

*The Emergence of Small-Scale  
Industry in a  
Taiwanese Rural Community*

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*Introduction*

Current modes of industrialization in less developed countries resemble, on the surface, processes that took place in Europe and the United States during the nineteenth and early twentieth centuries. However, when examined closely, they reveal characteristics that have never been present before. This paper points out that the small-scale factory in a Taiwanese rural community is geared into the national and international subcontracting system. As will be seen, family owned "auxiliary" factories operating as suppliers of larger export-oriented domestic factories or trading companies are a response to both the limitations of local agricultural production and the demands of the larger international economy.

In addition to broad economic constraints, changing perceptions regarding status and prosperity as well as skills learned by villagers in an urban setting can contribute to generate environments in which factory work is preferred over farming. However, far from being a permanent economic solution, small-family-owned factories are constantly at the mercy of supply and demand fluctuations that frequently force owners to seek other means of support or to increase the number of hours they work while at the same time earning smaller wages.

The shift from limited agricultural production to unstable factory work has had a powerful impact upon the lives of rural Taiwanese

people who must resort to the bonds of kinship as a way to adjust to a changing world. Such bonds are not impervious to tensions and pressures but they often provide the only solid base for continued survival.

This paper considers these issues to three sections. First I examine the early industrialization and import-substitution periods in Taiwan as a way to provide a context for understanding commonalities and differences vis-a-vis later phases of development. Section two describes in some detail the characteristics of small-scale industrialization in suburban Taichung, an area located in Central Taiwan. An important aspect of this description is an understanding of the part that kinship plays in the formation and sustenance of small-scale factory production in a rural milieu. In the concluding section, I summarize findings and point to the unique character of auxiliary plants in Taiwan.

### *1. Past and Present Processes of Industrialization in Taiwan*

Between October of 1976 and March of 1978 I lived in Liu Ts'o, a central Taiwanese village in suburban Taichung with a population of 789 living in an area totaling around 70 hectares. Deceived by its surrounding large area of paddy fields, I assumed in the beginning that it was an agrarian community whose inhabitants subsisted mainly by cultivating the land. It did not take me long to realize, however, that this village, like many others in the island, had been transformed from an agriculture-dominated to an agriculture-subordinated community in recent years. Another phenomenon in Liu Ts'o also attracted my attention. As I visited the farm houses, I often heard the sound of machines. The villagers told me that since 1970, about twenty small-scale factories had emerged in this small town. I did not recall any ethnographic studies on rural Taiwan that described this kind of development in detail. It seemed that, all of a sudden, villagers had built these plants in growing numbers.

I couldn't help thinking of Fei Hsiao-T'ung's and Chang Chih-I's works (Fei 1939 and 1948, Fei and Chang 1945). Fei proposed to revive small-scale rural industry as a strategy for indigenous development. In his opinion, rural China, with its dense population and limited land, could not produce enough agriculturally to support its people, and so he proposed a revival of traditional rural crafts. Although not technologically complex, this type of industry could supplement farm income and solve the problem of cyclical unem-

ployment during agricultural slack seasons. The decline of traditional rural industry was attributed to the intrusion of Western mechanized factory production. After losing supplementary income, more and more petty owners sank to the status of tenants; and farm rents became unbearable.

Fei supported moderate land-to-tiller programs; landlords would be compensated for their confiscated land and persuaded to invest in industry. At the same time, former tenants would become owner-cultivators capable of accumulating capital for reviving rural industry. He held that the ideal and practical type of industry should be complementary to agricultural work, diffused in villages or in centers near villages, and cooperatively owned by workers. In addition the profits should be wisely distributed among the peasants. How far is Liu Ts'o's small-scale industry from Fei's ideal? What are the main characteristics of and conditions for the emergence of Liu Ts'o's factories? How are they related to island-wide industrial development and in turn to the international organization of industry? To answer these questions, let us first examine the historical course that industrialization has followed in Taiwan.

*The Japanese Colonial Period.* During this stage (1895-1945), Taiwan exported agricultural goods (rice, sugar) to Japan in exchange for industrial goods (textiles, fertilizer). The dominant industries were related to food processing, especially sugar refining and preliminary processing of rice and pineapple. After 1931 the Japanese colonial government began to develop some basic industries including cement, chemicals, petroleum refining, pulp and paper, metallurgy, and fertilizer. Transportation and electrification improved. But most factories were built through Japanese investment because political barriers prevented the participation of Taiwanese entrepreneurs.

In 1935 the island had 7,032 factories (Chou 1958); 59 percent of them had fewer than five employees, and only 4.7 percent employed more than thirty persons. In the Taichung area, the more advanced industries were food processing, timber, textiles, and the assembly of sewing machines. Liu Ts'o is located in the Nan T'un district. The local gazetteer records that in 1932 this district had a total of 12 factories, all assembled in the market street. Most of them were food processing factories including rice processing, bamboo processing, soy sauce, peanut oil, incense, paper, and so forth.

A cassava-processing factory was developed in Liu Ts'o village around 1936 as a result of Japanese investment. This factory was situated by the main road that led to the market street of Nan T'un.

Every year when cassava on the nearby Ta-Tu tableland was harvested, the factory hired between thirty and forty laborers in the surrounding villages to do temporary work.

During the agricultural slack season many Liu Ts'o villagers engaged in traditional handicrafts such as the weaving of straw hats, straw mats, and baskets. It was not easy for the small farmer to maintain a basic standard of living, let alone invest in industry. Throughout the Japanese colonial period, the Liu Ts'o residents owned only 4 to 15 percent of the total sixty-five hectares of land in the area; the remaining fields were in absentee landlords' hands.

Generally speaking, industries prior to 1945 were largely developed in cities and market towns and were dependent on locally available raw materials.

*The Import-Substitution Period.* In the 1950s Taiwan experienced an import-substitution phase that was characterized by the heavy emphasis on the replacement of nondurable consumer-goods imports (such as textiles, apparel, wood products, and leather products) by domestic production. The growth of the textile industry was a good example. In the prewar period, Taiwan relied on imports for 90 percent of its textile goods. Since 1951 the government has provided necessary raw cotton to domestic textile firms and restricted the import of finished textile products.

In the agricultural sector, land reform began in the early 1950s. The stable growth of the population, agricultural productivity, and technology in the rural areas enhanced the development of the industrial sector that was highly reliant on surplus rural labor to produce, and local markets to consume, industrial products. Many young villagers flowed into urban factories for industrial training in the 1950s and 1960s.

The statistical record reveals that in 1956 Nan T'un had twenty-six registered plants. Twenty-one of them were food-processing factories. The rest were kiln, textile, and machinery manufacturers. However, in Liu Ts'o industrialization advanced slowly. The cassava-processing factory closed down when Japan returned Taiwan to China in 1945; and between 1945 and 1970, only two small-scale factories appeared in the village. One of them was Chen Tien-Wang's sewing machine assembly plant. It was no surprise that the first industry extending to Liu Ts'o was related to sewing machine manufacture, for Taichung has been the base of Taiwan's sewing machine industry since 1936.

One day, forty-two-year-old Chen Tien-Wahng sat in his grocery store tracing his career history:

After graduating from primary school in 1951, I found a job in Taichung City. I was probably the first one in Liu Ts'o to go to the city and learn industrial skills. In the 1950s there were already many kinds of industries in Taichung, but the factories were few in number.

I was hired by a sewing machine factory and learned how to assemble parts. At that time it was a very profitable industry. The sewing machines we produced were sold in domestic markets. I returned to Liu Ts'o and taught my younger brother and several villagers the skill. But the best years passed. This industry has been declining and the wages seldom rise. At present, I assemble about three sewing machines a day for a bigger machine factory in Taichung city. During my free time I take care of my rice paddy and grocery store.

Another small-scale factory in Liu Ts'o was Liu Fu-Chih's sewing machine painting factory, which was established in 1957. Liu Fu-Chih was an absentee landlord who had a paper factory at Ta-Tu district in Taichung county during the Japanese colonial period. After the Chinese restoration, he moved to Liu Ts'o. The failure of his paper factory forced him to sell 1.5 hectares of land and start a new business. The sewing machine painting factory, which employed about seven workers, was handed down to one of his sons after Liu Fu-Chih died in 1973. Unfortunately, it closed down in 1977.

During the import-substitution period, a young baker opened a cake factory in Taichung in 1959. Some girls in Liu Ts'o were employed in a big textile factory in the nearby market town of Wu-Jih. The Chung-Ho Joint Stock Textile Company with a registered capital of NT\$110,000,000 was established in 1955. Its rapid growth was obviously encouraged by the import-substitution policy.

*The Export-Substitution Period.* By the end of the 1950s Taiwan's domestic markets for nondurable consumer goods had been exhausted. This brought about a shift from import-substitution to export-processing meant to solve the problems of small markets and provide employment to agricultural surplus labor.

In 1960 the government enacted a nineteen-point reform program to improve the investment climate, encourage export, and liberalize the administrative controls on industry and trade. The first export-processing zone was established in Kaohsiung in 1965. By 1969 two more export-processing zones were established on the outskirts of Kaohsiung and Taichung. Moreover, the government established

seventeen industrial districts in the rural areas to promote private investment. Along with the growth of government induced industry, a great number of export-oriented private factories appeared in cities and suburban areas.

In the Nan T'un district, the importance once held by food-processing industries was taken over by machinery, chemical, and metal plants in the 1970s. Some young villagers who were sent to the city to learn industrial skills returned home and established auxiliary processing factories right in or next to their farm houses. At the same time larger-scale factories moved from Taichung city to Nan T'un district. They provided working opportunities for the rural youth. The industrial development of Liu Ts'o during this period is described below.

## 2. *The Booming Small-Scale Village Industries*

New factories were not established in Liu Ts'o during the 1960s. Only one family invested in a machinery-processing factory which produced auto parts in Taichung city. But then circumstances changed dramatically. Since 1970 approximately twenty small-scale factories have emerged in the village. Thirteen of them are machinery-processing plants. The remaining ones are dedicated to wood product manufacturing, electroplating, vacuum-modeling and sealing, electronics assembly, and hat and bag manufacturing. In addition, four families have established similar kinds of small-scale factories outside the village; and some outsiders have rented Liu Ts'o's houses as factories.

A detailed description of one machinery-processing factory from its establishment through 1980 will serve to acquaint the reader with the general conditions of Liu Ts'o's small-scale industries:

The narrow space between the left-wing room and the yard's wall in Li Chin-I's home was roofed with tiles and made into a machinery-processing factory in 1974. Li Chin-I operated a borer, the only machine in the factory.

Around 1958 Chin-I was persuaded by a neighbor's son to drop out of junior high school and go to Taichung city to learn how to operate machines. Going from one factory to another, he was finally hired by a big plant where he learned the fine skill of operating the boring machine. He was aware that boring machines were rather expensive, but the rewards were also very high. As an employee of this large factory, his monthly payment was steady. He thought that

if he owned a boring machine, his income would undoubtedly increase.

An opportunity to achieve this goal came when Chin-I heard that an old boring machine of poor quality would be sold at a low price (NT\$35,000). He bought it and left his job in order to concentrate on reconstructing the secondhand machine. However, he was not sure whether he would succeed:

The reconstruction took ten months. That was the most miserable period in my life. My mother took care of the children. My wife planted rice and mellons on our 0.8 hectare of rented land and was hired to carry heavy loads of straw during agricultural slack seasons. I had no income at all. We lived on loans borrowed from the Farmers' Association and my wife's sister. Two years before we had had a big family split. My older brother, who had accused my wife of causing the family breakup, took an indifferent attitude toward us. He would rather lend money to his son-in-law to establish a hat-manufacturing factory than offer us any help.

It seemed like a miracle when, with his own boring machine, Chin-I's income increased tenfold. He not only paid back all loans but saved a lot of money. He bought a camera and several electronic-controlled airplanes for himself, an electronic watch and motorcycle for his wife, a piano and many toys for his children. In 1979 he purchased a two-storied house.

For the first three years, Chin-I's factory had only one boring machine doing the work delivered to him by four "center" factories in Taichung city and county. These center factories accepted orders from foreign countries and distributed the work to auxiliary plants. After founding, boring, milling, and so forth, the finished parts were collected and assembled in the center factories.

Chin-I was very proud of his skill. He claimed that he was always able to meet the center factories' precision requirements. He worked hard, about ten hours a day. But at his leisure, he often chewed areca nuts while chatting in the village's grocery store or watched television (he loved western films and stage shows) or read the newspaper.

In 1977 Chin-I was thinking of buying a second boring machine. His wife's cousin, a trained machinist was pleased to accept his suggestion that they each invest NT\$60,000 dollars to buy a secondhand item. The cousin did the reconstruction work under Chin-I's direction. During the reconstruction period, Chin-I gave him NT\$3,000 (1 U.S. dollar = 38 N.T. dollars) per month. Once the



machine was in use, 40 percent of the income would belong to Chin-I.

Chin-I then discovered that the available electric power was not sufficient for the operation of two boring machines. By law, unlicensed factories could not apply for electricity destined for industrial use. Chin-I's factory did not get authorization from the Bureau of Industry because Nan T'un district had been officially designated as an area for agricultural production only. Ironically, the same business, registered as a "machinery factory" in the Tax Bureau's record, had to pay an extra tax to the government.

It was all for the better; Chin-I preferred not to apply for industry-use electricity because that required a basic monthly fee no matter how much power was used. In the end he managed to get an additional supply of electricity by furnishing the left-wing bedroom with a larger air conditioner. It was clear that an unlicensed small-scale factory had the advantage of paying lower tax and electricity fees. Nonetheless, it did not have the right to bid for contracts or issue invoices. Chin-I always let the center factories deduct the government's tax from his wages beforehand.

During the same period, Chin-I's older brother bought a milling machine for the factory. This was the result of subtle familial pressures. Chin-I's success was known to all villagers. Therefore, it was a big emotional blow for his older brother when he heard that his younger sibling was planning to recruit an "outsider" for his plant. Forced by public opinion, Chin-I suggested that his older brother buy a milling machine for his only son, A-Shiang, who was employed in the village's wood-product factory. The older brother happily bought the machine with the money he had saved through a mutual-aid grain association.<sup>1</sup>

1. A grain association is a mutual-aid credit club. A person who needs money can initiate a grain association and ask relatives and friends to join it. In the first meeting, each participant pays money in the value of 1,000 k.g. grain to the organizer who has the obligation to offer a banquet semiannually, then collects money for the one who wins the bid from the other members. If the bid is 200 k.g. grain, each person only has to pay 800 k.g. grain to the winner. In other words, they get 200 k.g. grain as interest. The organizer and the winner would pay 1,000 grain in all subsequent meetings. But there is a recent trend that the monthly-held money association is replacing the grain association, because its organizer does not have to offer banquets and the participants have more chances to meet immediate needs.

The milling machine was much cheaper and easier for a beginner to operate. A-Shiang learned the skill in one week. Although the wages were low when compared to his uncle's, A-Shiang claimed that if he milled five iron pieces a day, in ten days he could earn NT\$5,000, that is, a sum equivalent to his monthly salary in the wood-product factory.

A-Shiang worked very hard day and night. Unfortunately his uncle did not find enough work for him to do. Each month he worked about ten days at home and in the remaining days he still had to be employed elsewhere. Before entering the military service in 1979, A-Shiang tried to teach his father how to operate the machine, but his father gave up quite soon. At forty-four years of age, he believed that a farmer's hands could not control a machine.

I was surprised to see that Chin-I's older brother built his own factory adjacent to the right wing of the farm house and bought a new milling machine after his son left home. Who was going to operate it? His oldest son-in-law, who had tired of ship-repair work in southern Taiwan, showed great interest and moved in with his wife and two children.

During my most recent visits to the village (December 1979; February and June, 1980), I was told that both Chin-I's and his older brother's factories were in trouble. Chin-I explained that this was due to the economic depression. He had lost contracts with three center factories and the remaining one could not supply enough work. Besides, the center factories preferred to send work to auxiliary plants with high-quality, computer-controlled boring machines which cost more than NT\$2million each. "If I had that much money," reflected Chin-I, "I would rather buy a house whose value remains while machines get old." The condition of his older brother's factory was even worse. His son-in-law worked only a few days a month at very low pay. He was deeply depressed and trying to find another job.

After visiting other two machinery processing factories in Liu Ts'o and one center machine factory in Nan T'un, the problems faced by small-scale rural factories became clearer. Competition for subcontracting work is fierce and those who invest in machinery soon see the payment for their work lowered by others entering the field. Testimonies from other villagers confirmed this impression. While I was in the field in 1977, a widow with 0.2 hectare of land had told me that two of her sons were working in a machine factory in Taichung city. Two years later, the two brothers rented a house and established their own factory. The younger brother had a lathe; and

the older one, Mu-Fa, bought a boring machine. When I interviewed him, he spoke frankly:

I heard that Chin-I earned a lot of money with a boring machine. He is a strange guy. Once I entered his factory, and he stopped working immediately for fear that I might steal his skill. I never went back again.

Two years ago I learned how to operate the boring machine through an introductory book published by the National Technical College and three days training in the Takang Industry, in Nan T'un. The skill is no longer a secret. Any one can learn it in one year.

My boring machine cost NT\$300,000. It is jointly owned by four persons: my brother-in-law, two uncles on my mother's side, and myself. On the average, I earn NT\$40,000 a month. After paying rent and electricity (about NT\$5,000) and my own salary (NT\$10,000), the remaining NT\$25,000 are divided among the four investors.

It is true that the economy is in depression, but the situation is not that bad. The reason that Chin-I cannot get enough work is that he became used to doing work for high wages. As more people have learned the skill, the center factories naturally deliver the work to those auxiliaries that are willing to accept lower wages. In the past Chin-I earned NT\$600 for each bored piece. I only get NT\$500. Some people are willing to do it for NT\$300. Moreover, no one delivers iron pieces to you unless you have a "popular face" in the field of machinery work. The first son-in-law of Chin-I's older brother is a newcomer, and therefore his machine is always idle.

My younger brother is operating a lathe. He earns about NT\$20,000 a month. We are financially separated. I work more than ten hours a day. It's too bad that I have to share the income with the other investors.

The second factory I visited in Liu Ts'o is jointly owned by a family. This family first opened a machine-processing factory in Taichung city in 1962. The head Lee Ta's six sons all worked there. In 1950 the second and third sons were sent out to learn skills while the oldest one stayed at home farming. They talked the father into establishing a machinery-processing factory in Taichung city and taught the other four brothers the skill. In 1978, the family started another factory in the left wing of the farm house. Taichung's factory was managed by the third son who declared himself economically independent from the others. The remaining five sons transferred to the new factory, which has one machine to spray iron filings, two grinding machines, and three lathes (one of which belongs to Lee Ta's nephew). The oldest son is the financial manager of the factory. He says:

The money we earn must be handed over to my father. All the brothers (except the third one) and our wives and children live and eat

together. We do not get wages. If anyone needs money, he has to make a request to my father.

We produce small motorcycle parts that are mainly for domestic markets. Export did not begin until 1970. We have maintained stable relations with six middle-scale center factories. No contracts exist between us. As long as our factory does not ask for high wages, it can get an adequate supply of work. We had difficulties only during the oil crisis of 1973-74. Oh yes, Chin-I made a lot of money in the past two or three years, because there was great demand in foreign markets. Now the demand is drastically decreasing. Three years ago the center factories were not capable of buying many expensive boring machines. Since then they have earned money, they have bought machines and hired workers for their own factories. Less work was left for the auxiliary plants.

I also visited the Takang Industry Company, in Nan T'un, which produces high-speed precision lathes. The amount of capital invested was NT\$2.4 million. This factory was established in Si T'un district in 1974 and moved to Nan T'un in 1976. The sales manager offered an apt description:

This is a middle-size factory with about one hundred employees and eighty to ninety machines. The workers work eight hours a day, six days a week. On the average they earn less than NT\$10,000 each month. When export was expanding, more than 70 percent of our work was done by auxiliary factories. The products were largely exported to the United States and Europe. We received orders from foreign merchants by advertising in magazines and by participating in machinery exhibitions in big cities. During the past prosperous years, our factory added a lot of machines and workers. Recently, the economy has been depressed and we no longer have much surplus work for auxiliary factories. The most important thing is to keep our own machines running and workers employed. We are reserving energy for economic recovery. At present most lathes we produce are sold in domestic markets.

A quality control inspector at the factory explained that there are still some auxiliary factories doing work for Takang. They not only do quality work, and have a good reputation and social relations in the field of "black hands,"—workers who operate machines such as lathes and thus soil their hands from the oil—but are also willing to accept lower wages.

While I lived in Liu Ts'o, I saw three machinery-processing factories appear and then disappear within a short period. They were very small with one or two lathes operated by the families' young men who had a few years' experience working in the city's machinery plants. The capital invested was less than NT\$100,000. They all

closed down because they were unable to get a continuous supply of work.

Among the surviving machinery-processing factories, the one owned by A-Lao, with about fifteen lathes, is the largest one. A-Lao's oldest son is an experienced machine worker. In 1968 A-Lao sold 0.7 hectare of land. His son persuaded him to establish an auto-part factory in 1971. In addition to A-Lao's four sons, the factory hired some workers in the nearby area. But if it had not been for the financial support provided by a rich person living on Nan T'un street, A-Lao's factory would have been closed in 1977. Now the rich person is the real boss in A-Lao's factory.

Liu Nan-Chuan also established a machinery factory in his farm house in 1978. He has seven sons. Three are married; the oldest son sells vegetables in Nan T'un's market and lives at home. The second one, who serves in the Bureau of Telephone and Telegram, and the third, who is employed in a sewing machine company, have moved away from the family. The fourth, fifth, and seventh sons have had working experience at machinery factories in and outside of Liu Ts'o. It was the sixth son, an electrician, who suggested opening a factory at home.

When asked how they got the necessary supply of electricity for their industrial operations, Liu Nan-Chuan proudly but vaguely replied that the sixth son's friend, an Electricity Company employee, provided help. Their equipment cost approximately NT\$200,000. This amount was raised mostly through mutual-aid grain associations.

The factory has a total of ten machines. Liu Nan-Chuan bought four lathes that are operated by the fourth, fifth, and seventh sons along with a hired villager. A portion of the factory was rented out to two nephews who bought two of the lathes and to a neighbor who contributed four of them. The sixth son is the factory's financial manager. All money earned was saved in Liu Nan-Chuan's savings account. The sons understood that their father's savings would be used for their wedding expenses. They obtained pocket money by selling scrap iron. In the beginning they did subcontracted work for A-Lao's factory. Later on they signed one and a half year's contracts with a center factory in southern Tainan city. They had to process three thousand machine parts each month. The finished products were then exported to the Philippines.

As may be seen, under circumstances of great economic instability, fostered in large part by the demands and abrupt fluctuations of the contemporary international economy, all family members have to pool their labor in order to make ends meet. In two small factories,

I discovered that two women worked side by side with their husbands who had taught them how to operate lathes.

Besides machinery production, other sectors of industrial activity have been affected by the internationalization of investments. A few examples will suffice to illustrate this point. Tung-Hsin Wood-Product Company, located in the right yard of the richest Liu lineage of the Japanese period was the largest factory in Liu Ts'o. In 1972 this factory was jointly owned by descendants of this family. Liu Chen-Lei, who had sold 0.36 hectare of land the same year, was elected as the factory's general manager for he held more stock than the others. The total capital investment of two million was partly used to finance the purchase of fifteen machines that employed fifteen to twenty workers under the direct supervision of a hired personnel manager. Employees worked eight hours a day and had only one day off every two weeks. They were often forced to work overtime to meet production deadlines.

Many believed that the factory was not making profits on account of poor management. But a reduction in demand by the foreign market played a part in its demise. After all the smaller stockholders dropped out, the plant finally closed in 1979. The premises were rented to an outsider who changed it into a leather-suitcase-manufacturing factory.

In 1974, A-Nan established a hat-making factory in his father-in-law's farm house in Liu Ts'o. Due to the difficulty of recruiting enough female workers in the village, the factory moved to Nan T'un street in 1976. When I first visited it, the factory employed eight female sewers and one male cutter. The employees usually worked ten hours a day. They got two nights off each week and one day off every two weeks. The monthly salary varied according to the number of hats each worker made. An experienced worker's income was between NT\$4,000 and 6,000. A newcomer could only earn a few hundred dollars excluding fees for boarding.

A-Nan's factory was an auxiliary producing mainly for export. Recently, I had the opportunity to visit its center factory: San-Shen Hat-Manufacturing Company. The firm's owner explained that in the Japanese period, his job was to cut straws for a straw hat-manufacturing factory. He saved some money and bought 0.25 hectare of land. In 1970 he built two work premises on the plot and purchased six machines. Luckily, he met a merchant in Taipei city who gave him an order from a foreign customer. That was the beginning of a prosperous exporting period. In 1973 he was able to open a branch office in Taipei city. He entrusted his three sons with



all business matters. The oldest son was named general manager and stayed in the Taipei office three days of the week. His daughter-in-law was the factory's accountant. His second son was responsible for the cowboy-hat section; and the third son managed the visor section.

This center factory's products were largely for export to the United States. About 85 percent of the hats manufacture took place in a plant that hired two hundred persons. Each employee worked eight to nine hours a day and got one day off every two weeks. The remaining 15 percent of production was carried out by twenty to thirty auxiliary factories. A-Nan's factory was one of them. When the center factory paid NT\$4 (excluding the cost of the material) per hat to A-Nan, he would only give NT\$2 to the worker. In general, A-Nan's factory was profitable unless it was short of workers or its products were being rejected for poor quality. But at times of economic depression, the center factory did not have enough work for its auxiliary factories to carry out.

In addition to hiring unmarried females to work at the factory, A-Nan also practiced a kind of "putting-out system"; he provided sewing machines and materials to married women in the farm houses. By doing so he solved the problem of female labor shortage.

The nonmachinery sector in Liu Ts'o is further exemplified by an electroplating factory and a vacuum-modeling and sealing factory managed by two brothers. The older brother learned the skill of electroplating in his brother-in-law's factory in Taichung county. In 1973 his father spent NT\$300,000-400,000 collected from several grain associations to buy a whole set of equipment for him. He then hired four or five male workers, who were always threatening to leave. In 1978 the older brother received bad checks (the account was overdrawn) in the amount of NT\$20,000 from the center factory. His father was forced to sell land to prevent the factory from closing down.

The second son's vacuum-modeling and sealing factory was also established in 1973. His father bought him one vacuum-modeling machine and two vacuum-sealing machines that cost NT\$100,000-150,000. He hired eight female workers: four were relatives residing in Liu Ts'o, three were from a neighboring village, and another one from Liu Ts'o. Its center factory in Taichung city accepted orders from Taipei's export merchants, then delivered work to different kinds of auxiliary factories. The younger brother's factory sealed finished products such as knives into plastic models.

Finally, other nonmachinery factories in Liu Ts'o included an electronic factory supported through the joint investment of Lee Ta's third son and his friends (six of seven females workers employed in that plant were Lee Ta's relatives); one factory for making TV cabinets operated by a married couple; and a one-man bakery.

### 3. Conclusions

As stated above, during the Japanese colonial period Liu Ts'o's economic base consisted of handicrafts and an agriculture-related (cassava-processing) industry made possible by Japanese capital investments. In the 1950s and 1960s, due to the influence of emerging domestic market-oriented, urban-based industries, two auxiliary (sewing machine assembly) factories were established. In the 1970s, the village has dramatically spawned approximately twenty small-scale factories that have not only changed Liu Ts'o's outlook but its structure as well.

In the preceding sections I have described in some detail the conditions under which such factories have emerged. A glimpse of the circumstances of the world system of production that keep them alive or threaten their existence has also been offered. In the following concluding pages, I will focus on some of the structural characteristics of auxiliary plants as a way to sum up the lessons learned from Liu Ts'o's economic development.

First, unlike industrial zones, Liu Ts'o's small-scale industries emerged spontaneously and without government planning. Auxiliaries have been related to the expansion of export-oriented, labor-intensive manufacturing. As land for industrial use and labor became increasingly difficult to obtain in the cities, industrial enterprises began appearing in market towns and eventually in villages that could provide cheaper land and labor as well as convenient transportation and electricity. As a result during the 1970s many small-scale, in-village factories have been established right in the farm houses of Liu Ts'o and other villages of the suburban Nan T'un district.

Second, Liu Ts'o's small-scale industries have emerged from the small-scale farm economy of the post-land reform period. Their establishment mainly depends on farm families' supply of land, capital, labor, and skill. After 1950 agricultural conditions improved. With reduced rents and improved technology, the self-subsistent farmers were able to save some money. Nevertheless, the amount of capital accumulated was restricted by the government's low rice-



pricing policy, the norms guiding family land division, and population increase.

As a result of this, during the 1950s and 1960s, agricultural work and income diminished while industries located in the cities began to absorb and then train young workers from rural areas. Nonagricultural wages supplemented, in important ways, the income of farm families. As the export-oriented industries further expanded, trained young villagers returned to the countryside and established small-scale industries in the farm houses. Thus, return migration played a significant part in enabling the emergence of auxiliary plants as economic alternatives. The capital investment in these factories was small, ranging from NT\$30,000 to NT\$2,000,000. The number of machines bought fluctuated between one and twenty. An idea of how small these factories actually were is given by Table 16-1.

Third, at the bottom of the subcontracting system, Liū Ts'o's small-scale industries are all auxiliary factories producing non-agriculture-allied goods for center plants. These center plants are owned by Taiwanese capitalists. In most cases, the larger center factories get orders by direct contact with foreign import merchants and companies, and the smaller ones often receive them through domestic trading companies which find foreign companies and help them supervising the production and export of the ordered goods assembled in the center factories. The normal procedure is like this: The foreign import merchant or company sends a Letter of Credit obtained from his country's bank to the export trading company or to the center factory in Taiwan. With the Letter of Credit, the producer can apply for loans from the local bank to buy raw material. After the ordered product was shipped for export, the producer is entitled to get the buyer's payment through the bank. Sometimes the producer is willing

to accept delayed payment so that the foreign import merchant can sell the product first, then pay money with interest. An auxiliary factory can establish relations with several center factories and vice-versa. No contracts exist between them. Thus, their relationship can cease whenever one side decides to terminate it. When center factories do not have enough capital, land, or labor to expand, they can encourage the development of auxiliary factories in order to increase their capacity for production and share investment risks in an unstable economic environment. If the quality of the auxiliary factories' goods do not meet standards, the center factories can refuse to pay.

During periods of economic depression, small-scale auxiliary factories are more vulnerable than center factories. As foreign orders are sharply reduced, center factories may not have enough work for their auxiliaries. Then competition among the latter becomes fierce. Only those willing to accept low wages, those capable of producing high-quality products within strict time limits, and those having good public relations can survive.

Fourth, the male workers' expectation of becoming capitalists and free workers with higher income and social status was an important stimulus to the emergence of Liu Ts'o's industries. I often heard farmers say that "doing work at home provides greater freedom." When they worked in urban factories, they rarely became used to the rigid time schedules and did not like to work overtime. Working in their own factories, they experienced a psychological release. Paradoxically, most of them toil voluntarily for longer hours at home (more than nine hours a day, seven days a week) when they are able to obtain an adequate supply of work. The distinction between capitalists and workers in most small-scale in-village factories in Liu Ts'o is not clear cut; the owners are also workers. But once they are in the position to hire workers, they often demand that workers devote as much time and labor as they possibly can. There are big differences between employer and employee in terms of status, profits, treatment, and degree of freedom. Not surprisingly, everyone wants to establish his own business.

Fifth, Liu Ts'o's small-scale industries are not built on a juridical base. Most of them do not have licenses from the Bureau of Industry. They can neither apply for industry-use electricity nor have the right to bid for contracts and issue invoices. Their workers do not participate in government-sponsored health and accident insurance. They also work overtime, which is against national labor law. When they are in a financial crisis, they find that it is very difficult to get bank loans. On the one hand, the slack enforcement of laws give them

Table 16-1. Number of Workers in Liu Ts'o's Factories, 1977

Number of workers	Number of factories
1	2
2	9
3	1
4	1
5	1
6	1
7	1
8	1
9	-
10-20	3

certain advantages (such as the chance to exist, lower taxes and electricity fees, etc.); but on the other hand, they are threatened by their marginal financial status, poor management, and lack of institutional regulation.

Sixth, workers in small-scale factories of Liu Ts'o do not engage in agricultural work. Long ago farmers used to plant rice twice a year in addition to a winter crop. But the fields have lain fallow in the winter ever since 1971. It is said that this was due to the high wages of agricultural laborers and the low price of the products. Villagers preferred to be hired outside their own fields in the winter season to boost their wages. Is Liu Ts'o's agricultural labor in shortage or in surplus? During the slack season, one person's labor is enough for taking care of one hectare of family land at present technological levels. As the nonagricultural sector efficiently absorbs many extra members of a single family, the labor surplus problem of the slack season becomes almost nonexistent. But during the busy transplanting and harvesting seasons, Liu Ts'o experiences a definite shortage. Many people must hire laborers to cultivate their land. Agricultural mechanization has partially, but not completely solved this problem. The absence of a self-sufficient agricultural base accentuate the dependence of families on small-scale auxiliary factory production.

According to Fei-Hsiao-T'ung, the ideal type of rural industry should be complementary to agricultural work. But in Liu Ts'o the emergence of small-scale in-village industries has not strengthen workers' vulnerable economic position or resolved the problem of cyclical unemployment. When the youth work full-time in the factories, they are not willing to help in transplanting and harvesting. Older farmers do not want to participate in factory work during their leisure time. Thus, the imagined complementarity between rural industry and farming is negated by Liu Ts'o's experience.

Seventh, all small-scale factories established in Liu Ts'o are family-based enterprises. In two-thirds of the total, the older generation in the family provides capital and facilities, whereas the younger generation contributes labor and skill. The workers in nine of these factories were exclusively family members; three factories were operated by both family members and close kinsmen. Only those factories with more than five workers hired people outside the kin network. It is common to see several brothers or the husband and the wife working together in the family-owned factory. The financial management of factories installed by joint and stem families was often based on the rule of the inclusive family economy. A few Liu

Ts'o factories were jointly owned by divided families or kinsmen. The profits were carefully calculated and distributed among them.

It is probable that the older generation's ideal of maintaining joint families—households comprised of two or more married sons—or stem families—those comprised of one married child—with common residence, eating arrangements, and budget was another stimulus for the establishment of in-village factories. When family input into agricultural work diminished and income became smaller, land ceased to be an effective means of production to unify the young and older generations in the family. The father's agricultural experience ceased to be appreciated by his sons whose industrial training gave them a kind of money-making superiority over their father. Depressed fathers were often thrilled by the idea of establishing factories at home. They managed to get capital to buy machines for their sons who were then obliged to share profits with the investors. Machines, instead of land, became the new means of production thus contributing to a cementing of father-son relations. In 1976-77 Liu Ts'o had twenty-nine (seventeen married and twelve unmarried) males working in family-owned in-village factories. Twenty five of them were born after 1945. Roughly speaking, small-scale industries have reduced the rate of migratory outflow and strengthened social and economic ties among family members.

Finally, in recent years this kind of small-scale rural industries have become more and more evident in Taiwan. As manufacturing has pulled out increasing labor and capital from the rural communities, the emergence of small-scale factories in villages such as Liu Ts'o indicates a trend of reversion rather than rampant growth in the cities. In accord with Fei's ideal of rural industry, such factories are decentralized in the village, established with local labor and capital, operated with machines, and producing parts which are later assembled in center factories. The differences are: the government has not given these rural factories encouragement and instruction; the Land Reform is one but not the main contributor to the farm families' capital accumulation for the development of rural industry; as auxiliary factories of the export-oriented center factories, they do not depend on local raw material and the domestic market; even though the villagers own the small-scale factories, the degree of cooperation is low and the profits are not equitably distributed between the center and the auxiliary factories, just as they are not equitably distributed between the capitalists and the hired workers; nor are such industries complementary to agriculture, since the factory workers do not want to be farmers and vice versa.

Although Taiwan's export-oriented economy is not stable and well grounded, the island's unique pattern of economic and sociocultural development has puzzled many scholars who look outside the core of the world capitalist system for supportive evidence of the dependency theory which maintains that reliance on export trade rather than industries producing for internal consumption bolsters urban metropolitan centers at the expense of the rural hinterland (Amsden 1979, Harrell, 1981). The examination of the development of auxiliary industries in a Taiwanese rural area can contribute to the understanding of the local dynamics of Taiwan's industrialization.

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