

## **H. Nakhorn Sawan, THAILAND**

### 1. Summary of Conditions.

Nakhorn Sawan is an ancient town situated at the confluence of four rivers (Nan, Ping, Wang and Yom), which join to form the origin of the Chao Phraya, the main river of central Thailand. The town lies 237 kilometers north of Bangkok, at the southern end of the major Northern Region. It is considered the gateway to the north, and has experienced substantial growth with the development of Thailand over the past four decades. It is primarily an agricultural and administrative center, with agriculture constituting the main economic activity for the province. As much of Thailand's central plain the province produces rice as its major crop. In addition, corn, millets, soybeans, green beans, sugar cane, and fruits and vegetables are grown. The province is dominated by low-lying land suitable for rich agriculture. Low hills rise from the river valley east and west of the town.

Population Dynamics. The population of the entire province is just above one million. The town itself has a registered population of 108,000, with an estimated additional 40,000 unregistered people. The town was officially established in 1936, with a total area of about 1.5 square kilometers. The administrative area was expanded to 10 square kilometers in 1950 and to its current 28 square kilometers in 1979. Continued population growth has led town officials to propose an additional expansion to 70 square kilometers, but this has not yet been approved by the central government. Its current registered population density is just under 4,000 per square kilometer, or over 5,500 per square kilometer if the unregistered population is considered. Much of the unregistered population is thought to be seasonal workers who come for employment outside of the main agricultural labor demand seasons of planting and harvesting. Registered migration is roughly balanced at just under 7,000 in and out migrants a year.

The current population growth is about 3 percent per year, most of which comes from natural increase. The town's crude birth rate is estimated to be about 35 and its death rate about 5. On July 1, 1993 there were an estimated 27,000 women of reproductive age in the town, just over 17,000 of whom were married. This suggests a typical pattern where young people constitute the bulk of the in-migrants and raise the proportion of young reproductive aged people in the town.

Thailand's national family planning program is considered one of the world's most effective, with overall contraceptive prevalence rates above 60 percent, and a total fertility rate just above the replacement level of 2.1. (UN 1992) From 1988-91 Nakhorn Sawan's contraceptive prevalence rate was estimated at about 70 percent, but a new survey in 1992 reduced the estimate to just over 50 percent because of an increase in the number of married women and a change in the enumeration practice.

City officials do not view either the size or the growth rate to be serious problems. The migration stream is not very large, and it is considered beneficial since it provides labor for

the extensive construction that is taking place in the town. Although there are a number of squatter and slum communities, they are not considered serious problems.

Quality of Life. Although extensive data are lacking, the general appearance and the data that are available suggest a reasonable quality of life. The death rate is quite low (CDR=5). There were 16 registered infant deaths for an estimated infant mortality rate below 5. Even if this constitutes a substantial undercount, the infant mortality rate appears to be below that of Thailand as a whole (26). The main causes of death are diarrheal diseases, Dengue Hemorrhagic Fever, other fevers and pneumonia. Although this suggests weakness of the water and sanitation system, it is apparently not as bad as in many low income countries. Although AIDS has become a major problem in Thailand as a whole, it has not yet assumed major proportions in Nakhorn Sawan. There are now only 4 documented cases in the province. As with infant mortality, even if this constitutes an undercount, it is not yet a serious problem. There is a well established primary health care system that provides services throughout the town and its adjacent rural areas. Critics believe it is not as large and well supported as it should be. Education has grown rapidly and provides roughly full primary school service for the residents. The town has 14 government primary schools and 27 private schools. There is also a private college and a police academy. As in all of Thailand, provision of second school services appears to be far less developed. There are now over 4,400 primary school students in the town but only 126 secondary school students. The unemployment level does not appear serious to city officials. It is noted that many people can be supported by the informal economy of street vendors. The poverty line is officially stated to be at 2,800 bhat per month per household. According to this level, it is estimated that about 20 percent of the town's households are below the poverty line.

Status of Women. Thailand is noted for the relatively high status and autonomy of women. Women are actively involved in all market activities and maintain a high degree of independence in earning and spending money. There is now rough gender equality of health and in primary school enrollment, and women are fast moving into professional positions as well. Women are extensively employed by the city government, and a few occupy relatively high managerial positions. Women are also found on all major city committees, and have formed a series of non-governmental associations. At the same time, women are thought to play more passive roles in the rural areas.

## 2. Problem Areas and Projects.

Although still considered by city officials as in a rudimentary stage, transportation is seen to be a growing problem. The town appears to be well served by local transportation in the form of buses, passenger scooters and pedicabs. The major problem lies in the congestion in the town center, especially along the main roads, Sawan Vithi road and Kosi road. These were planned and built as four lane roads, but street stalls, mobile vendors, mini-bus stops and pedestrian traffic have reduced the roads to two lanes, which produces some congestion during morning and evening rush hours. Yet the government recognizes that the growth of the population, and its movement to residential areas around the town will increase traffic problems in the future. There is also a point of congestion where the major north-south highway bisects the town.

Urban utilities also constitute a growing problem. Water supply is considered not fully adequate now and will require further development to accommodate expected future urban growth. Sewage and solid wastes are a more serious problem. The city currently has no sewage disposal or treatment facility, and all wastes simply drain into the Chao Phraya river. The city produces about 90-100 tons of garbage per day, which is now trucked to a nearby landfill. Although the entire city is covered, breakdowns in the older trucks reduce effective coverage. There are squatter slum areas, but the homeless population is considered very small, and is mostly made up of people with psychiatric disorders. City officials consider that the demand for housing is being adequately met.

The major project to address the transportation problem will also address the housing and urban infrastructure problems. A large island, Ko Yuan (or Yuan island), is situated alongside the main road, separated from the main business district by a 35-100 meters wide canal that is itself both a problem and an opportunity. City sewage is discharged into the canal, which is filled with water, and thus adequately drained only in the rainy season. In the dry season the canal contains stagnant water and collects untreated wastes. The island itself is not connected to the mainland, has no city electricity or water service, and is subject to flooding in the rainy season. It is inhabited by farmers and squatters, who use deep wells for water and discharge their wastes directly into the river and the canal. A major project is currently being developed to reclaim the canal, which is public land to which the city government has a clear claim. The canal will be filled, and construction of retaining walls will protect the island from flooding. Then this area will be developed as a commercial center with apartment buildings, markets and public buildings. The project also envisages widening the main road to alleviate the congestion, but this, too, requires alienating land from private owners. The problem lies in obtaining land from the island people, who do not have titles, but do have occupation documents, and would could not be moved without a considerable expense.

To address the solid waste problem, the city government is working with the national government to produce a larger sanitary landfill north of the city. In addition, new trucks will be purchased to collect the garbage. Collection routes are being planned to make the system efficient and to provide for the next 25-50 years of town growth.

Relations between central and local governments appear not to cause serious difficulties. The Thai government is highly centralized in Bangkok, where most decisions are taken. All ministries have representatives at provincial, district and town levels, but decisions are still taken largely in Bangkok. Nakhorn Sawan receives most of its financial resources in taxes filtered through the central government, but its accounts show substantial revenue surpluses for the past few years. For its major development projects it has the services of foreign construction firms, contracted by the central government, which appear capable of providing effective long term planning for urban development.