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ABSTRACT

AGRICULTURAL DEGRADATION: CHANGING COMMUNITY SYSTEMS IN RURAL TAIWAN

By

Huang Shu-Min

This study focuses on the question: Can agriculture maintain sustained growth when a society is moving toward industrialization? Theoretically, industrial development in an independent economic system should benefit the agricultural sector. For example, industrial development creates urban jobs, and, in doing so, siphons away excess farm labor; at the same time, it provides machinery and other products previously unavailable to farmers. Industrialization also creates or expands the consumption market for agricultural products, thereby improving the incomes and living standard of the rural population. Thus, the relationship between industry and agriculture in a modernizing society should be mutually reinforcing, and the development of one should generate further development of the other.

Taiwan's recent experience with industrialization presents a case in which this mutually beneficial relationship has not developed. While the island's industrial sector has absorbed a large amount of rural labor, it has not provided acceptable innovations to compensate

for reduction in the agricultural labor force. While industrial laborers have been able to improve their living standard in the cities, the farm population has suffered a net loss in income and must rely on contributions from their kinsmen in industry. As a result of recent industrial development, Taiwan's agricultural production has stagnated, if not actually declined, especially in rice production. Despite the government's efforts to revitalize agricultural production by pouring massive investment into the rural economy in recent years, the effect has been minimal and the downward trend is worsening.

The current study provides an alternative conceptual framework for exploring the problem of agricultural stagnation in Taiwan, and specifies factors contributing to this trend. Utilizing traditional anthropological field methods for studying a small-scale community, this study documents and analyzes the operation of and changes in an agricultural community in central Taiwan.

Based on this empirical study, argument is developed to answer why Taiwan's agriculture could not maintain sustained growth under the impact of industrialization. First, wet-rice cultivation, the mainstay of Taiwan's agricultural economy, involves a complex ecological process which can best be accomplished through labor-intensive, collective efforts involving more than one farm family unit. Because of the unique frontier conditions of early Taiwan--lack of well-developed kinship organizations, unstable land tenure relationship, and lack of effective administrative control--these collective demands had been accommodated by the development of a specific social institution called regionalism. Recent industrial development has contributed to the disintegration of regional organizations and identities upon which

the labor-intensive, wet-rice cultivation depends. Finally, ill-advised economic development programs in Taiwan have ignored the institutional aspects of this traditional agricultural system and purposely extracted labor from the rural mass for rapid industrial growth.

This study then assesses the prevailing economic growth models and governmental policies in Taiwan according to four criteria: long-term needs of the society, the maximum utilization of its natural resources, existing sociocultural conditions, and the welfare of different segments of the population. Most of the growth models are based on the capitalist development of Western societies; consequently, they overlook the unique sociocultural conditions of specific developing countries and generally disregard the disparity between developed and developing nations in the world economic system. This provides an important explanation for the inability of Taiwan and other countries to design a viable strategy for economic development.

In summary, this study attempts to demonstrate the role and contribution of small-scale, anthropological study to research on economic development. Such a study not only disentangles the multiple factors contributing to or hindering development, but also provides first-hand information on practicality of development policies designed by political elites and economic planners.

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IN RURAL TAIWAN

By

Huang Shu-min

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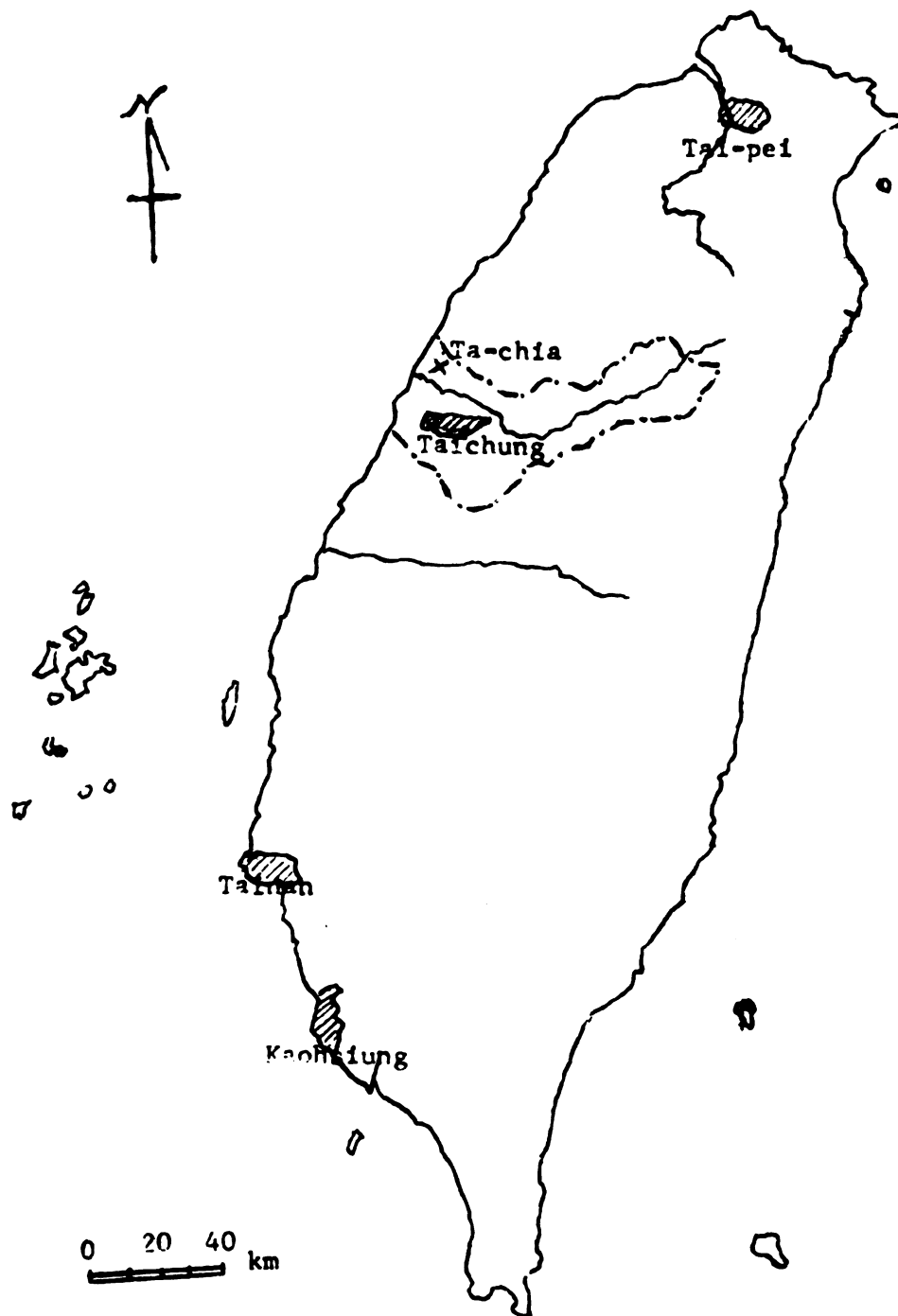
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Map 1 Taiwan

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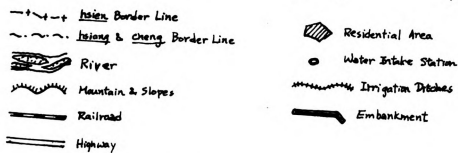
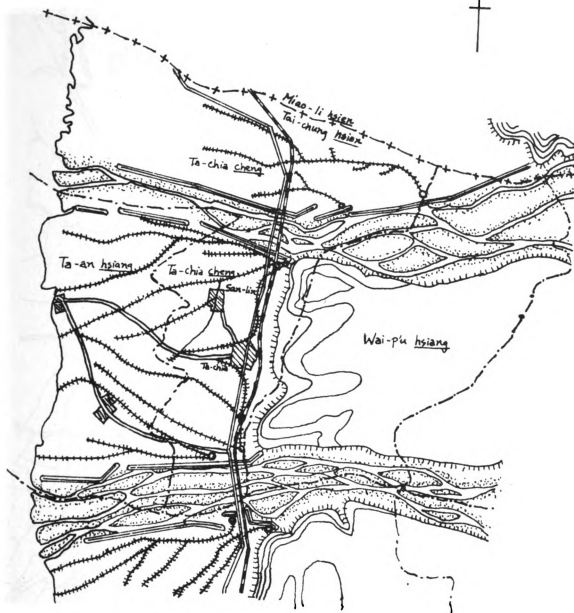
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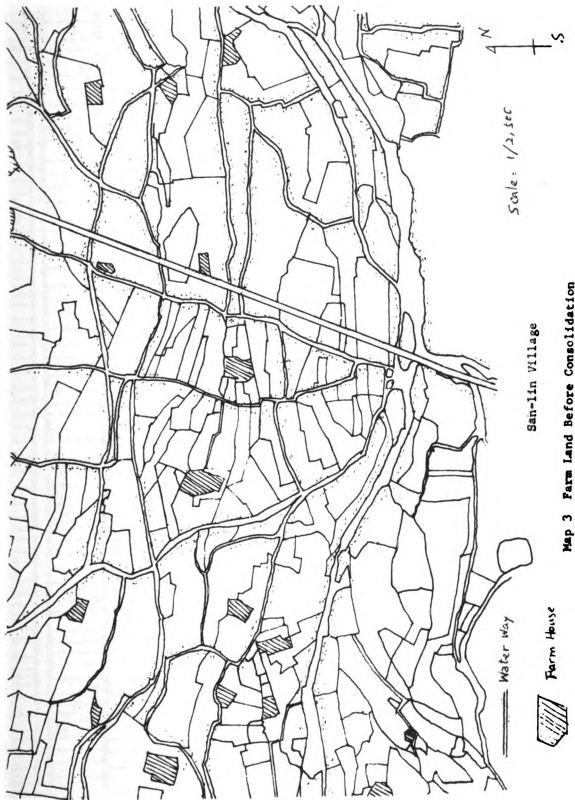
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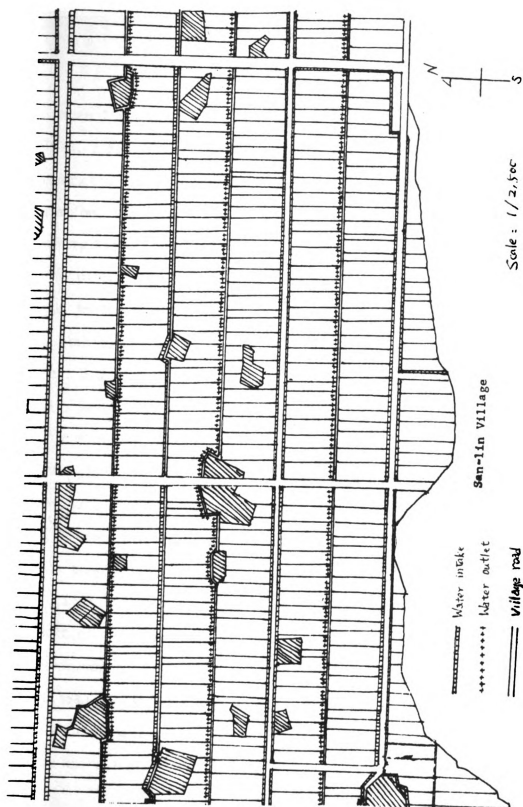
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PREFACE

When I set out to do fieldwork for my doctoral thesis in Taiwan in 1973, I had in mind a traditional anthropological study: it should be conducted in a well-circumscribed rural community with a manageable population, the main emphasis should be on the synchronic aspects of community life, and after lengthy, empirical observation I should be able to pinpoint a few external variables that had brought about changes in the community. I regarded this fieldwork experience as a first step toward professionalism, beginning with a limited scope of interest and gradually expanding to wider concerns as intellectual capacity matures. Thus, my original research goal was moderate and direct compared to my later inquiry. Initially, I planned to examine what changes I perceived in a rural, agricultural community as a result of most of the young villagers probably having moved away to cities in response to Taiwanese industrialization in recent years. How has this population movement affected agricultural production and rural social life?

Most of these original designs and research goals persisted during the twelve months I spent in San-lin, a rice growing village in central Taiwan. San-lin was one of seven locations I selected after a short survey in northeast, northwest, and central Taiwan, but it was the only one where I could find both housing and boarding available.

San-lin proved to be a good choice, for I was well received by the villagers once rapport was established.

More important, my participation in the village life and many frank discussions with villagers soon moved my scope of interests far beyond the original plans. I discovered that in order to explain the changes occurring in rural social institutions, I had to explore the unique ecological and historical conditions which had molded those institutions. I also discovered that in order to understand the contemporary changes in these institutions in a small community, one had to examine the national and sometimes international socioeconomic conditions to which the community had to adjust.

To explain the lack of sustained agricultural development (especially declining rice production) in this rural community, and to some extent all of Taiwan, I developed the following argument: Wet rice cultivation as practiced in Taiwan involves a unique ecological process which can best be accomplished through collective efforts. Due to the unique frontier conditions of early Taiwan, these collective efforts have been maintained through the specific social mechanism of regionalism and the disintegration of regional organizations and identity in recent years has contributed to the lack of efficient mechanisms to carry out cooperative work. Finally, ill-advised economic development programs in Taiwan have either ignored the institutional imperatives of agricultural production or purposely extorted labor from the rural mass for rapid industrial growth.

I ultimately found myself engaged in an ambitious study which involves several controversial themes: a critique of formal theories

in economic development studies; a critique of some psychologically oriented social scientists for their implicit ethnocentrism in interpreting development; a hypothetical model of Chinese rural social structure in Taiwan based on hierarchical regionalism; a critique of development policies executed by economic planners in Taiwan, and so on. Indeed, these topics are very broad for a preliminary study such as this one. This study undoubtedly will offend many economists, sinologists, politicians, or apologists of different persuasions. I must apologize to those who might feel that some arguments raised here have not been well supported by cross-cultural comparisons. For example, one might ask: To what extent can these hypotheses developed in Taiwan be tested against Japan's experience as a successful model of development, on the one hand, and Indonesia's less successful case, on the other? To what extent can we find validity about the development of regionalism in traditional southeast China? I admit that these problems are not adequately handled here, but their further exploration would seem to require an amount of effort and time equal to that expended on the current study. My work should thus be regarded as a set of hypotheses to be tested by future studies.

My apology, however, does not extend to those social scientists with laissez faire moral commitments who may be offended by my criticism. I believe that it is mainly social scientists' own ethnocentrism that has contributed to the lack of progress in development studies. To me, a re-examination and criticism of the laissez faire philosophy seems to be the most urgent task for contemporary social scientists if they want to achieve any significant progress in development studies.

The material presented in this thesis covers mainly the period August 1973 to July 1974, the time I was in San-lin. I have incorporated some data on Taiwan's economy in general for the last few years. Since the latest information has not been included systematically or thoroughly, the reader should bear in mind that this thesis is addressed mainly to the pre-1974 period. Things changed rapidly in rural Taiwan after I left the field, and a few signs indicate an agricultural revival in 1976. For example, the rice yield in that year surpassed the all-time high of 1968. One thus may question the validity of my analysis which suggests a trend toward worsening agricultural conditions in Taiwan.

Even though my thesis deals mainly with pre-1974 rural Taiwanese society, and thus could not take into account the policies adopted by the government in the last few years, I believe my argument is still valid. The recent up-swing in rice production does not invalidate my general argument: It is the changing relationship of production that has trapped Taiwan's agricultural sector in the last decade. Since 1974, due largely to the global recession among capitalist countries, many industrial workers have been discharged and have returned to agriculture. In addition, a few policies implemented by the government in 1974, such as guaranteed rice prices, restoration of a fertilizer quota system, low interest loans to rice farmers, and so on, have helped agriculture. Most important of all, the extremely favorable monsoon season in Asia in 1976 produced bumper yields throughout the region. Such short-term boosts in production are always possible, but it is the restructuring of the traditional production relationship

that is most critical in maintaining the momentum of a real up-swing in agricultural growth in Taiwan.

A few recent signs in the official newspaper seem to indicate that the Taiwanese government is paying more attention to the importance of the collective productive institutions in agriculture and is willing to promote them, while showing less concern about their political tint. An example is the headline item in the Central Daily News, 27 December 1976:

Taiwan Provincial Government announced: Taiwan's farm size is small and cannot be expanded easily. In order to achieve the utility belonging to large-scale management for small-scale family farms, [the government] will from now on make specific efforts to: accommodate different regions' water and soil resources in making regional planning, expand and implement specialized agricultural production zones, expand and promote collective management and collective transportation and marketing, so as to increase continuously the peasants' income [my translation].

The result of these practices remains to be seen, but the government's attitudes seem to conform to the observations and suggestions made in this study.

Although I must assume the full responsibility for my work and whatever problems may arise from it, I want to extend my gratitude to several persons and institutions whose help at various stages has been indispensable. Professor and Mrs. Bernard Gallin, Michigan State University, provided the initial inspiration and the financial support for the current study. Without their suggestions and encouragement this work would have been impossible. In addition, the Gallins' original study on changing production relationship in rural Taiwan after the Land Reform broadened the scope of anthropological concern

about Chinese social structure. Anthropologists dealing with rural Chinese society have long been absorbed in kinship organization and family system. A swing away from this narrow intellectual interest will undoubtedly produce a more realistic picture of Chinese society and more relevant knowledge for understanding contemporary issues. In this sense, my work is basically a continuation and expansion of the Gallins' work in Hsin Hsing in the late 1950s.

I am indebted to Professors Robert McKinly and Harry Raulet, Department of Anthropology, Michigan State University, for their valuable comments and suggestions. Their erudition contributed most significantly to the theoretical orientation upon which the current study is based. Professors Li Yih-yuan and Wang Shong-hsing, both affiliated with the Institute of Ethnology, Academia Sinica, have generously supported my research in various ways. From them I received the official letters necessary to obtain government documents and permission to use institute facilities for library research. They were also generous enough to discuss my research material and made insightful suggestions in interpreting data. Financial assistance for 14 months of research was provided by Harvard-Yenching Institute. I am grateful to Dr. John Pelzel's generous support.

To the people in San-lin I am also most grateful. Mr. W. C. Chen and his family provided board and "familiness" over the entire period. Many times when I felt depressed or frustrated, this family gave me emotional support. Mr. Li, a bright and knowledgeable San-lin resident, assisted me in formulating questionnaires and conducting interviews. Other friends in San-lin, such as Mr. T. N. Liang,

Mr. H. Y. Yiao, and Mr. C. Y. Liang, have generously shared their wisdom, experience, and life with me, and it is difficult to express my appreciation properly in a single sentence.

Finally, I must explain the ways in which local words are handled in this thesis. Both Mandarin and Amoy (or Min-nan) languages are used in the text. Actually, this mixed usage is exactly what one may encounter in an average Min-nan-speaking village in Taiwan today. I was reluctant to translate all the Amoy words I recorded into Mandarin, for sometimes there is simply no equivalent, and sometimes the Amoy words used by the villagers are meaningful only within a limited local area. To preserve the authenticity of both languages and, at the same time, to avoid confusion from using two different romanization systems, I have used the Wade-Giles romanization system for both Mandarin and Amoy words. Mandarin pronunciations are used for geographical names (such as provinces, townships, rivers, and mountains), surname (family names), special designations (such as weight, land, and rent units and gods' names). The Amoy pronunciation is used mainly for the "folk culture" words, such as the official titles of the local temple organization, concepts used in local affairs and ritual process, folk sayings, and so on. Obviously, this is not an ideal solution, for it is sometimes difficult to define exactly where the "great tradition" ends and the "little tradition" begins. I can only suggest that the inquisitive reader consult the glossary for the original meaning of the words.

January 1977

H. S. M.
Ames, Iowa

CHAPTER 1

INTRODUCTION: TAIWAN AND ECONOMIC DEVELOPMENT

For those interested in the study of development, Taiwan appears to be an ideal subject. The rather peaceful land reform effected in the early 1950s has virtually eliminated the elite control of landed estates which previously existed. The majority of landless peasants have been turned into property owners, and, most important, a fairly stable political system has penetrated into every corner of the island. Recent industrial development has placed Taiwan second only to Japan in economic growth in East Asia. The index of Taiwan's annual economic growth has exceeded 10 percent for the last decade (1962-1973), and per capita income reached \$469 in 1973 and \$672 in the first half of 1974 (Asia 1975 Year-Book, Far Eastern Economic Review, p. 300). All of these signs indicate relatively successful development which may provide some useful insights for other developing areas. Indeed, Taiwan's recent growth has been so impressive that many journalistic reports as well as government studies depict Taiwan as a showcase for development through "democratic means" (although this term carries a meaning in Taiwan quite different from conventional usage) in contrast to Mainland China, which is approaching the same goal by a totally different path.¹

In discussing Taiwan's development and strategies to accomplish this goal, one must also bear in mind the Nationalist

government's claim as the legitimate government of all China and its avowed intention to retake the Mainland. To do so, the government has made every attempt to build up as rapidly as possible its economic and military strength. The emphasis on military might and industrialization at whatever costs has undoubtedly had some impact on overall development in Taiwan.

As to development policies related to agriculture and the welfare of rural residents, the government also publically has indicated a genuine commitment and has attempted to develop balanced economic growth, giving equal attention to agriculture and industry. This position is unambiguous, and in government statements the theme has been reiterated, as the following citation indicates:

One salient feature of our economic development in the last decade has been maintaining a proper balance between the development of the industrial and agricultural sectors. My Government realized very early in the course of economic development that the agricultural sector is not only important from the point of view of food supply but also a source of investment capital and raw materials vitally needed by the industrial sector. Industry also depends on the export of agricultural produce in exchange for equipment and supplies. Furthermore, in my country, a diversified agriculture based on multicrops annually, as well as livestock, resulted in a steady rise in the incomes of the rural population who still represent the major consumers of industrial products. On the other hand, agriculture is also greatly benefited by industrial development which enhances improvement in agricultural productivity, such as the extensive use of chemical fertilizers, effective pest control and farm mechanization. (Report of the Second Asian Conference on Industrialization, United Nations, 1971:47).

If the above statement is indicative of Taiwan's development, progress has without doubt been very impressive. But as one examines conditions analytically, the picture is slightly different. For example, from 1962 to 1972, the proportion of agricultural production to gross

national product declined by almost half, from 29.02 to 15.66 percent, while industrial production during the same period leaped from 25.55 to 36.56 percent (Agricultural Statistical Handbook: Taiwan Province 1973:3-4). The theoreticians of development may argue that this trend is natural, for, as industrialization proceeds, the vigorous growth of industries should gradually replace agriculture and become the mainstay of the economy (Stanley 1961:300; Gailbraith 1964:9).

My objection to this opinion is that genuine industrial development in Taiwan has been achieved primarily at the expenses of agriculture. Under an arbitrarily designed economic framework, the agricultural sector has been constantly squeezed so as to drain rural capital into industries. In his fine analysis of intersectoral capital transition, Mr. Lee Teng-huei, the leading Taiwanese agronomist, tabulated the tremendous capital drain from agricultural to industry from 1895 to 1970. His findings are convincing, for they clearly demonstrate the close correlation between the capital drain from the agricultural sector and development in the industrial sector.² In a sense, by crippling agricultural production Taiwan's industrial growth was achieved.

One may argue that since industrialization is the ultimate goal of development, it is natural for developing countries to "sacrifice" agriculture in order to accumulate enough capital for industrial growth. Once the process acquires its own momentum, the agricultural population can benefit from it by the absorption of surplus agricultural labor into industrial production, by the expansion of the market for agricultural products, and by the improvement of rural living standard as industrial commodities and machinery are made available to the rural masses (for example, Mellor 1966:19, 99).

My objective is that in the case of rural Taiwan, the unbalanced growth between agriculture and industry has not benefited rural residents as the theory suggests. It is true that large numbers of the rural population have been absorbed by industries in the last decade. Between 1963 and 1973, the proportion of Taiwan's agricultural population to the total employed population declined from 51.32 to 30.19 percent (Taiwan Provincial Labor Force Survey & Research Institute, 1973:13). However, as more people have become engaged in industry, the residual population in rural Taiwan has made no progress at all in a true monetary sense. In 1962 the annual production of an average Taiwanese farmer was NT\$10,872 (approximately \$250); by 1972 the figure had increased to NT\$12,634 (approximately \$300). If inflation during these eleven years is discounted the average farmer's production actually declined (P. Liu 1974:16). By contrast, in 1962 the average nonfarm worker had an annual production of NT\$40,463 (approximately \$1,000), which had increased to NT\$56,637 (\$1,600) by 1972. Two very interesting points emerge. First, the value of a farmer's production in Taiwan was only one-quarter that of the nonfarm worker in 1962 and one-fifth in 1972. This indicates an absolutely uneconomical farming system. Second, while the productive value of nonfarm workers had increased substantially, the farmer made no such gains over the eleven-year period.

There also has been a constant drop in net agricultural production in Taiwan's major crops in the last few years. Between 1968 and 1973, total rice output declined from 2.5 to 2.2 million metric tons per annum, and sweet potatoes from 3.4 to 3.2 million metric tons (Industry of Free China February 1975, pp. 64-65). One might suggest

that the decline in grain production could have been due to switch from staple crops to more beneficial cash crop production, such as vegetables. But when the statistics are examined, the highest level of vegetable production occurred in 1971, and it has since been gradually tapering off. (For more details see Chapter 5, section 2.) To compensate for the loss in domestic production and to meet increasing demands, the government has had to import grain in increasing quantities each year.

1. The Problem

The above discussions should indicate clearly several salient features about Taiwan's recent development. First, it appears that the agricultural sector and rural residents have failed to respond to the overall development. Agricultural growth has been nil, and the rural population has been unable to adapt the traditional agricultural system to new circumstances. Second, it also is obvious that the government's policy has not been consistent with its avowed aims to generate balanced growth, and rural residents have been largely excluded from the advantages of recent economic development. Despite the widening disparity in income between the farm and nonfarm population after 1962, the government has made no attempt to alleviate the farmer's plight by shifting part of the burden to the nonfarm sector. Finally, the lack of agricultural development not only will create a tremendous financial obstacle to further economic growth, as grain imports require increasing amounts of foreign exchange, but also will produce serious social problems as the rural residents are continuously denied the benefits of development.

How can this lack of development in Taiwan's agriculture be explained? What factors contributed to such a situation? To what extent can development models account for such a trend? As a first step toward answering some of these questions, the major development theories or models in this specific area will be reviewed briefly.

2. Review of Development Theories and Models

Despite the tremendous efforts of social scientists in studying development among Third World countries, the current state of knowledge is at best inadequate. There is no satisfactory explanation of what causes development. Even those hypothetical models that have been proposed generally cannot be tested cross-culturally, and so they lack empirical validity.

Furthermore, the applicability of these models is questionable. Most of the political elites and economic planners in developing countries have been trained in Western traditions, and they have invariably accepted the models developed by their tutors and applied them to their own countries. Yet, the abyssmal gap between the developed and developing nations has not narrowed. As the Columbia Declaration proclaimed, "the widening gap between the rich and the poor countries of the world has...become a central issue of our time" (1970, cited in Ward, ed., 1971:11). Frustrated by the problems facing the Third World, the economist Authur Lewis reluctantly conceded that even though "the per capita income of the less developed countries is growing rapidly by any historical standard, nevertheless the gap between developed and less developed is widening because the former are growing even faster" (1971:5).

The inadequacy of development studies has aroused tremendous uneasiness among practitioners in the field, and there have been

discussions of how to overhaul the entire area. Epstein, for example, suggests that since social anthropology focuses on micro/primitive societies and formal economics on macro/modernized one, the study of development should be an ideal meeting ground for both disciplines. In other words, the new orientation of development study, according to Epstein, should be toward a kind of eclecticism combining social anthropology and formal economics (1975).

Economist Sherman Robinson also has conceded that economic theories concerning development are less than perfect (1972). He suggests that while formal economics is precise and satisfactory in the study of developed countries, it must consider certain noneconomic factors when dealing with developing nations. Thus, there is generally a high degree of uncertainty and ambiguity in formal economic theories as applied to the Third World, and economists must consider certain sociocultural variables in their studies. However, while paying lip-service to the importance of these variables, Robinson argues that they differ only superficially between developed and developing countries. Noneconomic factors such as technologies and social institutions in developing nations can still be translated into mathematical formulas and hence be incorporated into formal economic models dealing with circular flow, potential profitabilities, and so on.

My criticism of the dominant schools of development theory is even broader than those of Epstein and Robinson. I believe that the inadequacy of such theories is deeply rooted in the practitioners' premises, methodologies, and implicit ethnocentrism when analyzing nonwestern societies. Let me suggest some of the major fallacies among these schools of thought. The first problem related to development studies

and the application of development models to the Third World has been the constant equation between development and industrialization/urbanization. Since industry appears to be omnipotent in the current technology-oriented world, it becomes the final goal developing countries seek to achieve. Many remarks made by social scientists reflect this bias: "Industrialization is a very large part of the modernization process; indeed, many would claim it to be the essential element" (Inkeles and Smith 1974:18). The stress on industrialization as the sole means of achieving development has obviously influenced the attitude of people in the Third World, especially, as Myrdal points out, "the intellectuals in under-developed countries [who] largely pin their hopes on industrialization" (1966:412).

I am not arguing against industrialization/urbanization. I am arguing against the opinion which suggests that industrialization should be pursued regardless of conditions within the society and regardless of the price the people must pay to accomplish it. If development means substantial growth in the economy by better utilization of available natural resources, it would be completely misleading to assert that industrialization is the sole means to accomplish this goal.

While many sociologists may not shrink from drawing the equation between development and industrialization, economics are surprisingly reluctant to do so. In fact, several economists are critical of such a position, among them Theodore Schultz (1964:4) and Gunnar Myrdal (1966:412). Both argue that what most Third World countries need is not more production machinery but more substantial growth in production, and this can be achieved more easily by improvements in the agricultural sector of the economy.

Plausible as this suggestion may be, formal economic models generally are ill-suited to the study of development. This is so because they continue to ignore the socio-cultural variables prevailing in different societies, and this is my second criticism of general development studies.

Economists have devised neat mathematical models from their studies of Western capitalist societies. In these models, behavior is reduced to the depersonalized choice-action of individuals in the market system, and the entire process can be translated into mathematical formulas, such as the amount of capital, interest rate, incentive, profits, and so on. Because of the plausibility to them of such "economic man" models, formal economists have found little reason to take socio-cultural variables into account in their formulations (Robinson, ibid:55; Epstein ibid:33).

Epstein has recalled that economists Author Lewis, who was her advisor, urged her to drop the "sociological nonsense" from her proposed study of development in India (ibid:29). This attitude is probably very typical among formal economists.

Many economists have not hesitated to declare the irrelevance of socio-cultural factors in the study of development, and they have maintained that economic problems can only be settled by economic means. Thus it is not surprising that suggestions have been made, such as the one by Schultz, to dismiss cultural attributes, institutional arrangements, and technological property as irrelevant to a discussion on the transformation of traditional agriculture (1964:25). Expressed another way, as Everett Hagen boldly remarked: "Only two causes of economic development are of any importance. They are capital formation and technical progress" (1968:29).

The argument against such an "economic man" assumption does not necessarily lead this discussion back to the substantivist vs. formalist controversy in economic anthropology. The irony is that since capitalist "economic theories are almost always implicitly based on a general equilibrium model that assumes social, cultural, and even institutional factors to be fixed" (Robinson *ibid*:55), the theoreticians and practitioners dealing with nonwestern nations would have to develop new models when the social, cultural, and institutional factors are fixed in a manner different from the capitalist ones. This position is so self-evident that I do not think there is a need for further elaboration.

Whereas most economists remain indifferent to socio-cultural variables in their development studies, most sociologists pay specific attention to them. However, sociologists often interpret social-cultural variables in such an ethnocentric manner that their approach to development appears to be equally inadequate and irrelevant. This ethnocentrism is my third criticism of the dominate schools in development studies.

The ethnocentric bias in interpreting socio-cultural variables can be summarized succinctly. In order to achieve development, Third World peoples should first acquire a new set of mental constructs. These, incidentally, coincide with those in Western capitalist society. Only after acquiring this mental attitude can a developing nation successfully transform itself into a "developed" one.

Historically, this theme can be traced to Max Weber's pioneering study on Protestantism and the development of capitalism in Western Europe (1953). One often neglected point Weber made is that he was

not suggesting the causal link between the Protestant ethic and capitalism, but rather the interrelationship between them. His theme subsequently was reinterpreted to mean that "the growth of capitalism was dependent upon the acquisition of certain key social values associated with the Protestant Reformation and expressed in the Protestant Ethic" (Woods 1975:51). This distorted interpretation of Webber has become so much a part of many social scientists' thinking that they ethnocentrically project it into their assessment of development, or lack thereof, and explain its presence or absence accordingly.

A congeries of study along this line have been produced by sociologists. To Edward Banfield, the lack of industrial development in a southern Italian mountain community was the result of "amoral familism" which haunted the backward peasants (1958). To Daniel Lerner (1958) it is the acquisition of a special mental property, "empathy," to David McClelland (1969) it is "achievement motivation," that is the crucial factor in achieving development. The question then becomes: What factors motivate people to acquire this new mental construct, and how? Everett Hagen (1962) suggested the "withdrawal of status respect" as the key factor. In a rapidly changing society, when certain people in the higher social strata lost their previous status, they would strive to regain it by becoming innovators or cultural brokers initiating changes and development. Other sociologists, such as Rogers and Svenning (1969), Alex Inkeles (1973), and Inkeles and David Smith (1974), attempted to trace the source of this psychological change to the individual's exposure to mass media, urban and factory experience, literacy, and so on. People become development oriented when they are properly exposed to a "developed" socio-cultural milieu.

My criticism of this psychological reductionism is that its assumptions are largely ethnocentric and its explanatory process is circular. What causes development is the acquisition of a specific mental construct, as it is defined among the "developed" countries, and the validity of this assumption is "proved" by the fact development has indeed occurred. This bias, unfortunately, has prevented many sociologists from discovering more relevant socio-cultural variables which are specific to a particular society in its process of development.

My final criticism of the dominant development schools is that most of the theoreticians are either incapable or unwilling to examine the inequitable economic arrangement in the current world order. A few economists and political economists have expressed an awareness of the predatory nature of capitalism (Nkrumah 1964; Baran and Sweezy 1966; Cockcroft, Frank, and Johnson 1972; and Amin 1974). They have compiled data to demonstrate that because of the formation of monopoly capital in early capitalist countries, the global economy has been bisected into the financial metropolies (or the centre), which control and manipulate capital and technology, and the satellite economy (or periphery, to Amin), which furnished raw materials, markets, and cheap labor to the metropolies. It is by manipulating these satellite economies that the financial metropolies have been able to dominate the developing countries politically and reap enormous profits from the satellites economically.

The structure of such a dominating-subordinating economic arrangement, as a result of capitalist expansion on a global scale, has been clearly articulated by Frank (1972): "No country was ever in an

original state of underdevelopment, although it may have been underdeveloped. The process of development and underdevelopment began when the European nations began their worldwide mercantilist and capitalist expansion" (1972:xi, italics in original). As long as the current economic order continues, there is very little chance that a subordinated developing country can achieve genuine, self-sustaining economic development.

The development of underdevelopment, as Frank and his associates have discovered in Latin America, not only perpetuated the economic subordination of the developing countries and widened the gap, but also polarized the people within the developing countries in terms of the distribution of wealth. A small group of political elites and economic planners, who normally have the power to design and execute development projects for their country, merge their personal economic interests with those of foreign investors. By pursuing projects or policies favorable to the foreign interests, these elites are able to profit while the foreign interests impoverish the masses. This "internal colonization" process in the Third World, as Frank and his associates observe, has contributed to the formation of an economy *characterized*, on the one hand, by a capital-intensive industrial sector which is controlled and managed by foreign interests in association with the country's political and economic elites and, on the other hand, by *an* obsolete agricultural sector which furnished cheap labor to the industries.

Because of their failure to consider this international economic framework, most formal economists and social psychologists have been *unable* to visualize the problems faced by developing countries and

hence cannot explain the ever widening gap between the developed and developing nations.

3. Research Strategy of the Current Study

In light of the above discussion, I propose a different approach to the study of development. I believe a society's development can be best understood by empirical study of that society, and development models then can be formulated inductively after certain basic information has been gathered.

My approach follows the cultural ecological model. If a culture is to be understood as the adaptational strategy a people has developed to cope with its environment, then it is first necessary for researcher to understand the environmental conditions in which this culture has developed. Environment, used here, is not merely defined as the physical attributes of a specific geographical area, such as flora, fauna, precipitation, and so on. The term also includes the social and super-natural matrix with which a particular culture continuously interacts.

At a practical level, the socio-cultural components of a rural community have not developed in total isolation. They are part of a larger matrix and are constantly influenced by the larger social system (E. Wolf 1956). Agricultural development in any given rural community can be regarded as reflecting the general trend of the entire society's political economy, and the changing emphasis of the society at large will certainly have repercussions on the rural society's agricultural practices.

It is by combining the cultural ecological and political economy approaches, I believe, that I will be able to perceive and understand

the process of agricultural development in rural Taiwan more objectively and, further, disentangle the dynamic factors that contributed to such a change. The analysis should first examine the ecological condition of the rural society, then the social institutions developed to cope with the ecological cycle of agricultural production. With this information, I should be able to document the actual process of recent development and the impact this development has had on the traditional agricultural system. I should then be able to evaluate the agricultural policies adopted by the government and assess the potential for agricultural growth in Taiwan.

I believe that only by such a multidimensional analysis of an actual community system can I provide an accurate description of Taiwan's rural development and a sensible analysis of the factors related to it.

It may be hoped that this study will also shed light on such problems as the now infamous Green Revolution. After its failure in Java, Richard Franke studied the situation and concluded that the failure was due to the "blindness of the development theorists," who aggravated the already perilous problem of rural poverty. The projects which were intended to boost agricultural production in Java took no account of social and political conditions. The economic planners completely ignored the traditional, communal social organization in rural Java and underestimated the disruption and corruption of the new bureaucratic-military regime which has acquired unchallengable power in Indonesia. When the agronomists introduced miracle rice and chemical fertilizer, the result was the erosion of the traditional communal obligation, a widening gap between the rich and poor, and the displacement of the

marginal, small peasants into the hands of the usurer-bureaucrat-military complex. For the average peasant in Java, the nutritional level actually dropped from 1,946 calories per day in 1960 to 1,730 in 1967 (Franke 1974). A similar account of the negative results of the Green Revolution in India in terms of increasing social inequity was made by G. Parthasarathy in 1971.

The failure of the Green Revolution occurs not at the technical level but within the socio-cultural infrastructure of the society where the project is implemented. I hope the studies of the failure of the Green Revolution and my current investigation will provide sufficient examples to convince other social scientists that a change in theoretical outlook is essential in development theory if such studies are to bear any fruit at all,

Footnotes

1. A case in point is Hung-chao Tai's recent publication, Land Reform Politics: A Comparative Analysis (1974), in which he says:

"In Taiwan, the completion of the three reform programs resulted in the creation of a large number of own-farmers and in the improvement of tenant incomeThe peasants [in Taiwan] can be said to have developed so strong a commitment to the reformed land system that they are quite unlikely to opt for the Marxist type of farming, even if they were open to Communist influence" (pp.446).

2. Based on his analysis, Mr. Lee has made the following remark:

Net real capital outflow from agriculture increased at a rate of 3.8 percent annually in the prewar period from 1911-1915 to 1936-1940 and at an annual rate of 10 percent in the period from 1951-1955 to 1956-1960....The increase in export surplus...indicates the variety of ways in which the net real capital outflow from agricultural contributed to the national economy (1971, page 29).

Industrial production increased quite rapidly through the whole period from 1911 to 1960....Sale of agricultural products to the nonfarm households and invisible outflow of real capital would benefit industrialists and industrial workers by supplying cheap sources of raw materials and wages. The contribution of the agricultural sector in this respect was particularly significant in the early period of the prewar stage and in the entire postware period (ibid: 30).

CHAPTER 2

RESEARCH PROCEDURE AND THE VILLAGE SETTING

1. Small-Scale Community Study

The approach adapted in this study is essentially anthropological, that is, an intensive study of a small-scale community and a close examination of the intricate factors associated with developmental changes in that community. The significance of an anthropological study lies not only in gathering qualitatively important empirical data, facts which are normally unavailable to other macro-studies, but also in the generalizations and projections which can be drawn from such facts. By using the information gathered in a small community in Taiwan, I want to examine the impact which various developmental strategies implemented by the government have had on rural society; the adaptative changes of the rural community; the potentiality of agricultural growth under such a process; and the relevance of different models designed by social scientists to study development.

The anthropological study of development involves investigation of two different, but interrelated, areas. First, in a more practical and immediate sense, the researcher should compile information about how the rural residents react to overall development. A few questions can be used to gather these fundamental data: What are farmers' responses to industrial development? Do they incorporate new industrial products

and scientific knowledge into their agricultural production? To what extent has development been beneficial for agricultural production? What sociocultural factors may affect overall development? The second area concerns the true nature of the developmental strategies adopted by the government. The researcher should attempt to discover the government's alleged goals and the extent to which it has attained these aims as well as the relevance of various developmental models proposed by academicians to describe this process. To what extent have these models been successful in explaining development or a lack of it? Have economic planners, by using one or another model, been able to maintain balanced development in different sectors of the economy and thus produce a self-sustaining development?

The assumption in this study is that the developmental model adopted by a society should be based on the society's specific sociocultural conditions, and that development should serve the society's long-range needs. Different societies have different sets of natural endowments and different sociocultural arrangements for utilizing them. As a consequence, one may assume that the experience, demands, and expectations of society A can be very different from society B. For example, industrial development in most contemporary Western societies involved a unique historical process of exploitation and colonization. Capitalistic economic theories developed under such conditions probably reflect quite accurately the predatory nature of such an economy, and their explanatory power is biased toward societies which have more advanced technologies and a capital-intensive mode of production. Furthermore, the developmental models formulated by most Western theoreticians frequently treat sociocultural variables as

axiomatic when they coincide with Western conditions, but as irrelevant when these conditions differ. Consequently, these models have only limited applications in most Third World countries, and a developing nation should not copy such models simply because they have worked elsewhere.

I believe that the inadequacy of such formal economic theories and the unsuitable application of developmental models to the less developed countries largely explain the lack of sustained economic growth among Third World nations. In some societies in which limited industrial development has been achieved, there frequently has been a polarization of wealth which eventually has bisected the population into the haves and have-nots; agricultural productivity has plummeted, and the welfare of certain people in the society has been ignored or threatened. It is my purpose to test Taiwan's experience against developmental theories. By so doing, I hope to create a better understanding of the nature of development.

It was with this research orientation that I designed my fieldwork. The overall goal was to study the development of Taiwan's agricultural sector as an integral part of the island's economy. More specifically, I wanted to understand how rural residents have responded to recent industrial growth. Have they benefited from industrialization through the availability of more convenient industrial products and farm machinery or the more stable demand for agricultural products? When a segment of the rural population has been absorbed by industry, how has current agricultural production been affected? Have small farms merged into larger ones (as in the United States)? Has the system gradually changed from small farms subsistence agriculture to more efficient, capital-intensive, and market-oriented agribusiness?

If so, how has this affected the ecological cycle upon which the traditional wet rice agriculture depends?

2. The Village Setting

I arrived in Taiwan in July 1973. After discussions with resident anthropologists and an examination of some of their recent research, I conducted a two-week survey in three regions: the northeast coastal plain, a highland plateau in the northwest, and the west central coastal plain. I finally decided to conduct my research in the latter area, where I arrived in early September.

The village chosen for study, which here shall be called San-lin,¹ was selected for several reasons. First, the majority of villagers are engaged in rice farming. Wet rice cultivation in levelled terraces is still the mainstay of agricultural production. Second, most of the farm land in the surrounding area was consolidated ten years ago, the national consolidation program being an attempt by the government to alleviate small, scattered, and fragmented lots of individual farmers into large estates for more convenient management. Ten years seemed to be a sufficient time lapse before examining and evaluating consolidation's effect on the village community. Third, communication between the village and the nearby town of Ta-chia was convenient. During my research period, I had a part time teaching job at the National Taiwan University and had to travel to Taipei, the capital city, once every week. Good transportation facility was thus important for me to fulfill my teaching obligation while conducting the research. Finally, room and board were available to me in San-lin.

San-lin is located approximately 4 kilometers north of Ta-chia. Ta-chia township (cheng) is an administrative unit within Tai-chung

county (hsien), and in 1974 it had a population of 58,244 (29,913 males and 28,331 females). The township is further divided into 29 lis, seven of which comprise the downtown area of Ta-chia, the remaining 22 being scattered villages or hamlets.

1) Physical Characteristics

As an administration unit, or li, San-lin is not much different from the other rural lis in this area in physical appearance, population composition, community organization, and so forth. Its settlement pattern appears to be an intermediate form between the compacted communities of southern Taiwan and the scattered farm households of the north. In San-lin li there is a compacted village center and a peripheral area. Approximately half of the li's 380 households lie within a radius of two hundred meters of the village temple, the remaining half being dispersed widely in the field. Some of these latter are gathered in small compounds composed of a few related families, while the others live in totally isolated individual households hidden among screens of bamboo and bushes. It was mainly in the compacted village center that I conducted my fieldwork, although I did make many visits to families in the peripheral area to obtain supplementary information.

Each day, eight scheduled round-trip buses travel the major paved road connecting the village center and the town of Ta-chia. Most of the bus patrons are aged people, village women with babies, farmers carrying excessively heavy items, and occasional visitors. Young villagers commuting to factories or students attending schools in Ta-chia prefer to ride bicycles or motorcycles. Farmers hauling produce to Ta-chia's market normally walk the distance, pushing a two-wheeled cart.

Disembarking at the bus stop in San-lin, one sees a row of neatly built two-story apartments. Cement and brick apartment houses in rural Taiwan are a recent development. Rural Taiwanese apparently have developed a strong taste for their urban relatives' apartment dwellings as a measure of sophistication. San-lin boasts two rows of these buildings, one with 15 units and the other with 11. Most apartments are equipped with modern appliances, such as gas stoves, flushing toilets, bath tubs, televisions, and, occasionally, refrigerators. Villagers are proud of these apartments, and the private dream of many have-nots is to build or purchase a unit sometime in the future.

Between these two rows of apartments stand traditional houses, characterized by red brick walls and black roof tiles. All appear to have been heedlessly constructed, with narrow alleys zig-zagging among overcrowded dwellings. Sanitation is poor. Without underground sewers and garbage disposal facilities, the area is permeated with a repugnant odor. It is here that most of the previous farm tenants and the reserve army for agricultural production live. A few houses still have mud walls and thatched roofs, but these are disappearing as people strive to improve their living conditions.

In the peripheral area most houses are in the traditional style. Using mainly red bricks and black roof tiles, a family constructs a long block dwelling. As the family expands, rectangles are added at the two ends, eventually forming two arms embracing an open court where villagers dry their crops, process grains, and conduct other outdoor activities.

It is in the compacted village center that most of the public facilities that serve the residents of the entire li are found. On the eastern edge of the community is the primary school, which provides

elementary education for San-lin youths from the first through sixth grades. Young people then attend junior high school in Ta-chia.

The center of activity for the li is the open plaza in front of the village gods' temple. There are also a community center, two grocery stores, and a bike repair shop surrounding the plaza.

People come to the temple to seek spiritual advice, attend ritual festivals, or utilize the temple bench and sacrifice altar for evening gambling. On hot summer days older villagers take advantage of the shade of the temple for their afternoon siesta. As the soft breeze from the open paddi gradually reduces the heat on the temple veranda, one can see a few elderly people leaning against the temple pillars and dozing amid small troops of noisy children. The drowsy afternoon scene might be interrupted by an itinerant peddler who frequents the village at regular intervals. He comes by bicycle, motorcycle, or even a small truck, bringing clothes, herb medicine, and other items. To attract the villagers' attention, the peddler uses a record player and an amplifier to broadcast popular music. As he unfolds and displays his wares on the temple veranda, the loud music draws women looking for a bargain and the restless children seeking something to break the monotony.

The temple as a public facility serves another important function. As more and more farmers have moved into the apartments, where there is no open court to dry their rice, they increasingly use the temple court and the open plaza for this purpose. No formal arrangement has been made as to how to use the space. It is first come, first served. Those who cannot find a space in the courtyard must go elsewhere sometimes using the paved village roads or a dirt corner in the plaza.

The li community center is next to the village temple. This spacious, rectangular hall was built by government subsidies in 1970, but unfortunately there has been no follow-up program to promote communal activities. When I was in San-lin, this building was used as a nursery school in the morning and occasionally for wedding banquets. The storage room, which was unused when I arrived, was converted into my living quarters.

One of the two grocery stores facing the plaza supplies a large variety of commodities to the villagers. It has a pork stand, a vegetable shelf, and numerous other items, ranging from medical remedies to small farm implements. Villagers purchase their daily supplies from these stores not only because of their convenient location, but also because of credit arrangements they receive from the grocers. The stores also serve an informal social function for the farmers, who gather there for a chat, a cold treat, or a cup of wine in their spare time.

The bike repair shop on the other side of the plaza once provided an important service to the villagers, but as more and more people drive motorcycles, business has declined. The two rice processing mills in the compacted village center also play an important role. Farmers sell their rice to the mills or bring it there for processing. Both mills have large granaries to store purchased rice, which is then resold to other urban centers.

2) Language and People

San-lin villagers speak Amoy (Min-nan) and can trace their ancestry to southern Fukkien. Most of the villagers' ancestors first migrated to southern Taiwan and gradually moved north to the present

area. Thus, San-lin was established by the secondary or tertiary migration wave after people first moved from the Mainland to southern Taiwan. Surprisingly, since it has been settled by secondary or tertiary migrants, San-lin is a very homogeneous village. In 1974, except for two mainlanders, who married village girls and resided there, and one Hakka-speaking family, the majority of the village families and lineage groups can trace their ancestry to Nan-an county, a small area in Ch'uan-chou region, southern Fukkien. A few other families originated in Tung-an county of the same region. At least one lineage group, once established in San-lin made contact with the Mainland and sent for kinsmen during the Japanese period. This kind of homogeneity indicates a great deal of social cohesion among these people over a rather long period of time.

People speak Amoy in their daily conversations. Villagers below the age of 30 occasionally use Mandarin. In the last few years, as television has become more popular in rural area, significant changes have occurred in language use. Since most of the programs are in Mandarin, older villagers are forced to learn or refresh their knowledge of that language. As speaking Mandarin is generally associated with fancy life in the city on the screen, it has become a symbol of sophistication and prestige in rural society. School children now are more willing to speak Mandarin, especially in front of their parents, to show off their newly acquired skill.

As is true of most other rural villages in Taiwan, San-lin does not have a single, dominant lineage group. There are six major kinship groups in the village, all moderate in size: the Chih group has 35 families, the Liang 15, the Chen 14, the Hsieh 12, the Ho 9, and the

Huang 8. There are also many smaller groups and individual families, and these comprise the bulk of the village population. No kinship group has a well-developed lineage organization such as that found in southeast China and described by Freedman, nor do any have incorporated property or a written genealogy.

In 1974, San-lin had a registered population of 2,861 (1,467 males and 1,391 females). The sex ratio is 100:94, and I found no satisfactory explanation for this disproportionate distribution. One possible answer is that because of the male-centered bias of traditional Chinese society, female infants receive less attention and thus suffer a higher mortality rate.

Table 1 indicates the age distribution of all villagers whose names appear on the household records. The horizontal line across the top indicates the education the villagers have received or are receiving. My tabulation groups those still attending school at a certain level with those who have already completed that year of education.

This table demonstrates several important points. First, it is obvious that women have less educational opportunity than men. Illiteracy is proportionately higher among women than men, and the number of women attending or who have completed higher education is smaller. Second, in the 10-14 age group, all village children except one, who is mentally retarded, have had at least six years of education. This indicates strongly that the village parents now regard education as a necessary part of modern life for their children. Finally, the last column shows that the 15-19 age category has more living members than any other age group. The decreasing number of births in recent years indicates that birth control has been gradually accepted by rural residents and has changed the birth pattern.

Table 1. Sex, Age, and Education Levels of San-lin Villagers, 1974

Age	No schooling		Less than 6th grade (literate)		6th grade		9th grade		12th grade		Above 12th grade		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0-4	146	137											146	137
5-9	68	71											160	164
10-14	1												188	162
15-19	2	3		5			44	22					194	202
20-24		5		6			110	81					174	161
25-29	2	5		9			23	15	18	9		2	106	99
30-34	6	39		6			10	7	28	10			105	85
35-39	13	42	1	3			15	5	14	3			86	79
40-44	12	46	11	9			4		1	1		1	79	78
45-49	17	40	8	5			5	1					75	63
50-54	25	42	7	4			7	5					48	55
55-59	14	26	2				2						30	29
60-64	21	22	1										29	22
65-69	13	19					1						21	19
70-74	11	20											11	20
75 & above	12	16	3										15	16
Total	363	533	37	44	764	648	221	136	62	27	20	3	1467	1391

Source: Household recodes, Household Registration Office, Ta-chia Town Public Office, 1974.

3) Family Structure

The household registration records indicate the entire San-lin li had a population of 2,861 divided into 380 households, averaging 7.49 persons per family. The actual household size is probably smaller than it appears, for many village youths work and live in other towns and cities while still registered as residents. Based on the same official records, households can be further broken down into different categories. Following traditional anthropological definitions, they may be divided into four types: (1) the single person family, which includes people in celibacy, widows, and widowers; (2) the nuclear family, or a married couple and their unmarried children; (3) the stem family, composed of an aged couple and one more married couple in the next generation; and (4) the extended family, which includes more than one marital unit in the second generation in the same household. The breakdown of San-lin's families is presented in Table 2.

Table 2. Distribution of Family Type in San-lin, 1974

	Single Family	Nuclear Family	Stem Family	Extended Family	Total
Number	10	215	113	42	380
Percentage	2.63	56.58	29.74	11.05	100

Source: Household records, Household Registration Office, Ta-chia Town Public Office, 1974.

Although the nuclear family predominates, about 40 percent of the households are of the composite type. These different family types in San-lin were not necessarily associated with differences in social status or economic conditions, such as high social status or excessive wealth enabling the maintenance of family cohesion. In San-lin, I found no evidence to support the common belief that rich or high class

families are more likely to form composite families. Family organization in rural Taiwan probably can never be understood by such a simple, static typology. Instead, family structure should be looked at from a dynamic point of view. All domestic units are involved in a developmental cycle (Fortes 1958), and the unit grows from one stage into another as the family members' social and marital status change. Thus, a nuclear family will most likely evolve into a stem family when one of the sons marries and stays home. Such an arrangement is most frequently seen in rural Taiwan. When the second son marries, the first son may move out and establish his own family unit, leaving the second son and daughter-in-law to assist the aging parents. The original household thus retains stem family status, while a nuclear family branches off from it.

Another alternative, which occurs less frequently than the previous situation in rural Taiwan, is for both brothers and their spouses to stay under the same roof. Family size expands as sons marry and remain in the same household. But this extended family is also transitory, for it will eventually be divided as all the sons marry or the old couple dies. If the formal family division takes place before the parents die, the most common practice is for the old couple to stay with one of the sons permanently, or to stay with each of the sons over a fixed interval, on a rotating basis. Regardless of which arrangement is adopted, there again emerges a group of nuclear families and a stem family.

The family cycle in San-lin thus appears to be of two major types:

Type A: Nuclear Family--Stem Family--Nuclear Families and One Stem Family;

Type B: Nuclear Family--Stem Family--Extended Family--Nuclear Families and One Stem Family.

The major factor that determines which is adopted is the timing of formal family division, and family division is determined by intrafamily relationships, such as the intensity of sibling rivalry, mother-in-law and daughter-in-law conflicts, the father's authority over his sons, and so forth.

We may thus conclude that the different family types in San-lin do not result from status or wealth differences. Structurally speaking, the stem and/or extended family type is but one stage of the family growing cycle. Statistically, the nuclear family is the most prevalent type, the stem family occurs less often, and the extended family least frequently.

4) Occupation and Land Holdings

The majority of San-lin residents are involved in agricultural production. Again, the Household Registration Office provides information on occupations for each working person in the village. On the basis of these records, Table 3 presents occupational classifications for San-lin residents. As Table 3 indicates, farming is the profession of almost 70 percent of all household heads. This group includes both self-employed farmers and tenants. The actual number of households engaging in farming is even larger than the table shows, for many household heads classified as "jobless" are actually widows or aged people from farm families. Even though they are listed as jobless, they can still supervise their children or hired laborers in farm work.

The "service" category includes janitors for the local primary school, maintenance men, barbers, a Taoist priest, and servants or

Table 3. Occupational Classification for San-lin li Residents, 1974

Status Occupation	Family Head		Nonfamily Head		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Farmer	229	60.26	229	35.67	458	44.81
a. Self-employed	34	8.95	31	4.83	65	6.36
b. Tenants	35	9.21	-	-	35	3.42
Jobless	21	5.53	31	4.83	52	5.09
Service	18	4.74	36	5.61	54	5.28
Skilled workers	16	4.21	8	1.25	24	2.35
Trade	11	2.89	12	1.87	23	2.25
Local government offices	5	1.31	2	0.31	7	0.68
Wasted paper collector	4	1.05	-	-	4	0.39
No record	2	0.53	84	13.08	86	8.41
Factory	2	0.53	65	10.12	67	6.56
Military service	2	0.53	11	1.71	13	1.27
Other white-collar jobs	1	0.26	107	16.67	108	10.57
Handicraft	-	-	26	4.05	26	2.54
Animal husbandary						
Total	380	100.01	642	100.00	1022	99.99

Source: Household recodes, Household Registration Office, Ta-chia Town Public Office, 1974.

maids for wealthy Ta-chia families. They occupy a rather low social status in the community hierarchy. Skilled workers include mechanics in Ta-chia factories, carpenters, truck and taxi drivers, and the bicycle repair man. Their income generally exceeds that of farmers.

A quite diversified occupational category in terms of income is the one labelled "trade" in the Household Registration Office files. It includes the two rice mill owners, who are considered to be quite well off in the village, the moderately prosperous grocers and their assistants, and a few peddlers, whose income is generally small and quite unstable.

Some villagers work in local government office in Ta-chia. These include the Ta-chia Town Public Office, the police station, the Ta-chia Farmers' Association, and the Ta-chia Running Water Company. Because of their stable income and connections with the governmental apparatus, these people are generally respected, and sometimes feared, by the villagers. Many of these officials came from the previous landlord families. The Huang landlord family alone provides four officials at various governmental levels. This seems to indicate a continuation of the old social stratification in rural Taiwan, despite the land reform of the early 1950s.

A unique group in San-lin is the waste paper collectors. They use three-wheeled motorcarts to gather waste paper, glass, rusty metal, and other refuse from San-lin and nearby villages and sell this to recycling shops in Ta-chia. They are unique in their symbiotic relationship with agricultural production, for during the intensive work period of the agricultural cycle, they temporarily abandon their trade and join the agricultural labor pool. As waste paper collectors,

these people acquire expertise in calculation, skill in handling different people, and a good knowledge of the surrounding area. All these qualities are generally lacking among the farmers, who thus look upon the waste paper collectors as leaders or organizers of the village labor teams during the transplanting and harvest seasons. As team leaders they receive a half-day's wage in addition to their regular work day payment. This income is far better than what they earn from waste paper collection in a normal day.

The "no record" category shown in Table 3 includes three persons from the Huang landlord families. Two have moved to Japan and one to Africa, and their present profession is not recorded. The other person in this category moved to Hua-lien and has not reported on his profession.

In 1974 only two village family heads worked in Ta-chia factories, as opposed to 84 nonfamily heads. This indicates the increasing trend for village youths, who have not attained the status of family heads, to participate in the industrial labor market.

The "military service" category includes two professional servicemen, both Mainlanders who married village women and set up residence as family heads, and 65 drafted village youths who must serve from two to three years in the military forces.

"Other white-collar jobs" includes a few primary and high school teachers, managers in Ta-chia business establishments, realtors, a local factory owner, and so on. They generally enjoy a social status as high as that of the local government officials.

The last two categories in Table 3, "handicraft" and "animal husbandry," are quite questionable. Even though the Ta-chia area was once

famous for its hand-woven straw sheets, hats, and baskets, and although people still remember that this activity occupied much of their spare time, very few people are so engaged today. The same is true for the category of "animal husbandry". I know of no villager who seriously considers animal husbandry his or her profession. Aside from a few backyard pig pens and a handful fowls, there is virtually no animal husbandry to speak of in San-lin.²

Since farming comprises the majority of San-lin's economic activities, an account of land ownership is necessary. Land records in the Ta-chia Farmers' Association indicate that 238 families in San-lin own some farm land. Three of these families' records are not available, and the remaining 235 own a total of 184.81 hectares, or 0.79 hectare per family. Most families fall in the 0.5 to 1.5 hectare category. One farmer owns 3.50 hectares and another 2.85, but no other farmer has more than 2 hectares.

All the farm land belonging to San-lin villagers is irrigated, but because of the high sand content, the soil is considered of poor quality. During the Japanese colonial period (1895-1945), the Japanese Land Bureau divided Taiwanese farm land into 24 grades based on quality of soil and accessibility to irrigation, and the grading system is still used for taxation purposes. The lower the land's grade number, the better the land, and the heavier the taxes. In San-lin, only a few parcels are graded between 5 and 8, which is considered the best land around. Most of the land falls between grades 11 and 17.

A few tenants survive today, but their actual number is far smaller than that listed in the household registration. Some previous tenants have assumed other professions, and others have moved to the cities. My inquire indicates that there are only eight tenants still

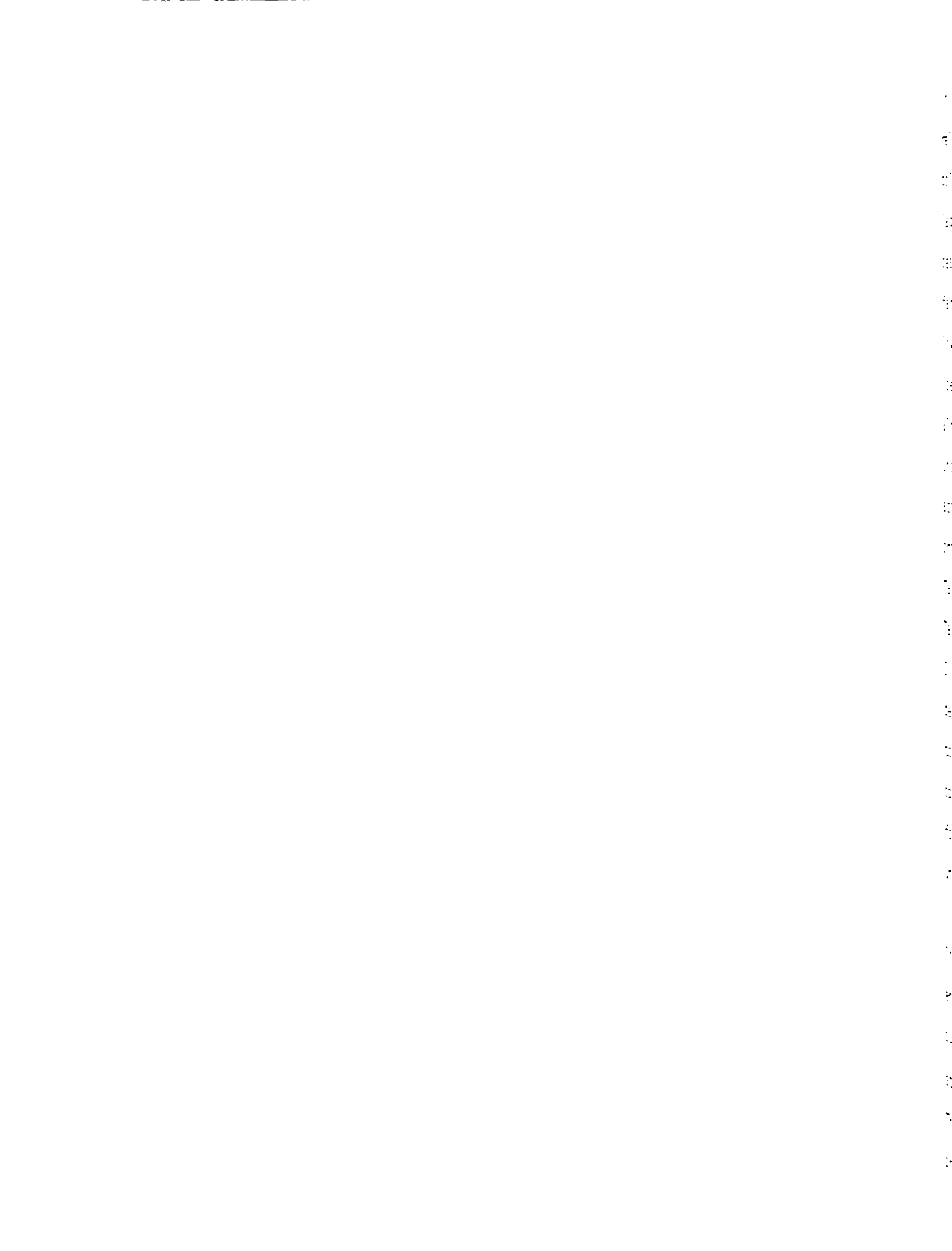
actively involved in farming. Since they have had a free hand in managing their tenant land since 1953, they almost regard it as their own. Except for paying a fixed rent, the tenants make no effort to maintain rapport with the landlords. The landlords have virtually no voice in disposing of their own land.

The relationship between landlords and tenants is best illustrated by an incident which occurred during my field work. A Huang lineage landlord decided to sell a portion of his tenant land to obtain capital for a business investment. Since the law gave the tenant on that land, a man of Yiao lineage, the contract to the land, the landlord asked him if he wanted to purchase it. The tenant declined on the ground that his only son would not be interested in farming, and he saw no justification in purchasing it. Huang then said he would sell the land to whomever would buy it. The tenant had no objection if the Huang landlord agreed to divide the land price with him to compensate him for his lost tenant rights. This suggestion enraged the landlord, who accused the tenant of blackmail. The tenant simply shrugged his shoulders and turned away, leaving the unresolved problem to the landlord.

Even though land tenancy still exists in San-lin, its social implications for the community are irrelevant. The antagonism between landlords and tenants which once prevailed in rural Taiwan and which has been well documented by Gallin (1966a, 1966b) has gradually decreased along with dwindling profits and concern for farming.

3. Research Methods and How I was Perceived

After settling in San-lin I began to interview people on a random basis. I talked to villagers at evening gatherings and participated



in social activities such as weddings, funerals, house warmings, and religious occasions whenever possible. As is true for most anthropologists, my first 3 or 4 months were not very productive. The villagers were suspicious of me; and although I tried to explain my research purpose and methods, they remained so for some time. The farmers simply could not understand "why a city person would want to live in a worthless rural community and mingle with the blind buffaloes," as the farmers called themselves, when their own children had already deserted their place of birth. Some believed that I was an undercover agent sent by the Ministry of Defense to investigate illegal activities, such as bootlegging and gambling. Others thought I was a promoter from Taipei involved in a land deal; at about this time Taichung harbor was about to begin construction, and land prices in Ta-chia township had been fluctuating radically. To allay suspicions I said that I was an instructor at National Taiwan University. Indeed, I had a part-time teaching job there throughout my stay and had to travel to Taipei, about 160 kilometers from Ta-chia, to fulfill my obligation once every week. But this explanation did not help at all, for the university belongs to the government, I was working for the university, and thus I was still a government agent.

It was almost impossible to do anything during this period but listen to the farmers' complaints: The government did not supply enough fertilizer so that the farmers could avoid the exploitation of businessmen; corruption in the Farmers' Association and local police station abused farmers' rights; farmers carried too heavy a tax burden. These were recurrent topics at the villagers' evening gatherings, probably chosen purposely since they believe I had a special pipeline

to the central government. Quite often they questioned me about new agricultural policies, as if I had had a part in designing them and should be responsible for whatever problems they caused.

Only after I established rapport with some villagers did the stone wall dissolve. I was then regarded as a "good" person by village standards and welcomed as a member of the community. I am not certain that the people with whom I built rapport fully trusted me, and I believe suspicion persisted among some villagers throughout my fieldwork. However, this did not seem to hinder my research. People took the view that a friend is a friend. They seemed to feel that certain people may have unpleasant occupations, but personal duty is one thing, and friendship another. Being a suspected government agent, my profession might be harmful to the villagers, but since I was their friend, I was expected to pursue my duty less vigorously. Perhaps they felt that, spy or not, they had won me over.

My experience indicates that an anthropologist studying rural Taiwanese community can employ a number of methods to reduce suspicions or establish rapport. Openness and frankness are very important. The door to my living quarters was always open, and I never attempted to scare away the children who peeped through my door and windows. When villagers came to visit, I would show them things related to my research but which were foreign to them, such as my typewriter, ariel maps, and so forth. After a month or two the children stopped their innocent spying, and the older villagers were less irritated by my persistent inquiries about their ancestry, family division, the amount of water needed in irrigation, and so on. They were probably convinced that even though the anthropologist was eccentric, he was harmless.

My second strategy for establishing rapport was to participate as much as possible in communal activities. Many of these, such as the village gods' festival, ritual processions, or public shows, depended on donations, and I would volunteer funds along with the other villagers. I also offered my services as a bookkeeper at such times and wrote public announcements indicating the names of donors and their expenditures.

Finally, I managed to break down the wall between me and the villagers by inviting myself to their homes. It is a custom in San-lin for a family to give a banquet celebrating special events, such as a son's first month, a wedding, and so forth. Since the family cannot afford to entertain everyone, only those who indicate their interest by sending a little gift money in a red envelop to the host family are invited. Cards are then returned to the gift-giver requesting his presence. When I learned that a family was planning a banquet, I would send my gift-money. This strategy afforded me many opportunities to become involved in family events and get acquainted with villagers within a rather short time.

Once rapport had gradually been established, the barriers were lifted. Some villagers would ask me to read letters they had received from their children and to help them write replies. Several times I was asked to be among a village boy's wedding companions to receive his bride. Gossip often reached me sooner than other villagers since many considered me to be a good and sympathetic listener. Eventually I was taken to the village's gambling houses and to other illegal businesses. At the evening gatherings I began to ask quite personal and subtle questions. Of course, some villagers were more

informative or cooperative than others, but after each conversation I made notes and later typed them on unisort cards.

I developed a questionnaire to collect some basic information, and this was administered in the last month of my fieldwork, when I felt I had established good relationships with the villagers. I suspected that the villagers, given their confidence in me now, would be willing to answer my more subtle questions in written form, which proved to be the case. Many villagers, although not wholly without hesitation and suspicion, cooperated in a way an outsider could not ordinarily expect. With the help of an assistant, the only time I used one, and the questionnaire, I collected information on 78 farm families, approximately one-fifth of the village households. The importance of this questionnaire will become evident later in the study.

I left San-lin in July 1974 and returned to Taipei for a month's library study at the Institute of Ethnology, Academic Sinica.

4. Further Theoretical Considerations

My experience in San-lin was quite illuminating. Changes in the past decade has been overwhelming, and no observer could fail to appreciate the intensity and scale of change in contemporary rural Taiwan. Among these were the following: Most village youths had moved, and were continuing to move, out of the community, As a result, family division was often delayed, and sometimes did not occur at all; industrial products were easily accessible and were often regarded as status symbols; the traditional elites, who lost their land during the land reform, were faced with a strong challenge and competition from

other people for the leadership and prestige over which they once had held a monopoly; finally, without effective leadership and able-bodied youths, the village could not continue such communal activities as the dragon dance and fighting shows for religious occasions. Public affairs in the village were often ignored, and older villagers could only lament the indifference of the younger generation.

But what were the implications of these changes for agricultural production and the potential for future agricultural development? The overall impression was negative. Labor shortages had become a serious problem for agricultural production in San-lin as well as other parts of rural Taiwan. This was reflected in the soaring daily wage for an adult male farm laborer in San-lin, which had jumped from NT\$150 in late 1973 to NT\$250 by mid-1974. To alleviate this problem, the regular army was rushed to help with agricultural work, especially during rice harvests. In June 1974, two small teams of servicemen were sent to harvest rice in the San-lin area for families which had sons in the army.

Most villagers reported that agricultural production in San-lin had been stagnant, if it had not actually declined, over the last few years, but there are no official statistics for the village level to support this point. The only official report relates to rice production for all of Taiwan, and it does indicate that rice production peaked in 1968, when it reached an annual figure of 2.5 million tons. In 1973 it dropped to 2.2 million tons (Industry of Free China, February 1975:62-65). The same source also indicates that crop yield per unit for rice also peaked in 1968 (3,188 kilograms per hectare) and had not regained this level of productivity (rice yield per hectare was 3,114 in 1973). Overall agriculture production had a growth rate

of 0.8 percent in 1974 and -2.3 percent in 1975 (Central Daily News, 30 December 1975). All these figures seem to support the villagers' claim that agricultural production has stabilized in recent years, despite the benefits of technological improvements and the government's efforts to boost production.

The future for potential agricultural development seems even more gloomy. Most currently active farmers are over 40, only a few in the 30 to 40 bracket, and even fewer are under 30. In a few years, when many of the active farmers will have to retire, they could supervise others in farm work, but hired laborers and village youths probably will not be as plentiful then as they were in 1974.

Would the retirement of these farmers make more feasible the development of capital-intensive, fully mechanized agribusiness? As some small family farms were gradually merged into the holdings of more aggressive farmers, would a new agricultural system develop? The answers I obtained from agricultural extension workers as well as villagers were negative. No farmer wanted to commit himself to agricultural expansion, and, curiously, no one wanted to give away his land.

5. The Problem at the Local Level

Two questions that recurred throughout my fieldwork were: How could I account for the stagnant agricultural production which San-lin had experienced lately, and how could I explain a developmental trend which seems to lead to no development at all?

Analyzing separately the factors related to agricultural production, I found no satisfactory answer to this bewildering problem.

Out-migration of village youths certainly contributed to the farm labor shortage, but other factors seemed to alleviate this problem. Technological improvements have substantially reduced labor demands in agriculture. Before the introduction of the small power tiller, a farmer spent 8 to 10 days plowing and smoothing one hectare of land with water buffaloes. Now it can be done in a day and a half. Before villagers installed electric or diesel water pumps for irrigation, a farmer had to spend at least 5 working days watching and guarding the water from irrigation ditches, even more time during severe draught. Today, water watching has virtually disappeared as a concern of farmers. Another innovation is the diesel-powered grinding machine which strips rice grains from the stalk. Before its introduction farmers expended prodigious energy on a foot peddle which rolled the stripping device. Diesel engines have made harvest work much less labor intensive. In addition, more effective chemical fertilizers, pesticides, and herbicides have been introduced into San-lin in the last few years. All these innovations have either drastically reduced labor demands or substantially increased crop yield. Most farmers believed that agricultural work has become quite easy in comparison to, say, 10 years ago. In their opinion the existing labor force in San-lin could accomplish all the work necessary if the farmers wished to. It seems one cannot attribute the lack of agricultural development in San-lin or in rural Taiwan entirely to a shortage of labor, nor is the labor shortage caused entirely by out-migration.

Can the current problem of underdevelopment be attributed to the lack of sophisticated technologies? The answer is both yes and no. The most labor-intensive work (rice transplanting and harvesting) is

still done by human beings, although machine technology is available. The Farmers' Association in Ta-chia has been advocating such machines, but the farmers are cool to the idea. One reason is that maintenance and repair requirements are difficult to access. A second reason is the farmers' lack of interest. A harvesting machine costs more than NT\$160,000 (\$4,000), and it can only be used in harvesting rice stalk. Although other machines already accepted by farmers are also very costly (a power tiller, for example, costs approximately \$2,000), they can be used for purposes other than farming. A power tiller can be converted to haul a heavy load by attaching a two-wheeled cart to the back, or a small diesel engine can be attached to a rice grinding mill. Few farmers seem to have a sufficiently strong commitment to farming to purchase other less adaptable machines. Technology alone cannot explain stagnant agricultural production.

Perhaps financing is the problem. Credit has always been tight in rural Taiwan, and even in 1976 more than 57.5 percent of Taiwan's farm families were in debt, the average amount being NT\$27,701 (approximately \$700; Central Daily News, 20 May 1976). Could the lack of agricultural development in recent years be the result of a credit shortage? My observation in San-lin provided no definite answer. While some farm families appeared to have constant financial troubles, the amount of liquid capital in the form of cash in rural areas seemed abundant. Raising money for specific purposes, such as building a new room or house, purchasing a new motorcycle or television set, or taking a trip, is not difficult for an average farmer. Thus, financing does not seem to be a major obstacle to agricultural development.

The original question remains unanswered: Why, given improved technologies, labor-saving devices, and more accessible cash does agriculture not experience sustained growth? It was in pursuing this question that I became convinced of the importance of sociocultural variables in the study of development and began to question the validity of some developmental models and concepts used by social scientists and the practicability of developmental policies based on such models and concepts.

One example is the concept of the "family farm," a key term used by the government in its planning for agricultural development. The concept and its sociocultural implications were first explored by the Russian agronomists A. Chayanov in the early twentieth century; it was later rediscovered by Western rural sociologists, such as Daniel Thorner (1962), Teodor Shanin (1966), and Harvey Franklin (1969, 1971). Chayanov argued that the formal market economy is not applicable to agriculture, for the two are governed by different factors and rules. In an agricultural economy, the major productive process and hence production is dominated by (1) need-satisfaction within the family and (2) the growth cycle of a family as its members proceed through different age categories. The market economy is regulated by the supply-and-demand law, calculation of wages and profits, and so on. Since these factors are not articulated in an agricultural economy, economists should not apply capitalist market economy theories to agriculture.

The term family farm (chia-ting nung-ch'ang) appeared in Taiwan in the late 1960s, and it normally implies a farm household unit which is also the basic unit in the government's economic calculations. But

beyond that, the implication of the term as used by Taiwan's agricultural economists begins to depart from that of the Chayanov's. When it is used in Taiwan, it seems to imply a kind of expanded farming system, with family members at the core to manage the agribusiness. T. H. Shen has written that "in order to promote agricultural productivity thenceforth, it is necessary to try expanding the scale of the farm management unit so as to facilitate agricultural mechanization" (1969, my translation). The emphasis is primarily on the individual farming unit, and agricultural development is regarded as a matter of how to improve the productivity of individual farm families. This emphasis is very far removed from the traditional agricultural system in Taiwan.

6. A Broader View

The traditional mode of rice agriculture is an ecological adaptation characterized by several features. It involves a permanent field for crop growth, a short but intense crop growth cycle, special techniques to inundate the field at regular intervals, and ways to maintain soil fertility for permanent use. The unique ecological process requires corresponding socio-cultural arrangements. In a wet rice system, the importance of the individual family as an independent economic unit is not stressed. Emphasis is placed on social institutions beyond the family level which foster the work of levelling rice terraces, constructing land divisions and irrigation systems, water watching, and transplanting and harvesting. In a word, it is a collective enterprise.

The agricultural policy or development strategy that overlooks the ecological imperatives of collectiveness in rice growing and,

instead, falsely places the emphasis on the individual family is certain to encounter problems. Chapter 3 of this study is devoted to a discussion of the ecological process of a wet rice system, and its socioeconomic implications will be examined in greater detail there.

What are the specific social institutions beyond the family level that the operation of the wet rice system requires? What are the institutional mechanisms which fulfill the needs for collective action? Social scientists who have studied rural Chinese society have suggested two models: One is Wittfogel's "hydraulic society," which lays prime emphasis on the role of the central government in constructing and controlling irrigation (1956), and the other is Freedman's lineage organization, which emphasizes the social integration maintained by kinship organization (1958, 1966). Wittfogel's model has been thoroughly criticized (Leach 1959; Eberhard 1965) and has been taken lightly by contemporary social scientists. The lineage model is still a dominating theme in the study of rural Chinese society, and much research has been conducted along this line, for example, Ahern (1973), Cohen (1969, 1976), and Pasternak (1973). Pasternak, while rejecting Freedman's hypothesis on the role of the "frontier" in the development of lineage organization, has tried to relate the development of lineage organization to the construction of small-scale irrigation systems (ibid).

San-lin was a frontier in the early nineteenth century for Chinese colonization, and there are fragmented documents from which its developmental process can be reconstructed. Given this information and some empirical data collected in this study, it is possible

to examine both the hydraulic and lineage models. In Chapter 4, the historical development of San-lin and the Ta-chia region will be traced, the socioeconomic institutions developed in this specific ecological, historical, social, and political context will be analyzed. In lieu of the above two models, which have little relevance in San-lin, I propose that regionalism is the viable social institution in this particular setting.

Regionalism implied a degree of social cohesion among a group of people based on their common regional identity. A geographical text states that "a region is any track of the earth's surface with characteristics, either natural or man-made, that make it different from areas surrounding it" (Haggett 1975; 6; italics in original). While anthropologists seemed to emphasize the sociocultural variables in defining a region, for example, historical, linguistic, cultural, and structural factors (Cohn 1967), I maintain that the ecological factor should be given equal consideration. Thus, the well-circumscribed Ta-chia Plain can be considered a region which contains several townships and villages. This large region can be further divided into smaller regional units of villages or hamlets whose residents share not only geographical propinquity but also similar economic interests based on common sources of water supply, joint efforts in conducting agricultural work, and so on.

In Chapter 5, I will sort out internal and external factors that may have contributed to the recent changes in agricultural practice in San-lin and, to a large extent, Taiwan. Such changes were not simply the result of rural residents' migration to cities to seek factory employment. The "depeasantization" process was also accomplished by

the penetration of the industrial labor market into rural areas.³ Changes in population dynamics and the adaptation of new technologies gradually altered the farm management pattern from a labor-intensive to a labor-extensive one. This trend has contributed significantly to the stagnation of agriculture in San-lin.

In discussing the socioeconomic implications of recent development in San-lin, which constitutes the bulk of chapter 6, I further explore the disintegration of the traditional, collective institutions which had been indispensable for wet rice production. The development of individualistic, atomistic farm families without an accompanying change favoring the development of agribusiness has been an obstacle to sustained agricultural growth.

In chapter 7 I will analyze San-lin farmers' changing attitude. Their contact with modern industrial systems has altered their perception of time and work. The farmers' adaptation of the fixed working hour pattern common to factories has had adverse effects on farming, which necessitates a very different pattern. At the same time, comparing their farm work with that of industrial workers seems to have further reduced farmers' commitment to agriculture. Thus, even the change in the farmers' attitudes toward "modernity" has become a negative force in agricultural growth.

The final chapter will summarize the findings, and I will try to indicate developmental perspectives for Taiwanese agriculture. My conclusion is pessimistic. However, my intention is not to criticize unduly those in Taiwan who opted for industrial development. Political concerns are very different from academic considerations, and it

is inappropriate to discuss here the political factors that led to such a development of nondevelopment.

Since the current study is not merely an ethnographic study of a rural village in Taiwan, I must apologize to the reader for the constant switching between the village, rural Taiwan as a whole, and the entire Third World in my discussion. I must apologize also for projecting the findings in San-lin to Taiwan's rural society and sometimes to all of the so-called developing countries. The purpose in doing so is both to provide a contextual framework for understanding San-lin's development and to use San-lin as a microcosm in which to view the developmental problems faced by the Third World. It is hoped that this study will increase our understanding of the overall development problems in Taiwan and in other areas of the world.

Footnotes

1. For the purpose of anonymity, I will use pseudonyms for the village and for the villagers.
2. My explanation for the large number of people in these two categories relates to the classification system employed by the Household Registration Office. When pressed by officials to specify their profession, many villagers, especially housewives and unmarried girls find it difficult to put themselves in the available categories. Many village women process unfinished factory products or canned fruit in their homes in their spare time. They have income from the factories, but are not regular factory workers. Because their work is temporary and is conducted at home, they find the categories "handicraft" or "animal husbandry" most suitable to their professional status.
3. Throughout this study terms such as "peasants" and "farmers" are used interchangeably. The controversy over their definitions is overlooked purposely. Although one recent study in rural Taiwan advocates the term "farmers" to replace peasants (Wang & Athrope, 1974), I do not think the distinction is crucially important. If we agree with Daniel Thorner's definition on peasantry, "in which roughly half of the population must be agricultural (1962), Taiwan would be in a post-peasant stage, since in 1972 only 38.9 percent of Taiwan's employed population was in farming (Department of Agriculture and Forestry, 1973). But if we accept S. H. Franklin's concept of chef d'entreprise as the criterion for peasantry (1969, 1971), Taiwan's farming families fit well into this category.

CHAPTER 3

THE RICE PADDY ECOSYSTEM

Recent cultural ecological studies have stressed the importance of the institutional relationship between a society's social activities and the ecological process. A population must adjust its way of life to such environmental conditions as rainfall, temperature, topography, changing seasons, flora and fauna, and so forth. People are fed by extracting energy from plants, crops, or animals in their immediate environment, they are clothed by gathering natural fibers or hides from other animals, and their geographic mobility is confined within certain physical boundaries such as mountains, rivers, and deserts. Social activities, which usually are institutionalized and serve a regulatory function, should be understood by looking at the society's environmental conditions.

An ecological study does not consist merely of a general account of the topography, climatic conditions, and number and varieties of species within a society's geographic confines. Cultural ecology concerns the environmental factors and sociocultural institutions which are interacting variables within an operating system, and any study of these should seek to discover the structural principles, interrelationships, and changing dynamics in the system and its subsystems. Cultural ecology's first concern is with the strategies developed by a population to maintain a stable and reciprocal relationship with its

environment. These strategies are generally institutionalized and schematized in people's social life and can best be seen in their modes of production and economic exchange. Recent anthropological studies have produced convincing evidence that the ecological process also has repercussions on the ritual process (Rappaport 1968; Piddocke 1965), warfare (Vayda 1961), and ideology (Harris 1974).

The conceptual scheme which relates cultural articulations to their environmental context is that of the ecosystem, or the system of relationships among the organisms in an environment (Harris 1975:233). By looking at the society as part of an ecosystem we should be able to see how all the aspects of social life are interrelated to and regulated in accordance with environmental factors. Since rice cultivation has been the main adaptational strategy for rural Taiwanese in exploiting their environment, an institutional analysis should explore this ecological process as a first step toward understanding the entire social system.

1. The Landscape of the Region

San-lin village is situated at approximately 23°22' north latitude and 120°37' east longitude, in the northwest corner of the Ta-chia alluvial plain in west central Taiwan (see Map 1). The Ta-chia alluvial plain is the lowest of a series of land terraces stretching from the island's central mountain range. These terraces gradually descend to the Feng-yuan platform, then west to the Hou-li and Wai-pu platform, and finally to the coastal region of Ta-chia. The Ta-chia alluvial plain is almost square, having a length and width of approximately six kilometers.¹ Sediment from the Ta-an River in the north and the Ta-Chia River in the south has contributed over centuries to the

formation of the Ta-chia alluvial plain. In the east the region is demarcated by the Tieh-tsan Mountains, separating it from the Wai-pu platform, and in the west by the Taiwan Straits. The area is thus circumscribed by natural barriers which often have limited communication with the outside world, contributing to the development of a well-integrated territorial unit (see Map 2).

Because of the alluvial deposits, the soil in the region is mainly composed of saline sands, which contain little nutritive value and do not hold water well. Except for areas around the town of Ta-chia, where the land has been farmed for at least two hundred years and large quantities of manure have improved its condition, the soil in the plain is low in humus and chemical nutrients. In San-lin village most farm land is classified in the government's taxation system as between grades 11 and 17, which makes it considerably unproductive land (see page 35).

The Ta-chia alluvial plain is flat and is levelled into terraces. The eastern side is slightly higher than the western, thus forming a kind of slope descending westward toward the open sea. Land utilization has always been intensive. Every inch of the earth has a particular purpose -- as farm land, housing sites, for roads or trails, and so on. For generations farmers have been producing two to three crops on the same piece of land each year, and to maintain such intensive use of this generally barren land, irrigation is essential.

The two rivers which form the northern and southern borders contribute the essential irrigation water for agricultural production for the entire region. As are all other rivers in Taiwan, they are short and steep. They originate at an elevation of above 3,000 meters in Taiwan's central mountain range, and the Ta-an River descends to sea

level within only 75 kilometers, the Ta-chia within 140 kilometers. The rivers' carrying capacity also is affected by the uneven distribution of annual rainfall, the highest concentration being from March to September, especially during the typhoon season of July, August, and early September. During the rainy season, the vast river beds are constantly flooded. Except in cultivated areas where the top soil is well covered by vegetation or water, the enormous rainfall within short periods causes rapid leaching, especially in the hills, which adds large amounts of soluble and solid debris to the flood. When the rainy season ends, the flow of muddy water gradually subsides, eventually exposing the vast stony river beds to farmers who roam about the area, looking for strips of earth on which to plant a few rows of fast growing crops.

Table 4 provides statistics about these two rivers. Their most distinctive characteristic is their uneven water carrying capacity in different seasons. The Ta-an River's maximum volume in the rainy season reaches 5,340 centimeters per square inch per day, but this may drop to 2 centimeters in the lowest season. The comparable figures for the Ta-chia River are 7,840 and 3.4. In other words, the maximum water volume is 2,670 times higher than the minimum for the Ta-an River, and 2,305 times higher for the Ta-chia.

Since rainfall and the two rivers have been the main source of water for traditional agricultural production, it has been essential to develop methods and skills for fully controlling and utilizing this scarce and unevenly distributed resource. Irrigation systems have been indispensable to agriculture in the region, and their construction and maintenance have had a significant impact on rural social organization.

Table 4. The Ta-chia and Ta-an Rivers: Length, Average Rainfall, and Carrying Capacity.

River	Length (km)	Average rainfall (mm/annum)	Maximum daily carrying capacity	Minimum daily carrying capacity (cm/s)
Ta-chia	140.21	2,923.1	7,840	3.4
Ta-an	75.76	2,590.2	5,340	2.0

Source: Irrigation Construction, published by Information Bureau, Taiwan Provincial Government, 1971, pp. 6-7.

At the center of the Ta-chia plain is the town of the same name, the center of communication, transportation, administration, commerce, recreation, medical service, and education for the entire region. Taiwan's major north-south highway and railroad run through the town of Ta-chia, further enhancing its position as an intermediary between rural villages and the outside world. Farmers in surrounding villages come to Ta-chia to pay their numerous government taxes, entertain friends in the wine houses, purchase furniture for a son's wedding or a daughter's dowry, or sell their agricultural products to middlemen. These latter then deliver the products to markets in big cities. The town's dominance over the rural villages is not restricted to the social, political, or economic spheres. Ta-chia is also the spiritual focal point of the entire region. The temple of the goddess Matsu stands in Ta-chia, and she is supreme in the regional spiritual hierarchy, the various village gods being her subordinates.

This kind of hierarchical relationship between the central township and the lower level villages is reflected throughout the region; a higher level community dominates several lower level villages, and each of these in turn dominates even lower level subunits. The territorial unity of the region apparently is maintained through this

kind of hierarchical order. Its complex mechanism resembles the segmentary system described by Evans-Pritchard among the Nuer, whose social institutions are constantly involved in a fusion and fission process (1940). While a higher order integration of a tribe can be achieved temporarily by pulling a cluster of the segments together, the intrinsic divisions among the segments are such that they eventually will separate as the reason for integration ceases to appeal. This complementary opposition in the hierarchical structure described by Evans-Pritchard finds its counterpart in the rural regional social structure in Taiwan. While in such a hierarchy the regional integration of a higher level community can be maintained, it also generates conflicts and competition among the subunits. Combining as it does both fission and fusion factors in its regional hierarchical structure, the unique character of the regionalism which is so prominent in traditional Chinese society deserves specific attention in an institutional analysis such as the present one. The many aspects of regionalism will be discussed in the next chapter.

Subordinated to the central township of Ta-chia are villages of various sizes dotting across the plain. Unlike south Taiwan, where most households are congregated in a nuclear center, or north Taiwan, where scattered households are the predominant pattern, the Ta-chia plain pattern appears to be an intermediate or combined form of these two types. Farm houses do form village centers, but there are also individual households standing solitary on their land.

After cultivating the same land and living under the same roof for several generations, some farm families have expanded from a single domestic unit into a large compound composed of descendents of the same founding ancestors. The ancestor room of all the kinsmen

forms the bottom part of a U-shaped building, and all the descendants live in the U's wings. More wings on both sides may be added as the family increases, forming the ideal type of residential arrangement for a lineage group described by Freedman (1958; 1966). The largest compound in San-lin belongs to the Chi surname group, and eight wings extend from the original structure.

Lineage organization as described by Freedman is not seen in San-lin or elsewhere in the region. There is no single surname village in the entire area, nor a village with a couple of dominant surname groups. Furthermore, ancestral shrines, lineage corporated property, and written genealogies are rarely heard of. This situation is partly due to the frontier conditions which prevailed in the region well into the late nineteenth century and to the unstable land tenure system. Both of these will be discussed in greater detail in chapter 4.

Throughout this region, as is much the same for other agricultural areas in Taiwan, rice paddies are the single most predominant feature. Even though the Ta-chia plain is generally flat, cultivated areas, following the contours of the land, are divided into small plots so that each can be levelled to maintain flatness for irrigation. Earth bunds surround each plot to conserve irrigation water and give the land its terraced configuration. For protection against the strong northwest winter wind, trees or shrubs are grown around the plots. Walking along the narrow country roads, one is struck by the quiet, harmonious scene of neatly planted rice, rows of trees and shrubs, and the vivid silhouette of the Tieh-tsan Mountains.

2. Rice in the Rural Economy

The majority of rural residents in the region are rice growers. Rice is important to Taiwanese farmers not only because it is their staple food--three meals a day, 365 days a year--but also because it is used as a standard of value in market exchange.² When a farmer evaluates the price of a commodity or service, he normally thinks of it in terms of its equivalent rice price. For example, to hire a power tiller and its owner/operator to plow one hectare of land, a farmer pays the standard wage of 500 chin unhusked rice (one chin equals 1.33 pounds). However, when the actual payment is made, the rice will be translated into cash at the current market value, about which most of the farmers are well informed. The same arrangement is seen in the quite prevalent mutual loan organization, or rice rotating credit association (huei-a), in the rural areas. Membership requires the contribution of a certain amount of unhusked rice (such as 500 or 1,000 chin per person) each rice harvest season. When membership fees are paid, however, only cash is used. (The operation of this complex financing association and its sociological implications will be discussed in chapter 5.)

Quite often older farmers lament the drop in the rice price in recent years: "During the Japanese time the daily wage for a hired farm hand hardly exceeded one tau (10 chin, or 13.33 lbs.) of unhusked rice. But now the wage has jumped to almost 5 tau per day. Each 1000 chin of harvested rice only pays for two days' wages." Rice as a price mechanism in the rural economy is even better illustrated by an incident which occurred during my fieldwork. One day, a farmer, Mr. Liang, brought back a bamboo basket after he sold his vegetables

in the Ta-chia market. When asked about the price, he said the basket cost NT\$120 (about \$3). One farmer said: "It is expensive, for it cost only NT\$70 last year." Mr. Liang replied: "It is not expensive at all. The price for each 100 chin of unhusked rice last year [1973] was NT\$300. For that amount of money you can buy slightly more than four baskets at the price of NT\$70 each. But for the same amount of rice at NT\$600 this year, I can buy five baskets. The basket is thus cheaper than last year. In addition to this, you should figure that the basket takes a worker's whole day to weave it. Judging from the farm worker's wage at NT\$250 per day now, the basket weaver cannot even earn half of a farmworker's daily wage!"

Farmers use rice as their standard of value in market exchange not because they lack cash or do not live in a monetary market economy. Rice is used for sound economic reasons. First, Taiwan has experienced several different political regimes in the past century: the Ch'ing dynasty, fifty years of Japanese occupation, and finally the Chinese Nationalist government. Each of these regimes had its own monetary system, and the Nationalist even had two, one prior to 1949 and another after. Second, Taiwan has long had marked inflation, and the purchasing power per NT dollar has been declining rapidly. Given the different monetary systems within such a short period and the unstable economy, money cannot serve as an objective standard for computing the actual value of wage, income, prices, profits, and so forth, in agricultural production. In any long-term economic transaction, such as those of the mutual loan association, which sometimes extends loans for as long as seven or eight years, the use of a money standard would cause considerable confusion.

3. Ecological Adaptation of Rice Cultivation

Rice cultivation in watered fields requires a unique ecological adaptation which largely relies on "a bold reworking of the natural landscape" (Geertz 1963:16). Certain technical and sociocultural sophistications are necessary. Construction of a rice paddy involves levelling the land, building bunds for boundaries and water conservation, and channelling irrigation water by digging ditches, ponds, wells. To accomplish these tasks, farmers use water-levels, rulers, and other digging and carrying equipment.

On the organizational level, sociocultural sophistication is even more imperative. Large number of workers must be organized, and they must be fed, paid, and housed for a long time before the land produces rice and hence any profit. This long-range investment plan obviously requires sufficient capital.

The irrigation process also involves considerable organizational ability. Except in the few places where water can be obtained directly from a nearby pond, river, or spring, the rice paddies in Taiwan must be watered by webs of irrigation ditches and canals. These are not built solely to serve a single plot; the water that floods one plot often will be circulated to another, usually a lower piece of land. The same canal used to channel water into the field also removes drainage water from it. To ensure that all the land is properly irrigated and drained, the construction of rice paddies and the accompanying ditches must be planned for a large territory served by the common water source. Given these two requirements, it is little wonder that in Taiwan's history most land was settled by persons with special endowments: either an entrepreneur with a sound business and

investment sense or an influential political leader who could mobilize and organize large number of followers to accomplish the work. Wang's study on the construction of an important irrigation system in Chang-hua area by an official mandarin from 1709 to 1719 at the cost of 950,000 ounces of silver is an example of the first type of person (Wang 1972), and Hsu's study (1972) on the role of leadership in cultivating Yi-land plain is a good illustration of the second type.

In San-lin village, rice paddies were still being constructed during my research period. The farm land near the Ta-an River was occasionally washed away by the strong torrents in the rainy seasons and had to be rebuilt. Construction is tedious and slow. First, the topsoil must be skimmed off and put aside for later use. The stony subsurface must be culled and the rocks broken into smaller pieces with hand chisels, if they are too large, or removed from a higher terrace to a lower one. Villagers call this process "digging out soil, and inserting the stones" (tsup-to dzip-dze).

After the stony layer is levelled, the topsoil is evenly redistributed. Since the original topsoil usually is not sufficiently deep for crop growth, more earth must be purchased or found and hauled to the area. All the while the workers continually consult their water-level to ensure that the land is level. A village expert in land construction provided me with cost figures for construction 0.1 chia land, and these are presented in Table 5. The figures shown in Table 5 do not include the expenses for constructing the irrigation system to connect the field to the water source.

Even after additional earth has been added, the land is not suitable for rice growing. Since the topsoil is still thin and its

Table 5. Construction Costs for a Rice Terrace in San-lin: 1974

Type of Work	Work unit demanded	Cost per unit [*]	Subtotal
Labor to level the land	50 labor days	NT\$120 per day	NT6,000
A cattle cart and owner to carry earth for thickening the topsoil	300 cart trips	NT\$20 per trip	NT\$6,000
Soil purchased	300 cart loads	NT\$10 per cart	NT\$3,000
Labor to build land bunds and to level the topsoil	20 labor days	NT\$120 per day	NT2,400
Total			NT\$17,400

^{*} 1973 market price.

capillary structure unformed, any irrigation water would soon filter away, carrying off any organic nutrients. According to the villagers, the best utilization of this kind of land is to grow sugar cane, which requires far less water and fertilizer than rice, for the first three or four years. During this period, large amounts of rice straw and sugar cane leaves are plowed into the field to improve organic composition and provide tissue elements. Another common practice is to channel irrigation water into the new field during the rainy season, when the heavy precipitation upstream leaches deeply into the earth and carries off soil components. When this stagnant muddy water is left on the field it releases its heavier elements. The water then is drained off, and the field is flooded with fresh water. After another such treatment the soil layer has been thickened, the earth structure

changed, and the organic nutrients increased. Then the land can be used for rice growing.

When one considers the high cost of land itself, the initial investment of NT\$17,400 for constructing a 0.1 chia rice paddy, and the long period of time and the labor then involved in improving the land, and when this is compared to the market price of NT\$20,000 to NT\$30,000 for the same but better quality land in 1973, constructing a rice paddy appears to be a costly operation. Why did the early Chinese settlers want to undertake such a heavy burden? Why did they not simply adopt a dry farm system which does not require such meticulous work? Why did the various controlling regimes in Taiwan encourage wet rice cultivation? To answer these questions one must ask others: What characteristics are unique to rice cultivation in its ecological adaptation and in forming a stable agricultural system? What advantages does rice cultivation have with regard to integrating demographic, social, and cultural factors into a viable ecosystem in Taiwan, and, for that matter, China and other densely populated regions in South and Southeast Asia? There are at least three reasons for the development of wet rice cultivation in this part of the world: Wet rice cultivation is highly adaptable to various environments, it produces a high and stable crop yield, and it lays out the foundation for a stable economy. I will explain these three characteristics in the following.

First, wet rice cultivation is highly adaptable. More so than other crops, rice will grow in areas with different latitudes, soil formation, rainfall per annum, elevations, humidity, and so forth, as long as the terraces are properly built, irrigation water is plentiful,

and manure is available.³ This high adaptability stems partly from the fact that a rice paddy is a smoothly functioning biotic community.

Rice itself has certain characteristics which make it highly adaptable. The large number of varieties from which rice growers may select means that they can find a type most suited to their unique environmental conditions (Stout 1966:1; Grist 1965:81). Early Taiwanese gazetteers provide ample documentation on this subject.⁴

The varieties indigenous to Taiwan are of the type Oryza Indica, the tropical variation of the two major subspecies. As described by the gazetteers, some rice varieties are sown in the early spring only, and some can be harvested only after the first frost; some have a long growing period of more than four months, and others can be harvested after 70 days; some can be grown in normal soil, others in saline or stony soil. The most interesting description is of a variety which can be grown in areas where water drainage is poor; the crop can float a foot higher than its normal height when the water level suddenly increases due to heavy precipitation.

Systematic study by the Japanese after they occupied Taiwan in 1895 disclosed that Taiwan alone had 447 early crop, 182 intermediate crop, and 736 late crop varieties of rice. The total number, all belonging to the Indica subspecies, was 1,365 (Taiwan Shen Tung-tse, Volume 4, Economic Archives, Agricultural Section, No. 1, pp. 39; Sung 1965:1). Even after prolonged Japanese efforts to eliminate most of Taiwan's indigenous rice varieties, which they considered inferior in taste and rather unresponsive to fertilizer, and their substitution of a few Japonica varieties for those eliminated, there are still numerous types in Taiwan. These are either the remnant of the indigenous rice or hybrids developed from the Japonica varieties. A

1969 report indicated that there were 53 Japonica and 86 Indica types in Taiwan (Lo 1969:10).

A second feature that allows rice to be grown in different geographical areas is its flexibility. As many specialists have noted, after it is grown in the field, rice can resist drastic environmental change without a great loss in crop yield (Pelzer 1948:9; Stout 1966: 3). J. E. Spencer relates this flexibility to the root system:

The rice plant is somewhat peculiar among crop plants in that its root system is able to accommodate to changing, or to varied, conditions of ground wetness, and once a variety of rice is acclimatized to a local climate, it may often be grown both as a dry-field crop and also as a wet field crop (1963:84).

San-lin villagers have the same opinion about the high flexibility of rice. In a serious drought more than 20 years ago, virtually no irrigation water was available after the transplanting. Baked by burning sun, the soil in the paddy turned white, and the seedlings appeared withered. When water finally came about 3 weeks later, the crop regained its vitality and yielded a good harvest.

The second characteristic of wet rice cultivation which makes it essential in the densely populated Monsoon Asia relates to its high productivity per unit of land. In temperate areas rice yields one or two crops a year, in tropical areas, three. In terms of per land unit production, rice is hardly surpassed by other crops. Its productivity as compared with other major cereal crops is illustrated in Table 6.

Table 6 tabulates the estimated acreage and net production for world major cereal crops from 1961 to 1974. In terms of acreage, wheat outranks rice, but in terms of total production, rice is only slightly lower than wheat. In terms of production per unit of land,

Table 6. Production of Major Cereal Crops in the World: 1961-1974

Crops	Area harvested (1,000 hectares)				Yield per unit of land (kilogram/hectare)				Total production (1,000 metric tons)			
	1961-65	1972	1973	1974	1961-65	1972	1973	1974	1961-65	1972	1973	1974
Wheat	210,474	215,083	221,480	224,712	1,209	1,613	1,703	1,603	254,399	346,823	377,272	360,231
Rice	123,602	130,808	135,109	136,791	2,048	2,260	2,402	2,363	253,180	295,608	324,468	323,201
Barley	68,011	84,886	87,715	88,909	1,466	1,806	1,929	1,922	99,686	153,309	169,245	170,858
Maize	99,682	109,389	111,458	116,709	2,171	2,792	2,785	2,510	216,381	305,388	310,391	292,990
Millet	66,622	66,977	69,587	68,424	573	634	691	675	38,159	42,489	48,067	46,215

Source: Production Yearbook (1974), Food and Agriculture Organization of the United Nations.

rice far exceeds wheat. In 1974 rice had a yield per unit of land slightly below that of maize (2,363 kilograms per hectare compared to 2,510), but rice has a much higher nutritional value. As Mohamad Bin Jamil has pointed out: "Among cereals, rice provides maximum calories per unit of land" (1966:19).

Furthermore, crop yield increases in proportion to each additional unit of labor and capital invested in the rice paddy. Farmers who perform additional weeding, add manure, clear grass along the bunds, or spray pesticides can improve the rice and obtain a better yield than those who do not follow such practices. The enormous demand for labor in constructing paddy and irrigation systems, growing the crop, and maintaining a high yield seems to indicate a reciprocal relationship between high population density and wet rice cultivation. This has probably been a crucial factor allowing for the expansion of highly concentrated population centers in alluvial plains throughout South China, Southeast Asia, Japan, and parts of South Asia (Grist 1965:432; Geertz 1963:33; Jamil 1966). However, the increase in crop yield with additional labor or capital inputs has its limits; eventually the law of diminishing returns will assert itself. This is not to say that after passing this limit the yield will not increase at all, but the amount of increase will cease to be worth the investment. Although wet rice cultivation has this drawback, it is as far as we know the best solution for areas where population density is high, large amount of capital are unattainable, and the threat of hunger is constant.

The third characteristic of rice cultivation relates to, as Geertz says, "its extraordinary stability or durability, the degree to

which it can continue to produce, year after year,...a virtually undiminished yield" (1963:29). Once a terrace is constructed, the earth and topsoil are then well protected by the surrounding earth bunds, the surface water in the field, and the dense root system of rice. Even though the heavy precipitation in Taiwan and other areas of Monsoon Asia has caused serious erosion, it has little affect on rice paddies.

Another aspect of the wet rice system which contributes to its stability is the seemingly unexhaustible fertility of the soil. When properly cultivated, a rice paddy yields season after season, year after year, without deteriorating the soil. On the contrary, it seems continuous cultivation improves the quality of the field. This can probably be attributed to heavy manuring, which increases the organic nutrients and humus in the soil and improves its capillary structure, making water conservation more effective. Although San-lin villagers agreed that chemical fertilizers are more effective in increasing production, they complained that it does not improve soil quality as the organic fertilizer did.

4. Biological Mechanism of Rice Paddy

One question which most specialists seem unable to answer satisfactorily relates to the biological mechanism of a rice paddy (Grist ibid:233, 427; Stout ibid:29). Why can a paddy be cultivated indefinitely without exhausting soil fertility? How and from where does the rice plant obtain sufficient nutrients for growth? Why, unlike other crops which need only sufficient water to moisten the soil, does rice require standing water in certain stages of growth? What role does irrigation play in the biotic community of the rice paddy?

Although not certain about the answer to these questions, Grist suggests that irrigation water may play a crucial role in maintaining the system:

The situation of paddy areas is governed rather by considerations of water supply than by the nature of the soil (ibid:16).

Paddy soils are found to be very dissimilar in chemical composition, yet yielding equally good crops. The apparent paradox may be partly explained by the nutrient-carrying role of irrigation water (ibid:17).

However, he is not sure about the role irrigation water plays in replacing chemical nutrients absorbed by rice plants:

the paddy crop removes from the soil considerable quantities of plant food and no completely satisfactory explanation is forthcoming as to how soil fertility is maintained in the absence of manuring (ibid:233).

Geertz, using data obtained in Java, has simplified these questions and provided a model:

the answer to this puzzle almost certainly lies in the paramount role played by water in the dynamics of the rice terrace. Here, the characteristic thinness of tropical soil is circumvented through the bringing of nutrients onto the terrace by the irrigation water to replace those drawn from the soil; through the fixation of nitrogen by the blue-green algae which proliferate in the warm water; through the chemical and bacterial decomposition of organic material, including the remains of harvest crops in that water; through the aeration of the soil by gentle movement of the water in the terrace; and, no doubt, through other ecological functions performed by irrigation which are as yet unknown (ibid:29-30).

The supply and control of water is therefore the key factor in wet rice growing--a seemingly self-evident proposition which conceals some complexities because the regulation of water in a terrace is a matter of some delicacy (ibid:31).

Thus, the biological mechanism of the rice paddy is an interacting process "in which topography, water resources, and soluble nutrients combine to make the complex ecological integration of sawah farming... possible" (*ibid*:33). All the factors involved in Geertz's model can be itemized and diagramed as in Figure 1. First, there are the inactive features of the physical structure of the rice paddy and irrigation system which provide a suitable ground for the biotic community. Second, there is the active factor of irrigation water, which brings food for the nutritive needs of the rice plant. Water also produces, through other biochemical processes, certain other nutrients. Finally, as a direct result of this second factor, the rice grows.

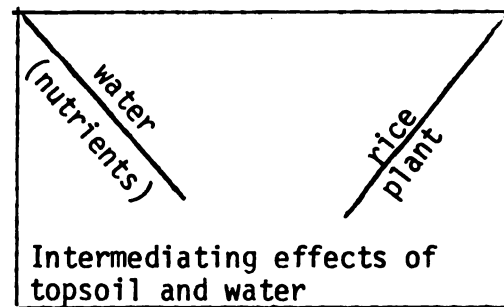


Figure 1. Physical Interaction of a Rice Paddy and Irrigation System

This model is so neat and seemingly self-evident that it has been adopted without question in many recent studies. Ben Wallace, for example, has paraphrased Geertz in this manner:

The reasons for this continuous cultivation are not really understood except...the key rests with the supply and control of the water. It is an aquarium in which algae fix nitrogen used by the rice plants (1971:93).

Or to quote Lucien Hanks:

rice in the settled fields usually depends on water to bring its nutrients, much as the blood stream carries sustenance to the deepest-lying

cells of the body. Organic matter as well as minerals come when streams pass forests and villages on their way to the rice field (1972:33).

Taken from a river or mountain stream, the water holds the silts and organic debris that feed the bacteria and algae necessary for plant growth (ibid:37).

Sometimes the idea that irrigation water brings nutrients is taken a step further to imply that all the natural water that descends on the field has nutritive value:

Less fertilizer is used for the second rice crop because there is more rain in the second than the first season (Wang nad Arthrope 1974:75).

The early crop needs much more fertilizer, because the later crop has the benefits of the raining season and rain is the natural fertilizer (op cit:115).

In my opinion the Geertz model overly simplifies the biological mechanism of the rice paddy. It exaggerates the nutrient provision function of irrigation water in the ecosystem and thus de-emphasizes the human factors in maintaining the system. It is indeed ingenious of Geertz to construct a model of the sawah (rice paddy) system, which is dramatically distinct from the swidden system. However, constrasting these two systems does not provide a full understanding of the wet rice system, which demands painstaking human efforts to maintain its delicate balance and operation. Beyond question, irrigation water plays an active role in providing large quantities of mineral nutrients, and the water facilitates organic decomposition and nitrogen fixation by algae. A well-constructed irrigation system is indispensable to maintaining wet-rice cultivation. However, there is sufficient reason to believe that various cultural practices are equally, and sometimes even more, important in the ecosystem than what is implied by Geertz's

model and its proponents. Different cultures have different ways of organizing rice paddy labor, different methods of allocating water when there is a shortage, and different means of providing the extra nutrients needed for plant growth.⁵ In discussing an ecosystem, one should not only understand the transmission of energy, the interdependent relationships among different organisms in the same biotic community, and the operation of the entire system, but also the role human beings, as the major intervening factor in the system, play in maintaining its equilibrium. The following section offers a reassessment of the role of irrigation water in the rice system, with specific emphasis on human efforts.

5. The Role of Irrigation Water in the Rice Ecosystem

As a starting point, the arguments of some previous scholars will be reviewed. If water is important in carrying mineral nutrients, what kind and amount does it carry to the field? Grist cites studies indicating that in Indonesia large amounts of potash and lesser quantities of phosphates are supplied by irrigation, and in Java "all the nutritive elements, with the exception of nitrogen and phosphorous, are supplied by water" (1965:218). In Java it is obvious that the nitrogen and phosphorous needed by the rice plant must be supplied from other sources. While it is a widely accepted opinion that nitrogen can be supplied by the algae in the paddy water through the fixation process, some experiments question the validity of this idea. Grist states: "As most paddy soil devoid of these specific blue-green algae can support paddy plants and also maintain a more or less constant level of nitrogen, there must be other sources of nitrogen

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recuperation" (*ibid*:222). As for phosphorous, since insufficient amounts are found in irrigation water and no natural organism can produce it, it must be applied directly to the field by farmers.

In addition to the lack of these important mineral nutrients in irrigation water, one should also be aware that Java is a rather unusual region, for mineral nutrients in the rivers are probably much more plentiful than rivers elsewhere in South and Southeast Asia. This is so because of Java's volcanic origins and, according to Pelzer, "rivers from a young volcanic region supply much richer water and silt than do these that drain a mountain region consisting of sedimentary rocks or granit" (1949:9). In other areas of Monsoon Asia, the quality of water is not comparable to Java's. A study done in Malay reveals that "the amount of soluble silts and floating matter in the river water...are normally very small. Therefore, the quality of irrigation water is generally poor" (Kawaguchi and Kyuma 1969:95).

Furthermore, if irrigation is so crucial in supplying mineral nutrients, then the fact that water is needed throughout much of the growing period, especially during flowering, contradicts most of the research on this subject. Many sources cited previously clearly indicate that rice can be grown in insufficient water without hampering the yield. In fact, after the seedlings have been planted, the water is drained away for a certain period. Rice is simply not an aquatic plant, and its root system must penetrate deep into the hard and dried earth to anchor and support the weight of the stalk and grains. Also bear in mind that since irrigation water is quite often circulated from one plot of land to another, which means its nutritive content should be reduced after each use, the rice paddy which receives water from other fields should, theoretically, have lower quality water and

thus a lower yield. For this there is no positive evidence at all, except in a study cited by Grist which seems to link positively low quality water and low crop yield:

Der Berger's experiments in Java showed that paddy-land distant from the source of irrigation water received less water than that situated nearer the source of supply, and the silt content of the water also decreased quickly as the water flowed over the land. The crop decreased also with the distance from the source of water supply, the difference in yield between fields irrigated with first-hand and second-hand water being very marked. It was concluded that plants in the first field retain a great part of the fertilizing substances in the water (ibid:36).

This seemingly positive evidence can be interpreted in two different ways. On the one hand, the low quality water that the field farther from the stream receives less fertilizing substance, as Grist suggests, and thus produces a lower yield; on the other hand, the farther field may have a lower yield simply because it is distant from the water source and thus has insufficient water for maximum growth.

The literature on other rice growing regions in Monsoon Asia reveals various cultural practices for maintaining soil fertility and hence the stability of the rice system. In Bontoc Igorot, the Philippines, soil fertility is preserved in this manner:

The left-over straws of the old crop are used as fertilizer and are first stamped with the feet and afterwards covered with a layer of earth. Pigs' dung is used as manure, too, but is not covered like the straws (Kaj Birket-Smith 1952:12).

In Malay, Kawaguchi and Hyuma discovered:

In many Malayan soils the total phosphorous contents of the plow layers appear to have been modified by fertilizer applications. This is demonstrated in a comparison of total phosphorous contents between the surface and subsurface horizons and from the ratios of readily soluble phosphorous to total phosphorous in surface soil (ibid:98)

In Java, the cultural practice is as follows:

Crop rotation also has its place as a means of keeping up the fertility of wet-rice fields. This practice seems to be better developed and more prevalent in Java than in any other countries of Southeast Asia. Extensive areas of sawah, as the Javanese call their wet rice land, are planted with dry rice crops such as maize, legumes, and other vegetables during the dry seasons, a practice that has a beneficial effect upon the soil. In some areas of Java lowland rice is rotated with sugar or tobacco grown under plantation management. But is the high fertility of the soil due to this crop rotation, or is it rather the heavy application of commercial fertilizer and the thorough cultivation of the soil under Western management? (Pelzer 1948:50-51).

Finally, in Viet Nam,

villages situated in areas with unused hillsides have developed animal husbandry, thus enabling them to spread their fields with animal dung as well as with village night soil. Periodic rotation of crops with nitrogen-fixing soybeans has proven successful elsewhere, and in the Red River Delta, selected villages have abandoned second crops of rice for an alfalfalike green that can be sold as green manure to be plowed into the soil (Hanks *ibid*:41).

This brief survey of rice growing regions indicates that (1) irrigation water in most cases does not provide sufficient replacement nutrients for plant growth; (2) there is insufficient evidence of a positive correlation between water quality (its nutritive value), soil fertility, and crop yield; and (3) there are various cultural practices adopted by farmers to maintain soil fertility other than relying on water. Consequently, human effort and cultural practices, in addition to irrigation water, is important to maintaining the seemingly inexhaustible rice paddy. It is the cultivators who build the rice paddy, construct the irrigation system, regulate the water, sow the crops, harvest the yield, and manage to avoid exhausting the soil

fertility that permits a rice yield season after season, year after year. The possibility cannot be ruled out that there are areas where rice is grown with only irrigation water and without substantial manuring. In my opinion, however, these are exceptional situations; these individual cases should be investigated, but they cannot be used as a general model.

Another set of problems arises at this juncture. If irrigation water is not the sole crucial factor in supplying and manufacturing mineral nutrients, why do cultivators bother to construct and maintain an irrigation system, or, for that matter, the rice paddy ecosystem? In areas where the soluble content of rivers is low, why do people still painstakingly devote time and energy to constructing irrigation systems? What role does irrigation play in the biological mechanism of the rice paddy and what direct contribution does it make to a high yield that justifies the effort from man's point of view? To answer these questions one must link the role of irrigation water to man's labor in maintaining the system. Thus, how and to what extent does irrigation make man's task easier?

Besides watering and drainage functions and, to a lesser extent, the nutritive function, irrigation water, when properly timed and regulated, can reduce human drudgery in rice production. This can be fully understood only by a step-by-step analysis of the growing stages of rice and the biological mechanism at work at each stage.

A thoroughly soaked rice field makes deep ploughing easier, and this is an important precondition for continuous rice growth on the same plot of land. Without irrigation water to soften the ground, ploughing would be arduous for farmers, who have only simple tools and

human or animal force to power them. Well-soaked soil also makes secondary tillage, or puddling, much easier with simple tools (Stout ibid:27).

Well-soaked and puddled land provides a soft, smooth bed for seedlings. Transplanted as opposed to broadcast rice simplified the weeding process, for transplants are neatly sown in rows. In a broadcast field it is more difficult to single out the weeds that are competing with the rice for food. Thus, the enormous effort involved in the transplanting system--providing sufficient water, puddling, and transplanting seedlings--is mainly designed to make eliminating weeds easier, and weeding preserves soil fertility.

The soft muddy earth also provides ideal conditions for the root system of the seedlings to penetrate deeply and rapidly into the ground. Experienced farmers in San-lin told me that the root system of newly planted seedlings can extend three to four centimeters per day in a watered field. Around 25 to 30 days after transplanting, the root system has penetrated deeply into the earth. The water in the field should then be drained so that the roots can firmly grasp the hard earth to provide support for the stalks and, later on, the grain, which is growing heavier throughout the period. An irrigated rice paddy makes fertilizer distribution easier. Farmers in San-lin simply apply night soil or pig urine to the water at the point where it enters a plot of land. Flooding blends and diffuses these nutrients and distributes them to all the plants.

Finally, a gentle flow of water is an important means for eliminating weeds. This function of irrigation water has been largely ignored by researchers, with the possible exception of Stout (ibid:28-29). When the water in the paddy is too low to cover the earth,

various grasses and weeds will find footholds in the exposed ground and become rampant. Weeds rob the growing rice of large amounts of plant food. When water is insufficient and weeds proliferate, farmers either must weed more often or increase the fertilizer to compensate for the nutrients consumed by weeds, or both. To obtain additional fertilizer, farmers must expend more labor to manufacture it or more capital to purchase it. Thus, the quality and quantity of the water is directly related to the farmer's energy or capital input in rice production.

The difference in the work and capital involved when water supply is adequate as opposed to an inadequate is tremendous. A comparison between the early 1973 and early 1974 crops in San-lin, on the same plot of land, illustrates the importance of water in reducing weeds and hence human drudgery. In early 1973, when precipitation was low and irrigation water insufficient to meet all the demands, water rationing was adopted, and farmers had to guard the rationed water at assigned times. Weeds and grass were rampant in the paddies, and farmers had to weed four times throughout the season and apply 20 sacks (800 kilograms) of ammonium sulphate per hectare. In the same period in 1974, early spring rains brought sufficient water. Farmers did not have to guard the water, they weeded only twice, and they applied only eight to twelve sacks of fertilizer per hectare. When the irrigation system is well constructed and provides adequate water, labor and expense obviously are reduced.

In summary, there appears to be an astonishing correlation between irrigation and human labor in terms of eliminating weeds, providing food for crop growth, maintaining soil fertility, facilitating

ploughing, and in all the other operations of the rice paddy. When the water supply is sufficient, human drudgery can be reduced, and when water is scarce, farmers must invest more labor and/or capital to preserve the system. The irrigation system and water control practices can be regarded as separate from human physical operations, but essentially they serve similar and complementary purposes in the ecosystem. The biological mechanism involved in rice growing and the integration of the various functions is dependent upon the delicate balance of human labor, irrigation water, nutrient content in the soil, weeds, and the rice itself. All these factors are interrelated in such a complicated manner that any change in one of them will eventually demand readjustments among the others to maintain the equilibrium. An ecosystem is a process, a dynamic interaction of various factors, not a static model.

6. Traditional Rice Cultivation in San-lin

In the context of the above discussion, traditional rice cultivation as practiced by the San-lin villagers now will be examined. It is hoped that by so doing the social institutions which have developed within this agricultural system will be more easily understood. This knowledge will certainly permit a more accurate evaluation of the changes which have occurred in recent years. The term traditional is used broadly to designate the period prior to the early 1960s; before this date major efforts in improving agricultural production focused mainly on such bio-organic innovations as improved rice varieties, increased application of chemical fertilizer and pesticides, and so forth. After this date emphasis shifted to mechanical innovations,

such as more power tillers, water pumps, or reconstruction of the rice paddy and irrigation systems through land consolidation programs.

When discussing rice production in the traditional period, one must consider all the innovations brought to Taiwan by the Japanese during the occupation. Attempting to convert Taiwan into a colony producing raw materials, the Japanese, with great success, invested tremendous effort in upgrading rice production. They eliminated most of the indigenous rice, which they considered tasteless, and introduced new Japonica varieties after 1922. The Japanese also improved irrigation by incorporating privately owned systems into government supervised corporations. Some older systems were repaired and expanded, and new ones were constructed. Chemical fertilizers and pesticides became accessible, for the sophisticated Japanese agrochemical industries were ready to open new markets in Taiwan. For those who could not afford commercial fertilizer, the Japanese introduced improved manuring methods, especially with regard to compost production. Given all these developments, in the next three decades total rice paddy acreage rapidly expanded, production per unit of land spiralled, and total output increased.

Despite these changes, the basic operating principle of the ecosystem were virutally unaltered. The many improvements in the technical level of Taiwan's rice production were nor radically or fundamentally different from the indigenous practices, and all were based on the existing system. In fact, the unchanged aspects became even more prominent throughout the colonial period and the first two decades of the Nationalist regime. The major portion of rice production plowing, transplanting, weeding, harvesting, and so forth--continued

to be labor intensive, accomplished mainly by humans and animals, numerous rice varieties were still available for adaptation to local conditions and small farm households with scattered, fragmented paddies were still the mainstay of rice production.

In the traditional rice paddy ecosystem in San-lin water buffaloes continued to play an important part in almost every aspect of rice cultivation. As a draft animal, it provided the power essential for plowing and puddling the land, as well as for hauling heavily loaded carts. In areas with fragmented rice paddies at different levels, the water buffaloes were indispensable; they could walk on the narrow, zig-zagging land bunds and move from one plot to another without much difficulty. Without water buffaloes, the expansion of rice paddy cultivation into some marginal regions in Taiwan and other parts of Asia would have been impossible.

Water buffaloes also contributed significantly to manure production. Cattle dung, mixed with rice straw, is the basic component of the compost which comprised a substantial portion of the fertilizer used in San-lin. Although precise statistical data on compost production in San-lin are impossible to obtain at this remove, a rough estimation for Taiwan in 1954 is sufficient to indicate its importance in traditional rice production:

In Taiwan emphasis is placed on the use of compost and there are on the island some 36,000 compost houses. Production of compost is estimated at about 8 million metric tons a year, equivalent to 80,000 tons of ammonium sulphate, 40,000 tons of superphosphate, and 56,000 tons of potassium sulphate (Grist ibid:248).

Water buffaloes foraged primarily on grass grown on marginal land and land bunds. Farm children too young for regular rice production

work normally tended the cattle. They would either trim the grass along the land bunds and bring the fodder to the cattle, or herd them on the marginal grazing areas. The high demand for forage restricted the growth of grass, especially along the land bunds, and thus contributing positively to rice production. In addition, cattle herding was an important way of fully utilizing the labor of farm children too young for other work, thus enhancing their economic value. Many San-lin farmers maintained that until the early 1960s the ideal job for a farm boy after graduating from primary school was herding cattle for his own or another farm family. But the importance of this activity has been declined, since factory jobs in the cities provide a better opportunity for the boys, farmers no longer rely on water buffaloes to plow their land, and compost production is considered too labor intensive to be worthwhile.

To provide a complete picture of traditional rice cultivation in San-lin, Table 7 lists the stages of rice growth in the calendar year, approximate labor demand, short-term capital investment requirement (excluding the cost of basic farm equipment), and the average crop yield for a farm family with two adult male laborers and one chia of rice land in 1963. As shown in Table 7, for the growing season is 73 man-days and eight to nine cattle labor days. Since the cost for laborers or cattle per day was NT\$50 in 1963, the total cost for labor in a crop season ran as high as NT\$4,100. Other estimated expenses are listed in Table 8. The combined labor and other costs for working one chia of rice land in 1963 was approximately NT\$7,850. The average yield per hectare for Pon-lai rice in Taiwan in 1963 was 2,908 kg. per season (Taiwan Food Statistic Book 1973:21), which sold for NT\$400 per

Table 7. The Growing Procedure and Estimated Labor costs for Rice Production in San-lin: 1963.

Type of work	First crop season	Second crop season	Labor demand
Levelling farm land	February 10-20	June 15-July 30	5 labor days
Seed selection and germination (soaking)	February 10-March 5	July 1-15	2 labor days
Seedling nursery	February 15-March 20	July 5-20	3 labor days 1 cattle day
Land plowing and puddling	March 1-30	July 20-August 5	7-8 labor days 7-8 cattle days
Transplanting	March 10-April 10	July 25-August 10	11 labor days
Water watching	No specific date	No specific date	3 labor days
Fertilizer application ($\frac{1}{2}$ manure, $\frac{1}{2}$ chemical)	I. March 15-April 15 II. March 25-April 25	July 30-August 15 August 10-25	6 labor days 6 labor days
Weeding	I. March 20-April 20 II. March 30-April 30	August 5-20 August 15-30	6 labor days 6 labor days
Pesticide spraying	No specific date	No specific date	2-3 labor days
Harvesting (including thrashing and husking)	June 10-July 10	November 5-25	12 labor days
Drying grain	June 10-July 15	November 5-30	2-3 labor days

Source: Information provided by San-lin villagers.

Table 8. Estimated Costs for Rice Growing: 1963

Item	Amount	Unit Cost	Total Cost
Rice seed	60 kg.	NT\$4 per kg.*	NT\$240
Pesticide			NT\$100
Fertilizer (ammonium sulphate)	15 sacks	NT\$150 per sack*	NT\$2,250
Water fee			NT\$200
Land tax	240 kg. unhusked rice	NT\$4 per kg.*	NT\$960
Total			NT\$3,750

* Based on the estimated 1963 wholesale value. For reference see Taiwan Food Statistic Book, 1973, pp. 138.

kilogram, yielding a total return of NT\$11,632 each crop season. If total costs are subtracted from the return and the profit is then divided among the four months of work required, a farm family made an average monthly profit of NT\$945.5 (approximately \$23.5), not including the wages earned by the family members. In 1963, this income was adequate for an average family in Taiwan.

Examination of the data in Tables 7 and 8 reveals several characteristics of the wet rice system which deserve specific attention in the study of Chinese rural society. As was noted, total labor required for the entire growth cycle was approximately 73 man-days and 8 to 9 cattle labor days. The daily wage and working capacity of cattle may be assumed to be the same as for an adult male laborer. In San-lin cattle owners charge the same for a day's rent on cattle as an ordinary farm worker charges, and in the annual village festival the temple charges cattle owners membership fees equivalent to an adult

for each of their cattle. Given this assumption, the total working days for rice production is 82. This seems to be a rather large proportion of the 125 days in an average rice growing cycle, but in actuality much of the work is concentrated at the beginning and end of the cycle, and farmers normally have a rather long slack season of approximately two months in the middle part of the season.

In the traditional rice growing system, as is true today, farmers need supplementary work during the slack season to fill their spare time and provide extra income. San-lin villagers perform various activities in the slack season. Some may repair irrigation ditches and land bunds, collect wood for fuel from trees and shrubs along the bunds, tend their hogs, or simply putter around the rice paddies checking the water, pulling a few weeds, and so on. Others may join their wives in weaving grass sheets and hats--two famous products from the Ta-chia region--or hire themselves out for short-term employment carrying clay to the local brick kiln, constructing houses or rice paddies for a local farmer, and so forth. The desire for temporary and supplementary work during this period sometimes leads the farmers to seek work beyond community or regional confines. At some point in the past, a few San-lin villagers began to transplant and harvest rice in southern Taiwan. The temperature difference between south and central Taiwan means the rice growing stages do not overlap. Each year for the past few decades, more than 20 San-lin villagers have migrated to the Kaohsiung area for seasonal work. Some other villagers remember working for the colonial government to construct the tunnels for the island's north-south railroad, or the big dam in Sun Moon Lake. All these experiences indicate that in an intensive rice

paddy ecosystem there is a constant need for extra work for farmers during their slack season to subsidize their farm income. The wet rice economy thus fits readily into the larger economic system.

Tables 7 and 8 also show that a family of two adult laborers must spend ten days, or five days each, transplanting and harvesting the rice. This prolonged transplanting period for this family means a differential growth rate for their rice. Consequently, there will be tremendous problems in weeding, fertilizing, and water control. But the most serious problems arise during harvesting and drying. The rice can only be harvested as each stalk matures, and it must be dried to a moisture content of 12.5 percent, the government requirement if it is to be used to pay taxes. With the harvested grain coming to the drying ground in small quantities day after day, the farmer must handle it separately to assure that the degree of dryness is uniform. Tremendous labor is required to harvest and dry the crop at the same time. To avoid this difficulty most farm families need extra laborers to help with transplanting and harvesting so that these tasks can be accomplished within a narrow range of time. Thus there is a fundamental need for sufficient labor beyond the family level in an intensive rice growing region such as San-lin.

Another characteristic of wet rice cultivation becomes readily apparent: Although rice paddies in San-lin are family owned, this is not the family farm described by Chayanov (1966), that is, the farm family owns the land and performs all the labor and management functions itself. In San-lin, in addition to working their own farms, families must participate in collective labor on other farms. Various kinds of cooperative work patterns are found in San-lin, and this

phenomenon is fundamental to an understanding of rural social organization in Taiwan.

Another incentive for cooperative work beyond the family level in a wet rice system stems from irrigation (Vandermeer 1968). Farmers sharing the same irrigation ditch must cooperate to ensure an adequate water supply. One farmer may be assigned to monitor the point at which the ditch splits from a larger branch, another the point where the ditch splits from the major canal. Of course, the farmers must also check the flow of water into the paddies. Even though San-lin farmers have built more wells and rely less and less on irrigation ditches, the same kind of cooperation continues. A well normally supplies an area larger than a single farm, and all those served by the well pool funds and labor to dig the well, install the pump and pipeline, and maintain it.

7. Conclusion

In this chapter I have tried to depict the ecological process of wet rice cultivation in Taiwan. Rice is still the staple food of the majority of Taiwan's residents, and its production is still the mainstay of the rural economy. Rice production remains highly stable and reliable, and many activities and much of the economic rationale of the San-lin villagers continue to be based on the rice system.

Wet rice cultivation differs from that of many other crops in several important ways, the most prominent being the elaborate irrigation system which brings a constant supply of water to the field. Irrigation appears to be indispensable to the system's stability and continuity, but its function has largely been misconstrued in many

studies. Rather than the nutrient-carrying function suggested in many works, the major role of irrigation water is to facilitate plowing and root system growth, to fix nitrogen, and to eliminate weeds that compete for food. The irrigation system is indispensable to ensuring a rice paddy's high yield, stability, and durability.

The most important aspect of the rice system, as I have tried to indicate, is the human effort that integrates the entire process. Early in the chapter the need for the large-scale coordination of human labor in constructing the rice paddy and the irrigation system was noted, and in the latter portion the various reasons for cooperation beyond the family level were discussed. Collective work is essential to rice cultivation, and it is here that the irrelevance of the concept of the "family farm" becomes obvious. There is a kind of institutional imperative inherent to wet rice cultivation which necessitates cooperation beyond the family level in order to meet the labor demands at various stages of the rice production process.

The ways in which Taiwanese peasants have accommodated themselves to these demands are certain to have had a tremendous impact on rural social institutions. In the next chapter the social institutions developed in San-lin will be examined from a historical point of view. These social institutions have developed not only in response to agricultural needs but also to fulfill other sociological demands in this particular environmental setting. With such knowledge we may better understand how the rural society operates and what its reactions have been to industrial development on the island.

Footnotes

1. From Taiwan Province Gazetteer (in Chinese), vol. 1, Land Archives, Geographic Section, no. 4, pp. 294.
2. Wang and Apthorpe (1974) believe that "(Rice) is...both a means of exchange, and a currency as well" (ibid:3). Because of the difficulties involved in transferring great quantities of rice, however, I question the validity of their statement.
3. D. H. Grist, whose study on rice cultivation is undoubtedly the modern classic, has remarked: "Provided that sufficient water is available to maintain irrigation, satisfactory yields are frequently obtained on quite sandy soil when they are given heavy fertilizer" (1965:16).
4. The 1743 gazetteer, Chung-hsiou T'ai-wan Fu Tze (Revised Taiwan Prefecture Gazetteer) has the following descriptions (pp. 108, my translation):

Production

Varieties of Rice:

Tsau-tsan (early Champa variety): has two subvarieties, one red and the other white. Rice grain small, planted in the 2nd or 3rd month (lunar) and harvested in the 6th or 7th month. Dry crop.

Pu-tsau (Pu-champa): more red crop than white. Grown in the 3rd or 4th month and harvested in the 8th or 9th month. Dry crop.

Chien-tsai: pure white grains are good--the best among all the varieties. Sown in the 5th or 6th month, harvested in the 9th or 10 month. Wet rice.

San-huan: has an appearance similar to millet.

T'ien-lai; Nei-san Tsau; Ch'ing-yiu Tsau; Hung-yiu Tsau: all early crops.

Ta-t'ou-p'o: grain round and tasty.

Kuo-san-hsiang: mix a little bit with other kinds of rice and then boil it--tasty.

Ta-po-mu: grown in poorly drained area; when water in the field increases one foot, the crop grows up one foot. Will not be drawn by water.

Ch'i-shih je Tsau (seventy days early): planted in early spring. Harvested within 70 days.

An-nam Tsau; Pai-tu Tsau: Grain white.

Yi-tse Tsau; (Lu)-song Tsan (Luzon Champa): came from Luzon. Has white and red color. Grain small and tapering. Yield close to Pu-tsan (Pu-Champa) variety, but cannot store for too long. Low grade seeds.

Yuan-li; Nuo-mi: Glutinous rice; grain white and large, good for wine making.
Ch'e-ki nuo: grain skin red, grain white.
Hu-p'i nuo (Tiger skin glutinous): grain skin red with lines on it.
Chu-se-nuo (Bamboo strip glutinous): grain skin greenish white.
Chien-tsa nuo; Sheng-mau nuo: grain has tentacle; also called ta-bu-long nuo.
Yia-mu ch'au: Sticky.
Ho nuo: the eight tribal groups in Fong-shan area grow this variety in their gardens (dry crop).
Ao-luan nuo-li (goose egg glutinous grain): grain short, skin thin, white in color and soft. The best among all the glutinous varieties.
Fan-tsai nuo: grain big. Aboriginies collect it to make wine.

The 1893 or 1894 gazetteer, Miao-li Hsien Tse, lists 8 varieties for early crop, 5 varieties for late crop, 5 varieties for dry land crop, and 3 varieties of glutinous rice. Among these 21 varieties, seven are mentioned in the previous list. Of the remainder, one is called suang-chiang tsau (frost comes early), is said to be planted in the 6th month, and can be harvested after the first frost. This variety is also suitable for stony land. Another variety, mien-tsai, can be grown in salty water near the coast.

The 1895 gazetteer, T'ai-wan Tung Tse, describes 27 varieties of rice and 12 varieties of glutinous rice.

5. The fertility of a rice paddy is not unexhaustible by nature, as Geertz believes. On the contrary, the land can deteriorate without proper cultural practices to preserve soil fertility. In an 1895 gazetteer, Tai-wan Tung Tse, there is an illuminating discussion: "The land in Taiwan is fertile and does not need human manure. Should manure be applied, the grain will become too heavy for the stalk to support...But in recent years the land in Taiwan has been leached by water and covered by sand. As a result, the soil fertility is declining. Farmers now frequently use human manure for rice cultivation" (pp. 54-55, my translation).
6. A slightly different account is given in C. S. Huang's article, "Evolution of Rice Culture in Taiwan." he states: "a survey of rice varieties from 1902 to 1905 led to the general recognition of 379 commercial varieties, excluding upland varieties, in Taiwan" (1970:14).

CHAPTER 4

LOCAL HISTORY AND THE DEVELOPMENT OF REGIONALISM

Chinese rural social organizations have been characterized by relative tenacity and stability, but at the same time seem to lack authority control. This apparent contradiction has inspired considerable interest among anthropologists. For example, given the small size of the imperial government (Hsiao 1960), how could it maintain effective control over such a vast territory? How could law and order be maintained when the formal legal and political system was mostly absent in the rural areas? What kind of social institutions have been developed by peasants to cope with their daily agricultural routine, desire for security, and other social functions? Since this study is concerned with a wet rice agricultural community, the question I wish to pursue is this: What social institutions have developed in San-lin that appear to be most effective in fulfilling the operational demands of wet rice agriculture?

Before presenting my own answers, a brief review of some previous research seems in order. There are basically two hypotheses related to the structure of Chinese rural societies. The first stresses the importance of irrigation in the rural society and the role played by the government in constructing and maintaining such facilities. As the "hydraulic bureaucrats" attained total control over the irrigation

system, they also exerted an absolute control over the rural masses (Wittfogel 1957:373-374). This notion has been called into question by empirical evidence which tends to indicate that the opposite may have been true (Leach 1959; Geertz 1963; Eberhard 1965 Ch. 3; Spencer 1974). An irrigation system does not necessitate the intervention of the central government, for "cohesive community groups can work at terrace installation in common and, within a short span of years, can transform a relatively large wild habitat into a controlled cultural landscape. In many parts of the Orient such community action must have taken place on repeated occasions, but the significant aspect of such construction is that there result many separate and independent terrace groups symbiotically fitted into one or more drainage system through the contemporaneous development of small units in independent operational sequences" (Spencer 1974:62).

A study of historical records in medieval China by Eberhard led him to conclude: "Real irrigation works were started by the population every now and then in the course of the centuries... Irrigation as a large-scale project was not a characteristic government enterprise and, therefore, did not produce a special type of social order" (ibid:84). Nor were water control and regulation in the hands of the central government. Eberhard suggests that "the regulation of water distribution as well as of repairs was in China in the hands of one or several 'supervisors, dam chiefs or water elders, elected by the farmers' assembly or the religious community with a period of office usually between one and three years" (ibid:86). The second hypothesis dealing with Chinese rural social institutions, also widely supported in recent years, concerns kinship systems, especially lineage

organizations. Freedman has suggested that irrigation, rice cultivation, and the conditions of frontier life have contributed to the development of strong, localized lineage groups in southeast China (1966:163). These organizations not only supply the labor needed to level virgin land, but also provide security of life and sociopolitical order on the frontier. Freedman's original studies on lineage organization have inspired many important studies in recent years (Potter 1968; Baker 1968; Cohen 1969; Ahern 1973), and it is only quite recently that this hypothesis has been challenged (Pasternak 1972).

My study in San-lin should provide more evidence to verify or refute these hypotheses. The short period of Chinese settlement in Ta-chia region and San-lin should simplify the task of discovering the historical process through which the early settlers developed viable social institutions. If we are to understand how the traditional community system has been changed under the impact of modernism, we would definitely benefit from a knowledge of the traditional system and how it came into being.

In the following sections I will present the historical data I gathered for the Ta-chia area and San-lin village, respectively, hoping to assemble some base information about the formation of certain sociocultural features at the village and regional levels.

1. Settlement History of Ta-chia Region

Before Chinese settlers from the Mainland finally eliminated--culturally or physically--the indigenous population, the Ta-chia plain was occupied by an aboriginal tribe, the Taoks, who were categorically

classified as a branch of the P'eng-shan Pa-she (P'eng'shan's eight tribal communities) in the early Chinese gazetteers (Kao Kung-chien 1695:24; Chou Yuan-wen 1712; Li Liang-pi 1743:82; Fan Hsien 1747:73). None of these gazetteers mentioned the presence of Chinese in this region prior to this time. A more detailed description of the Taoks and the general conditions of the region is offered in two books written by early Chinese adventurers. One of these travelers wrote:

Across the river I passed Ta-chia tribal community [that is, Peng-shan], Shuang-liao tribal community, and arrived at Wan-li tribal community. My aboriginal chaffeur looked very ugly. [His] chest is tatooed with leopard spots (Yu Yung-ho 1697:20-21; my translation).

The other account states:

The P'eng-shan's eight tribal communities occupied a territory stretching for more than 200 [Chinese] miles.. ..The tribal barbarians selected good fertile land to grow sesame, millet, and taroes. The rest [of the land] was left alone as deer ground. They do not allow Chinese to cultivate it (Fan-shu Liu-kau ND; my translation).

In 1710 the Ch'ing government, in order to protect travelers from aborigines' attacks and to prevent this virgin land from being occupied by Chinese pirates, decided to station a small force in what today is the town of Ta-Chia. Even this token force was considered necessary by many local officials, who regarded the region north of the Ta-chia River as a virtual wasteland, valuable only to the outlawed aborigines and criminal Chinese who took refuge there (Chen Shao-hsing 1972:106). Upon the insistence of the court, the troops remained. At an unknown date, a handful of farmers began to cultivate the land around the military camp at Ta-chia. In addition, a few Chinese officials assigned to administer the tribal communities in the region clandestinely leased some of the tribal land to Chinese immigrants (Ch'ing-tai

T'ai-wan Ta-tsu tiau-chi; a shu pp. 648-49, 925). Records concerning these early settlers date to the reign of Emperor Ch'ien-lung (around 1770 A.D.). Their numbers must have been quite small, for in 1776 the local gazetteer recorded that the taxable Chinese population in Tan-suei Ting, of which the Ta-chia plain is only a small part, totalled only 30 persons (Fu-chien tung-tse, T'ai-wan fu 1868:150).

Although no historical records indicate the date when large-scale Chinese migration began in this region, indirect evidence permits some speculation. The construction of irrigation systems is a precondition for converting large segments of land into rice paddies in a region where water is not generally accessible. Hence, the dates of such construction provide some clue as to the approximate time when large-scale conversion of dry farmland into rice paddies began, which is a sound indication of significant Chinese settlement in the region.

The first irrigation system, Hu-yien Ta-chun, which channels water from the Ta-chia River into the southern portion of the plain, was constructed by the Wang family in 1780. In 1816, the Ting-tien Chun system was constructed by two Kuo families living in the town of Ta-chia. This irrigation system brings water from the Ta-an River to approximately 390 chias of land (one chia equals 0.997 hectare) in the northern half of the plain (T'ai-wan sheng-yi-huei 1970:215). No details concerning the actual construction process, the personnel involved, or the rules of water distribution are available. It is not known whether the irrigation systems were constructed for land already terraced, that is, land already settled, or whether they were part of a large-scale program of combined rice paddy and irrigation system construction. Whatever the case, it can be assumed that construction

of the irrigation systems was accompanied by the establishment of wet rice cultivation and a subsequent increased demand for labor in rice production, and that this process accelerated the rate of immigration of landless peasants to the area seeking land and work.

Another indirect indicator of large-scale Chinese migration to the region is the change in governmental administration. As the population increased at the turn of the nineteenth century, there arose a need for civilian officials to replace the small military force which had been maintaining order. In 1818 the Ch'ing government moved an administrative office from Lu-kang to the town of Ta-chia (Hsin-chu hsien tse 1893:14 Shen Mau-yin 1893 or 94:36, 59; Ta-chia cheng Yien-ke 1974:1), and in 1829 the earth wall around the town was constructed (Hsin-chu hsien-tse 1893:12-13; Shen Mau-yin op cit:34).

In addition to civil order, the increase in population created other social demands. One need was for a communal diety to symbolize the identity of the inhabitants. Matsu was chosen, a goddess first brought to the region and enshrined in a small temple in 1770 by the early settlers. As the population grew, so did the demand to improve the temple housing the goddess and her worshipers. In 1790 the temple was rebuilt with funds donated by a few wealthy families. (Hsin-chu hsien-tse 1893:107; Shen ibid:159).

A final piece of evidence which supports my speculation that the early nineteenth century was the period of large-scale Chinese immigration to the area is found in the land transaction pattern. As migration increased, late arrivals found land more and more scarce. Many wealthy farmers and merchants were prompted to seek a profit by taking the remaining land from the aborigines through purchase,

usurpation, or other unethical means and then rent it to the immigrants. The most invaluable document of early Taiwan history, the Ch'ing-tai T'ai-wan Ta-tsu tiao-ch's shu (the study of Taiwan's rent system in the Ch'ing Dynasty), records land transaction contracts and government announcements concerning land policies and thus provides data on actual land transaction between the tribal population and Chinese settlers in the region. In all cases land was transferred from the aborigines to the Chinese, and the dates are as follows: 1843 (pp. 519, 736-737; these refer to the same transaction); 1862 (p. 683); 1868 (p. 683); 1871 (pp. 901-902); 1879 (pp. 686-689); 1880 (pp. 531-532); and 1881 (p. 533). This list suggests that, around 1840, Chinese immigration had peaked and had exhausted most of the available land. After 1840, one possible source of additional land was that held by aborigines, who had to be turned out or bought out.

In summary, large-scale Chinese settlement probably began in the late eighteenth century and accelerated after the completion of the two irrigation systems in the early nineteenth century. Accompanying this increased immigration were a more sophisticated administrative organization, refinements of the original temple, and the commitment of more land to wet rice cultivation.

One question that immediately comes to mind is why the Ta-chia region, given its proximity to the earliest Chinese settlements the southwest coastal plain of Taiwan, was settled so late. One possible answer is that the land in Ta-chia is rather infertile compared to other regions of Taiwan (see chapter 2). While there was still virgin land to be cultivated, many early settlers would understandably bypass this territory. Only later, when most of the good land was taken,

did the waves of migrants from the Mainland seriously consider Ta-chia.

Another reason for its late development may be its location. The earliest Chinese immigrants settled first in what is now the Tainan area, and from there they expanded north and south. Another early center was in north Taiwan; after the Dutch expelled the Spaniards, they encouraged small numbers of Chinese settlers to cultivate the area as early as 1684 (Chen Shao-hsing ibid:43, 106). Those immigrants expanded southeast, to Yi-lan plain, and southwest, to the Taoyuan plateau. Ta-chia, halfway between these two immigration centers, thus stood on the periphery of both for many decades.

2. Impact of Land Policies on the Land Tenure System

Of note in the settlement history of the Chinese in Taiwan is the way in which different political regimes and their policies regarding land cultivation affected the course of colonization, the land tenure system in new territories, and the structure of the communities established. The importance of these policies can best be understood by examining how they defined who assumed the role of organizing and supervising the opening up of land and the construction of irrigation systems.

As already has been pointed out, the massive work of converting uncultivated land into rice paddies requires an agent who can provide substantial funds, organize laborers, and supervise construction. This person also must be sanctioned by the proper authorities.

In Taiwan's settlement history, the role of this agent assumed two different patterns, which in turn affected land cultivation

patterns. In the early stage, during the Dutch colonial (1624-1661) and late Ming (Koxinga; 1661-1863) periods, the role was assumed by the government. The controlling regimes recruited immigrants from the Mainland, assigned them plots of land, and provided them with funds, implements, seeds, and so forth. The government also opened land and built irrigation systems (Chen Shao-hsing 1972:42; Ch'ing-tai T'ai-wan Ta-tsu p. 24; Lin Heng-tao 1966:18). All land belonged to the government, and, in a sense, all cultivators were the government's tenants. They could not transfer use rights, nor could they open uncultivated land without permission. For ease of control and management, both the Dutch and the Koxinga governments settled cultivators in compact, nucleated villages all over Taiwan's southwestern plain (Chen Cheng-hsiang 1959:260; Lin Heng-tao ibid:18).

After the Ch'ing government assumed power, it initiated a new policy, the "ta-tsu" (literally, big rent) system. The government granted land opening rights to influential families considered to have sufficient means for such work. These families would carefully inspect uncultivated land suitable for agricultural use and would petition the government for the right to its development. After receiving permission they would recruit immigrants for rice paddy construction work. These immigrants eventually would receive tenant rights to work the land. Occasionally, promoters also provided housing, implements, and funding for the tenants. Given their wealth and managerial ability, these big families probably can be called entrepreneurs. The rent the tenants paid to the landlord was called small rent (hsiao-tsu), and that the landlord paid to the government, big rent (ta-tsu). It is the latter term that gives the system its name. So that tenants

might live close to their work, and because the big families were disinterested in supervising tenants' labor, these entrepreneurs often built housing for the tenants amid their fields. This arrangement contributed decisively to the formation of scattered villages in Taiwan, except in the hilly northern areas, where the threat from aborigines was constant and cultivators had to live in fortified villages (Lin Heng-tao 1966:31; Chen Cheng-hsiang ibid:206; Wickberg 1970: 80-82).

The two different land opening policies of the early and later governments had a significant impact on the land tenure system. In southwest Taiwan, where farmers were government tenants during the Dutch and Koxinga periods, land titles were acquired from the Ch'ing government in 1760, and the farmers became small landholders (Lin Hing-tao ibid:31). In those regions in Taiwan developed later, of which Ta-chia is one, the ta-tsu system concentrated land in the hands of a few big families, and they fostered the tenant system. As a consequence, tenancy in areas outside the southwest coastal plain, which was developed during the Dutch and Koxinga periods, was much higher. A land tenancy study of 12 villages in northern Taiwan in the nineteenth century revealed that 75 percent of all cultivated land was farmed by tenants (Wickberg ibid:85).

Big landlords during the Ch'ing dynasty and the Japanese period figured their property not in terms of the actual acreage they possessed but by the amount of rent they collected from the tenants. Each 100 chin (one chin equals 1.33 pound) of unhusked rice collected was called one tsu (rent unit). People in Ta-chia today still can name the big landlords who had more than 10,000 tsu annual income

during the Japanese period: the two Wang families in downtown Ta-chia, a Kuo family in Je-nan village, a Hsu family in Ta-chia-tung village, and so forth. If we assume that each tenant paid an average of 20 tsu (2,000 chin) of unhusked rice for each chia of land he rented from the landlord, a landlord who collected 10,000 tsu would have at least 500 chia of land and 500 tenant families working for him.

The village community which developed from the big rent system was characterized by a small number of landlords, who controlled most of the cultivable land; a slightly larger number of independent farmers, who controlled a small portion of the land; and an overwhelming majority of landless tenants. The tenant-landlord relationship was quite unstable, as has been described in an early gazetteer concerning central Taiwan, of which Ta-chia is a part:

there are tenant families who contracted out tenant land from landlords. For the terraced paddy, [a tenant] has to deposit a certain amount of silver dollars [with the landlords] without accruing interest from it. The amount of deposit is not fixed, and the contract is renewed on an annual basis. After the contract expires, [the tenant] may contract land elsewhere. The landlord will then return the deposit to the tenant. The rent collected by the landlord per annum is called hsiao-tsu [small rent]....South of Hsin-chu area, the tenants normally pay their rent [to the landlord] after the first crop is harvested. All the second rice crop of the year thus belong to the tenants. Another kind of tenancy is [for tenants] to pay a whole year's rent in advance, and cultivate the land the next year. Under this condition, there is no need to sign a formal contract, nor for the tenants to pay a deposit. All the farm implements, bullocks, and seeds are provided by the tenants (Chen P'ei-kuei 1871:297, my translation).¹

The renewal of the contract between landlords and tenants on an annual basis offered both parties a chance to discontinue an arrangement when they found it advantageous to do so.² This option probably benefited

the tenants in the early stage of Chinese settlement in the region, when there was more cultivable land but proportionately fewer workers. The tenants then had more bargaining power in negotiating with landlords for lower rent. As the population increased, however, the landlords gained the upper hand as more tenants sought land.

Table 9 indicates population growth and hence increasing pressure on land in the Ta-chia region from 1890 to 1934. Because of the different territory covered in various years the table does not accurately reflect general population growth in the region. However, the changes in family size and population density shown in Table 9 offer some indication of general trends. First, the increase in average family size over time represents a steady growth of more stable families and the disappearance of single person families, which had been the predominant frontier society type. Second, the dramatic rise in the man-land ratio clearly indicates an increasing pressure on available arable land with a relatively short period.

The keen competition for land gave the landlord an opportunity to shift the annual contract from one tenant to another when there was a chance to raise the rent. Since the land and farm houses in a given area often were owned by a single landlord, the ousted tenant would have to move out of the area entirely in search of tenant land elsewhere. Older people in the town of Ta-chia still vividly recall the days when many tenant families were compelled to move from one village to another at the end of the year. It was the high land tenancy rate, the unstable land tenure structure, and subsequent high geographical mobility of the rural masses that prevented the development of localized kinship organizations in the Ta-chia region and other parts of Taiwan.

Table 9. Estimated Population Growth in Ta-chia Region

Year	Number of households	Male	Female	Total	Average	Total farmland (hectares)	Density (persons per hectare)
1890 ¹⁾	3,758	10,305	7,379	17,702	4.71		
1891 ¹⁾	3,841	10,724	7,585	18,309	4.77		
1892 ¹⁾	3,886	11,235	8,034	19,269	4.96	5,524	3.49
1899 ²⁾	6,298	14,952	11,455	26,407	4.19	5,426	4.87
1934 ³⁾	21,484			141,088	6.57	6,987	20.19

Source: 1) Chen Shao-hsing 1972:84-85. The area covered includes Ta-chia region and, to the east, Wai-p'u hsiang.

2) Chen Shao-hsing 1972:89.

3) T'ai Tien-meng 1935:205. The area covered includes Ta-chia plain, Wai-p'u hsiang, and, to the south, Ch'ing-suei and Wu-ch'i townships.

Even though the formal, contractual relationship between landlords and tenants was quite unstable, it was imperative that tenants support their landlord. Tenants discovered that it was to their advantage to rally behind the landlord once their contractual relationship was established. Despite the parasitic nature of the landlords, the two classes nevertheless shared and relied on the same ecosystem for their living and thus developed a symbiotic relationship aside from the contractual one. A landlord in Ta-chia has recalled the constant disputes and warfares between the people living in Ta-chia area and those in the town of Ch'ing-suei, south of the Ta-chia River, during the Ch'ing Dynasty and Japanese period. People on both sides of the river share the water. When there was a shortage, the landlords, who sometimes owned the irrigation system, would rally their tenants to fight for the scarce water. Threatened by crop failure, the tenants were more than ready to struggle for survival. Thus, the landlords supplied leadership, tactical military knowledge, and weapons, and the tenants supplied their physical strength, blood, and sometimes lives. The warfare between these two regions was so intense that the Ch'ing government had to intervene and establish an allocation system. (Tai-wan Shen Ta-chia Nung-tien 1961:12). Large-scale warfare over irrigation water declined once the Japanese government in Taiwan incorporated all privately owned irrigation systems into a semi-governmental office in 1923. Thereafter, water was rationed by the local irrigation office when necessary, and conflicts were effectively eliminated.

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3. A History of San-lin Village and Land Ownership

The conditions which developed in the course of the Ta-chia region's settlement--the initiative of big families in opening up land, concentration of land under a few landlords, a high tenancy rate, an unstable land tenure system, and the consequent high geographical mobility of peasants--were of course true for San-lin. Although current inhabitants cannot recall when the village and the vicinity were settled, sometime after 1816 seems a reasonable guess. This was the year when the Ting-tien irrigation system was built, and San-lin is close to this system. The purchase of large landholdings by villagers' ancestors when they first settled in San-lin clearly indicates that, when they arrived, the highly concentrated land tenure system was already established.

History of the Big Surname Groups

Of the surname groups presently living in San-lin, the Ho group was the first to settle there. Remote ancestors from the Ch'uan-chou region of Fukien Province originally migrated to southern Taiwan, but their descendants gradually moved northward as the arable land in the south dwindled due to population pressure. About 120 years ago, San-lin Ho surname group came directly from Kao-mei village, south of the Ta-chia River, in what is currently the town of Ching-suei, approximately 11 kilometers from San-lin. A Ho informant recalled that his ancestors, before migrating to San-lin, used to war with a neighboring village in the Kao-mei region. Having been severely defeated several times, the Ho ancestors decided to move farther north, to the less populated Ta-chia region. This was done one dark evening, and the entire

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surname group moved out, carrying with them seventeen baskets of silver, a considerable sum both then and now. With this wealth they purchased a large amount of land and settled in San-lin. Their estate was so sizable that, as this informant recalled, "the Ho people did not have to set foot on other people's land to take a trip from San-lin to Ting-tien village, which is about 2 kilometers to the east." However, the Ho's holdings were rapidly eroded by opium addiction, gambling, and extravagance within one or two generations. Many Ho descendants, when they became landless, had to move elsewhere to seek a living. Today, only nine Ho families remain in San-lin, and only four of these have small landholdings. No corporate property nor genealogy was found in this surname group.

The second surname group to arrive in San-lin was the Liang. Their ancestors also came from Ch'uan-chou, Fukien, and first settled in what is now the city of Kaoshiung. There, as one Liang informant said, an ancestor purchased several houses across from the railroad station as corporate property for his descendants. The interest and rent procured from this estate was used to hold an annual reunion for all the descendants of this ancestor. Later, one branch of the family migrated to the Feng-yuan region, about 15 kilometers east of Ta-chia. A corporate estate in the form of tenant land was established, and descendants of this founding ancestor also shared in this estate. The informant said that when he was a boy his father occasionally took him to the annual festivals in Kaohsiung and Fong-yuan. They not only were allowed to participate, but also had a share in the residual when the banquet and management expenses were subtracted from the estates' incomes. Shares were not divided on an equal basis, but according to

generations and the number of persons in each branch. This method has been described in several other studies of Taiwan (Pasternack 1973:88; Wang 1972; Wang and Apthorpe 1974:144). The Liang genealogy was carefully kept at both locations. Neither estate exists today; the Kao-hsiung property was usurped by the lineage manager after the Restoration, and the Fong-yuan land was claimed by the tenants during the land reform period.

Two brothers from the Fong-yuan Liang lineage migrated to San-lin around 1860. They purchased eight chia of land on the western side of the village and built a house compound nearby. They later divided the land and, since the older brother had more children, his sons purchased the housing quarters assigned to the younger brother. The older brother's descendants stayed in the original compound and maintained the ancestral hall and tablet, while the younger brother moved out and built another house in the village.

During the Japanese period, the Liang families were not considered wealthy; they had land only sufficient to meet the demands of their increasing numbers. The Liang families have not exhibited the kind of geographical mobility so characteristic of landless families. The older founding brother had six sons: one dies without issue, another migrated to Hua-lien, Taiwan's last frontier, and descendants of the remaining four still live in San-lin. As to the descendants of the younger founding brother, there has been only one male offspring in three successive generations, and they have all stayed in the village to guard their ancestor's property.

Even though the Liang surname group is not the largest in San-lin, it has had political and economic influence disproportionate to its

numbers. One Liang was selected village head (po-dziang) by the Japanese early in the occupation, and the position passed to his son. After Taiwan's Restoration to China, village elections chose this man's son as mayor for 7 terms (21 years). Referring to this fact, one villager jokingly remarked: "The Liang family rules us for three generations."

All the Liang families except one have moderate landholdings. Their vegetable produce and commercial pursuits in recent years have earned considerable profits, with which they have brought more land. The Liangs also own three of the five stores in San-lin, all engaged in considerable trade with the villagers. The manager of the largest Liang store, Nam-a, is the only college graduate residing in the village. Because of his education and his easy accessibility in the store, he is consulted on almost every kind of daily affairs. Illiterate villagers, for example, ask him to write letters, draft petitions to government offices, or paint good luck inscriptions for ceremonial occasions or the Chinese New Year. He also keeps accounts for the village temple and kindergarten. Some villagers have suggested he run for mayor, and he probably will accede to this position held by his grandfather, father, and older brother before very long.

The Liang families have no corporate property or written genealogy, except an ancestral room in the old house where the ancestral tablet is maintained. These theoretically belonged to all the Liang families in San-lin, and thus should hold communal worship there. In actual practice, since many Liang families have moved out of the compound and have carried duplicate tablets to their new homes, no joint worship is held for the entire surname group. Only those four families still

living in the old compound hold such ceremonies, among them the worship of their immediate ancestors on the anniversary of their deaths. None of these four families has its own ancestral tablet. However, the monthly rituals on the first and fifteenth for the God's soldiers, and on the second and sixteenth for the good brothers--the wandering ghosts--are held in their respective households and not in the ancestral room, since these rituals are not related to the ancestral cult. The supremacy of geographical proximity in determining joint ancestral worship seems confirmed in this case. Freedman and Ahern have observed that once a family is physically moved out of a compound, it will establish a new ceremonial unit of its own (Ahern 1973:108-109).

The landed aristocratic family in San-lin is the Huang surname group. As a local government official during the Ch'ing Dynasty, the Huang's ancestor purchased land, probably from the declining Ho families. With frugality and hard work, these holdings multiplied rapidly. The Huangs built two elaborate compounds, both surrounded by high walls. Before the land division by two brothers some forty years ago, family land rent per annum was more than 10,000 tsu (one tsu equals 100 chin of unhusked rice). A large number of villagers were Huang tenants, and today there are still six or seven families tilling the three chia of Huang land (the amount reserved to all landlords by the Land Reform Act).

In the past and at present, the Huang family's high social position has meant they are removed from village affairs. Of the existing eight Huang families, four of the family heads have college educations, and two of them eventually moved to Japan and Africa. Two other family heads received a high school education during the Japanese period,

and both hold positions in the Ta-chia hsien government. Another has a junior high school education and has worked in the Ta-chia Farmers' Association since the Japanese period. The last family head, a hunchback, has only 6 years of primary education because of his physical handicap, but he lives in Ta-chia and runs a large shoe manufacturing firm. The Huang who later moved to Africa to manage a factory there was elected mayor of Ta-chia township for two terms (1960 to 1968). He was elected at the age of 28, an inexperienced high school teacher just out of college. His election was still a favored topic of conversation among villagers in 1974, as they recalled how the entire village rallied to the campaign for the highest official position in the township. After his second term as township mayor, an unsuccessful campaign for hsien magistrate convinced him to give up his political career. The only Huang family still living in San-lin is that who's family head has a position in the Ta-chia Farmers' Association. There are still three chia of land in his name, and he is obviously the caretaker of this family property. Following the custom of his forebears, he lives with his family in virtual seclusion behind the high wall of his compound and maintains the least possible contact with the villagers.

Two middle sized surname groups, the one Chen and the another Hsueh, came to the village approximately a century ago. The Chen migrated from the Feng-yuan region, as had the Liang ancestors, and has produced 14 families in five generations. Their origins are unknown but the Hsueh families can trace back four generations among its 12 existing families. These two surname groups are similar in that both once had moderate landholdings, the Chen group 20 chia and the

Hsueh 40. Due largely to their landowning status and their relative stability, several members from the two surname groups were chosen for village offices during the Japanese occupation. One Chen was a policeman under the Japanese, and another held the position of village headman temporarily. The Hsueh group provided a head of the village militia during World War II. Both surname groups have been actively involved in village affairs since the Japanese period. One of the Chen group is village representative to the township council, and one of the Hsueh family members is in charge of the township running water office, and another of the town public office. Landholdings and family wealth have declined for both surname groups due largely to gambling and extravagance. The Chen women were notorious, along with their husbands, for gambling. Villagers claimed women quickly learned to play ma-dzian once they married Chens. The Hsueh families were said to be indifferent farmers, and once they had rented their land, they ignored farm work.

Neither the Chen nor Hsueh group has lineage corporate property or written genealogies. Family division has been carried out in every generation on an equal basis among all the male offspring. Farmland and housing compounds were divided. After the parents died, or when the family divided while the parents were still alive, all males who moved out of the ancestral compound would set up their own ancestral tablet in their new houses. Three Chen brothers still live in the same compound, hold joint ancestor worship, and possess no private tablet. However, their joint ownership is limited to the ancestral tablet and does not include the ancestral room. That room has been assigned in the family division to the son living next to it as his

private living room. There is no special requirement among the Chens that this room be allocated to the first son, nor is an extra share of family property given to the keeper of the ancestral room to compensate his maintenance of the tablet.

The largest and latest surname group to come to San-lin is that of Chi. The group's founding ancestors came from Wu-ch'i township, approximately 15 kilometers south of the town of Ta-chia, some sixty years ago. The founders were eight brothers who jointly owned two chia of rice paddy in Wu-chi before they migrated to San-lin. Since the land could not support them all, they decided to sell it and purchase cheaper land in the frontier north. Indeed land was so cheap there that with the money from the two chia they purchased 10 chia in San-lin. These eight brothers built a compound amid their fields, about two kilometers west of the village center. There are now 35 families in this surname group. They have no corporate property nor written genealogy. Little is known about this group beyond the fact that there is an ancestral room and a tablet. Because of its distance from the village center, the Chi surname group has not been active in village affairs.

Recent Land Expansion

Although the land owning big surname groups have been a relatively stable influence in San-lin, there have been unstable elements as well. Some of these can be best illustrated by the histories of several former tenant families who became land owners after land reform. Their histories will be more meaningful, however, if we first understand the impact of fairly recent rice paddy expansion on the village and its

vicinity. It was this expansion which attracted many families to San-lin and ensured their survival.

Land owned by village farmers before the 1930s lay mainly to the east, south and west of the village. To the north was the low land of the vast stony river bed of the Ta-an River. This territory, due to floods in the rainy season, was unfit for anything but pasturage for bullocks or a source of grass or wood for cooking fuel. In the early 1930s, the Japanese constructed a railway and highway bridge across the river. To protect them, they also built an embankment along the river, which removed the flood threat from the vast territory north of the village. Two entrepreneurs, one surnamed Wang, a landlord in a neighboring village, and another named Tsuo, a businessman in Ta-chia, saw a profit in promoting this land and petitioned the Japanese colonial government for permission to do so. With Japanese approval, they began to construct rice paddies in 1933, but the two men used different methods.

Wang built rice paddies on a piecemeal basis. He hired San-lin villagers to do the work in their slack seasons and paid them from his own capital. He built a total of 30 chia of land, all of which was leased to villagers who had participated in the construction work, including San-lin villagers. The initial rent was 18 tsu (1 tsu equals 100 chin of unhusked rice) per chia.

Tsuo employed a different method. With the government's permission he organized a land developing company, T'ai-wan Hsin t'uo Kong-se (Taiwan Trust Company) and took a loan from the Ta-chia Land Bank for the necessary construction funds. By using bulldozers, trucks, and other modern machines, he converted about 200 chia of land

into rice paddies. Once a plot was properly terraced, he would immediately rent it and use this money to repay the bank. Many villagers were employed in the construction work, and some later rented the land from Tsuo.

Wang built a large compound on his new land, but when he moved to downtown Ta-chia, he let his tenants use the house. Today the compound is occupied by more than 10 unrelated families who were once Wang's tenants and who claimed the land and house from Wang after passage of the Land-to-the-Tiller Act in 1953.

The land opened by Tsuo was not immediately affected by land reform. In 1953 a flood destroyed the Ta-an River embankment and washed away much of the newly constructed land owned by Tsuo and his company. Realizing that he could not procure enough profit from the land to pay the remaining debt and, at the same time, raise enough capital to reconstruct the rice paddy and irrigation system, Tsuo turned over the titles to the bank. The Land Bank thus became the sole owner and the landlord of all the tenants. Since the land did not belong to a private landowner or a private corporation, it was not affected by the land reform law. Only in 1963, when another flood destroyed most of the paddies and the government stepped in to reconstruct the devastated area, did the government decide that the land reform act should be applied to the region. At that time all the tenants cultivating the Land Bank property become owners.

The construction of so many rice paddies created certain problems in securing enough water. The original irrigation system, first constructed in 1816, had only a small channel. Even before the new paddy construction, the water supply had been somewhat erratic. During

droughts, villagers would fight other villages for access to the irrigation water, and then fight among themselves. The construction of more than 200 chia of land in the 1930s, without simultaneously enlarging the original water channel, only exacerbated the problem. The mouth at the head of the channel took in a fixed amount of water from the major artery in Ting-tien village. To increase the flow to San-lin would mean decreasing the volume received by the Ting-tien farmers. Physical force had become the only means of solving the water distribution issue. San-lin villagers still vividly recall the numerous conflicts with Ting-tien and among fellow villagers. Although forbidden by the Japanese, they were ineffective in controlling this kind of warfare, and it continued into the Restoration period. The water supply to San-lin village and vicinity was finally increased after the land consolidation of 1963, which also reconstructed the entire irrigation system and readjusted the amount of water sent to each branch on the basis of total rice paddy coverage. Because San-lin's allotment included water for the newly constructed land, some of the peasants' difficulties in time of drought were eased.

History of Small Surname Groups

In this section I will present the history of a few tenants and farm laborers who were once rootless drifters and became landowners. Their life histories illustrate the instability intrinsic to Taiwan's rural society.

Case One. Case one involves four brothers, surnamed Yiao, aged 60, 51, 48, and 46, and their families. The second and fourth brothers

had recently moved into San-lin village at the time of my fieldwork, and the remaining two still lived in a compound amid their fields. The Yiao brothers claimed their grandfather was once a rich man in the town of Ta-chia, owning more than 50 hectares of rice paddy and two sugar refineries. The family property decreased during their father's time, due largely to his opium addiction, gambling, and penchant for prostitutes. He was penniless within a few years; he then married a farmer's daughter and moved in with her family in Wai-p'u. Because he could not get along with his father-in-law, he left with his wife and children and became a tenant in the San-lin area. He first worked for the landlord Wang, who, as mentioned earlier, had developed 30 chia of land in the vicinity of San-lin. Wang was in fact a relative, being Yiao's father's sister's husband. Yiao and his wife and four sons lived in a hut built by Wang on his tenanted land. A few years later, Wang moved to Ta-chia and appointed a manager for his lands. The manager wanted to raise the rent on the land cultivated by Yiao, who bluntly refused. Their arrangement dissolved, and Yiao shifted his tenanship to the Huang landlord family of San-lin village. It was fortunate that Yiao could obtain this tenant land, for it meant he did not have to move far away. When the elder Yiao died, his four sons inherited the tenanship and continued to work the Huang family land. One of the brothers remarked that they were very lucky to have maintained a cordial relationship with the landlord so that they did not have to move or separate as other tenant families often had to do before land reform.

Case Two. The second case concerns three brothers, aged 52, 42, and 40, surnamed Liang. Although of the same surname as the Liang group in San-lin discussed earlier, and although their family originated from the same hsiang of Ch'uan-chou, Fu-kien province, these brothers were not considered a part of the surname group. Their father came to Taiwan directly from the Mainland in 1931 with his wife and only son, and he first settled in the vicinity of San-lin village. At that time, a small number of immigrants from the Mainland was still accepted by the Japanese; they were classified as "overseas Chinese" by the authorities, as distinct from the Chinese already in Taiwan. The father worked as a farm laborer for other farmers. Because of his "overseas Chinese" status, he was prohibited from tenantry or purchasing any land in Taiwan throughout the Japanese period. Not until after the Restoration did he and his growing sons have the chance to tenant about one chia of land belonging to the landlord Wang. After assuming this tenancy, the elder Liang and his three sons moved into San-lin village. The Land Reform of 1953 granted them land ownership, and all three brothers thus gained a foothold in San-lin village.

Case Three. The last case involves a Chen family head, aged 47. He does not belong to the Chen surname group discussed earlier. His ancestor came to Taiwan from Quemoy, southern Fu-kien, about a century ago, and his father was a tenant in Ta-an hsiang, the coastal region of Ta-chia. In his early boyhood, this Chen family head was hired to tend cattle, and he developed skill in evaluating them. Based on this knowledge he began to engage in cattle trading in his teens to subsidize income from land tenancy during slack seasons. He and his

other brothers had rented land from various landlords in the towns of Ta-an and Ta-chia, and just before land reform he and one of his brothers had a chance to tenant land belonging to the San-lin Huang family. His other brother rented land in Wai-p'u hsiang, about 5 kilometers east of San-lin. As the result of land reform, all three brothers became landowners. With the establishment of property in San-lin, the Chen farmer and his brother moved into the village.

The high degree of land tenancy created not only considerable geographical mobility among the tenants, but also ample opportunities for landless farm laborers, craftsmen, or peddlers to move around and earn a living. Although it is impossible to determine the mobility rate, the villagers probably are not far wrong when they claim that more than half of San-lin's residents have moved into the village within the last three or four decades. The household registration, incomplete though it may be, records the astonishing figure of 55 families, or 14 percent of all village families, that moved into San-lin between 1946 and 1973. Among these 55, 8 came as tenants and farm laborers and retained this status in 1974, 11 came as tenants and farm laborers and later obtained land, become landowners, or transferred to other occupations, 14 moved in as landowners, and the remaining 22 had other occupations when they came, such as barbers, bicycle mechanics, small traders, and so forth.

The residential instability that accompanied such a land tenure system prevented the growth of elaborate and large-scale kinship organizations in the area, especially among the landless rural residents. Even the landed aristocracy, such as the Huang family in San-lin, which has had the means and ability to develop a more articulated

lineage organization, lured by the social mobility provided by the Japanese and, later, Nationalist governments and has tended to look beyond the village confines for development. Because they normally are better educated, have a larger stock of wealth, and, above all, have better connections with the bureaucratic system, these landed aristocrats have much more opportunity to participate in activities outside the village and advance up the social ladder far beyond the reach of ordinary peasants. The fact that all except one of the Huang families have moved out of the village illustrates this point well.

The only surname groups which could develop localized kinship organizations were the small landowning families. Land ownership prevented them from moving about like the tenants or other landless people. Only among these surname groups are ancestral rooms or tablets purposely preserved. With San-lin's short history, however, they have not had sufficient time to develop the more elaborate kinship systems found in Mainland China. Furthermore, the 1953 land reform fragmented the landownership of large landlords as well as corporate bodies, and turned most of the landless tenants and laborers into petty farm owners. This redistribution prevented the accumulation of large landholdings in the hands of private individuals or corporate bodies, a precondition for the development of formalized kinship organizations. In addition, the subsequent industrial development in Ta-chia and the island in general, which meant villagers could improve their economic condition by migrating or participating in the outside labor market during the slack season, delivered the final blow to the development of lineage organizations in rural Taiwan.

4. The Development of Regionalism

The traditional rice cultivation system developed in San-lin and the Ta-chia region, and to some extent all of Taiwan, seems to have contained a paradoxical problem. On the one hand, there was an urgent need for some kinds of socioeconomic institutions on different community levels. Tenants and laborers had to be organized to construct rice paddies and irrigation systems. They had to rally behind landlords to compete for irrigation water. Finally, they had to exchange labor among themselves. On the other hand, there were the unstable land tenure system and the high geographical mobility of the rootless tenants who comprised the majority of the rural residents. As discussed before, this instability prevented the growth of a strong kinship organization to fulfill these institutional demands. Without such kinship organizations, most individual farm families faced real peril when disasters befell them, such as the death of a family member, a crop failure, and so forth. However, this paradox was apparently resolved by a development unique to Taiwan. In this frontier area, as most parts of Taiwan were in the eighteenth and nineteenth centuries, where socioeconomic organization beyond the family level was crucial to survival, there emerged a prominent, although sometimes notorious social mechanism: regionalism.

From the point of view of all the ruling regimes in Taiwan, regionalism and its manifestations at different regional levels have been the root of Taiwan's sociopolitical turmoils and thus have been unanimously condemned (Lin 1966:42-43).

This official attitude should by no means be accepted uncritically. Despite the fact that organized large-scale warfare among the early

settlers and sometimes serious rebellions against the ruling regimes were made possible because of regionalism, it also had its merit as the sole means of organizing manpower for Taiwan's agricultural development process and for enhancing stability and order in rural Taiwan when political control was ineffective.

Taiwanese regionalism has taken many forms but at bottom one always finds that sociopolitical alliances among unrelated peoples have been maintained by identifying with a region or a locality where they or their ancestors live or have lived. This residential proximity has been overtly stressed in rural society, while kinship ties have received less emphasis. The mechanism of regionalism is by no means confined to a definite territory. It contains a certain elasticity which allows expansion or contraction under different circumstances. People living in the same village can easily organize and conduct concerted activity. They may urge warfare against another village, but when that village is threatened by one from another region, both villages may turn on the outsider. For example, San-lin may have had unpleasant experiences with the neighboring village of Feng-hua over irrigation water, but if the town of Ta-chia organizes a parade to disgrace the town of Ch'ing-suei, in another region, San-lin and Fong-hua, being constituents of the higher regional order of Ta-chia, would cooperate and offer a dragon dancing team for the occasion.

Regional cooperation can extend beyond the township level. People in the coastal townships of Tai-chung hsien (county), including Ta-chia, Ch'ing-suei, Wu-ch'i, Ta-tu, and so forth, may feel closer and could easily develop a united front against people from Chang-hua hsien in the south and Miao-li hsien in the north.

This kind of regional affiliation is most readily seen among those who leave home. Many San-lin youths while in the army or when they migrate to cities seek out and develop strong ties with others from Ta-chia township; if there are not enough people from the same town to form a circle of friends, they cultivate people originally from Ch'ing-suei or Wu-ch'i, towns near Ta-chia. A villager who migrated to Taipei and became a racketeer once expressed his regionalism in a unique manner: "I really enjoy what I'm doing in Taipei now. When I first arrived I was often ridiculed for my country manner. They said I was small because in the south there was never enough food to eat. They called us stupid lower harbor people (gong-e-kang-nang). Now, with one or two bottles of liquor, I can order a Taipei person to kill another. Why should I care? Most of the Taipei people are Chang-chou people, and we southerners are mainly Ch'uan'chou people."

A characteristic of regionalism I wish to emphasize is its hierarchical aspect. The smallest local units are subsidiary to larger ones, these to even larger ones, and so on. Communal solidarity generated by regionalism is more pervasive at the lower regional levels. This is easy to understand, for in a small neighborhood or hamlet, residents often organize to solve daily problems. The immense contact among neighbors breeds familiarity and closeness and hence cooperation. As the number of people and the geographical area increase, this familiarity and closeness decrease, and common concerns arise only over specific issues with broad appeal.

A second characteristic of regionalism is that communal solidarity is often symbolized, and reinforced, by religious worship. A spiritual diety is always the focal point of a territorial unit.

Participation in ceremonies for this diety undoubtedly enhances the esprit de corp of the entire community. The dieties honored at different regional levels, incidentally, also are ordered hierarchically according to the territorial units they represent. The few families living in a compound or hamlet may honor a certain diety, one of lower rank. At the next, or village, level in the hierarchy is a major village God whose ceremonies are attended by all the residents within the village's territorial confine. At the hsiang or cheng (urban township) level is a higher God or, as in the case of Ta-chia, Goddess to whom all the village Gods should pay homage. But to discuss the nature of regionalism is not to describe its origins, and there undoubtedly have been many reasons for its development. One of these, particularly in Ta-chia, and to some extent elsewhere in Taiwan, is the different languages and customs brought to Taiwan by migrants from different regions on the Mainland. These initial differences were perpetuated and eventually evolved into even more distinct cultural variations. Because of their cultural affinity, people living in the same region had more in common with each other than with outsiders. This observation goes far in explaining the persistent antagonism between, for example, the Hakka and Min-nan speaking groups in Taiwan, who have quite different languages and customs. However, there is vast documentation of warfare in Taiwan between the Chang-chou and Ch'uan-chou people, who share essentially similar customs and the same Min-nan language, spoken with a slightly different accent, and of conflict between people who originated from the same Ch'uan-chou region, but from different hsiens in the Mainland, whose dissimilarities are

negligible. Under these circumstances the language-customs hypothesis becomes unworkable.

Any convincing explanation for the development of regionalism in Taiwan and of its dynamics in rural society cannot ignore Taiwan's unique geographical, political, and historical characteristics. Again, the short time span and the abundance of historical documents are of much benefit. What follows is a brief recounting of the historical material on the subject, with special emphasis on Ta-chia and San-lin village.

Historians of Taiwan are all too familiar with the observation that Taiwan suffers local unrest once every three years and a full-scale revolt every five. Over the years, warfare occasionally has broken out among people belonging to different surname groups, guilds, ethnic groups, secret societies, and so forth. These conflicts have ranged from minor strife within a small village to full-scale rebellions against the ruling bureaucratic system, be it the Ch'ing government, the Japanese, or the Nationalists. All these incidents have been called "classified armed-strife" (fen-luei dzie-tou), a term first used in official Ch'ing documents and later adopted by the Japanese. Although there have been various causes for these incidents, the most predominant type of warfare has derived from regionalism, meaning that people have formed alliances not according to issues or ideological differences but simply because they, or their ancestors, have shared residential proximity within definable geographical confines.

Some observations made in the nineteenth and early twentieth century suggest that this regionalism had its roots in southwest China, from where the majority of Chinese settlers in Taiwan came, although

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its importance there was often obscured by warfares among different surname groups. A Ch'ing government official assigned to Chang-chou and Ch'uan-chou regions remarked:

The custom of armed-conflict in Fukien is most prevalent in the Ch'uan-chou and Chang-chou regions. This is so because the custom there is ruthless and unabashed....They live in congregations on a surname basis, and the large ones amount to more than one thousand families, and the small ones to one hundred or more. Big surname groups constantly oppress the smaller ones. When the small groups can no longer tolerate it, they gather their kinsmen and cliques to fight against the big groups. If there occurred a trivial offense as negligible as a bird's beak, the involved parties would stike the gong to call up their allies. Within minutes, hundreds of thousands would array, using arms against each other (cited by Sung 1955:197, my translation).

A Japanese scholar who made a thorough study of the history of lineage property in China, when referring to southeast China, had made the following remarks:

Armed fighting was prevalent between Hakka and the native people, between villages comprise of multiple surnames, or between different gang groups. It is not a phenomenon exclusive to different surname groups. However, the conflicts along surname lines comprise the predominant cases (Sung 1955:198, my translation).

An official in Taiwan in the late nineteenth century also relates the regionalism he observed to the personality of the Chang-chou and Ch'uan-chou peoples on the Mainland:

The people of Chang-chou and Ch'uan-chou are rough and easily irritated....When they had complaints and brought their cases to the authority, and discovered that the authority could not resolve the problems with justice, they would turn to the use of force for a settlement. Once the practice was proven effective, all other people would follow suit and make it a local custom. In cases concerning the entire village or hsiang, all residents organize and engage in warfare against each other (Ting 1869:98). The causes of

these incidents are often minor issues over a graveyard, a rice paddy, irrigation water, and rice (*ibid*:102). The Ch'uan-chou people fight along the line drawn by different hsiang, and Chang-chou people fight along surname linesWhen the conflicts follow hsiang lines, the people are led by bit tsu³. When the conflicts follow surname lines, they are led by big surnames. Therefore, officials should pay specific attentions to the big tsu and the big surnames (*ibid*:104, my translation).

When Chinese from Fukien and Kuang-tung migrated to Taiwan, this warlike situation was obviously transplanted and was further aggravated by the even less efficient political control of the local government and the unique frontier conditions. The first wave of Chinese settlers in Taiwan was brought over by Cheng Ch'en-kong's father during the early Dutch period, and later by Cheng himself after he established his control in Taiwan. Because Cheng and his father originated in Nan-an hsien, in the Ch'uan-chou region, they brought mostly people from this particular hsien and, to a lesser extent, the region. It was not until the Ch'ing government took over Taiwan in 1683 that migrants from other regions of southeast China began to arrive in large numbers. These late comers found that most of the good land was already occupied by the Ch'uan-chou people. They had little choice but to move to marginal land, where terracing was more difficult and water less accessible.

In such a frontier society, tremendous dangers existed. Hostile aborigines, tropical epidemics, and the weak social control exerted by local governments all meant that this land was suitable only for the "desperadoes" from across the Taiwan Strait. As Chen Shao-hsing has pointed out, "those who migrated to Taiwan in the early stage were mostly single adventurers. Without family and kinship ties, they

naturally relied on regional association" (op cit page 122, 123; my translation. See also Chou Hsien-wen 1957:19). The large number of single person families and the lack of extensive kinship networks among them can be seen in the disproportionate sex ratio in the Ta-chia region at the turn of the twentieth century (see page 104).

Since some basis of organization was needed to ensure cooperation in opening up new land, constructing irrigation systems, and producing rice, and since other bases were lacking, regional affiliation became all important and rapidly assumed this role. Thus, in early Taiwan, as one Ch'ing magistrate observed, "the people are not divided by surnames but by regional origins. Chang-chou people associate with Chang-chou people, Ch'uan-chou people associate with Ch'uan-chou people, and Kuang-tung people [Hakkas] associate with Hakkas. Although the Tiu-chiu belong to Kuang-tung Province, the Tiu-chiu people affiliate with the Chang-chou people. They number in the several hundred thousands" (Ting 1869:157; my translation).

In this frontier land, when laborers were needed for joint undertakings recruitment was probably most effectively carried out along regional lines. Again, since administrative control was weak and there were no other agents to settle local disputes, it was natural for the involved parties to appeal to regional associates. In other words, although there were many forms of social alliance in southeast China, Taiwan's unique frontier condition--land settlement patterns, lack of strong kinship organization, and ineffective government control--made regionalism preeminent in rural Taiwan throughout its history.

The history of the Ta-chia plain also bears witness to regionalism. In the early stage of Ta-chia's cultivation, since the availability of

land was not a crucial problem, the region was probably open to all people regardless of origin. As population pressure increased after construction of irrigation systems at the turn of the nineteenth century and the subsequent inflow of migrants, the competition of land, water, and so forth, began to create discord among the residents. In 1847, the first large-scale armed conflict was recorded in Ta-chia (Chen Shao-hsing 1972:131). When a minor dispute arose, the defeated party was likely to call on people who had come originally from his same region on the Mainland. As numerous minor incidents accumulated, the entire Ta-chia region would suddenly be involved in disputes among groups which formed along Mainland regional lines. When the warfare reached a certain point, conflicting parties would rally support from their regional allies in other areas. Thus, the Ch'uan-chou people from Ch'ing-suei and Chang-hua, the Hakka from Miao-li, and the Chang-chou people from Tai-chung all contributed their services in the fighting. At this point in Ta-chia's history the entire region was occupied by the Chang-chou, who had driven out or killed off all the residents who had originated from other regions. The Ch'uan-chou in Lu-kang, where they had established a stronghold, then organized an expeditionary force to retake the area. The fighting was fierce. One villager recalls his father telling about this conflict: "Ta-an hsiang fell to the Chang-chou people three times in the ninth month of the war, each time retaken by the Ch'uan-chou. The fighting was so bloody in that month that the Ta-an harbor was flooded with corpses and the water turned red."

Historical records provide some vague descriptions of this continuous warfare. The local gazetteer of Miao-li hsien, of which Ta-chia was once a part, has the following list:

1. In 1850, Chang-chou people and Ch'uan'chou people had classified armed-strife.
2. 1853, Chang-chou people and the four hsien of Ch'uan-chou had classified armed-strife.
3. 1859, Chang-chou people and Tong-an hsien people [of Ch'uan-chou region] had classified warfare (Shen Mau-yin 1893 or 94:133).

Another gazetteer of Wan-li township north of Ta-chia records warfare between the Hakka and Fukien people in 1853 (Tsai 1897:117), which undoubtedly had a tremendous effect on Ta-chia.

This intermittent warfare probably ended in the early 1860s, when the Ch'uan-chou people, especially from the Nan-an and Tong-an hsien of Ch'uan-chou region, decisively wiped out other peoples and gained firm control of the Ta-chia plain.

The political implications of regionalism were not limited to the township level. Continuous strife along regional lines weakened any rebellions against the ruling regime. In 1862, a leader of a secret society named Tai Ch'au-ch'un, a Chang-chou, raised a local revolt against the Ch'ing government. At first Tai was supported by everyone and quickly rolled across central Taiwan. People in Ta-chia, sympathetic to the revolt, participated by expelling Ch'ing administrative officials (Tsai 1923:11, 15). As the revolt raged, the Ch'ing government seemed incapable of quenching it, for the T'ai-p'ing rebellion on the Mainland had exhausted the government's resources. With the government in Taiwan no longer posing a threat, the rebels began to fight among themselves along regional lines. In Ta-chia, the rebel army, composed mainly of Chang-chou people, began to abuse their authority and harass the Ch'uan-chou residents. Thus, with the help of a small Ch'ing government local militia unit, the people of Ta-chia expelled the rebels and shifted allegiance to the government (Tsa ibid:15). Most of the Ch'uan-

chou and Hakka peoples in other parts of Taiwan also abandoned the cause and turned against the Chang-chou rebels. With the help of such regional factionalism the government was able to put down the revolt.

5. Ritual Symbols and Regional Identity

Spiritual dieties serving to reinforce regionalism also had their roots on the Mainland. When people migrated to an alien world they carried local dieties for protection. In the early stages of Taiwan's history, as Lin Heng-tao has described, "Ch'uan-chou people worship Pao-yi Tai-fu and Kuang-tse Tsuen-wang; Ch'uan-chou people from An-hsi hsien worship Ch'ing-suei tsu-se; Chang-chou people worship K'ai-chang Seng-wang; and finally, Kuang-tung people worship San-shan Kuo-wang" (1966:38).

As the settlers became established in an area well circumscribed by natural boundaries, they began to dissociate themselves from their former regional allies who occupied, perhaps, a neighboring region. They began to identify with their new residential confine by participating in local religious ceremonies. They might even begin to compete with their former associates for land and water. In other words, the very nature of the land utilization pattern and the lack of lineage organization in this frontier land led to internal differentiations among the original regional groups once they settled on the frontier. In the Ta-chia region, after the firm establishment of a Ch'uan-chou settlement, the residents began to compete with Ch'ing-suei residents, with whom they had once allied against the Chang-chou people, over water in the Ta-chia River (see page 105). To differentiate themselves from the Ch-ing-suei people and to enhance their own identity, Ta-chia

residents began to stress worship of the goddess Matsu, in contrast to the goddess Kuan-yin worshipped by the Ch'ing-suei people. The rivalry between these two townships, although originally from the same Mainland region and once close allies, still can be seen today. In the annual Ta-chia Matsu procession to Pei-kang, the marchers stop by all the Matsu temples along the way except the one at Ch'ing-suei.

Although the religious diety at the township level is an important rallying point for all those within the territory, it is the village diety that has the more immense and direct authority over all those within the village. In Ta-chia township, each village has its own god or goddess who supervises village affairs. Since houses are dispersed across the countryside and there is no natural boundary demarcating the territorial confines of a village, a village in Ta-chia is normally defined on the basis of its classification in the administrative system. Thus, when a cluster of hamlets is lumped together into a village unit, all the residents meet and select a God or Goddess for the village, build a temple, and hold a communal festival. The expenses for constructing and maintaining the village temple and for various ceremonies are paid by all those within the village territory on a per capita basis. In return, the village diety is responsible for the welfare of his worshippers. Twice a year, in the early spring and in mid-fall, the local god or goddess surveys the four cardinal directions of the territory entrusted to him or her. At the periphery of these four cardinal directions, the god or goddess puts a sacred symbol on the ground to prevent any demons from intruding into the territory. This ceremony is called K'ai-se-hong (clear the four directions) in the folk religious system.

The connection between regionalism and religion was demonstrated in the religious differentiation processes between San-lin and other two neighboring villages. As a village unit in the administrative system, San-lin once covered a large territory due to its sparse residents. The village gods were, and still are, three generals called Sam-hu ong-yia. Under the banner of these gods and the leadership of local landlords, villagers lived and worked together and occasionally waged war on other villages or regional groups.

As the years went by, the population grew so large that in 1933 the Japanese decided to split the village into two; one kept the name San-lin and the other was called Fong-hua. Initially, people in the two villages followed their tradition and held joint ceremonies for the three generals. But since the gods and their intermediaries all resided in San-lin, people in Fong-hua began to feel that they were not being properly tended by the gods. When the gods and their intermediaries made their survey in the four cardinal directions, they did not include all of the Fong-hua territory, which thus was not immune from the invasion of demons. As a result, the people of Fong-hua wanted to move the gods' statues to their village and select their own spiritual intermediaries. When this request was rejected by San-lin, war broke out between the two villages. Failing to seize the gods by force, the Fong-hua villagers later built their own statues and held ceremonies separate from San-lin. Although both worship the same gods, San-lin villagers make their religious procession to Kao-mei village, approximately 11 kilometers south, while Fong-hua selected Nan Kuen-shen of Tainan hsien, about 220 kilometers south, as the gods' procession destiny.

In 1944, when San-lin's population again grew too large, the Japanese government divided it into two units, San-lin and Chiang-nan. The newly established village of Chiang-nan, given the bitter fighting between San-lin and Fong-hua, decided to avoid trouble by clandestinely choosing another diety, the Wu-ku Wang-yieh (the Lord of the Five Crops). This time the creation of a new village, and hence of village identity, was achieved without much difficulty.

6. Purity and Impurity: Religious Hierarchy at Different Regional Levels

The hierarchical order of regionalism is largely defined by the administrative system, as San'lin's partitioning into three villages demonstrated. However, this is not always the case, especially when administrative divisions do not follow natural, geographical, or socially recognized realities. As Ahern discovered in her study in northern Taiwan "whereas the earthly authorities sometimes establish governmental division on the land that are at odds with socially defined territories, the supernatural authorities are thought to recognize only units that are socially relevant to the residents" (1973:63).

This finding is illustrated by the regional divisions of the Ta-chia and Ta-an Rivers and form a regional unit under the spiritual governance of the goddess of Ta-chia Matsu. This entire territory was a single administrative unit during the Ch'ing and Japanese periods, but in 1945 the government divided the region into three separate units: Ta-chia cheng (urban township), at the center of the Ta-chia plain; Ta-an hsiang (rural township), the coastal portion of the plain; and Wai-p'u hsiang, the Wai-p'u plateau. But this administrative

partitioning has had no apparent effect on the traditional spiritual order. Even though these three administrative units now have an equal status in the system, they still hold joint Matsu ceremonies which center around the Ta-chia temple of Matsu. The town of Ta-chia is still the social, political, economic, and religious focal point for all three areas. In the Matsu procession to Pei-kang on her birthday, all the villages in these three units send delegations to celebrate the occasion. Thus, the traditional religious unity has been maintained, perhaps not so much because it is "socially defined" and thus overrides administrative classification, as Ahern believes, but because it fits better into geographical and ecological realities than does the arbitrary administrative order.

The correlation between the religious and the administrative hierarchy is easy to understand. In terms of political authority, a hamlet or neighborhood unit is subsumed under a village administration, the village under a hsiang or cheng administration, and so on. Studies in Chinese rural society have noticed the parallel between the religious system and the administrative order. As Bernard Gallin states: "The villagers [of Hsin-hsing] consider the hierarchy of gods to be fashioned on the order of the imperial court of traditional China" (1966a:235).

In addition to the gods' authority to command all subjects within their territory to participate in ritual ceremonies and pay taxes (the term tax, suei, is the very term used by Taiwanese villagers to describe the fee collected for religious purposes), they also may command the observation of certain purity-impurity norms among their worshippers in accordance with the gods' respective status in the hierarchy.

While the concept of pure versus impure is applied to both spiritual and social stratification in India (Dumont 1970), in Taiwan it is observed only in religious ceremonies and reserved to those who participate in the ceremonies. In other words, the purity-impurity dichotomy does not constitute a criterion for differentiating one class of people from another in their social interaction as it does in India. It is a criterion significant only to the stratification of dieties. Religious worshippers when participating in ceremonies related to gods or goddess in the higher spectrum of the hierarchy must obey meticulous rules of purification, but if the dieties are low in the order, the worshippers need not be so strict. Thus, pure versus impure norms in a sense reaffirm the relative status of the dieties in the spiritual hierarchy.

In actual practice in San-lin, this religious ranking has a clear repercussion on villagers' attitudes toward the dieties. At the very lowest level of the hierarchy is the family or kitchen god, tsau-kun. This god receives very little respect, and less worship, from the family with whom he resides. He is virtually ignored. Only once a year, before the Chinese New Year, when the gods are supposed to return to heaven and report on the conduct of men to the supreme god, do the kitchen gods receive some sacrifices. Even then they are abused by the host family by being fed with a sticky, sweet cake. Since the kitchen god's mouth is stuffed with the sticky cake, he will not be able to report much about the family to the supreme god. Even if he struggles to mumble a few words, the sweetness of the cake makes what comes out of his mouth "sweet."

Above the kitchen god is the earth god, who may be enshrined in a particular locality, a hamlet, or an entire village. He receives more ceremonial attention, for he must be thanked for guarding over his assigned territory. A few pieces of paper money must be buried in his honor before farmers plow their land, harvest rice, or construct new houses. San-lin villagers have a formal association organized in honor of the major village earth god. A ceremony is held twice a year, on the second day of the second month and on the 15th of the eighth month. Participation is voluntary, and each person pays an amount of money equivalent to two chin of good quality pork as a membership fee to join the dinner party after the ritual ceremony. The earth god association in San-lin now has more than 30 regular members.

In the ceremony for the earth god there are very few regulations so far as purity and impurity are concerned. Menstruating women and people who have had a family member die within the last year are regarded as extremely impure and dangerously contagious in the folk ideology, but even they are not excluded from participating in the ceremonies. To the villagers, the earth god is too meek a diety to exert a harmful power over human beings. To a very large extent, the earth god is regarded as an affable, benign old man, and one can bribe, cheat, or intimidate him when soliciting his supernatural power for help in obtaining illigimate goals. Gamblers especially believe that one can make a deal with the earth god to obtain good fortune; indeed, a frequent winner in San-lin is often said to have made deals with the earth god.

At one level higher in the village community one encounters more clearly defined rules concerning the pure-impure dichotomy in ritual

practice. The village god's temple has a formal managerial body selected annually from all the villagers. It includes one pot-master (lo-dzu), one vice pot-master (hu-lo), four headmen (t'au-ke), and four sedan carriers (tua-kiou-pang). The selection procedure is open. All participating villagers throw two small wooden blocks before the gods' statues. Those who receive the highest number of positive "votes" (one block face up and another face down) will become the pot-master, the second highest the vice pot-master, and so on. In the annual tso-ping-an festival on the 15th of the 10th month, the gods' representative, the pot-master, ritualistically reports the number of families in the village and the number of males, females, and cattle in each family to the gods. The gods are supposed to keep a record of this and shield the registered souls against malevolent forces. This ceremony is a very serious occasion. Villagers listen very carefully to the reading, lest the number of persons and cattle be misreported to the gods.

Certain pure-impure regulations enter into the village gods ceremony. While all families pay a fixed fee to cover ritual expenses and maintain the temple in accordance with the number of persons in each family (including cattle, counted as people), families with deceased members in the last year are considered unclean, bo ch'ing-ki-shing, and are not expected to pay the dues or participate in the ceremony. Instead, they can make contributions to the temple as a sign of devotion. On this occasion the village gods generate fear and reverence from villagers, whose spiritual welfare is at their disposal. However, since village gods are not that powerful, their authority is not always respected except on ceremonial occasions. The village temple

in San-lin is frequently the gathering place of gamblers, who use the gods' altar to dispense cards.

Strict observance of the purity rules is required of the rural residents in the ritual honoring the supreme goddess, Matsu. During Ta-chia's annual Matsu procession to Pei-kang, all participants are required to clean (dzing) their belongings, bodies, clothes, and even vehicles, using smoke from a special kind of incense on the eve of the march. No sexual intercourse is allowed the day before and during the procession. People are not even supposed to think about sex the entire period. A vegetarian diet is strictly followed and there should be no gambling or fighting. Indeed, Matsu is so powerful that many stories are told and retold in Ta-chia about the severe punishment that has fallen on those who have disobeyed these rules.

Even though the folk religion in Taiwan lacks a sophisticated theology, systems of sectarian churches, and an organized clergy, the pure-impure concept has nevertheless served to rank otherwise totally unrelated regional dieties into a system essentially in conformity with the hierarchical order or regionalism. In this sense, folk religion and its dieties have been both a symbolic focus and reinforcing factor in the development of regionalism in rural Taiwan.

7. Sociopolitical Alliance at Different Regional Levels

Even though traditional Taiwanese agrarian society was marked by distinctive classes of landlords, petty landowners, and landless tenants and craftsmen, the imperative need for regional cooperation in the rice cultivation system has overridden class distinctions.

Intravillage sociopolitical alliance is readily apparent in various forms of productive organization, such as labor exchange teams for transplanting and harvesting rice, water watching teams, and so forth. This cooperation is largely a function of a certain geographical proximity in either farmland or residence, and it often crosses kinship, class, or other lines. The importance of the neighborhood in providing mutual help is eloquently expressed by San-lin villagers in a folk saying: "Bullocks on neighboring land take turns to eat grass on the bunds." It means that neighbors help each others on a reciprocal basis, in much the same way that bullocks share grass so that none goes hungry.

I do not intend to belittle the importance of kinship, class, age, or other organizational factors in rural social institutions. Indeed, their value in the social interaction process seems so obvious and has been so well documented in the literature that further elaboration would be redundant. To stress territory in Taiwanese rural social relationships, however, will eventually lead us to pay more attention to the informal, less documented, but frequent occasions in which neighboring villagers exchange numerous services in their daily activities. I do not have quantitative comparative data to substantiate my argument. I can only say that, from my study in San-lin, this kind of social interaction comprises an important part of their social life.

Generally speaking, the most ostensible, formal, and concrete rural regional organization is found on the village level and normally centers around the village's major gods. Although this organization is not necessarily compulsory and territorial, it does assume that all residents within the village confines are its constituents and should

pay taxes and provide services voluntarily. The organization and operation of the village temple is basically egalitarian; all villagers share the same obligation to provide taxes and services and have an equal opportunity to be elected a managerial member. This implies that the village temple organization, at least in principle, is beyond class, kinship, and so forth.

Other organizations, such as the boxing study group, dragon dancing teams, and the earth god association, are also village based, but these are much less compulsory than the major gods' organization. At adolescence, village youths are invited to join the boxing group or dragon team and exercise in the evenings. Funds to pay a boxing tutor or equip the dragon team with masks and clothing come from donations, normally from the landlord families. It is in these organizations that the landlord class may have more influence than an ordinary farm family, but the composition and the organization of these groups are regional, placing more emphasis on the village bond than on kinship, class, or other qualifications. The boxing and dragon teams are the most fundamental elements in the village's collective representation. They have both a practical meaning, for example, as a fighting unit for the village's defense, and a symbolic meaning, of village unity. On the gods' birthday and at other ceremonies, these organizations escort the gods' sedan chair around the village, display their fancy paraphernalia, fighting skills, and dancing to the public, and elicit applause and pride from the villagers.

Village level togetherness is most articulately expressed in a village adage: "The village will not allow a rotten human corpse go unburied (tseng-tiong bo-he lang-e ts'au).\" This means that the village would help a poor villager bury his deceased family members.

Beyond the village level there are no formal, permanent regional organizations. This does not necessarily imply that rural residents lack knowledge of and familiarity with other villages. When I listened to villagers chatting in the evenings, I was often surprised by their knowledge of almost every family and its affairs in the surrounding villages, the town of Ta-chia, and even in Ta-an hsiang and Wai-p'u hsiang. In a sense, the Tai-chia plain and, to a less extent, the Wa-p'u plateau, is a microcosm about which villagers have intimate knowledge and to which they have a sense of belonging.

The holy, spiritual center of the entire region is the Matsu temple. It is run by a committee selected from all the village heads in Ta-chia, Wai-p'u, and Ta-an. However, very few village heads outside downtown Ta-chia want to assume this duty, for it involves a large amount of time and expense. The informal rule is that wealthy Ta-chia merchants and landlords provide money and managerial capacity for the temple operation, while the surrounding villages provide manpower. No formal head tax is charged residents for temple upkeep as is done for the village temple, but the board may assign a village to provide certain things or labor for a specific ritual occasion. The village as a whole assumes this responsibility. It is clear in the Matsu temple meetings that all the villages within the region are small units interacting within a structural framework.

Another important tie which links villagers with a network and reinforces regional identity is the marriage alliance. In rural Taiwan, the prevailing type of marriage has been to someone outside village, but from villages in the same larger regional unit. An analysis of the 593 marriages recorded in San-lin over the last several years

(based on the household registration, which is generally very accurate in this respect) indicates clearly the general emphasis on marriage within the traditional Ta-chia region. Marriage alliances have been a significant means of welding all the separate, individual village communities into a closely structured network.

Data on the marriage pattern of San-lin village are displayed in Table 10; several points deserve elaboration. First, in the early period (1948 to 1957), more than three-fourths of the San-lin villagers' mates came from the traditional Ta-chia regional area, that is, from the same village, from Ta-chia township, or from Ta-an and Wai-p'u hsiangs. Second, the number of marriages to mates outside Tai-chung hsien was negligible in the early years, there being only one, for example, between 1958 and 1952. Third, these two trends have reversed in recent years. Marriages to mates from the Ta-chia region have steadily declined, and marriages to mates outside Tai-chung hsien, in other parts of Taiwan, are now predominant. This, of course, is a strong indication of the breakdown in traditional regionalism, the result of increasing out-migration, and improved communication system which has eliminated regional barriers, and, above all, the reluctance of the younger generation to maintain a regional identity which they perhaps regard as backward, obsolete, and meaningless.

8. Conclusion

To understand Taiwanese rural social structure, one must take into consideration the many factors inextricably interwoven into the society. We have thus far discerned the unique character of the wet rice cultivation system, the institutional imperative inherent to its

Table 10. Marriage Pattern of San-lin Villagers According to Their Mates' Origins*

	Within the Ta-chia Plain									
	San-lin		Ta-chia		Ta-an		Wai-p'u		Subtotal	
	#	%	#	%	#	%	#	%	#	%
1948-52	7	9.0	19	24.4	29	37.2	6	7.7	61	78.3
1953-57	12	11.3	19	17.9	36	34.0	13	12.3	80	75.5
1958-62	4	4.1	24	24.5	33	33.7	7	7.1	68	69.4
1963-67	10	8.1	31	25.2	28	22.8	15	12.2	84	68.3
1968-72	8	5.0	41	25.5	30	18.6	9	5.6	88	54.7
1973	0	0.0	6	22.2	5	18.5	3	11.1	14	51.9
Total	41	6.9	140	23.6	161	27.2	53	8.9	395	66.6

* These figures include both males and females, indicating origin of a San-lin villager's wife or husband.

** This includes several lis which officially belong to Ta-chia township but are geographically more closely associated with Wan-li township to the north.

Table 10. Continued.

Table 10. Continued.

Outside the Ta-chia plain**				Other places within Tsi-chung hsien		Other parts of Taiwan		Total	
Wuan-li		Ch'ing-suei		#	%	#	%	#	%
#	%	#	%						
11	14.1	2	2.6	3	3.8	1	1.3	78	100
8	7.5	4	3.8	5	4.7	9	8.5	106	100
5	5.1	3	3.1	9	9.2	13	13.3	98	100.1
1	0.8	4	3.3	9	7.3	25	20.3	123	100
10	6.2	3	1.9	18	11.2	42	26.1	161	100.1
4	14.8	1	3.7	1	3.7	7	25.9	27	99.9
39	6.6	17	2.9	45	7.6	97	16.4	593	100.1

operations, the character of the early settlers in Taiwan, the impact of different ruling regimes' policies on rural settlement patterns and land tenure structures, and so forth. Once all these factors are taken into account, one may explore the developmental process and the nature of a regional agrarian society.

An exploration of the historical records has yielded little evidence to support either the "hydraulic" society proposed by Wittfogel or the "lineage" model discussed by Freedman. It was the frontier condition of early Taiwan that made government intervention minimal. Irrigation, an essential part of the agricultural system, was constructed and managed by individuals with the proper means. In this frontier land, it was the incipient capitalists and political leaders who eventually recruited or mobilized the adventurers and carved a civilization out of the wilderness.

The developmental process in this frontier land contributed to disproportionated land distribution and a high landlord-tenant ratio. The landlord-tenant relationship was generally quite unstable, characterized by a high turnover rate and thus the high geographic mobility of tenants. In the early stages, there was also a disproportionate distribution between the sexes. As most adventurers were single males from the Mainland, they could not possibly develop a viable, operative social institution based on kinship relationships. Both the high mobility and lack of kinship ties had decisive effects on the institutional development of Taiwan's rural society. The lack of lineage organization in Taiwan meant that regionalism developed to fulfill society's needs.

The hierarchical order of regionalism undoubtedly has certain operational functions in the traditional agrarian system. It is further reinforced by various sociopolitical networks and religious practices, being of which display a hierarchical structure commensurate with the territorial order. I believe that it is only through this approach that one can understand the operation and meaning of the traditional Taiwanese social system.

Several unique characteristics of the traditional agrarian society deserve reiteration. First, in terms of access to the means of production, that is, paddy land, San-lin region and rural Taiwan in general contain distinct classes. In the Ta-chia area, the high concentration of land in a few hands, the keen competition of tenants for farm land, and the high geographical mobility of the landless masses all contributed to the weakening of a localized kinship organization such as that found in southeast China. Instead of lineage, the rural residents depend heavily on regional affiliation, first based on their origins on the Mainland and later on their residential proximity, for achieving cooperative organization.

Second, the development of regionalism in rural Taiwan has inevitably resulted in a society partitioned geographically into separate units rather than divided into horizontally associated classes. Within each of the territorial units there are landlords, small landowners, and landless tenants and craftsmen, all of whom are part of the agricultural system. Thus, regional cooperation and identity override class distinctions, and cross-regional class consciousness or trade unionism, for example, could never gain a foothold in rural Taiwan.

Third, traditional regionalism has inherent weaknesses. Although a large territory such as the Ta-chia plain can be combined into a political body for achieving certain goals, that body is nothing more than a conglomeration of many components united for very specific, temporary purposes, and it eventually will dissolve once these purposes are achieved. Regional integration is multipurposed and functions better in the lower order of the hierarchy, less well at the higher levels. Constant conflicts over water, graveyards, wasteland, or other trivial affairs have produced a society oriented toward internal divisiveness. Integration does occasionally operate, but it is goal oriented and temporary rather than permanent. Traditional Taiwanese rural society is hardly well integrated. To some extent, it is no more than a pyramid of individual units, without many connections holding them together.

Footnotes

1. A thorough study of landlord-tenant relationship is found in Bernard Gallin's study in Hsin-hsing (1966a, pp. 88-93).
2. Wickberg indicated that in north Taiwan the contract for land tenantry was usually on a three- to five-year basis (1970:81).
3. The term tsu is ambiguous in Chinese. It can be used to imply a family, chia-tsu, or a lineage or clan, tsung-tsu. Here it seems to apply to big families.

CHAPTER 5

THE CHANGING FARM MANAGEMENT PATTERN

Having discussed the nature of traditional agricultural practices in Taiwan, the demands for collective efforts in rice cultivation, and the development of regionalism under frontier conditions, we should have a better understanding of the rural social institutions that have been exposed to developmental change in recent years.

San-lin village has undergone rapid sociocultural alteration since 1964. The change has been so substantial that even a casual visitor with little background information could not fail to notice its vibrant dynamics. No manifestation is more apparent than the spread of industrial commodities. Here and there television antennas protrude above farm houses, and motorcycles roar along the dirt country roads. Many newly erected concrete houses, styled after apartment buildings in the city, have replaced the red-bricked or yellowish adobe houses characteristic of traditional rural China. Inside these homes, youngsters dressed in garish synthetic cloth gather in front of a television set (sometimes a color one!), listening to the latest hits sung in Mandarin.

The situation in San-lin is probably repeated in other communities. Affluence seems to have penetrated every corner of rural Taiwan. Sometimes peasants are so anxious to display their newly acquired wealth that the traditional attitude toward thrift appears to be a sin

rather than virtue. Villagers seem wholeheartedly to cherish new and exotic commodities, especially electric appliances. Nowhere is it more proper and palpable for farmers to exhibit this frantic craving than on the occasion of a wedding: refrigerators, electric sewing machines, televisions, washing machines, and even electric shavers have been added to the exorbitant dowry lists, and inevitably those witnessing the wedding procession marvel. Even daily consumption patterns have changed. The farm family that grows its own rice and supplements meals with vegetables grown in the garden nearby has faded into the past. In the early morning, farm wives flock to village stores and purchase pork, vegetables, and other groceries the same way as their urban counterparts. One San-lin villager remembered that ten years ago a pork peddler brought only 30 kilos of pork from Ta-chia in the morning and could barely sell this by late afternoon, after knocking on all the doors in the village. Now the two pork stands in San-lin each prepare about 200 kilos of meat for an ordinary day's sales, double this on a festival day.

It would appear that the passage of traditional society in rural Taiwan has been accomplished without significant rupture. Improved living standards demonstrate that the rural masses have not been excluded from the modern age. In the institutional sphere, rural residents also have been subjected to the mass media--transistor radios, newspapers, television, and so forth. Local elections, always characterized by sharp competition and a fair voter turnout, also seem to indicate that traditional peasants have been included in the modern, democratic political process.

Western political and social scientists, when discussing Third World countries, use certain criteria in determining whether or not the modernization process is successful. Daniel Lerner has used the attainment of a new mental state, which he calls "empathy," as an index of modernity (1958 passim). S. N. Eisenstadt sees the breakdown of traditional social institutions and the replacement of them with modern ones as the yardstick of modernity. In his words, "the characteristic features of the associational structure of modern society are, first, the large number of functionally specific organization; second, the division of labor between functionally specific and more solitary or culturally oriented associations; and third, the weakening of the importance of the kinship and narrow territorial bases of specific associations on the one hand, and the various 'specialized' associations and broad ascriptive-solitary groups on the other" (1966: 7). A superficial observation seems to attest that the above statements aptly describe what has been taking place in San-lin in the last decade.

However, this first impression of mine could not be sustained as the reality gradually emerged. In San-lin I soon discovered an atmosphere of resignation, self-degeneration, and lack of public concern in the village's daily affairs. Farmers were bitter about the low return for their farm products, the increasing difficulties in farm management due to labor shortages and insufficient fertilizer, and the corruption they believe existed in the local government, especially the Farmer's Association. Village leaders were constantly accused of being self-aggrandizing and self-seeking. They were distrusted and sometimes despised. The current mayor, who came from a tenant

background, was accused of accepting bribes on many occasions. The village representative to the Ta-chia township council was accused of being involved in land usurpation during the land consolidation period. On several occasions, to be discussed in the next chapter, when the village's welfare was threatened, no concerted action could be mounted, and there was only grumbling.

San-lin villagers appeared to have become alienated from their farm work, community affairs, and even their own life style. Although there are no statistical data available for a comparison, villagers generally agreed that agricultural production, especially of rice, had stabilized, if not declined, despite increasing capital input in recent years. All communal activities seemed to be paralyzed.

How can one explain such a seemingly contradictory situation? On the one hand, the material life of the rural residents has been significantly improved, but on the other hand, agricultural productivity as well as the entire community appears moribund. Why? A social scientist might suggest that what I have just described is nothing but the transitory stage through which the traditional society can attain modernity. Obsolete traditions must disintegrate to allow for the development of modern, individualistic, capital-intensive agricultural enterprise. Some problems may have developed in the process, but they are the necessary birth-pains or inevitable costs to be paid for the achievement of a new era.

I do not intend to dispute the possibility that Taiwan's current agrarian problem is transitory. But given my intensive analysis of a rural community, and if I may project my observations in San-lin to all of Taiwan, I can foresee no immediate solution to some of the

critical problems which have recently threatened Taiwan's economic stability. Some of the most prominent problems, as were indicated in chapter 1 (p. 3), have been the constant decline in agricultural production, labor shortages, and inadequate farm management. Despite the tremendous efforts and large sums recently injected by the government into the rural economy to boost production, rural residents have responded reluctantly and skeptically. In a sense, agricultural development in Taiwan has reached a point of stagnation, its future is dim, and it will become an obstacle to overall economic development. Many outstanding agroeconomists in Taiwan have been warning that the current trend, if not promptly resolved, will lead to the emergence of a "dual economy"--a modern industrial sector coexisting with a backward, traditional agricultural sector (Lai Wen-huei et al. 1970:28-29). This undesirable condition frequently develops out of a predatory, exploitative colonial system such as that in Dutch East India, now Indonesia, and first written about by economist J. H. Boeke (1963).

The dual economy argument would seem to have no place in Taiwan, for after 1945 Taiwan was no longer a colony. However, a number of political economists studying the Third World have persuasively argued that political independence does not necessarily mean economic independence for a former colony.

Traditional colonialists, who controlled their colonies through sheer military power and territorial occupation, have been replaced by the more sophisticated capitalists. They control and manipulate the surplus capital of the developed countries and dominate the finance and industries of the Third World. With the help of the resident bourgeoisie, the financial metropolises can successfully establish

industries within the Third World and continue profiteering as the traditional colonists did, but without the notorious title of colonialism. Within Third World nations, the economy is divided into two spheres. One is the modern industrial sector, which is financed and controlled by multinational corporations and whose production is geared not to the needs of the resident countries but to the needs of an interlocking international assembly line. In the other sphere is the obsolete traditional agricultural sector, which provides raw materials, markets, and cheap labor for the industrial sector. This development process is what has been called "internal colonization" by political economists (Bernard Morris 1973:28; James Cockcroft et al. 1972)¹. It is within this theoretical framework that we can more readily understand and assess recent developments in rural Taiwan.

Several questions may be raised. What alterations have taken place in rural Taiwan in the last ten years as a result of overall economic changes? What effects have such changes had on the rural population structure, farm management patterns, social life, or community activities? More basically, what are the perceivable goals of modernity that should be pursued and defended by developing countries and by what means? In this chapter I will use the case of San-lin, with constant reference to islandwide development, to analyze the structural changes of recent years. I do not suggest that my study of San-lin is representative of all of rural Taiwan. But since an ecological approach is my point of departure, and since certain structural principles underlying the operation of the ecosystem undoubtedly have a high degree of generality, much of this study is probably equally applicable to other rural communities in Taiwan.

In this sense San-lin is but a microcosm of the vast Third World countries striving for development. Those nations, as well as the village of San-lin, have experienced the following problems: the penetration of international metropolis: the transformation of economic exploitation from without to within; the establishment of industries that are not for and of the developing countries but that seek cheap labor; the movement of youths away from their depressed farms and into cities in search of wage labor; and the polarization of income, social status, and living standards between the industrial and agricultural sectors of the population. All these difficulties have been encountered by other rural communities in Taiway and elsewhere, although not necessarily to the same extent or in exactly the same manner.

In the remainder of this chapter I will discuss the recent changes in San-lin in the farm management pattern as seen from the perspectives of technological advancement, capital accumulation, rural depopulation, and so on. The emphasis will be on how these changes are geared toward a new type of ecological adaptation.

1. The Spur of Change

In 1964 San-lin entered a period of radical change, one year after an unprecedented disaster befell the village.² On September 21, 1963, a typhoon struck central Taiwan and brought excessive precipitation. The swollen Ta-an River destroyed part of the embankment which protected most of San-lin's and other villages' farm land and, to a lesser extent, farm houses. Virtually all the rice paddies in the lower area north of San-lin was inundated, and the devastation was complete: The earth bunds that divided rice terraces were smashed;

the top soil was removed, exposing the stony lower layers; many houses and pigpens collapsed; and few villagers were drowned. The total loss is incalculable.

The government launched immediate relief programs. Food and clothing were sent in. Funds were raised and made available for farmers at low interest rates on a long-term basis for reconstructing their houses and land and for temporary living expenses. The government proposed to farmers to consolidate their land while reconstructing it with government funds. The proposal was meekly accepted, for what was left to the farmers after the flood was barren, stony land of no economic value. The government would provide administrative facilities to design and supervise the work, raise initial funds needed to reconstruct the country roads, land bunds, and irrigation systems, and make loans for farmers to level and reclaim the land.

Either through a lack of mutual communication and understanding between the government and the villagers, or because of deliberate distortion, the project was carried out with the farmers believing the government would pay the major construction expense, while the government believed the peasants had agreed to repay the costs ten years after completion of the work. On this unclear basis the large-scale consolidation work began in late 1963 with the construction of a new river embankment. The next task was to divide the earth into rectangular plots, rebuild the irrigation ditches and adjust the carrying volume of the branches in accordance with the acreage covered, and lay out straight, paved roads beside the new farm land. Farmers whose land had been scattered among numerous small plots were to receive consolidated pieces. Individual families, with the help of hired

laborers or exchange labor, began to add topsoil to their newly assigned lots. Near the end of 1964, most of San-lin's land had been reclaimed. Upon completion of the project, farmers faced a totally new situation: expanded and consolidated acreage, more convenient paved roads for transportation, straightened irrigation ditches that provided more efficient water supply, and so on. All these alterations meant that a new agricultural system was possible, and San-lin was on the verge of change.

The flood and the subsequent land consolidation program precipitated San-lin's entry into a new development stage, but San-lin would most probably have taken the same development steps eventually. The overall socioeconomic structure in Taiwan has altered so immensely and so rapidly in the last decade that it is unlikely San-lin and other rural communities would remain unaffected for long. What happened in San-lin was not unique and was not created by the villagers' initiative; it was only a part of the islandwide changes over which the villagers had little control. It is advisable, therefore, to examine some of the general conditions on the island during this period.

2. The Changing Islandwide Economy

The spur for initial change came largely from the influx of capital invested by financial organizations in the United States and Japan and, to a lesser extent, by overseas Chinese. To lure investment from abroad, in 1960 the Nationalist government created a very favorable investment environment by giving investors a period of tax exemption, placing few restrictions on profit return rates, creating a labor wage ceiling, prohibiting labor strikes, and so on. An excerpt from the

recently revised investment law (International Financial News Survey Vol. XXLLL, No. 19, May 19, 1971) indicates the nature of this policy:

The Statute for Encouragement of Investment of the Republic of China, which had been in force for ten years and had contributed to the rapidly increasing inflow of investment capital, expired on December 31, 1970; a new statute was promulgated on January 1, 1971; for a ten year period. Highlights of the revised statute are as follow:

.....

2) All newly established productive enterprises eligible for government encouragement are entitled to enjoy the privilege of either a five-year tax holiday or an accelerated depreciation of fixed assets.

3) When increasing their investment capital for the purpose of expanding their machinery and equipment for production use, all the encouraged productive enterprises are entitled: (a) to take a four-year tax holiday on the additional income to be generated from the new machinery and equipment or (b) to accelerate the depreciation of such machinery and equipment.

.....

9) Industrial, mining, and other productive enterprises, which conform to the criteria promulgated by the Executive Yuan may be exempted from paying duties and taxes on the import of machinery and equipment for their own use, provided the machinery and equipment are not domestically manufactured.

10) The deed tax is reduced by 50 per cent for the fixed assets of government-encouraged productive enterprises.

In addition to this wholesale tax concession to foreign investors there has been another unique development in recent years: the establishment of the so-called export processing zones in many parts of Taiwan. In these zones foreign investors can buy land for workshops or plants. The products of these plants are strictly for export. Multinational corporations seeking cheap labor may ship unfinished industrial products from plants in another countries to these plants in Taiwan and have the most labor-intensive work finished there.

Foreign investment has been regarded by most developing countries as a crucial factor leading toward industrial development. However, in recent years the negative effects of foreign capital have become

so apparent that many economists have begun to question the validity of foreign investment. The first is the concentration and domination of foreign capital in a few leading industries in the economy. As government economist Ms. Kuo Wan-jong points out in her recent study:

some industries received almost exclusively a large proportion of foreign capital inflow and started their production. For instance, in 1962, 40% of foreign funds went to the chemical industry, and 55% in 1963. In 1965, 40% went to electrical machinery industry. These two plus textile industries occupied 73.2% of foreign investment for the period of 1962-1969 (Kuo 1974:20, italic original).

Ms. Kuo also provides some information about the proportion of foreign capital in Taiwan's domestic capital formation:

Taiwan is the Republic China's fourties period (i.e., 1951 to 1961), because of the rudimentary stage of economic development, low domestic saving level, and short of capital, had a rather high proportion of foreign capital in the entire domestic capital formation. During this period, the average annual rate (of imported foreign capital in the entire domestic capital formation) was 40%. The highest year occurred in 1954 when the rate reached 52%. But since the Republic's fifties (i.e., 1961 and on), the importance of foreign capital gradually decreased as the total domestic income increased and the domestic saving level improved. In 1961, imported foreign capital comprised 36% of the entire domestic capital formation of that year, and the rate decreased in the following years.... But then, in 1974, because of the Ten Major Construction Projects were launched and needed foreign capital, the proportion of foreign capital in that year increased to 22% of the entire domestic capital formation (1975:369-370; original in Chinese, my translation).

I cannot locate any material which further disaggregates the actual percentages of foreign capital in Taiwan's industries. But the above citations seem to indicate two things clearly--First, Taiwan's industrial development relies heavily on the foreign capital imported annually, which sometimes constitutes more than half of all domestic

capital formation in a given year. Second, when that capital is in the form of direct investment, it seems to be concentrated in a few leading Taiwanese industries.

A second problem is that foreign investment has not been an integral part of Taiwan's economy and has made no contribution to long-range, self-sustaining economic growth. Another economists in Taiwan charges that

Foreign investments in Taiwan in recent years are almost all direct investment made by the multinational corporations. Their main purpose is just for lucrative profits, and they can transfer their investments to other parts of the world. They do not care about long-term, permanent investment in Taiwan....As this trend continues, the outflow of capital [by foreign interests] in the forms of dividends and capital transfers will increase, while the net capital inflow [in terms of investment] decreases. It may happen [in the future] that the actual capital outflow surpasses capital inflow, thus creating difficulties for us to maintain a balanced international budget (Koo Shou-en 1974:2; original Chinese).

In a sense Taiwan's economy and industrial development have been geared toward becoming merely a stop on the international assembly line. Most of the modern industrial complex in Taiwan is controlled, financed, and managed by American and Japanese investors. This industrial development is not an integral part of Taiwan's own economy: Its production is aimed not at meeting internal market demands, it is little concerned with full utilization of Taiwan's natural resources, and its profit does not go to Taiwan's residents. Taiwan simply furnishes space for multinational corporations to set up sweat shops and provides cheap labor for them.

Despite the wage ceiling, no-strike law, poisonous working conditions, and so forth, the industrial sector is, comparatively speaking, still a haven for the desperate rural masses. Because of the

government's firm control on the grain price through the rice-fertilizer barter system (to be discussed in the following section), taxation on farmers in kind (mainly rice), and subsidization for the importation of grains so as to depress internal grain prices, most of Taiwan's farmers have begun to suffer from decreasing profits and, sometimes, a net loss in farming since the late 1960s. Nor is this fact unknown to high level government officials. The provincial government's Agriculture and Forestry Bureau made an extensive study of farm profit for the major crops in Taiwan for the period September 1971 to August 1972. The findings reaffirm the warnings issued by many agronomists several years ago that farmers were constantly being deprived of income and social status. Table 11 presents the major conclusions of this study, and it indicates that a farmer growing rice can earn NT\$2,000-3,000 (US\$50-70) for three months for the first crop and has a net loss in the second crop season.

Under such unfavorable circumstances, many young and better educated people have moved out of the rural area, abandoning farm work and seeking industrial employment in the cities. Table 12 indicates the trend of rural out-migration in Taiwan between 1963 and 1970. Many social scientists have noticed that rural Taiwan was an industrial labor reservior long before the recent change. What is significant, as Table 12 shows, is that beginning in the late 1960s the outmigrants among Taiwan's rural residents outnumbered the natural growth in the rural area, thus reducing the actual size of the rural population.

Accompanying this increasing trend to rural-urban migration was the growing weight of industry in gross national production. In 1964, the percentage of industrial production in entire national output

Table 11. The Cost and Gain for Major Crops Per Hectare of Land in Taiwan
(Research Period: September 1971 to August 1972)

Name of crops	Productive gain			
	Total	Income from major crop	Income from by-products	Total
Rice				
Pon-lai (Japonica)				
First season	22,998.27	22,095.27	903.00	19,737.07
Second season	17,339.89	16,266.82	1,073.07	17,527.26
Tsai-lai (Indica)				
First season	20,764.90	19,827.82	937.08	18,727.94
Second season	17,032.45	15,939.21	1,093.24	18,616.82
Other crops				
Sweet potatoes	14,333.61	13,429.45	904.16	16,771.53
Soy beans	11,832.38	11,463.66	368.72	10,122.35
Peanuts	16,858.32	16,371.39	486.93	16,636.37
Corn	7,619.69	7,269.99	349.70	8,459.66

Source: Agricultural Statistical Handbook, Taiwan Province
1973, pages 95-96.

Table 11. Continued.

Table 11. Continued.

Productive costs						
Seeds	Fertilizer	Labor	Animal or machine	Pesticide & water	Indirect costs	Net gain
286.85	3,643.02	7,670.86	1,004.38	2,595.81	4,538.15	3,259.20
316.99	3,389.95	6,775.11	1,052.75	1,783.13	4,200.33	-187.37
264.11	2,917.10	7,723.60	1,044.87	1,685.75	5,092.51	2,036.96
277.13	3,795.65	7,192.82	1,224.54	2,069.32	4,057.35	-1,584.37
1,370.60	3,959.34	5,090.66	1,945.20	1,148.25	3,257.48	-2,437.92
985.87	1,440.85	3,520.68	896.04	1,035.03	2,243.87	1,710.03
2,131.26	3,012.34	5,824.28	1,231.54	1,389.97	3,046.98	221.85
113.98	1,580.97	3,795.97	852.42	341.00	1,775.32	-839.97

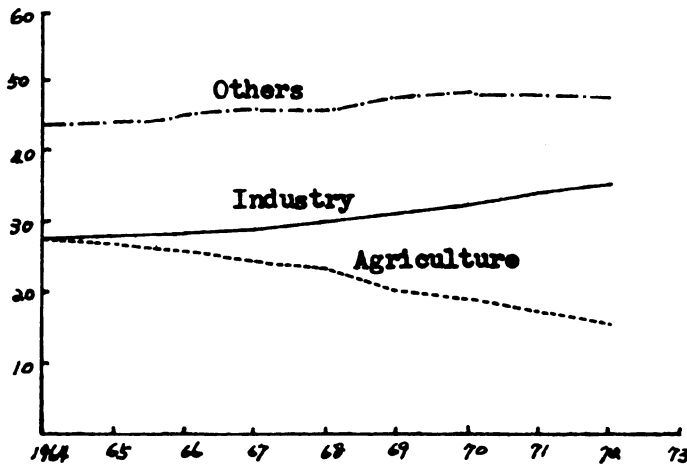
Table 12. Trends in Population Growth and Movement in Taiwan:
1963-1970

Year	Total labor population	Agricultural population	Growth rate of Agri. population	# of out mov- ing agri. population	% of out-moving agricultural population
1963	3,381,312	1,675,452	2.78	29,898	1.78
1964	3,474,289	1,683,764	2.75	37,763	2.24
1965	3,601,461	1,687,843	3.66	57,547	3.41
1966	3,748,983	1,708,807	4.10	48,238	2.92
1967	3,904,476	1,732,676	4.15	47,046	2.72
1968	4,069,272	1,738,564	4.22	67,231	3.87
1969	4,247,214	1,732,479	4.37	82,062	4.47
1970	4,429,226	1,691,603	4.29	115,199	6.81

Adapted from: Tsai Hong-chin 1974:149

surpassed agricultural production for the first time. Within ten years, the value of industrial production has doubled that of agriculture. These data are shown in Figure 2.

Figure 2. Proportion of Agriculture, Industry, and Others in Taiwan's Gross National Production: 1964-1972



Source: Agricultural Statistical Handbook, Taiwan Province (1973), pp. 4

It should be noted that it is not necessarily the growth of industries in urban centers that has induced labor to leave farming. As Speare points out, in order to obtain cheap labor from farmers during their slack seasons, or to attract farm wives and preadolescents, many industries have built plants in small towns and rural villages (1974: 302). In San-lin several types of household processing work is distributed by factories to farm wives on a routine basis. The most common task is wrapping shoelaces for a plastic shoe company in Ta-chia, a product mainly exported to Japan. Farm wives and preadolescents can earn NT\$3 for each 100 laces rolled. An average farm wife can earn around

NT\$20 per day in her spare time without disrupting normal family life. Similar work is rolling fire crackers for a Japanese-owned firm, or peeling asparagus for a food processing company in Ta-chia. Thus, not only have many youths given up farm work and physically moved to the cities, but also the industrial labor market has reached into the rural area.

Ta-chia township has experienced a boom in light industries since the early 1960s. These are mainly plastic, chemical, food processing, and textile industries. Table 13 gives an account of all factories capitalized over NT\$500,000 (approximately U.S.\$12,500) in Ta-chia.

Table 13: Types of Factories Constructed in Ta-chia: 1963-1974

Year	Plastics	Food proces- sing	Chemical	Machinery	Textile	Cons- truc- tion	Elec- tro-	Bicycle	Other
1963					1				
1964									
1965		1		1					
1966	1	1	1						1
1967	2	4	4			1			2
1968	1	1	1		1	1			
1969	1	1	1						1
1970		1		2	2				1
1971	5	2	1	1	2				
1972	5	1		3				1	
1973	3		1	1	1			1	1
1974							2		2
Total	18	12	9	8	7	2	2	2	8

Source: Ta-chia Township Administrative Office Record, 1974

While industrial production has increasingly gained in the total economy and has diverted more labor into its ranks, agricultural production has begun to decline. This decrease is seen not only in its relative value in the total economy as compared with industry, but also in the gross amount of major crops produced. As table 14 indicates, the

decline in major crops has been staggering. The production of rice, sweet potatoes, wheat, peanuts, soybeans, and vegetables all reached its peak sometime within the last decade and has begun to drop. For rice, the peak was in 1968, when gross production was 2,518,000 metric tons, or 6 percent above the 1966 level, but ever since then the 1966 level has been barely maintained, and sometimes not even that.

It would be incorrect to suggest that the government did not foresee what would happen in rural areas after the island became industrialized, and there were attempts to prepare for some of these problems. When the policy is to extract more farm labor for industrial production, a logical solution might be to replace it with farm machines. However, farm land in Taiwan is too fragmented and family farms too small to become fully mechanized. Land consolidation, therefore, was a precondition for mechanization, and this is exactly what the government had in mind when it launched the consolidation program.

Table 14. Gross Production of Major Crops in Taiwan: 1964-1974

Year	Rice Amount Index	Sweet Potatos Amount Index	Wheat Amount Index	Peanuts Amount Index	Soy Beans Amount Index	Vegetables Amount Index
1964	2,246 94	3,347 97	19 69	115 100	57 91	973 101
1965	2,348 99	3,131 90	23 82	125 109	65 104	968 101
1966	2,380 100	3,460 100	28 100	115 100	63 100	963 100
1967	2,414 101	3,720 108	23 84	137 119	75 119	1,052 109
1968	2,518 106	3,445 100	17 60	106 92	72 115	1,209 126
1969	2,322 98	3,702 107	9 35	101 88	66 106	1,465 152
1970	2,463 103	3,441 99	3 13	122 106	65 103	1,685 175
1971	2,314 97	3,391 98	2 8	98 85	60 96	1,765 181
1972	2,440 103	2,928 85	1 4	94 82	60 95	1,704 178
1973	2,254 95	3,203 92	0.9 3	- -	60 95	- -
1974	2,400 100	- -	- -	- -	- -	- -

Index Base: 1966=100%

Unit=1,000 tons

Sources: Agricultural Statistic Handbook: Taiwan Province, 1973

Industry of Free China February, 1974

3. Land Consolidation

Taiwan's original land consolidation project occurred in two phases. The first stage, from 1962 to 1971, aimed to consolidate 100,000 hectares of Taiwan's 750,000 hectares of farm land. The remaining 450,000 hectares were to be consolidated during the six years of the second state (T'ai-wan Sheng Yi-huei 1970:7). However, such a large undertaking entails technical problems and the numerous cases of corruption involving various government officials caused the program to be abruptly halted in 1971, with about 200,000 hectares consolidated.³

The purpose of land consolidation is completely to rebuild the physical structure of farm land, mainly rice paddies in Taiwan, within a defined territorial boundary. By using modern technology all existing land boundaries, irrigation systems, and roads were to be reorganized, and the landscape was to be reworked into a better designed pattern. The task is understandably difficult, and many problems were not easy to overcome. To rebuild an irrigation system involves all the farm families using the common water source, and there are many of these, since an irrigation system often extends for miles before it reaches the sea. Even more complicated is abolishing the old land divisions and reassigning the farmers new lots. This involves the small farmers' property rights and their willingness to accept the credibility of an agent who takes away their old land and later gives them land said to have equal value. Consolidation also requires large amounts of funds to carry out the destruction and then construction work. Under these circumstances, the government is the only qualified agent to assume the responsibility and guide the undertaking.

The actual process of consolidation can be illustrated by the case of San-lin and the adjacent villages consolidated in 1974.⁴ Just after

the flood in 1963, the Tai-chung hsien government began to send officials to propagandize the consolidation in village meetings. Villagers later claimed that one of the officials, desperate to elicit villagers' support for the program, had promised the government would pay all the expenses. The farmers, feeling they had nothing to lose, agreed to participate. With the final consent of all the villages in the flood area, involving 1,261 hectares, a committee was organized to design and supervise the work. Included on this committee were representatives from the Tai-chung hsien government's Land Department, the Ta-chia town Public Office, the Ta-chia Land Office, the Ta-chia Farmers' Association, village mayors and representatives to the township council from the villages concerned, and one or two local leaders from each village. The first step was to measure and draw a map for the entire consolidation region. The land then was divided into three categories in accordance with its market value: land worth NT\$160,000, NT\$120,000, and NT\$80,000 per hectare. The decision as to which piece of land belonged to what category was made by the committee, whose members toured the region and evaluated the land in terms of soil quality, flood damage, and accessibility to the major highway. Farmers then could translate their previous property rights into cash value and, after the consolidation, reclaim the land accordingly. For example, a farmer with one chia (0.997 hectare) of land in the NT\$80,000 category could, after consolidation, claim one chia of land in the NT\$80,000 category, 0.66 chia in the NT\$120,000 category, or 0.5 chia in the NT\$160,000 category.

The committee then drew up a blueprint for the construction regions. Maps 3 and 4 show the layout of San-lin before and after consolidation. The entire area would be divided into rectangular plots, 75 meters wide. At 150-meter intervals there would be a four-meter wide

road, so all fields would have at least one side facing a road. On both sides of the road would run the water supply channel, and between the plots would run the drainage channel. Thus, all the rice paddies in the consolidated region would have at least one side facing an open road and a water intake ditch, and on another side would be a water outlet ditch.

The blueprints were passed out to bidders to ensure minimal costs. By using bulldozers, cranks, and other modern machinery, all construction work was finished within six months. By the end of 1964 most of the farm land in San-lin had regained its productivity. The total cost for consolidating this 1,261 hectares was NT\$11,328,630.00 (approximately US\$298,121.84) or about NT\$8,984.00 (US\$236.42) per hectare. This figure does not include the costs for applying topsoil in badly eroded areas or for rebuilding land divisions.

What are the advantages of land consolidation? Would the changes in the physical structure of a rice paddy affect or permit changes in farm management? Specifically, could machines successfully replace the traditional labor-intensive system? Again, using San-lin's experience, we can obtain clear answers to these question.

4. Effects of Land Consolidation

The most prominent effect of land consolidation is to aggregate the irregular and fragmented rice fields. Traditional rice terracing was generally irregular for several reasons. Lacking modern machinery, land had to be built in conformity with the natural contours, for the terrace could not be levelled on a large scale. The land surface thus had to be divided into small irregularly shaped plots so that each piece of land could maintain its water level.

The second reason from fragmentation was the traditional inheritance pattern. With equal division among all the male heirs as the basic principle, farm land usually was divided again and again over generations.

The lack of an open, liquid land market further contributed to fragmentation. When a family was able to purchase a small piece of land from its small stock of savings, it would be quite unlikely that the plot would lie adjacent to its present property. The family would purchase whatever was available.

Although these scattered and fragmented holdings might have a certain adaptive value,⁵ in recent years, they have become a serious obstacle to modernized management. Farmers with land in several places must spend a tremendous amount of time travelling from one plot to another, carrying heavy loads of farm implements, fertilizer, seeds, and so forth. A typical farm family in San-lin in the traditional rice system would have less than one hectare of land inherited from their forebears, and this would lie in several small plots scattered in a wide radius. The Liang family is an example. Before consolidation Liang owned 0.8 hectare of land divided into 9 pieces. It took him half an hour to walk from the piece closest to his house to the farthest one. After consolidation his 0.8 hectare was transformed into 1.2 hectares of lower quality land, divided into 8 contiguous pieces in the same row. The travel burden was totally eliminated, and farm management became easier.

With the expansion of per unit farm land and the standardized rectangular shape, farmers now can use power tillers for plowing, raking, and deep plowing without much difficulty. When the paddy is small and irregular in shape, the power tiller simply cannot move in a straight direction. Consolidation has thus lifted one barrier toward preliminary mechanization.

The second advantage of consolidation is the improvement in the irrigation system. In the traditional rice system the irregular and fragmented rice paddies meant irrigation ditches could not run straight. The ditches zigzagged between land bunds, and sometimes even merged into a field and reappeared several plots away. In the latter case rice paddies at a lower level could be inundated only after the upper ones had been properly watered. A farmer with little patience during droughts was easily tempted to take water from his upper stream land before the latter's need was met. This had been a major cause of violent fighting between neighboring landowners. To assure that irrigation water came to their fields properly, farmers had to spend a great deal of time watching their plots.

In addition to poor accessibility, the traditional irrigation system created much waste as the water ran through its mad course. The slow movement through unpaved ditches or through the fields allowed large quantities of water to leak away into the soil. There was also a drainage problem. During the rainy season, many fields were overinundated, not only from the rainfall but also from other plots using those fields as their outlet. Thus, during the dry seasons there was the threat of drought due to the inaccessibility and waste of irrigation water, and during the rainy season there was the threat of overinundation due to poor drainage.

Consolidation has largely resolved these difficulties. All irrigation ditches run straight and are paved with cement. Waste is reduced, and the water can run from one plot to another in less time. Furthermore, the separation of water channels into supply and drainage ditches has reduced the drainage problems characteristic of the old system.

Another important benefit of land consolidation relates to improved transportation and communication systems. Formerly, the only all-weather road in San-lin was the one that connected the village and the town of Ta-chia. When farmers walked to their field they had to follow small trails and occasionally narrow land bunds, and it was simply impossible for farmers to use power tillers, for they could not be taken to the field over the land bunds. To transport agricultural products from the land, or to bring implements to the field, they had to rely on their shoulders or bikes. During the rice and winter vegetable harvest seasons, villagers normally hauled products back to San-lin first, then took their products to Ta-chia by bus or truck if available. Such transportation was so costly that one villager estimated that delivering one chia of harvested rice from the field to the village required two to five more labor days, depending on the distance between the two.

Now that each plot has at least one side facing an open road, the transportation problem has been largely resolved. Farmers simply sell vegetables directly to a middle man, who sends a truck and a few laborers to the field and harvests and loads the crop on the spot. Rice growers no longer need to carry harvested rice in baskets hung from their shoulders. Frequently, farmers use power tillers to haul small carts loaded with sacks of rice. One farmer even used his motorcycle for hauling. The improved road conditions also allow the power tillers to move freely from one plot to another, thus making mechanization feasible.

Land consolidation also reduced the number of earth bunds dividing the small plots in the traditional system. An official document published by Tai-chung hsien government provides some idea of what this means. Before the 1964 consolidation, the 1,261 hectares of land in the region was divided into 14,778 pieces, averaging 0.085 hectare per piece. After

consolidation, the total number of pieces was reduced to 7,110, with an average of 0.17 hectare per unit. When the number of plots were decreased almost by half, so were the number of land bunds (Chung-hsien Nung-ti Ch'ung-hua pp. 10).

Although many land bunds were eliminated and thus made more land available for cultivation, the consolidation program as a whole did not increase arable land. The construction and expansion of roads and irrigation ditches required more land than that eliminating the bunds, so some of the farmers' land had to be appropriated for these purposes. In San-lin, each farmer had to give up 0.0680 hectare out of each one he possessed to compensate for road and irrigation construction (Tai-wan Shen Yi-Huei 1970:95).

From the available sources concerning land consolidation in San-lin and adjacent areas, Table 15 has been prepared to illustrate the changes in the physical structure of rice paddies resulting from land consolidation.

Table 15. Farm Land Conditions Before and After Consolidation in San-lin and Neighboring Areas

	Before consolidation		After consolidation	
	#	%	#	%
Total farm land (hectare)	1,261	100	1,261	100
Number of plots divided	14,778	100%	7,110	100%
Directly facing road	2,352	16%	6,755	95%
Direct water intake	2,651	18%	7,110	100%
Direct water outlet	2,444	17%	7,110	100%
Total farm families	1,778	100%	1,778	100%
Family having land in				
one place	542	31%	824	46.4%
In two places	715	40%	950	53.4%
In three places	521	29%	4	0.2%

Sources: Chung-hsien Nung-ti Ch'ung-hua page 10
Tai-wan Sheng Yi-huei 1970:96

From Table 15 it can be seen that land consolidation would reduce labor demands in the rice growing system in three ways: (1) less labor due to less travelling among scattered plots; (2) less labor to transport agricultural implements to the field and yields from the field; and (3) less labor for water watching. More important, farm land consolidation made it possible for farmers to utilize farm machinery when there is a need to do so.

5. Changing Rural Population Structure

Earlier in this chapter I described Taiwan's changing socioeconomic conditions over the last decade. I then depicted the ecosystem in San-lin after land consolidation. I will now focus on how the interaction of these two factors has contributed to the changes in San-lin. The questions I raise are: How did San-lin villagers respond to the overall change in Taiwan? To what extent have the two factors of changing socioeconomic conditions and land consolidation affected the farm labor structure? What strategies have villagers developed to cope with these changes? How have these changes affected farm management patterns? How have these changes affected the farmers' life style, their attitude toward farming, and so forth?

I would like to point out that the following analysis does not attempt a complete reconstruction of what has happened in San-lin in the last decade. The discussion is very general and seeks merely to indicate several trends that have developed during the period. Whenever possible, I will substantiate my remarks with hard data gathered from the Ta-chia Public Office's file.

What were conditions in San-lin after land consolidation in 1964? One immediate result was that many of San-lin's farm laborers were

relieved from traditional farm work due to the low productivity of the newly reclaimed land. The village was hard pressed financially, cash being needed to replace whatever was lost in the flood and to repay loans from the government or private money lenders. The villagers simply had to produce more to make ends meet. Since the newly reclaimed land could not be used for rice production (see chapter 2), thus many villagers could not rely on their land for a living, they had to seek other sources of additional income. Meanwhile, the gradual expansion of industrial centers in Taiwan and the extension of the labor market into the rural area was providing an increasing amount of long- and short-term employment for the villagers. The time was right for San-lin villagers to take a new step forward.

The first trend that occurred was the steady and increasing movement of farm laborers into the industrial labor market. With the expansion of industrial employment opportunities, many farmers began to curtail or abandon their farm work. Between 1963 and 1964, a few villagers probably began to look for nonfarm employment on a long-term basis. Their number must have been small and, compared with the current migration pattern, their movement irregular, for then the employment pattern was not stable. They were not immediately absorbed by factories as happens today. From the recountings of their job seeking journeys that I collected, it seems clear that many of these earlier out-migrants did not find jobs directly in factories as their juniors do now. They often wandered from one place and one occupation to another, finding apprenticeships in commerce, tailoring, barbering, or other trades. As time passed, and with the immense availability of factory employment, the pattern of nonfarm work became regular. It has become a fixed pattern for village youths to go directly to factories on a long-term basis. As the young

villagers take up factory jobs, the older farmers earn extra income in their slack seasons by working in nearby towns and cities.

The second trend that has developed in San-lin in the last decade has been the gradual elimination of preadult laborers in farming (those 12 or 13 years old to 67 or 17). In the traditional rice system, these preadult laborers did not play an important role in agricultural work. They were considered too young to assume fully the back-breaking and skilled rice transplanting, weeding, and harvesting work. Likewise, even if they had the opportunity to assume nonfarm work, they would still be considered too small to take full responsibility. In the traditional system, they were kept on the farm to run errands and, more often, tend bullocks. Frequently they gathered with their herds in the afternoon, and while the cows grazed these adolescents would play. An ideal job for a preadult youth from a poor family which had no cattle was to be hired out as a herder for another farm family. Payment was three meals a day.

Preadult laborers had little economic value in agricultural production. Although most were indolent throughout this period, it was then that most of them were socialized, formally or informally, into full participation in village community life. In the evenings, boxing and dragon dancing classes were held, and the boys often developed close friendships and, sometimes, sworn brotherhood ties. After classes they often gathered to listen to village elders reciting village history or anecdotes. This incorporation into village social life and familiarity with village history and cultural codes were initial steps which these youths had to take before becoming full members of the community.

The emergence of the industrial labor market made these preadult youths valuable. Factory work requires a certain training period, during

which a small stipend is paid the apprentice, although he often works as hard as a regular worker. Since there is no lower age limit for trainees, many young people become apprentices right after they graduate from primary school, at about 13. These youths are welcomed by most factories, for they are easier to control and cost less than ordinary workers. The children and their parents also regard such an arrangement favorably, for the youths can earn a living right after graduation and start to learn a new skill for a better career at an earlier age. Even though the government extended the compulsory education to 9 years in 1968, a few villagers still managed to drop out after the 6th grade and began factory work.

Industrial Employment

Basically, the San-lin villagers' involvement in the industrial labor market takes three forms. A member of a farm family may simply move away from the village and reside wherever jobs are available. This type of out-migration is limited to the young and better educated. Their destination usually is Taipei, Tao-yuan, or Tai-chung, in that order. After they have settled in their jobs, they begin to send money home and visit their family once in a while.

Another group of villagers are commuters. Many take jobs in Ta-chia and the adjacent area and travel to work every day by bus, motorcycle, bicycle or on foot. Again, most of these are young people, and their earnings are an important part of the village's cash income.

The last type of industrial employment is limited to the regular or self-proclaimed farmers who work in cities or nearby towns for extra cash income in their slack season. The work is short-term and mainly unskilled. One common employment among villagers in this category is house construction. Workers often carry bricks, sand, and cements on

shoulder poles to construction sties. Wages are based on the amount of work done in a day. News of an opening is passed by word of mouth. The recruiting procedure and work pattern are quite informal, and people who show up one day may not appear the next when unexpected family or personal affairs intervene. Although income derived from this seasonal employment also comprises an important part of San-lin's economy, its net value and effects on farming are difficult to calculate. This is so because the villagers' nonfarm employment is irregular and unstable. I could not elicit any reliable information regarding the average annual income of a farmer engaged in this type of employment.

The increasing involvement of San-lin villagers in the industrial labor market has had significant effects on the farm labor supply. Very few villagers between 15 and 30 years of age were seen in agricultural work during my fieldwork. An analysis of the questionnaires I gathered from 76 San-lin farm families best illustrates the current farm labor situation. Using the employment classifications of the industrial labor market described above, the village population was distributed among the three categories: (1) farmers and their dependents, that is, those living on the farm who consider farming their profession,⁶ their dependents, and students; (2) nonfarmers, or commuters, that is, those still living on farms but devoting most of their time and energy to nonfarm work which they consider to be their profession; and (3) migrants, or those villagers who leave the village and reside wherever they work. In addition to employment categories, Table 16 also indicates the distribution of these 76 families according to members' ages.

Table 16. Distribution of 76 San-lin Farm Families by Age and Residential Pattern: 1974

Age	Farm				Non Farm				Migrants				Total			
	Male		Female		Male		Female		Male		Female		Male		Female	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
0-4	34	10.15	36	11.14	-	-	-	-	1	0.29	1	0.29	35	10.44	37	11.45
5-9	38	11.34	31	9.59	-	-	-	-	-	-	-	-	38	11.34	31	9.59
10-14	41	12.25	34	10.51	1	0.29	1	0.29	1	0.29	-	-	43	12.83	35	10.83
15-19	16	4.78	9	2.78	14	4.17	29	8.97	16	4.78	14	4.34	46	13.73	52	16.09
20-24	3	0.89	14	4.33	4	1.19	18	5.57	31	9.26	20	6.19	38	11.34	52	16.09
25-29	7	2.08	11	3.41	8	2.38	2	0.62	14	4.17	4	1.23	29	8.65	17	5.26
30-34	13	3.88	15	4.64	5	1.49	2	0.62	4	1.19	1	0.31	22	6.56	18	5.57
35-39	16	4.77	11	3.40	1	0.29	-	-	-	-	-	-	17	5.26	11	3.40
40-44	12	3.58	11	3.40	-	-	-	-	-	-	-	-	12	3.58	11	3.40
45-49	18	5.37	18	5.57	-	-	-	-	-	-	-	-	18	5.37	18	5.57
50-54	15	4.47	16	4.95	-	-	-	-	-	-	-	-	15	4.47	16	4.95
55-59	5	1.49	9	2.78	-	-	-	-	-	-	-	-	5	1.49	9	2.78
60-64	9	2.68	3	0.92	-	-	-	-	-	-	-	-	9	2.68	3	0.92
65-69	5	1.49	3	0.92	-	-	-	-	-	-	-	-	5	1.49	3	0.92
70-74	1	0.29	5	1.54	-	-	-	-	-	-	-	-	1	0.29	5	1.54
75 & over	2	0.59	5	1.54	-	-	-	-	-	-	-	-	2	0.59	5	1.54
Subtotal	235	70.03	231	71.15	33	9.81	52	16.09	67	19.98	40	12.38	335	100.01	323	99.99

Note: Total population = 658.

The net population of these 76 families is 658, an average of 8.66 persons per family. Table 16 can be simplified to yield the following breakdown:

Employment	Number of Persons	Percentage
Farm & Dependents	466	70.82%
Non-farm (Commuters)	85	12.92%
Migrants	107	16.26%
Total	658	100.00%

However, within the migrant category are 16 males between the ages of 10 and 24 serving in the army (military service is required of all male residents in Taiwan). Therefore, the actual number of migrants was 91 from these 76 families in 1974.

An examination of the age distribution among nonfarm workers and migrants reveals the far-reaching effects of industrialization on farm production. Excepting the one child in the 0 to 4 years old bracket who is a dependent of an adult migrant worker, all migrants and non-farmers (commuters) fall between the ages of 10 and 39. In other words, most of the young villagers have taken nonfarm jobs or moved out entirely, and the remaining rural residents must carry on the farm work. This acute rural labor shortage has caused wages for farm hands to soar, placing a further strain on decreasing farm income.

6. Changing Farm Management Pattern

It is difficult to determine whether land consolidation has been a positive force or the labor shortage a negative force accelerating the change in San-lin's farm management pattern. Nor can a quantitatively sound analysis be made on the basis of available data to determine the

effects of these two factors. However, the purpose here is not to pinpoint the factors that caused recent changes. Our major task is to discern the interacting dynamics operating in the complex sociocultural process. In the following sections, changes in different aspects of the agricultural process will be examined.

Land Plowing

The traditional wet rice system might be called a "water buffalo" system because of the important role played by these animals in the productive process, and it is the radical reduction in the number of cattle that most dramatically characterizes the change in farm management in San-lin. As already mentioned, the water buffalo provided the major draft power in plowing and hauling in the traditional system, its dung was used to manufacture compost and its care made use of preadult laborers.

Land consolidation permitted the replacement of cattle plows with the more efficient diesel engine tiller. Plowing one hectare of land with a power tiller requires only a day and a half, compared to eight days for cattle tilling, so the latter method is obviously uneconomical. At the same time, the absorption of preadult laborers into the industrial market further increased the difficulty of cattle raising, and thus the cost of cattle plowing. Since farmers had to assume the extra burden of cattle tending, and since cattle could be replaced by power tillers, farmers were glad to sell their animals to butchers. The correlation between the decreasing reliance on draft animals and the increasing dependence on diesel powered tillers in San-lin in the past 10 years can be seen in Table 17.

Table 17. Number of Buffloes Raised, and Number of Tillers Purchased in San-lin: 1965-1974

Year	Number of cattle-raising families	Number of cattle	Number of power tillers purchased
1965	85	98	
1966	--*	--	
1967	87	100	
1968	82	--	1
1969	77	--	1
1970	54	--	2
1971	47	--	2
1972	36	36	3
1973	23	23	3
1974	--	--	4

Source: Ta-chia Cheng Public Office Records

* Not available

The power tiller not only replaced the use of cattle for plowing but also fulfilled the second function provided by cattle: hauling. All the power tillers in San-lin can be converted into a wagon by adding a wheeled cart. When the plowing season is over, tiller owners can augment income by hiring themselves out to haul things.

One important effect of replacing cattle with power tillers had been the trend toward specialization. When farmers relied primarily on cattle plowing, the work was done by individual farm families, or a few closely related families. As Table 17 indicates, there were 100 bullocks in 1967, an average of one for every three families, and in 1974 there were none. The use of power tillers has radically altered plowing as a family affair. Purchase of a power tiller requires a large sum of money; in 1974 an average 15 horsepower tiller cost around US\$1,500. The operation of a power tiller also requires technical knowledge and physical strength. For these reasons many older or poorer farmers have been discouraged from purchasing the machine, and hence only young and better educated villagers can make full use of the machines.

Now that most villagers possess neither tillers nor cattle, they must turn plowing, once a family affair, over to a few tiller operators. Since power tillers are more efficient than cattle, the village needs fewer tillers to meet plowing demands. By 1974 there were 16 tillers in San-lin, and these cultivated all the village land.

A tiller is hired in the following manner. At the beginning of the plowing season tiller owners take orders from villagers to plow their land on specific days. The charge for plowing one hectare of land is the equivalent of 5 dziou (500 catties, one catty equals 1.33 pound) of unhusked rice, the same fee formerly charged by cattle owners. Cattle may still be hired, but most villagers prefer power tillers, for the work can be done within a much shorter time, which allows for some flexibility in management.

It should be pointed out that the high cost of power tillers does not imply that only wealthy farm families can afford them. Most tillers are jointly owned, and capable youth in one of the families operates the machine. The profit accruing from the tiller is then divided among all the investors in the machine.

Fertilizer Consumption

With the reduction in the cattle population, villagers could no longer produce compost or backyard fertilizer to meet their agricultural demands. One villager estimated that as late as 1965 there were more than 20 compost huts in the village. If each hut produced a modest 5,000 kilograms of fertilizer per year, the village alone could furnish more than 100,000 kilos annually. In order to produce compost, villagers collected cattle dung from stables or along the road, mixed it with rice straw, and deposited the mixture in the huts for fermentation. Compost is still regarded by the villagers as the best kind of fertilizer, for

not only does it provide organic nutrients, but also the straw in the mixture increased the fibrous texture of the sandy soil. The quality of a rice paddy is actually improved over time when compost is used as fertilizer. In 1974, not a single compost hut remained in San-lin.

The reduction of the cattle population was not the only factor contributing to the decreased utilization of compost. Asked if they would still manufacture compost if it were possible, most villagers said no. The labor required to collect, store, and haul the compost to the field is simply too costly. In the same amount of time a farmer can earn far more income by working at a non farm job, even if some of this money is used to chemical fertilizer. Farmers are aware that in the long run chemical fertilizer cannot improve the quality of the soil as compost does, but their interest in current profit overrides this concern.

Another effect of fewer cattle on the traditional wetrice system, although trivial, is worth mentioning. When the cattle population was large, it consumed large quantities of grass along the land bunds or the river bottom. That grass now grows rampantly in places. The work of clearing it must be done by family adult laborers or hired hands, and most farmers just ignore the problem. The grass now often overshadows the crop and consequently reduces yields, and it is also a natural harbor for pests. The effect of pesticides is thus reduced, and most farmers now must spray more frequently than before or totally ignore the insects.

Farmers in the traditional ecosystem also depended heavily on other natural resources for fertilizer, such as human and pig excretions. When the local supply could not meet demands, they would carry buckets as far as downtown Ta-chia to collect nightsoil. In the old days, a farmer collecting nightsoil from a town family would retain this privilege by maintaining cordial relationships with this family. Often he would bring

a small quantity of farm products to the family as a gift. This kind of relationship lasted until the late 1960s, when the farmers stopped using nightsoil because it was uneconomical to collect and haul to the fields. One villager said: "It took me more than 40 minutes to carry two buckets of nightsoil from Ta-chia to my field, enough for two rows of vegetable or rice. Then I walk all the way back for more. After a full day's work, I would probably have fertilized less than 0.1 hectare of land. The work is hard, since you use your own two shoulders to carry the weight. It is also humiliating, for when you pass someone's house they walk away because of the smell. For one day's wage working in a construction site now, I can purchase two sacks of chemical fertilizer and apply it on more than 0.3 chia of land. Chemical fertilizer is much more efficient, and that's why people gave up using nightsoil."

The discontinued use of nightsoil not only affected farm operation patterns but also created a problem for the downtown residents. Without modern lavatories and sewerage facilities, they had relied on farmers to clean their toilets. Now they no longer receive gifts from the farmers and must pay them to clean their toilets, for which farmers charged NT\$2 per bucket in 1974.

Obviously, the shift from organic to chemical fertilizer radically increased the demand for the latter. The Farmers' Association in Taiwan has a monopoly on chemical fertilizer distribution and retailing. Before 1973, farmers obtained fertilizer from the Farmers' Association through a barter system. A farmer would report to the association on the amount of land he put under rice cultivation and then could purchase a certain amount of fertilizer within his quota. The unit of exchange was unhusked rice at the price posted in the association. This barter system had long been criticized, for the price of fertilizer charged farmers

was often double and sometimes triple that on the international market. After Chiang Ching-kuo, Chiang Kai-shek's son, assumed office, he gradually lowered the exchange rate between rice and fertilizer. To further placate the increasingly dissatisfied farmers, he abolished the barter system entirely in 1972.⁸ Under the new policy farmers purchase whatever amount of fertilizer they want from the Farmer's Association.

Inspired by the lower price and convenience of chemical fertilizer, farmers gradually increased their consumption. In the meantime, Taiwan's chemical fertilizer production had not risen. The heightened consumption for chemical fertilizer occurred so rapidly that by late 1973 the unfulfilled demands had fostered a kind of tacit revolt among farmers throughout rural Taiwan. Many villagers accused the officials in the Farmers' Association of profiteering by selling the fertilizer to private businessmen before the farmers had a chance to purchase any. The government was forced to take a step backward and adopt a mandatory quota system through which farmers could buy only a certain amount of fertilizer from the Farmers' Association based on the amount of their land committed to rice cultivation.

Officials in the Farmers' Association vehemently denied any charges of wrongdoing. They pointed out that the quantity of fertilizer delivered to the Ta-chia region had not been increased over the last few years, while demand had risen sharply. Based on my own observation, although some misconduct may have occurred, it was the increase in fertilizer consumption that seemed responsible for the shortage in late 1973.

Harvesting

In other aspects of farm operation in San-lin there has been a trend toward replacing human and animal energy with fossil energy. One important innovation that has spread rapidly in rural Taiwan is the small

diesel engine attached to threshing machines. Traditionally threshing was done by rollers powered by foot pedals. Numerous small arced iron rods were set in the roller frame, and as the roller spun, the iron arcs stripped rice grains from the stalk. The foot pedal has been replaced by a five horsepower diesel engine, radically reducing the amount of human energy.

The first diesel engine roller was introduced into San-lin by an agricultural extension agent in the Farmers' Association in 1968, and by 1974 the village possessed 25. The introduction of this motorized threshing machine has had some important consequences on farm operation on San-lin. First, the engine roller reduced human drudgery. As human labor is replaced by machines, physical strength becomes less of a prerequisite for farming, and the working age of farmers is extended. At a time when most rural youths are leaving farming, older farmers can continue to work, which temporarily alleviates the labor shortage.

Secondly, the diesel threshing machine has changed the organization pattern of an ordinary harvest team. These teams once consisted of eight workers: three to cut rice stalks with sickles and lay them on the ground, two pairs to pick up the stalks and thresh them in the roller, and one to shovel the grains from the bottom of the roller into sacks. The team was organized primarily to maximize the utility of the roller. The much more efficient roller now allows more people to work on the same machine. The motorized roller works so rapidly that six persons in three pairs are required to feed rice stalks into the machine. There has been a concomitant demand for laborers to cut down the rice. The number of these workers has increased from three to five, and rice sack-ing requires at least two people. A typical rice harvest team now numbers between 11 and 13, and villagers must form cooperative teams on a

broader and more diversified basis. What was once a small cooperative unit usually organized along kinship or neighborhood lines has grown in size and incorporates more participants on a broader sociological basis.

Irrigation

Another innovation, the irrigation pump, also has weakened traditional cooperation at the small community level in favor of a medium-sized organization consisting of around 10 families. Traditionally, irrigation ditches were the main source of water. To monitor the assigned volume of water in the field required a certain amount of community cooperation. In water disputes, the entire community might rally and wage war against a neighboring village. The irrigation pump has minimized the role of irrigation ditches and has enormously reduced water watching and disputes. Since farmers can count on their pumps for a steady supply of water, there has been a certain loss in community cohesion.

As Table 18 reveals, San-lin had 10 irrigation wells in 1974. An average well may supply more than 10 hectares of land, with supplementary water from the ditches. More than one-third of the village land no longer depends solely on irrigation ditches as the main source of water. Furthermore, electric pumps have eased the crucial problem of proper timing in inundation.

Table 18. Number of Diesel Engine Threshing Machines and Electric Irrigation Well Pumps Purchased by San-lin Villagers: Pre - 1962-1974.

Year	Threshing machine	Well pump
Prior to 1962		3
1963		2
1964		1
1965		-
1966		-
1967		-
1968	1	-
1969	1	-
1970	3	-
1971	6	-
1972	6	1
1973	4	3
1974	3	1
Total	24	10

Source: Ta-chia Public Office

Since an average farmer in San-lin owns less than one hectare of land, and these holdings often lie in several locations, construction of an irrigation well usually involves more than 10 farm families. Considering the expenses for digging and then installing pipes and electric pumps, it is understandable that cooperation among several families is imperative. Farmers sharing a well inevitably develop close contacts and intimate relationships.

Other Innovations

Other labor-saving devices are about to enter the San-lin's scene. A few weeks before I left, the Farmers' Association called a meeting of San-lin farmers and advocated the practicability of herbicides in eliminating weeds. Since weeding occupies a significant portion of a farmer's time, it seems very likely that the farmers would adopt herbicides to compensate for the labor shortage.

Developments in another area also demonstrate the farmer's eagerness to replace human labor with fossil energy. As was noted earlier, drying harvested rice traditionally required more than three sunny days. During this time someone constantly had to watch the rice to prevent the predation of birds. Someone also had to turn the grain to ensure that it dried evenly. At night, a guard was posted. To many farm families, this drying process was a tremendous burden. Furthermore, in the last few years many villagers had abandoned their old homes among the fields and moved into urban-style apartment houses. These had no open court for drying grain, and most apartment dwellers had to use the public temple yard. This is only large enough for drying grain for three families, and competition for the space had provoked disputes among several families.

Late in my stay in San-lin, a shy village youth who has been working in a factory approached me to ask if I knew the capacity, cost, and maintenance heads of a grain dryer. He said he had noticed one in an agricultural magazine and was interested in investing in one. He believed he could rent the service to farmers and probably make a good profit. Unfortunately, I had no knowledge of grain dryers and could not help him. If he succeeds in obtaining such a machine, it no doubt will be put to full use.

One change that might have occurred in San-lin but so far has not is the replacement of human labor in transplanting and harvesting rice, the most labor-intensive aspects of rice cultivation. Transplanting and harvesting machines had been introduced into San-lin by the Farmers' Association, but few farmers were interested in them. This indifference was not due to economic reasons, such as a capital shortage, or to psychological reasons, such as conservatism. Compared with other

machines already operating in San-lin, the transplanting and harvesting machines are not beyond the villagers' reach, and they have eagerly accepted other labor-saving devices. One possible explanation is that the transplanting and harvesting machines are so little used in the area that the demonstration effect has been too low to arouse villagers' interest. A more likely reason is that these machines and their parts are imported from Japan, and maintenance and repair are serious problems. One villager said he once had hired a transplanting machine from the Farmers' Association. A few minutes after the machine started, it choked and stopped. The operator could not fix it because he did not have the necessary part, which could only be obtained in Taipei, about 100 miles away. The machine stood in the field a week before it finally was repaired. Thereafter, none of the villagers wanted to rent these machines. It is probably the inadequacy of the technology that has prevented villagers from adopting this machinery.

In the domestic area another innovation deserves mention. In the traditional system farmers grew trees and bushes along their land as windbreaks. These provided both protection to the crops from strong coastal winds and a steady supply of cooking fuel. Supplementary fuel was gathered from the river bed or nearby mountains during slack seasons. In the last few years, however, most farmers have gradually stopped trimming their windbreaks and collecting wood for fuel. With supplemental earnings from the outside labor market, farmers are less concerned about untrimmed plantings casting too much shadow on their crops and hindering their growth, or with removing a withered tree that offers no protection to the fields. Accordingly, gas stoves are being used more frequently. Among the 76 families surveyed in my questionnaire, all except one had

purchased a gas stove within the last eight years. The number of families who have adopted this technology since 1967 is shown in Table 19.

Table 19. Number from among 76 Families in San-lin who have Adopted Gas Stoves: 1967-1974.

Year # of Families Adopting Gas Stove	1967	1968	1969	1970	1971	1972	1973	1974
	1	2	2	2	24	32	11	1

Gas stoves obviously have alleviated the farmer's burden in collecting wood and their wives' burden in making fires. However, the advantages have again had some ecological costs. The overgrown and withered trees along the land bunds have virtually no positive function for the crops.

From Intensive to Extensive Farming

Geertz's distinction between an intensive, wet-rice ecosystem and an extensive, swidden system provides a sound typology for agricultural systems in Southeast Asia (1963). While the former is characterized by heavy labor concentration in part of the crop growing season, a monocrop, and intensive use of permanent land, the latter has a more evenly distributed labor demand throughout the growing seasons, multiple crops, and discontinuous land use, or fallowing. If these two ecosystems are viewed as the two ends of a continuum, the trend in agricultural development in San-lin and, to some extent, all of Taiwan, has been from the intensive to the extensive system. This observation is supported by several developments in the last few years.

The first, more and more farmers are giving up rice and growing sugar cane. Farmers contract their land to the Taiwan Sugar Company, actually leasing their land to the firm. The company sends workers to till the land, plant the cane, and supply fertilizer. During the 18-month growing

period, the landowner need only irrigate and fertilize occasionally. Labor demands in growing sugar cane is very low, and even an aged farmer can easily manage all the works for a large plot of land. At harvest time the company sends workers to do the harvesting and transport the cane. The landowner receives a certain percentage of the refined sugar profit from the company as his share. Because of the long growing period, the productivity of the land and hence profits are obviously lower for sugar cane than rice. On the other hand, the labor and managerial activity involved in cane growing is much lower for the farmer, which is probably the prime reason farmers have adopted sugar cane as a crop.

When San-lin's former mayor died in 1974 and left almost two hectares of rice terrace to his two wives, the widows consulted other kinsmen about the disposal of the land. They were advised to contract with the sugar company, for neither woman had the skill and ability to engage in and manage rice growing, and their adult sons were unavailable for or disinterested in farming. In my discussions with San-lin farmers, many expressed an interest in cane growing as a future possibility when they no longer could manage their farms.

Although the shift from rice to sugar was obvious in San-lin, I could not obtain reliable information about the actual acreage involved. Most farmers were reluctant to divulge the information, for those who claim to have their land in rice but actually lease it to the sugar company can still obtain their quota of chemical fertilizer from the Farmers' Association. This additional fertilizer can be used to grow vegetables or can be sold on the black market for at least twice the original price.

The second indication of a shift from an intensive to an extensive system is seen in the change from rice, a monocrop, to multiple crops. Some farmers cannot undertake outside employment because they are the

only son in the family, are too old to learn a new trade, and so forth. Forced to continue farming, but confronted with the insufficient supply of labor and the increasing unprofitability of rice, these farmers gradually reduced the land committed to rice and converted it into other crops. It is typical for such a farmer to reserve only enough land for rice sufficient to meet the demands of family consumption and taxation and use the remainder for vegetables.

Small pieces of this land are subdivided into sections for different crops: two rows of green onions, two rows of tomatoes, or a small piece plot of cabbage or carrots. The growing periods are spaced so that a farmer may devote his time and energy to one crop at a time, thus evenly spreading agricultural work throughout the year. The farmer is fully employed and need not use outside help. In 1974 approximately 10 families in San-lin that had adopted this new farm management pattern. Taking full advantage of the improved transportation system, these farmers sold their products in the Ta-chia market. They normally worked their garden in the afternoon, collected whatever crops were ripe, and washed and set them aside on a small push cart for sale the next morning. Being parttime salesmen for their own products, these farmers made a reasonably good income without taking an outside job.

A few ambitious young villagers have tried to abandon rice and grow only vegetables. One example was Wen-chin, the 26-year-old son of the family I boarded with during my fieldwork. Being the only son, Wen-chin could not leave for a nonfarm job as most of his contemporaries were doing. He felt a certain resentment when he compared his situation with other villagers in income and life experience. Trapped in the situation his only choice was to make the best of it. In 1973 he was the first one in the village to hire rice transplanting and harvesting machines

from the Farmers' Association, but when the machines failed, he decided to give up rice farming and start a vegetable business. He was too innovative and ambitious to imitate other farmers' methods for what he considered a petty profit. In late 1973 he put half of his one hectare of land in asparagus, the other half in cabbage. He figured that by selling the asparagus shoots to growers at the current market price of NT40¢ each, he could make NT\$80,000 from his estimated 200,000 plants. Cabbage was equally promising. By the time of its harvest, it would be Chinese New Year, and the market demand in Taipei would be enormous and the price dear. After the crop was planted, he even began to discuss how this windfall profit would be spent. He would install a ceramic bathtub to replace the wooden bath pen, buy a refrigerator for the kitchen, and substitute a flush toilet for the open pit.

Unfortunately, things did not work out as he had planned. The asparagus failed when the fertilizer shortage became acute. Many growers and potential growers turned to other crops, virtually closing down the shoot market. In 1974 Wen-chin was forced to sell all his seedlings to a plantation for NT\$0.2 each, barely enough to cover his investment.

His hopes for the cabbage crop were also ill-fated. One month before the New Year, anxious to determine the market condition for cabbage, he toured the adjacent area on his motorcycle. He returned satisfied, for there were not many cabbage growers nearby and hence there would be little competition in the New Year's market. His optimism was soon crushed. As the New Years approached, the outpouring of cabbage from southern Taiwan sent the price plummeting from NT\$4.00 per catty to NT\$0.80. Wen-chin had to sell his crop at a price barely enough to cover his investment. His failures strengthened other villagers in their conviction that a small-scale, multicrop garden system was best.

A final indication of the switch from an intensive to an extensive system is seen in the discontinuity in land use. Fallowing had been reported in Taiwan since 1970, and in 1974 an estimated 15,000 of Taiwan's 750,000 hectares had been taken out of production. Although most of the fallow land was owned by developers who planned to profit from resale of the farm land for housing plots, it was nevertheless the land's marginal productivity and profit that had prompted the investors to leave the land unused.

There is no fallow land in San-lin. Many farmers were aware of this problem in other parts of Taiwan and expressed their concern for the future of farming. Many compared fallowing to the unreconstructed land remaining in San-lin, which they insisted was a kind of fallowing. Simply because the landowners could not perceive any benefit from its reconstruction, they had left it unused since the 1963 flood. The farmers pointed out that if there should be another flood on the scale of the last one, no one would ever bother to reclaim the land.

7. Conclusions

Using Geertz's model of the dichotomy between an intensive wet-rice system and an extensive swidden system (1963), it seems to me that the agricultural system in San-lin and elsewhere in Taiwan has been gradually changing from the former to the latter system. I by no means suggest that agricultural practices in San-lin and Taiwan have shifted entirely to swidden agriculture. But the model is useful in pointing up the several characteristics in farm management patterns displayed by the two agricultural systems. While an intensive wet-rice system exhibits several unique features and is adaptable under certain demographic, economic, and social condition, any deviation from it reflects changing conditions

in these areas. Under different circumstance farmers have adopted various strategies to cope with their problems, and some of the alternatives open to farmers are characteristic of swidden agriculture.

In San-lin village, the multiple factors of out-migration, land consolidation, penetration of the industrial labor market, technological advance, and so forth, have all contributed to the adaptation of a new farm management pattern characterized by less intensive use of land, replacement of human and animal energy with petroleum energy, increasing demands for capital input, inutility of local natural resources, and multiple crops grown for outside markets. In the process of change, some farmers have adopted a few practices typical of a swidden system, such as multiple cropping and fallowing, whereas others have chosen another set of practices characteristic of the extensive system. There has not been a total shift from one to the other, but limited adaptation to cope with changing demands.

Two further implications can be drawn from the discussions in this chapter. The first concerns the controversy over whether population pressure fosters or hinders agricultural technological improvement. This question has been raised by the economist Boserup and has engendered tremendous interest among anthropologists (Spooner 1973). Boserup has suggested that population pressure is the impetus which stimulates technical improvement in agricultural production. San-lin's change from an intensive system to an extensive one seems to support Boserup's model: Once population pressure becomes less acute, farmers will abandon more advanced technology and adopt a less intensive and less productive system. This theme is reminiscent of Chayanov's study of the peasant economy (1969), in which he claimed that peasants mainly work to satisfy

immediate demands with the least drudgery. As long as there are unmet demands, they will work hard; when the demands decrease, so does their commitment.

I am cautious about applying Boserup's model because the question of adaptation and technological development has been overly simplified. If population pressure is used as an independent variable to detect its impacts on the development of agricultural technology, we are assuming that (1) a society is entirely isolated and immune from outside influence and (2) the agricultural sector in this society is separated from and not interacting with the other sectors. Without these two assumptions Boserup's model is unworkable, for the population pressure in the agricultural sector can either be transferred to other sectors or to other societies. Furthermore, if isolation is not assumed, one cannot exclude the possibility of diffusion of new crop varieties and technologies that may bring about agricultural change and development. Since a sociocultural system is such a complex and integrated whole, I would hesitate to accept the isolation assumption and claim that population is the agent that brings change in agriculture.

The second implication is related to the first: If a sociocultural system is so complex, it seems to be more pertinent to understand the internal system dynamics involved in the change than to pinpoint the causal factors. The interrelationship among all the subsystems within San-lin have been discussed. The recent changes involve a set of interdependent subsystems simultaneously concerned with changes in demography, the extension of the outside market system into the community, the farm management pattern, ways in which farmers dispose of natural resources, consumption patterns, the organization of farm labor, and so on. Only

when we comprehend these fundamental institutions directly related to ecological adaptation can we explore their interrelationships. In the following chapter I will discuss one set of interrelations, the repercussions of the recent changes on San-lin's social life.

Footnotes

1. Bernard Morris has put it succinctly:
 "Although foreign capital did serve to develop certain industries in the colonies, broadly speaking the basic pattern of such an arrangement has been the exploitation of indigenous resources that were complementary to the economics of the industrial states or that yielded substantial profit to the foreign entrepreneur--at the expense of the creation of a more variegated economy responsive to the colonies' needs" (1973:28).
2. This is not to say no significant changes have been taking place before that date. On the contrary, some alterations at the technological and institutional levels obviously occurred during the Japanese and early Nationalist periods. Aside from technology, rural social institutions also have been affected. The incorporation of the privately owned irrigation system into a semigovernmental organization during the Japanese period had some fundamental effects in undermining the role of traditional regionalism. In addition, as Bernard Gallin's study indicates (1966), land reform in the early 1950s also eliminated many of the roles previously assumed by the landlord class.
3. The Provincial Assembly's investigation of land consolidation stated: "In 1969 there were 81,469 farm families in the whole province involved in consolidation. When the time came to redistribute the consolidated land, 2,793 families, or 3.4% of all families involved, raised objections" (T'ai-wen Sheng Yi-huei 1970:389). The elected magistrate of Tai-nan hsien was jailed for corruptions in land consolidation.
4. The consolidation process in San-lin is not meant to be presented as typical of Taiwan. However, since I have not come across any different type of consolidation, I assume that what I have observed in San-lin was an average case.
5. As Bernard Gallin (1966:36) has pointed out, during water shortages the lack of water in one irrigation ditch does not necessarily spell doom for the farmer, for he more than likely has land in areas covered by another irrigation system where water is still available.
6. This, however, does not imply that these families obtain their income exclusively from farm sources. Some of these farmers may still rely on nonfarm work as their major income source. But the extent and exact amount of such income is difficult to stipulate.
7. There is no evidence in San-lin of what could be interpreted as social diversification as the result of the introduction of the power tiller. The reported intensification of class stratification and inequality among Skolt Lapps after their acceptance of snow

mobiles (Pelto 1973) has not been seen in San-lin. The major effect of the power tiller has been on the farm management pattern.

8. See "Premier Chiang's Announcement: Major Policies in Accelerating Rural Construction", pamphlet published by the Bureau of Agriculture & Forestry, Taiwan Provincial Government.



CHAPTER 6

CHANGING SOCIAL LIFE IN SAN-LIN

The change in farm management patterns in San-lin has had significant repercussions on every aspect of village social life. As villagers increasingly have involved themselves in cash-income activities, diverted their time and labor to the outside labor market, and substituted traditional farming practices for more modern techniques, the community has witnessed the emergence of a new way of life.

Sole reliance on the soil for a living has been replaced by diversified economic activities. Since traditional communal social organizations were developed to accommodate agricultural demands, a change in orientation was bound eventually to bring a new form of social organization. Increased social and geographical mobility has led to friction in the traditional family system and the establishment of a new one. Furthermore, traditional rural stratification, based mainly on land ownership, has been weakened as the value of land productivity has decreased and other channels to wealth have opened. Political domination, once based mainly on wealth differentials and regional identity as seen in traditional regionalism, has gradually been replaced by various interest groups who have become a new dynamic factor in local politics.

In examining the various dimensions of change in rural Taiwan, especially in San-lin, the following discussion will focus on four main

areas: (1) finance and the economy (2) family and kinship (3) communal organization, and (4) local politics and regionalism.

1. Finance and the Economy

The far-reaching effects of industrialization have been demonstrated in the village economy in many ways. Most important, perhaps, is the fact that the siphoning away of agricultural laborers and the increasing reliance on industrial products to compensate have radically raised capital demands on farming and, consequently, reduced farm income. As farmers now must accomplish most of their work with hired laborers and purchased equipment and supplies, their income and profit have decreased significantly. Even if a farm family provides most of its own labor, a comparison of their return with the industrial labor wage immediately indicates the disparity. More concrete data will illustrate this point in the following section.

Decreasing Farm Income

The estimated costs for tilling one chia (0.997 hectare) of rice paddy per season for an average San-lin family in 1974 was furnished to me by a young informant who keeps records on expenditures and income in a sophisticated manner. After checking his estimates with other farmers and against my own observations, I am confident in the accuracy of his report.¹ These data are presented in Table 20.

Table 20. Estimated Costs for Rice Production in San-lin:1974

Type of cost	Cost unit	NT\$ value*	% of total cost
Rice seedlings	100 catties of rice	NT\$600	2.02
Plowing	500 catties of rice	NT\$3,000	10.15
Weeding twice	10 labor days	NT\$2,500	8.44
Transplanting	10 labor days	NT\$2,500	8.44
Pesticide		NT\$500	1.69
Pesticide spraying	2 labor days	NT\$500	1.69
Fertilizer		NT\$3,000	10.14
Land tax and water fee		NT\$3,000	10.14
Harvesting	18 labor days	NT\$4,500	15.20
Interest on capital land (3 months)**		NT\$9,000	30.41
Farm implements		NT\$500	1.69
Total		NT\$29,6000	100.00

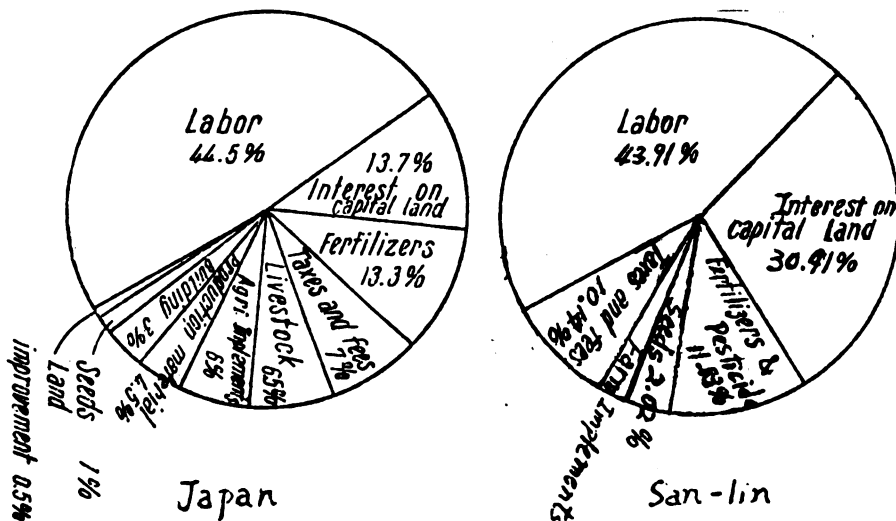
* NT value for each cost unit based on mid-1974 market value:
 1 catty of unhusked rice = NT\$6.00;
 1 labor day wage = NT\$250.00.

** Interest on capital land based on the following estimation:
 one hectare of land (10th grade) = NT\$200,000;
 monthly interest of 1.5 percent x 3 (months) x NT\$200,000
 = NT\$9,000.

The average yield of rice per hectare in San-lin in 1974 was 7,000 catties of unhusked rice for the first crop and 6,000 in the second season, an average of 6,500 catties, or NT\$39,000, per season. If the capital costs of NT\$29,600 are subtracted from the total return, the net profit for an average farm family was NT\$9,400 (US\$235) for both seasons. This figure, although incredibly low in a monetary sense, does not include the costs for the family farm manager, or the chef d'entreprise, who arranges the sequence of farm work, supervises hired laborers, soaks rice for the seedling nursery, checks the water supply in the field, purchases fertilizer and pesticides in the market, and delivers rice to the tax office or consumption market.

Compared with rice cultivators in Japan, San-lin farmers are burdened with higher land taxes (7 versus 10.14 percent) and extraordinarily high interest on land capital (30.41 percent versus 13.7). In other areas, such as costs for labor and fertilizer, the figures are quite comparable. This information about Japan and San-lin is illustrated comparatively in Figure 3.

Figure 3 Distribution Percentage of Rice Production Costs in San-lin and Japan



Source: For Japanese farming, Takane Matsuo 1957:15

If a San-lin farm family has three adult laborers and can supply its labor demands, the total labor costs of NT\$13,000 can be deducted from the expenditure side. Thus, the net return of this family would increase from NT\$9,400 to NT\$22,400 per crop, or NT\$44,800 per year. Dividing the net profit among the three laborers yields NT\$14,933 per laborer per annum. This figure conforms well with a 1972 report indicating that a farm laborer's production amounted to NT\$12,634 per year, less than one-quarter of an average industrial laborer's NT\$56,637 of annual production (p. Liu 1974:16).

The disparity between farm and industrial labor wages has turned many farmers against farming and diverted capital investment from farm maintenance and further development. As the 1972 report elaborates, "the widening gap [in income] does not only induce a large stream of rural out-migration, but also arouses uneasiness and dissatisfaction among the rural population" (ibid:28).

Remittance by Industrial Laborers

In conspicuous contrast to continuously deteriorating farm income in San-lin is the financial success of industrial workers, indicated by their financial support of the rural economy. Among the 76 families from which I collected detailed information, 85 persons resided in the village but were employed in industrial or non-farm occupations, and 89 had actually migrated from San-lin to obtain employment. The first group contributed a total of NT\$136,900 per month to their families in San-lin, averaging about NT\$1,610.59 per person per month. The second group of 89 migrants contributed a total of NT\$124,700 to their families per month, or about NT\$1,401.02 per migrant. Table 21 offers a break down of these 76 families on the basis of their nonfarm income.

Table 21. Monthly Farm Family Income Derived from Nonfarm Sources in San-lin: 1974

Income Level	Number of Families
Above NT\$10,000	1
NT\$9,000-9,999	2
NT\$8,000-8,999	2
NT\$7,000-7,999	6
NT\$6,000-6,999	7
NT\$5,000-5,999	7
NT\$4,000-4,999	2
NT\$3,000-3,999	11
NT\$2,000-2,999	13
NT\$1,000-1,999	8
NT\$100-999	1
0	16

The figures in Table 21 do not include income obtained by farmers from spare time, short-term, nonfarm employment. This employment is rather unstable, and income from it fluctuates from season to season. For this reason, I made no attempt to secure a general figure for the average farm family. Based on the data shown in Table 21, an average farm family among the 76 interviewed regularly received NT\$3,442.90 per month from its members working in nearby towns or distant cities.

The difference in nonfarm income among these 76 families depends entirely on the number of children working in nonfarm jobs, their age, and education level. A high school graduate with technical training will obviously make more money and be able to send more home, than someone with less education. Generally speaking, most San-lin youths employed outside are dutiful about assisting their rural families as best they can by sending them as much money as they can spare.

The influx of such a large amount of stable income into the decaying rural economy has probably been the vital factor in preventing or delaying its total collapse. Since most farmers either live on a marginal profit or, occasionally, suffer a net loss due to severe weather or miscalculated market condition, many rural families depend on this nonfarm income for a living. The superficial rural prosperity seen in improved living standards is most probably a direct result of this development.

Changing Consumption Pattern

The stable cash income San-lin village receives has had significant consequences for San-lin's social life. Villagers' attitudes toward consumption obviously have changed. Because of the unbridled inflation in Taiwan in the last few years, villagers are eager to exchange

their cash for durable or low depreciation commodities, such as land, houses, motorcycles, sewing machines, and so on. Wealthy farmers may purchase apartment units or housing plots in Ta-chia for land speculation. An apartment unit on the outskirts of Ta-chia that sold for NT\$150,000 in early 1973 had soared to NT\$250,000 by mid-1974. Several San-lin villagers possessed apartments in Ta-chia from which they collected rent. However, most of the villagers were not interested in the rent per se, but wanted to preserve their money's value against inflation and to speculate on real estate hoping to reap windfall profits.

Even consumption goods may preserve monetary value. It was quite interesting to observe young villagers comparing the costs of motorcycles. One that sold in 1973 for NT\$12,000, a 90 CC Suzuki, was worth NT\$18,000 in 1974. A villager who had purchased one at the old price could resell it for at least the same amount despite the one-year depreciation. An old farmer, Ong, who owns only 0.2 chia of rice field and does odd jobs for other farmers, purchased a refrigerator from the Farmers' Association in late 1973 for NT\$15,500. He deposited NT\$500 and agreed to pay the remainder upon delivery. He was planning to let his daughter-in-law use this refrigerator for manufacturing home-made popsicles for a profit. Before the refrigerator was delivered in early 1974, the price had risen to NT\$18,000. When Ong went to the Farmers' Association, an official there offered to buy the refrigerator title from him for NT\$1,000, that is, NT\$500 above the deposit. Ong refused and told his fellow villagers that he had already made NT\$2,500 from his undelivered refrigerator.

The poor investment environment and the inflationary economy justify villagers' conspicuous consumption patterns. I once overheard a conversation between two women in which one was praising her son.

This oldest son, a boy of 16, was working in a factory. After deducting money to be sent home every month, he spent the rest on new stylish clothing and sent his old clothes home. The woman, obviously pleased by such a spending pattern, remarked: "Now he has two closets of clothing at home. That's good, for it is a sort of saving. When the price of cloth goes up, he can always come home and wear the ready-made ones in the closets."

Very few farmers want to invest their savings in farm land because of the low profits it yields. On the other hand, banking the money is undesirable because of the low interest rates. A few villagers use their savings as private loans and charge an usurious interest. Normally, the rate for such a private loan ranges from 2.5 to 3 percent per month. Because of the lack of a modern credit system, plus the difficulties involved in getting a loan from the bank, many farmers, when pressed for cash for unexpected reasons, turn to these usurers. The exact amount involved in such private loans in San-lin is difficult to calculate, but confidential information indicated that the largest usurer in the village had about NT\$200,000 in circulation.

Thus, a perplexing phenomenon exists with regard to farmers' economic behavior. On the one hand, they are willing to spend the cash they receive from family members and indulge in consumption goods, lavish drinking, tourism, and gambling. On the other hand, there has been a boom in usurious private money lending. There appears to be no proper financial mechanism in rural Taiwan to regulate monetary supply-and-demand in different aspects of life.

Changing Credit Arrangement

The influx of a large stable cash income to the rural area has changed another village economic activity: the rotating credit

association, sometimes referred to as a money lending club. In the traditional agricultural system, farmers rely mainly on the two rice crops for their stable cash income. When a farmer faces financial problems and needs a large sum of cash, he organizes a rotating rice credit association to tide him over the crisis. Participants normally are friends or kinsmen of the organizer, and membership is based on a fixed amount of rice, for example, 1,000 catties of unhusked rice, per member. When the association is formed, the organizer throws a banquet for all the members to show his gratitude. On that occasion a consensus is reached regarding on what dates in the coming year they will meet again. Generally, the association meets twice a year, after each harvest of the two crop season. It is customarily the organizer's obligation to give a banquet at each meeting.

Although membership is figured on the basis of rice, in making the actual payment only cash is used, for convenience. Members decide what market price to adopt in translating rice into cash. The standard rice-cash exchange rate is usually based on the posted price in the Farmers' Association, but that price fluctuates slightly each day, so association members agree upon what day's posted price they will follow. Two popular days among San-lin associations are the fifteenth of the sixth month for the first crop and the fifteenth of the tenth month for the second.

At the banquet the organizer provides after each harvest the group decides which of them will assume the entire membership payment on the basis of a closed bid system. The one who allows the highest interest withdrawal rate for the other members in making their payment assumes the payment. All members, except those who already have received the lump-sum payment, pay their membership fee to the credit receiver minus

the promised interest reduction. The previous recipients must pay the full membership fee. They do so in cash equivalent to the standard Farmers' Association posted price on the agreed date.

This kind of credit association is obviously geared to the rice growing system. The value standard is rice, and the membership meeting and subsequent payment take place after each harvest. The association is also replete with sociological implications characteristic of a territorially bound agrarian society. People involved in the same association are related in various ways: kinsmen, neighbors, sworn brothers, friends, and so forth. The organizer is always the center of the social network. At each banquet provided by him, people meet and become acquainted with others in the same social web. At the numerous banquets I attended, I saw people of remote social distance exchange courtesies, inquire about each other's well-being, and rekindle old relationships.

Very often, an association meeting banquet is held in a restaurant in the town of Ta-chia. When I first arrived there, I was surprised by the number of large but unprepossessing restaurants that appeared to have no customers at all. The scene was totally changed when I went to one of them for a rice association meeting after the harvest. The restaurant was crowded with tables and rang with toasts and the noise from shouting mouths half stuffed with delicacies. Upon inquiry, the owner told me that all the tables had been booked for the next two weeks for different rice association meetings. He said that he and several other restaurateurs in Ta-chia relied on these rice associations for their seasonal business.

For individual participants, the rice credit association fulfills various purposes. It offers mutual aid to the organizer to tide him over his problem, a kind of rudimentary mutual loan association. But the rice

credit association is much more personal and flexible, and participants do not pay a premium to an impersonal agency. The association meeting also provides a social occasion for villagers to entertain themselves after the hard, tedious rice growing season.

Another unique characteristic of the rotating rice credit association is its long-lasting nature. It is seven years before all members in a 14-member association accept the membership dues in turn. It is the relatively stable agrarian society that makes such a long-lasting relationship possible.

In the past, very few farmers organized rotating credit associations on a cash or a monthly basis. Without a stable and regular monthly cash income, the majority of farmers considered this money lending association a privilege of white-collar salaried officials, and the farmers continued to use the rice system.

However, the recent influx of the stable, and regular income derived from nonfarm employment has gradually changed this situation. As the farmers began to receive monthly contributions from their children, they were more willing and ready to join a rotating cash credit association. More and more farmers probably will use the cash credit system as a substitute for the rice system in the future. This tendency is not restricted to San-lin, for reports from elsewhere in Taiwan attest to the same trend (Wang and Apthorpe 1974:125).

A rotating credit association based on cash is basically the same as that of rice in its organization process, open bid method in deciding the credit receiver, and so on. It differs, however, in several important respects, and a hypothetical cash association in San-lin may serve as an example. Let us say a farmer needs cash to buy a television set and announces his intention to organize a cash association. Each

member's fee is NT\$300 per month, and the average number of members is 30. Those interested in investing their spare money contact the organizer, and on the announced date all prospective members gather at his house. They are entertained with tea and candies. When all are gathered, they decide the date for future monthly meetings and then disperse. It is the organizer's responsibility to collect the membership fees after each gathering. At the next meeting, those who intend to receive the total membership fee gather in the organizer's house for the secret bidding. Each submits a written slip indicating the interest withdrawal rate he wants to offer. The organizer collects all the bids and then publicly announces the number on the ballots. The one who offers the highest interest withdrawal rate is the one who receives the month's total membership fee minus interest. The entire process may take no more than half an hour, and it is quite impersonal.

Because of high inflation, a receiver who obtains the earlier payment can buy more than one who receives a later one. Because of this differential purchasing power, competitors for the earliest payment often try to outbid the others by offering ludicrously high interest rates. Many participants are involved purely for the high interest rate and join as a kind of investment.

Without the social aspects of the banquet, a rotating cash credit association becomes a purely monetary venture with little sociological meaning. The open bid meeting is quite impersonal and businesslike. Normally, those who do not plan to bid on the total payment do not even bother to attend. The money association serves no positive function in promoting social relationships within the community, and it has a much shorter life than the rice association. In only two and one-half years, the rotation cycle for a cash association of 30 members is completed.

Based on the questionnaires collected from 76 families in San-lin, villagers' involvement in such credit associations can be divided into two categories: the organizer, who initiates and organizes the association, and the member, who simply participates. Among the 76 families interviewed, 23 families had initiated rice organizations and had become organizers, whereas only one had organized a cash association. These 76 families own 109.5 memberships in different rice associations and 17 membership in cash associations. On average, each of the families interviewed held 1.88 membership in a rotating rice credit association and 0.24 membership in a cash association. The number of these latter memberships although smaller than rice association memberships, is nevertheless significant in indicating the farmers' willingness to be involved in cash transactions.

Summary

Several trends have developed in villager's economic activities and changing attitudes. First, decreasing farm income as compared with increased opportunities in industrial employment has aroused a sense of deprivation among rural residents and thus reduced their commitment to the land. Second, the influx of cash income from nonfarm sources, fueled by the inflationary economy, has prompted farmers to adopt conspicuous consumption as a means of preserving monetary value. Finally, there has been a shift from an agrarian-oriented finance system to an impersonal, cash-based arrangement as seen in the shift from rice to cash rotating credit associations.

2. Family and Kinship

As more San-lin villagers gradually become involved in nonfarm employment, traditional family arrangements and kinship ties have been affected. During my fieldwork, I often encountered farm families with only elderly parents still in the village while all their children were commuting to nonfarm jobs or residing in distant cities. Sometimes the male family head took a seasonal job in the city, leaving his wife and pre-adolescent children at home. This disruption of the traditional family residential pattern as the result of the recent developments has had several structural implications, and these will be discussed below.

The traditional rural Taiwanese family system is generally locally bound, with all members residing in the same community. A family divides upon the marriage of one or all of the sons in the succeeding generation. After each division, all the married units form new families but continue to associate ritually in the ancestor worship ceremony. Each division creates a group of independent families with their own cooking hearth and budget and which maintain few economic ties with one another. A newly established family may move as the pressure on land becomes acute. When this occurs, it duplicates the ancestral tablet from the original home and becomes the founder of a new tiau (literally: column, a lineal line) in the new locality.

In recent years, many San-lin families have spread beyond the community boundary. As the youths have moved to cities and begun to build their own homes, they still maintain formal ties with their original families. They still officially list themselves in the household registration as members of the rural family, regularly send part of their income to support their parents, and, during ritual and festival

occasions, return to participate in them. Most important, none of these branches has gone through the formal family division process to assert its independent status. Even though these urban branches have their own hearths, they are not independent either in an economic sense (by having an independent family budget) or in a ritual sense (by duplicating the ancestral tablets).

Among the 76 families from whom I collected detailed information, 49 of them (64.47 percent) had at least one family member residing in a city. Twelve families (15.78 percent) of these 76 actually have had branch families set up in the cities by married sons who had probably purchased their homes there and were planning to stay permanently. One extreme case involved a widowed farmer whose three married sons lived in Taipei. These sons jointly ran a furniture painting shop, shared the same apartment, and had only one cooking hearth. The father visited them in the slack seasons and helped them with household chores. During the rice growing seasons, he would return to San-lin to supervise farm work. This kind of family arrangement, a by-product of the recent industrialization and rural to urban migration, has attracted much attention from sociologists. It has been variously called a "family federation" (Chuang Ying-chang 1972:89) in other parts of Taiwan, or a "stem family" in southern Ohio (Swartzweller et al 1971:90-95).

The new possibility for wealth in nonfarm jobs also has lessened the interest of young people in land and family inheritance. As most rural youths have moved to cities and established their careers there, the traditional family division expected in the rural farm family is either delayed or totally avoided. There are no more squabbles among sons urging an overdue family division and a fair sharing of the family land. The dream of many aging Chinese parents to maintain an

undivided family has practically been achieved in rural Taiwan, although in a rather different manner. Postponement of family division can be seen in the relatively large family size in San-lin. Among the 76 families studied, the average size is 8.66 persons, including those who have actually moved out but still consider themselves part of the undivided family. By using the traditional anthropological classification of family types, these 76 families can be divided into the three categories displayed in Table 22.

Table 22. Distribution of Family Types among San-lin's 76 Farm Families: 1974

	Nuclear	Type of Family Stem	Extended	Total
Number	29	35	12	76
Percentage	38	46	16	100

The relatively large number of stem and extended families in San-lin clearly indicates the trend in recent years to delay or abolish the traditional family division process.

The existence of a large number of complex families in rural Taiwan raises an interesting question related to Chinese family structure. In his recent study in southern Taiwan, Myron Cohen also discovered large numbers of stem and joint families in Yen-liao. The distribution of nuclear, stem, and joint families he found was 32 (47 percent), 14 (20.6 percent), and 22 (32.4 percent), respectively (1976:84-85). He disagrees with the notion that links complex family forms with elites or gentry in rural China. He suggests that these complex forms are different stages of the developmental cycle of the domestic group, and their appearance in his research area is the result of practical and

economic considerations. In the case of Yen-liao, the high proportion of complex family forms is related to the specific economic activity of tobacco growing: "Tobacco cultivation is more suitable for families with comparative large numbers of productive members ..., but the important point is that the joint phase of the family developmental sequence is prolonged once the cultivation of the crop is undertaken" (ibid: 218).

Following Cohen's argument, I further suggest that recent socio-economic developments in Taiwan have made the complex family forms a more viable and adaptive institution.² This delayed family division and consequent establishment of "family federations" have some obvious advantages for the rural residents in their adaptation to recent socio-economic change. First, by pooling all the resources of the branch families, they can easily accumulate a substantial amount of capital to help one of the branches when it faces a financial crisis or wants to start a new business. Second, by maintaining the status of a member of an undivided family, all the branches are entitled to a part of the family land. The city branches of the family can always come home and work on the farm for an indefinite period should they face problems in urban employment. This advantage was obvious during the critical period in 1974, when a major recession in capitalist countries affected Taiwan and put more than 200,000 laborers out of work. Miraculously, the unemployed were quietly absorbed by their rural families, and the serious problems that usually accompany such a large disruption of the labor force were avoided.

The well-publicized sibling rivalry among the sons in a traditional Chinese family,³ however, has not been totally eliminated even though they are now physically segregated in different localities.

Complaints about misused family funds, lesser contributions to the joint family property, or not sharing the burden of attending aged parents may still create conflict among the branches and eventually force weary parents to split the family. Such a situation arose during my final days in San-lin, when arguments within a rather prosperous family surfaced. Of the three sons, the eldest had a partnership in a medicine manufacturing factory in Taipei, to obtain which he had drawn a large part of the joint family property. His wife and a daughter lived with him in Taipei, and he earned around \$20,000 per month, half of which he sent home to his parents. The second and third sons worked with their father in the family's small metal tool factory in Ta-chia. The work was hard, especially when there was a large order. They were undoubtedly envious of their elder brother's white-collar life and handsome income. They also wanted to move away and establish their own careers, but were needed in the family business. They often bitterly remarked that they were the entrapped slaves of the family and worked harder than their city brother but received less recognition from their parents.

The open break occurred when the eldest brother came home and said his plant was expanding its facilities and expected all the partners to increase their share of investment. Since he had no private savings, he had to obtain more family funds. The two brothers, already unhappy about the existing arrangement, took this opportunity to express their resentment. They opposed any further funds being drawn from the family property, accusing their brother of misusing them and of being lazy. They claimed they could do equally well if given the same financial support and same opportunity to leave the family. They wanted to establish a rotating system in which all three brothers would work an

equal length of time for the family business. If the eldest wanted to develop his own career at the cost of the other two, let the family be divided first. The argument almost degenerated into a fist-fight, and the old mother was in tears for two days. Finally, the rebellious brothers were adroitly pacified by the father, who promised to hire one or two laborers to relieve their work load and give them full control of the factory. But the friction remains, and more conflicts are likely until the family is finally divided.

Kinship relationships beyond the family level have been less affected by the recent changes in San-lin. This is so because kinship organizations have not been as dominant a social institution in Taiwan as in southeast China (Freedmen 1958, 1966), due to Taiwan's frontier conditions and other related factors (discussed in chapter 3). Both affinal and consanguinal kinsmen are highly valued social relations from whom a person can solicit needed help. Without an elaborate lineage system, an individual can extend his kinship ties in any direction as required.

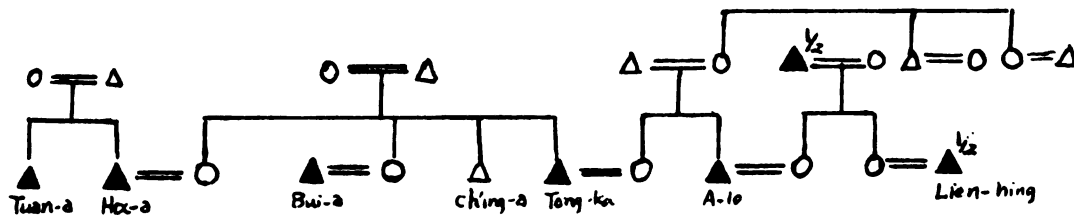
This flexible and individual kinship relationship has proven quite adaptable as villagers enter a more complex modern social milieu. Any relationship may be carefully calculated and nurtured and will be fully exploited when there is a need to do so. A good illustration of the extent to which kinship relationships are used in the modern context may be seen in an incident involving establishing an enterprise in San-lin, graphically depicted in Figure 4.

A-lo, a village youth who had been forced to stay in the village because he is the only son, wanted to start a village enterprise. His brother-in-law's younger brother, Ch'ing-a, was unemployed but previously had worked in plastic ware retail business. These two decided to set up

a plastic ware manufacturing plant in San-lin. They worked out a blueprint of the factory and began to recruit partners, each of whom was required to make an initial investment of NT\$60,000. After some persuasion and negotiation, they obtained five other partners and a total investment of NT\$360,000. (Two partners, A-lo's father-in-law and sister-in-law's husband, jointly owned one share.) All seven are related through a complex web of kinship ties. Four, Tuan-a, Hoc-a, Bui-a, and Lien-hing, are not San-lin residents.

Figure 4 Kinship Chart for a San-lin Enterprise

▲ = membership



A-lo first tried to enlist his own kinsmen, but he could not count on the paternal line, for his father had married in to his mother's family and came from a poor background. Even though A-lo is close to his mother's kinsmen, such as his maternal uncle and maternal aunts' husbands, they were either incapable of raising the funds or too much involved in their own businesses. Under these circumstances, the affinal kin had to provide all the necessary funds.

Proper kinship ties are still the best guarantee of credibility. Without a reliable investment agency, people put their mutual trust in kinship ties, which obligations are still highly respected in rural society.

3. Communal Organizations

In retracing village history, elder residents often recalled the numerous wars San-lin had waged against other villages or outside groups. Whenever a clash occurred, the village gong would be struck to alert and gather all the warriors. Even women with infants tied to their backs would grab a carrying pole or a hoe and run to the scene. Disputes centered mostly around irrigation water, especially during harsh droughts. Since the village's welfare hung in the balance, fighting could be extremely violent and bloody.

But gone are the hard, bitter days when the lives of the rural masses depended on the unpredictable rainfall and reluctant soil. Gone, too, is the violence and bloodshed. During my fieldwork there was only one fist-fight, between a village family and a group of outside construction workers who were paving a village road. When the family tried to enlist support from passers-by, they shrugged and quietly scattered.

When asked why there were no more disputes over water or other trivial matters, older villagers usually replied that modern man is better educated and more rational. They suggested that violence and fighting simply could not settle problems permanently and thus had to be given up. I found this answer quite unacceptable, for villagers reported that water disputes were still common as recently as the last decade, and the general education level among villagers has not been raised significantly in the past several years. My subjective answer relates to the changes in the villager's way of life. First, irrigation water is more abundant than before, thanks to land consolidation and the availability of irrigation well pumps. As the water supply becomes more stable and reliable, there is little need to compete against each other. Second, as more and more villagers have diversified their

economic interests into nonfarm sources, their interest in farming and commitment to that work have decreased accordingly. When there are other ways of making a living, farmers are not as desperate when facing a possible crop failure. Illiterate people can be quite rational as long as they are not in jeopardy. The abstract state called rationality has its solid material basis. Finally, the recent socioeconomic development in Taiwan has led to a diversified class stratification in San-lin. Land ownership is no longer considered an important criterion for high social status and political leadership, and the concerns of village youths are generally more oriented toward the world beyond the village. Diminishing communal concern, as the village has moved from a homogeneous to a heterogeneous community, has reduced cohesion and hampered the growth of new leadership. This aspect will be more fully discussed later in this chapter, but suffice it to say that without proper leadership, it is difficult to arouse communal action.

The dissolution of traditional social organization on the communal level is most reflective of the current development trend. As individualism has gradually become dominant, public concerns are becoming redundant social relics. This is clearly seen in the deterioration of several traditional communal organizations.

The first instance is the boxing study group, which once served as a socialization agency for initiating village youths into the community as well as preparing them to defend the village militarily if need be. Before the 1963 flood, San-lin's wealthy landed families normally sponsored the group. They contributed money for tutors to teach the youths, provided housing for the tutor, and bought weapons and uniforms for the boys. The tutor lived in the village several months, and in the evenings the village youths gathered in the open court to learn

traditional fighting skill or shadow boxing from him. Groups were formed at intervals of two or three years, and boys of approximately the same ages would thus learn together. After proper training, this new fighting corp would be sent as village representatives to regional festivals, where their various duties might include carrying banners or sedans in the procession, displaying their skills for public entertainment, or maintaining order.

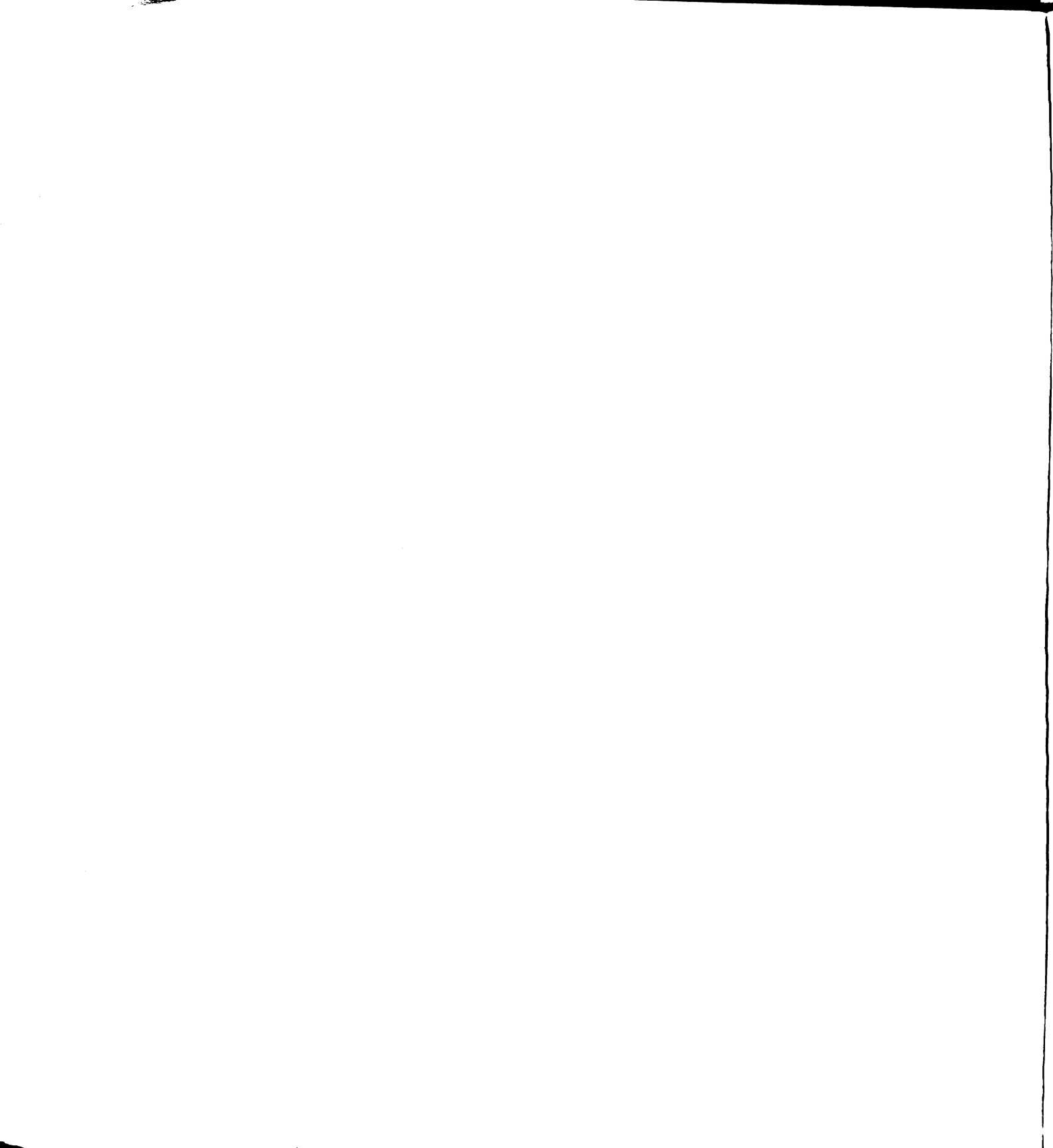
San-lin's last boxing study group was organized in 1963. After the flood, most village families were too devastated to initiate or revitalize the study group. Even though some farmers later regained their economic viability and interest in forming the group, their efforts proved futile. Village youngsters were either unavailable or unenthusiastic about participating.

The lack of this in-group experience marks the difference between the younger and the older generations, best seen in their behavior. Older farmers can always associate by tracing the rank or year of their study group. As disciples of the same master, villagers from the same corps must observe certain codes of behavior when they interact. People of the same grade often address each other as brothers, and many of them further developed this co-study experience into sworn brotherhoods. Furthermore, the same type of relationships applied to those from other villages who had shared the same master. Being taught by the same tutor, the disciples were not supposed to use skills against one another, and they also were expected to help one another when there was a need. I once witnessed a villager in Ta-chia for the Matsu procession be jostled by a bystander and become enraged by the latter's refusal to apologize. At the brink of physical fighting, in verbal exchanges they suddenly discovered that, although from different villages, they had

shared the same teaching master. Hostility abated and they began to exchange anecdotes about their training experience. Before they parted, they were inviting each other to their homes for a drink.

Unlike the older farmers, the rural youths today are generally less group oriented, and it is difficult for them to associate with each other beyond a narrow personal confine. Very few below the age of 25 are members of sworn brother groups. If they do participate in such groups, the likelihood is that all the brothers are coworkers in the same plant. Village-wide sworn brotherhood is unheard of among the youths today. Likewise, it is difficult to generate common interest or communal concern among them. Now, each person lives within his individual cocoon and seldom thinks in a communal sense.

Another institution that has gradually diminished in importance in San-lin is the earth god's association. Before the flood most of the village families voluntarily participated. Members in the association gathered for dinner twice each year, on the 2nd of the 2nd month and 15th of the 8th month (both are the god's birthdays). Each participant paid a fee equivalent to two catties of fine pork to the manager or "pot-master" of the association. After the party, the group selected the next year's manager by throwing divination on future-telling blocks in front of the god's statue. The chief responsibility of the manager is to keep the earth god's temple clean and arrange the dinner party. No pot-master may serve as such again until all members have taken a turn. Before the flood the association had more than 80 members representing their families, but after the disaster the group dissolved entirely. In 1972, a few pious villagers tried to reorganize the association and launched a vigorous campaign. They claimed the success of rural youths in the cities and the relative tranquility of the village



were owing to the earth god. The group was formed but never regained its earlier membership level, having only about 30 members in 1974.

Villagers' decreasing concern for communal organizations is also seen in the major temple association. The customary definition of a Chinese village community, in the spiritual sense, is to incorporate all the residents within the administrative boundary into the village temple organization. Residents within this community are the de facto constituents of the communal religious unit: They are protected by the village gods and retain the right to use the temple facilities, such as the courtyard for drying crops, benches for a family festival, or the priests' services to exorcise demons. In return a fixed membership fee is paid for each family member. In 1974 this per capita amount was NT\$12. Paying the fee was traditionally considered an inseparable part of one's existence within the community, much the same as the taxes one pays to the government as a citizen.

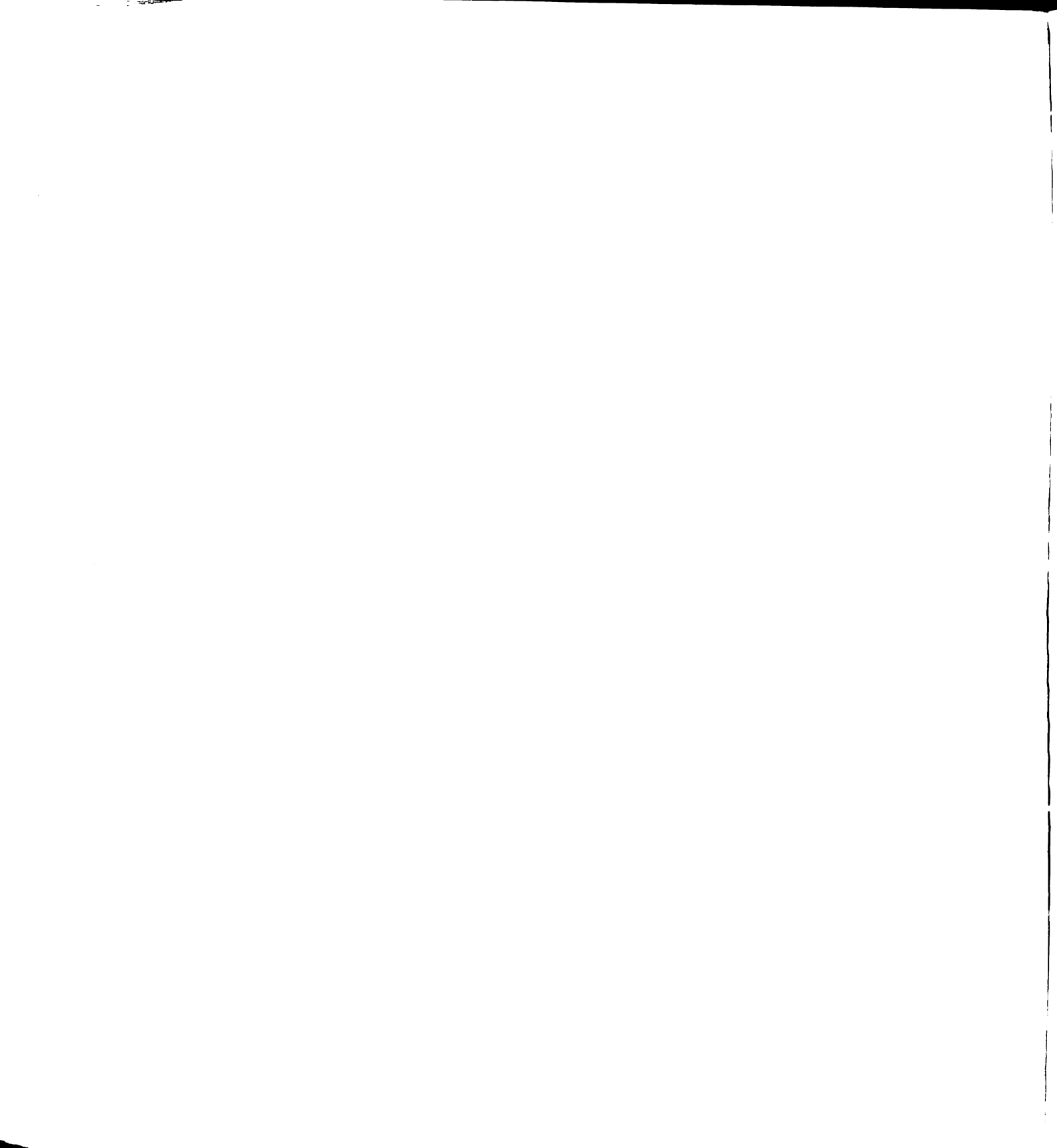
In addition to the fees, villagers are also responsible for various temple management positions; all constituents are eligible, and terms rotate on an annual basis. The positions include: (1) a general manager, or pot-master, who does all the bookkeeping, arranges temple festivals, and announces the proper time to worship in the temple; (2) a vice-manager, who is in charge of the village god procession on the gods' birthdays; (3) four headmen (tau-ke), who run errands for the pot-master, such as building a stage for the village festival day, cleaning the temple before and after ceremonial days, and so on; and (4) four sedan carriers responsible for carrying the gods' sedan.

These positions are filled from among all the family heads in the village after the annual festival. Each family head in turn throws blocks in front of the gods' statues, and the one with the highest count

takes the pot-master's position, the second highest the vice-pot-master, and so on. To be selected for any of these positions used to be an extreme honor, for the villagers believed that they were closer to the gods in serving them. None of these positions are paid, and in the past services were always rendered willingly.

In the last few years the legitimacy and supremacy of this communally oriented religious organization gradually has been challenged. Mong-a, an old villager and a pious believer in the village gods, used to collect annual membership fees from all the villagers for the pot-masters. After the 1973 village temple festival, Mong-a lamented and complained to me that it had become increasingly difficult to collect. When he visited houses with the list, some would say they had no cash available or were too busy to pay. Only after repetitive dunning could he collect all the fees. "It wasn't like this before. People now think more about themselves than religion or the community," concluded Mong-a.

A similar reluctance was also seen among those who had been elected to serve in the temple's managerial positions. Before the 1973 festival, the temple's pot-master asked the four headmen to build a stage for a hired show coming to entertain the public, as was done every year. Half way through the construction, these gods' servants refused to continue, claiming they were too old to do the work and had their own personal affairs to attend to. It developed that they were demanding a half-day's wage from the public fund for their service, and through their threat to pull out, they successfully extorted the sum for the traditionally unpaid job. When the word spread, many pious villagers were stunned, but now that tradition has been broken, it is likely that future headmen will make the same request.



The shift from a traditionally honorary and obligatory communal activity to an unwilling membership obviously reveals the weakening of the in-group orientation and the diminishing social values attached to it. The once highly regarded work of serving the gods has become, to some villagers, less attractive than more lucrative personal pursuits. Villagers' reluctance to pay their membership fees and serve the gods manifests their decreasing communal concern and involvement.

One practical reason for the villagers' reluctance to maintain such a religious organization and its ritual practices relates to the absence of able-bodied youths to perform various strenuous tasks. The annual village festival of tso-ping-an on the 15th of the 10th month lasts for two days and is all but exhausting. In the gods' procession to their home six miles south of San-lin, villagers on foot must carry the gods' sedan chair and other paraphernalia all the way. The villagers then must carry the reincarnated gods around the village territory to spread their newly gained spiritual vigor against encroaching demons. When I accompanied the procession in 1973 for the two-day journey south and then around the village territory, I noticed aging farmers dragging their feet and struggling to complete the ritual correctly. At the end, some villagers were on the verge of collapse. One finally suggested the last part of the journey be cut short by omitting some village roads, which the team wholeheartedly accepted. The unsurveyed territory was thus exposed to the invasion of devious spirits, and in earlier times this would undoubtedly have outraged those residents unprotected; in 1973 hardly an eyebrow was raised.

The decline in communal involvement is seen in the religious organization of the entire Ta-chia region. Matsu's birthday ceremony and procession to Pei-kang, Taiwan's religious center approximately 100

miles south of Ta-chia, has long been the most important event for the entire Ta-chia plain. All the villages would send a team representing their gods to pay tribute to the supreme goddess. On the eve of her departure to the south, the village teams would gather in Ta-chia to see her off, and when she returned a week or 10 days later, all would gather again to welcome her. The village gods would then accompany Matsu in her survey of the entire Ta-chia downtown area, and the village teams would display their fighting skill to the public. The audience would applaud this proper conduct.

In early 1974, many San-lin villagers began to discuss the organization of a team for this occasion late in the Third month. Many plans were proposed, but all proved abortive. There were simply not enough people to carry the gods' sedan and other paraphernalia. Members of the last trained village fighting corp were now over 25 years old, and it would be a shame to ask these middle age men to compete in public with youths from other villages. A few villages in similar straits have hired acrobatic teams to represent them, but San-lin does not have the means and connections to do so. It finally was decided that San-lin simply could not participate in this event, for the first time in its known history. It appears that San-lin will never again participate, and many other regional villages even less developed than San-lin will probably follow the same course in years to come.

From Folk to Ecclesiastical Cults

As the traditional, territorially bound folk religion gradually has lost its grip over the population, there has been an upsurge in nonregional sects in rural Taiwan. Little systematic research concerning them has been done, for the government keeps a keen eye on them and is always ready to adopt severe measure to eliminate them. This has forced these

sects to go underground and obscure their identity as much as possible. From my personal discussions with other social scientists in Taiwan, I am convinced that these sects have gained a stronghold in rural areas and small towns and are expanding their influence all over the island.

During the time I spent in San-lin, one villager brought a priest from such a sect to spread the gospel to a gathering of some twenty villagers. The doctrine differed substantially from the folk religion in many important respects. First, it claims the existence of a supreme being in the universe which cannot be personified in the form of a diety of dieties. This being can be interpreted as the ultimate truth or principle of the universe, or the immortality of all life. In obvious contrast to the traditional folk dieties, the supreme being is not territorially bound or purpose-oriented in fulfilling certain goals, as are the communal gods. Second, this sect proposes a sophisticated theology by combining traditional tenets of Confucianism, Taoism, and Buddhism into its doctrine. It preaches filial piety, rebirth, vegetarianism, and dharma, or merit of life, as its guidelines. Individual effort in fulfilling these goals will lead to the promotion of one's well-being in this life and the hereafter. Thus, religious belief and practices are personal rather than communally oriented, again in dramatic contrast to the more spontaneous and less dogmatic folk religion. Finally, the new sect appears to have a body of clergy formed into a bureaucratic hierarchy. People in one area are kept informed and closely related to worshippers in other areas through the priests. The existence of a professional priesthood gives this new sect the character of an ecclesiastical religion.

After his sermon, the priest urged the villagers to organize a local chapter in San-lin. He would come twice a week to preach. The

proposal was turned down by the villagers after some cautious discussion, not because they were not fascinated by the new gospel, but because they feared government persecution.

In my judgment, San-lin will eventually adopt one of these new sects and discard its communal dieties, as already has been done in other villages.⁴ While traditional communal worship continues to decline because of the changing mode of life, the new individual-oriented and ecclesiastical sects will come to fill the spiritual vacuum. Many San-lin youths already have been converted, the young particularly since their education allows them to appreciate the sect's more sophisticated theology. They often object to traditional ritual practices as being superstitious. Religious belief, as an integral part of a community system, is also reflective of the changes in other parts of the system.

4. Local Level Politics

San-lin's political process has not been immune to the overall socio-economic changes taking place. Some of the developments in this area, for example, the decreased political domination by the landed aristocracy, the rivalry for its lost power by newly risen interest groups, and the merger of the traditional elites and the new middle class in recent years for their joint interest, underscore both the changing modus vivendi in the rural area and the changing islandwide political framework of which the village is only a part.

It was the changes in the mode of production, the new channels to wealth and social mobility, and the decreased value attached to agricultural land that finally offset the traditional social hierarchy and thus political domination of the traditional landed elites in the rural area. In order fully to understand the dynamics involved, it

is necessary to sketch briefly some of the underlying principles of the premodern period.

Traditional Taiwanese agrarian society, as described in chapter 3, was geographically divided into regional enclaves. Within each was the stratified population, broken down into classes on the basis of their involvement in agricultural production: on the bottom was the vast number of small farmers earning a living on rented, some self-owned, land; above them were the relatively well-to-do small landholders; and on top, were the large landlords.

Political domination within the regional enclaves rested ultimately with the wealthy landed families through the cooperation of the small landholders. The landlords were generally more involved in affairs above the village level, such as at the township, county, or provincial level. There were vicissitudes of political power among different families or kinship groups throughout this period. As a large family's landholdings dwindle because of excessively lavish living, family division, and mismanagement, its political power and influence would gradually decline and eventually be replaced by a family which had been able to accumulate more land and become prosperous. The basic principle was always the same: land ownership was the most reliable gauge to distinguish social classes and thus power relationships. This situation continued well into the 1950s or 1960s, despite the changes of political system in Taiwan in the last century. It was the most recent socioeconomic changes that ultimately brought about a decisive rupture between the rural society and some of its traditional social institutions.

Some may argue that the majority of the institutional changes in Taiwan have their roots in the Japanese colonial period. The penetration of Japanese industrial products, the open market system, banking,

improved transportation systems, and, most important, a stable and firm administrative system all led Taiwan on the road to modernity. Indeed, some of the changes that occurred in this period were so significant and impressive that a famous agricultural economist has considered the institutional alterations brought by the Japanese to be the major factor contributing to Taiwan's economic progress (Lee Teng-hui 1971).

The allegation that the institutional reforms during this period substantially modified Taiwanese rural social structure is, superficially, convincing and not without some justification. First, Japanese military forces were always prepared to crack down on any local uprisings or regional warfare. Second, the penetration of sophisticated transportation, market, and administrative systems into the rural area contributed significantly to the weakening of regionalism in social identity and political ideology. In the process the once obscured social stratification based on land ownership surfaced and crystalized. Thus, as regional barriers faded, there emerged a strong landlord class which exerted an ever-growing political influence in the last two decades of Japanese colonization. This class launched various social movements and reform programs and had succeeded in gaining for itself more representation in the colonial administration.

Yet, the weakening of traditional regionalism and the emergence of a powerful landed class to counter Japanese colonial administration would not be interpreted as fundamental changes in Taiwan's rural social stratification. Land possession and farming were still the principal measure of wealth and social status. But grafted on the indigenous, rural society was the alien bureaucratic system to which the native population had little access. At the village level, there

was little change during this period. It was still the landed families and the big landlords who had ultimate control over local affairs. Even when the Japanese opened some minor official positions to Taiwanese as a token of equality in the late colonial period, it was the landlords' children who eventually had the proper education and connection to obtain these positions.

This situation continued well after the Restoration and the subsequent land reforms. Even though the reform successfully curtailed the landlord's influence in rural areas, it did not totally alleviate the source of their power. Many had succeeded in establishing themselves in other enterprises and thus retained their wealth and influence. On the other hand, the newly opened local offices, such as the Public Office and the Farmers' Association, were staffed mainly by people from the landed classes (Gallin 1968; M. C. Yang 1970: 476).

The major change in the 1950s and 1960s was the installation of the election system for local level offices, which opened an avenue for challenging the landed aristocracy's political domination. Now that political power derived from a person's popularity and the number of ballots received in an election, the nonlanded classes could threaten the old power bloc. Feuding and factionalism in various parts of Taiwan were thus the main theme in the rural political arena during the late 1950s and early 1960s (Gallin 1968, Crissmen 1976). However, since the landlord class normally had the most legitimate access to power, such as land, education, local businesses, and so on, their competitors could only be drawn from a traditionally outcast sector of society, such as racketeering, prostitution, bootlegging, and so forth. These rivals assailed the ancient power bloc and, by chance, upset it in some

elections, but the challengers could never eliminate the landed class as long as it controlled so much property.

It was industrial development that eventually led to fundamental changes in Taiwan's rural social structure and the old system of political domination. The decrease in the productivity of farm land and thus the social status accompanying landholding, the opening up of new access to economic gains and social mobility, and, finally, the diversification of social classes in rural areas because of the new channels to wealth from nonfarm sources, all contributed to the termination of the traditional bifurcation of political power between the landed class and the underworld. In recent years, some landed aristocrats have succeeded in establishing themselves in new industrial enterprises. In so doing, they established close associations with people of similar interests, often their former foes. In brief, the landed aristocracy as a dominant power in rural Taiwan has been replaced by a new middle class composed of the old landed families who have made the transition from farm to nonfarm concerns and of those from the lower social strata who have succeeded in reaching the propertied class. The previous division between landed and landless has become blurred.

In summary, political development in rural Taiwan experienced stages of transformation. The traditional political system was characterized by regionalism and political hierarchy based on land ownership. During the Japanese colonial period, the weakening of regionalism made land ownership the only gauge of power in local level politics. The landed aristocracy united across regional lines maintained unchallenged political power. The Restoration and the ensuing land reform in the early 1950s disturbed the landed aristocracy's monopoly on property. In the meantime, local level election reform opened up avenues for challenging

the aristocracy's control. This period was characterized by bitter factional local warfare during elections between the landed aristocracy and the underground world. Finally, with the emergence of industrial production in the last decade, both the old landed aristocracy and their foes have discovered joint economic interests and hence have converged into a new interest group, now the only power holder in rural Taiwan.

This evolutionary change in local politics was seen at all levels in the region of which San-lin is a part, that is at the Tai-chung county level, the Ta-chia township level, and at the San-lin village level itself.

Political Changes in Different Regional Levels

From the interview I conducted with people from various walks of life it is possible to reconstruct the changes that have occurred at the county, township, and village level in the Ta-chia region. My emphasis in what follows will be on recent changes rather than the premodern period.

The largest landlord in Tai-chung hsien was the Lin family in the Wu-feng area. Their prominence extended from the Ch'ing dynasty well into the Nationalist period (c.f. Gordon, 1970). After land reform and the installation of local elections, the Lin's domination was open to challenge. To maintain control, the Lins allied with other landed families and informally formed the Lin pai (Lin faction), also called the Red faction. The challenger, a medical doctor from Fong-yuan and a self-made man from a rather humble background, built his power base among those excluded from the landed aristocracy. The components of this faction, called the Chen pai (after the doctor's surname, Chen), were heterogeneous and sometimes looked down upon in the traditional

value system. As its other name, the Black faction, implies, the Chen pai was allegedly associated with "black" society--the Chinese term for the underworld--and had been implicated in various illegal activities. People in the Red faction generally looked down on those in the Black faction for their humble family history and their illegitimate ways. Even today, a Ta-chia landlord voiced to me his objection to Dr. Chen's campaign strategies: "He appeared in public, yelling: 'Poor me! Poor me! I lost my father at three, and lost my mother at seven. I've had the same humble life as you do!' Selling out one's pride for a few ballots, and that's disgraceful!"

These two factions plagued the Tai-chung's political arena for nearly twenty years in their struggle to control the various local offices, mainly the county magistrate, and county representatives to the provincial assembly, the county deputy administrator in the Farmer's Association, and the township representatives to the county assembly. Generally speaking, the Red faction had firm control of the Farmer's Association at the county level and of most of the townships. The position of deputy administrator of Tai-chung hsien Farmers' Association had always been controlled by the Reds, and it was used as a springboard to higher political office. A former deputy administrator is now chairman of the Provincial Assembly, and the current deputy administrator's son is a member of the National Assembly.

The campaign for county magistrate aroused the keenest competition, often involving bribery, intimidation, forgery, and other dirty tricks. The Black faction was quite bold in using such methods, and the Red faction, in response, followed suit. As Table 23 shows, the first elected magistrate was the head of the Lin family. He was replaced by Dr. Chen of the Black faction, but he died before the end of his term.

His predecessor was elected again and was replaced by another from the Black faction. Since then, the position has alternated between the two factions rather regularly. The current magistrate, although originally a Red, has become a neutral and is supported by both groups.

Table 23. Elected Magistrates in Tai-chung Hsien

Name	Year Elected	Factional Affiliation
Lin Ho-nien	1953-56	Red
Chen Suei-tan	1956-59	Black
Lin Ho-nien	1959-62	Red
Ho Chin-sheng	1962-65	Black
Lin Ho-nien	1965-69	Red
Wang Tse-kuei	1969-73	Black
Chen Meng-ling	1973-	Red

Source: Conversation with an official in Tai-chung hsien government documentary office.

The current leader of the Red faction in Tai-chung is a Tsai, who was promoted from deputy director of the Tai-chung hsien Farmers' Association to chairman of the Provincial Assembly, a powerful position in Taiwan. The head of the Black faction is Dr. Chen's widow, who has been elected to the Provincial Assembly for three terms, but the actual power in recent years has been held by a self-made industrialist and billionaire from the Sa-lu area, a Li. He used to support the Black faction financially and occasionally held a representative position in the Provincial Assembly. Lately, he has gradually withdrawn from active political life and his son has succeeded to his position. The young Li, a more open-minded person, has accomplished a reconciliation with the Red faction based on joint economic interests. In many parts of Tai-chung, the former Blacks and Reds have mingled in economic ventures, such as building new factories.

At the Ta-chia township level, the process has been similar. The Farmers' Association in Ta-chia has been firmly dominated by the Red

faction and wields tremendous power in local elections. The office of township mayor has seen a similar pendulum swing of power between the two factions, a more syncopated rhythm of Red-Black-Black-Red-Red-Black-Red. The current township mayor, Li, is described by villagers as having "a red background because he used to be a teacher. Educated people generally fall into the Red faction. But Mayor Li is not committed to the Red as deeply as the previous Red mayors. He is rather neutral." He has been on good terms with both factions. The Black faction leader in Ta-chia is an underground figure nicknamed "Theater Kim" because of a theater he owned in Ta-chia. He also used to run several wine houses-- a semi-prostitution business with a restaurant as a front in Ta-chia.

The Red faction used to have a monopoly on food processing businesses in Ta-chia through its Ta-chia Food Processing Company. But recent industrial developments have drawn the landed aristocracy away from agricultural concerns, and they have gradually merged with the Black members in nonfarm ventures. People in Ta-chia claim that a number of Black and Red leaders have joint investments in several large manufacturing enterprises in the Je-nan area, a town about five miles north of Ta-chia.

San-lin village was firmly controlled by the Red faction in the past. Villagers were loyal to the landed families whose land had made them a living. A capable member of the landed Liang lineage was elected village mayor from 1950 to 1970, a total of seven terms. In a sense he was a lieutenant of the Huang landlord family to govern the village since that family was involved in affairs outside San-lin. The most vividly remembered incident in San-lin related to an election in which the entire village campaigned for a Huang family member for township mayor. All the villagers volunteered as unpaid runners. They mobilized

their kinsmen in other villages to vote for Huang and disrupted the opponent's campaign gatherings by different means, sometimes violently. As a result, Huang, a college graduate in his late 20s, was elected twice as township mayor, serving from 1959 to 1967.

San-lin villagers were once deeply involved in the factional fighting. They not only provided the most reliable ballots for Red candidates in various elections, they also provided the muscle for that faction when physical fights with Blacks occurred. In many campaigns, young, strong San-lin villagers were selected as bodyguards for the faction's front runners. As a reward for their loyalty, the Red faction gave positions in the Ta-chia Farmers' Association to San-lin's landed families. Many illiterate villagers were given jobs at the Ta-chia Food Processing Company.

In recent years this loyalty to the Red faction has gradually faded. Some ambitious villagers have made friends in Ta-chia and have engaged in various illegitimate businesses, as most Black faction members did. One villager named Liu became a millionaire from land speculation in Ta-chia. He came from a humble tenant family, but now is supported by the Black faction as an elected representative to the township assembly. Another villager, Li, also from a poor background, ventured into brick manufacturing and also made a fortune by proper associations with the Black faction. He is supported by that group and has held the village mayorship for two terms. The success of these two has aroused envy from other villagers who have become dissatisfied with the rewards they receive from the Red faction. Their dissatisfaction also derives from their disappointment with the Farmers' Association. They regard the recent decline in agricultural profits as result of mismanagement on the association's part in failing to protect and promote farmers'

interests. As those hard feelings have increased, the Black faction has dually gained more friends by its generous support of village affairs and by doing favors for villagers through their personal connections. The day finally came in the 1970 village mayor election, in which the old Liang mayor was defeated by Li.

This upset not only signaled the downfall of the Red faction in San-lin, but also the termination of factional competition in the village. Very few residents are now interested in local elections, regardless of the positions involved. They are reluctant to label themselves as belonging to either faction, let alone fight for them should the need occur again. Older villagers often call their own involvement in factional fighting "stupid." They had fought long and hard for the Reds and some were even ready to sacrifice their lives for a cause only partially understood by the villagers. Many probably became involved involuntarily, for they lived on their landlords' land and shared a common interest with the landlords. They had little choice but to fight as they were commanded. "But now," as a villager once remarked, "as I see the Red leaders and Black leaders happily working together, I start to question why I fought vigorously for them in the past. I could not find a satisfactory answer. Probably politics is just dirty, and we were used by them. It is probably not our small people's business to get involved in politics."

5. Summary

The transformation of the old regionalism into factionalism in rural Taiwan, despite the radical change of form in political procedure, underscored a continuity: land ownership is the main source of power in an agrarian mode of production system. As the industrial mode took over

there emerged a new source of power and a new set of status symbols. Industrial production transformed both the old political power holders into a new alliance and the land-bound farmers into individual, industrial wage workers. As this happened, traditional regionalism and factionalism ceased to function in local level politics. It is no coincidence that at both the Tai-chung hsien and Ta-chia township levels the highest elected officials, the county magistrate and the township mayor, are no longer factionalists but are neutral. In the same manner, the Black and Red factions have ceased to struggle for elected offices. In the future they will ally to serve their joint economic interest and will continue to exert dominant political power in rural Taiwan.

As the old political process disappears, what alternatives are open to the villagers? Could they select their own representatives to speak for their interests? I have pondered these questions, and I cannot provide a satisfactory answer. When I stayed in San-lin, it seemed that the majority of villagers had turned into apathetic apolitical beings lacking any concern in public affairs. They objected to the old landed families as inadequate leaders, but they also distrusted the new leaders because of their self-profiteering. The lack of trustworthy political leaders and a new political ideology has caused the village to lose interest in political affairs and group action in time of need.

Footnotes

1. The list of costs for rice cultivation collected in San-lin differs slightly from Wang and Apthorpe's report (1974:174). I assume that differences derive from the quality of land and, subsequently, fertilizer demands and taxation.
2. Gallin's study in the late 1950s indicates the trend toward more family members per unit in his village and the hsiang area (1966: 34). However, he believes that "this is not...an indication of an increase in the number of joint families or a decrease in family division" (ibid). More recent studies and my work in rural Taiwan strongly suggest that the number of complex family forms have actually been increasing (Chuang 1972: M. Cohen 1976).
3. See Freedman 1970: 3-4 or M. Wolf 1970: 53-54, for details.
4. My discussions with other anthropologists in Taiwan revealed that these underground sects have become the major religious forms in many other rural communities. However, since this subject is highly sensitive and has tremendous political implications, I cannot provide further information.

CHAPTER 7

CONCEPT OF TIME AND SAN-LIN VILLAGERS' DAILY ACTIVITIES

The complexity and versatility of human social life can hardly be exhausted and fully understood by singling out only a few dimensions for scrutiny. An analyst cannot possibly assert that his or her work is complete; there is always something missing. The emotional expressions of glee and grief, love and hate, sentimental attachment, and the immensity of ghosts and spirits coexisting with living beings in the same social environment, are all essential parts of the village life in which an individual is wrapped. Treated separately, the impulse of life, the feelings, and the irrationality of behavior will inevitably lose meaning and become intangible. Perhaps the totality of life simply cannot be properly portrayed in objective and analytical terms while retaining its fundamental and meaningful essence.

The current study deals with sociocultural changes in a rural Taiwanese community. I have attempted to disentangle the many factors which have comprised the infrastructure of San-lin during different periods of its history. One task that remains is to assess daily life within the analytical framework: To what extent has the villagers' value system been changed as they proceeded from one type of social universe to another? How have they perceived and responded to the changes over time? Has their behavior altered as a consequence of attitudinal changes? In tackling these questions we are at once dealing

with problems at two different levels: one is the time dimension--the change of community infrastructure that affects behavior--and the other is the villagers' subjective attitude toward the passage of time and change. Much has already been said about the first dimension in previous chapters, and in this chapter I will focus on the inner dynamics of change which I observed in the villagers' daily behavior.

In dealing with human behavior, one again faces a multifaceted referential framework from which the decision for action is drawn. Why is a certain thing done in a particular manner and at a specific time? What is taken into consideration in making a decision to perform an activity? The reference and decision-making process involved in the villagers' behavior is rooted in their abstract concepts of value, ethos, and worldview. I shall not disguise my dissatisfaction with treating these problems by employing a psychological method. The validity of any quantitative psychological methods in cross-cultural studies has yet to be demonstrated. Without such an objective measurement, I will draw my analysis on the basis of some actual cases I observed. I will focus on one specific dimension, the concept of time, as the starting point for discerning the componential features of the villagers' behavior.

It may be self-defeating to adapt a single, analytical dimension to describe villagers' behavior. However, social scientists are frequently assigned the role of discerning rules out of apparent chaos, regularities out of apparent spontaneities, and meanings out of apparent irrationalities. To simplify and clarify the complexity of social behavior, one must begin from a limited starting point to incorporate the entirety. The concept of time, rarely touched by social scientists, serves well, for its reflective nature mirrors the villagers' inner value system and their outward regulation of behavior.

1. Concept of Time

The concept of time as a gauge of human value systems and a determinant of human behavior can be seen in the scheduling, timing, and programming process of our daily activities. For one living in a modern industrial society, these processes are clear and demand precision. Everyday life is arranged in such a routine manner that one must be familiar with the exact procedure for all activities to ensure the smoothness of life. Timing is crucial. The rhythm of life must be measured on an objective time scale, hence the prominence of clocks and wrist-watches, indispensable parts of modern life. The programming factor in our daily activities is also important in anticipating the future as compared to the present. Savings and investment involve trading present considerations for future benefits, as does insurance. In sum, in modern industrial societies the precision of time and a proper attitude toward time is a prerequisite for an adequate life style. Flexibility is not utterly lacking in such a life, yet its range is rather limited as the individuals are tightly knit into a well-planned life pattern.

To one who has been so trained, Taiwanese peasants display quite different scheduling, timing, and programming considerations in their daily activities. A superficial observation indicates that the peasants' concept of time and timing contains several seemingly perplexing and contradictory elements. On the one hand, peasants are quite casual about their scheduled activities. A villager pulling a cart, claiming that he is going to do farm work for the day, may end up in a grocery store where several other villagers are gathered to chatting,

gamble, or drink for the entire day. A farmer working on his land may drop everything upon hearing that a neighbor or kinsman has fallen ill or needs someone to attend his family. Peasants are notorious for their lack of punctuality or precise timing. When making an appointment, the usual time given is "the afternoon," "at dawn," or "after dinner." And the interpretation of these remarks reflects a wide range of idiosyncrasy and flexibility. Any well-planned program for ordinary daily activities is virtually unacceptable or impossible for peasants to carry through. Once I was teaching a group of village students English. A villager dropped in, sat on a table directly across from me, and began to chat about his family affairs. The idea that I should do something specific in the scheduled class hours was probably something he could not comprehend.

In apparent contrast to this casualness, peasants in San-lin often appeared overly sensitive about particular "spots" of time. For example, the time for moving the ancestors' tablet to a new house, holding a marriage ceremony, making a trip, and so forth, must be carefully chosen and executed accordingly. Sometimes people consult the almanac to decide whether to go out to do something on a particular day, and for more serious matters they consult a spiritual intermediary to decide the exact time for the activity. Failure to follow the prescribed schedule would solicit unexpected disaster, and in retrospect villagers often explain the unexplainable by pointing out the improper time factors.

The question is: Why in some cases are peasants lacking a sense of time and timing, while on other occasions they can and will actively pursue punctuality in their activities? What is the inner structure of time in the villagers' ideology that differentiates one type of

activity from another? In the remaining part of this chapter I intend to answer these questions. I also want to point out that even though the peasants' activities sometimes appear haphazard and spontaneous, their arrangement follows certain principles and is well integrated into their ecosystem. To most anthropologists the structure of time seems to fit into the research category "emic" and, consequently, falls in the realm of an ethno-scientist. I would like to argue that even the emic category of time can be better understood if an etic approach is taken. I want to demonstrate that the complementary contradictions of time and timing conform with the peasants' particular living environment and mode of production. Suffice it to say here that since a socio-cultural system is integrated into the environment, the factors relevant to time and timing can probably best be understood if viewed from a cultural ecological perspective. Finally, I will also examine how the peasants' unique time structure has affected their ability to cope with their changing environment, every corner of which has been permeated by industrialization and its accompanying demands for punctuality and programming.

2. Time Stream and Time Spot

In terms of ecological conditions, San-lin is not different from most other farming villages in central Taiwan. Economic activities are regulated by the characteristics and rhythms of nature, such as the quality of soil, the amount of rainfall, and the length of warm days for crop growth. By active and aggressive pursuit, a farmer may manipulate these elements and somewhat improve his lot in life. However, it is nature that draws the baseline upon which human efforts operate.

The tempo of nature remains the heartbeat of agrarian life. In general, villagers certainly know, and act accordingly, that there will be sufficient rainfall and thus irrigation water between the sixth and ninth months, less rainfall in the second to fifth months, and even less water from the tenth to the first month.¹ The severe winter from the eleventh month to the first month prohibits the growth of rice, but is suitable for some cold-resistant vegetables or root crops.

Human effort in redirecting the course of nature is seen in the persistence needed in rice paddy cultivation. The recurrence of water in the irrigation ditches guarantees the growth of crops in the field, and it also gives the means for farmers to make a modest living. The smooth, transparent water, however, may take its toll at unexpected times. Augmented by heavy rainfall during the typhoon season, rivers may smash down embankments and wash away farm land and houses within seconds. As already described, such disasters did occur in 1953 and 1963. Most villagers believe that such disasters are brought about by supernatural powers.

One explanation relates the flood in 1963 to the construction of the Cheng Ch'en Kong (Koxinga) statue on a scenic mountain at the upper headwaters of the Ta-an River in 1962. The building of this statue was ill-dated and thus upset the spirit of the earth (te-k'i). Other San-lin residents accuse Fong-hua, a neighboring village, of causing the 1963 flood. There had been a severe drought in the area, and in order to solicit their gods help in sending precipitation, the Fong-hua villagers purposely exposed their gods to the burning sun. Obviously, the overbaked gods sent down too much water and caused the flood.

The complementary oppositions of time involved in the events described above can be discerned in the following manner: one is the

normal, repetitious, and endless stream of time, just as the stream of water in the river and irrigation ditches can be considered natural and permissive; the other is the abrupt, destructive, and uncontrollable events occurring at unpredictable times caused by supernatural factors. The former kind of time is seen in the course of the natural process, such as the time lapse from one day to another or one season to another, or the time required for a crop to grow, or the time span of a man's life. Upon this natural, smooth, and repetitious time occur spots which are not a part of the natural sequence and which can throw the time course into disarray.

A few remarks concerning the concepts of time stream and time spots, however, should be made. First, these two concepts are significant only in a comparative sense. There is no absolute standard to determine how long a period should be considered "time-stream" or "time spot." The distinction between the two is significant only in a relative sense. A man's life is considered time stream, but a particular year in his life may be a bad time spot for certain activities. Whereas the rice growing period of three months can be considered time stream, the days when the crop fails are considered time spot. Second, these two concepts are not formulated by the villagers and thus have no comparable Taiwanese terms. The term equivalent to English concept of time in Taiwanese is shi. Used in compound words, shi means the sequential relations of events, specific duration, the measurement of passage of time, and so on. This is a general term and can be used in many different contexts. However, when referring to the contrasting nature of time, or the different qualities of time, I found no equivalents in Taiwanese idioms for "time stream" and "time spot," and villagers seemed unaware of the contradiction. Third, I admit that these two

principles do not exhaust all the time factors involved in peasants' daily activities, nor are they conclusive in exploring them. They are merely the most satisfactory concepts I can devise to analyze and categorize the time factors operating in daily activities.

3. Agricultural Work

Time factors in agricultural work involve the natural process of growth, which belongs largely to the time stream. Crop growth is affected by natural conditions manifest in different periods, such as differences in temperature, amount of rainfall, growing speed of the crop, and so forth, in different seasons. Thus, rice must be grown between the second and eighth months, and the windy and cold winter allows the growth of only a limited number of crops. In addition to this seasonal sequence, the natural conditions in an ecosystem also directly affect the work of peasants: A rainy day is always a rest day for farmers, except for urgent tasks, and winter is also quite often a leisure time when there is little work in the fields.

One distinctive but rarely mentioned characteristic of farming is the degree to which work patterns are affected by the long growing seasons. The cyclical nature of the time stream involved in crop growth makes farming a rather flexible task and provides a long period in which to conduct a task or tasks which in reality may take only a small portion of the time allotted. For example, first season rice can be transplanted from the seedling beds to flooded paddies from early in the second month to the end of the third month. Any time within this period, the transplanting work can be taken up or put down. Much the same is true for repair work on the land bunds, weeding, or spraying pesticides: these tasks can be done today, tomorrow, or a week later,

depending on the farmer's decision. Thus, peasants need not set up a precise time table of what to do within a day or for a specific day or even over a fairly long period of time. They may sometimes take an afternoon off, or may sometimes stay in the field until quite dark in order to finish a certain amount of work. These remarks do not imply that Taiwanese farmers are unconcerned about their work. Rather, it is the nature of the farm work that allows them a rather unorganized and loose working pattern within which the time factor or timing is not crucial.

Because of the flexibility of farm work, it makes scheduling, timing, and programming unnecessary for individual farmers. Consequently, farm work based on organized farm laborers is extremely difficult to carry through. A good case in point are the rice transplanting or harvesting teams which perform these tasks for farmers who do not have the skill or labor to do so. There are four transplanting teams and six or seven harvest teams in San-lin. None of the teams has a fixed membership except for an organizer, who takes orders from farmers and recruits workers on a daily basis. The organizer may have a few close friends upon whom he can count as basic members, otherwise he would ask other villagers to take part. Sometimes, even the core members are not reliable. One day, a farmer, Mr. Chuan, did not join the transplanting team with which he had been working for a long time. When later asked about it, he said that that morning he suddenly remembered he should go to visit his relative in another town and had spent the whole day there. He had told another team worker about his plans, thinking he would pass on the information to the team organizer, but that man had not shown up for work either.

Transplanting or harvest teams as a whole also display the work

pattern characteristic of an individual farm worker. Although wages are paid on a daily basis, there is no requirement about the number of hours a team should work each day. They may leave in the early late afternoon after finishing one plot of land and decide not to begin another, or they may stay until quite dark to finish all the work in one plot.

With such an unstable labor force and different working speeds, it is extremely difficult for a team organizer to plan to do work for more than five days at a stretch. Normally, the leader arranges work for his team for three or four days in a row and purposely leaves one or two days thereafter open. If the work is delayed by insufficient workers or water, these open days in the schedule can take up the slack. The organizer's scheduling problems are not solely created by the unstable work force. One day I saw a team of workers sitting indifferently in a grocery store in the early morning when they were supposed to be working in the field. The organizer told me that when he and his team had arrived at the fields early in the morning, the farmer simply told them that his seedlings were too small to be transplanted, and they would have to wait a few more days. Since the team did not plan to work elsewhere that day, they had no work at all. Around noon another farmer discovered them and invited them to work for him. Sometimes, insufficient water causes the transplanting work to be cancelled. In other words, natural conditions are such that any preplanned, long-term timetable for the farmers or organized farm laborers would prove unworkable.

Even a large enterprise, such as the Taiwan Sugar Company, could not convert the farmers into punctual wage laborers in the field. An example was the sugar cane harvest team in San-lin organized by the Company. A villager assumed the responsibility for organizing the work

force on a contractual basis and began doing so early in the eleventh month. Word about the work circulated and many farmers who had finished their rice harvesting and drying agreed to join. The organizer, however, could never predict how many workers would appear. Even those who showed up in the morning might simply quit in the afternoon to attend to personal business. The number of workers peaked just before the Chinese New Year, when most farmers had finished their work in the rice paddies and had more spare time. However, after the New Year farmers gradually slipped away to prepare their rice fields. As the workforce dwindled, so did the speed of sugar cane harvesting. When the company realized the harvest was falling behind schedule, it had to offer higher wage to lure farmers to finish the work.

That such working patterns are geared to the natural rhythm of crop growth is obvious and easy to understand. However, the same attitude toward time is also an essential part of village social life to tide them over crises, a fact rarely mentioned by anthropologists. Whenever a farmer holds a housewarming, funeral, or wedding, he can always find other farmers to help. These may be his kinsmen, fictive kinsmen, friends, or neighbors, and when requested they will put aside their farm work and assist. They may cook, serve at the table, participate in ritual performances, and so forth, sometimes for several days. They are not paid, except, in San-lin's case, for coffin carriers, who receive NT\$100 (approximately US\$2.65) each for the task. These volunteer helpers know that when they face similar situations, they can expect reciprocal services. This kind of mutual assistance is seen in almost all important village activities involving more than one family. The term used is pang-p'uan, which originally meant exchange labor among farmers for agricultural work. Because of these

unexpected demands for exchange services, it is even more difficult for farmers to set up any precise timetable for their work or to carry it through. Expressed another way, it is precisely because of the lack of a timetable for agricultural work that farmers can put aside their work in the fields and help each other.

Although agricultural work is largely involved with the natural course of growth and thus is considered a part of the time stream, there are also bad time spots that are unpredictable. A crop may be unexpectedly destroyed by cold temperature, pests, drought, strong winds, and so forth. Taiwanese peasants refer to these crop failures as pai (literally: failure). A farmer normally would work very hard to prevent a failure, and when the symptoms appear, work even harder. Should he fail, he would talk about his pai, but not specify its exact cause. Farmers, who often talk about scientific knowledge in crop growing and indeed widely apply it to their fields, would nevertheless use the concept of pai to explain all the known or unknown causes of crop failure. In a way the concept implies an inescapable part of the crop's as well as the grower's life, just like the flood that struck years ago.

4. Concept of Time and Villager's Ethos

The contradiction between the time stream and the time spot is even clearer in the peasants' ethos, especially with regard to their life. The course of an individual's life occupies a definite period in the natural course of time. The time stream of a person's life, since it is a replica of natural time, displays the same cyclical sequence. A brief description of natural time should aid in our understanding of the time stream of life.

The rotating seasons subdivide a year, and each season has its

unique character, concepts so familiar to conventional thinking. To Taiwanese peasants, each year also has a character, usually represented by an animal. In all, twelve animals comprise the cycle of twelve years, the longest period applicable to the villager's ideology. This cycle, and the animals, provide an important frame of reference for particular years or events in the past. Remarks such as this are often heard:

"The new road was built 14 years ago, since it was the year of the Rat." A peasant may not know the year he was born, but by referring to the animal he "belongs" to he can easily figure out his age relative to another's. For example: "You must be 3 years younger than I, since I belong to the Monkey and you the Snake."

Within the year are the two major crop seasons, the tsa-tang (early winter) and wun-tang (late winter). The former lasts from the end of the first month to the early sixth month, the latter season from the early sixth month to the late first month. Since the former season is shorter than the latter, it is also called the te-tang (the short winter) as opposed to the teng-tang (the long winter). The crop seasons refer to rice only, and thus the term tang would be relevant and significant only to rice growers. Theoretically, those who do not grow rice are not supposed to use the term tang to refer to their time, but in reality all the villagers use tang to pin-point events, for example: "The fertilizer was much cheaper in last year's tsa-tang!" Within each tang are the lunar months, which are also characterized by the cyclical nature of time. One must worship god's soldiers on the first and fifteenth of each month, and the good brothers, the wandering ghosts, on the second and the sixteenth.

The course of time described above can be called the natural time stream for the purposes of our discussion. It is natural because, in

the peasants' cognition, it runs its course regardless of human factors. The time, and its accompanying character, is part of the natural system. It is the people that live through this time that are commonly subjected to the influence of its unique character. In a way, this natural time stream stands for the first set of factors that affects a man's life.

Along the course of natural time, certain time spots can be discerned. Just as one cannot grow certain crops at certain seasons, one cannot do certain things in a particular time spot. Different years and different time periods within a year have different characters, and these sometimes are unsuitable for doing certain things. These periods can be called natural time spots. As the year of the tiger approached, many betrothed couples hastened to marry "so that they don't marry a tiger into the family," as one villager put it. Another village woman complained that she may have lost a chance to buy gold at the low price: "I did not buy it last year because I figured that this year being the tiger year, fewer people would marry. With fewer marriages, the price of gold should drop. But who was to know that inflation early this year would eat into my money so rapidly. Now I cannot buy as much gold as I could have bought with the same amount of money last year." In another case, a villager built a new apartment house facing east. He kept the house empty for about three months and moved in only after the Chinese New Year, an auspicious year for east-west buildings.

Different periods of the year also have a unique character. The rules for doing or not doing certain things are found in the almanac, and most villagers consult it regarding their daily activities. Similar to horoscopes in other cultures, the almanac states which day is a good one for meeting friends, opening a granary, buying domestic animals, opening a new house, painting a picture, enrolling in school, having

one's hair cut, and so forth. Villagers usually consult the almanacs only for less serious matters, such as the best time to take a trip, buy a new motorcycle, or open a factory after the New Year, for the almanac is too general to be useful for individual situations.

In addition to what can be done in certain days, the almanac also states what cannot. Thus, when two accidents occurred on the second and fourth days after the Chinese New Year in 1974 (two tourist buses fell into valleys on the cross-island highway), villagers commented: "Those who took the trip were stupid. According to the almanac, these two days were bad days."

The natural time stream and natural time spots are given. People who live through them cannot avoid or manipulate them, but must endure and obey the rules. Even though these rules often interfere with peasants' daily activities, they are considered part of nature, similar to the fluctuating temperatures at different times of a year which dictate how peasants dress. Contrary to this natural order, the time factors involved in a man's life are artificial and supernatural. If a man's life is occurring within natural time, what makes it different? One obvious difference is that natural time and time spots are shared by all those living through the period, and its rules and prohibitions must be observed by all. In contrast, artificial or supernatural time streams and time spots, even though a replica of natural time, are exclusively individual and determine the life of only the person concerned. In other words, a second set of factors are introduced which means that those living through the same time period do not share the same experiences.

These factors affecting individuals are related to natural time factors, that is, a person born during a certain period of time

automatically assumes its characteristics. A man born in the year of the pig bears the character of the pig. Even more precise characteristics are determined by the month, day, and hour of his birth. The sum of all these variables, called the eight characters of a horoscope (bue-dzi), constitutes a man's given nature.

The operation of natural time and the individual's character given at birth lay out the artificial time stream of one's life. This is the life way, or path, called mia-to by the Taiwanese. Since an individual's birth date is important in dictating his life way, it is carefully recorded in the family. When a crisis, important ceremony, or other serious matter arises in a person's life, this birth date is given to an analyst for examination and determination of the proper date for the appropriate behavior. When an individual dies, the birth and death dates are recorded in the ancestral tablet. Events related to the deceased also are determined by an analyst's reference to the birth date. A case in point is that of a woman who worked in a factory as a cook and was accidentally scalded. On the previous day, she later claimed, she had dreamed of her deceased mother. She therefore thought the accident was an omen related to her mother and decided to consult a spiritual intermediary. Her son took the deceased woman's eight characters to the intermediary who claimed that the woman's tomb had been intruded upon by more recently built tombs. Upon inspection, this proved to be true. The woman decided to pick up her mother's bones, as the Chinese normally do, so that the deceased could be attended to properly. She consulted the intermediary again and was told she could not do so that year because it was a bad year for the east-west direction, above which axis her mother's tomb lay. The woman had to wait until the next year for the bone-picking ceremony.

Since birth factors are so important in one's life, it is not surprising that many villagers believe in and often visit fortune-tellers--those who figure out other people's lives by calculating their birth character and the character of the related natural time. Since the time stream of one's life is preplanned, peasants tend to accept what has happened to them. In this sense they appear fatalistic.

At intervals along the time stream of one's life are various time spots which bring misfortune to the individual if handles improperly. One term for the time spot is "giap" (literally: disaster or knot). A giap is formed when a man's character meets unfavorably with the character of natural time. If trapped in a giap and unaware of it, a man probably would encounter tragedy. A farmer once told me of another farmer from a nearby village who had committed suicide the day before: "He drank poisonous pesticide like Cola. He died immediately." The reason: "He lost NT\$4,000 [approximately US\$105] in gambling the day before and had an argument with his wife about this." "Would it not be considered silly," I asked, "to take one's life over such a small amount of money?" "No. It is not the matter of money," he replied. "In fact, NT\$4,000 is nothing. The real cause of his death was probably that he was in a giap. He did not die because of the money or the argument with his wife. He died because he could not solve the giap. Had he not died over the money yesterday, he would have died for some other problems anyway. It was a bad time in his life. Once he failed to overcome the giap, he would die anyway."

To avoid such a giap, an individual must be extremely cautious about time factors in his behavior. Hong-a used to be a pall bearer at village funerals. One year he refused to do so: "How dare I? My birth

character belongs to the pig, and this is a tiger year. A pig is the best trophy for the tiger!" The giap is pinpointed by a spiritual intermediary by figuring the individual's birth date and the character of natural time. Once this is done, the villagers believe, the giap can be resolved by proper ritual practices. The experience of one village family is illustrative. During the 1963 flood the family's land was washed away. Believing they were in a giap, the family consulted a ritual specialist from another village, who agreed with them. He proclaimed a seven-day ceremony was needed and demanded more than NT\$10,000 in cash as part of the ceremony. At the end of seven days he took the family eldest son and daughter-in-law to visit temples in a nearby town so that the couple could be purified. Meanwhile, the father discovered that the money used in the ceremony had disappeared. Shortly thereafter he found his son unconscious in a temple, probably intoxicated by drugs. The specialist and the young woman had simply vanished. This old man reported to the police, and the next day his daughter-in-law was found in a hotel in a far away town. She said that she had been taken there unconscious. The specialist and the money were never found.

Another common method for resolving a giap, as Professor Li Yih-yuan told me in a personal communication, is called K'am-wun, to cover the fate. The spiritual intermediary, who informs his client of a pending bad time spot writes the client's eight characters on red papers (to symbolize the clients) and puts them under a ceramic pot. As the time stream passes by, the endangered individuals presumably can avoid the giap by freezing their time inside the ceramic pot. After the bad time spot is over, these persons are "released" from the pot and return to their normal life unharmed.

An individual's life crisis ceremonies are very perilous situations. He is quite vulnerable and may be easily trapped in a giap if the time factor is not carefully observed. These ceremonies include weddings, building and moving into a new house, and funerals. The person who chooses the appropriate time for others is called a time-picker (k'uan-dzi). When he determines the proper time for these ceremonies, he must calculate the birth character of the person involved and the character of the natural time. Once a date is chosen, it must be strictly adhered to. Failure to do so would bring the person into a giap. One young man was killed by a train while riding his motorcycle to visit a friend. The accident happened only 19 days after his marriage. It was explained later that the boy was killed because he had failed to worship his ancestors on time at his wedding. He had gone in a taxi to pick up the bride, a San-lin village girl. There he fell into an argument with her brother over who should pay NT\$4,000 to the match-maker. In the process, the taxi was delayed by the bride's brother, who threatened to make the groom miss his time to worship his ancestors. The bride's father finally agreed to pay the sum and asked his son to let the couple go, but it was already too late. Nineteen days later, the tragedy occurred as a consequence.

The requirement of a specific time for certain things is sometimes quite inconvenient for farmers, let alone the researcher who wished to study the process. For example, A-ti's wedding was held at 6:00 A. M., Ying-a's house moving ceremony (lip-ch'u) was held at 2:00 A. M., and Ch'ing-a's ceremony to worship the heavenly gods the day before his wedding was held at midnight. There are other kinds of inconvenience, as in the case of Huang, a farmer who had planned to build a flat to replace his earth house for some time. He almost gave up his plans in

late 1973 when the price of steel, cement, and brick had risen so high he could not afford to build. In early May, 1974, when the price of steel had dropped from NT\$20,000 to NT\$11,000 per ton, he immediately purchased enough for his house. He then took his eight characters to a time-picker to select the proper time to start construction. He declared there would be no good time for him to break ground (p'ua-to, a ceremony to initiate the construction work) until late in the twelfth month of 1974. The poor man had to store his steel, hoping that by the time when he could build the house the steel would not be too rusty to use.

5. Conflicting Time Factors

Having discussed in detail the peasants' time structure and its implication for their daily activities, it would be of interest to examine how this time structure has changed as the industrial world and its accompanying new perspectives of time have permeated the rural area. As has been pointed out, the peasants' concept of time is well integrated into their work pattern and social life, both of which do not require precise scheduling, timing, and programming. In other words, except for an individual's life crisis ceremonies, a peasant's daily activities are rather spontaneous and lack programming. Thus, when a peasant enters the industrial world, which requires exactly the opposite, he often finds it difficult to adjust.

This maladjustment is seen most commonly among older peasants. Once such example concerns Lien-a, a farmer who used to work in his slack seasons as temporary laborer carrying bricks or sand for construction. After his rice was harvested around the tenth month in 1973, he was offered a job loading and unloading bricks from trucks. The pay

was attractive, NT5,000 a month, and he took the job. He arose at 5:00 A. M., the truck picked him up a short while later, and he worked until six or seven in the evening. Since he desperately needed money to repay his government loan, he was very grateful to have these earnings. Because of the high wage, he even told me he contemplated staying on the job after the rice growing season the following year. Instead of doing the farm work himself, he would hire laborers and have his wife supervise the work.

About six weeks later, he began to complain: the early morning truck might disturb his neighbor's sleep; he did not like the idea of his wife getting up so early on cold winter mornings to cook for him, and so on. These may have been reasonable causes for his unhappiness about the job, but one obvious result of his work was that he could no longer take part in other villagers' affairs when his services were needed. Furthermore, he was not allowed to be absent during working hours, and when he returned home he was too tired to socialize. In effect, he was excluded from the social activities of the community. After another two weeks he suddenly quit. When his boss asked why, he said he needed to attend to his land. To lure him back, the boss offered to increase his salary to NT\$6,000, but Lien-a was unmoved. The boss added another NT\$1,000, but he still declined. He explained to me later: "Yes, \$7,000 a month is tempting. But I have made up my mind now. I think our basis is in the land and it is better to work the land than anything else." The next day I saw him walking with a group of farmers. He gave me a broad smile and said: "You know, Kang's son is marrying today. I will help him to prepare the wedding party."

In another case a young farmer became involved in factory work inside the village. He had a partnership in a factory and was also paid

monthly to operate one of the machines. Since he was visible in the village as he worked at the machine from morning till night, he became available for villagers who needed help. His mother-in-law would ask him to give her a lift on his motorcycle to nearby Ta-chia; or one of his sworn brothers would ask him to be a companion in his wedding; or his co-owners in an irrigation well would ask him to supervise the work of constructing a new pipe line. These and similar requests he, as a member of the community, could not reject. Obviously, when he left his work to perform these services he had to shut down the machine. Within one two-month period he was away from work five whole days and for numerous times temporarily to run errands. His partners, most of whom lived in Ta-chia, viewed this as indifference toward his work. Open confrontation occurred in April, 1974. One partner accused the young man of taking too much time off, which caused the machine to be used inefficiently. This meant a loss for the company, his accuser declared. The young man offered his resignation, but he was talked out of it since his resignation would undoubtedly lead to his withdrawal as a partner. The group finally agreed to hire another worker to attend the machine, and the young man was assigned bookkeeping duties, a task which gave him the opportunity to leave the factory without disturbing production.

For most of the younger villagers who have had factory jobs since an early age, this kind of conflict in time structure and social activities is not a serious problem. This is not because they are more capable of compromising these two sets of time, but because they have totally accepted the industrial time concept and work patters, giving up those belonging to the peasants. They rise at 7:00 A. M., and arrive at the factories before 8:00. and work until 5:00 or 6:00 in the evening. If they work overtime, they are paid. Once or twice a month,

they take a Sunday off. They would not take a day off to help with other people's affairs, because this would mean an immediate loss in cash income, and perhaps their job. Most villagers have wedding parties at midday, but factory workers can only attend at night. Consequently, many villagers in recent years have switched to evening parties, or perhaps give two at both times.

Most serious of all, almost all the young people now do not participate in the village's communal activities. There are rarely any sworn brothers among villagers below the age of 24. The last boxing study and dragon dancing groups, a community-wide association for village youths, were organized ten years ago. As was mentioned earlier, in 1974, for the first time, the village could not send a lion dancing team to receive Matsu, as she returned to Ta-chia from her pilgrimage to Pei-kang. There was simply no younger villagers to replace the retired or absent members on the team. No young industrial workers take part in the evening gatherings among the older people at the grocery stores, barbershops, and so forth, for a chat, a drink, or to gamble. In a way, they have begun to live in a new kind of life, one characteristic of that of wage laborers in the industrial world, and they no longer are a part of the peasant society.

These young workers aside, in the rural community and among the peasants the concept of time and its manifestation in daily activities have altered in many ways under the impact of industrial society. The changes have derived from several probable causes. First, the availability of industrial products or technology has changed peasants' working patterns and thus the arrangement of their daily activities. Second, the industrial society's attitude toward time--that it is a marketable good and has objective value--has affected the peasants' conceptualization

of time. Third, the industrial society's working pattern, that is, clearly defined work periods, has permeated the rural community. In Sanlin, the first factor, the change in technology, seems to have had less effect on peasants' changing concept of time than the latter two factors. My observations are explained in greater details below.

Industrial products important to agricultural productivity, such as pesticides and chemical fertilizers, have become easily accessible in recent years. With these, peasants no longer need to work laboriously to carry human or animal manure to their fields or spend tremendous amounts of time controlling pests. Indeed, the amount of fertilizer and pesticides used by Taiwanese peasants has increased dramatically in recent years. Industrialization also has brought time- and energy-saving machines: power tractors to replace bullocks, diesel- rather than foot-powered husking machines, and so forth. These new devices, as many farmers confirm, have indeed eased the peasant's burden tremendously.

While industrialization and its products have been willingly and rapidly accepted by peasants, the results, as measured by productivity in agriculture, have not been what was expected. Agricultural production per unit of land has not increased substantially, even with full use of chemical fertilizers and more efficient pest control means. Nor have new machines increased farm output dramatically. As many older villagers point out, five or six years ago a work team of ten workers equipped with the more inefficient foot-peddle husker could harvest one hectare of rice land within a day. Now, equipped with the new machines, the same amount of work takes fifteen or more labor days.

This seems to be a quite illogical and perplexing problem, but not when we realize that technological advances in the rural area have

not increased production because social and cultural factors have also changed under the impact of industrialization. To understand this, one must explore the value systems within which peasants conceptualize their time and labor. Several questions may be asked in this context. How did peasants subjectively value their way of life and time spent on traditional agricultural work? How do peasants' conceptualization and utilization of time today differ from a few years ago? In other words, how has the labor market system, characterized by its unique evaluation of time, affected peasants' attitudes toward work, leisure, reward from work, and so forth?

One first must consider the subjective evaluation peasants make of their own lives. Until about 1965, farm work was still the major means by which peasants in San-lin made their living. They spent most of their time in the rice paddy, weeding as often as possible to encourage better rice growth, or cutting grass along the bunds so that shade would not hamper growth. One farmer estimated that the long grass along a 75-meter land bund covering two rows of plants could reduce the total crop yield by as much as 100 chin. Agricultural work was highly valued, and peasants competed with each other for a higher yield. A low yield was a measure of a farmer's inability to tend his land and thus subjected him to ridicule. Competition was so keen that some farmers bragged about their yield to advance their social status or to avoid losing face. One villager is called "twelve thousand chin" because he once boasted he had a yield of this amount per hectare of land, which other villagers consider impossible.

Peasants also competed with each other in skill and endurance. When a work team was hired to harvest or transplant, it would be quite concerned about the speed with which it finished its work. Hong-a, who

led two harvest teams for more than ten years, related the following incident. "About eight years ago, the harvest for the second season crop was delayed by continuous rain. When the rain was finally over, it was already quite late in the year. On the fifteenth of the eleventh month, we were still harvestine rice for a man named Huang. That was the day for an important ceremony in which the whole village gathered at the temple to thank the gods for the peacefulness of the village. We began work around 4:00 in the morning, and, by 8:00 in the evening we still had not finished. Huang said that we should stop working and go home so that we would not miss the ceremony and the festival, and the remaining work could be done the next day. So we went home and had our dinner with our family. But after dinner, I still had in mind the unfinished work. We had not finished what we normally could handle in a day. I went out and met some other workers on my team. I was surprised to find that we all shared the same feeling. So we decided to return to finish the remaining work. We finally finished all the work on that plot after midnight." As he told me this, his eyes glowed with pride.

Agricultural skills are still highly valued by older villagers. They often referred to themselves or others in these terms. For example: "This fellow used to be the best rice cutting worker. He cut fast because he used his left hand to grab the lower part of the rice stalk, and the right hand, holding a sickle, cut the stalk barely beneath his left hand. This is the most efficient way to cut rice, but, for a novice, also the easiest way to cut off his fingers. This fellow is the best because he cut fast and never cut himself." Or: "When I was young, I could carry 140 chin of rice with a shoulder carrier-- the best in the village."

It is obvious from these remarks that agricultural work used to be the center of Taiwanese peasants' concern. The values attached to a farmer's agricultural ability had the dominant place in the peasants' value framework. In order to gain such a reputation, let alone the higher income attached, peasants just a few years ago were still willing to drive themselves very hard.

Now, the entire value system regarding time and work has gradually changed with the encroachment of industrialization and its values. Income from agricultural work has dropped to the point at which it only covers the average farm family's expenditures. One farmer lamented: "We are useless now. We work like blind buffalo from dawn to dark, but our monthly income could not match a twelve-year-old kid's who just graduated from primary school and works in a factory as an apprentice!" In terms of their self-image, peasants now watch helplessly and bitterly as their social status declines.

As Taiwanese farmers' status as bread winners has dropped, they have become more and more reluctant to commit their spare time to agricultural work. The frequency of weeding in the rice paddies has decreased, and farmers no longer care about the grass growing along their land bunds. One farmer, Lien-a, remarked in a joking manner about another farmer's rice paddy: "Have you noticed that plot of land? It used to have the highest yield in this area, but now the weeds grown in that field are prettier than the rice plants!" Another farmer once told me about his land and management pattern: "I could care less about the grass growing on my land bunds. To clear the grass throughout the growing season, I would have to cut it three times, with two to three days' labor each time. Without the grass, the yield could probably increase by 100 chin of unhusked rice, which at the current market price

is worth NT\$500. But for these nine or ten days' labor I could earn \$1,500 working on house construction in town. So I figure it's not worth my time to cut the grass." This attitude, to my knowledge, is quite typical among the villagers.

In discussing peasants' subjective values regarding their time and labor, one eventually must consider the outside market system from which the peasants draw their references for such an evaluation. Without an open and accessible labor market, peasants undoubtedly would assess their time differently. Traditionally, farmers worked their land for more than three months without any immediate payment. When the rice crop finally was harvested, they could expect some return on their time and labor. Throughout this process, that is, from the initial labor and capital investment to the eventual reward, there is no way to determine which portion of the labor invested is being rewarded with what percentage of the total crop yield. In other words, there is no precise way to calculate the net value of a farmer's labor on a daily or seasonal basis.² In addition, throughout the rice growing season, a farmer does not have to work in the fields all the time. For example, after the second weeding, a farmer would have very little to do except tend his cattle, if he had any, or repair his tools. This kind of work takes only a small portion of the farmer's time during the slack season. In this sense, during slack seasons, time was not considered a scarce resource per se, nor did farmers figure it in monetary terms. However, with the availability of the labor market, peasants began to evaluate their own time and labor on the basis of its monetary value in the open market, and they calculated their time and labor in farm work accordingly.

A primary factor affecting peasants' conceptualization of time is the fixed working hours and working days of industrial society. Many

farmers in recent years have spent their slack seasons working in factories or as construction laborers, and they quickly learned the regular work day or work week system. This pattern was quite different from agricultural work, in which no one sets up a precise timetable for beginning or finishing work. In factory or construction work, a laborer begins at 7:00 or 8:00 in the morning and finishes at 5:00 in the afternoon, working eight hours a day. There is no involvement with the work before and after working hours, and the peasants, from their own experience or from observing others, soon grasped the concept of fixed working hours. At the time of my fieldwork, peasants, although they agreed that agricultural and factory work differed, would only labor on others' farms for a maximum of nine hours per day. It is quite common to see harvest or transplanting teams begin work well after daybreak and return home before dusk. In summer, when the day is long, the teams take a two-hour afternoon nap. A transplanting team organizer explained: "We purposely take a long nap. Since the day is long, and if we take off from work while the sun is still high, other villagers would laugh at us. With a long break in the afternoon, we can return home in the evening as we had done before. As long as we work nine hours a day, we feel no shame in taking such a long rest since we are still working an hour more than factory workers for the same amount of pay." Without doubt, this attitude toward work has given the older farmers sufficient reason to accuse the younger farmers of being lazy and irresponsible. This also explains why today's peasants, with more efficient machines and other devices, have become less efficient in terms of productivity.

A second factor which helps farmers evaluate their time relates to the rewards a worker receives in industrial society. As indicated before, time was not a scarce resource, and rewards from the time and

labor invested were indirect in the rural area when the market system was not pervasive. Peasants, when hired to work for others, would not mind working longer hours than expected. However, in industrial society, as many peasants know, a day's labor means a day's wage. The reward is immediate and direct. Thus, time has become a scarce resource and a marketable item. Farmers now have an objective standard, normally a monetary one, against which they assess the value of their time and work. One farmer observed another cutting wood in his spare time for his stove. He said: "Why do you cut the wood? You work the whole day for perhaps a three-day supply of firewood. If you work in construction, you can earn NT\$150 in a day. With this money, you can buy a tank of gas which supplies a whole month's fuel!" Perhaps the woodcutter had not been able to find a temporary job that particular day and had nothing else to do on his farm, but that is beside the point. What the incident illustrates is how the peasants now figure their time and labor in accord with market value, and on this basis they decide what to do or not to do. By drawing comparisons with the value system in the open market, the peasants see that much of their work is uneconomical and thus not worth doing. Many farmers face three choices for utilizing their spare time during slack seasons: they may do something uneconomical in terms of rewards received for the time and labor invested, compared with current market values; they may seek high paying employment; or they may use spare time for recreation purpose. Since to work at something with a low return would further confirm their descending social status, most peasants prefer one of the latter two alternatives, that is, a high paying job if they can find one, leisure time if they cannot.

From my observation in San-lin, the prevalence of tourism, gambling, congregating at the temple, and so on, seems to attest to this tendency.

In other words, peasants have come to value their time and work in terms of labor market standards and refuse to commit themselves to less rewarding agricultural work, and this has become the dominant attitude. Unfortunately, this attitude is another factor contributing to the lowered agricultural production Taiwan has suffered in recent years.

6. Conclusion

In this chapter I have attempted to explore the time factors involved in Taiwanese peasant's daily activities as I observed them in San-lin. The concept of time has not been regarded here as an abstract and isolated category of rural culture. Peasants are not philosophers, nor do they theorize about their behavior. As living human beings, they manage their lives by manipulating the environment. They observe the natural order of their environment closely and arrange their daily activities accordingly. In this way, peasants attune their time to the rhythms of nature: wet season and dry, the crop cycle, the life process from birth to death, and so on. Within this framework a man can arrange his life. He can understand the movement of nature, appreciate its needs, and sometimes manipulate its course. The rhythm of time is thus an intrinsic part of nature.³

To the Taiwanese peasants, time is not repetitious, nonrepetitious, or an oscillation between these two, as was believed in ancient Greece.⁴ As a part of the natural system, time is both repetitious and nonrepetitious. The continuum from past to future is characterized by both cyclical and unexpected events. In its cyclical course--the sequence of years, the seasons, crop seasons, or the course of one's life--nature is permissive and benevolent, but not so the supernatural. Whenever an unexpected or uncontrollable event occurs, it is regarded as emanating

from a power beyond or outside the natural order. Thus the complementary opposition of time is drawn in a unique way: the course of daily life, geared to the natural order, is normal and comprises the major component of time; disasters or uncontrollable events strike occasionally and temporarily. The distinctive feature of time for Taiwanese peasants thus lies in their concept of what I have called "time streams" and "time spots".

This analysis raises an interesting point: Since peasants cannot foresee unpredictable events, the affirmation that a bad time spot has occurred often is made after the fact. An example was the death of the newlywed who failed to worship his ancestors at the appropriate time. A psychoanalytical explanation probably would suggest that in blaming supernatural power for such a misfortune, Taiwanese peasants find an outlet to channel the inner frustration engendered by circumstances that are beyond their control. In this manner not only does the peasants' conceptualization of the rhythm of time in their ecosystem explain their life and fate, but also they "prove" the accuracy of their time structure with actual events.

As was mentioned, the peasants' concept of time, and the way in which they arrange their lives, is well integrated into their environment and social life. The flexibility of agricultural work provides them the opportunity to fulfill their social obligations, which are enmeshed in complex kinship, fictive kinship, and communal networks. These obligations can be discharged without disrupting the normal work sequence demanded on the farm. In other words, the peasants' concept of time and the values attached traditionally were an integral part of a community system which was fundamentally agrarian oriented.

In recent years, changes have occurred as industrialization has

penetrated into Taiwan's rural areas, bringing with it the open labor market system and a new standard against which the peasants judge the value of their time and work. Several questions may be raised if we regard this change process as the inevitable path developing countries must follow in attaining their modernity. How does the individual in different age grades respond to the new stimuli from the industrial sector of the society? Through what means can peasants attain "modernity" and be classified as such? What obstacles prevent the peasants from changing?

At the heart of the matter is whether it is attitudinal or institutional changes in rural society that are the prime movers in attaining modernization. Some recent studies seem to stress the importance of attitudinal change,⁵ but in this study I have found no clear evidence to support this popular hypothesis. In San-lin, the peasants have already accepted the fixed working hour pattern, the market value of their time and work, and the kind of leisure and recreation patterns characteristic of an industrial society. At the same time, these peasants are facing tremendous problems in fully participating, or becoming incorporated, in the industrial life style. Those older peasants who are enmeshed in the traditional community and production systems have no alternative but to surrender their newly acquired attitudes to traditional demands. For the younger generation, better adapted to the industrial system, the game is achieved at the cost of sacrificing their traditional involvements. In a sense they are no longer a part of the rural community system. This conclusion seems to imply that attitudinal change alone could not bring about further changes which would allow the community to attain modernity. This statement, however, does not imply that the reverse is true, that is, institutional change

alone also would not be sufficient. I can only assume that the attitudinal-institutional change question can be answered only by a comparative analysis of countries in which large-scale social reforms--institutional changes antecedant to attitudinal changes, such as what has occurred on Mainland China--have taken place.⁶

Footnotes

1. The months referred to are based on the lunar calendar.
2. This is the basis upon which Chayanov argued strongly and convincingly for a peasant economy which is unique to peasant society and is distinct from "capitalist" or "socialist" economies. See his The Theory of Peasant Economy (1966), Passim.
3. Joseph Needham provides a remarkable study on the Chinese concept of time. Although his discussion focuses on the classical period, the general observation he makes is similar to mine: "The *Philosophia perennis* of Chinese culture was an organic naturalism which invariably accepted the reality and importance of time. This must be related to the fact that although metaphysical idealism is found in China's philosophical historyit never really occupied more than a subsidiary place in Chinese thinking. Subjective concepts of time were therefore uncharacteristic of Chinese thought" (1965).
4. See F. R. Leach, 1962.
5. Such as Daniel Lerner, who stress the importance of the psychological aspect, which he calls "empathy," as the gauge of modernity (1958). Another recent figure in this camp is Alex Inkles (1973).
6. An illuminating study, "The attitude of the Algerian peasant toward time," also raises similar questions. The author concludes: "the passage from the traditionalist attitude to the predictive one cannot be effected in bits and pieces, but must assume the form of an abrupt and total transformation" (Pierre Bourdieu 1963:72). In other words, both attitudinal and institutional changes are necessary for a successful transformation from a peasant society to a modern one.

CHAPTER 8

CONCLUSION: WHAT PRICE DEVELOPMENT?

This study has focused on the question: "Can agriculture maintain sustained growth when a society is moving toward industrialization?" Theoretically, industrial development in an independent economic system should benefit the agricultural sector. Developments in industry would siphon away excess farm labor and provide useful machinery and other products which were previously inaccessible. Industrialization is also expected to create or expand the consumption market for agricultural products. In theory, the relationship between industries and agriculture in a modernizing society should be mutually reinforcing, and the development of one should generate further development of the other.

My study in San-lin, however, indicates that such a mutually beneficial relationship is not present there. While the industrial sector has absorbed large segments of the rural population, it has not provided acceptable innovations to compensate for the reductions in the agricultural labor force. While industrial laborers have been able to improve their lot in life in the cities, the farm population continuously suffers from a net loss in income and must rely on handouts from their kinsmen in industry. As a result of recent developments in Taiwan, agricultural production has remained stagnant, if it has not

actually declined, especially rice production. Despite the government's efforts to revitalize agricultural production, specifically rice, by pouring large amounts of investment funds into the rural economy, the effect has been insignificant and the downward trend has not been reversed.

The perspective for agricultural development in the years to come is even dimmer. As the older farmers gradually retire from an active role in farming, there will be no substitutes for them. The idea of expanding the current small-scale, labor-intensive farming pattern into fully mechanized agribusinesses or plantations is equally impracticable. Given the present inflationary economy, which discourages farmers from selling their land, and the low profit in farming, which discourages further investment in agriculture, it is unlikely that people will be found who have the means to commit themselves to agriculture. Thus, Taiwan's agricultural transformation and growth cannot be accomplished by expanding the small farms into large agribusinesses.

The following question then arises: If the collective communal organization is essential to maintaining an effective wet rice system, can other functional substitutes be found for it while maintaining small-scale family farms and sustained growth? There is certainly the possibility for doing so, and in the late 1960s there were some discussions on the nonofficial level about developing joint-cultivation or collective farming for coping with this problem. This proposal never gained much popularity among the decision makers, for collective farming resembles too closely the commune organization found across the Taiwan Strait.

Despite the government's abhorrence of the idea of collective farming, there appears to be some experimentation in this direction initiated by farmers. In a private conversation with the Director of Joint Commission for Rural Reconstruction, Dr. Li, I learned that in a few places in southern Taiwan some farmers have developed farm cooperatives by pooling their land. These efforts appear successful, according to Dr. Li, for they not only solve the problems of labor shortage and management but also provide a good profit for those who join. But, as Dr. Li also indicated, the government has been quite uneasy about such a trend and had been keeping an alert eye on its development. Needless to say, the government would never seriously consider such a collective as an alternative for agricultural development.

This is a rather pessimistic picture of San-lin's and Taiwan's future agricultural development. Agricultural degradation seems inevitable, and future growth unlikely. Then what is the purpose of a study such as this? What advantage is gained from knowing about the conditions of agriculture in a small rural community whose name is probably unknown to most Taiwanese outside the Ta-chia region? To an anthropologist the study of a small community is not an end in itself. As a branch of social science which emphasizes comparative studies, anthropology asks: What have we learned from San-lin's experience in its recent development, and how can we apply this knowledge to other areas of similar interest?

The application of a community study such as the current one may offer insights at two different levels. On the theoretical level, this investigation may improve our knowledge and understanding of the nature of development, verify the specific methods and models used by

social scientists in treating developmental problems, and further redefine and refine the theories of development. Indeed, the improvement in sociological theories has been dependent on a gradual accumulation of new evidence obtained from small-scale research.

On a practical level, this community study may provide better information about the society in which development is taking place. In offering a systematic body of knowledge about a segment of society, anthropological research can benefit both economic planners and those affected by such planning. The task is urgent, for as Raymond Firth has pointed out: "Economic planners...not infrequently lack a knowledge of the structure and norms of the community for which they plan. Here the provision of knowledge by anthropologists may be a very important component of the developmental process--though so far as a rule such provision has been conspicuously absent" (1967:23). In the following discussion I will address myself to these two levels of meaning separately.

1. Theoretical Consideration of Development

Early in this study I criticized the dominant development schools, including sociologists with psychological overtones and formal economists who believe the basic economic assumptions made for capitalist societies apply to all human beings.

My criticism of these approaches is that they are basically ethnocentric. The psychological approach to the study of development assumes there is a gap in mental construction between the less developed and developed nations. It suggests that if people in developed societies are regarded as rational, scientifically oriented, and

achievement motivated, the reverse must be true for less developed societies, for the lack of development in these latter is a result of such a mental difference. Formal economists seem to think that whatever governs the economic process in capitalist society should also be applicable to the less developed. Because of this ethnocentric bias, practitioners not infrequently ignore the sociocultural conditions prevailing in developing countries, falsely assume the importance of individual incentive, and further suggest that conformity to the capitalist mode of life is the only means of achieving development.

My study in San-lin should indicate that these assumptions and their related claims are either misplaced or biased. Human rationality and attitudes are relative to the environmental and sociocultural contexts in which people exist. My analysis of the ecological factors in San-lin's agricultural process, the village's unique historical experience of regional development, and the concept of time in the villagers' daily activities should all clearly indicate that logical reasoning reflects a people's conditions, it does not determine them. My findings obviously contradict the conventional wisdom. I will elaborate upon my revisionist viewpoints in the following sections.

Concept of Time

My analysis of San-lin's changing attitudes toward time and timing has undercut the models based on assumptions about capitalist societies. San-lin villagers have acquired the industrial concept of time in recent years through their participation in industrial production or their observation of industrial workers. They have gradually adopted the fixed working hour pattern in farm work, begun to

calculate their time in terms of the monetary standards of the industrial labor. This attitudinal change toward a modern concept of time is obvious and, according to Inkeles and his associates, should be a prerequisite to developmental changes.

However, in the case of San-lin, this alteration in attitudes has not stimulated any structural change essential to maintaining sustained agricultural growth. Peasants have shortened their time in the field as the fixed working hour pattern of industry has become the norm. They have begun to question the value of their work as they compare their return with that of industrial workers. Most serious of all, the calculation of their time and work in monetary terms as marketable items in industrial society has actually curtailed their commitment to agriculture as well as the communal activities which were the foundation of the collective rice cultivation system. In other words, the changing peasant attitude toward time actually has had a detrimental effect on the rice cultivation system. On the basis of this observation, I would argue that we simply cannot explain the factors related to development or lack of development in terms of individual attitudes or personality dimensions.

Individualism versus Collectivism

Western social scientists seem to have a strong cultural bias favoring individualism. Dorothy Lee elaborates upon this cultural theme succinctly: "In our own [western] culture, the value of individualism is axiomatically assumed. ...We...believe that a new born infant must become individuated, must be taught physical and emotional self-dependence; we assume, in fact, that he has a separate identity

which he must be helped to recognize. We believe that he has distinct rights, and sociologists urge us to reconcile the needs of the child to those of the adults in the family, on the assumption....that needs and ends are individual, not social" (1959:74). A more relevant critique relating this individualistic bias to the study of development has been made by Gunnar Myrdal: "Another...predilection [of Western social scientists]...is the anti-state and, indeed, the anti-organization bias or, as it is usually known, the laissez-faire inclination. In both the philosophy of natural law and of utilitarianism, atomistic individualism was a conscious assumption, stressed in protest against earlier and contemporary philosophies which tended to give to the state and other collective bodies an organic nature" (1957:138). Small wonder that in industrialized societies in Europe and the United States, personal achievement, attainment of material goods, and individual upward social mobility have been the foremost measures of a successful life. It is also not surprising that social scientists tend to look at development from the individualistic point of view, as Inkeles and Smith argue: "We feel that an essential element in the development process is the individual, and that a nation is not modern unless its people are modern" (1974:9).

I do not want to argue against the theme that individualism has been an important factor in Western industrialization. Indeed, this quality seems to have been an important element in both industrial and agricultural production in developed Western countries. But to what extent can we say that individualism is the prerequisite for development cross-culturally? If individualism is an indispensable part of industrialization and hence development, we should notice, in other

parts of the world, the same individualistic orientation becoming the new mode for agricultural as well as industrial production. But in the agricultural sector one finds the importance of ecological conditions which have molded agricultural production into different systems. Social institutions such as familialism and regionalism are deeply embedded in rural life in many parts of the world. These institutions fulfill certain imperative functions in the agricultural system, and they are not necessarily the social relics discarded by developed societies when they achieved modernity. In my analysis of San-lin's rice ecosystem and agricultural process I indicated that these institutions were the answer to organizational demands inherent in a specific agricultural system, and that they provided the means with which people could be organized to fulfill cooperative tasks.

The wet rice cultivation system requires a certain degree of collectiveness which is probably not seen in other farming systems. While a modern farming system emphasizes the integrity of individual farm units, the provisions of farm labor mainly from within the family, and individual decisions in agricultural practice, the wet rice system stresses collective efforts in opening land, growing crops, and maintaining irrigation systems. To transform such a collective system into a modern economy, one must be aware of the fundamental difference between individualistic farming and collective wet rice cultivation. A new agricultural system to accommodate industrialization in Taiwan should be designed in such a way to provide other means to replace and supplement the basic collective needs of the system. The issue for Taiwan's agricultural growth is thus obvious: As long as the current agricultural process cannot be fully replaced by other types of

collectives or individualistic-oriented large-scale agribusiness, the traditional institutions of familialism and regionalism are still important. It is the alteration of traditional communal organizations in San-lin and their replacement with individualism which has hampered agricultural production.

These suggestions and arguments may be regarded as backward oriented or romantic as mourning the passage of a simpler, happier time. My reply is to offer a counter-question: Are traditional social institutions necessarily detrimental to and incompatible with a society's development? Is the replacement of traditional attitudes and personalities with modern ones, for example, individualism, the only path to development? We find no positive evidence that they are or that it is. The persistence of traditional Japanese culture into modern times and its coexistence with a rapid modernization of the economy, is a good case in point. Paternalism and familialism are still the main themes of Japanese industry, and they are also at the foundation of that industry's vigorous growth. As psychologist Caudill has remarked about Japan: "Modern social structure and traditional culture may be in some conflict, but underneath people are, psychologically, much as they have always been. I think we tend to overstate the intensity of the effect of modernization upon psychological adjustment and personality characteristics" (1976:20).

Transforming the Traditional Agricultural System

Not all development theorists suffer from an ethnocentric bias. Economist T. W. Schultz, in his discussion of transforming traditional agriculture, provides a quite interesting model based on formal

economic theories (1964). He argues that the factors determining agricultural production are mainly those of natural endowment of land and the capital structure (ibid:17), and these are universal to all agricultural systems. The quality of land is less important, for with proper "investment opportunities and efficient incentives, farmers will turn sand into gold" (ibid:5). Thus, what matters in transforming traditional agriculture are the basic properties of formal economics: capital and incentive. To modernize traditional agriculture, it is necessary for the society to supply new and favorable economic incentives to inspire farmers to opt for more efficient production (ibid: 147-150). Profit is thus the only factor which determines production: "The profitability of using a new agricultural factor is a strong explanatory variable in analyzing the observed rate of acceptance [of innovation] by farmers" (ibid:174). And "since the differences in profitability are a strong explanatory variable," Schultz argues "it is not necessary to appeal to differences in personality, education, and social environment" (ibid:164).

He further suggests that since in most poor countries there are few private enterprises adequate to the task of providing such new economic factors to farmers while maintaining a viable profit, it inevitably becomes the government's responsibility to do so. The government can provide research and extension services to agriculture, or establish a tax structure through which farmers can retain reasonable profits for improving production (ibid:127).

Without doubt governments can offer adequate measures to facilitate agricultural transformation from a traditional to a modern system, as Schultz has suggested. But the emphasis on incentive as the

sole factor in understanding such a process can be completely misleading. In this study I have pointed out the importance of collectivism in rice cultivation, and the fact that the disintegration of this collectivism is the main contributing cause of agricultural degradation in Taiwan. Proper incentives are indeed necessary, but only when proper functional substitutes for collective operation are available to maintain productivity at all. The primary concern for government is then more than simply to provide economic incentives; a new collective system which will make production viable must be developed as well. Under the current land tenure system and economic structure, economic incentives alone, regardless of their magnitude, can only boost production on a limited scale and in the short run without fundamentally transforming the agricultural system.

2. Practical Consideration of Development Studies

It is doubtful that any economic planners or political decision makers have given much thought to or made a thorough analysis of Chinese rural social structure before working out a development blueprint. Surprisingly, it seems that even Taiwanese agricultural economists have rarely taken rural social institutions into consideration. The blind borrowing of the concept of the "family farm" as the fundamental unit in their planning should be sufficient to prove this point.

Development policies related to agricultural production in Taiwan in recent years seem to have largely ignored the institutional imperatives in the agricultural process. These policies have not been aimed at transforming traditional social institutions into modern

cooperatives, nor have they attempted to preserve the traditional system. As traditional institutions have gradually disintegrated, agricultural policy has made no attempt to reform the rural institutional framework so that an individualistic, mechanized, large-scale farming system can be developed to replace the discarded one. It is because of such an ill-advised agricultural policy in Taiwan that there has been no viable substitute as the traditional agricultural productive system has faded away.

Social scientists other than economists or agronomists are probably more aware of the sociocultural variables of a developing society than anyone else. However, their observations and suggestions have probably been ignored by economic planners, and their analysis has not been included in political considerations.

The question that remains is: What can we learn about traditional Chinese social organizations that will benefit our understanding of agricultural practices in Taiwan? How can unique sociocultural factors offer the key to understanding Taiwan's agricultural development? In his analysis of medieval Chinese rural society, Eberhard provides an illuminating insight. He ties the ecological factor of rice production, the importance of irrigation, and the concomitant social institutions developed to cope with productive needs, into a single analytical framework:

The installation of an irrigation system...on virgin land, as well as on former dry land involved the investment of considerable capital. If the development took place on virgin land, the developer seemed to be normally a settler with his family or clan, or a group of immigrating emigrants, and the investment was made purely in the form of group labor. If, however, the development took place on former dry land, it seemed that the developer was

usually a wealthy man, often an official, who invested capital, acquired the land, and paid the laborer to transform it, i.e., to level it and install canals, ditches, watergates. In the first case, the result seemed to be often a kind of communal settlement. In the second case, the development started out as tenant operated enterprise; the investor did not work on his land.... Once the irrigation was made, it was tempting to attract others who then were settled on the outside of the settlement as tenants. Thus, we believe that there was a clear correlation between irrigation farming and tenancy. The correlation should be proved and should be studied further to discover other potential correlations. (1965:87).

Eberhard's insightful observation seems ably to summarize the development history of San-lin's social institutions. A comprehensive analysis of rural institutions should combine the unique ecological process of wet rice cultivation and the unique frontier conditions in Taiwan. The demands in constructing rice terraces and irrigation systems on the frontier were undertaken by people who either had the means or were political leaders. This unique requirement contributed to the formation of unique land tenureship, the polarization of landlords and tenants, and to some extent promoted the development of regionalism. Regionalism was the vital social mechanism in this frontier land. On the one hand, it provided the organization basis for accomplishing communal tasks for agricultural production, and, on the other, it provided social cohesion to tide a rural community over a crisis when other means, such as kinship organizations, had not developed due to the unstable land tenure relationship. Collectivism is an essential part of the Taiwanese agricultural system, and it also constitutes the foundation of rural social life.

Economic planners and political decision makers should give proper consideration to these institutional factors if they really want to

maintain the sustained agricultural growth as the society modernizes. There are several policies these officials could adopt. They should consider the adoption of other types of collectiveness to replace the obsolete regionalism which once fulfilled many vital functions in agrarian life. They might abolish the Land Reform Act, which discourages land concentration. They could design programs which better utilize traditional collectiveness in industrial development by subsidizing regional light industry to exploit fully regional resources and labor forces. Or they might promote industrial development which will meet the demands of agricultural needs, such as manufacturing farm machinery and chemical products that are suitable to the small system.

These suggestions rest on one assumption: The political elites in Taiwan care about agricultural production and want to improve the welfare of rural residents. Judging from my own observations during my fieldwork, I found only slight efforts being made toward that goal. Development in Taiwan seems to have been geared more toward accommodating foreign interests than those of the islanders, except perhaps for the political elite, whose concerns in most cases are identical to those of foreign interests.

My observation inevitably lead to more subtle question related to development: What is the purpose of development as seen by political elites among the less developed countries? What theoretical orientations or ideological commitments might affect their approaches to attaining development? Obviously, different perceptions of development will produce different strategies to accomplish this goal. Here, again, the social scientist can provide some suggestions and

recommendations regarding the institutional arrangement between the so-called "developed" and "underdeveloped" in economic orders.

Since most of the developing countries are already at a disadvantage in open competition with the developed ones because of their late start, their lack of sophisticated technology, and lack of capital accumulation, their developmental strategy should take into consideration the effects of economic domination and manipulation by the developed countries. The current economic disparity between the developed and developing nations is the result of long historical exploitation, and economic planners and politicians should plan their strategy with this distorted economic arrangement in mind.

On the practical level, one should be aware that capitalistic economic theories are the products of this unique exploitative process and have been developed to serve this particular social arrangement. Politicians and economic planners who blindly borrow models from capitalistic economic theories as their guidelines for development are ignoring the historical antecedents of this unique process, and the result may be to perpetuate the disadvantageous position of the less developed societies.

Unfortunately, political elites in developing countries are often unaware of these problems and hence uncritically accept the developmental models designed by Western social scientists. Industrial development in most of the Third World has relied heavily on foreign investment in both capital and technology. The multinational corporations, protected by favorable investment laws and rules, set up plants in developing areas to exploit fully their cheap labor force and their natural resources. Their investment is not motivated by charity.

They have no concern for the long-range economic development or needs of the host country. Such a concern would only mean a drain on profits.

The results are well known: newly established industries, controlled by foreign interests, which are not aimed at satisfying the needs of the internal market; development that does not properly utilize the natural resources of the society; powerful foreign interests prohibit indigenous industrial development; long-range imbalanced growth between the industrial and agricultural sectors; polarization of income between the industrial and agricultural population; and neglect of the rural masses' welfare.

This kind of development certainly will not propel the Third World into full development. On the contrary, it will only turn these countries into satellite economies dependant on the international division of labor as dictated by the developed ones. The relative dominant-subordinate positions of the developed and the less developed will thus be perpetuated, and further development will only widen the gap between the two groups of countries and between the rich and poor in the developing countries.

Unfortunately, this is exactly what we are seeing in most developing countries in the Third World, including Taiwan, who have followed the capitalistic mode of development. The satellite economies and persistent subordinate position of nations in Latin America and Africa, despite their rich natural resources and favorable productive conditions, reveal the inadequacy of such capitalistic development strategy.

In this regard, Taiwan has been following the way paved for developing countries by the neocolonial powers. Agricultural

degradation is but one result of the overall industrialization effort. Rural poverty is probably an effective spur for encouraging farm labor to enter industrial production. The rural population which cannot make the transition to industry is virtually forgotten, for the economic planners and political elites are preoccupied with industrial growth. In many cases, the political and economic elites seem purposely to design stringent policies to exhort the rural masses in order to accommodate industrial development. Thus, Mr. Lee Teng-huei, the leading agricultural economist in Taiwan, once had the following complaint in a symposium: "The government has purposely held down the peasants' income so as to transfer these people--who were originally engaged in agriculture--into industries. But then the government never thought about what such a result would be" (in Wang et al. 1970:68; translation mine). In a sense, the increasing trend toward social inequality has become an indicator of wealth and prosperity. The Taiwan government joyfully announced the increase of enterprises whose annual trade amounted to more than NT\$100 million (\$2.5 million) from 215 in 1971 to 480 in 1973. It proclaimed this "a glorious achievement of economic construction in the last ten years" (Central Daily News June 8, 1975).

When decisions are made to adopt one or another development strategy, political considerations may involve factors far more complicated than those discussed here. But the core question remains: What is the goal of development, and what price should people pay for it? This question involves not only the practicability of the development model adopted, but also touches upon the problem of the power holders' moral judgments. Can one justify a system aimed not at promoting the

general welfare of the population, but only at concentrating wealth in the hands of a few?

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Glossary of Chinese Names & Words

(A) Amoy or Min-nan; (M) Mandarin

An-hsi (M) 安溪

bo ch'ing-ki-shing (A) 無清潔性

bue-dzi (A) 八字

Chang-chou (M) 漳州

Chen-pai (M) 陳派

cheng (M) 鎮

chia (M) 甲

Chia-ting nung-ch'ang (M) 家庭農場

chin (M) 斤

Ch'ing-suei (M) 清水

Ch'ing-suei tsu-se (M) 清水祖師

dzing (A) 淨

feng-lei hsieh-tou (M) 分類械鬥

Fong-hua (M) 奉化

Fong-yuan (M) 豐原

giap (A) 劫

hsiang (M) 鄉

hsiao-tsu (M) 小租

hsien (M) 泉

hu-lo (A) 剝爐

huei-a (A) 會仔

K'ai-chang seng-wang (M) 開漳聖王

- K'ai se-hong (A) 開四方
 k'am-wun (A) 蓋運
 k'uan-dzi (A) 看日
 Kuang-tse tseng-wang (M) 廣澤尊王
 li (M) 里
 Lin-pai (M) 林派
 lip-ch'u (A) 立厝
 lo-dzu (A) 炉主
 ma-dziang (M) 麻將
 Matsu (M) 媽祖
 miã-to (A) 命途
 Miao-li (M) 苗栗
 Nan-an (M) 南安
 Nan Kuen-sheng (M) 南鯤鯓
 Pang-p'uan (A) 放拌
 pai (A) 敗
 Pao-yi tai-fu (M) 保儀大夫
 P'eng-shan pa-she (M) 蓬山八卦
 po-dziang (A) 保正
 P'ua-to (A) 碗土
 qong e-kang-nang (A) 慈下港人
 San-hu ong-yia (A) 三府王爺
 San-lin (M) 山林
 San-shan kuo-wang (M) 三山國王
 shi (A) 時
 Ta-an (M) 大安
 Ta-chia (M) 大甲

- Ta-tsu (M) 太祖
 tau (A) 斗
 t'au-ke (A) 頭家
 te-ki (A) 地氣
 tiao (A) 柱
 Tong-an (M) 同安
 tsa-tang (A) 早冬
 tsau-kün (A) 灶君
 tseng-tiong bo-he lan-e ts'au (A) 庄中無歌人的美
 tso ping-an (A) 做平安
 tsu (M) 租
 tsup-to dzip-dze (A) 出土入石
 tua kiou-pang (A) 大轎班
 Wai-pu (M) 外埔
 Wu-ku wang-yieh (M) 五穀王爺
 Wun-tang (A) 允冬
 Yi-lan (M) 宜蘭

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