	296
Furniture	229	--
Grasscloth, fine	322	--
Mats, rush formosan	232	--
Paper, pith	6,419	2,558
Shoes, silk	221	136
Silk, piece goods	--	5,813
Sundries, unenumerated	6,540	2,290
Total	19,537	11,093

* First six months of year.

Source: Chinese Maritime Customs Reports for Tan-shui and Tai-nan for the years 1894 and 1895.

all of the major coastal ports of China such as Shang-hai, T'ien-ching (Tientsin), and Hsia-men (Amoy). Additionally, many of the interregional and international trade routes pass near T'ai-wan and in 1894 the island received imports from, and shipped exports to, Great Britain, Russia, Hong Kong, Japan and the United States. T'ai-wan's trade area appears to have included much of coastal China and a number of world regions.

Communication beyond and within T'ai-wan was relatively good, though a postal service was not established in China before the island was ceded to Japan. In 1888, a telegraph line was completed from T'ai-pei to Ta-kou and shortly afterward tied into the world telegraph network.²⁹ It appears that this line was kept in good working condition up to the time Japan took it over. Internally, several short telegraph lines tying Ta-kou to Tai-nan and An-p'ing were constructed in 1877, and later in 1887 a new line was built connecting Tai-nan to T'ai-pei.³⁰

With few exceptions goods were mostly transported by the use of human labor, although a few carts or other wheeled vehicles were found in the sugar producing region. Some roads had been built during the 1870's and later, but these could not be classified as highways. Also a railroad from Chi-lung to Hsin-chou which passed through T'ai-pei was built in 1891, but by 1895 it was only capable of carrying passengers. With the exception of the railroad, T'ai-wan's land transportation network and her modes of transportation were much like that found in other Chinese regions.

Customs reports list little interport trade, indicating that intercoastal transportation was not widely used. As discussed previously river transport was limited and few harbors existed of sufficient size to serve as trade ports. The best harbor on the island was at Chi-lung

TABLE 9

PRINCIPAL IMPORTS TO T'AI-WAN FOR THE YEARS 1894 and 1895

Item	Measure	1894		1895*	
		Quantity	Value**	Quantity	Value**
Opium	piculs	5,711	2,331,056	1,728	1,160,723
Shirting, grey, plain	pieces	80,022	175,662	24,701	56,657
Shirting, white, plain	"	66,231	195,872	18,806	56,229
Japanese cotton cloth	"	66,145	20,987	18,989	6,559
Camlets, English	"	6,391	61,944	1,977	19,831
Lastings, plain	"	2,724	21,145	493	3,887
Woolen thread	piculs	290	21,643	41	3,195
Lead, in pigs	"	18,645	87,574	6,366	34,896
Copper, ingots	"	2,018	39,430	--	--
Other metal	value	--	43,448	--	36,221
Cement	piculs	8,511	22,037	108	421
Cuttle fish	"	4,538	20,762	1,332	17,819
Flour	"	16,954	51,744	11,042	33,492
Ginseng, American	"	83	41,462	23	12,362
Grasscloth, fine	"	249	43,044	106	22,662
Matches, Japanese	gross	227,075	47,275	62,750	14,948
Munitions of war	value	--	--	--	724,081
Oil, kerosene, American	galls.	1,504,270	184,658	52,400	6,072
Oil, kerosene, Russian	"	519,265	59,785	174,945	20,279
Prawns and Shrimp dried	piculs	3,741	52,377	1,126	16,341
Saltpetre	"	3,465	28,140	--	--
Silk piece goods	"	65	33,103	24	11,514
Timber, beams, hardwood	pieces	3,712	20,500	42	2,256
Sundries, unenumerated	value	--	34,355	--	38,082

*first six months of the year ** in Haikwan Tael

Source: Compiled from the Chinese Maritime Customs Reports, Tan-shui and Tai-nan, for the years 1894 and 1895.

and some improvements were made there immediately after T'ai-wan became a province. In 1895 it was the only harbor on the island which could accommodate large ships.³¹ Other harbors of consequence were at Tan-shui, which could only be entered by ships drawing less than 14 feet (4.2 meters) of water, and those at Tai-nan and Ta-kou, both of which could only accept small steamers.

Social and Political Conditions on T'ai-wan

The Chinese population of T'ai-wan at the turn of the century was 2,730,865.³² All the Chinese or their ancestors immigrated to T'ai-wan from various parts of China in the years previous to 1895. By far the largest number came from Fu-chien Province with a minority from Kuang-tung Province. Better than 90 percent of the island's total population in 1895 was Chinese with the remainder divided between foreigners and native peoples. Shortly after the Japanese took over the island they estimated that the native peoples' population was 113,539, or less than .5 percent of the total population.³³ The native peoples lacked the cultural and physical homogeneity of the Chinese and they were divided into eight major groups, each having their own culture and language. These groups lived in the mountainous regions of T'ai-wan where they had been pushed by the encroachment of the Chinese. Some hostilities existed between the Chinese and the native peoples and there were numerous incidents reported between them. While the Chinese on T'ai-wan were more homogeneous than the native peoples, they nevertheless were divided into a number of groups which were identifiable primarily by language. The Chinese on T'ai-wan spoke various dialects with the principal ones being Amoy, Hakka and Cantonese. Along with the language differences

there was also a considerable amount of factionalism among the T'ai-wan Chinese.

The educational and health care facilities were much like those existing in other parts of southern China. The government did not operate a school system, rather it was left to the families or other social groups to educate their children. Generally, such education centered on the study of the Chinese classics rather than other subject matter. Prior to the occupation of T'ai-wan by the Japanese there were two missionary schools on the island.³⁴ Health care was supplied to the population by traditional means supplemented by several missionary hospitals, yet "prior to 1895, T'ai-wan was renowned as an unhealthful place to live."³⁵ Plague, cholera, malaria and other tropical diseases were all present and at various times reached epidemic proportions. During this time it appears that available health care was not sufficient to meet the island's needs.

To better incorporate T'ai-wan into the Chinese Empire, the island was given provincial status in 1887. This new status gave the island's government certain privileges and responsibilities previously not available. The ability to tax and create monopolies were two new privileges, and in this area the government declared a monopoly over camphor from 1887 to 1891, until the foreign consuls protested that it infringed on their treaty rights. Likin, or transit tax, was also introduced throughout the island. Part of the new revenues was used to support the new level of government and part to finance new projects initiated by the provincial government. For example, the provincial government started improving the harbor at Chi-lung and constructing a railroad on the island. Neither project was completed, though the

railroad was opened for passengers from Chi-lung to Hsin-chu. The Chi-lung harbor work was not finished because of a fear in Pei-ching that if a good port were available on the island it would tempt the foreigners to seize it or T'ai-wan.³⁶ The governor, Liu Ming-ch'uan, who was responsible for the attempted improvements, was replaced in 1891 and the new governor made no effort to complete any of the projects. The construction of an arsenal at T'ai-pei was one new project which was started and finished under the new governor, however, Militarily, the island was garrisoned, but because of the Sino-Japanese War and threat thereof, the significance of the garrison in 1895 is impossible to judge.

Foreign influences were centered on the missions and the export-import trade. The Canadian and English Presbyterians had established missions on the island by 1872 and a Catholic mission was also set up at an early date. These missions carried out various social services and tried to convert the Chinese. There were also several foreign consuls but the number of foreigners living on T'ai-wan in 1895 is not clear. The Japanese occupied part of the island in 1874 and the French did the same in 1884-85, though both later withdrew. It was not until 1895 that T'ai-wan was completely occupied, the first time a foreign power (Japan) had total control of the island since the Dutch occupation in the seventeenth century. The Japanese occupation, which lasted fifty years, marked the beginning of a new era for the island.

Summary

Overall, the development patterns on Hai-nan and T'ai-wan reflected conditions on mainland China during the same time period. As on the mainland, neither island's economy had been changed through the introduction of new ideas or technology. Even though there were differences between the economies of the islands, they were not caused by the adoption of new ideas or technology. Economic differences between Hai-nan and T'ai-wan are easily explained by differences in their natural resources and political conditions.

In the area of natural resources, the ability of T'ai-wan but not Hai-nan, to produce surplus rice was more directly related to weather and topography than anything else. While both islands used similar cropping methods and farming techniques, only on Hai-nan was rice production reported to be reduced due to poor weather conditions. Similarly, T'ai-wan's camphor and coal industries are explained by the presence of these resources on T'ai-wan but not on Hai-nan. Conversely, when the islands had similar resources they had similar development, as is shown by the sugar industry on both islands. Differences aside, the central point is that both island's economies were based on traditional technology and methods.

There were attempts to adopt new ideas and technology, primarily European, but these attempts on Hai-nan and T'ai-wan were no more successful than on the Chinese mainland. A telegraph line was constructed on Hai-nan but it was not kept up. Likewise plans to improve Hai-k'ou Harbor never got beyond the preliminary stage. On T'ai-wan the provincial authorities did improve communications by successfully building and maintaining a telegraph. However attempts to introduce new technology into the coal mining industry on T'ai-wan were unsuccessful

as were plans to improve harbor facilities. While railroad construction was started on T'ai-wan, it was not completed to the level necessary to carry freight. Though most of the attempts to adopt new ideas and technology were unsuccessful, both islands experienced them and in both cases most of these projects were government controlled.

China's preoccupation, by necessity, with foreign intervention makes it easy to understand the direction of development projects on Hai-nan and T'ai-wan. On both islands, the major focus of government planning was on improving communications and transportation, as military and political conditions made it necessary to tighten Chinese control over all parts of the Empire. In light of this it is easy to understand government involvement in telegraph and railroad projects. However, at least on T'ai-wan, these were government development projects involving business enterprises. This too is understandable from the point of view that China was attempting to strengthen her control, since either the businesses were obviously military, such as the arsenal on T'ai-wan, or the projects were mainly designed to create a source of income. In the area of agriculture and other forms of business, the Chinese government apparently neither had nor implemented any development projects.

Notes - Chapter II

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CHAPTER III.

T'AI-WAN'S CHANGING POLITICAL AND ECONOMIC CONDITIONS, 1895-1975

Introduction

From 1895 to 1975 T'ai-wan's economy experienced numerous changes, causing major shifts in the island's development patterns. During the same period the island's political structure was also transformed. To test the hypothesis of this study, analysis of political-historical time periods was deemed necessary. The periods selected are the Japanese occupation (1895-1945), the Chinese reoccupation (1945-1949), and the period after which Taiwan became the sole area governed by the Republic of China (1949-1975). These periods fit the needs of the study and, on the surface at least, relate to the changes which occurred in the island's economy. The examination focuses on changes in the pattern and type of development occurring on T'ai-wan during each time period, with major emphasis placed on changes from previous times. The last part of the chapter summarizes the analysis and examines whether the political conditions influenced development.

The Colonial Period, 1895-1945

Economic Trends Under the Japanese

The Japanese gained control of T'ai-wan in 1895 by the Treaty of Shimonoseki, which concluded the first Sino-Japanese War. During the first few years under Japanese control T'ai-wan experienced a period of

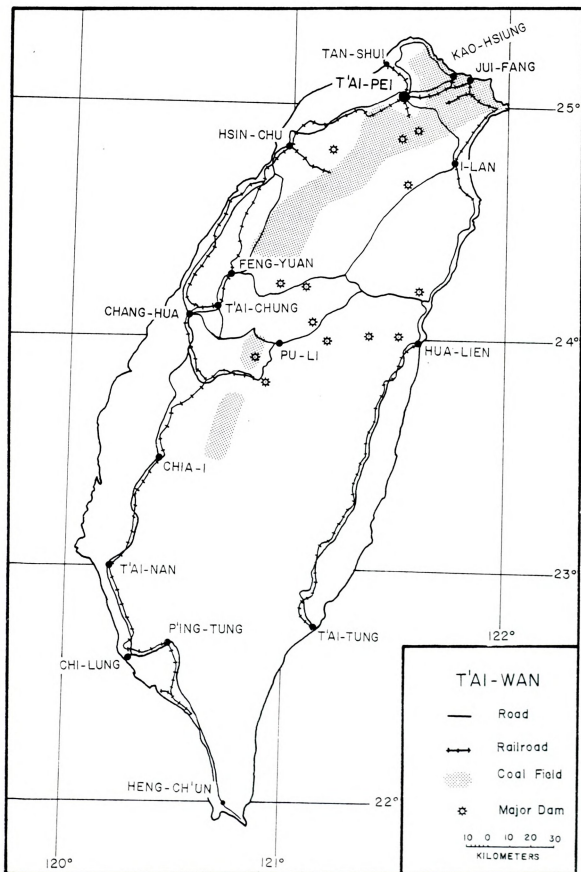


Figure 6. T'AI-WAN

relative instability. Though the Chinese on T'ai-wan had proclaimed a republic shortly before the Japanese occupied the island, the Japanese soon eliminated that government. By October of 1895, the island was in the complete control of the armed forces of the Empire of Japan. However civil disruption occurred sporadically until 1902 and four anti-Japanese uprisings took place between 1907 and 1928. Nevertheless, Japanese military control was never seriously challenged. It should be noted that most of the civil disorder was caused not by the Chinese population of the island but rather by the native peoples of T'ai-wan, who lived in the island's mountainous regions.

T'ai-wan progressed from a subsistence agricultural economy in 1895 to a commercial agricultural economy by 1940. T'ai-wan's agriculture and her total economy, by 1940, had undergone numerous changes which transformed the island from a modest to a major exporter of food products. For example, in 1894, the island exported 40,634 metric tons of sugar and 700 metric tons of rice compared to 1,111,000 metric tons of sugar and 688,027 metric tons of rice in 1937. Table 10 shows gross recorded value figures for T'ai-wan's economy and Part A of this table gives some idea of the extent of T'ai-wan's agricultural growth. Overall it is estimated that the annual growth rate for the prewar years of 1905 to 1940 was 2.57 percent.¹

T'ai-wan's agricultural growth during the Japanese period centered on two major crops (rice and sugar cane) and several minor ones (bananas, pineapples, and sweet potatoes). Both rice and sugar cane production increased dramatically during the Japanese period, with rice increasing sharply by the mid-1920's. Much of the increased production of rice was exported to Japan, as rice consumption on T'ai-wan

during the Japanese period declined considerably. The minor crops, bananas and pineapples, also expanded, but never challenged the two leaders, as sweet potatoes were primarily a domestically consumed crop. After 1932 rice production in Japan and Korea increased and the Japanese shifted the emphasis to sugar and other crops on T'ai-wan.

The figures in Tables 10 and 11 make it apparent just how much agriculture dominated the pre-war economy of Taiwan. Agriculture itself accounted for almost 50 percent of the total gross recorded value of production from 1915 to 1940, with industry making up most of the remainder. The figures in Table 11 show that over two-thirds of the gross value of production recorded for industry was generated by the food products category or, in other words, agriculture. Thus, while T'ai-wan had a fairly substantial industrial sector, manufacturing probably made up less than 15 percent of the gross value of production even as late as 1940-42. In fact the value of agricultural production, as part of the total gross recorded value of production, showed a slow decline because of more pre-export processing rather than a shift from farming to manufacturing. The food products industry and industry as a whole was dominated by sugar. This dominance of the food industry is well illustrated by the fact that food process workers were the same percentage of the total industrial labor force during most of these years, and about 55 percent of this total was made up of sugar mill employees.²

But not all of T'ai-wan's industry was food processing, for significant development occurred in the metal and chemical industries, especially in the late 1930's and early 1940's. Some examples are the

TABLE 10

GROSS VALUE OF PRODUCTION RECORDED FOR "INDUSTRY"
IN T'AI-WAN, BY LINE OF PRODUCT, 1921-42
(Yearly Average for Each Period)

Years	Total	Textiles	Metals	Equip.	Misc.	Chemicals	Foods
A. Millions of Yen:							
1921-24	165	3	3	4	20	13	122
1925-29	217	3	4	5	32	20	153
1930-34	228	3	6	5	29	18	167
1935-39	387	6	17	12	45	38	269
1940-42	664	46	30	91	91	80	406
B. Percentages of Total:							
1921-24	100	1.7	1.9	2.1	11.9	7.9	74.6
1925-29	100	1.5	2.0	2.2	14.7	9.3	70.3
1930-34	100	1.1	2.5	2.3	12.9	7.8	73.3
1935-39	100	1.5	4.5	3.1	11.6	9.9	69.4
1940-42	100	1.7	7.0	4.5	13.7	12.1	61.0

Source: George W. Barclay, Colonial Development and Population in Taiwan, Princeton: Princeton University Press, 1954, p. 38.

TABLE 11

T'AI-WAN: GROSS RECORDED VALUE
OF ALL PRINCIPAL TYPES OF PRODUCTION, 1915-1942
(Yearly Average for Each Period)

Years	Total	Agriculture	Mining	Fishing/Forestry	Industry
A. Millions of Yen:					
1915-19	262.7	144.5	7.2	9.1	101.9
1920-24	411.5	207.0	12.0	23.0	169.0
1925-29	559.0	293.6	16.8	31.8	216.8
1930-34	525.5	255.8	15.5	26.5	227.7
1935-39	901.0	432.9	39.6	41.1	387.0
1940-42	1388.4	576.4	62.8	91.8	657.4
B. Percentages of Total:					
1915-19	100	55.0	2.8	3.4	38.8
1920-24	100	50.3	2.9	5.6	41.2
1925-29	100	52.5	3.0	5.7	38.8
1930-34	100	48.7	3.0	5.0	43.3
1935-39	100	48.0	4.4	4.6	43.0
1940-42	100	41.5	4.5	6.6	47.4

Source: George W. Barclay, Colonial Development and Population in Taiwan, Princeton: Princeton University Press, 1954, p. 38.

production of aluminum using bauxite from Southeast Asia, and the manufacturing of chemicals made from T'ai-wan's own agricultural raw materials. Still T'ai-wan's industry was mostly processing and included little manufacturing by the early 1940's. As shown by Table 10 there was little change in the percent of the production of textiles, machinery and equipment, and miscellaneous from 1921 to 1940.

It is worth noting that areas of the economy which had been important in 1894-95 did not necessarily decline in production or disappear, they just did not expand as much as some others. For example, tea exports nearly doubled in value during the years 1897 to 1937, from 6,906,000 yen to over 12,000,000 yen. However, for the same period the value of sugar exports increased by some 120 times, 2,688,000 yen in 1897 to 191,546,000 yen in 1937. Similarly, the values of rice exports increased some 85 times, camphor only doubled, and while coal values increased 131 times, the value was less than 4 percent of that of rice exports.

While T'ai-wan experienced considerable development during the Japanese period it should be noted that the T'ai-wanese population did not necessarily share in this growth. Much of the surplus produced by T'ai-wan's agriculture and its processing industries went to Japan, and not to the T'ai-wanese consumer. As George Barclay pointed out, "Japan evolved a system of managing affairs in T'ai-wan that developed into one of the most successful colonial programs in the world . . . and [T'ai-wan] repaid them handsomely for their initial investment of care and expense."³

Trade, Communications, and Infrastructure

Under the Japanese, T'ai-wan's dependence on ocean transportation coupled with that of the Japanese economy, was a great asset. This allowed the Japanese to incorporate T'ai-wan's resources into their economy without incurring massive transportation costs. Politically, the Japanese discouraged foreign trade, and within a short time, T'ai-wan's trade was almost exclusively with the Japanese Empire. Table 12 shows that as early as 1908, Japan accounted for over 50 percent of the island's total trade and this increased in small amounts until it reached 90 percent by 1938. Additionally, T'ai-wan's location astride the shipping routes from southeast Asian bauxite sources and the Japanese home islands, coupled with the availability of cheap electric power on the island, led to the development of a metal processing industry on T'ai-wan.

Internally, T'ai-wan's transportation and communication network expanded considerably under the Japanese. Road construction was started in earnest early and by 1938 there were over 17,000 km of roads on the island. Railroads, the other major segment of the island's transportation system, grew from less than 100 km to over 800 km by 1925. After 1925, the total length of T'ai-wan's railroads increased only slightly. Harbor facilities, that most necessary link between T'ai-wan's internal and Japan's external transportation system, also improved during this time.

The health and education segment of the island's infrastructure also experienced much growth during this period, with over 70 percent of the children in school by the end of Japanese rule. Basically, the T'ai-wanese received a fair quality lower level education, with emphasis

on job related skills, Higher level training, especially university education, was a privilege afforded to few. In fact, while the Japanese established a university in T'ai-pei, it was used more for research than teaching. T'ai-wan's education system did undergo somewhat of a transformation during the 1930's, with more high level technical training made available to the T'ai-wanese, but it never offered certain types of instruction which would prepare T'ai-wanese for managerial type positions. It is important to note that the Japanese were not attempting to change the basic T'ai-wanese social structure, they were simply interested in molding it to suit their needs.

The improvement of health conditions on T'ai-wan was one important benefit of Japanese rule. Major diseases such as cholera and plague were greatly reduced early during the Japanese tenure, though malaria remained a major threat until much later. The methods used were fairly straightforward--disease was controlled by removing the source of infection. One method was to quarantine people who had the disease, which removed at least one source of infection. The other was to locate and eliminate the basic, often non-human, source of infection. Efforts were made to remove basically unhealthy situations --swamps were drained and regulations enforced for food handling. However, throughout this period, the detection and compulsory treatment of sick individuals, under police supervision, was the principal weapon against disease.

The Policies and Administration of Successful Colonialization

During this period Japan followed the ideology of colonialism and practiced the economic system of capitalism on T'ai-wan. Colonialism

during the nineteenth century was a result of the industrial revolution and this new system of production needed markets for its products and raw materials for its factories. Colonies provided secure markets for industrial nations while also providing needed raw materials. Although the level of the colonial powers' involvement in the colonies' economic affairs varied widely under colonialism, there was always some involvement. In the case of T'ai-wan, the Japanese became very involved in the island's economy, for they were interested in maximizing the economic benefits from their control of the island.

During the Japanese period, T'ai-wan's development took advantage of and utilized the island's natural resources. However, the rate at which development occurred and the direction it took was directly related to the policies followed by the Japanese colonial administration. Most of the policies were very straightforward. Improved health care and public health programs were started early, partly to keep the Japanese administrators and soldiers healthy and with the net result being improvement in the lot of the average T'ai-wanese. Increased public security and tight administrative policies were instituted, which meant the government was able to control the population and, to a great degree, many economic factors.

The Japanese completed a land survey which clarified land ownership and allowed for a more complete collection of taxes. Standardization of money, measures, establishment of census, and the creation of numerous monopolies all helped the Japanese gain total control over the island and provided a monetary base needed for capital generation. The Japanese used the new capital generated from T'ai-wan's monopolies and taxes to improve the island's transportation system, education, harbors and so on.

These policies were intended to develop T'ai-wan as a supplier of raw materials and as a market for Japan's industrial products. The raw materials that T'ai-wan could provide the Japanese were primarily agricultural; the infrastructure improvements and tight administration were simply geared to improve the island's ability to supply Japan with these raw materials.

Two of the raw materials selected by Japan for exploitation were rice and sugar. The colonial government sponsored and built irrigation systems, and from 1911 to 1945 the irrigated area increased by an average of 9,428 hectares per year. The government also supported research in agriculture and introduced new strains of crops. The objective was to raise per unit and per capita agricultural output. In the area of rice production, by the early 1930's a new strain of rice (Pon-lai), was introduced into T'ai-wan from Japan and replaced the native types. This led to increased yields and the production of a rice that was more to Japanese taste. In addition, the rice market was manipulated in such a way that the T'ai-wanese became major producers but not consumers. This allowed the Japanese to ship the increased surplus to Japan leaving the T'ai-wanese to eat sweet potatoes and other less desirable foods.

The sugar industry was another area that the Japanese specifically nurtured. By the early 1900's Japan established a sugar cartel which was then given a free hand. The cartel could, and did, use any means necessary to control the sugar industry on the island. Examples of such measures were their control over irrigation and giving cash advances to farmers which were tied to certain concessions. The cartel was able to force the T'ai-wanese farmer to grow sugar cane at a low

price and in some cases to plant sugar in place of the more profitable rice. By these means the cartel was able to establish a large sugar industry which produced huge quantities of sugar at low constant prices. Within a short time the sugar industry of T'ai-wan was supplying the sugar needs of the Japanese Empire. Considering the fact that prior to 1895 Japan's imports of sugar were equal to 10 percent of her total imports, T'ai-wan's cheap and abundant sugar was extremely beneficial to Japan.

Japan also sought to exploit other areas of the island's wealth. Investment in the canning industry was but another way to increase the island's profitability. Costs were kept low, profits high, and the crops did not compete with rice or sugar. The same logic held true when the Japanese began development of the island's hydro-electric power potential. The internal investment was high, but the power generated over time was quite cheap. This cheap power plus T'ai-wan's location between Japan and supplies of minerals led to the development of the metal processing industries (such as aluminum) late in the colonial period. Still the Japanese envisioned T'ai-wan as a supplier of raw materials, not as a site for manufacturing industry. Thus, while the sugar industry refined sugar, and the metal industry made aluminum, the further processing of these materials was done in the Japanese home islands.

The Post-World War II Years, 1945-1949

The Post-War Economy

The immediate post-World War II period found T'ai-wan's economy in very poor condition due to the effects of the war. The Japanese had been unable to maintain the island's economy. However, even though

TABLE 12
 VALUE OF EXPORTS FROM T'AI-WAN BY PLACE OF DESTINATION
 1899 - 1942

Year	Total (thousands of Yen)	To Japan (includes Korea)	Percent to Japan#
1899-1909	24,659	13,932	56.5
1910-1914	56,936	46,727	78.0
1915-1919	130,192	98,929	76.0
1920-1924	195,767	163,566	83.6
1925-1929	256,326	214,533	83.7
1930-1934	251,176	230,579	91.7
1935-1939	445,653	402,641	90.3
1940-1942	527,609	419,570	79.5

#Includes Korea

Source: George W. Barclay. Colonial Development and Population in Taiwan. Princeton: Princeton University Press, 1951, p. 21.

T'ai-wan's economy had suffered greatly from the war, the basic infrastructure was still functional. The roads were damaged but usable, and the same was true of other segments of the transportation and communication systems. Also, many industrial facilities had been damaged but not completely destroyed. In fact, upon T'ai-wan's return to Chinese control, it probably had the best basic economic framework of any Chinese province.

By 1949, T'ai-wan's economy had not recovered to pre-war levels. A glance at Table 13 shows how much the volume of T'ai-wan's exports had fallen by 1950. With the exception of salt, all of T'ai-wan's traditional exports had dramatically decreased. Sugar exports were down some 50 percent, coal was down by about 80 percent and rice exports had decreased by an almost unbelievable 95 percent.

Table 14 shows how rice, one important segment of T'ai-wan's economy, performed during the immediate post-war period. By 1949, T'ai-wan was still not producing as much rice as it had in 1938, though it had about doubled its production since 1945. However, much of this increased production is explained by the increased land area under cultivation as about 50 percent more land was devoted to rice in 1949 than in 1945. Thus not only was per hectare productivity lower than it had been under the Japanese, but the amount of land devoted to other crops must also have been smaller. Smaller amounts of land devoted to sugar, coupled with likely lower productivity per hectare, would then explain the reduced amounts of sugar exports.

Not only was the agricultural segment of the island's economy slow to recover, but so too was industrial production. Before the war, the food processing industry was the largest segment of this part of the

TABLE 13

T'AI-WAN: VOLUME OF MAJOR EXPORTS, 1937, 1950, 1951, and 1952

Item	Quantity	1937	1950	1951	1952
Sugar	M. Tons	1,111,000	608,425	283,515	458,182
Rice	"	688,027	27,425	84,935	107,415
Bananas	"	156,781	10,800	26,502	42,567
Tea	"	10,282	7,549	11,324	9,323
Salt	"	117,222	203,210	239,051	181,412
Coal	"	407,915	67,705	18,121	77,829
Pineapples (cans)	"	35,000	3,539	4,870	5,016
Cement	"	9,715	3,554	50,500	11,144
Camphor	"	2,026	1,477	929	277

Source: Norton S. Ginsburg. The Economic Resources and Development of Formosa. New York: Institute of Pacific Relations, 1953, p. 56.

TABLE 14

T'AI-WAN: AVERAGE OUTPUT OF RICE, 1938-1950

Year	Hectares	Metric Tons*
1938	625.4	1,402.4
1945	502.0	638.8
1946	564.0	894.0
1947	677.6	999.0
1948	717.7	1,068.4
1949	747.7	1,214.5
1950 (est.)	781.8	1,412.9

* in 1,000

Source: Lih-wu Han. Taiwan Today. Tai-pei: Hwa-kuo Publishing Co., 1951, p. 79.

economy. By 1949 production was only 72 percent of what it had been in 1941. The mining and timber industries were in even worse condition, as in 1949 they were only 56 and 53 percent of their 1941 production, respectively. Only the transportation, fertilizer, and textile segments of the economy had higher production figures in 1949 than in 1941. The major reason for this was that before the war production was almost nonexistent therefore any increase in production would show up as a high percentage.

The statistics also show little change in production lines from the previous Japanese period. The type of exports from the island remained almost the same, discounting volume, as before the war, and in the post-war years on T'ai-wan no new products were developed. Similarly, while there was increased production of a few items for the internal market, they seldom reached the level necessary to supply T'ai-wan's needs, and in all cases were attempts to supply locally what had previously been provided by Japan. Fertilizer is the best example of this, since it was a very small industry before the war, and it expanded somewhat after the war. However, T'ai-wan's fertilizer production of 59,000 metric tons fell far short of the 338,000 metric tons used on the island in 1950.

Thus while T'ai-wan's economy recovered very slowly from the effects of the second Sino-Japanese War, it had changed little from what it had been under the Japanese. The island's economy generally produced less of the same items than it had during Japan's rule. Moreover, the products continued to be based on the island's natural resources and the economy showed no sign of a change from that direction. While there were declines in the island's production of traditional

goods, both agricultural and industrial, they were not the result of effort put into different economic endeavors.

While the makeup of T'ai-wan's economy was little changed during these years, it was not a healthy economy. For example, inflation was a very serious problem on T'ai-wan after the war, as it was on the mainland, with "prices rising at the rate of 1,145 times a year in 1948."⁴ Inflation was but one condition among many that was tied to the situation on the mainland. Another was the lack of trained personnel to manage T'ai-wan's various industries and infrastructure, for the Japanese had previously held the higher level jobs and they left after the war. There were few on T'ai-wan who had the training to replace them and the mainland Chinese did not have the necessary managerial skills either.

Trade, Communications and Infrastructure

In a sense the conditions under which T'ai-wan engaged in trade in 1945 were much like they had been in the last half of the nineteenth century. T'ai-wan was again part of China and the restraints the Japanese had imposed on the island's trade were removed. But in their place were new ones which prevented private T'ai-wanese merchants from trading with Japan. China therefore replaced Japan as main recipient of T'ai-wanese exports (See Table 16). However, conditions on T'ai-wan at this time do not indicate that China played the Japanese role in the area of imports, since there is little evidence of Chinese manufactured goods being received on the island.

The Japanese had developed the island's infrastructure to a very high level of efficiency prior to the war, with health care, education, irrigation, transportation and communications on T'ai-wan undoubtedly

TABLE 15

T'AI-WAN: INDUSTRIAL PRODUCTION INDEX, 1937-1955*

Industries	1937	1949	1953	1954	1955#
Power	56	83	151	175	177
Transportation	61	145	193	223	263
Chemical	84	91	208	267	306
Fertilizer	85	139	581	582	492
Food Processing	106	72	118	109	115
Metal and Machinery	49	46	78	108	107
Mining	75	56	88	85	86
Textile	67	174	1085	1270	1274
Timber	58	53	116	115	116
All Industries	79	74	140	152	159
Per Capita all Industries	88	57	88	93	97

* Base 1941=100

First Six Months

Source: Norton S. Ginsburg. The Economic Resources and Development of Formosa. New York: Institute of Pacific Relations, 1953, p. 55.

TABLE 16

T'AI-WAN'S EXPORTS TO THE CHINESE MAINLAND
1937-1942 AND 1946-1948

Year	Total Exports	Exports to Mainland	
	Value*#	Value*	Percent
1937	440 (440)	12	2.7
1938	456 (390)	27	6.0
1939	593 (443)	70	11.8
1940	566 (375)	94	16.6
1941	494 (299)	110	22.3
1942	523 (311)	97	18.6
1946	2,482 (29)	2,309	93.0
1947	36,247 (90)	33,544	92.3
1948	226,268 (91)	187,120	82.7

* Million Yen

Figures in parentheses based on 1937 index of 100

Source: Ching-yuan Lin. Industrialization in Taiwan, 1946-1972. New York: Praeger Publishers, 1973.

better than anything in China proper. This was probably true even after 1949, but the new Chinese government did not capitalize on this advantage. For example, while there were 241 locomotives serviceable in 1945, there were only 188 operating in 1950. Also the tonnage carried by the railroads in 1950 was still below that of 1941. While the length of the island's highways was about the same as in 1938, their quality was in disrepair. This shows a certain amount of deterioration, but mostly a lack of rehabilitation of the island's infrastructure. That was not the case in the area of health conditions. Sanitary conditions as well as health care were allowed to deteriorate after 1945 as evidenced by the lack of garbage collection, due to the appropriation of garbage trucks to haul more profitable materials for Chinese officials. Another reason was simply lack of trained health care personnel, since most of the medical personnel were Japanese who had been sent back to Japan after the war. From 1946 to August of 1947, there were a series of epidemics of smallpox, cholera, and plague, with smallpox continuing to be a problem until 1950.

Pro-government sources claim success in the rehabilitation of two areas of the island's infrastructure--irrigation works and education. In the area of land under irrigation, the statistics of the pro-government source conflict with that of the Joint Commission on Rural Reconstruction (JCRR) with the pro-government source claiming 81,000 hectares more irrigated land than does JCRR for 1955. However, whichever figures one accepts, it is clear that irrigation increased fairly considerably after the war, and that it was due largely to the work of government sponsored agencies. The education picture is less clear, for while the number of students remained about the same as

under Japanese rule, it is hard to gauge the quality of the instruction. One thing is known--provincial level (i.e. controlled) schools saw an increase in the number of students enrolled after 1945.

Policies and Administration after the War

T'ai-wan was formally surrendered by the Japanese on 25 October 1945. From that date the teachings of Sun Yat-sen provided the ideological underpinnings of T'ai-wan's government. Sun claimed that "there is no real difference between the two principles--communism and min-sheng [People's Livelihood]--the difference lies in the methods by which they are applied."⁵ Regardless of the merit of his claim that communism and min-sheng are the same, the methods Sun proposed to attain min-sheng were certainly different from those used under communism or even socialism. Sun proposed two principal methods to achieve min-sheng--the equalization of landownership and the regulation of capital.⁶ By equalization of landownership, he hoped to eliminate landlordism, thereby freeing the Chinese peasant from land rents. Sun proposed that government should impose a high land tax, which would literally tax the large landowners out of their "excess" land. Thus government was to be the major instigator in the equalization of land. Similarly, the regulation of capital was also to be a major concern of the state, since Sun perceived the "development of state industries" as one means by which to accumulate capital.⁷ In his book, International Development of China, Sun proposed a series of programs for the development of China. These programs included 100,000 miles of railroads, a million miles of highways, three large new harbors, building of an iron and steel complex in Shan-hsi, improvement of telegraph and telephone service, improvements in agriculture, and the development of a

wide range of industries and related facilities.⁸ Sun envisioned most of these programs as state enterprises, but he also indicated a willingness to accept foreign capital to facilitate his plans.⁹ This and increased private landownership are major contradictions between communism and min-sheng. Nevertheless, the important fact for this research is that Sun envisioned direct government involvement in Chinese economic affairs.

After the Chinese took over T'ai-wan they appointed the former governor of Fu-chien Province, Ch'en Yi, as Governor-General of T'ai-wan and sent a military garrison to the island. During Ch'en Yi's approximately one and a half year tenure, T'ai-wan was under a military government with a few civilians appointed to various posts. Apparently the reason the national government appointed a military administration was the belief that there was still considerable Japanese influence on the island thereby necessitating a strong military government.

Once the Chinese took over the island they appropriated all residential, commercial, and industrial holdings of the Japanese. In May of 1946 they "consolidated the numerous Japanese private enterprises into 22 large public corporations owned solely by the central government or the provincial government, or jointly by both governments."¹⁰ Thus, in theory, the Chinese government now controlled most of the modern segment of T'ai-wan's economy. While this organizational structure meant that the Chinese government was now in control of large segments of T'ai-wan's economy, the organization itself could not provide the needed administrative skills necessary for proper management of these enterprises. Unfortunately, there must have been few Chinese on T'ai-wan who had the necessary management skills, for a number of Japanese managers were kept on during this time.

In most cases it appeared that the new Chinese government really wasn't concerned with managing the new industries, since numerous reports claim that officials were more interested in immediate and personal profit than in long range rehabilitation. One writer claimed that this period was best described with the phrase "if you can't sell the product, sell the plant."¹¹ There also appeared to be little attempt to emulate the Japanese, who had such success on the island. Since so many Chinese officials were interested in immediate profit, "the cohesive administrative system which held the economy together under the Japanese had disintegrated, and in its place appeared an amorphous mass of bureaucrats, legitimate businessmen, and profiteers."¹² While there were changes after Chen Yi was replaced, principally that the island was placed under civilian rule, the effectiveness of government improved little.

In the area of transportation and communication, war damage, direct due to bombing, or breakdown of equipment because of lack of repair parts, hindered T'ai-wan's economy. The post-war government was unable to rehabilitate the transportation and communication networks, much less improve them. While much the same situation existed in other parts of China, most of these regions were involved in the civil war, which was hindering reconstruction of the transportation network. But there was no civil war activity on T'ai-wan, thus the inability of the provincial government to rehabilitate communications and transportation cannot be blamed on communist warfare. The blame falls right on the shoulders of various Chinese governmental agencies. In some cases the impediments to trade were bureaucratic, and the right leverage got the goods moving. In other cases the lack of trained

personnel or proper protection meant that goods would probably never arrive at their destination. In either case, such conditions put a serious burden on trade. Even a semi-official source admitted that "while the government was full of good intentions . . . there were bound to be petty opportunists and unscrupulous politicians" and that a "shortage of trained personnel [local] and lack of sufficient experience and understanding which came with years of servitude, were necessarily handicaps" before 1949.¹³ Whatever the specific reason, the government during this whole time experienced extreme difficulty in repairing the island's economy, much less improving it.

While government administration was not very effective, some attempts were made to rebuild T'ai-wan's economy. For example, there was some government investment in T'ai-wan's industries before 1949. However, due to rampant inflation, theft, and poor statistics, it is hard to evaluate the effect of such investment. Nevertheless, it appears that government policies were aimed at rehabilitation of existing segments of T'ai-wan's economy rather than investment in new areas of development. For example, both the T'ai-wan Sugar Corporation and the T'ai-wan Power Company (government controlled companies) received government bank loans for reconstruction and refurbishing projects. Also various enterprises under the National Resources Commission, such as the T'ai-wan Gold and Copper Mining Administration, T'ai-wan Fertilizer Company, and the T'ai-wan Aluminum Corporation, received government investments after May of 1946.

The final factor worth discussion at this time centers on the provincial government's relationship to the inflation which was rampant throughout China. In one sense, the provincial authorities on T'ai-wan

had little control over an inflation which was national in scope, for the Chinese civil war and the large military budget was something beyond any province of China to control. However, that is not to say T'ai-wan's government was not without blame in helping inflation grow. Since the Bank of T'ai-wan issued money, and the bank was under provincial control, the provincial government therefore controlled much of T'ai-wan's money supply. But during 1946 the Bank of T'ai-wan had three printing presses busily producing banknotes, the total issue of which was unknown. Later new banknotes were issued, but that new issue was no more successful in controlling inflation than the previous one.¹⁴

"Independent" T'ai-wan, 1949 to 1975

A New Economic Life for the Island

With the fall of Shang-hai on May 25, 1949, economic relationships between T'ai-wan and mainland China were severed. Thus, as one Chinese writer put it, after that date "the planning and development of T'ai-wan's industries were [sic] based on the economic interests of T'ai-wan."¹⁵ Soon changes in the development pattern of T'ai-wan began to take place. This new economic period was summed up by Lin Ching-yuan, who said that T'ai-wan was "transformed within a short span of time from an unstable agricultural economy exporting sugar, rice and other primary goods to a expanding exporter of light manufacturings and other highly processed goods."¹⁶

The years between 1949 and 1953 were concerned mostly with reconstruction and rebuilding of that part of the island's economy which was still suffering from the war. By 1952, many of the economic indicators were approaching or had surpassed the pre-war levels, while

cement and timber production had exceeded their earlier marks. Additionally, textile production expanded during this time as compared to limited production under the Japanese. In 1952, the China Textile Industries Corporation established a mill at K'an-tze-chiao with machinery evacuated from the China mainland.¹⁷ Other plants had also been "transferred" from the mainland during the late 1940's and these became the nucleus of T'ai-wan's current textile industry.

In 1953, T'ai-wan's economy entered a new phase. Reconstruction and rehabilitation were considered completed and the government began to plan for future development. In that year the Republic of China's First Four-Year Plan began. From 1953 to 1971, industrial production grew at an annual rate of 14.6 percent, while agriculture grew by 4.8 percent annually so that by 1971 industrial production had surpassed agriculture and accounted for 34.4 percent of the net domestic product versus agriculture's 17 percent.¹⁸ The 1971 figures are nearly exactly the reverse of those for 1953, when agriculture contributed 40 percent of the net domestic product and industry accounted for only 17 percent.¹⁹

Before 1960, T'ai-wan's economy had moved toward stability but the economic structure of the island had not yet been transformed from an agricultural to a manufacturing one. In the manufacturing area, dramatic movement occurred during this early period, as evidenced by a 39 percent drop in the value of production of food and related goods between the 1940's and 1954.²⁰ That was dramatic, but food products in 1954 still accounted for about 90 percent of exports: "in 1947, for instance, imported goods accounted for more than 70 percent of apparent domestic consumption (i.e., value of production plus imports, minus exports) of manufactured goods other than food, beverages

and tobacco," but by 1954 domestic production was supplying an estimated 77 percent of apparent domestic consumption.²¹ The major areas that were being supplied by domestic production were the consumer goods of textiles and apparel, wood products, leather, and printing along with some producer goods like petroleum refining and cement manufacturing. By the late 1950's, the domestic market was saturated and this was followed by an industrial slowdown with industry centered on light manufacturing showing little growth in the intermediate and capital goods sectors. In terms of the overall economy, by 1959, 56.6 percent of the work force was employed in agriculture, forestry, or fisheries, while only 11.1 percent worked in secondary industries (i.e., manufacturing, mining, construction, and public utilities).²²

It was mainly after 1960 that both the base and mix of T'ai-wan's economy changed. "The share of industrial production in the net domestic product began to surpass that of agricultural production in 1963" and continued to grow as the decade went on.²³ Not only was industry replacing agriculture as the base of the island's economy, the secondary manufacturing industries were becoming the largest employer on the island. As of October 1974, 33 percent of the labor force was employed in manufacturing, 34 percent in tertiary industries, and 30 percent in agriculture, forestry, hunting and fishing.²⁴ The initial expansion of T'ai-wan's industry resulted from the growth in areas of light industrial products designed primarily for export. As the light industrial products industries grew, so did the chemical and heavy industries which supported them. In fact, the share of the chemical and heavy (metals and machinery) industries as part of the total manufacturing sector increased from 30 percent in 1952 to 51.2 percent

in 1971, while during the same period light industry's share declined from 70 percent to 48.8 percent of the total. By the 1970's, T'ai-wan's economy had not only become based on industry which was mostly manufacturing, but the mix of the manufacturing was shifting toward a dominance of chemical and heavy (metal and machinery) industries (see Table 17).

Trade, Communications, and Infrastructure

The events of 1949 not only meant a political and economic change but they also pushed T'ai-wan into a new trading situation. No longer could China and Taiwan trade with each other, for politics would not permit it. Thus T'ai-wan's unique location off the coast of China was changed by political conditions and T'ai-wan had to find other trading partners. This was not really difficult from a transportation point of view for the island's dependence on ocean transportation meant that it could easily tie into the world's trading network. In effect that was what happened, for the rest of the world eventually provided an outlet for T'ai-wanese goods. After December 1949, trade with Japan, which was closed to private merchants before this date, was resumed. The early trade was mostly barter, but agreements were later reached which formalized trade between the islands. During the same time T'ai-wan's trade with other parts of the world was expanded so that by the mid-1960's, many of the world's nations traded with T'ai-wan. At this time Japan and the U.S. were the two largest trading partners accounting for over 50 percent of the total trade. T'ai-wan's trade breakdowns have not changed much up to the present.

TABLE 17

T'AI-WAN: PRINCIPAL INDUSTRIAL PRODUCTS, 1974

Item	Unit	Quantity
<u>Mining</u>		
Coal	M.T.	2,934,427
Crude Oil	K.L.	209,975
Natural Gas	1,000 M ³	1,586,701
Salt	M.T.	362,809
<u>Heavy and Petrochemical</u>		
Plastic Shoes	1,000 Pairs	197,037
Aluminum Ingots	1,000 M.T.	31,320
Sewing Machines	1,000 Set	1,178
Agricultural Machinery	Set	5,800
Electric Fans	1,000 Set	501
Air Conditioners	Set	35,300
Transistor Radios	1,000 Set	16,100
TV Sets	1,000 Set	4,340
Recording Machines	1,000 Set	2,204
Electronic Calculators	1,000 Set	400
Automobiles	Units	28,000
Motor Cycles	1,000 Units	304
Bicycles	1,000 Units	1,178
Ships or Vessels	1,000 Gross Ton	306
Fluorescent Lamps	1,000 Units	17,310
<u>Light Industries</u>		
Canned Pineapples	1,000 Std. Case	2,670
Canned Asparagus	1,000 Std. Case	3,653
Canned Mushrooms	1,000 Std. Case	2,950
Polyamide Filament	M.T.	43,297
Garments	1,000 Doz.	9,384
Knitted Garments	1,000 Doz.	22,175
Cement	1,000 M.T.	6,242
Plywood	Million Ft. ²	3,762

Source: The China Yearbook Editorial Board, China Yearbook, 1975. T'ai-pei, 1975.

While the island's trade has expanded, so too have her internal transportation and communication systems. For example, railroads have improved their efficiency with over 338 serviceable locomotives operating in the early 1970's. Roadway and supportive equipment has also improved. Highways, while not expanding in terms of mileage, have undergone considerable change, with almost half of the island's roads paved by the mid-1970's.²⁵ In addition, harbors, aviation facilities, and telecommunications have all been updated during this period.

Those parts of the infrastructure which affect labor have received special attention. The education system has received increased emphasis over the years, with enrollment rates high and the total educational expenditure as percent of GNP increasing from 5.1 percent in 1971 to 5.4 percent in 1976.²⁶ It appears that the government is aware that its new economic policies also require the development of the island's manpower resources.

New Policies for a New Situation

The Chinese government's attitude toward T'ai-wan changed considerably after 1949. In April 1949, the Nationalist government evacuated Nan-ching for Kuang-chou (Canton), in October the move was to Ch'ung-ch'ing (Chungking), and a month later the government was housed in Ch'eng-tu. Finally, in December of 1949, T'ai-pei became the capitol of the Republic of China. Shortly after the central government moved to T'ai-wan, the last Nationalist areas on the mainland fell to the Communists and T'ai-wan, along with a few small islands, became the only Chinese region which followed Sun Yat-sen's principles. There was, however, a major change during this period, with the government becoming much more effective and efficient in handling economic

policies. Thus while the ideology upon which the government based its policies had not changed, the effectiveness by which they were applied certainly had improved. Coupled with the fact that T'ai-wan had for all practical purposes become independent, it is easy to understand the new emphasis on strengthening the island's economy, for if the Republic of China was to survive as a state, the economy of T'ai-wan would have to support it.

During 1949, when it became apparent that T'ai-wan was to become the last place of resistance for the Nationalist government, a number of actions were taken which were hoped would stabilize the island's economy. One of the first was to get under control the inflation which had grown to tremendous levels. Steps were taken to stabilize the currency, control foreign exchange, reduce expenditures and increase taxes. A new T'ai-wan dollar was issued in 1949, with strict controls and as a non-convertible currency, with one new dollar worth 40,000 of the old dollars.²⁷ While these various measures helped to stabilize inflation, it was not brought under control until 1956, as a sizable budget deficit prevented its rapid elimination. Fortunately for the Nationalist government, U.S. aid was available to help offset large budget deficits (mostly military).²⁸

Aid to the Nationalist government, especially American aid, was continued after 1949 in the form of the Chinese American Joint Commission on Rural Reconstruction (JCRR).²⁹ However, while JCRR was important in the overall improvement of T'ai-wan's economy, it was not until 1951 and the beginning of the Korean War that large amounts of American aid entered the island via the Mutual Security Act. From 1951 to 1965, over 1.5 billion dollars of U.S. aid entered T'ai-wan

in one form or another.³⁰ While U.S. aid was not the only reason for T'ai-wan's dramatic economic recovery, it was, no doubt, an important factor when combined with other changes such as the Economic Stabilization Board, created in 1951, and the First Four-Year Plan, which started in 1953.

In 1949, the government also undertook the first phase of the well-known land reform program which was meant to improve economic conditions on the island and gain popular support. During its first phase, land rents were reduced to a maximum of 37.5 percent of the main crop and the tenant was given certain security through six-year contracts.³¹ In 1951, considerable government land was put up for sale, most of which had been appropriated from Japanese interests after the war, and was sold to T'ai-wanese farmers (through government financing) at low prices. The final phase of land reform started in 1953 and was aimed at limiting the size of land holdings. All land in excess of a certain amount had to be sold to the government at a set price and was then resold to private farmers. By 1965, 87 percent of farm families were owners or part owners of the land they tilled, compared to only about 33 percent in 1949.³² The land reform led to a high degree of income equalization, limited the concentration of land, and garnered considerable popular support for the government.

With the formulation and implementation of the First Four-Year Plan in 1953 the government began to take an active role in the island's overall development. The first two Four-Year Plans stressed self sufficiency in agriculture and light industrial products. During this time import controls were imposed which helped local industry develop, and laws were passed which encouraged investment in the island's economy.

The economy was directed toward import substitution and the results were quite satisfactory. However, by the late 1950's, economic growth was declining, since the local market was now unable to support more growth. The government thereupon redirected the economy toward exports based on manufacturing. The third, fourth, and fifth Four-Year Plans stressed development of industries suitable for export markets and began a transition from light to heavy industry. An important part of these last three plans was the improved investment climate, liberalization of controls on industry and trade, improved export promotion, and foreign exchange reforms, all of which were meant to give incentives to export industries.

The government's involvement and success in agricultural reform went a long way toward assuring the success of the new economic plans, for T'ai-wan's cheap labor was a prime reason for the island's competitiveness in its export products. Moreover, the availability of this labor and its effectiveness was primarily a result of success in agricultural development and various other social overhead investments such as education and health care. Although the government chose to develop agriculture, it did not follow the colonial Japanese example and base the island's economy on this revitalized sector of the economy. Instead, it decided to follow a different path which closely paralleled the Japanese example.

Summary

T'ai-wan has undergone considerable economic change since 1895. During the period from 1895 to 1945, the island had an effective economy which was based on the exploitation of the region's natural resources.



This economy was effective in that it successfully produced surpluses of products, primarily rice and sugar, which could be exported to the Japanese home islands. Japan, in turn, shipped manufactured items to T'ai-wan, thus maintaining an efficient trade relationship which continued throughout the Japanese period. T'ai-wan never developed enough manufacturing capability to supply its own needs during this time period.

The reason that T'ai-wan's economy at this time did not develop sufficient manufacturing capability for local needs was that Japan's colonial policies did not permit it. This policy called for T'ai-wan to supply raw materials for Japan's industry which in turn would supply T'ai-wan with manufactured products. Towards that end, the Japanese government on T'ai-wan followed policies which discouraged most manufacturing on the island, while encouraging those activities which facilitated the exploitation of certain natural materials. The creation of the sugar cartel and the expansion of the island's irrigation network are two good examples of actions taken by the Japanese authorities which greatly aided in the exploitation of T'ai-wan's rice and sugar potential.

During this period the Japanese practiced colonialism. The economic system which they used on T'ai-wan during this time was state-supported capitalism. The Japanese allowed private Japanese companies monopolistic or near monopolistic control over segments of T'ai-wan's economy. Because of this and the fact that the colonial government's laws and administration were tailored to support the Japanese companies, efficiency and high profits were the norm for these enterprises. However, while the colonial government supported and



encouraged Japanese capitalists, they discouraged foreign capitalists by placing numerous roadblocks in their path with the result that within a short time after 1895, foreign companies played a very small role in T'ai-wan's economy. Assuming results are a good measure of the success of a policy, then the Japanese administration on T'ai-wan was very successful.

Since colonialism implies that the colonial area (T'ai-wan) is used to the benefit of the colonial power (Japan), it is easy to understand why the Japanese followed certain practices. For example, monopolies increase profits and that was a major concern for the Japanese companies. Also since Japan imported large amounts of sugar, T'ai-wan's ability to supply these needs at a low price was a decided advantage for the Japanese economy. It appears that Japan's discouragement of manufacturing on T'ai-wan was not only a result of colonialism, but also necessitated by the distribution of raw material resources. During this time it is very unlikely that the two regions could have been cast in any roles other than Japan as supplier of manufactured goods and T'ai-wan as producer of raw materials. It could have worked no other way, since Japan had few natural resources and its economy during this period would not have supported the development of manufacturing on both T'ai-wan and Japan.

Ideology aside, the major reason T'ai-wan developed under the Japanese was that the Japanese provided an effective and efficient government which provided incentives and support for the island's developing economy. Improved health care, transportation, irrigation, police protection, all had a definite impact on T'ai-wan's development. In most cases the construction of this infrastructure was tied directly

to an economic goal, for example, irrigation and rice farming. In other areas the relationship was more abstract, as was the case with police protection. But whatever the relationship, it was government involvement which was a major factor in the island's development.

When T'ai-wan was garrisoned by forces of the Republic of China in 1945, the island entered a new political condition which was for T'ai-wan to become a part of China once more. This condition has continued, on paper at least, down to the present day. Of course, T'ai-wan ceased to be a part of China in 1949 and became defacto independent. However, for the first four years, T'ai-wan was indeed a part of China. During these years the island's economy stagnated. While it appears that the basic make-up of the economy changed little during this time, its effectiveness was never at the pre-war level. Thus while rice and sugar were still the island's major crops and made up the largest segment of the economy, they did so at a reduced level from previous years. Also T'ai-wan's economy during these years suffered the effects of massive inflation which not only hindered economic growth, but was unique to this period.

Most of T'ai-wan's economic ills during the late 1940's were related to the actions or inactions of the new Chinese government. The opportunism of the new Chinese bureaucrats is hard to imagine and the facts themselves are even harder to believe. Still, it is an indisputable fact that government administrators' willingness to make personal profits and their inability or unwillingness to do their jobs gave rise to conditions in T'ai-wan which kept the economy from repairing much of the wartime damage.



However, around 1949, the attitude of Chinese officials began to change as the Nationalist government began to lose the Chinese civil war. From then on Chinese administration improved and government policies began to affect positive changes in T'ai-wan's economy. For example, the early land reform improved agriculture and increased public support for the government. The redirection of the economy in the 1960's away from dependence on exporting natural resources and toward more exports of manufactured products is but another example of government involvement in T'ai-wan's economy. The obvious reason for this change was that after 1949 T'ai-wan was no longer a part of a larger national economy. T'ai-wan had to survive economically on its own and support not only a provincial level government, but the national level government of the Republic of China as well. This created a considerable burden on the economy and no doubt contributed to the decision to direct T'ai-wan's economy away from reliance on natural resources.

The basic economic system which has been used to accomplish this redirection has been capitalism coupled with state planning. While T'ai-wan's government officially follows the teachings of Sun Yat-sen, the economic policies which it has followed since 1949 have only a remote similarity to his ideology. As one source points out while the "overall long range guiding principles for the economy were based upon the tenets of Sun-Yat-sen . . . in practice, the principles were interpreted as allowing for both private and state enterprises" with the direction by the state kept to a minimum.³³ The early land reform on T'ai-wan clearly paralleled Sun's ideas about the equalization of landownership and his ideas of state involvement in economic matters certainly underlay T'ai-wan's system of planning since 1949. Thus in a general way Sun's

ideology has contributed to T'ai-wan's economic policies but it is also true that his ideology does not specify where and how the economic policies should be implemented.

It seems that the political condition of T'ai-wan's "independence" called for a strong economy. Towards that end the government determined that a manufacturing economy was desirable and implemented policies which encouraged that sort of development. Thus, it appears that it was the political condition of T'ai-wan's independence rather than any ideology which effected a change in the island's development pattern. It is unlikely, however, that without an effective and efficient government T'ai-wan could have experienced such changes.

Notes - Chapter III

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⁴Ching-yuan Lin, Industrialization in Taiwan (New York: Praeger Publishers, 1973), p. 29.

⁵Sun Yat-sen, San Min Chu I (Shanghai: The Commercial Press, Limited, 1928), p. 416.

⁶Ibid., p. 409.

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¹⁹Frederick H. Chaffee, et. al., Area Handbook for the Republic of China (Washington, D.C.: U.S. Government Printing Office, 1969), p. 251.

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²⁴The China Yearbook Editorial Board, op. cit., 1975, p. 313.

²⁵Economic Planning Council, op. cit., p. 197.

²⁶Ibid., p. 197.

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²⁸Ibid., p. 355.

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CHAPTER IV.

HAI-NAN'S CHANGING POLITICAL AND ECONOMIC CONDITIONS, 1895-1975

Introduction

This chapter analyzes Hai-nan's development patterns during the years 1895-1975. Hai-nan's economy experienced only minor changes in development patterns during this time, while the island's political climate varied considerably. Following the pattern established in the previous chapter, Hai-nan will be analyzed by the following political-historical time periods: The Disruptive Years (1895-1939), The Japanese Occupation (1939-1945), The Post-War Period (1945-1950), and Hainan as a Part of the Peoples Republic of China (1950-1975).

The Disruptive Years: A Period of General Strife, 1895-1939

Economic Trends

Constant changes in the political and economic environment of the island caused a period of general strife from 1895 to 1939. During this period Hai-nan's economy experienced little successful development. Although a number of development schemes were proposed and a few were started, none were completed. Hai-nan's economy in 1895 was based primarily on agriculture and remained so for the next 44 years.

Using export figures as a guide to judge the total economy shows that agriculture, particularly sugar and animal products, dominated the island's economy. However, agriculture does not appear to have grown



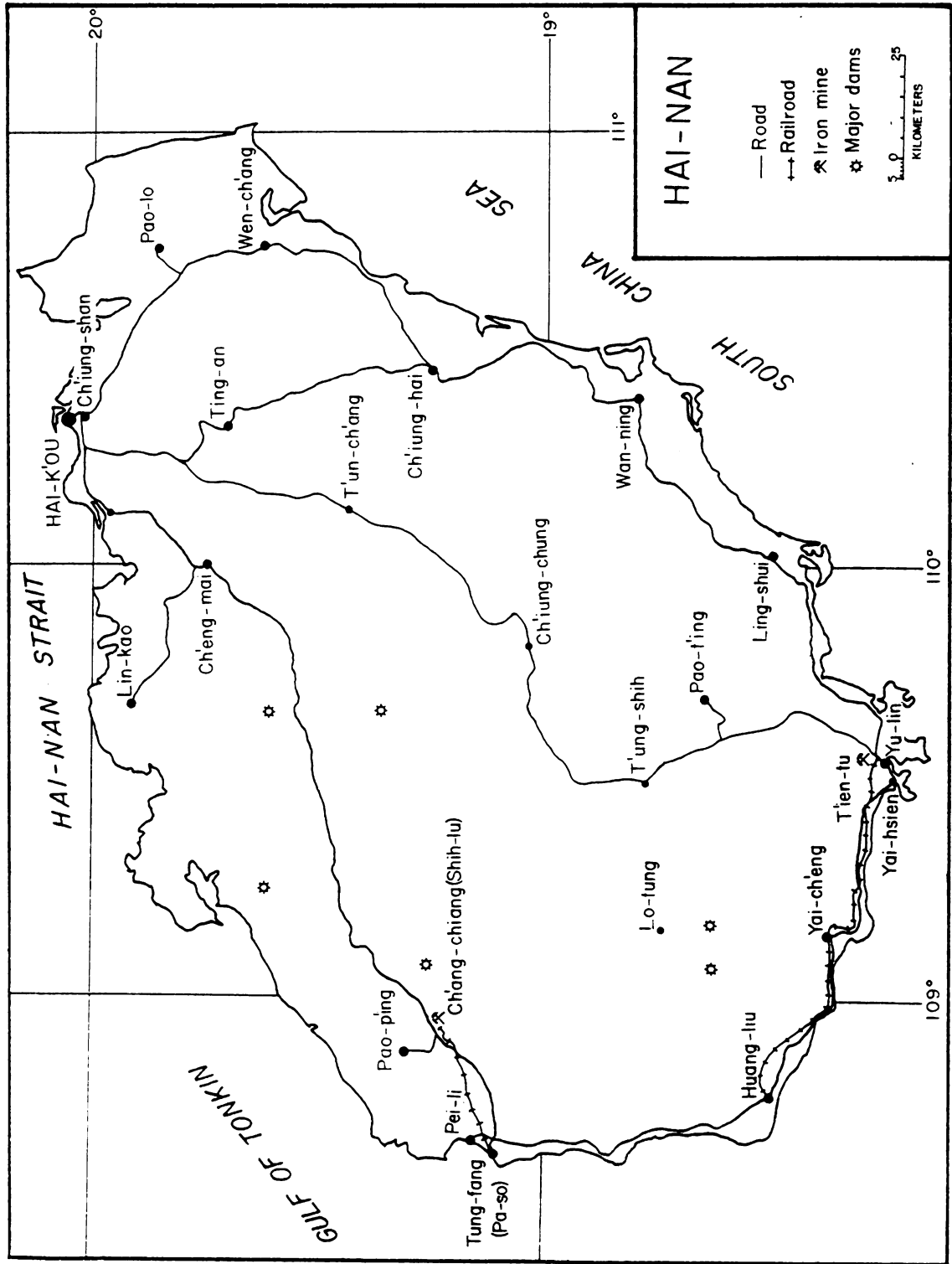


Figure 7. HAI-NAN

much over this nearly 45 year time period. Assuming that exports reflect overall productivity, the island's principal products barely held their own with some of the island's exports showing considerable variation and frequent periods of depressed productivity. For example, sugar exports fluctuated widely between 1900 and 1905, and from 1926 to 1932 experienced a seriously depressed state. Exports of pigs also showed a depressed state from 1911 to 1920 and from 1926 to 1929, when overall pig exports dropped. Also there is no evidence to suggest that Hai-nan's agriculture experienced any dramatic increase in productivity which did not appear as increased exports.

In terms of food production, the island was no more self-sufficient by 1939 than it had been in 1895. For example, rice continued as a major part of the import trade throughout this period of time, with major increases in imports during periods of unfavorable weather conditions.

One of the first major attempts at development on Hai-nan in modern times began in the year 1910, when several companies were organized by overseas Chinese to exploit the island's rubber and other tropical crop potential. Beginning in 1910, these companies, especially the two principal ones, Ch'iung-an and Ch'iung-tung, planted thousands of rubber trees in Chia-chi and Ch'iung-tung districts. In 1915 it was reported that the first tree was tapped, but rubber as an export item did not appear in the customs reports until 1920 and it ceased to be listed after 1925. During the five years rubber appeared as an export item, the amount shipped was quite small. All in all, the attempt at establishing a rubber industry on Hai-nan during these years met with little success.

The lack of success with the rubber project was echoed in other development schemes. For example, a foreign owned albumen factory was

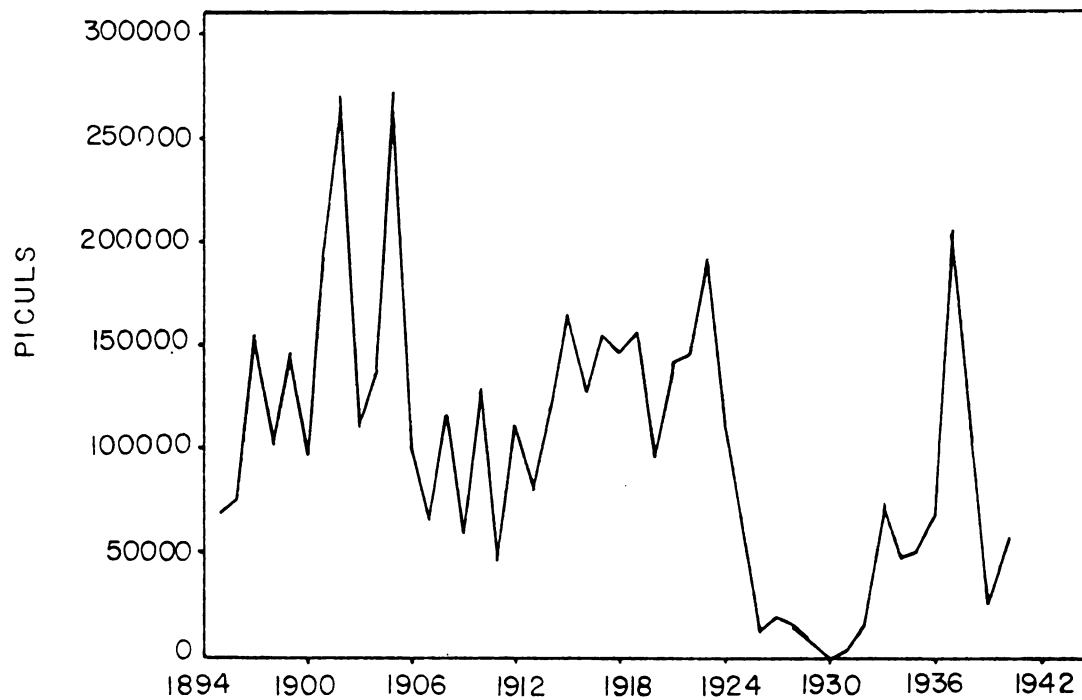


Figure 8. HAI-NAN: EXPORTS OF PIGS, 1895-1940



Figure 9. HAI-NAN: EXPORTS OF SUGAR, 1895-1940

opened in 1896, but because of raw material supply problems it was closed before the year was out. In 1900 another attempt was made to open an albumen factory with the same end results. A cannery was opened in 1905 to process lichees and pineapples, but it failed in 1906. Also, in 1908, a small match factory was established. Toward the end of the year it was reported as "not yet a success."¹ However, before the end of the second decade of the twentieth century a cannery was successfully opened and lichees and pineapples appeared sporadically as a minor item in the Chinese Maritime trade statistics for the island from 1920 to 1931. By the 1930's such industries as aerated water and an ice plant were successfully operating also. However successful these latter industries were, Hai-nan was not a paradigm of industrial strength by 1939.

The extractive and forestry segments of the economy also experienced little activity beyond that which had traditionally taken place. The salt industry continued as it had, and there were some sporadic exports of tin. The customs report of 1935 indicated that work had begun on a lead mine in the Yai-ch'eng (Ngaichow) district, however lead never appeared as an export of the island. Whatever the level of mining on the island, there is no indication that it benefited in any way from foreign investment or technology. Although some surveys for minerals were completed, it is not clear how much was known about the island's iron reserves by 1939. It appears, however, that the Chinese made no attempt to exploit this resource.

Infrastructure and Trade

Hai-nan's infrastructure was little more developed in 1939 than in 1895. Postal service was inaugurated in Ch'iung-chou in 1897 and



a wireless station was established at Hai-k'ou in 1907, but the radio only reached Hsu-wen on the Lui-chou Peninsula and it did not operate between 1911 and 1927. There appears to have been a local telegraph system in operation by 1916, but it was not always in working order and one of the customs commissioners referred to it as "inadequate."²

Transportation was little better than communications, for the island boasted few roads. In 1932 Maynard said that most of the roads were of dirt and poorly maintained, though officially the island was supposed to have 4,000 miles of roads that year.³ Hans Liu claimed that there were 2,000 miles of major and minor highways on the island in 1938, but admitted that many of them lacked bridges or ferries over rivers.⁴ Even though the roads were poor, the island supported a fair number of motor vehicles used for various kinds of transport. Maynard estimated that there were approximately 600 automobiles on the island in 1932 and bus service operated between Hai-k'ou and other towns by 1938. One interesting fact was that during these years the auto transportation companies were required to maintain the roads and they generally did a poor job.

While internal transportation is an important factor in a region's development, external transportation is in many cases even more important. This is especially true when the region is an island as is Hai-nan, for such a region must move all its exports by ship. Unfortunately, the island's harbor facilities, described as poor in 1895, were little better by 1939. Although a few navigation aids had been installed and some new warehouse facilities built at Hai-k'ou, the island's major port, shallowness, its major limitation as a harbor, was never corrected and therefore western style ships had to anchor offshore and use lighters to unload.



This meant that it took long periods of time to load and unload a ship, which is not a desirable feature for any port. While Hai-nan's poor harbor undoubtedly hindered the island's trade, it did not predetermine the destination of exports.

The destination of Hai-nan's exports during this time, as recorded by the Maritime Customs, was predominantly to foreign ports and Hong-Kong. Before the 1926-31 period, over 80 percent of Hai-nan's exports were shipped to non-Chinese ports and even during 1926-31, only 41 percent were received by Chinese ports. While these figures indicate that Hai-nan had considerable foreign trade, in fact it is very possible that it was much less than shown in Table 18. Because Hong-Kong shipments were included in the foreign trade column, there is a high probability that a certain amount of this Hong-Kong trade eventually reached China, therefore Hai-nan's exports to China were undoubtedly higher than the figures suggest.

TABLE 18

DESTINATION OF HAI-NAN'S EXPORTS*

Years	Foreign Ports#	Chinese Ports
1896-1900	98.6	1.4
1901-1905	96.6	3.4
1906-1910	87.6	12.4
1911-1915	85.2	14.8
1916-1920	94.6	5.4
1921-1925	86.0	14.0
1926-1931	59.0	41.0

* Shipped through Chinese Maritime Customs, in percent.

Includes Hong-Kong

Source: Compiled from Chinese Maritime Customs Reports, Ch'iung-chou, for the years 1896-1931.

The social services segment of the infrastructure was little more developed than were the island's transportation and communications

systems. In fact health conditions on Hai-nan by 1939 had not improved much since 1895. According to annual customs reports, plague or other epidemic diseases occurred in half of the years from 1895 to 1939 and as late as 1936 no health service existed on the island.⁵ It is interesting to note Hans Liu's comment that "before any systematic development of the natural resources of Hai-nan can be undertaken, the prevalent diseases must be brought under control."⁶ A similar situation was found in the area of education with no formal state educational system, and little western-style teaching beyond that given in the missionary schools.

A Lack of Policies and Poor Administration

The significance of 1895 to China was not in the ceding of T'ai-wan to Japan, but that it showed how weak China really was. Since Japan had gained so much so easily, other powers wanted their share. From 1895 to 1898 there was a major scramble for concessions. In 1896, China and Russia signed a treaty which, among other things, gave Russia the right to construct a railroad across northeastern China (the Chinese Eastern Railway). As part of the treaty, Russia was ceded a strip of Chinese land over which she would have complete control. In 1897, Germany gained concessions in Shan-tung and Russia took over several ports on the Liao-tung Peninsula. The next year, Russia expanded control over Liao-tung and gained rights to build the South Manchurian Railway. Also in 1898, Britain leased a naval base in Shan-tung and the New Territories at Hong Kong. Britain also was given a promise by China that no other power would be given privileges in the Yang-tze Valley. Japan again entered the scramble, when in 1898 she was given a similar



promise that no other power would be given rights in Fu-chien Province. Finally the French gained special privileges in southwestern China and were leased a naval base in south China.

In 1898, China experienced the Hundred Days Reform, which in turn was followed by the return to absolute power of the Empress Dowager. The Boxer Rebellion came shortly after and China again suffered a serious defeat and humiliation. The net result of all this was that after 1895, the Chinese government became increasingly less effective and, in fact, lost actual control of many parts of China. For example, during the Boxer Rebellion, while the government in Pei-ching declared war on the foreign powers, few of the provinces followed its lead.

The basic ideology which governed both political and economic life in traditional China was Confucianism. Confucianism was a set of principles and values which governed many activities within China. These principles had as their foundation the Confucian classics. The study of these classics was important, since all government activity was justified by the classics and thus government service required a complete understanding of these works. Because of this, there was no reason to study beyond the classics if one hoped to advance in traditional China. Confucianism stressed tradition and the economic tradition in China was agriculture. Confucianism stresses agriculture above all other forms of economic activity. A strict Confucianist believed "that commerce had to be controlled because it created a class of social parasites, attracting men and goods away from agriculture."⁷ The methods which the traditional Chinese government used to control commerce (e.g. monopolies and licensing) were also often used to generate revenues for government coffers. Thus Confucian ideology is often

viewed as forming a negative type of interference in economic matters in one sense, while serving a rather passive limited role in another. "On the one hand, the dead weight of official and quasi-official forms of taxation bore heavily upon the country's economy, as did also the various forms of state monopoly, licensing and the like . . . on the other, the services performed for the economy were minimal . . . largely confined to the maintenance of the waterworks and the stocking of granaries as a safeguard against famine."⁸ While traditional Chinese government in the form of the Imperial system ended in 1911, with the fall of the Ch'ing Dynasty, Confucianism itself continued to impact China, often in a major way, until 1949. For example, the traditional ideas of government taxation and monopolies were continued throughout this period on Hai-nan.

What was true of China on a national level was true of Hai-nan on a much smaller scale. Political instability was a fact of life on Hai-nan from 1895 to 1949, with a short interval of Japanese-imposed stability. Over seventeen major incidents of reported civil disruption took place between the years 1895 and 1939, or an average of one every two and one half years. It is also highly probable that many disruptions were not reported, partly because they were not serious enough and partly because they had become so commonplace. No time segment of this period was immune from these disruptions, though there were several periods when there were fewer troubles.

These disruptions were reported to have an effect on attempts to develop Hai-nan. For example:

In 1908 the Hainan Exploitation Syndicate was formed among the Chinese of the Straits Settlement . . . Between 250,000 and 300,000



Mexican dollars were subscribed. The syndicate opened tin mines, raised a certain amount of sugar, and started a cattle farm. All of these enterprises failed, however, due largely to a lack of security for property and the prevalence of thieves and bandits.⁹

There are a number of other such accounts found among the reports of the day.¹⁰ However, measurements of the effects of disruptions on the traditional economy are hard to document, for while the most serious of the disruptions which took place in 1927 and in 1932 seemed to have affected the island's economy (since exports of select products definitely show a decline), the same did not hold for other times.

Besides the obvious effects of disruption, there were other problems created by political instability. Each new administration, and there was a large number during this period, needed money. They collected taxes in advance and granted special privileges such as monopolies which were sold to the highest bidder. In some cases this led to disruption itself, as was the case of a riot in Ch'iung-hai (Kachek) in 1902 over the increase in the tax on pig slaughter.¹¹ There were monopolies granted to collect taxes and carry on select activities, such as the fantan gambling monopoly granted to the Lwang Li Company in 1917.¹² Most monopolies were repressive in the sense that their main purpose was to raise money and they had little if any positive effect on development.

The Second Sino-Japanese War, 1939-1945

Economic Trends Under the Japanese

The Japanese invaded Hai-nan in February 1939, and within a short time controlled most major parts of the island. Statistics are unavailable,



but descriptive materials reflect the developmental trends taking place during this time. The most important was the development of two iron mines, one at Shih-lu, about 56 km. from the port of Tung-fang (Paso) and the other at Tien-tu, located near the port of Yu-lin. The Shih-lu mine was developed by Japan's Nitrogen Association and Tien-tu was opened by the Ishiwara Industrial Association, both very early in the Japanese occupation period.¹³ Transportation and harbor facilities needed by the mines were also constructed. A railroad from Shih-lu to Tung-fang on the coast was opened on March 23, 1942, and the line linking Tien-tu to the ocean was opened at about the same time.¹⁴ Before military activities intervened the Japanese shipped several hundred thousand tons of iron ore to Japan.¹⁵

Attempts were also made to exploit the island's agricultural resources. New lands were opened up and old ones were put to better use. numerous Japanese companies were involved in cultivating crops, though it is not clear whether they operated like corporation farms of today or coordinated and controlled private farmers. The South Pacific Development Corporation produced wheat on 257,250 acres of land and the Formosa Exploitation Corporation cultivated 245,000 acres of "peng-lai" rice during 1943.¹⁶ Yet it was reported that in 1943 Hai-nan still imported rice. Sugar was an important focus of several Japanese companies and rubber interested others. However, lack of production and export figures inhibits analysis of how successful these efforts were.

It is clear that no heavy industry was established on the island during this time. Some light industry was reported but almost all of it centered on the processing of raw materials produced on Hai-nan. For example, factories were established in Yu-lin to can beef and fish, both

were run by Hayashikane, a Japanese company, while Japan's Oil and Fat Association was producing coconuts and processing them for oil.¹⁷ Much of the island's development during the Japanese occupation centered on improving existing resources rather than starting new projects. However, there is evidence to suggest that the Japanese were interested in investing in development of hydroelectric power, rubber, forestry, mining and various agricultural projects.¹⁸

Infrastructure and Trade

The Japanese upgraded the island's transportation and communication systems. They improved the island's roads by paving many highways and extending the system to complete a round-the-island road. The new round-the-island road and the railroads to the iron mines greatly improved the island's internal transportation system and made the potential for exploiting Hai-nan's resources much greater. Radio broadcasting was promoted, and eleven telephone companies began to run lines around the island, first in the west and then around the island.¹⁹

Not only did the Japanese expand Hai-nan's internal transportation and communication system, they also improved harbor facilities at Hai-k'ou, Yu-lin, and Tung-fang (Paso). The major reason for improving the Tung-fang harbor was that it acted as the port for the Shih-lu iron mine. Yu-lin also was a terminus and port for the shipping of iron ore, but it was also developed as a fishing harbor and military base. As early as 1943, four years after they occupied Hai-nan, the Japanese claimed that they had spent nearly 100,000,000 yen on engineering construction there, the bulk of which went for improving transportation and communications.²⁰



The main reason that the Japanese developed and improved harbor facilities on Hai-nan was to facilitate the export of the island's natural resources to Japan. While export figures for the occupation are lacking, certain assumptions can be made. The first is that all Hai-nan's iron ore went to Japan, since Japanese money was responsible for the development of the mines. Similarly, while some of the island's other exports might have gone to markets other than Japan, the requirements of the war meant that the Japanese needed all the resources they could get and they therefore most likely received most of Hai-nan's.

The Japanese began to make changes in some of the social services available on Hai-nan. There were major improvements in health care, especially in the iron mining regions where it was traditionally unhealthy. In order to mine the ore and build the railroads, the Japanese had to decrease the incidence of disease in these areas. There were also reports of some expansion of educational facilities, but probably not much was done in this area. However, it should be noted that much of the propaganda was done in Japanese, especially in the mines, and the Japanese language was taught in the schools.

War-Time Policies and Administration

Though Japan was practicing colonialism on T'ai-wan, the situation was different for Hai-nan. Before Hai-nan was occupied, the Japanese had proclaimed their "New Order in East Asia" which promoted, among other things, economic cooperation within the region.²¹ Shortly afterward, Wang Ching-wei left Ch'ung-ch'ing to begin a peace movement which manifested itself as a separate Chinese government, in theory governing all of occupied China. These facts make it difficult to assign any specific ideology to Japanese activities on Hai-nan. However, it should

be remembered that during this whole period Japan was at war. Thus the war and its demands mostly likely overshadowed all other considerations in the occupation of Hai-nan. Therefore, military priorities undoubtedly mandated government (i.e. Japanese) involvement in Hai-nan's economy.

While the Japanese did not formally incorporate Hai-nan into their empire, the politics of the times made it a de-facto part. Hai-nan was governed by the Japanese military throughout this period and was occupied several years before the Japanese widened the war to include the United States and European powers. It should be remembered that during this time, the war effort in China and the possibility of the war expanding meant that Japan would have to have a stable source of raw materials. Thus the Japanese were on the lookout for needed natural resources within their sphere of influence. Iron ore was one natural resource which the Japanese needed, for not only were the Japanese home islands poorly endowed with this resource, but the war effort called for ever increasing amounts of steel. Because of this and the fact that Hai-nan had relatively large amounts of iron ore, it is easy to understand what led the Japanese to begin its development.

Since they shared many of the same physical characteristics, Hai-nan must have looked like T'ai-wan had forty years earlier to the Japanese. In fact, reports indicate that a number of T'ai-wan based Japanese companies, such as the Formosa Exploitation Corporation, the Formosa Automobile Development Company, and the Bank of Formosa, began early to involve themselves in Hai-nan's economy. In many ways, the Japanese on Hai-nan followed policies similar to those used forty years earlier on T'ai-wan. They encouraged private Japanese corporations to invest in and exploit the island's resources. Since the Japanese

companies had little Chinese or other competition, they soon began to dominate the economy. For example, all trade was in the hands of three Japanese trading companies and the iron ore deposits were being developed by Japanese concerns.

While the Japanese imposed an orderly administrative system on the island, it was basically a military government. In fact much of the development (e.g. transportation, communications, harbor improvement) had very obvious military overtones. Other projects such as the iron mines, food processing, and agricultural projects had a much more indirect connection to the military effort. Moreover, the iron mines were run in a context of total war, for while the mines were privately operated, Li minority laborers were recruited by military means (i.e. conscripted) and payed in military scrip.²²

No doubt the Japanese intended to stay for a long time, since they established some experimental farms in 1942 and some of the other projects they initiated required a considerable amount of time before they would turn a profit.²³ Of course the Japanese did not have much time and much of the development which occurred under their rule could only be categorized as the first stage of a complex process.

The war, however, was a limiting factor which soon put an end to most, if not all, development planned for Hai-nan. Mineral resources and agriculture take time to develop and the Japanese did not have time. Though the mines were developed and supporting transportation networks constructed, by the last year of the war Allied military activity had seriously hampered or destroyed their output. The same was true of other Japanese development projects. The Japanese had perhaps four or five years of control which was relatively free of war-time

trouble. During this time they accomplished quite a lot, especially when compared to previous periods on Hai'nan.

The six and one-half years of Japanese control in Hai-nan resulted in a certain amount of development, especially when compared to previous years. However, by 1945, much of this had been damaged by war, either by actual physical means or because of a lack of parts and supplies which limited maintenance. Land transportation was reported to be in serious trouble toward the end of the war, no doubt due to the destruction of bridges and vehicles. Vehicles not damaged by military activities lacked the parts and supplied necessary to keep them functioning. In addition, the Chinese claimed that the Japanese blew up all the mining installations prior to their surrender.²⁴

Civil War Disruption, 1945-1950

Economic Conditions

It was reported that "on V-J Day the Chinese authorities were able to take over a great number of plants [Japanese owned] and other equipment."²⁵ It appears that while a number of these plants were not functioning, most had equipment in working order. Unfortunately, "these plants were not immediately made use of and . . . much of the valuable equipment has since been allowed to rot owing to being left unused."²⁶ Also, the provincial authorities who had control over many of these Japanese plants began to sell them to private interests so that most of the smaller enterprises were transferred to private hands by 1948, while some of the larger plants were retained by the Chinese military for future deposition. The government formed the Marine Products Company, which took over Japanese fishing and processing equipment, though that company reportedly was never a functioning enterprise due to lack of

capital. One problem which occurred when the former Japanese companies were purchased by private interests was that instead of operating them on Hai-nan, they began to ship the equipment elsewhere. Eventually the provincial authorities became concerned and issued an order forbidding the export of the former Japanese equipment.²⁷

Overall the island's development during these four years changed little from what it had been under the Japanese and in many ways it deteriorated. As already pointed out, much of the Japanese industrial equipment was improperly utilized. The mines and railroads were not put back into working condition, though the Chinese did sell 50,000 tons of iron ore mined during the war to Japan.²⁸

Agricultural data is extremely sketchy, but according to a later report the island was not self-sufficient in grain in 1947. Government development plans claimed that the problem with agriculture was:

1. the method of cultivation was out-of-date, inefficient, unproductive;
2. the organization of the farmers was weak;
3. rural financial help was almost non-existent.²⁹

Unfortunately, nothing was done to eliminate these problems.

Infrastructure and Trade

The island's infrastructure received little attention during this time. Railroads built by the Japanese remained inoperable and the Yu-lin line was not reopened until 1959. Road reconstruction fared little better, especially in the areas near those controlled by the communist guerrillas. While reconstruction plans called for improving the island's infrastructure with irrigation and anti-flood projects, telephone

exchanges and reconstruction of the island's transportation networks, little was accomplished beyond the import of a few trucks.

The same was true of social services. While the government claimed to have opened health bureaus in each district throughout Kuang-tung Province, it admitted that this excluded those on Hai-nan. In fact, during this time the limited improvements in health conditions begun by the Japanese were mostly abandoned and the health conditions reverted to their previous low state. The government claimed some movement in the area of education, but the training of school principals as reported in 1947 was minimal.³⁰

This period is weak in both statistics and descriptive materials, particularly in the area of the island's trade relations. The port of Hai-k'ou (Ch'iung-chou) was reopened for trade on January 2, 1946. However under the new Chinese Customs, Hai-k'ou lost its previous status as a major port and was now only a station under the Hai-k'ang (Luichow) Customs Office. It was reported that trade was considerably below normal during this period. Similarly, the destination of the island's trade is not now known for certain, but while it had traditional ties to southeast Asia and south coastal China, only the south coast of China was a likely place to trade due to political events of the period.

Civil War Policies and Administration

In almost all ways Hai-nan reverted to what it was before the Sino-Japanese War, with the same or similar social-political conditions. Politically, Hai-nan remained a part of Kuang-tung Province, though there was some talk of making the island a province. The government, at both the provincial and national level, was not able to come to grips with the problems that confronted the island after the war.



While the government which came to power on Hai-nan was committed to the ideology of Sun Yat-sen, that ideology had no impact on the island's economy during this period because of civil war activity on the island which prevented the implementation of new economic policies. Before the 2nd Sino-Japanese War, a small number of communists had been conducting guerrilla activity on the island. During the war these guerrillas continued their fight, this time against the Japanese. While the Japanese were able to contain the guerrillas, the new Chinese Nationalist government was not. Serious fighting broke out early between the Communists and the Nationalists and prompted Mr. T. V. Soong, governor of Kuang-tung, to announce in 1948 that the only reason the reconstruction program was not yet functioning was the instability of Hai-nan and "pacification must precede reconstruction."³¹ To cope with this problem a scheme was devised for the settlement of 100,000 demobilized Nationalist soldiers on uncultivated land. These soldiers would be armed soldier-farmers and would both pacify and reconstruct at the same time. However, the Communists won the civil war before this plan was ever implemented.

Besides this obviously military plan, there were other development plans which included Hai-nan Island. There are at least two published versions of plans for Kuang-tung Province which give some information on how the provincial authorities sought to develop Hai-nan.³² While it appears that none of the development projects outlined in these sources were ever implemented, the plans themselves are of interest. The focus of the proposed projects was to establish agricultural plantations for crops such as rubber, coconuts, quinines and sugar cane. Irrigation, along with flood control projects, and experimental farms were also



included in the plans. With the exception of a proposed hydro-electric plant, none of the projects suggested that the Chinese visualized Hai-nan as an industrial center. In fact, one project was to establish an iron and steel works in Canton using iron ore mined on Hainan. The closest these plans got to projecting industry on Hai-nan was to propose the continuation and expansion of raw materials processing industries. The plans were published in 1947 and a timetable was established for implementation. Once a starting date was established it was to take three five-year periods to complete the reconstruction. The civil war ended before the first five-year plan was implemented.

While the civil war was a major factor influencing Hai-nan's development at this time, other conditions were important. For example, a general condition of inflation and poor administration, common in China after the war, affected Hai-nan as well. As stated in the Kuang-tung reconstruction plan:

The rehabilitation of this province as could be expected, was far from easy. But, it must be remembered that the obstacles that were encountered, such as the inflation of currency, the continued internal strife, were national in character and could not be dealt with locally.³³

Also, the island experienced the opportunism so common in China during these years. Government officials and private individuals were often more interested in fast personal gain than in developing Hai-nan, even though there might be a profit in the latter.

Hai-nan and the New China, 1950-1975

A New Economic Era, 1950-1975

On May 2, 1950, the last ship of the Republic of China left Hai-nan and the island entered a new period as a part of the Peoples

Republic of China. Since that date Hai-nan's development followed in a general way the overall pattern of recent Chinese history. The island experienced most, if not all, of the major events that make up Chinese history since 1949. For example, Hai-nan underwent a short period when the Communists consolidated their control. This was followed by agricultural reform culminating in the Great Leap Forward. After that was the retreat from the radical policy which in turn was followed by the Cultural Revolution. While the island was obviously a part of the larger Chinese historical whole, its own developmental history followed a fairly constant path throughout this period. When national campaigns called for certain types of activity, the form it took on Hai-nan almost always reinforced the previous pattern of development.

Hai-nan's economy was based on agriculture during the whole of this period although there was considerable change in its agriculture and supporting industries. The first part of the period required considerable reconstruction, but even at this time the heaviest emphasis was on the development of tropical agriculture (including crops such as rubber, coconuts, sugarcane and coffee). The most important of these crops was rubber and the Chinese rapidly pushed its development. The Chinese reported that "between 1951 and 1968 huge contingents of peasants, cadres, and demobilized soldiers from mainland Kwantung [Kuangtung] Province opened up more than eighty state [rubber] plantations."³⁴ By 1954 about 1.5 million rubber trees were growing on the island and by 1965 this had increased to an estimated four million.³⁵ Rubber had become the most important cash crop as early as the mid-1950's, though it was not the most valuable export. The new rubber plantations were found

mostly in the hsiens of Ting-an, Lo-hui, Wan-ning, Wen-chang and Tan-hsin on the northeastern part of the island. Coconuts were the second most important cash crop in the mid-1950's. Like rubber, the Chinese began early to develop coconut production and over 300,000 young coconut trees were planted between 1951 and 1953.³⁶ The coconut growing area was "concentrated on the southeastern coast, starting from the east coast at Wen-chang to San-ya port in Yai Hsien."³⁷

Other tropical crops which were either newly introduced or reemphasized were hemp, sugar, oil palm, coffee, and citronella. It is not clear how successful the Chinese have been with these other crops, but today tropical crops make up three of the five principal items of the agricultural production for Hai-nan district (i.e., grain, edible oil, hogs, rubber trees and sugarcane).³⁸ Most of these crops are grown on hilly areas which were formerly "wastelands" and therefore unsuited for most food crops without extensive modification. The Chinese appear to have had some problems with tropical crops but, on the whole, successfully overcame most of them.³⁹

While tropical agriculture expanded, so too did traditional agriculture. The island increased the amount of irrigated land devoted to food production and by 1954 was claiming that grain production (1,460 billion catties) was 49 percent more than 1936.⁴⁰ No matter the growth, it was not enough--the island still had to import grain for at least the first eight years of this period.⁴¹ Since the late 1950's, figures on food production are scarce and while grain production is stressed, it is unclear whether the island has actually achieved self-sufficiency.

The island has traditionally been an important producer of animal products. The government recognized this fact when in the early 1950's it designated Hai-nan along with western Kuang-tung as a principal area for cattle raising.⁴² A 1959 source claimed that 70-80 percent of the island's total exports were animal products.⁴³ The importance of animal products to the people on Hai-nan is also shown by the fact that in 1956 there were 91.5 head of oxen and 112.6 hogs for every 100 farm households.⁴⁴

In addition to agricultural development, the island also saw growth in the fisheries and forestry industries. The fisheries industries have been rehabilitated and by 1955, the Chinese claimed that the fisheries' catch was greater than that of 1938 (1,320,000 piculs in 1955 to 1,140,000 piculs in 1938).⁴⁵ Improvements were made in the fishing ports by building typhoon warning stations, shelters and breakwaters.⁴⁶ The timber industry has also become an important part of Hai-nan's economy. Reforestation is being stressed and timber production is taking place in the Wu-chih mountains of Hai-nan, with some of the timber being used in the construction of fishing boats, buildings and furniture.⁴⁷

Mineral production was rehabilitated, with the Shih-lu (Ch'ang-chiang) iron mine going back into production in July of 1958 with Tu Tao-cheng reporting that this mine employed 15,000 workers and was completely mechanized.⁴⁸ The ore was shipped to An-shan and other places and by 1973 iron ore production was reported three times that of 1965.⁴⁹ Salt was the only other mineral reported exploited, though production figures are not available. Also, brown coal was found on the island but there are no reports of it being mined.

Hai-nan's industrial base throughout this period has been light industry, mostly related to agriculture, either by processing the products or by supplying or repairing the equipment needed for production. Liang Jen-ts'ai, in his 1956 Economic Geography of Kwangtung, says that:

Most industries on the island are handicraft industries, modern industry is almost nonexistent. More important industries include mining, sugar refining, oil processing, rice-hulling, machine building, shipbuilding, and salt producing.⁵⁰

Prior to 1956 there was little reported industrial activity on Hai-nan. During the 1958-59 period there were claims that an iron and steel plant was developed near the mines at Shih-lu.⁵¹ Later sources do not support this claim and it does not appear that the island has any iron and steel capacity to speak of. Perhaps the claim that an iron and steel plant existed on Hai-nan was one of the Great Leap Forward exaggerations.

After the Great Leap Forward, reports of industrial development on Hai-nan were less exaggerated. A shoe factory was established in Hai-k'ou and several workers traveled to Shanghai to acquire "technical know-how."⁵² An enamel factory, chinaware workshop, soft drink plant, canning factory, and soap plant were among those industries listed in another report broadcast from Hai'nan in 1963.⁵³ In 1965, agricultural implements, water wheel pumps and rice thrashers were reported to be manufactured on the island,⁵⁴ with industrial output claimed to have been 59 percent greater than the same period in 1964.⁵⁵ A 1975 source gave a good summary of the island's industry when it reported:

Hainan [Hai-nan] turns out a variety of large-sized products like motor vehicles, walking tractors, machine tools, water turbine generator sets and some precision products.⁵⁶

Based on the sources it seems safe to conclude that Hai-nan's industrial plant is meant to supply local needs, primarily agricultural. Beyond the few references to an iron and steel capacity, mostly in the late 1950's, the bulk of the island's industry is related to agriculture. Examples of these industries are sugar, coconut oil, canned food, rubber, and manufacturing industries which make production equipment such as water pumps, walking tractors and rice thrashers. Other manufacturing industries on the island are almost completely tied to Hai-nan's raw materials base for example, the manufacture of rubber boots and shoes.

Infrastructure and Trade

During this whole period the infrastructure of the island was being improved. The railroads which serviced the mining areas were put back into operation by the late 1950's, although no new construction was reported. Highway reconstruction and construction has been a continuing focus of the new government. By the early 1950's, the Japanese-built road system was repaired and by 1960, Lin Li-ming was claiming "over 6,000 kilometers of highways had been repaired or newly constructed all over the island."⁵⁷ It is unclear how many kilometers of roads are currently usable but, based on a 1966 report, we know that the government is concerned about upgrading and improving road conditions.⁵⁸ Airline service and shipping connections with the mainland have also been improved since 1949.

Overall, education and other social services have received considerable attention, though there were some problems in the education system during the Cultural Revolution. The state has also established various

research institutes on the island which are mostly focused on improvement of various segments of agriculture. Examples are the South China Institute of Tropical Plants and the South China Academy of Tropical Plants, which are both located in Tan County.⁵⁹ It was also reported that "more than 80 percent of the production brigades have set up scientific research groups and the state farms have established agricultural research institutes."⁶⁰ The development of irrigation and flood control projects are but two other areas in which the island's infrastructure has been improved.

The Communists have greatly expanded the health care facilities on Hai-nan Island, and even a Nationalist source reported over five hospitals on Hai-nan (the Communists claimed eight). Health clinics have been established in all of the local districts with emphasis on those inhabited by minority peoples. By the mid-1960's, malaria, the island's most chronic disease, was practically eliminated through drainage of stagnant water and the use of insecticides. Overall it appears that the general health of the people on Hai-nan has never been better.

New Policies and Administration

Hai-nan became a part of the Peoples Republic of China in 1950 and from that date until the present the island has been under Communist control. The new government continued to keep Hai-nan as a part of Kuang-tung Province, though it did make some changes in the island's political organization. Specifically it created a minority people's autonomous area in the southern part of the island. While minor modifications have occurred, this basic governmental organization has continued to the present time.

Ideologically speaking, Hai-nan was now under communism. Communism, of course, means that the state controls all forms and levels of economic matters. Thus, based on ideology, it is quite understandable that the government on Hai-nan during this period should become involved in the island's economy. While communism has prevailed over Hainan since 1949, the economic policy has not been the same over the years China sought development. For example, during the first few years of control ending in 1958, the Chinese followed the Soviet model of economic development. This model centered on development of heavy industry with strong state planning. Many of the leaders, especially Mao Tse-tung, felt that the Soviet model was not the best one for China and they successfully promoted the Great Leap Forward. The Great Leap Forward was based on the idea that human capital could take the place of money capital and thus speed up development. Central state control gave way to local control and the state planning system disappeared. The Great Leap Forward failed and a period of rehabilitation followed. During these years, central state control resurfaced, but policies no longer gave industry a special place in the economy. More traditional means of development replaced the human capital concepts of the Great Leap Forward years. Next came the period of the socialist education campaign and the Cultural Revolution. This period was characterized by very non-traditional methods which stressed local control and again the use of human capital. During this period central control almost disappeared and state planning was not apparent. State planners, economists, and other leaders, the so-called experts, were challenged by those who had

the "right" political views (reds), with the reds winning out.

However, the Cultural Revolution also did not last and was followed by the introduction of a new period called the Four Modernizations (education, industry, agriculture, and the army). This study ends just as this period begins. This period commenced with the return of traditional development methods and central state planning. During all of these periods, non-communist modes of economic activity were minimal. The major difference between the periods was the method of managing development in a communist society without allowing capitalism to appear.

While these policy changes were taking place throughout China, there was never a major shift in the direction of Hai-nan's economy. During the years since 1949 Hai-nan's economy continued to be based on her natural resources--that is, the economy centered on the exploitation of the island's natural resources.

For example, towards the end of 1950, and as a part of agricultural reform, the Hai-nan Military and Administrative Committee issued plans on how to organize the development of the rubber industry.⁶¹ These plans are not in themselves significant except that by 1954 the government was obviously seeking to expand and develop the island's potential in the area of tropical plant resources. Along those lines, in July 1954, a survey of tropical plant resources was started.⁶² This was closely tied to China's first five year plan which called for emphasizing agriculture in south China.⁶³ Many of the mid-1950's sources show that the state was emphasizing tropical crops for Hai-nan. By 1956, the call was "Hainan [Hai-nan] will become a base of tropical

industrial crops, a base of fishery and salt industry, and a base of raw materials for heavy industry."⁶⁴ In 1960 Lin Li-ming, then Secretary of the CCP Kuang-tung Provincial Committee and concurrently the First Secretary of the Hai-nan District Party Committee, called for the people to "spend at least 50 percent of the total labor power on the production of tropical crops and other industries serving this purpose."⁶⁵ This objective was restated numerous times afterward and the third five year plan called for increasing cultivation of the area under tropical crops.⁶⁶ The stress placed on tropical crops has continued to the present time.

Another important factor influencing Hai-nan's development since 1949 has been the lack of internal disruption. Internal disruption, which the government used in 1948 to explain why the development plan for Hai-nan had not been implemented, no longer hindered development. The new government was able to establish control and order, except for a short period in the late 1950's when localism proved a problem. The ability to maintain control and order meant that the government plans, mentioned earlier, had a much better chance for success.

Summary

Hai-nan has experienced only two periods of time since 1895 when relatively successful economic development was carried out on the island. The first of these periods began when Hai-nan was occupied by the Japanese during the Second Sino-Japanese War. During this time the Japanese developed two large iron mines and began various agricultural schemes which were intended to increase Hai-nan's productivity. As part of these projects, the Japanese began to improve the island's infrastructure, especially transportation. They constructed two railroads, built many

highways, including an around-the-island roadway, and improved harbor facilities, especially at Yu-lin on the southern coast of the island.

The Japanese at this time were concerned with the acquisition of natural resources for their expanding war industries. Hai-nan's iron ore was particularly attractive to them, and because it was relatively close to ocean transportation it could be cheaply shipped to Japan for processing. Similarly, before the Japanese moved into the then Dutch East Indies, Hai-nan's potential for rubber and other tropical crops undoubtedly influenced proposals for developing the island's tropical crop potential. Very clearly the Japanese were following a policy on Hai-nan which was characterized by exploitation of local natural resources to feed the growing Japanese war-economy.

Although Japan followed what appeared to be typical colonial policies on Hai-nan, these economic policies were in reality governed by wartime necessities. Thus, when the Japanese exploited Hai-nan's natural resources, those which had military uses were first developed. The political and economic system which was used to exploit these resources was quite different from anything which the Hai-nanese had experienced up to then. Some policies were similar to those tried by the Chinese, for example the granting of monopolies, except that the Japanese made them work. Overall the policies were similar to those used on T'ai-wan and, because of their success on that island, Japanese companies rushed to Hai-nan.

In addition to the military considerations, Hai-nan's natural resources were complementary for Japan's economy. The resources which Hai-nan had, Japan lacked. Conversely, Japan manufactured those products which Hai-nan could not produce. Thus the basic development policies on



Hai-nan under the Japanese made good economic sense. The policies which typed the Japanese occupation as colonial were not the basic development patterns which they promoted, but rather their willingness to extract the maximum profit from Hai-nan.

The ability of the Japanese to develop Hai-nan when the Chinese had been so unsuccessful was tied to their more effective and efficient government. While Japanese construction of infrastructure was a direct result of government (i.e. military) action, it was successful action nevertheless. Similarly, the ability of the Japanese to protect their new development projects also was a major factor in their success. Thus while the direction Hai-nan's development took was related to a combination of colonial, military, and natural economic factors, the fact that it took place at all was related to effective government.

Hai-nan's second period of successful development took place under very different political conditions. This period began about five years after the end of the Second Sino-Japanese War with the incorporation of Hai-nan into the Peoples Republic of China, and has lasted up to the present. These years have generally experienced a positive growth of Hai-nan's economy, with the early years devoted to the reconstruction of war-time damage and the later years concerned with developing Hai-nan's potential for tropical crops. This period has seen the island's iron mines put back into working order and the development of numerous tropical crops, the best example of which is rubber. During the later years, some industry has developed on Hai-nan, which has focused on processing the island's natural resources, principally sugar and rubber, and the production and repair of machinery needed by the agricultural segment of the island's economy.



Since Hai-nan became a part of the Peoples Republic of China, government policies have focused on developing the island's economy with emphasis on its natural resources. Basically, the resources which the Communist government sought to develop were those which were unique to Hai-nan or could be produced in few other Chinese regions. The obvious reason for this, which has been repeated numerous times throughout the years, was for Hai-nan to become China's base for tropical crops. In other words, the basic policy which was followed during this time was to expand and develop the production of natural resources which could then be used elsewhere in China.

After the 1950 victory of the Communists, Hai-nan entered a new era. A major characteristic of this period was the tactics used in the development strategy. For example, in 1950, the Communists began a land reform which redistributed land and eradicated the landlord-gentry and rich peasant classes. Later all private land holdings were eliminated and the agricultural producer cooperatives (APC's) were established. This was followed in 1958 with the Great Leap Forward, during which the APC's were converted into the communes and all remnants of private land and business holdings were eliminated.

The Great Leap Forward was Mao's attempt to break with more traditional ideas and to use human capital in place of money capital. During this time agriculture was overlooked and backyard type industries stressed. The problem was that these new industries were generally unsuccessful, while agricultural production declined to a dangerous level. On Hai-nan this period saw claims of steel making capacity and rapid improvement in dams, irrigation, and other similar projects. The fact that several years later these projects were still incomplete shows the failure of the Great Leap.

The failure of the Great Leap Forward led to a repudiation of radical policies and moderation set in. Certain amounts of private dealings (i.e. farm plots and markets) were allowed and the government placed great stress on the agricultural segment of the economy once again. This resulted in some development for China but some of the Chinese leadership, especially Mao, felt that the communist revolution was being sacrificed. Mao's response to this was to encourage and support the Great Cultural Revolution, which was a continuing revolution and struggle against bourgeois ideas.

A large part of the Cultural Revolution centered on a campaign for self-reliance, a policy not unlike that followed during the Great Leap Forward. The motto was "in agriculture learn from Ta-chai and in industry learn from Ta-ching." These models downplayed the role of experts and glorified those with correct political ideas, since the people with correct political ideas always produced better. The result of these tactics was to encourage the establishment of local industries to meet local needs, with the expertise coming from people with correct political views.

On Hai-nan, this meant establishing some small industries to manufacture and repair agricultural equipment. While these industries were unique in Hai-nan's development history, they did not really change the island's development patterns. While the make-up of Hai-nan's economy was somewhat different after the Cultural Revolution than it was before, the overall economy was still based on the exploitation of natural resources. Thus the Communists saw reasons for making Hai-nan's economy more self-sufficient, but made no attempts to change the island's basic development patterns.

There were two basic differences between the Communist and other periods. The first was in development tactics. The Communists, because of their ideology, had to depend on communal or state control of the economy. Because of this ideology, private land and business were hard to justify and in fact were an embarrassment. Therefore, the state, either directly, through state-owned farms or industries, or indirectly, through communal-owned production units, had complete control over development to the exclusion of private individuals. This was a major difference from previous periods.

The other major difference between the Communist and other periods was in the distribution of wealth. Since there were no private farms or businesses, there were obviously no capitalists, landlords, or merchants. The fact that these economic groups did not exist meant that the state, which had replaced these groups, was the sole distributor of wealth. In this area the Communists, unlike their predecessors, were very concerned with a fairly equitable division of wealth and carried out policies which sought to achieve that goal.

While the Communist tactics were different than those previously used, the development patterns were not. Hai-nan's economy has little industry and is still primarily dependent on the exploitation of natural resources. While the Communists have stressed equal development, the Hai-nan example obviously shows that they did not intend for all regions of the country to develop a large industrial base. From the beginning of this period Hai-nan was designated a center for producing certain natural resources and even though there have been changes in the party line, this goal has remained basically intact.

In spite of the fact that Hai-nan has not become an industrial giant, it has experienced considerable economic growth under the Communists. The basic reason is that since 1950 the Communists have provided the island with the first truly effective and efficient Chinese government. This government has provided the basic foundations upon which to build a successful economy. For example the Communists have constructed effective infrastructure on the island. They improved transportation, expanded health care, developed irrigation, and eliminated civil disobedience. Additionally, since the economy is controlled by the state, the Communists have provided the leadership necessary for successful implementation of their plans. Even though the government has made mistakes (i.e. the Great Leap Forward), the overall performance of the Communist period was one of successful development of Hai-nan's economy.

While Hai-nan experienced two periods when the island underwent successful development, it also went through two periods of relatively little growth. The first of these spanned the years 1895 to 1939, when Hai-nan's economy changed little, both in output and in composition. When the weather and political climate cooperated, the island's economy as measured by its export trade was fairly good. However, when either or both of these variables were erratic, Hai-nan's economy suffered. While weather is beyond the control of man, certain actions such as expanded irrigation can offset its most damaging effects. Unfortunately, Hai-nan's government did not push for the development of the necessary irrigation works.

On the political side, to say that the various governments during these years had no development plans would no doubt not be far from the



truth, and it is clear that none of these governments were able to create the minimum conditions necessary for the island's development. The most basic condition necessary for development is a stable environment, where projects can progress to a satisfactory conclusion without disruption. Unfortunately the years from 1895 to 1939 had few such periods. The prime example of the instability of these years was the fighting which took place during 1927 and 1932, which was reflected in down-turns in Hai-nan's economy.⁶⁷ However, the unstable conditions on Hai-nan were not the only political variable which had an adverse effect on the economy. While there was much talk of development projects, most never got beyond the planning stage. In many instances, the projects were used in such a way as to enrich the government bureaucrats--for example the granting of monopolies, for a price--and probably were never meant to really help in developing the island.

Before 1939, economic ideology with accompanying policies did not exist for all practical purposes. True, there were propaganda claims but none of Hai-nan's governments during this time had the power nor, it appears, the will to make any changes in the island's economic patterns and thus the ideology and policies they proclaimed had little meaning.

During this whole period a more or less traditional Chinese economy existed. Peasants, landlords, and merchants formed the economic backbone and while a few western-style capitalists appeared during this period, they had little impact. Also in the late 1920's, revolutionaries arrived on the island. They went around the island attacking the landlords, merchants, and capitalists, thus adding to the anarchy that Hai-nan was already experiencing. When the Nationalists broke with the Communists,

the more radical elements were suppressed, but Hai-nan's government was not strong enough to effectively carry out this purge. The radicals fled to the mountains and the rest of the island reverted to its more traditional economic ways.

An important fact to remember for the years before 1939 is that ideology played little or no role in Hai-nan's development. True, Sun Yat-sen's ideology was officially the guiding philosophy of the Nationalist government but the Nanking government had no real control over Hai-nan and so the island's government operated much as before. The simple fact is that during all of these periods of little or no development, Hai-nan experienced ineffective and inefficient government which was not able to meet the minimum conditions necessary for development.

The years from 1945 to 1950 to a great degree echoed those of 1895 to 1939. During most of this short period, Hai-nan was in the midst of a civil war. While the government now had a set of development policies which in theory at least were based on Sun Yat-sen's ideology, they were never put into effect because of the unstable influence of the civil war. Not only was the civil war an obstruction to Hai-nan's economic development, but the government was not even able to rebuild or maintain the various projects begun under the Japanese. For example, the iron mines were not reopened and large quantities of equipment were either allowed to deteriorate or were sold and removed from the island. Therefore Hai-nan's economy during these five post-war years was not unlike that of pre-1939.

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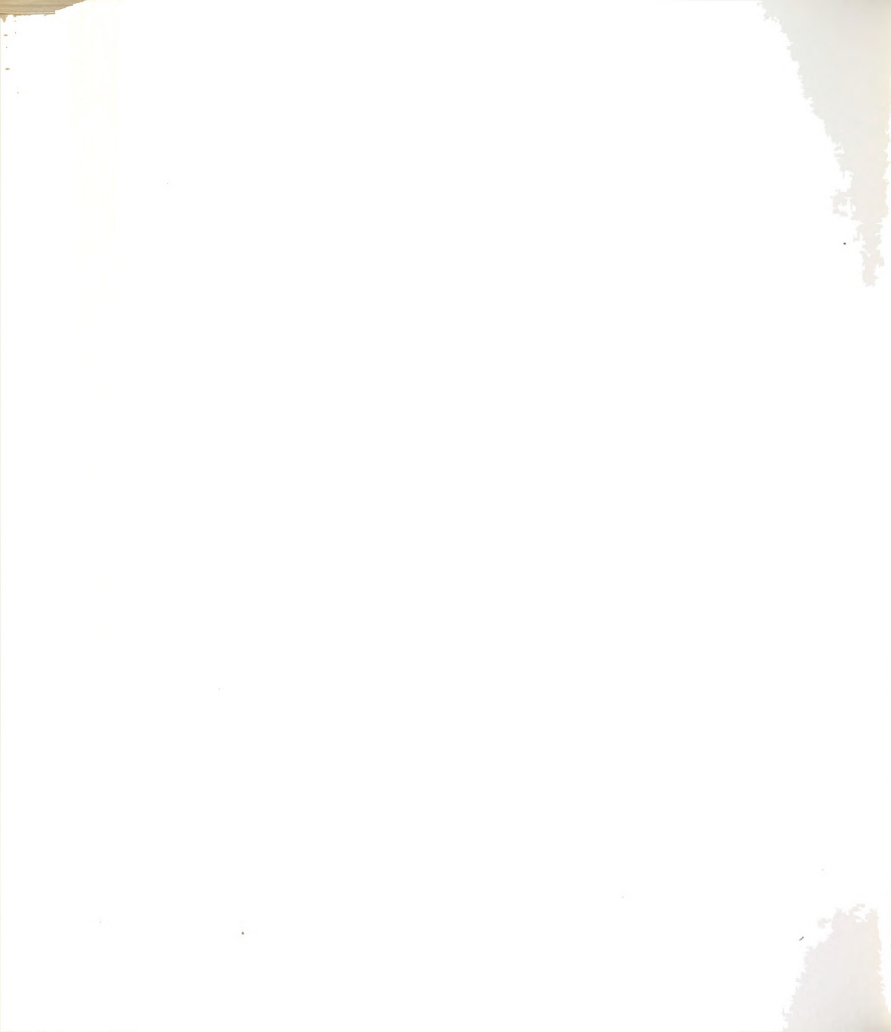
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CHAPTER V.

SUMMARY AND CONCLUSION

The object of this research was to examine the effects of changing political conditions on economic development. According to development theory, a change in a region's political condition should cause some modification in its economy. Over the past 75 years the two Chinese islands of Hai-nan and T'ai-wan have experienced considerable political change and modifications of their economies, thus making them good study subjects for the examination of the relationship between political conditions and economic development. This chapter reviews the data and analysis presented earlier in order to determine whether to accept or reject the hypothesis.

As can be seen from the data presented, and as represented in the graph on Development Periods (Figure 10), and the Comparative Matrices for T'ai-wan (Figure 11) and Hai-nan (Figure 12), during several periods of the study both Hai-nan and T'ai-wan experienced stable political conditions which coincided with certain types of development (i.e., T'ai-wan/colony of Japan; Hai-nan/Japanese occupation, Peoples Republic of China). During these periods the islands' infrastructures were expanded--roads, railroads, and hospitals were built, schools were opened, and public health projects were initiated. Public safety became a focus of attention for each government, partly explaining why there was so little civil disruption. While direct governmental involvement in development projects varied depending upon the philosophical bent of the government, each period experienced official encouragement for such projects.

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DEVELOPMENT PERIODS

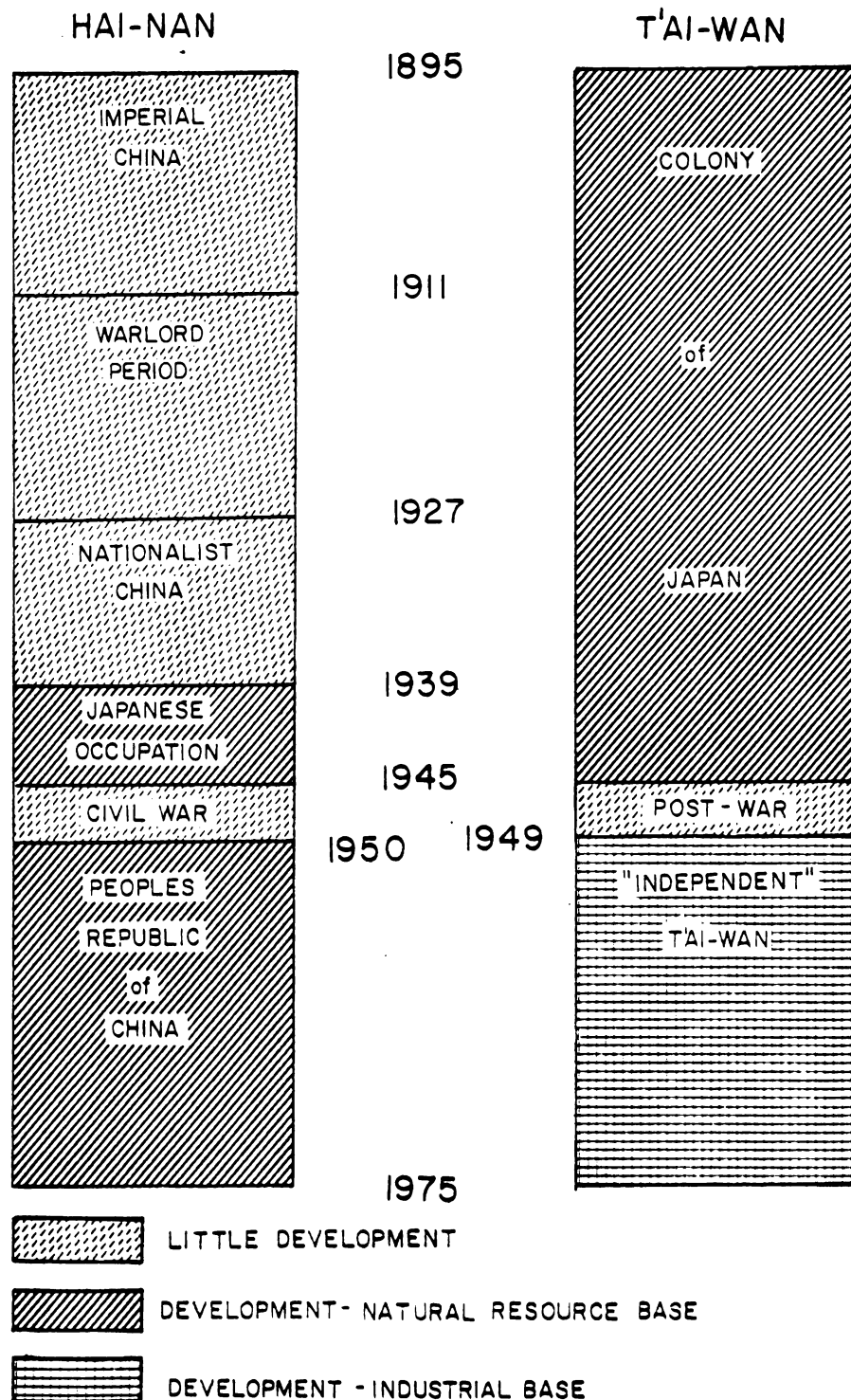


Figure 10. DEVELOPMENT PERIODS



T'AI-WAN			
ECONOMIC	T'AI-WAN		
	JAPANESE PERIOD, 1895-1945	POST WAR YEARS, 1945-1949	"INDEPENDENT" T'AI-WAN, 1949-1975
AGRICULTURE	Major increases in rice, sugar, banana, and pineapple production; sugar exports increased by over 1 million tons during period; was a major supplier of agricultural resources to Japanese Empire	Crop production down, especially sugar; production per hectare down for rice, though rice production up	Expanded agricultural production; 4.8% annual growth during period; focus on rice and sugar
INDUSTRY	Agriculture 50% of total gross recorded value of production (1915-1940); little industry, mostly resource processing	Industry production way down; food processing production down, only 79% (1949) of 1941; industry still based on resource processing	Industry grew by annual rate of 14.6% (1953-1971); industrial production surpassed agriculture by 1971 as percent of net domestic production
INFRASTRUCTURE	Well developed transportation and communication network; expanded irrigation; good education and health condition; trade with Japanese Empire	Deterioration of transportation and communication network; health conditions poor; large numbers in school but quality unclear; increased irrigation; trade with China	Improved transportation and communication network (new equipment and roads); expanded education; good health conditions; trade with world, especially U.S. and Japan
OTHER	Mining, fisheries, and forestry expanded; tea production remained important	Other segments of the economy showed little growth	Mining, fisheries, and forestry all grew but have not matched growth of industry
POLICIES	Development of raw materials for Japan's economy; colonialism, keep cost low and profits high; use capital thus generated to expand island's economy; restrictions on trade	Not clear, some type of government control; government took over Japanese industries; restrictions on trade	Government directed economy; made T'ai-wan a viable economy; reduced landlordism; industrialized and reduced the island's dependence on agriculture
ADMINISTRATION	Land survey which clarified land ownership and aided in tax collection; set up monopolies and aided Japanese companies; successful in carrying out projects	Poor administration, especially under Ch'en Yi; many reports of theft and corruption; unable to rebuild infrastructure; ineffective overall.	Very effective land reform; successfully carried out state plans; developed infrastructure; effective overall.
OTHER	Part of a large empire; on the edge of that empire much of the time; a colony of Japan; Japanese very much in control of economy and government	Part of China; on the edge of that nation state; mainland peoples in control of government; gained provincial status in 1947	De-facto independent; part of world economy

Figure 11. T'AI-WAN: POLITICAL AND ECONOMIC COMPARATIVE MATRIX

HAI-NAN					
	JAPANESE OCCUPATION, 1939-1949			CIVIL WAR, 1945-1950	
	DISRUPTIVE YEARS, 1895-1939				PEOPLES REPUBLIC of CHINA, 1950-1975
ECONOMIC	AGRICULTURE	Exports of sugar and animal products; rice production often low due to poor weather; unsuccessful introduction of rubber	Attempted to improve production especially rice, sugar, and rubber; success unclear	Unclear; no new products or techniques introduced; no mention of rubber production	Established major rubber plantations; expanded rice, sugar, coconut, and hog production; opened "waste" land; considerable agricultural growth
	INDUSTRY	Very little industry; several attempts to develop processing type industry; little success in this area	Developed some processing type industries (e.g. canned fish and beef, coconut oil)	No new industries established; Japanese-developed industry not reopened; some of the Japanese equipment shipped off the island	Development of light industry, especially resource processing and agriculturally related; no large plants or manufacturing centers
	INFRASTRUCTURE	Few highways; no railroads; poor harbor facilities; poor health conditions; trade with China and southeast Asia	Built highways and railroads; improved communications; developed port facilities; improved health conditions; trade with Japanese Empire	Railroads closed; highways in poor condition; poor health conditions; trade with China	Considerable rebuilding and improvement of transportation and communications; health conditions improved; trade with China
	OTHER	No iron mining; little other development	Development of two iron mines; expanded fisheries	Iron mines remain closed	Reopened iron mines; expanded fisheries
	POLICIES	No apparent development policies; settling up monopolies, increase in taxes, and collecting taxes in advance hindered development	Development to supply Japan's war effort (i.e. develop natural resources); encouraged private (Japanese) investment; considerable government involvement in economy	Basic policies called for government planning; to develop Hainan as an agricultural and mineral resource base for Kuangtung industry	Heavy involvement in the island's economy; to develop Hainan as China's base for tropical crops, fisheries, salt industry, and raw materials for heavy industry
POLITICAL	ADMINISTRATION	Many projects proposed, few ever completed; unable often to keep peace and protect the island's business and other interests	A military government, fairly effective; involved in a number of development projects; provided protection to economic interests	Because of civil war did not implement any of the plans for island's development; unable to keep peace	Varied but overall very effective; successfully carried out many development projects; generally more effective when following traditional economic methods
	OTHER	Not effectively controlled by the central government; part of China but on the edge of that nation state	Effectively though not legally a part of the Japanese Empire; on the edge of that empire much of the time	Not effectively controlled by the Chinese government; part of China but on the edge of that nation state	Effectively under the control of the Chinese government; part of China but on the edge of that nation state

Figure 12. HAI-NAN: POLITICAL AND ECONOMIC COMPARATIVE MATRIX



On Hai-nan, the Japanese opened two iron mines, began improvements in agriculture, and started some small processing industries during the occupation. Basic Japanese policies on Hai-nan were patterned after those used previously on T'ai-wan. On T'ai-wan, the Japanese expanded agriculture to the point where a considerable surplus was produced, especially of rice and sugar. Most of this surplus was sent to Japan. They also expanded such agricultural processing industries as canning and sugar mills. Although these policies produced only a moderate improvement in Hai-nan's economy, due most likely to the short period of occupation, T'ai-wan's economy was improved dramatically.

Hai-nan also experienced increased development and improvement in its economy after it became part of the Peoples Republic of China. This was a relatively stable period, though there were some shifts in ideology which affected development. Under the Communists, Hai-nan experienced considerable improvement and change in the agricultural segment of the economy. Tropical crops were expanded and irrigation works increased. The iron mines were reopened and some light industry which mainly processed local natural resources was started. Hai-nan's economy is today the strongest it has ever been and the people of the island are better off than ever before.

A similar situation exists on T'ai-wan. Since 1949, T'ai-wan, as the Republic of China, has undergone vast improvement and major shifts in her economy. From simple rehabilitation of agriculture in the 1950's along with expansion of light industry to meet local needs, the island has moved towards making manufacturing of export products

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the mainstay of its economy. This is a dramatic shift, for before 1949 T'ai-wan's economy was primarily based on the production and export of agricultural products. T'ai-wan's economy today is one of the strongest and most diversified in all of Asia with the exception of Japan.

Not all of the periods under study experienced stable political conditions and expanding economies. The data also revealed three periods when political conditions were extremely unstable. These were the post-war years on both Hai-nan and T'ai-wan, and the years from 1895 to 1939 on Hai-nan. During these years the islands withstood considerable political disruption and civil disobedience. During the early period on Hai-nan, governments changed frequently, while during the post-war years the islands had but one government. Nevertheless, none of these governments was very effective or efficient and most of the time they had difficulty providing police protection and other social services. The islands' infrastructures improved very little and in some cases actually declined in effectiveness during these time periods. Transportation, communications, education and health services were generally neglected by these governments. Although some of the governments promoted development projects, this was generally done to collect the investment capital for personal gain rather than for regional betterment.

Political instability is not necessarily an indication that a region is experiencing actual civil disruption. For example, during the immediate post-war period on T'ai-wan, while China proper was in the midst of a civil war, no Communist guerrillas operated on T'ai-wan. Yet T'ai-wan's political condition at that time could generally be typed

as unstable, with its government giving little protection to the various economic interests and certainly not stimulating the economy. Also, government officials themselves often took advantage of their positions to ignore laws, accept bribes, and engage in other activities which led to political instability. Although actions by government officials were a direct cause of the island-wide riot of 1947, it was not civil disruption which caused political instability, but political instability which caused civil disruption. During periods of unstable political conditions, both islands' economies experienced limited development. An examination of Hai-nan's economy before 1939 shows that the general make-up of the island's exports neither changed significantly nor grew in size. For example, even though there were attempts to develop rubber plantations on Hai-nan, exports of rubber were small and sporadic. Similarly, there were few new industries reported on the island.

Hai-nan's economy after the war nearly reverted to pre-war levels. Although the Japanese had made some improvements in the island's economy, the Chinese did not rebuild or expand them. The same thing happened on T'ai-wan, except that in this case the Chinese had a much more developed economy to work with. On both islands during these years existing industries were allowed to deteriorate. As a matter of fact, opportunists on both islands gained control of some Japanese businesses and proceeded to sell and ship the physical assets to other parts of China.

Stability is but one level or type of political condition which this study indicates has an influence on regional development. Another type of political condition influencing development is regional independence. This factor is only applicable to T'ai-wan after 1949. However, the data indicates that independence created a situation which made

it possible, and perhaps necessary, for T'ai-wan's economy to undergo considerable change. After 1949 T'ai-wan was de facto independent, that is, while claiming to represent China, the government only controlled T'ai-wan. The result was that T'ai-wan was no longer a part of a larger national state and economy and therefore was free of potential or real restrictions on development which could be imposed by a central government. Conversely, the T'ai-wan government was free to decide, without central government interference, what type of economic development to follow on the island. This was important, for under the Japanese, T'ai-wan was not permitted certain types of development. Although this new political condition did not create the situation where a certain type of development was predetermined, it did allow a much wider choice. What happened on T'ai-wan, of course, was that the island's economy after 1949 diverged from its earlier condition. Before the mid 1960's T'ai-wan's economy was based primarily on her natural resources, after that date it became more and more dependent on manufacturing while becoming less and less dependent on the island's natural resources.

During all of the other periods in this study both Hai-nan and T'ai-wan were part of a larger nation-state and economy. During these years both islands' economies were based on natural resources. On Hai-nan the economy was first based on sugar, rice, and animal products, with tropical crops and iron mining becoming important in later years. T'ai-wan's economy was initially based on sugar, tea, and camphor, but in later years sugar and rice became the major products of the island. However, while the natural resources of the islands differed, the basic theme was the same--produce natural resources for the larger economy. This larger economy in turn provided the local economy with various

manufactured products. This situation resembles a colonial policy, which was true of the two Japanese periods. Although the Japanese practiced colonialism, the other governments of Hai-nan and T'ai-wan did not. At any rate, all governments promoted the same type of development for the islands--an indication that something other than political ideology must have influenced the type of regional development which took place.

In one examines Hai-nan and T'ai-wan before 1949 (for T'ai-wan was in a similar situation to Hai-nan until then), it is apparent that the major factor which did not change with ideology was the relationship between the islands and their respective nation-states. The situational relationship between the islands and other regions within each nation such as transportation, distance to major markets, and communications with political and economic centers, changed little during these years. If one accepts the idea of comparative advantage and assumes that changes brought about by ideology are similarly spread through all the regions of a state, then the basic geographical and economic variables which influenced the islands' economies (i.e. the islands' comparative advantage) would be the same no matter what the ideology. This appears to be what happened in the case of Hai-nan throughout the study period and for T'ai-wan until 1949, where a simple change in the region's government or its ideology did not affect that region's situational characteristics enough so that its comparative advantage would improve.

However, the political conditions of T'ai-wan's de-facto independence did change the island's situational relationships. By moving the national capital of the Republic of China to T'ai-pei and having it only govern T'ai-wan, all the old situational variables such as distance to national

markets and communications between political and economic centers were either drastically reduced or in most cases simply made irrelevant. Because of this, T'ai-wan, for the first time in its history, became a single region politically and economically within a world economy. T'ai-wan was now competing in a world economy with the result that the island had a whole series of new situational variables which were much different than those which it had as part of a larger nation. It should be noted that while T'ai-wan's situational characteristics changed after 1949, this happened because of overall change in the island's political conditions. However, while these political conditions were brought about by an ideological struggle between the Kuomintang and the Communists, beyond that ideology played no part in changing T'ai-wan's situational characteristics.

Even though ideology did not change T'ai-wan's situational characteristics, political ideology nevertheless does play a role in regional development for the major difference between the economies of, for example, Hai-nan under the Japanese and under the Communists, was in who shared in the benefits of successful development. Under the Japanese colonial policy the benefits were reaped by Japan, while under the Communists, the inhabitants of Hai-nan were the beneficiaries. Moreover, ideology can also affect development strategies--the communes of the Communists, the cartels of the Japanese, and the private farms of the Nationalists on T'ai-wan are examples of development strategies. Hai-nan provides the best case of how ideology affects development strategy more than it does development patterns, for while the island experienced several different ideologies under various governments, its basic development pattern changed little. Nevertheless, the strategies and methods used in development were

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certainly tied to ideology. The state-owned farms and enterprises on Hai-nan during the period under Communist rule and the privately owned enterprises and farms on Hai-nan and T'ai-wan when governed by the Japanese and Republic of China are examples of this. Ideological differences between the various governments of Hai-nan and T'ai-wan were mainly reflected in the amount of government involvement in, and control of, the economy. Yet while ideology is reflected in strategy, it has not been successful in eliminating regional development differences. For if it were, Hai-nan's economy should be different today than it was 25 or so years ago, and although the data does show change, it does not show any real shift in the island's type of development. Also during the communist, Nationalist, and Japanese rule of Hai-nan, the proposals for Hai-nan's development contained the same basic precept--that is encouragement of development of the island's natural resources.

Conclusions

This analysis shows that on Hai-nan and T'ai-wan political conditions influenced the islands' development patterns. The study's hypothesis, that political conditions, as reflected in development policies and administration of government, are the major factors in changing a region's development pattern, is therefore validated. The research has clearly shown that China, or any part of it, could develop quite rapidly assuming certain basic preconditions. These conditions include such things as freedom from civil disorder, basic health protection, improvement in infrastructure, and protection from unreasonable economic conditions. Conversely, we have shown that ineffective government can so disrupt these preconditions that a region cannot possibly develop. Fairbank, Eckstein



and Yang point out these same factors, and claim that development in pre-1895 China was hindered by the existing political conditions. This research extends the premise into post-1895 China and shows how these kinds of conditions retarded development on both Hai-nan and T'ai-wan.

The study also reveals that government was the major influence in changing the islands' development since it had the largest impact on political conditions. However, it is also shown that it was effective government which played the largest role in promoting a region's development and that it did not need to have direct control over the region's economy. This finding supports Lockwood's ideas on the relationship between the state and development in Japan. In his view the state need not be directly involved in economic matters but it must create an atmosphere which will allow development to flourish. Thus, while both Hai'nan and T'ai-wan experienced considerable development, it was not always the result of direct governmental involvement in the economy.

It is obvious that the degree of government involvement in economic matters is related to ideology. For example, communism calls for complete governmental involvement in economic matters, while the ideology of Sun Yat-sen prescribes that government play a much more circumscribed role. However, the degree of involvement in economic affairs did not appear to have been a critical factor in determining economic patterns on the islands, for Hai-nan's economic pattern hardly changed throughout the study, yet the island's government was influenced by several quite different ideologies. Similarly, T'ai-wan was influenced by the ideology of Sun Yat-sen since 1945, yet it was not until much later, after 1949, that there was any attempt to direct the island's economy away from what it had been under the Japanese. Thus, if ideology was important, the

change on T'ai-wan should have come sooner. In a similar vein, both Hai-nan and T'ai-wan experienced natural resources-based economic development while influenced by very different ideologies (i.e. colonialism and communism)

Ideology does, however, have a major impact on development strategy, for the policies which a government follows certainly relate to its economic ideology. For example, one would not find communes with colonialism, nor private corporations with communism. Nevertheless, different development strategy does not automatically mean that a region will also change its development patterns. If a region retains all its old situational characteristics, but changes its development strategy, a redirection of economic patterns might be possible but, as this study shows, it is not automatic.

While ideology is a political condition, a region's political conditions incorporate more than political ideology. One such political condition which goes beyond ideology is regional independence. This study clearly shows that when political events create a condition where a region becomes de-facto independent, there are dramatic economic effects. T'ai-wan's complete change in development patterns was a direct result of de-facto independence. This suggests that a region's comparative advantage is not a static factor. It was assumed in this study that comparative advantage was a relatively unchanging variable which was influenced more by natural resources and technology than political conditions. However, it now appears that political conditions can change comparative advantage and create a new set of relationships between natural resources and technology. Ginsburg points out that a region need only have access



to natural resources for them to impact development, but he assumes that access is universal when in fact it is relative. For while T'ai-wan's location never changed, her access to various resources changed over time, with major differences before and after 1949. Conversely, Hai-nan experienced different political conditions, though these differences never had much impact on the island's comparative advantage since in macro terms Hai-nan's situational characteristics changed little. Thus this research implies that comparative advantage is a relative condition highly modifiable by changes in a region's political dependence. This produces a contradiction in development theory since Myrdal claims that comparative advantage produces a cumulative effect which increases regional differences. He implies that this is not easily changed. However, in this study, a simple change in a region's political dependence appears to be all that was needed to break the cumulative effect cycle. The results of this study suggest that theory on comparative advantage and cumulative effect needs reexamination and, perhaps, major revision.

Although this research is heavily dependent on descriptive analysis, the comparative method itself is not. However, most research on China is dependent on descriptive analysis regardless of whether the comparative method is used. Therefore the concern which is addressed here is whether the comparative-descriptive analysis used in this study provides a useful methodology for future work of this kind.

In this study the comparative method worked quite satisfactorily. Due to the organization provided by this method, data not relative to the topic is excluded, thus the comparison is facilitated and the discussion is kept within the bounds necessary for a proper analysis of the data.



By classifying the data as required by the comparative method, a potentially complicated discussion was greatly simplified. Even though the physical and cultural geographies of the islands were similar, a tremendous amount of data was nevertheless generated in the area of political conditions and economic development. Since it was necessary to analyze both political conditions and economic development for a satisfactory testing of the hypothesis, the generalization of the data by the classification system allowed the researcher to determine whether there was a relationship between political conditions and development without undue complications.



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